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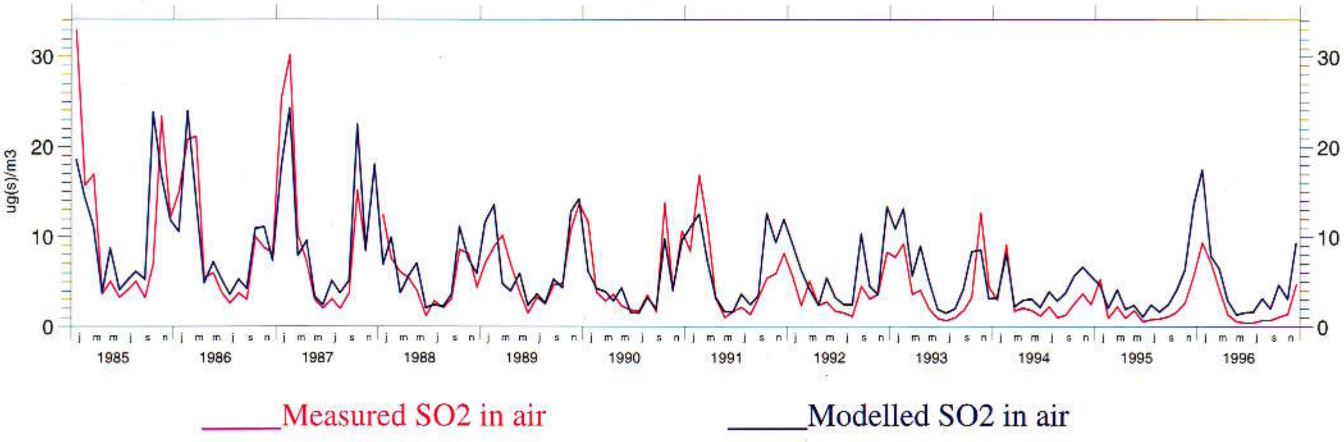
transmission of air pollutants in Europe

Transboundary Acidifying Air Pollution in Europe

Langenbrügge, Germany



MSC-W Status Report 1998
Part 2: Numerical Addendum

msc-w

Meteorological Synthesizing Centre - West
Norwegian Meteorological Institute
P.O. Box 43-Blindern, N-0313 Oslo 3, Norway

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Part 2:
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TRANSBOUNDARY ACIDIFYING AIR POLLUTION IN EUROPE

Part 2: NUMERICAL ADDENDUM

APPENDIX A:

Model description of the EMEP Acid Deposition models:
Lagrangian model, Eulerian model and Meteorological data

APPENDIX B:

Comparison between modelled and measured concentrations
for 12 years of data: 1985-1996

APPENDIX C:

Maps of annually averaged air concentrations for 1996

APPENDIX D:

Grid square depositions: country allocated and totals
averaged for the period 1985-1996

APPENDIX E:

Country-to-country deposition budgets:
source-receptor matrices and import-export tables from 1985 to 1997

APPENDIX A:
MODEL DESCRIPTION OF THE EMEP ACID DEPOSITION MODELS

APPENDIX A1: Description of the Lagrangian Acid Deposition model

APPENDIX A2: Description of the Eulerian Acid Deposition model

APPENDIX A3: Meteorological data

Appendix A1:

Description of the Lagrangian Acid Deposition model

Appendix A1

Description of the Lagrangian Acid Deposition Model

Svetlana G.Tsyro

The EMEP Lagrangian Acid Deposition Model (LADM) is a receptor-oriented one layer trajectory model with the spatial resolution of 150x150 km. It includes the chemistry for 10 compounds: NO, NO_2, PAN, HNO_3, NO_3^-, NH_4NO_3, NH_3, SO_2, $SO_4^=$ and $[(NH_4)2SO_4 + NH_4HSO_4]/2$. Since 1985 the model has been employed at the EMEP/MSC-W to calculate concentrations and depositions of acidifying compounds in Europe, as well as transboundary fluxes and budget matrices.

A1.1 Mass-balance formulation

The two dimensional mass balance equation for mass concentration q may be seen consisting basically of two parts: one part includes term describing the transport processes, and the other one, S_i , accounts for the temporal change of chemical concentration due to all sources and sinks, so that for the component i

$$\frac{\partial q_i}{\partial t} + u\frac{\partial q_i}{\partial x} + v\frac{\partial q_i}{\partial y} = S_i \qquad \text{A1.1}$$

where u and v represent the horizontal components of wind velocities. In the Lagrangian framework the transport term describes the motion of an air parcel with the wind flow along the prescribed macroscale trajectory. The parcel is assumed to have a height characteristic for the daytime mixing layer and to conserve its volume. Budget equation for the chemistry of an air parcel following the air motions in the boundary layer includes emissions from the underlying grid, chemical depletion and production of the species in the air, and physical removal:

$$\frac{Dq_i}{dt} = F_i - R_i \qquad \text{A1.2}$$

here q_i is the volume average mass concentration of the component i; F_i represents the concentration production rate, and R_i is the removal term. Production is defined so that

$$F_i = \frac{Q_i}{h} + \sum k_j q_j \qquad \text{A1.3}$$

here Q is the emission flux density, h is the air parcel height, k_i is the chemical production rate of q_i from other that i components q_j.
The removal term comprises dry and wet removal processes, such that

$$R_i = k_{di} q_i + k_{wi} q_i \qquad \text{A1.4}$$

The dry decay coefficient k_{di} describes surface layer micrometeorology and chemical change:

$$k_{di} = \frac{v_{di}}{h} + k_i \qquad \text{A1.5}$$

where v_{di} is the dry deposition velocity and k_i is the chemical depletion coefficient.
The wet depletion coefficient is expressed as

$$k_{wi} = \frac{\Lambda P}{h} \qquad \text{A1.6}$$

with Λ being the scavenging ratio and P the precipitation intensity.
It is assumed in the model that during wet periods dry removal occurs concurrently. For a sufficiently small chemical time step (15 minutes step is employed in the model) F and R terms can be considered constants (see Table A1.1).

A1.2 Transport/trajectory definition

Calculation of advection, i.e. the trajectory path, follows the methodology described by Pettersen (1956), and that used in the OECD programme on Long Range Transport of Air Pollutants (OECD, 1977, Eliassen 1978). Backward trajectories are calculated at each transport time step on the basis of interpolated wind velocities. From a position, ***r***, at time, *t*, the initial estimated change in position, D$\boldsymbol{r}_0$, is defined as

$$\Delta \mathbf{r}_0 = \mathbf{v}(\mathbf{r}, \mathrm{t})\, \Delta t \qquad \text{A1.7}$$

The wind vector, ***v***, is interpolated in space between the u and v components in adjacent grid points, and linearly in time between consecutive 6-hourly meteorological input fields. The first guess is corrected as

$$\Delta \mathbf{r}_i = \frac{\Delta \mathbf{r}_0 + v(\mathbf{r} + \Delta \mathbf{r}_{i-1}, t + \Delta t)\, \Delta t}{2} \qquad \text{A1.8}$$

Five iterations are deemed sufficient for convergence to the position **r** + Dr_5.

The advection time step length along each trajectory is 2 hours. A total of 49 positions, therefore, are used to define the trajectory path over four days including the start and finish points. Trajectories are defined to arrive four times a day (1200, 1800, 2400 and 0600 UTC) to a set of regularly spaced grid points and to a set of EMEP monitoring stations. In 1997 the calculation domain was extended in the x-direction (see Section A.3.1) so that the entire

Table A1.1 Depletion and production terms for calculated components.

Component	F_i	k_{di}	k_{wi}
Nitrogen Monoxide: NO	$\frac{(1-\varepsilon)\cdot Q_{NO_x}}{h}+J[NO_2]$	$k_{11}=[O_3]$	not wet scavenged
Nitrogen Dioxide: NO_2	$\varepsilon\cdot\frac{(1-\gamma)\cdot Q_{NO_x}}{h}+k_{11}[O_3][NO_2]+$ $k_{\Pi}[PAN]$	$J+k_{21}[OH]+$ $k_{77}[CH_3COO_2]+$ $2k_{12}[O_3]+\frac{v_{dNO_2}}{h}$	not wet scavenged
Nitric Acid: HNO_3	$k_{21}[OH_3][NO_2]+\frac{q_a}{2}[NO_3^-]$	$q_a+\frac{v_{dHNO_3}}{h}$	$k_d+\frac{\Lambda_{HNO_3}\cdot P}{\Phi\cdot h}$
Peroxyacetyl Nitrate: PAN	$k_{77}[CH_3COO_2][NO_2]$	$k_{\Pi}+\frac{v_{dPAN}}{h}$	not wet scavenged
Particulate Nitrate: NO_3-	$2k_{12}[NO_2]+q_a[HNO_3]$	$\frac{q_a}{2}+\frac{v_{dNO_3}}{h}$	$k_d+\frac{\Lambda_{NO_3}\cdot P}{\Phi\cdot h}$
Sulphur Dioxide: SO_2	$\frac{(1-\alpha-\beta)\cdot Q_{SO_x}}{h}$	$k_t+\frac{v_{dSO_2}}{h}$	$k_d+\frac{\Lambda_{SO_2}\cdot P}{\Phi\cdot h}$
Particulate Sulphate: SO_4	$\frac{\beta\cdot Q_{SO_2}}{h}+k_t[SO_x]$	$\frac{v_{dSO_4}}{h}$	$k\ +\frac{\Lambda_{SO_4}\cdot P}{\Phi\cdot h}$
Ammonia: NH_3	$\frac{(1-\varpi)\cdot Q_{NH_3}}{h}$	$\frac{v_{dNH_3}}{h}$	$k_d+\frac{\Lambda_{NH_3}\cdot P}{\Phi\cdot h}$
Ammonium Nitrate: NH_4NO_3	Non-linear transformations (see A1.4.2)	$\frac{v_{dNO_3}}{h}$	$k_d+\frac{\Lambda_{NO_3}\cdot P}{\Phi\cdot h}$
Ammonium Sulphate: $(NH_4)_{1.5}SO_4$	Non-linear transformations (see A1.4.2)	$\frac{v_{d\ O_4}}{h}$	$k_d+\frac{\Lambda_{SO_4}\cdot P}{\Phi\cdot h}$

The terms in the Table A1.1 are explained in the text (see A1.1, A1.5.1) and Tables A1.2 and A1.4

Turkey, Cyprus and the Mediterranean Sea are covered by the model (Figure A.3.1). Thus, 1260 grid points and 122 measurement sites serve as arrival point in the present LADM version. When the model day is so defined (1200-0600), it corresponds closely to the 24-hour sampling period employed in the EMEP monitoring network, facilitating in this way comparison of the model results with measurement data.

A1.3 Input information required to the LADM.

A1.3.1 Emission data

Emission input to the LADM are gridded annual officially reported totals of sulphur (SO_2) and nitrogen oxides (NO_x) emissions splitted to high and low level ones, and ammonia (NH_3) emissions (see Part I, Chapter 2). For SO_2 and NO_x emissions the seasonal variation is country dependent. The GENEMIS country-specific database is used to derive the expected monthly proportion of the totals. The monthly emission factors are applied at the first of each month and interpolated with the factors for subsequent months to provide daily input values. For NH_3 emissions the same seasonal variation described by a sine function is applied for all countries at the present. Ammonia release is assumed to peak in summer with a factor of 1.3 and fall off in winter by a factor of 0.7.

Table A1.2 Emission data to the LADM

Symbol	Definition	Value
Q_{SOx}	Emission of sulphur oxides (SO_x) per unit area and time	Country-specific seasonal variation
α	Fraction of SO_x emissions deposited locally in emission grid square	Dependent on emission height and meteorology
β	Fraction of SO_x emissions emitted directly as particulate sulphate SO_4	0.05
Q_{NOx}	Emission of nitrogen oxides (NO_x) per unit area and time	Country-specific seasonal variation
γ	Fraction of NO_x emissions deposited locally in emission grid square	0.04
ε	Fraction of NO_x emissions emitted directly as NO_2	0.05
Q_{NH3}	Emission of ammonia NH_3 unit area and time	Seasonal sine-variation max=1.3 (June), min=0.70 (January)
ϖ	Fraction of NH_3 emissions deposited locally in emission grid square	$\varpi=\varpi_w + \varpi_d$ $\varpi_d=0.19$ $\varpi_w=\varpi_d \cdot P / (P+v_{dNH3}/\Lambda_{NH3})$ $\varpi_{max} = 2\varpi_d$

Recent communications with EMEP-CCC imply that this seasonal pattern may not be quite adequate the reality and, therefore, will be a subject of further studies. For emissions from sea areas (international shipping, installations etc.) no seasonal variation is assumed. Marine biogenic sulphur emissions vary with season and latitude with a maximum rate in spring/summer and a minimum in winter. A local deposition correction is applied to emissions as described in Section A1.5.4. Emission notation in Figure A1.1 is defined in Table A1.2.

A1.3.2 Meteorological input

Calculation of trajectories requires knowledge of horizontal wind as a function of space and time. Variation of the height of the air parcel along the trajectory depends on the vertical wind velocity. A number of meteorological parameters must be known along the trajectories in order to determine some chemical coefficients, wet and dry deposition. The meteorological data requirements are summarised in Table A1.3. All the data is given as the grid square averages in the EMEP grid (see also Appendix A3).

Table A1.3 The meteorological input data to the EMEP/MSC-W Lagrangian Acid Deposition Model.

Physical parameter	**Level of output**	**Purpose**
From the NWP model		
Horizontal wind velocity (x and y direction)	$\sigma = 0.925$ $z \approx 550$ m	horizontal transport, eddy diffusivity
Vertical wind velocity	$\sigma = 0.850$ $z \approx 1100$ m	exchange with free troposphere
Temperature at the ground	$z \approx 2$ m	aerodynamic resistance
Temperature in the mixed layer	$\sigma = 0.925$ $z \approx 550$ m	chemical reactions rates
Relative humidity	$\sigma = 0.925$ $z \approx 550$ m	ammonium nitrate equilibrium, deposition resistance
Cloud cover	free troposphere	photolysis rate of NO_2
Precipitation rate	ground level	wet deposition, surface wetness
Surface pressure	$\sigma = 1.$ $z = 0$ m	air density
Turbulent heat flux density	surface layer	aerodynamic resistance
Turbulent stress	surface layer	aerodynamic resistance

Analysed observations:		
Mixed layer height	200m-2500m	initial dilution of emissions
Precipitation	ground level	wet deposition

Further information on surface properties is required to calculate the dry deposition velocity. Land use data at the resolution of 1/6 x 1/6 degrees was provided by the RIVM (National Institute of Public Health and Environmental Protection, the Netherlands), and subsequently aggregated to the EMEP 50 and 150 km grid at the MSC-W. For dry deposition purposes the classification finally used is divided into 10 different categories: Grass (1), Arable (2), Permanent crops (3), Coniferous forest (4), Deciduous forest (5), Water (6), Urban (7), Other (8), Desert (9) and Ice (10). The two land use classes, "desert" and "ice", were constructed from the NWP-model data (LAM50E). Furthermore, the RIVM class "water" which consists of inland water alone has been revised to include sea areas according to surface area in each grid square. Information concerning snow cover is also employed, with monthly averaged snow cover fields constructed from the NWP-model (LAM50E). The details on the land-use data can be found in Sandnes (1995) and Seland et al. (1995).

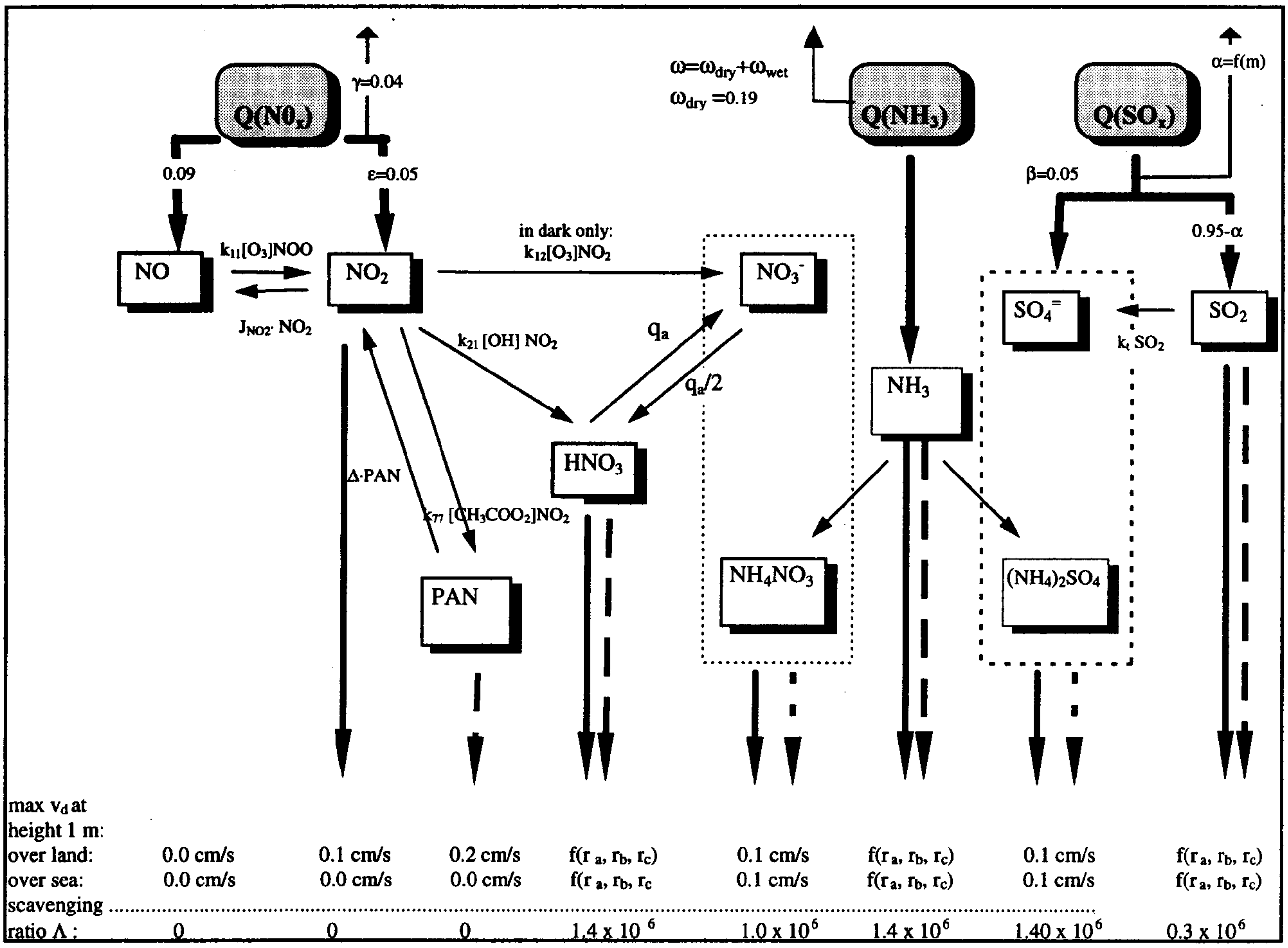

Figure A1.1 Overview of the chemical scheme implemented in the EMEP/MSC-W Lagrangian Acid Deposition Model . Q designates the emissions. The calculated components are inside solid boxes. Thin arrows show the chemical pathways; thick solid and dashed arrows are dry and wet deposition respectively. For other notations see Tables A1.2 and A1.4.

A1.4 Parameterization of chemical processes in the LADM.

A1.4.1 Linear chemical transformations

Most of the chemical scheme (Hov et al., 1988) is represented in the model by a linear description of transformations. Following equation A1.2, chemical evolution is calculated at each 15 minute time step for ten species, these being NO, NO_2, PAN, HNO_3, NO_3^-, NH_4NO_3, NH_3, SO_2, $SO_4^=$ and $[(NH_4)2SO_4 + NH_4HSO_4]/2$ (Table A1.4). In addition to these calculated components, estimated concentrations of ozone (O_3) and hydroxyl (OH) and peroxyacetyl (CH_3COO_2) radicals are also required for the chemical scheme. These are prescribed values described along with other boundary conditions in Section A1.6.3.

Table A1.4 Linear chemical coefficients.

Symbol	Definition	Value
Dt	time step for chemical processes	15 min.
J_{NO2}	dissociation rate for the reaction: $NO_2 + hn \rightarrow NO + O$ function of latitude, time of year, local time, and cloud cover (100% cloud cover reduces J_{NO2} by 50%);	$J_{NO2} = a(1-C/2) \exp(-b\ secq)$; a 0 0.01 s^{-1}, b = 0.39, C - fractional cloud-cover, q - sun zenit angle
k_{11}	speed of reaction $NO + O_3 \rightarrow NO_2 + O_2$	$k_{11} = a_{11} \exp(-b/T)$; a_{11} = 2.1X10-12 $cm^3\ s^{-1}$ $molecule^{-1}$, b_{11} = 1450 K
k_{12}	speed of net model reaction $2\ NO_2 + O_3 + H_2O \rightarrow 2\ NO_3^- + 2\ H^+ + O_2$ which takes place in darkness according to: $NO_2+O_3 \rightarrow NO_3+O_2$ $NO_3+NO_2 \leftrightarrow N_2O_5$ $N_2O_5 + H_2O \rightarrow 2NO_3^- + 2H^+$ The first step is assumed rate determining.	$k_{12} = a_{12} \exp(-b_{12}/T)$; $a_{12} = 1.2\times10^{-13}\ cm^3\ s^{-1}\ molecule^{-1}$, b_{12} = 2450 K
k_{21}	speed of model reaction $NO_2 + OH \rightarrow HNO_3$	$k_{21} = 1.1\times10^{-11}\ cm^3\ s^{-1}\ molecule^{-1}$
k_{77}	speed of model reaction $NO_2 + CH_3COO_2 \rightarrow PAN$	$k_{77} = 3.2\times10^{-12}\ cm^3\ s^{-1}\ molecule^{-1}$
k_t	speed of model reaction SO_2 (+ oxidant) $\rightarrow SO_4^=$, oxidant is OH in gas phase or H2O2 and O3 in liquid phase; this model reaction represents all possible oxidation pathways of SO2, indirectly accounting for photochemical activity creating oxidants, and occurrence of cloud droplets in which liquid phase oxidation is efficient.	$k_t = a_t + b_t \sin[2p\ (t - t0)/\ ta]$; $a_t = 3\times10^{-6}\ s^{-1}$, $b_t = 2\times10^{-6}\ s^{-1}$, t = time of year, t_0 = 80 days, ta = 1 year;
k_P	speed of thermal decomposition of PAN	$k_P = a_D \exp(-b_D/T)$; a_D = 7.94X1014 s^{-1}, b_D = 12530 K
q_a	speed of gas-to-particle conversion $HNO_3 \rightarrow NO_3^-$; speed of the reverse conversion is $q_a/2$	$q_a = 10^{-5}\ s^{-1}$

A1.4.2 Non-linear chemical transformations

Non-linear equations are included in the model formulation to describe the formation of ammonium particles dependent in part on precursor concentrations, both in sulphate and nitrate form (Hov et al., 1988).

Ammonium sulphate is modelled as the chemical equivalent of two forms, $(NH_4)2SO_4$ and NH_4HSO_4, giving a sum of $(NH_4)_{1.5}SO_4$, (assuming that the two forms are equal). The production of this is assumed to take place instantaneously and irreversibly after each time step. Concentrations of NH_3 and $SO_4^=$ are combined in the molecular ratio 3/2 to form two molecules of $(NH_4)_{1.5}SO_4$ until all ammonia or all sulphate is exhausted.

Should any ammonia remain after production of ammonium sulphate, ammonium nitrate is a potential product occurring in equilibrium with nitric acid dependent on temperature and humidity. Conserving the nitrogen mass in the non-equilibrium concentrations, the equilibrium values satisfy the assumption that :

$$[NH_3]_e + [NH_4NH_3]_e = [NH_3]_{ne} + [NH_4NO_3]_{ne}$$

and similarly A1.9

$$[HNO_3]_e + [NH_4NO_3]_e = [HNO_3]_{ne} + [NH_4NO_3]_{ne}$$

in which $[\ ]_{ne}$ indicates non-equilibrium and $[\ ]_e$ equilibrium concentrations. The production of ammonium nitrate particles, or their evaporation into constituent gases, is determined in the model through estimation of the equilibrium coefficient K:

$$K = [NH_3]_e [HNO_3]_e. \qquad \text{A1.10}$$

If non-equilibrium gas concentrations give a product greater than K, ammonium nitrate is created, whilst if the product is less than K the particles evaporate. A quadratic equation defines the equilibrium ammonia concentration, resulting in

$$[NH_3]_e = \frac{[NH_3]_{ne} - [HNO_3]_{ne}}{2} + \left[\frac{([NH_3]_{ne} - [HNO_3]_{ne})^2}{4} + K \right]^{0.5} \qquad \text{A1.11}$$

with ammonium nitrate and nitric acid concentrations derived from the previous equations. If the ammonium nitrate concentration becomes negative the assumption is of insufficient precursors to reach equilibrium, and remaining constituents are converted to gaseous concentrations. The temperature and humidity dependence of the equilibrium coefficient K is defined according to Stelson and Seinfeld (1982) by comparison between actual humidity and the calculated humidity at the point of deliquescence which marks the point of phase transition. At dry weather conditions, $rh<rh_d$, Stelson and Seinfeld (1982) presented a semiempirical expression for K for solid particulates , in unit of ppm^2, in a form

$$\ln K_{rh<rhd} = 70.78 - \frac{24220}{T} - 6.1 \ln \frac{T}{298} \qquad \text{A1.12}$$

When the ambient humidity becomes larger than the relative humidity of deliquescence (rh ^{3} rh_d), Hov et al. (1988) formulated a parameterization of the equilibrium constant for liquid aerosols as

$$\ln K_{rh\geq rhd} = \ln K_{rh\geq rhd} - \frac{20.75 + \ln K_{rh\geq rhd}}{101 - rh} \left(\frac{rh - rhd}{101 - rhd} \right) \qquad \text{A1.13}$$

where the relative humidity of deliquescence, rh_d, is calculated using an expression derived for the saturated solution by Stelson and Seinfeld (1982) :

$$\ln(rh_d) = \frac{856.23}{T} + 1.2306 \qquad \text{A1.14}$$

The non-linear part of the chemistry asks for a special treatment of country allocation of sulphur and nitrogen that is in the form of ammonium sulphate or ammonium nitrate, whilst for the other components the procedure is straightforward. Is should be stressed that production of ammonium is always calculated from the total concentrations of the precursors and not from individual countries contributions. Country allocation of the particulate ammonium compounds is then performed in two ways: in the first, the allocation is based on the countries' contribution to N from NH_3 emissions, while in the second, the origin of S from SO_2 emissions and N from NO_x emissions determines the allocation.

A1.5 Parameterization of dry and wet deposition.

The depletion term in the continuity equation A1.1 includes wet deposition and dry removal. Both require treatment of the processes which occur at scales below the grid area/air parcel resolution of the model. Wet removal is described by a scavenging coefficient plus statistical treatment of precipitation intensity. Dry deposition follows the resistance analogy including resistance against the turbulent transport down to the surface, against the diffusive transport through a thin layer adjacent to the surface, and finally, a surface resistance accounting for uptake or destruction of the species at the surface.

A1.5.1 Wet removal and sub-grid scale precipitation

Scavenging ratios, Λ, are used to reflect the propensity of a component to be removed by precipitation, including all possible below-cloud and in-cloud processes. The values of Λ1. used are given in Table A1.5, and explicitly reflect differential removal of different compounds by precipitation. Differential spatial removal within a grid, however, is a sub-grid process due to the non-uniformity of precipitation throughout the grid area which cannot be explicitly described (Eliassen and Saltbones, 1983; Iversen et al., 1990). Discrete precipitation will lead to lower grid square deposition, and leave more of the pollutant mass available for transport. Some inaccuracy could be anticipated from direct application of the gridded 6-hour precipitation fields as these represent area averaged quantities. Greater geographical resolution for precipitation is not physically realistic with the remaining model formulation, and hence the process is represented statistically.

In the LADM the probability of precipitation at any given point within a grid square is taken to be a function of the grid averaged precipitation amount, P, over the 6-hours input period (and hence a function of rainfall intensity). This probability is assumed to be equal to the fraction of the grid square receiving precipitation, F, and precipitation in the wet fraction is taken as spatially uniform with intensity P/F. The probability function F(P) was derived from comparison of continuous precipitation records and spot data at 24 Norwegian meteorological stations with 6-hour averaged data (Haga, 1991). Values of F for grid averaged precipitation intensities up to 150 mm per six hours are given in Table A1.5. This study was made specially for 150 km grid resolution, and, in general, this probability function is dependent on the grid size.

Wet deposition is finally redefined from equation A1.6 as $k_{wi} = \frac{\Lambda P}{\Phi h}$.

Table A1.5 Wet scavenging ratios.

Symbol	Definition	Value
(i) gases		
Λ_{HNO3}	wet scavenging ratio for HNO_3	1.4×10^6
Λ_{NH3}	wet scavenging ratio for NH_3	1.4×10^6
Λ_{SO2}	wet scavenging ratio for SO_2	varies seasonaly to reflect variation in H_2O_2 ; $\Lambda_{SO2} = 3 \times 10^5 + 1 \times 10^5 \sin[2p(t - t0)/ ta]$, see note on k_t in Table A.3
(ii) particles		
Λ_{NO3}	wet scavenging ratio for NO_3^- and NH_4NO_3	1.0×10^6
Λ_{SO4}	scavenging ratio for SO_4= and $(NH_4)1.5$ SO_4	1.0×10^6

Table A1.6 Fraction of a grid square receiving precipitation as a function of grid average precipitation intensity (in a 150 km grid).

P (mm $(6h)^{-1}$)	0	3	6	9	12	20	50	90	150
F (%)	0	31	48	60	66	72	80	85	91

A1.5.2 Dry deposition

The rate of dry removal of components is a function of sub-air-parcel scale transfer through the surface layer, or constant-flux layer, between the well mixed layer and the ground surface. Turbulent transfer through the surface layer is followed by molecular diffusion through a laminar sublayer adjacent to the surface, and deposition finally depends on the biological or chemical affinity of the surface for the pollutant. This sequence is traditionally described by a resistance analogy approach, such that total resistance to dry deposition, r_t, comprises aerodynamic, sublayer, and surface resistances, $r_a + r_b + r_s$, respectively. Final deposition velocity is the inverse of total resistance, i.e. $v_d = r_t^{-1}$ remembering that r_a, and hence v_d is a function of height z. Measurement of the separate resistances is difficult, so that near-surface reported values usually represent $r_b + r_s \cong 1/v_{d(1m)}$.

In the LADM, two methods are employed to estimate v_d. Reflecting greater scientific understanding of SO_2, NH_3, HNO_3 and NO_2, the resistance analogy has been introduced for these, with resistances r_a , r_b and r_s parameterised according to sub-grid land use. For PAN and particulates , r_b and r_s are in effect generalised, and r_a calculated accordingly. Application of the resistance method in the model is described in detail in Jakobsen et al., (1996).

Aerodynamic Resistances, r_a .

Aerodynamic resistance, r_a, is described in the standard way (Garland, 1978) by

$$r_a(z) = \frac{1}{\kappa u_*}\left[\ln\left(\frac{z-d}{z_0}\right) - \Psi\left(\frac{z-d}{L}\right) + \Psi\left(\frac{z_0}{L}\right)\right] \qquad \text{A1.15}$$

Here z_0 is the roughness length; L is the Monin-Obukhov length defined as standard (e.g. Stull, 1988), using values for turbulent stress, t, heat flux density, surface air temperature and pressure, r, from the Numerical Weather Prediction model; k is von Karman's constant using a value of 0.37, and $u_* = (t/r)^{0.5}$ is the grid averaged friction velocity, and d is the displacement height taken as 70% of vegetation height. The roughness heights are assumed to be 10% of vegetation height (Table A1.7).For PAN and particulates the sub-grid surface resistance is not parametrised explicitly and r_a given by Equation A1.15 is used.

For the others (SO_2, NH_3, HNO_3 and NO_2), roughness length varies with sub-grid land use, and hence typical friction velocity must be redefined. From the NWP model only grid square averaged values of u_*, T_*, L and z_0 are available. These parameters are then converted to land use type specific values u_{*lu}, T_{*lu} and L_{lu} within each grid square applying the land use type specific values of $z_{0,lu}$ from RIVM (Table A1.7). Finally, the land use specific aerodynamic resistance $r_{a,lu}$ is derived :

$$r_{a,lu}(z) = \frac{1}{\kappa u_{*,lu}}\left[\ln\left(\frac{z-d}{z_{0,lu}}\right) - \Psi_h\left(\frac{z-d}{L_{lu}}\right) + \Psi_h\left(\frac{z_{0,lu}}{L_{lu}}\right)\right] \qquad \text{A1.16}$$

Here Ψ is the stability function accounting for diabatic corrections to the logarithmic profiles of momentum and heat. The algorithm converting the grid square average values to land use type specific values within each grid square is further described and discussed in Jakobsen *et al.*, (1996).

Table A1.7 Values for roughness lengths for each surface type (m).

	Season	Grass	Arable	Perm. crops	C. Forest	D. Forest	Urban	Other	Desert	Ice
z_0 (m)	April	0.03	0.005	0.2	2.0	0.1	2.0	0.01	0.001	0.001
	May-August	0.03	0.1	0.2	2.0	2.0	2.0	0.02	0.001	0.001
	September	0.03	0.1	0.2	2.0	2.0	2.0	0.02	0.001	0.001
	October-March	0.03	0.005	0.2	2.0	0.1	2.0	0.01	0.001	0.001

Over water surfaces the roughness length is given by Charnock relation :

$$z_{0,water} = 0.032 \cdot \frac{u_*^2}{g} \qquad \text{A1.17}$$

The value of Charnocks constant is taken from rhe NWP model as described by Nordeng (1986) and Nordeng (1991).

SO_2, HNO_3, NH_3 and NO_2 quasi-laminar boundary layer resistance, r_b.

Over land surfaces, the resistance of the quasi-laminar layer to transfer, r_b, is determined by scaling of the friction velocity according to the diffusivity characteristics of the gas. Following Hicks *et al.* (1987), the resistance above land is given as:

$$r_{b,lu} = \frac{2}{\kappa u_{*,lu}} \left(\frac{Sc}{\Pr} \right)^{2/3} \qquad \text{A1.18}$$

in which Sc is the Schmidt number (defined as n/D_i with n being the kinematic viscosity of air (0.15 cm^2 s_{-1}) and D_i the molecular diffusivity of gas i), and Pr=0.72 is the Prandtl number.

Over water surfaces (i.e. sea) the quasi-laminar resistance r_b is approximated by the procedure presented by Hicks and Liss (1976) :

$$r_{b,lu} = \frac{1}{\kappa u_{*,lu}} \ln\left(\frac{z_{0,lu}}{D_i} \cdot \kappa u_{*,lu} \right) \qquad \text{A1.19}$$

The problem that r_b may become as negative that very large and also negative deposition velocities appear has to be prevented. Based on physical considerations, the limitation 0 $ms^{-1} \leq v_d \leq 0.1\ ms^{-1}$ is imposed to avoid occurrence of large and negative deposition velocities..

SO_2, HNO_3, NH_3 and NO_2 Surface Resistances , r_s.

The resistance to uptake or destruction at the surface, r_s, depends on a combination of the biological and physico-chemical properties of the absorbing surface (such as pH, stomata, surface characteristics, etc.) and the properties of the component. The surface resistances used here are mainly derived from Erisman *et. al.*, (1994).

For SO_2, NH_3 and NO_2 on vegetation not covered with snow the surface resistance can be expressed as

$$r_s = [\ (r_{inc} + r_{soil})^{-1} + r_{ext}{}^{-1} + (r_m + r_{stom})^{-1}\ ]^{-1} \qquad \text{A1.20}$$

Where r_{inc} is the in-canopy aerodynamic resistance, r_{soil} is the soil resistance, r_{ext} is the external surface resistance, r_m is the mesophyll resistance and r_{stom} is the stomata resistance. Each of this terms is defined in the following Tables. A grid is defined wet if precipitation occurred in the last six hours.

For non-vegetative surfaces and any surfaces covered by ice and snow $r_s = r_{soil}$ and prescribed in Table A1.11.

For HNO_3 resistance is considered essentially aerodynamic, and r_s is set to 10s m^{-1} (50s m^{-1} when both -5°C and snow covered).

Table A1.8 Values and equations for the different dry deposition resistance terms (s/m) used for SO_2, NH_3 and NO_2 on vegetation not covered by snow.

resistance [s/m]	Sulphur Dioxide	Nitrogen Dioxide	Ammonia
In-Canopy Resistance r_{inc}	$(14 \cdot LAI \cdot h)/u^*$ where LAI = Leaf Area Index: min=0.5 (November-April), max=5 (July-August) h = vegetation height (m)		0
Soil Resistance r_{soil}	1000 (dry and $T\,^3 0$) 500 (dry and $T < 0$) 10 (wet)	1000 (dry and $T\,^3 0$) 2000 (dry and $T < 0$) 2000 (wet)	
External vegetation surface resistance r_{ext}	When $T > -1C^o$ and $rh < 81.3\%$: $25000 \cdot \exp(-0.0693 \cdot rh)$ When $T > -1C^o$ and $rh^3 81.3\%$: $0.58 \cdot 1012 \exp(-0.278 \cdot rh)$ 10 (wet. i.e. after prec.) When $-5C^o < T \leq -1C^o$: 200 When $T \leq -5\ C^o$: 500	2000	When $T > -1C^o$: see Table A8 When $-5C^o < T \leq -1C^o$: 200 When $T \leq -5\ C^o$: 500
Mesophyll Resistance r_m	0 (no better information available)		
Stomatal Resistance rs_{stom}	$r_{i,lu}(1+(200/Q+0.1)^2)(400/T_s(40-T_s))(D_{H2O}/D_i)$ where $Q = Wm^{-2}$ global radiation, Ts = surface temperature (°C) D_{H2O} diffusion coefficient for water D_i diffusion coefficient for component i $r_{i,lu}$ = see Table A9 (Wesley, 1989)		0

Table A1.9 Values for stomata resistance scaling $r_{i,lu}$ (s/m), Weseley (1989). 9999 indicates that there is no air-surface exchange via stomata.

	Season	Grass	Arable	Perm. crops	Other	C. Forest	D. Forest
r_i (s m^{-1})	spring	120				250	140
	summer	60				130	70
	autumn	9999				250	9999
	winter	9999				400	9999

Table A1.10 Net $r_s = r_{ext}$ for ammonia when $T > -1\ ^0C$ on uncovered vegetative surfaces.

	Season	Grass	Arable	Perm. crops	Other	C. Forest	D. Forest
$r\ (nh_3)$	summer	10 (wet) 2000 (day , dry and radiation > 300 W/m^2) 20 (day, dry and radiation ≤300 W/m^2) 19257 · exp[-0.094·rh] + 5 (at night)				10 (wet) 2000 (dry and radiation > 300 W/m^2) 19257 · exp[-0.094·rh] + 5 (dry and radiation ≤ 300 W/m^2)	
	winter	10 (wet) 2000 (day , dry and radiation >300W/m2) 20 (day, dry and radiation ≤ 300W/m2) 19257 · exp[-0.094·rh] + 5 (at night)					

For non-vegetative surfaces, r_s is more simple and the values are given in Table A1.11.

Table A1.11 Values for surface resistance over nonvegetative surfaces and vegetative surfaces covered with snow (s/m).

surface resistance r_s [s/m]	Sulphur Dioxide	Ammonia	Nitrogen Dioxide
Water surfaces	10	10	2000
Urban	1000 (dry) 10 (wet)	1000 ($T^{3}0$ oC) 10 (T < 0 °C) 10 (wet)	1000 ($T^{3}0$ °C) 2000 (wet or T < 0)
Desert	1000 (dry) 10 (wet)	100 ($T^{3}0$ °C) 10 (T < 0 °C) 10 (wet)	1000 (dry) 2000 (wet)
Ice	500	500	5000
Snow covered surfaces	500 (T < -1 °C) 70·(2-T) (-1 < T ≤ 1 °C) 70 (T > 1 °C)		2000

Remaining Chemical Species (PAN and particulates)

For PAN and particulates for which detailed resistance data is less available a dry deposition velocity comparing with reported measured values is determined for 1 m. First, the maximum deposition velocity, v_{dmax}, is selected (Table A1.12). Then the v_{dmax} is adjusted in a regular way to reflect seasonal surface affinity change such as observed reductions in deposition rates over snow and expected higher vegetation uptake in summer (e.g. Whelpdale and Shaw, 1974). This seasonal/latitude adjustment is applied so that the actual dry deposition velocity at 1 m, $v_{d1} < v_{dmax}$ on land through

$$v_{d1}(B,\tau,t) = a_1(\tau)\cdot \Delta t \cdot v_{dmax} + a_2(\tau) \cdot f(B) \cdot v_{dmax} \equiv f_d(B,\tau,t) \cdot v_{dmax} \qquad \text{A1.21}$$

Here B represents latitude, t is the time of year, and t is the time of day. The latitudinal adjustment is produced by the function f(B) = r/R where r is the distance from current position to the North Pole and R is the distance between equator and North Pole. The multipliers a_1 and a_2 are the trigonometric functions

$$a_1(t) = \sin^2[\, p\, (t-t_0)/t_a] \; ; \qquad a_2(t) = \cos^2[\, p\, (t-t_0)/t_a] \qquad \text{A1.22}$$

in which t_0 is February 1st, and t_a represents one year. The daily variation of vegetation uptake is applied simply with the multiplier D set to 1 between 0400 and 2200 local time, and to 0.25 for the remaining 6 hours. No variations are applied to sea deposition, although the current formulation better reflects summer conditions when relative contributions from dry deposition may be at their most important (Barrett, 1994). Particulates dry deposition is assumed to be much slower, given typically small particle sizes. A constant of 0.1 cm s^{-1} is applied to sulphate and nitrate aerosols, approximating a size of 0.1-1 mm (e.g. Sehmel, 1980).

Dry depletion is applied above the surface layer, and so the appropriate 1 m value is transformed to a 50 m (typical surface layer depth) value by application of similarity theory, thereby reflecting the effect of aerodynamic resistance between 1 m and 50 m (Eliassen and Saltbones, 1983):

$$v_{d50} = \frac{v_{d1}}{1 + v_{d1} \cdot \left[r_a(z_{50}) - r_a(z_1) \right]} \equiv f_a(v_{d1}, r_a) \qquad \text{A1.23}$$

No profile adjustment is made to the v_{d1} set for aerosols, i.e. $v_{d50} = v_{d1}$.

Table A1.12 Dry deposition velocities (m s^{-1})

Symbol	Definition	Value		
		v_d(1 m) over sea sea over sea	v_d(1 m) over land	v_d(50 m)
(i) gases				
v_{dNO2}	dry dep. velocity of NO_2	not pre-defined	not pre-defined	$(r_a + r_b + r_s)^{-1}$
v_{dPAN}	dry dep. velocity of PAN	0 cm s^{-1}	fd(B,t ,t) × 0.2 cm s-1	$f_a(v_{d1}, r_a)$
v_{dHNO3}	dry dep. velocity of HNO_3	not pre-defined	not pre-defined	$(r_a + r_b + r_s)^{-1}$
v_{dNH3}	dry dep. velocity of NH_3	not pre-defined	not pre-defined	$(r_a + r_b + r_s)^{-1}$
v_{dSO2}	dry dep. velocity of SO_2	not pre-defined	not pre-defined	$(r_a + r_b + r_s)^{-1}$
(ii) particles				
v_{dNO3}	dry dep. velocity of NO_3^- NH_4NO_3	0.1 cm s^{-1}	0.1 cm s^{-1}	0.1 cm s^{-1}
v_{dSO4}	dry dep. velocity of $SO_4^=$ $(NH_4)1.SO_4$	0.1 cm s^{-1}	0.1 cm s^{-1}	0.1 cm s^{-1}

The determined deposition velocity assigned to a grid square is an area avarage, reflecting the percentage occurence of various sub-grid landuse types within the square. Hence:

$$\bar{v}_d = \Phi \sum_{n=1}^{N} a_n \cdot v_{d,n(wet)} + (1-\Phi) \sum_{n=1}^{N} a_n \cdot v_{d,n(dry)} \qquad \text{A1.24}$$

where $v_{d,n(wet)}$ and $v_{d,n(dry)}$ are dry deposition velocities for wet and dry parts respectively of land use *n*; a_n is the fraction of land use *n* in the grid square; and Φ is the fraction of wet part.

A1.5.3 Combined effect of wet and dry depletion

The continuity equation is then applied at each time step by allowing for a possibility of not to encounter precipitation even if the total grid square averaged precipitation intensity P>0 (Iversen et al., 1990). It is assumed that the continuity equation can be solved separately for the wet and dry fractions and the results then combined in proportion to probabilities F and 1-F, respectively. The probability of meeting precipitation, F, was described in Section A1.5.1. In combination the solution becomes:

$$\begin{aligned} q_i(t+\Delta t) = {} & \Phi\left(\frac{A_i}{\kappa_{wi}} + \left(q_i(t) - \frac{A_i}{\kappa_{wi}}\right) e^{(-\kappa_{wi}\cdot\Delta t)}\right) + \\ & (1-\Phi)\left(\frac{A_i}{\kappa_{di}} + \left(q_i(t) - \frac{A_i}{\kappa_{di}}\right) e^{(-\kappa_{di}\cdot\Delta t)}\right) \end{aligned} \qquad \text{A1.25}$$

A1.5.4 Local deposition of emissions.

The assumption of instantaneous mixing of emissions throughout the air parcel is not realistic. If no correction is made, the model will very often underestimate near-ground concentrations before complete mixing is achieved, particularly close to emission sources, and with this will underestimate the dry deposition flux. To compensate that a fraction of emissions is assumed to dry deposit directly within the emitting grid square in addition to what is calculated in a normal way, with the remainder available for mixing, transport and further depletion. The height of emission source is critical to the local deposition fraction. An approximation is necessitated, by which the proportion of NH_3 emissions additionally locally deposited is taken as 0.19, and of NO_2 as 0.04. As gradients from ground level sources of ammonia emissions may be very strong, and NH_3 is highly soluble, a correction on wet local deposition is also made to NH_3 on the basis of the scavenging ratio and precipitation (Iversen et al., 1990), to a maximum of a factor of 0.19. As a first guide to current model estimates, Janssen and Asman (1988) have suggested that similar values under neutral conditions may be appropriate for NH_3 and NO_2 emissions from heights of 0 m and 100 m respectively. A more detailed approximation is made for SO_2 derived from the work of Tuovinen and Krüger (1994).

The local deposition factor is calculated for each grid square on the basis of vertical emission distribution and meteorology. With a 'low/high' division of emission sources defined as

100m, the local deposition factor is determined separately for each fraction, so that the overall factor, a_{total}, may be described by:

$$\alpha_{total} = \frac{\left[(emissions_{high} \cdot \alpha_{high}) + (emissions_{low} \cdot \alpha_{low})\right]}{emissions_{high+low}} \qquad \text{A1.26}$$

The derivation of the separate a factors is taken from look-up tables quoted in Lehman (1991). These were calculated assuming a 1m deposition velocity of 8 mm·s^{-1}, and so must be scaled according to actual conditions, thus:

$$\alpha_{high/low} = \frac{v_{d50}}{v_{dREF}} \cdot \alpha_{LEHMAN} \qquad \text{A1.27}$$

in which v_{dREF} represents a scaling factor. Starting from the deposition velocities already calculated for SO_2 and equation (17) in which $v_{d(1m)}$ is set to 0.008m.s-1:

$$v_{dREF} = \frac{0.008\,ms^{-1}}{1 + 0.008(r_{a50} - r_{a1})} \qquad \text{A1.28}$$

Higher 1m deposition velocities than the 0.008m·s^{-1} assumed by Lehman (1991) are now possible, so that the a_{LEHMAN} values are extrapolated when necessary, to an artificial six-hour upper limit of 0.50.

Finally, emission data available to the MSC-W is as annual totals, which is then scaled with a monthly cycle. The a values are, therefore, calculated as monthly mean high and low values from the six-hour meteorology. The local deposition defined from (23) is allocated in each square according to the emission country, i.e. each of the countries in a square receives the whole additional deposition originating from emissions from that country within the grid.. This procedure affects only the pollutant budgets, not the geographical fields.

A1.6 Boundary Conditions.

The EMEP model is a single-layer model representing the mixed layer over Europe and the eastern North Atlantic. However, there is no physical isolation of this layer from the remaining atmosphere, therefore, mass exchange both with the free troposphere and areas beyond the model domain should be accounted for. Regarding boundary layer meteorological parameters, the EMEP model is a sub-domain of the Numerical Weather Prediction Model of DNMI, so that meteorological estimates, especially over sea areas where observations are scarce, are fully developed before encountering the EMEP domain. For chemical characteristics, three types of data must be pre-determined. These are: a) free tropospheric conditions, b) background concentrations of non-calculated components, and c) initial concentrations for calculated components. Since the origins of these concentrations cannot be traced by the model, they are attributed to concentrations and depositions of indeterminate origins.

A1.6.1 Exchange with the free troposphere

Even though most transport in the model is expected within the mixed layer, intermixing with the tropospheric concentrations above the modelled layer may be of a significant importance, particularly under transport to long distances. Therefore, the interaction with the free troposphere is included necessarily to the LADM as described by Eliassen and Saltbones (1983). As the height of the air column changes it is compared with the analysed maximal mixing layer height: if the box is higher than the local mixing height, the upper part of the box is assumed to be injected into the free troposphere and is not followed further in the model; if the opposite is true, tropospheric background concentrations are mixed down into box. The free troposphere is approximated, thus, by an infinite reservoir with constant low concentrations.

Mixing heights are calculated from the observed temperature vertical profiles. Estimated thus mixing heights across Europe at 1200 UTC are interpolated across the domain to define the initial mixed layer height at t_1. The height of the advecting air parcel is assumed to change along its trajectory according to vertical motion due to horizontal divergence/convergence so that its volume remains conserved. At $t_2 = t_1 + 24$ h the height is

$$h(\mathbf{r}(t_2),t_2) = H_m(\mathbf{r}(t_1),t_1) + \int_{t_1}^{t_2} w_r(\mathbf{r}(t),t)\,dt \qquad \text{A1.29}$$

where w_r is the vertical velocity on top of the mixed layer, interpolated in time from the 6-hourly input fields, and reduced linearly for heights below 1000 m.
At t_2 the height of the air parcel is redefined to equal the local mixing height $H_m(r(t_2), t_2)$. The difference $(H_m - h)$ represents an exchange volume, so that the revised parcel concentrations q' become

$$q' = \begin{cases} q & \text{for } H_m \le h \\ q_a + (q - q_a)\cdot \dfrac{h}{H_m} & \text{for } H_m \le h \end{cases} \qquad \text{A1.30}$$

in which q_a is the concentration in the free troposphere.

Contributions arising from free troposphere exchange contribute in the model to the concentrations of indeterminate origin. The total indeterminate contribution to deposition ranges between 5 and >20% (Sandnes, 1993), of which about 80% is estimated to come from the free troposphere.

A1.6.2 Initial and boundary concentrations for calculated components

The chemical characteristics of the boundary layer air mass must be described at the start of the trajectory. For start positions within the calculation domain (36x35 points), the initial values can be obtained either from the previously calculated fields through assimilation of these values, or by prescribing them in case of initialising the start of a run period. Outside the calculation domain, boundary layer and free troposphere concentrations are to be given at any time. The initial and boundary concentrations of sulphur compounds (SO_2 and SO_4) are given based on calculations from the 3-D hemispheric model (Iversen and Tarrason, 1990) with adjustment to reflect measurements from a variety of sources, although such measurements are generally sparse and discrete.

For the sum of the three nitrate forms, the total number density within the boundary layer is assumed to equal that for total sulphate. reasoned by the fact that both are secondary species originating from emission sources of similar patterns. However, nitrate is deposited faster than sulphate, such that with ageing nitrate concentrations should be lower than those of sulphate. Therefore, nitrate concentrations in the free troposphere is assumed to equal half the total sulphate concentrations. The speciation of nitrate and sulphate is determined by immediate turnover and equilibrium as described in A1.3.2.

Furthermore, the review of measurement data by Fehsenfeld et al. (1988) for boundary layer NO_x and PAN has been used to assign the initial and boundary concentrations.

Finally, for ammonia the concentration pattern earlier estimated by the LADM is adopted as a guideline. It is used together with the assumption that ammonia concentrations must closely reflect emission distribution due to its rapid depletion. Above the mixing height concentrations are assumed to be 10% of the boundary layer values.

The standard chemical scheme provides the speciation. As for tropospheric concentrations, Sandnes (1993) has previously illustrated some so-called background values used in this procedure. In general the relationship between concentrations and temporal emission pattern is much stronger within the boundary layer for both nitrogen and sulphur compounds.

These background values were estimated on a monthly basis for generalised regions of similar pollutant loading. For sulphur compounds Central Europe, Fennoscandia, North Africa, remote European Commonwealth of Independent States, and the North Atlantic Ocean are so defined, whilst with respect to NO_x where the estimates are less certain only three regions are defined: Central Europe, remote continental Europe & North Africa, and the North Atlantic. Through the year the NO_x concentrations mirror the assumed general temporal variations in emissions, whilst for SO_2 and total sulphate very little seasonal variation is evident.

A1.6.3 Background concentrations of non-calculated components

Three components which are not calculated in the model, but required to estimate reaction speeds are taken from prescribed fields, these being ozone O_3, and the hydroxyl OH and peroxyacetyl CH_3COO_2 radicals. The values have originally been obtained from the 2-D global model of Isaksen and Hov (1987). Comparison has then been made with reviewed measurement data which indicates some model overprediction, in particular winter and spring ozone levels at high altitude mountain sites representative of the background atmosphere (Logan, 1985). A latitude dependent correction has, therefore, been applied to the seasonally varying ozone concentrations in order to ensure better coincidence with the observations. Additionally, the minimum ozone mixing ratio of 25 ppb was imposed. Furthermore, the two radicals have been adjusted with a diurnal cycle parallel with sunlight. Some examples of values are given in Table A7 below.

Table A1.13 Examples of ozone mixing ratios (ppb), and hydroxyl and peroxyacetyl radical number densities (104 molec. cm^{-3}). The table assumes no cloud cover.

Month	January					July				
	ozone	hydroxyl		peroxyacetyl		ozone	hydroxyl		peroxyacetyl	
lat.\UTC		0000	1200	0000	1200		0000	1200	0000	1200
80^0 N	25	0.01	0.01	120.	120.	38	5.38	18.3	14.0	39.8
70^0 N	25	0.05	0.05	31.0	31.0	35	0.29	28.8	5.34	58.7
60^0 N	25	0.68	68.2	29.0	320.	41	0.82	82.6	9.01	99.2
50^0 N	25	1.21	122.	32.2	354.	46	1.41	142.	19.3	212.
40^0 N	26	1.38	139.	36.5	402.	46	1.58	160.	26.2	288.

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Appendix A2:

Description of the Eulerian Acid Deposition model

Appendix A2

Description of the Eulerian Acid Deposition Model

Jerzy Bartnicki, Krzysztof Olendrzyński, Jan Eiof Jonson and Steffen Unger⁺

The Eulerian acid deposition model - MADE50 has been developed at MSC-W as a multilayer model for simulating atmospheric transport and deposition of nitrogen and sulphur compounds in Europe. The first version of the EMEP Eulerian model was developed by Berge (1993a) and then modified and further improved by Jakobsen *et al.* (1995). At this stage, the model was called MADE50 - Multi-level Acid Deposition model for Europe with 50 km resolution. Nitrogen chemistry was introduced into the model by Jonson and Berge (1995) and a new dry deposition module for SO_2, NO_2, HNO_3 and NH_3 was implemented by Jakobsen *et al.*, (1996). The MADE50 model was run for 1992 and the results compared with measurements available from the EMEP stations in Europe (Jakobsen *et al.*, 1995; Jonson *et al.*, 1998a, 1998b). Model validation for 1996 data is described in the main part of this report.

The development of the MADE50 model has been documented in many publications (e.g. Berge, 1993; Jakobsen *et al.*, 1995; Jonson and Berge, 1995; Jakobsen *et al.*, 1996; Jakobsen *et al.*, 1997; Berge, 1997; Berge and Jakobsen, 1998). In these publications, each parameterization of physical or chemical process was not only presented but also discussed in detail. In the description of the MADE50 model given below a comprehensive picture of the latest model version is presented.

A2.1 Basic model equations

Concentrations of nine chemical components are computed in the latest version of the MADE50 model: NO, NO_2, PAN, HNO_3, NH_4NO_3, SO_4, SO_2 and $[(NH_4)_2SO_4+NH_4HSO_4]/2$ further referred as $(NH_4)_{1.5}SO_4$. Derivation of the basic model equation describing: emission, atmospheric transport, diffusion, chemical transformations and deposition of one of the selected compounds in the σ-coordinate system can be found in Jakobsen *et al.* (1995). This equation, formulated in the Polar Stereographic Projection at 60^oN has the following form:

⁺Institute for Computer Architecture (FIRST) of the German Association for Mathematics and Data Processing (GMD), Berlin, Germany.

$$\frac{\partial(\psi p^*)}{\partial t} + m^2\frac{\partial\left(\frac{u}{m}\psi p^*\right)}{\partial x} + m^2\frac{\partial\left(\frac{v}{m}\psi p^*\right)}{\partial y} + \frac{\partial(\dot{\sigma}\psi p^*)}{\partial \sigma} = \qquad \text{A2.1}$$

$$= \left[\frac{g}{p^*}\right]^2\frac{\partial}{\partial\sigma}\left[\rho^2 K_z\frac{\partial}{\partial\sigma}(\psi p^*)\right] + \frac{p^*}{\rho}S$$

where ψ is the mixing ratio of pollutant mass to air mass; *(u,v)* are horizontal components of the velocity field; *m* - is the map factor for the Polar Stereographic Projection at 60°N; g is the gravitational acceleration; ρ is the air density; K_z is the coefficient of vertical diffusion and *S* represents all source and sink terms, including chemical transformation. The vertical coordinate σ is defined as:

$$\sigma = \frac{p - p_T}{p^*} \qquad \text{A2.2}$$

where $p^* = p_s - p_T$; p is the pressure at σ level; p_s is the surface pressure and p_T = 100 hPa represents the pressure at the top of the model domain. In Equation (A2.1), $\dot{\sigma} = \frac{d\sigma}{dt}$, is the vertical velocity.

A2.2 Advection and diffusion

Second, third and fourth term in the Equation (A2.1) represent advection of every pollutant in the horizontal, and vertical direction.

Horizontal diffusion is not calculated in the model because a small amount of the numerical diffusion is already introduced by the advection algorithm. Parameterization of vertical diffusion is the same as in the numerical weather prediction model LAM50E (see Appendix A1), which was used to produce input meteorological data for the MADE50 model. The vertical diffusion coefficient, K_z, is derived from the surface drag coefficient (Luis, 1979) in the surface layer but is only used for computing dry deposition fluxes. Above the surface layer this coefficient is calculated based on an the empirical formula suggested by Blackadar (1979) where the mixing length and the local bulk Richardson Number are the most important parameters:

$$K_z = l^2 \cdot \left|\frac{\partial \overrightarrow{V_H}}{\partial z}\right| \cdot F(Ri) \qquad \text{A2.3}$$

where $\overrightarrow{V_H} = (u, v)$ is the horizontal velocity and the turbulent mixing length, *l*, is parameterized according to Nordeng (1986):

$$l = \begin{cases} \kappa \cdot z & z \le z_m \\ \kappa \cdot z_m & z > z_m \end{cases} \qquad \text{A2.4}$$

In Equation (A2.4) κ is von Karman constant ($\kappa = 0.35$), z is the height above the ground and z_m=200 m. The local bulk Richardson Number in the layer of thickness, Δz, is defined as:

$$Ri = \frac{g}{\theta} \cdot \frac{\left(\frac{\Delta\theta}{\Delta z}\right)}{\left(\frac{\Delta \overrightarrow{V_H}}{\Delta z}\right)^2} = \frac{g \cdot \Delta z \cdot \Delta\theta}{\theta \cdot (\Delta \overrightarrow{V_H})^2} \qquad \text{A2.5}$$

where $(\Delta \overrightarrow{V_H})^2 = (\Delta u)^2 + (\Delta v)^2$ and for an arbitrary state variable q, $\Delta q = q(z + \Delta z) - q(z)$. Following Nordeng (1986), critical Richardson Number is defined as

$$Ri_c = A \cdot \left(\frac{\Delta z}{\Delta z_0}\right)^B \qquad \text{A2.6}$$

where $A = 0.115, B = 0.175$ and $\Delta z_0 = 0.01m$. Atmosphere is turbulent when $Ri < Ri_c$. The local eddy diffusivity coefficient is calculated in the model using the following formula:

$$K_z = l^2 \cdot \left|\frac{\Delta \overrightarrow{V_H}}{\Delta z}\right| \cdot F(Ri) \qquad \text{A2.7}$$

where:

$$F(Ri)) = \begin{cases} \sqrt{1.1 - 87 \cdot Ri} & Ri \le 0 \\ 1.1 - 1.2 \cdot Ri/Ri_c & 0 < Ri \le 0.5 \cdot Ri_c \\ 1.0 - Ri/Ri_c & 0.5 \cdot Ri_c < Ri \le Ri_c \end{cases} \qquad \text{A2.8}$$

In the sigma coordinates, diffusion coefficient has the following form:

$$K_\sigma = K_z \cdot \rho^2 \cdot \left(\frac{g}{p*}\right) \qquad \text{A2.9}$$

A2.3 Emissions

Emissions are the most important component on the right-hand side of Equation (A2.1) representing source and sink terms for the pollutants. The 1996 emission input to the Eulerian acid deposition model consitsts of gridded annual totals of high and low-level SO_2, NO_x and NH_3. Low-level emissions (below 100 m) are injected into the lowest model layer (below approximately 90 m) and high-level emissions are split between the second, third and fourth model layer above the surface, in proportions 25%, 50% and 25%, respectively. For most of the European countries emission inventories in the 50 km grid are based on data officially reported to EMEP by individual countries, however, expert estimates are also used for certain regions in Europe. Seasonal variability of the emissions is parameterized in the model. For SO_2 and NO_x the GENEMIS country-specific database was used to define proportions of the total annual emissions in each month (Barret and Berge, 1996). For ammonia, emissions are distributed throughout the year with a sine function with 30% amplitude, and an assumed peak in summer. Marine biogenic sulphur emissions vary with season and latitude with a maximum rate in the North Sea in spring and a minimum in winter (Tarrason and Iversen, 1996). Full description of the EMEP emission inventories for 1996 can be found in the main report.

A2.4 Dry deposition

Dry and wet depositions are the most important processes in removing pollutants from the atmosphere. A detailed description of the dry deposition parameterization used in the present version of the model is given in the EMEP reports (Jonson and Berge, 1995; Jakobsen *et. al.* 1996, 1997).

In the surface boundary layer (SBL), the dry deposition flux, *F*, can be described by the following expression:

$$F = V_d(z) \cdot [c(z) - c_s] \qquad \text{A2.10}$$

where $c(z)$ is the concentration of pollutant at height z; c_s is the concentration of pollutant at the surface and $V_d(z)$ is the dry deposition velocity at height z. If the surface is covered by vegetation, a zero-plane displacement, d, is included into Equation (A2.10): $z \to z - d$. For the absorbing surface, the c_s=0.

For particles: NH_4NO_3, $(NH_4)_{1.5}SO_4$ and SO_4 the dry deposition velocity is constant in the MADE50 model and equal to 0.1 $cm\ s^{-1}$. For gases: NO_2, PAN, HNO_3, NH_3 and SO_2, the resistance analogy is used in the parameterization of the dry deposition velocity in Equation (A2.10):

$$V_d = (r_a + r_b + r_s)^{-1} \qquad \text{A2.11}$$

where r_a is the surface layer aerodynamic resistance; r_b is quasi-laminar or viscous-sublayer resistance and r_s is the surface resistance. The units of all these resistances are $s\ m^{-1}$.

A2.4.1 Aerodynamic resistance

The SBL resistance to turbulent transport of heat and trace gas is given by the following equation:

$$r_a(z) = \frac{1}{\kappa u_*}\left[\ln\left(\frac{z-d}{z_0}\right) - \Psi_m\left(\frac{z-d}{L}\right) + \Psi_h\left(\frac{z_0}{L}\right)\right] \qquad \text{A2.12}$$

Here u_* is the friction velocity, z_0 is the roughness length, L is the Monin-Obukhov length and κ is von Karman's constant. The roughness length and the displacement height are assumed to be 10% and 70% of the vegetation height, respectively. In all the calculations, Ψ_m and Ψ_h are the similarity functions for momentum and heat, respectively:

$$\begin{aligned} &\Psi_m(\xi) = \ln\left[\left(\frac{1+(1-15\xi)^{0.5}}{2}\right)\left(\frac{1+(1-15\xi)^{0.25}}{2}\right)^2\right] - 2\,\mathrm{atan}(1+(1-15\xi)^{0.25}) + \frac{\pi}{2} \\ &\Psi_h(\xi) = 2\ln\left[\frac{1+(1-15\xi)^{0.5}}{2}\right] \qquad \mathit{for}\ \ L<0 \\ &\Psi_h(\xi) = \Psi_m(\xi) = -5\xi \qquad \mathit{for}\ \ L\geq 0 \end{aligned} \qquad \text{A2.13}$$

in which $\xi = (z-d)/L$ or $\xi = z_0/L$.

From the weather prediction model LAM50E only average grid cell values of u_*, T_*, L and z_0 are available for the dry deposition module. However, in the dry deposition module atmospheric resistances in each EMEP grid cell are calculated first for every land use type. Therefore, a special algorithm (Jakobsen *et al.*, 1996) was developed to convert grid averaged values of the key variables to land use specific variables. This algorithm is described by the set of equations given below:

$$\tilde{u}_* = \sqrt{\frac{\tau}{\tilde{\rho}_s}} \qquad \text{A2.14}$$

where $\tilde{u}_*$ is the friction velocity calculated form the LAM50E model, τ is the turbulent stress and $\tilde{\rho}_s$ is the density of dry air at the surface.

$$\tilde{T}_* = \frac{-\tilde{H}_d}{c_p \cdot \tilde{\rho}_s \cdot \tilde{u}_*} \qquad \text{A2.15}$$

$$\tilde{L} = \frac{\tilde{u}_*^2 \cdot \tilde{\theta}_s}{\kappa \cdot g \cdot \tilde{\theta}_*} = \frac{\tilde{u}_*^2 \cdot \tilde{T}_s}{\kappa \cdot g \cdot \tilde{T}_*} \qquad \text{A2.16}$$

In Equations (A2.15) and (A2.16), $\tilde{T}_*$ and $\tilde{L}_*$ are respectively, scaling temperature and Monin-

Obukhov length from the LAM50E model; $\tilde{H}_d$ is the turbulent heat flux, $\tilde{\theta}_s$ and $\tilde{T}_s$ a potential temperature and temperature at the surface, respectively, from the LAM50E model; c_p is the specific heat at constant pressure for dry air.

The land use type specific friction velocities u_*, specific scaling temperatures T_* and specific Monin-Obukhov lengths L are calculated as follows:

$$u_* = \tilde{u}_* \cdot \frac{\ln\left(\frac{z-d}{\tilde{z}_0}\right) - \Psi_m\left(\frac{z-d}{\tilde{L}}\right) + \Psi_h\left(\frac{\tilde{z}_0}{\tilde{L}}\right)}{\ln\left(\frac{z-d}{z_0}\right) - \Psi_m\left(\frac{z-d}{\tilde{L}}\right) + \Psi_h\left(\frac{\tilde{z}_0}{\tilde{L}}\right)} \qquad \text{A2.17}$$

$$T_* = \frac{-\tilde{H}_d}{c_p \cdot \tilde{\rho}_s \cdot u_*} \qquad \text{A2.18}$$

$$L = \frac{u_*^2 \cdot \tilde{T}_s}{\kappa \cdot g \cdot T_*} \qquad \text{A2.19}$$

Finally, aerodynamic resistance for each land use type has the following expression:

$$r_a(z) = \frac{1}{\kappa u_*}\left[\ln\left(\frac{z-d}{z_0}\right) - \Psi_m\left(\frac{z-d}{L}\right) + \Psi_h\left(\frac{z_0}{L}\right)\right] \qquad \text{A2.20}$$

The roughness length z_0 and is given in Table A2.1 for each land cover and two different periods of the year.

Table A2.1: Roughness lengths for each surface cover over the land. Units: m.

Surface type	Period of the year	
	October-May	May-September
Grass	0.03	0.03
Arable	0.005	0.1
Permanent crops	0.2	0.2
Coniferous forest	2.0	2.0
Deciduous forest	0.1	2.0
Urban	2.0	2.0
Desert	0.001	0.001
Ice	0.001	0.001
Other	0.01	0.02

For water surface the roughness length z_0 is calculated using Charnock's formula:

$$z_0 = 0.032 \cdot \frac{u_*^2}{g} \qquad \text{A2.21}$$

A2.4.2 The quasi-laminar boundary layer resistance

The formula from Hicks *et al.* (1987) is used for calculating the quasi-laminar boundary layer resistance, r_b:

$$r_b = \frac{2}{\kappa u_*} \cdot \left(\frac{Sc}{Pr}\right)^{2/3} \qquad \text{A2.22}$$

where Sc and $Pr = 0.72$ are Schmidt and Prandtl Numbers, respectively. The Schmidt Number is defined as: $Sc = \nu / D_i$, with ν being kinematic viscosity of air (0.15 $cm^2\ s^{-1}$) and D_i the molecular viscosity of pollutant *i*. The Schmidt and Prandtl Number corrections for four gases in the MADE50 model are shown in Table A2.2.

Over sea surface, the quasi-laminar boundary layer resistance, r_b is calculated according to Hicks and Liss (1976):

$$r_b = \frac{1}{\kappa u_*} \cdot \ln\left(\frac{z_0}{D_i} \cdot \kappa u_*\right) \qquad \text{A2.23}$$

The quasi-laminar boundary layer resistance, r_b in Equation (A2.23) can be very large or even negative on the other side. Therefore, limits are imposed on the calculated dry deposition velocity, so that its minimum is 0 $m\ s^{-1}$ and maximum 0.1 $m\ s^{-1}$.

Table A2.2: Schmidt/Prandtl number correction and diffusion ratio for gases in the MADE50 model (D_{H2O}=0.21 $cm^2\ s^{-1}$).

Compound	D_{H2O}/D_i	$(Sc/Pr)^{2/3}$
SO_2	1.9	1.34
NO_2	1.6	1.19
NH_3	1.0	0.87
HNO_3	1.9	1.34

A2.4.3 Surface resistance

Surface resistance, r_s, in the MADE50 model is calculated for each land cover type according to the so called RIVM formula (Erisman *et al.*, 1994; Seland *et al.* 1995; Jakobsen *et al.*, 1996):

$$r_s = [(r_{inc} + r_{soil})^{-1} + r_{ext}^{-1} + (r_m + r_{stom})^{-1}]^{-1} \qquad \text{A2.24}$$

where different soil resistance parameterizations are used for the individual compounds. For the surface covered by vegetation:

- The stomata resistance - r_{stom} is the resistance against the transport through the stomata of leaves and needles.
- The mesophyll resistance - r_m is the resistance of the internal plant tissues against uptake or destruction (in terms of chemical reactions).
- The external surface resistance - r_{ext} is the resistance to the exterior plant parts against the uptake or destruction of the compound.
- The in-canopy aerodynamic resistance - r_{inc} is the resistance against transport of air through vegetation towards the soil and lower plant parts.
- The soil resistance - r_{soil} is the resistance against the destruction or absorption at the soil surface.

The original parameterization of the external surface resistance in Equation (A2.24) has been further modified (Jakobsen *et al.*, 1996) so that the Wesley's approach is now used for calculating this term (Wesley, 1989). For surfaces not covered by vegetation or those which are covered by snow the total surface resistance is set equal to the soil resistance of the selected surface type.

Because of limited space we can not present a complete parameterization of each term in Equation (A2.24) for all compounds. The full description of the surface resistance parameterization, as well as the discussion of different terms in Equation (A2.24) can be found in (Jakobsen *et al.*, 1996; 1997).

A2.4.4 Calculation of the average dry deposition velocity

For each compound, the average dry deposition is calculated separately for the dry and wet part of the model grid cell. The average dry deposition velocity, v_d over the entire grid cell is a weighted sum of the dry deposition velocities for the wet and dry part of the grid:

$$\overline{v_d} = \phi \cdot \sum_{l=1}^{N} a_l \cdot v_{d,l}^{wet} + (1-\phi) \cdot \sum_{l=1}^{N} a_l \cdot v_{d,l}^{dry} \qquad \text{A2.25}$$

where N is the number of land cover classes in the grid cell, a_l is the fraction of the land cover in the grid cell, $v_{d,l}^{wet}$ and $v_{d,l}^{dry}$ are the dry deposition velocities in the wet and dry part of the grid cell. The wet fraction of the grid - ϕ is equal to zero when the grid cell has not been affected by precipitation in the last six hours. Otherwise, ϕ is equal to the maximum cloud cover fraction aggregated over the vertical column.

A2.5 Parameterization of wet deposition

Parameterization of the wet deposition processes in the MADE50 model includes both in-cloud and sub-cloud scavenging of gases and particles.

Following Berge (1993b), in-cloud scavenging coefficient for gases and particles is calculated according to the following formula:

$$S = \frac{P}{W \cdot \Delta z} \qquad \text{A2.26}$$

where Δz is the height of the grid cell, W is cloud water (in *kg* of water m^{-3}) and P is precipitation released from the individual grid cell. The concentration change caused by wet deposition is expressed as:

$$\frac{\partial c}{\partial t} = -S \cdot f_{aq} \cdot c \qquad \text{A2.27}$$

where c is the total concentration (gas, particle in the aqueous phase) of the pollutant and f_{aq} is the fraction of the pollutant dissolved in the droplets. For SO_2, the f_{aq} can be calculated from the following relation:

$$f_{aq} = \frac{1}{1 + \frac{1}{K_N \cdot R \cdot T \cdot L}} \qquad \text{A2.28}$$

where K_N is the efficient Henry's law constant, R is the gas constant, T is temperature in K and L is the volume fraction of liquid water in the total volume of air. For all other soluble compounds, $f_{aq} = 1$ (Jakobsen *et al.*, 1996).

The sub-cloud deposition of gases is calculated as described in Jonson and Berge (1995):

$$\frac{\partial c}{\partial t} = -c \cdot \frac{\Lambda \cdot P}{\Delta z} \cdot \frac{1}{\rho_w} \qquad \text{A2.29}$$

where Λ is the sub-cloud scavenging coefficient for each gas as given in Table A2.3. In this Table, function $f(t) = \sin\{2\pi((t - 80)/366)\}$ describes seasonal variation of the variable part of the scavenging ratio for SO_2 and t is expressed in Julian days.

Table A2.3: Sub-cloud scavenging coefficients for gases.

Gas	Scavenging coefficient - Λ
SO_2	$1.5 \cdot 10^5 + 5 \cdot 10^4 \cdot f(t)$
HNO_3	$7 \cdot 10^5$
NH_3	$7 \cdot 10^5$

Wet deposition rate for particles is described by the following relation (Berge, 1993a):

$$\frac{\partial c}{\partial t} = -A \cdot M \cdot E \cdot c \qquad \text{A2.30}$$

where $A = 5.2\ m^3\ kg^{-1}\ s^{-1}$, M is the mass of precipitation and E is the mean collection efficiency ($E = 0.1$). Precipitation mass M is calculated assuming a fall speed for the droplets equal to $5\ m\ s^{-1}$.

A2.6 Chemical reactions for nitrogen and sulphur

A schematic illustration of the nitrogen and sulphur chemistry in the MADE50 model is shown in Figure A2.1.

The main part of the chemical reaction scheme in the model follows the scheme originally applied in Hov *et al.* (1988). A thorough description of the original scheme is also supplied in Barett *et al.* (1995). Compared to the original scheme, applied in the Lagrangian EMEP model (see Appendix A1) several changes have been made. The number of chemical components have been reduced from 10 to 9, as the 'unspecified' NO_3^- particle (particulate nitrate not in the form of ammonium nitrate i.e. sea salt particles) is no longer included. Furthermore, the oxidation of SO_2 to sulphate is parametrized as a function of cloud cover and water content. In addition, all reaction rates are updated according to more recent references (Atkinson *et al.*, 1996).

Chemical evolution is calculated every 200 sec. for NO, NO_2, PAN, HNO_3, NH_4NO_3, $SO_4^{=}$ and $(NH_4)_{1.5}SO_4$. In addition to these, concentrations of ozone (O_3), hydroxyl (OH), peroxyacetol (CH_3COO_2) radicals and hydrogen peroxide (H_2O_2) are required for the chemical scheme. These are prescribed values described along with the boundary conditions in section A2.7.

Following Jakobsen *et al.*, (1997), all chemical reactions and reaction rates with references, are listed in Tables A2.4 and A2.5.

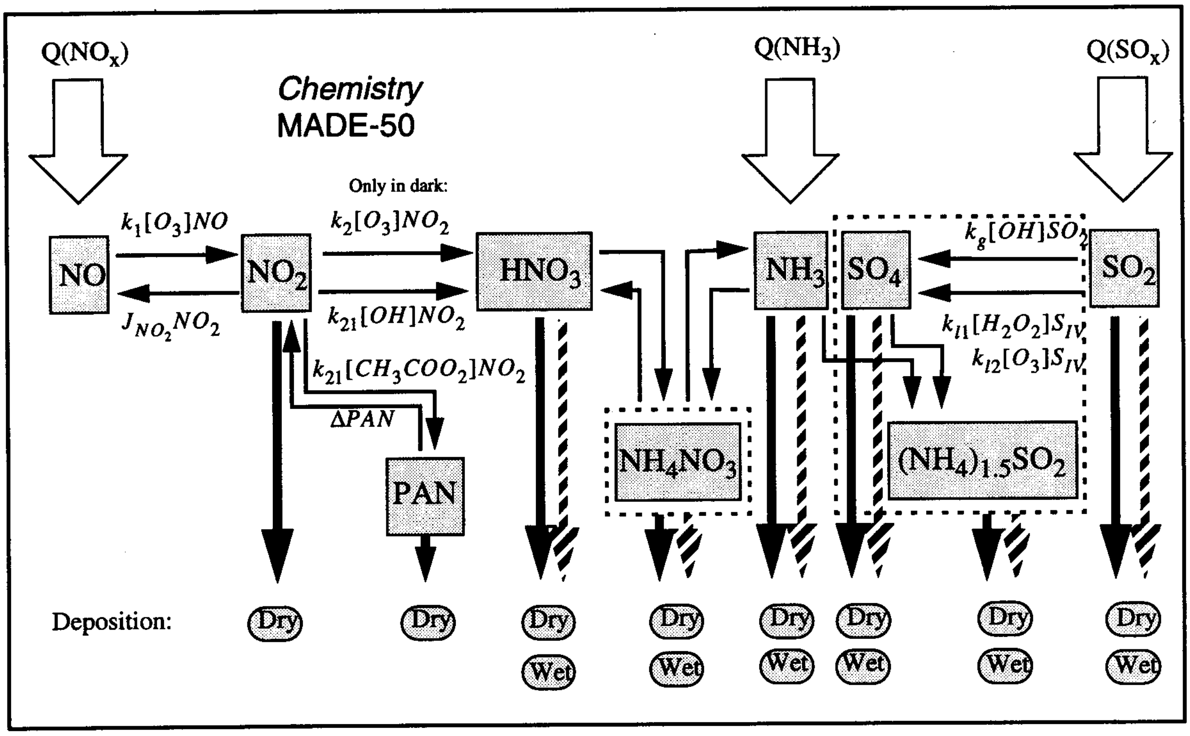

Figure A2.1. Schematic illustration of the MADE50 model chemical scheme. Dashed boxes denote nitrate and sulphate particles occurring in two forms. Solid and dashed thick arrows represent dry and wet deposition, respectively.

Table A2.4: Two-body reactions.

Reaction		k_0	E_a/R	ref/note
R1	$NO_2+h\nu \rightarrow NO+O$			note[a]
R2	$NO+O_3 \rightarrow NO_2+O_2$	1.8×10^{-12}	1370	C/note[b]
R3	$2NO_2+O_3+H_2O \rightarrow 2NO_3^-+2H^++O_2$	1.2×10^{-13}	2450	C/see text
R4	$NH_4+HNO_3 \rightarrow NH_4NO_3$			see text
R5	$SO_2+OH \rightarrow$ -------- sulphate	2.0×10^{-12}		C
R6	$3NH_4+2SO_4^{2-} \rightarrow 2\,(NH_4)_{1.5}SO_4^{2-}$			see text

a. Dissociation rate for NO_2: $J = 0.01 \times \exp(-0.39 \sec\theta)$, where θ is the solar zenith angle. Below clouds the dissociation rate is reduced by a factor of 0.5 times the fractional cloud cover.
b. Ozone concentrations from Berntsen (1994), see text.

For two-body reactions the temperature dependent rate constant (cm^3 molecules^{-1} s^{-1}) given by:
$k = k_0\exp(-E_a/(RT))$ *and T is temperature in Kelvins. C is Atkinson et al. (1996).*

Table A2.5: Three-body reactions.

Reaction		k_0	k_∞	ref.
R7	$OH + NO_2 + M \rightarrow HNO_3 + M$	$2.6E\text{-}30(T/300)^{-2.9}N_2$	$6.7E\text{-}11(T/300)^{-0.6}$	A
R8	$NO_2 + CH_3COO_2 + M \rightarrow PAN + M$	$2.7E\text{-}28(T/300)^{7.1}N_2$	$1.2E\text{-}11(T/300)^{-0.9}$	A
R9	$PAN + M \rightarrow CH_3COO_2 + NO_2 + M$	$4.9E\text{-}3\ e^{(-12100/T)}N_2$	$4.0E{+}16\ e^{(-13600/T)}$	A

For 3-body reactions temperature and pressure dependant rate constants (cm^3 molecules^{-1} s^{-1}) are given by

$$k = \left(\frac{k_0(T)M}{1 + k_0(T)M/(k_\infty(T))}\right) F_c^{\left(1 + (\log((k_0(T)M)/(k_\infty(T))))^2\right)^{-1}}$$

where M is the molecule density of air and T is temperature in Kelvins. F_c is 0.3 for R11, else 0.6, A is Atkinson et al. (1996).

Provided that the concentration of peroxy radicals is low, the ratio between NO and NO_2 is to a good approximation determined by the O_3 concentration through the reaction: R2: $NO + O_3 \rightarrow NO_2 + O_2$ and the photolytic reaction R1: $NO_2 + h\nu \rightarrow NO + O$.

Under clear sky conditions the dissociation rate for NO_2 (R7) is assumed constant in the vertical. Below clouds the dissociation rate is reduced by a factor of 0.5 times the fractional cloud cover. In particular over polluted areas in summer, the concentration of peroxy radicals can be significant. If so, the NO to NO_2 ratio is likely to be overestimated by the model.

PAN (peroxyacetylnitrate) is formed when NO_2 reacts with the peroxyacetyl radical (R8). In addition to dry deposition, PAN is thermally decomposed. The thermal decomposition is highly temperature dependent. In high latitudes in winter or in the upper troposphere, where temperatures are low, PAN is stable. As it is advected south (or down) it is thermally decomposed, acting as a reservoir for NO_2.

HNO_3 is produced from NO_2 The most important production term (especially in summer) is the reaction with OH (R7), giving HNO_3. The night time production of HNO_3 is assumed to be limited by the reaction $NO_2 + O_3 \rightarrow NO_3 + O_2$. This assumption only holds in the presence of a sufficient number of aerosols, and provided that the humidity is above the deliquescence point. (Platt, 1986; Dentener and Crutzen, 1993). The number of particles will usually decrease rapidly with height above the planetary boundary layer. Thus this reaction is assumed to take place in the lowest 8 layers of the model only (below approximately 1500 meters). This process is previously described in Jonson and Berge (1995), and the parameterization of this reaction will not be discussed further here. There are however large uncertainties related to this part of the chemistry scheme.

The formation of ammonium sulphate is assumed to occur instantaneously, only limited by the availability of NH_4 and SO_4^{2-}. Ammonium sulphate may exist in two forms, $(NH_4)_2SO_4$ or NH_4HSO_4. It is assumed that the concentrations of the two forms are equal.

Provided that NH_4 is in excess of sulphate, ammonium nitrate is formed. The formation of ammonium nitrate is dependant on temperature and relative humidity. This process is described in more detail in Hov *et al.* (1988). We first calculate the equilibrium concentration of NH_3:

$$NH_3eq = \frac{NH_3 - HNO_3}{2} + \sqrt{\left(\frac{NH_3 - HNO_3}{2}\right)^2 + k_{eq}} \qquad \text{A2.31}$$

The equilibrium concentration of NH_4HNO_3 is derived from NH_3:

$$NH_4NO_3eq = NH_4NO_3 + (NH_3 - NH_3eq) \qquad \text{A2.32}$$

Provided that the difference between the equilibrium concentration and the former concentration is smaller than the former concentration, the equilibrium concentration becomes the new concentration for ammonium nitrate. Ammonia and nitric oxide are adjusted accordingly. The equilibrium constant k_{eq} is determined as described below.

The Equilibrium reaction between HNO_3 and NH_4 (R6) is calculated according to the recommendations by Mozurkewich (1993). Below the point of deliquescence the equilibrium constant, K_p, is given by the equation:

$$\ln K_p = 118.87 + \frac{24084}{T} - 6.025\ln(T) \qquad \text{A2.33}$$

where T is the temperature in Kelvins. Above the point of deliquescence the equilibrium constant, now denoted K_{paq} is given by:

$$K_{paq} = \left[P_1 - P_2\left(1 - \frac{RH}{100}\right) + P_3\left(1 - \frac{RH}{100}\right)^2\right] \cdot \left(1 - \frac{RH}{100}\right)^{1.75} K_p \qquad \text{A2.34}$$

Both K_p and K_{paq} are in units of *(molecules* $cm^{-3})^2$. *RH* is the relative humidity in percent, and P_1, P_2 and P_3 are defined as:

$$\ln P_1 = -135.94 + \frac{8763}{T} + 19.12\ln(T)$$

$$\ln P_2 = -122.65 + \frac{9969}{T} + 16.22\ln(T) \qquad \text{A2.35}$$

$$\ln P_3 = -182.61 + \frac{13875}{T} + 2446\ln(T)$$

A2.6.1 Oxidation of SO_2

Within the clouds we assume that Henry's law applies:

$$[C] = H_c P_c \qquad \text{A2.36}$$

where $[C]$ is the concentration of any soluble gas C (*in mol* l^{-1}) in the aqueous phase, H_c its Henry's law coefficient and P_c the partial pressure of C in the gas phase. Within the aqueous phase many soluble gases undergo rapid reversible reactions such as acid-base ionization. It is therefore convenient to extend the definition above to an efficient Henry's law coefficient H^{eff}, referring to the total amount dissolved (Schwartz, 1986). Equilibrium reactions and solubility constants for these reactions are given in Table A2.6.

Table A2.6: Equilibrium reactions and solubility constants.

Reaction		K_{298}	ΔH/R	ref.
H_{SO2}	$SO_2\ g \leftrightarrow SO_2\ aq$	1.23	3020	1
K_1	$SO_2\ aq \leftrightarrow HSO_3^- + H^+$	$1.23\ 10^{-2}$	2010	1
H_{H2O2}	$H_2O_2\ g \leftrightarrow H_2O_2\ aq$	$7.1\ 10^4$	6800	2
H_{O3}	$O_3\ g \leftrightarrow O_3\ aq$	$1.13\ 10^{-2}$	2300	3

K_{298} in mol l^{-1} atm^{-1} for Henry's law constants, and mol l^{-1} for aqueous phase equilibrium (K1). The temperature dependant rate is calculated by: $K = K_{298}\exp\left(-\left(\frac{\Delta H}{R}\right)\cdot(1/T - 1/298)\right)$

1) is Smith and Martell (1976), 2) is Martin and Damschen (1981) and 3) is Kozak-Channing and Helz (1983).

In the case of SO_2 the efficient Henry's law coefficient is defined as:

$$H^{eff}_{SO2} = \frac{S_{IV}}{P_{SO_2}} = H_{SO_2}\left(1 + \frac{K_1}{[H^+]} + \frac{K_1 K_2}{[H^+]^2}\right) \qquad \text{A2.37}$$

where S_{IV} is the total amount of dissolved SO_2.

In order to find an expression for the total concentration $[C_T]$ (gas and liquid - *mol* l_{air}^{-1}) we make use of the ideal gas law, $P_c = [C_g]RT$, where $[C_g]$ is the gas phase concentration of C (*mol* l_{air}^{-1}), R is the universal gas constant and T is temperature. Within the cloud the total concentration can be expressed as:

$$[C_T] = [C_{aq}]\left(1 + (H_c^{eff}\cdot R\cdot T\cdot clw)^{-1}\right) \qquad \text{A2.38}$$

and thus the fraction of the total mass remaining in the interstitial cloud air f_g and the fraction absorbed by the droplets can be calculated:

$$f_{aq} = \frac{[C_{aq}]}{[C_T]} = \frac{1}{1 + (H_c^{eff} \cdot R \cdot T \cdot clw)^{-1}} \quad \text{and} \quad f_g = 1 - f_{aq} \qquad \text{A2.39}$$

A2.6.1.1 Gas phase oxidation of SO_2

Within a grid cell the gas phase oxidation of SO_2 to sulphate (R5, Table A2.4) takes place both in the clouds and in the cloud free fraction of the grid cells. In cloudy air only the fraction of total SO_2 remaining in the gas phase is oxidized. We have found it convenient to define a pseudo reaction rate $k_{12}{}^l$, where the reaction rate is reduced instead of the concentration:

$$k_{12}^l = k_{12}(f_{g(so2)}cl + 1 - cl) \qquad \text{A2.40}$$

Thus the production of sulphate in the gas phase can be written $P_{SO2} = k_{12}^l \times SO_2(tot) \times OH$, where SO_2(tot) is the total (gas- and liquid-phase) concentration of SO_2.

A2.6.1.2 Aqueous phase oxidation of SO_2

In the aqueous phase we assume that SO_2 is oxidized to sulphuric acid by dissolved H_2O_2 and O_3 with the rate expression:

$$P_{cl} = k_{cl1}[H_2O_2][SO_2] + k_{cl2}[H^+][O_3]([SO_2] + [HSO^{-3}]) \qquad \text{A2.41}$$

where the reaction rate for oxidation by H_2O_2, $k_{cl1} = 8.3 \times 10^5$ $mol^{-1}l$ (Martin and Damschen, 1981) and the reaction rate for the oxidation by O_3, $k_{cl2} = 1.8 \times 10^4[H^+]^{-0.4}$ $mol^{-1}l$ (Moller, 1980).

As we did for the gas phase production described above, we define pseudo reaction rates, taking into account the solubility of SO_2, H_2O_2 and O_3, the liquid water content and the fractional cloud cover.

$$k_{cl1}^l = \frac{k_{cl1} \times 10^3}{A_0 \cdot clw} \cdot \frac{H_{SO2}}{H_{SO2}^{eff}} \cdot f_S \cdot f_H \cdot cl \qquad \text{A2.42}$$

$$k^l_{cl2} = \frac{k_{cl2} \times 10^3}{A_0 \cdot clw} \cdot f_S \cdot f_{O3} \cdot cl \qquad \text{A2.43}$$

where f_S, f_H and f_{O3} are the fraction of SO_2, H_2O_2 and O_3 dissolved in the droplets. Concentrations of ozone and hydrogen peroxide are prescribed. Ozone concentrations are prescribed (Jonson and Berge, 1995). Ozone concentrations are about 30 ppb_v in the boundary layer, increasing gradually with height to about 100 ppb_v in the upper troposphere.

In the aqueous phase the reaction between H_2O_2 and SO_2 is very fast, so that the least abundant of the two is depleted within a few minutes after the air enters the cloud. In order to simulate a reduction in the in-cloud hydrogen peroxide concentrations when SO_2 concentrations are high, hydrogen peroxide is reduced according to the expression:

$$H_2O^l_2 = \frac{H_2O_2 \times H_2O_2}{H_2O_2 + SO_2} \qquad \text{A2.44}$$

where $H_2O^l_2$ denotes the total (gas and liquid) concentration of hydrogen peroxide in the cloud. Thus, whenever SO_2 is in excess of H_2O_2, the oxidation is reduced. The above formulations are likely to underestimate the rapid oxidation in newly formed clouds, and in parts of the clouds where dry air is entrained into the cloud. At the same time the oxidation can be overestimated in aged cloud environments with virtually no H_2O_2 left.

With the definitions above, the oxidation of SO_2 to sulphate in both gas- and aqueous phase can be expressed as:

$$P = (k'^l_{12} \times OH + k^l_{cl1} \times H_2O_2 + k^l_{cl2} \times O_3)SO_2(tot) \qquad \text{A2.45}$$

with total concentrations (gas and liquid) of SO_2(tot), H_2O_2, O_3 and OH given as *molecules* cm^{-3} air.

A2.7 Initial and boundary conditions

Initial boundary conditions for the model run assume zero concentrations of NO, NO_2, PAN, NH_3, HNO_3, NH_4NO_3, SO_4, SO_2 and $(NH4)_{1.5}SO_4$ in each grid cell of the model domain.

There are three types of the boundary conditions in the MADE50 model. Closed boundary conditions are used at the top of the model domain (100 hPa - at approximately 15 km). At the surface, the flux of pollutants to the ground is determined by dry deposition, wet deposition and emissions of SO_2, NO_x and NH_3. Open boundary conditions are used at lateral boundaries of the model domain. For sulphur, the lateral boundary concentrations are based on seasonally averaged concentrations from a hemispheric model (Tarrason and Iversen, 1996), and for NO, NO_2, HNO_3 and PAN on monthly averaged concentrations from the global Chemical Tracer

Model - CTM (Berntsen, 1994). Ozone concentrations, used in the chemistry calculations, are also taken from the global CTM. No inflow of ammonia concentrations is assumed through the lateral boundaries.

Concentrations of OH and CH_3COO_2 are prescribed by simple functions of the solar zenith angle, θ, as described in Table A2.7.

Table A2.7: Prescribed concentrations of OH and CH_3COO_2 in *molecules cm*$^{-3}$.

Compound	Night	Day
OH	10^4	$10^4 + 4\times10^6\exp(-0.25/\cos\theta)$
CH_3COO_2	10^5	$0.5\ (105 + 4 \times 10^6\exp(-0.25/\cos\theta)$

Also hydrogen peroxide concentrations have to be prescribed for the chemical part of the MADE50 model. These concentrations are highly variable both in space and time. H_2O_2 is produced by the reaction: $HO_2 + HO_2 \rightarrow H_2O_2 + O_2$. As the abundance of HO_2 depends on the photodissociation of ozone, hydrogen peroxide concentrations have a marked seasonal variation. In polluted areas (with high NO_x) HO_2 readily reacts with NO, reducing the production of hydrogen peroxide. In the model calculations we assume an annual average concentration of H_2O_2 of 0.35 ppb_v, with sinusoidal variation of 0.3 ppb_v and a maximum concentration in summer.

A2.8 Numerical grid system and meteorological input data

The model domain has been selected to cover area large enough to avoid the influence of boundary conditions on the meteorological parameters. This area covers not only Europe, which is of the main interest, but also a large part of the Atlantic Ocean from where air masses are very often coming to Europe.

The basic model Equation (A2.1) is solved in the numerical grid system which is shown together with the model domain in Figure A2.2. The EMEP area, where emissions are reported by European countries under the Convention on Long-Range Transboundary Air Pollution, is also shown in Figure A2.2. For each grid cell, emissions are computed as the annual sum from the entire grid cell. The vertical model structure is shown in Figure A2.3. Concentrations at each time step are computed in 20 sigma layers, in the centre of each three-dimensional grid cell. Usually 10 layers are placed below 2 km to obtain high resolution of the boundary layer where the most of the long range transport takes place. Three-dimensional grid system of the MADE50 model domain consists of 401 660 three-dimensional grid cells.

The MADE50 model requires very large amount of meteorological input data. To fulfil this requirement a special version of the Numerical Weather Prediction (NWP) model of the Norwegian Meteorological Institute LAM50E (Grønås and Midtbø, 1984; Nordeng, 1986) was run for the entire 1996. A more detailed information about the NWP models available at the Norwegian Meteorological Institute for the EMEP purposes is given in Appendix A1.

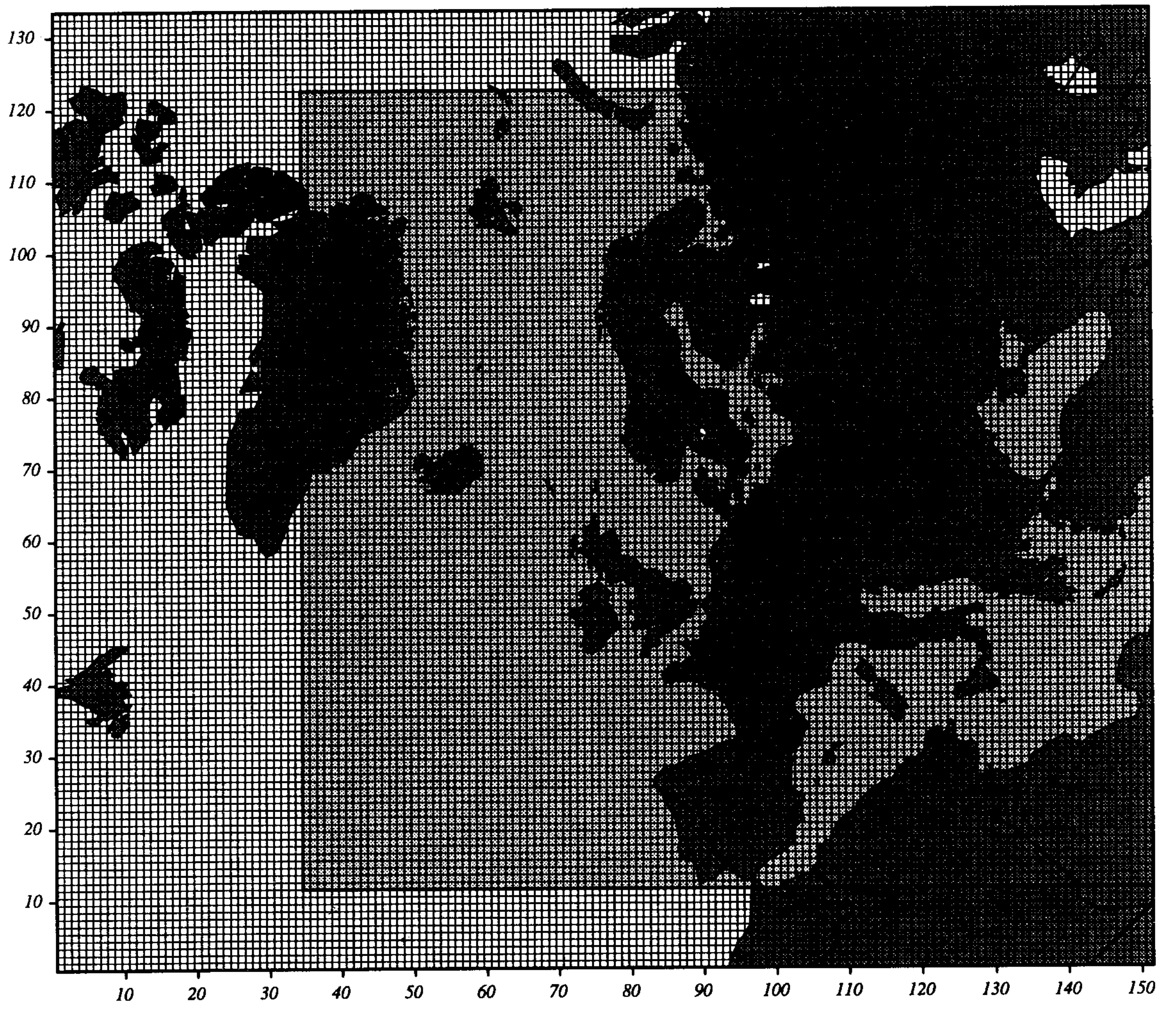

Figure A2.2. Horizontal domain and numerical grid of the MADE50 model. Grid size is 50 km at 60°N. Emissions and meteorological input data are assigned to the centre of each 50 km x 50 km grid cell. Model output is computed in the same nodes. The EMEP region, in Figure A2.2, is marked with thick lines at the borders and shaded area inside.

Table A2.8: The most important meteorological input fields for the MADE50 model.

Field	Level	Field	Level
U - x-component of the wind	all levels	P - rate of precipitation release	all levels
V - y-component of the wind	all levels	p_s - surface pressure	surface
$\dot{\sigma}$ - vertical velocity in σ-coordinates	all levels	Hs - surface flux of sensible heat	surface
θ - potential temperature	all levels	H_l - surface flux of latent heat	surface
q - specific humidity	all levels	τ - surface stress	surface
c_w - cloud water	all levels	T_{2m} - temperature at 2 m	surface

For generating meteorological data, the LAM50E model was run for 12 hourly intervals, producing meteorological data for the last six hours of the forecast. The most important meteorological input fields for the MADE50 model are listed in Table A2.4. Meteorological input data for all 3-D grid cells of the MADE50 model are updated every six hour and linearly interpolated in time during the model run.

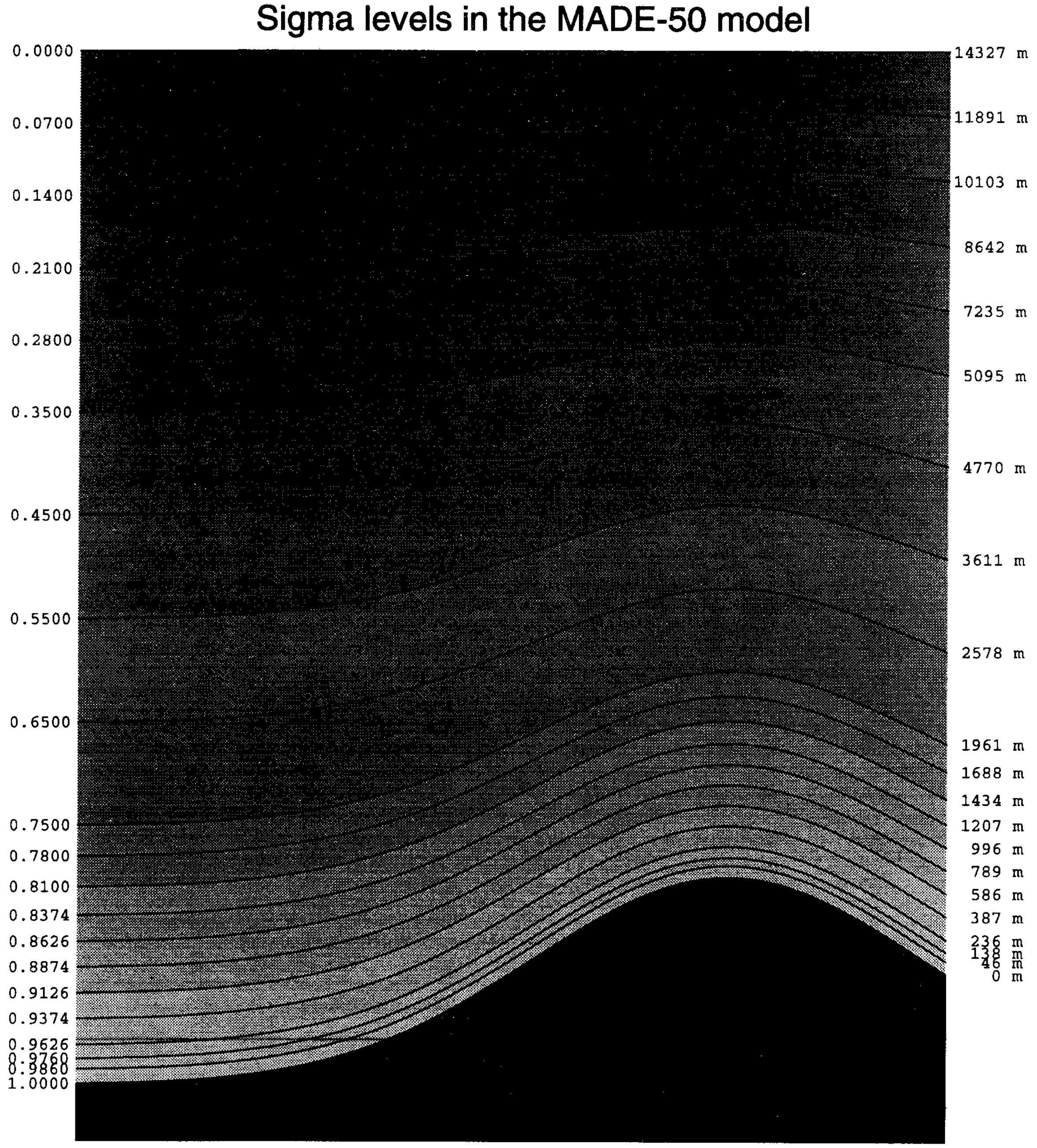

Figure A2.3. Vertical structure of the MADE-50 model. The troposphere is represented in the model by 20 sigma layers. Sigma values for each level are shown on the left hand side of the figure. The corresponding height above the ground, computed for the standard atmosphere, is given on the right hand side.

A2.9 Numerical solution of the model equations

Main model Equation A2.1 is solved numerically by using fractional time step method (McRae *et al.*, 1982). In this approach, different physical and chemical processes are represented by separate numerical operators which are successively applied by intermediate time integrations. A central-difference scheme is applied for space discretization of the vertical diffusion and Bott's method for the numerical approximation of horizontal and vertical advection.

From the numerical point of view, solution of the advection part of Equation A2.1 is the most difficult and requires an efficient and well tested algorithm. The chosen algorithm, developed by Bott (1989a, 1989b), is mass conserving, positive definite and fast in application. A fourth order version of this algorithm is used for the horizontal components of the velocity field and the second order, irregular grid version for the vertical component. The version of Bott's algorithm applied for the vertical advection has been developed at MSC-W in collaboration with Bott.

Time step in the model computations is equal to 10 minutes and is mainly limited by the vertical advection The Courant Number is checked every time step during the model run and when it exceeds one, the time step for the vertical advection and diffusion is reduced to five minutes. For the 1996 meteorology it was found to be a sufficient solution.

A2.10 Computer implementation and performance of the model

One year simulation with the latest version of the MADE50 model would requires weeks of CPU time on traditional sequential supercomputers. Therefore, the model was implemented on the parallel CRAY T3E computer in Trondheim - Norway. Theoretical and practical details about the parallelization and computer implementation of the model can be found in Skålin *et al.*, (1995). Below, we present some results from the model performance analysis.

Computational efficiency of the model was analysed introducing time measurements for the main segments of the code by means of irtc()-calls. Test runs have been done for a real time period of 1 day, i.e. nterm=5 was set and consequently 4 steps of 6 hours were done. Runs were performed on 4, 8, 16, 24 and 32 processors, assuming a fixed decomposition into 4 parts in the y-direction and a decomposition into 1, 2, 4, 6, 8 parts respectively in the x-direction. The higher number of processors in the x direction was chosen, since the total number of points in this direction (151 grid points) better fits a division into 8 parts than the number of points in the y-direction (133 grid points).

From the measured time characteristics of the model one comes to the following conclusions: 1. There is a super linear speed-up of the whole model for up to 32 processors relative to the 4 processors run. 2. This super linear speed-up comes mostly from the vertical advection/diffusion part (speed-up of 9.92 of 32 processors with respect to 4 processors) and from the chemistry solver (speed-up of 14.45 of 32 processors with respect to 4 processors). 3. These two parts of the program require the largest part of the CPU-time of the model (about 60% for a 4 processor run and 41% for a 32 processor run). The two other parts requiring large fraction of the CPU-time (horizontal advection and preparation of the rates and coefficients for the chemistry solver (together 34% for 4 processors and 35.5% for 32 processors) have a nearly linear scaling factor. Consequently, to shorten the computation time of the model one has to look a little bit closer at the advection modules and the chemistry solver.

The advection is done by a fourth order Bott-scheme in the horizontal and a second order Bott-scheme in the vertical. A considerable part of the calculations in these schemes is independent of the actual species to be transported. This part of computations had been done separately for each species in the previous version of the model. These subroutines were reformulated to perform as much as possible calculations only once for all species. The computed direction dependent fluxes were subsequently applied to all species in one pass. Here arises another problem: In the original formulation the concentration array had the structure of indices (i,j,k,n), consequently, the species dependent coordinate 'n' was the slowest varying index. To avoid introduction of large additional 3D arrays for the fluxes, etc. and to hold the structure of the advection routines as it is (with local 1D or 2D arrays - one geometric dimension + species dimension) the order of indices in the concentration array has been changed to (n,i,j,k). Since now the species dependent index is the fastest varying, the loop over the species can be the inner most, the inflow/outflow tests in the advection routine can be moved out of this loop and the code can be highly optimized by the compiler. The resulting horizontal advection code is about 5 times faster than the old one, the vertical advection/diffusion code, which allowed, in addition, other optimization steps, became more than 10 times faster in the 4 processors case and more than 8 times faster in the 32 processors case. Of course, the high super linear speed-up now disappeared, it remains only small super linear speed-up in the advection in the y-direction (second geometric coordinate) and vertical advection (third geometric coordinate) coming from the fact, that the program has to access data in the memory, which are separated by smaller strides for higher processor numbers.

The same reordering of indices in the concentration array improves performance of the chemistry solver and of the preparation phase, too, since now concentration values for one point of the domain lay in the memory one after another and are much faster to access. The super linear speed up came mainly from the following: The solver solves at once the chemical equations for one horizontal line. If this line is too long, the arrays do not fit into cache leading to cache conflicts. A length of about 20 for 32 processors gives a performance improvement of nearly a factor of 2 compared with the length 150 for a 4 processor run.

In addition, chemistry system has to be solved in the inner part of the domain only, leading to the fact, that the lower/upper bounds of the arrays are not known at compile time avoiding the compiler from doing maximum possible optimization. Here following change has been done: computation line is now a vertical line. This may lead to a little bit decreasing performance in the copying phase of concentrations to working arrays, but it is more than repaid by the fact, that now lower and upper bounds of the arrays are known at compile time (and are independent of the number of processors). In the preparation of coefficients for the solver large time is spent in computing power functions. Since the corresponding powers and bases are clearly away from zero, the power function *x**y* can be replaced by *exp(y*log(x))* which is much faster. This all together results in 3 times faster execution of the chemistry in the new model.

The resulting computation time for the new version of the whole model is more than 4 times shorter for the 4 processors case and more than 3 times shorter in the 32 processors case. The high super linear speed-ups disappear indicating that the new program makes better use of the cache already for smaller processor numbers. The speed-up characteristics of the program, consequently, are smaller now, nevertheless remaining quite high: For the part executed at each time step speed-up for 32 processors with respect to 4 processors is 7.4, the advection shows slight super linear speed-up of 8.08. The results of the computational model performance analysis are illustrated in Figure A2.4.

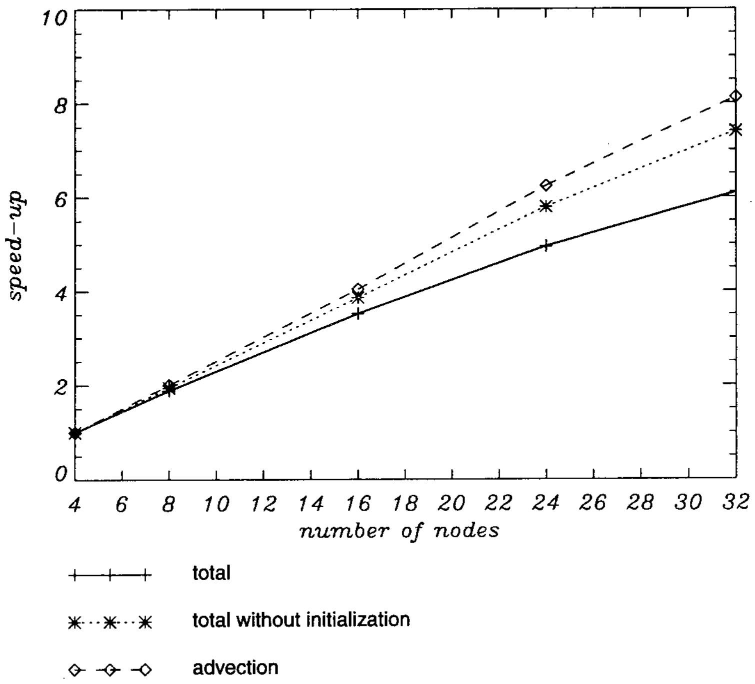

Figure A2.4. Speed-up factor for the MADE50 model parallel computations as a function of a number of processors involved in the computations.

From a practical point of view the main conclusion is the following: A computation, which required in the past the use of 32 processors can now be done on 8 processors in even somewhat shorter time. A one months run can be performed in 90 minutes on 8 processors.

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Appendix A3:

Meteorological data

Appendix A3

Meteorological data.

Svetlana G. Tsyro and Egil Storen

The transport models operating at the EMEP/MSW-W use as a basic input actual meteorological data.

A3.1 Status of the EMEP meteorological data base.

The meteorological input data was up to 1 January 1996 taken routinely from the Numerical Weather Prediction (NWP) model at the Norwegian Meteorological Institute (DNMI). The algorithms used solving the model equations are described in Bratseth (1983) and Grønås et al. (1987). The parameterization of the physical processes is given in Nordeng (1992). A description of the initialisation method and the analysis method can be found in Bratseth (1987) and Grønås and Midtbø (1987) respectively.

From 1985 through 1991 a NWP model version with 150 km horizontal resolution and 10 vertical layers was employed. Between May 1991 and December 1995 a special 50 km version (LAM50E - Limited Area Model 50 km, Europe) was the basic tool for deriving meteorological data for the MSC-W modelling. The LAM50E model is formulated in Cartesian co-ordinates on a polar stereographic projection with a terrain following vertical co-ordinate (σ). It has 20 layers in vertical direction of which 9 layers are below ca. 2 km allowing a good vertical resolution of the boundary layer. The geographical area covered by the LAM50E model is presented in Figure A3.1. The vertical model domain extends approximately up to the tropopause.

In 1996 DNMI introduced the HIRLAM model operationally. The HIRLAM forecasting system (HIgh Resolution Limited Area Model) is a Nordic/Dutch/French/Irish/Spanish co-operation on short-range numerical weather prediction. The model uses a rotated latitude-longitude grid with a terrain following hybrid p-σ vertical co-ordinate. A great advantage of moving to the HIRLAM system is that the collaboration between the European countries is aimed at an efficient and comprehensive research, update and development of the model. A documentation of the HIRLAM modelling system is found in Gustavsson (1993) and HIRLAM Documentation Manual (1996). From 1 January 1996 a special version of the HIRLAM model, EUROLAM, forms the basis for the meteorological data of the MSC-W. It has 31 levels in the vertical direction with 10 levels within the boundary layer and a horizontal resolution of 0.5 x 0.5 degrees. The larger model domain (see Figure A3.1) and especially its extension toward the east and south-east allowed an extension of the EMEP calculation domain. The EMEP calculation grid was extended in 1996 to include Cyprus, the entire Turkey and the Mediterranean Sea.

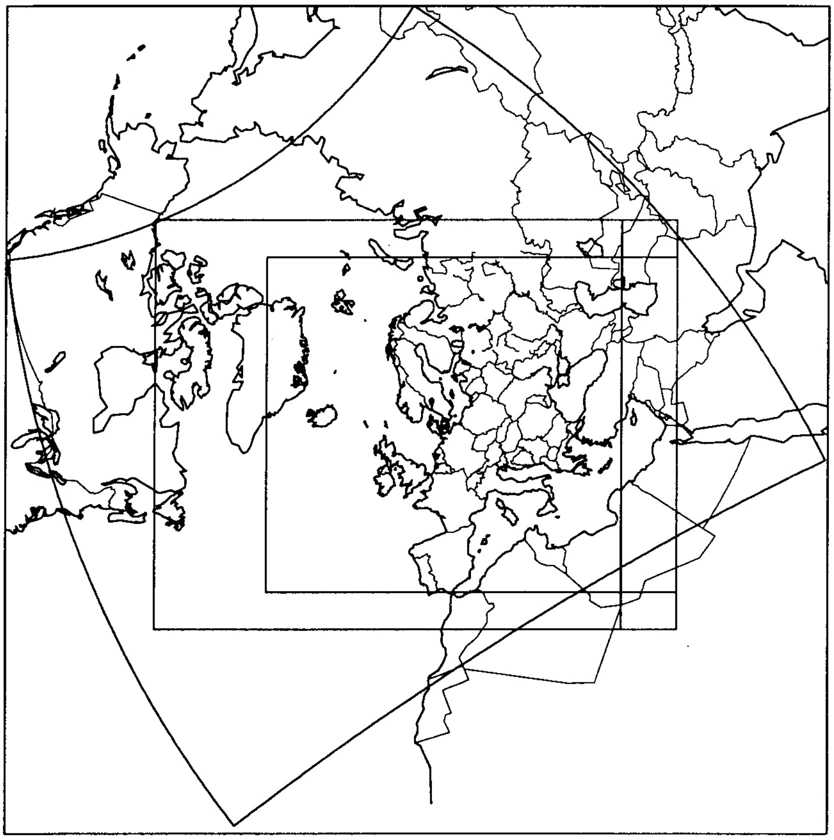

Figure A1.1. *A sketch of the various calculation domains: 1. The HIRLAM basic calculation domain in a spherical projection (the largest area within the figure frame). 2. The LAM50E calculation domain (second largest domain without the south-easterly extension). 3. The conventional EMEP domain (smallest area on the figure without the south-easterly extension, previously used for the 150 km models up to 1995). 4. The extended EMEP-150 km modelling domain used for the 1996-97 calculations (area 3 with the south-eastern extension). 5. The new EMEP/PARLAM calculation domain (as for area 2, but with an extension in the south-easterly direction).*

A complete meteorological data set is 6-hourly prognoses for all the model levels and the surface level. The three-dimensional fields are wind (horizontal and vertical components), temperature, humidity, cloudiness, cloud liquid water, and precipitation intensities. The two-dimensional, ground level, fields include turbulent fluxes, surface temperature, pressure, humidity and precipitation.

Part of these data is interpolated to 150 km grid and employed in the Lagrangian model. In addition to the information from the NWP model, the Lagrangian model utilises analysed observed fields of the height of the Planetary Boundary Layer (PBL) based on radiosonde data, and analysed observed precipitation fields over most land areas combined with modelled precipitation used over sea (see for more information Appendix A1). The preparation of the meteorological input from the radiosondes and observed precipitation has been updated and documented by Jakobsen (1996).
The meteorological input parameters to the multi-layer Eulerian model are presented in details in Appendix A2.

A3.2 Further development of the meteorological data base.

As it was described above, the HIRLAM/EUROLAM model employs a different horizontal projection then the EMEP models. Therefore, the meteorological data from the HIRLAM needs to be interpolated from a spherical to a polar stereographic projection to be used in the EMEP models. The vertical resolution is also different as HIRLAM is formulated in a hybrid σ-p vertical coordinates, whilst the EMEP Eulerian model uses σ-coordinates. Spatial interpolation of the meteorological fields may give rise to mass conservation errors (Trenberg, K.E.,1991) which can be an important drawback in the Eulerian formulation of EMEP models.

The need for a high quality meteorological input to the transport models initiated this year a new project aimed at creating a new EMEP meteorological data base. In the first phase, the work was carried out in a valuable cooperation with our colleagues at the Atmospheric Section at the DNMI. The parallelized version of the HIRLAM model (PARLAM) has been reformulated to the same polar stereographic projection and vertical σ-coordinates as the Eulerian model uses. The new PARLAM version covers the domain of 170x133 grid squares with 50 km resolution (area 5 in Figure C.1) and has 20 vertical layers with 9 layers being below 850 hPa in order to achieve a higher resolution of boundary layer processes which play an essential role for the air pollution transport.

During the second phase, the model will be tested for some shorter periods against the original HIRLAM version. Finally, the new «EMEP» PARLAM is planned to be re-run for all past years of interest (from 1985 through 1997), and starting from 1999 it will be routinely used at the MSC-W for preparing meteorological data for the EMEP pollution transport models.

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APPENDIX B:

COMPARISON BETWEEN MODELLED AND MEASURED CONCENTRATIONS FOR 12 YEARS OF DATA
1985-1996

Overview of EMEP measurement stations used in the comparison with model calculations

Scatter plots for modelled and observed concentrations averaged for 1985-1996

Time series of monthly data for the 12 year period 1985-1996

B1. Overview of EMEP measurement stations used in the comparison with model calculations

The evaluation of the EMEP models is to a large degree depends on the availability of measured data provided through the EMEP monitoring network coordinated by the Chemical Coordinating Centre (CCC) of EMEP (A.-G. Hjellbrekke, J.Schaug, J.E.Hanssen and J.E.Skjelmoen, 1997). The geographical distribution, of the measurement stations are shown in Figure B1.1. The stations codes, names and elevation above sea level is given in Table B1.1.

Although quite a large amount of measured data is available, there is also a number of limitations on application these data to model evaluation. The quality of the measurements and laboratory analysis are essential factors to be considered when selecting stations. Another important characteristic of the measurement sites is their representativeness of the region (e.g. a grid square) of interest. Strong influence of local emission sources, local meteorology, small scale topography may be reasons for excluding a station from statistical comparison. As far as the EMEP Lagrangian model concerned, a number of stations were removed due to their high elevation above sea level (above 1500 m) when calculating the statististical parameters. They are HR 4 (1549 m), IT 5 (2030 m), PL 3 (1604 m), SK 2 (2006 m), CH 1 (3572 m).

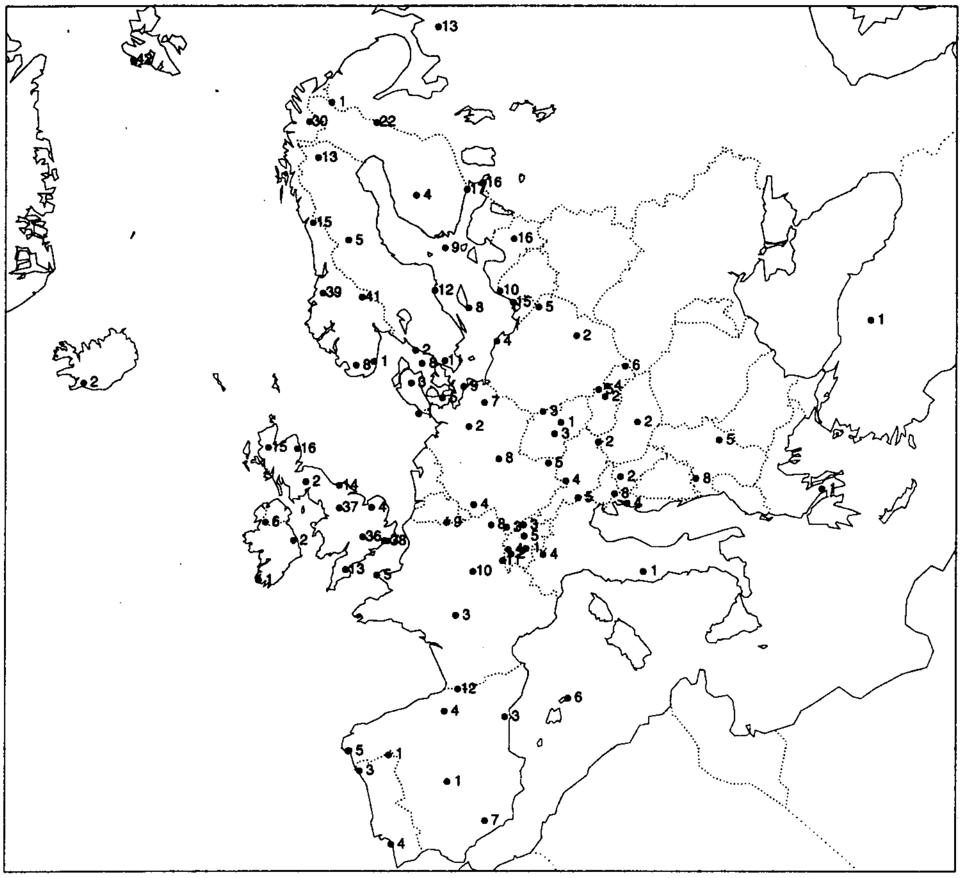

Figure B1. Spatial distribution of the EMEP measurement stations in 1996.

Table B1. The EMEP measurement stations used in the statistical calculations.

Code	Name	Height above sea (m)
Austria		
AT 2	Illmitz	117
AT 4	St.Koloman	851
Croatia		
HR 2	Puntijarka	988
Czech Republic		
CS 1	Svratouch	737
Denmark		
DK 3	Tange	13
DK 5	Keldsnor	9
Finland		
FI 4	Ähtäri	162
FI 7	Vriolahti	8
FI 9	Ûtö	7
France		
FR 5	La Hague	133
Germany		
DE 1	Westerland	12
DE 2	Langenbrügge	74
DE 3	Schaunisland	1205
DE 4	Deuselbach	480
DE 5	Brotjackriegel	1016
DE 7	Neuglobsow	62
Hungary		
HU 2	K-puszta	125
Iceland		
IS 2	Irafoss	61
Ireland		
IE 1	Valentina Obs.	9
IE 2	Turlough Hill	420
Italy		
IT 4	Ispra	209
Latvia		
LV 10	Rucava	18
LV 16	Zoseni	183
Norway		
NO 1	Birkenes	190
NO 8	Skreaadalen	475
NO 15	Tustervatn	439
NO 30	Jergul	255
NO 39	Kaarvatn	210
Poland		
PL 2	Jarczew	180
Portugal		
PT 1	Braganca	691
Russia		
RU 1	Janiskoski	118
Slovakia		
SK 2	Chopok	2008
SK 6	Starina	345
Slovenia		
SI 1	Masun	1026
Spain		
ES 1	Toledo	917
Sweden		
SE 2	Rörvik	10
SE 5	Bredkälen	404
SE 8	Hoburg	58
SE 11	Vavihill	172
SE 12	Aspvre	20
Switserland		
CH 2	Payerne	510
Ukraine		
UA 5	Svityaz	164
UA 6	Rava- Russkaya	249
United Kingdom		
GB 2	Eskdalemuir	243
GB 4	Stoke Ferry	15
GB 6	Lough Navar	126
GB 7	Barcombe Mills	8
Yugoslavia		
YU 5	Kamenicki vis	813

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B2. Scatter plots for modelled and observed concentrations.

Scatter plots for the components regularly measured at the EMEP stations through the whole 12 year period of 1985-96 are presented here.

Only measurement sites that fulfil the requirement of data coverage are included in the plots. The requirements adopted were:
- at least 75% days with measurements out of the total number of days for components in air,
- at least 25% days with measured concentration in precipitation out of the total number of days when the model had precipitation in the station grid square for components in precipitation.

Measured values under the detection limit were excluded.

The stations depicted as triangles are those excluded from the statistical calculations due to their either high elevation (above 1500m), or not being duly representative for the comparisons, e.g. influence of sea spray, local sources etc.(see also Appendix C1 and Status Report 98/1, Part I). The stations shown as empty circles (e.g. Scandinavia, Iceland) may be seen as affected by long range pullution.

The calculated mean values are averaged over days with observations. The statistical characteristics are calculated from daily concentrations in air averaged arithmetically and weighted by precipitation amount for concentrations in precipitation.

Scatter plots for concentrations of the following species are presented here:

• Sulphur Dioxide in air	Figure B1.1
• Particulate Sulphate in air	Figure B1.2
• Nitrogen Dioxide in air	Figure B1.3
• Total Nitrate in air	Figure B1.4
• Ammonia + Ammonium in air	Figure B1.5
• Accumulated precipitation	Figure B1.6
• Sulphate in precipitation	Figure B1.7
• Nitrate in precipitation	Figure B1.8
• Ammonium in precipitation	Figure B1.9

Accumulated depositions in precipitation:

• Sulphate	Figure B1.10
• Nitrate	Figure B1.11
• Ammonium	Figure B1.12

Prepared by SvetlanaTsyro

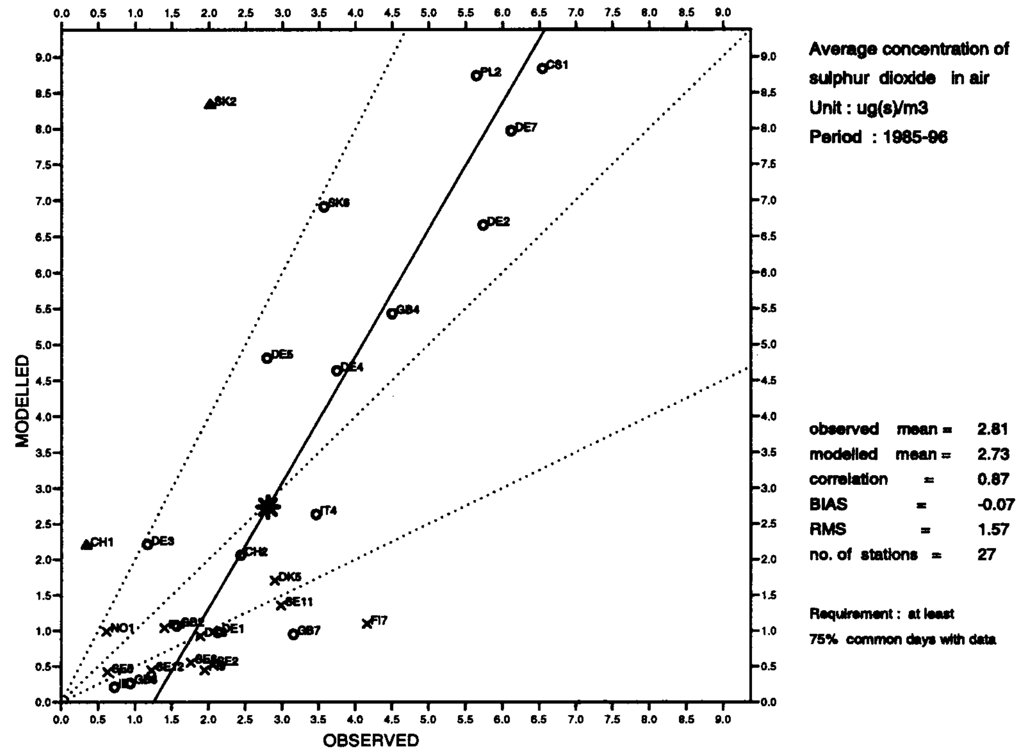


Figure B1.1. Scatter plot for modelled and observed concentrations of sulphur dioxide in air averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

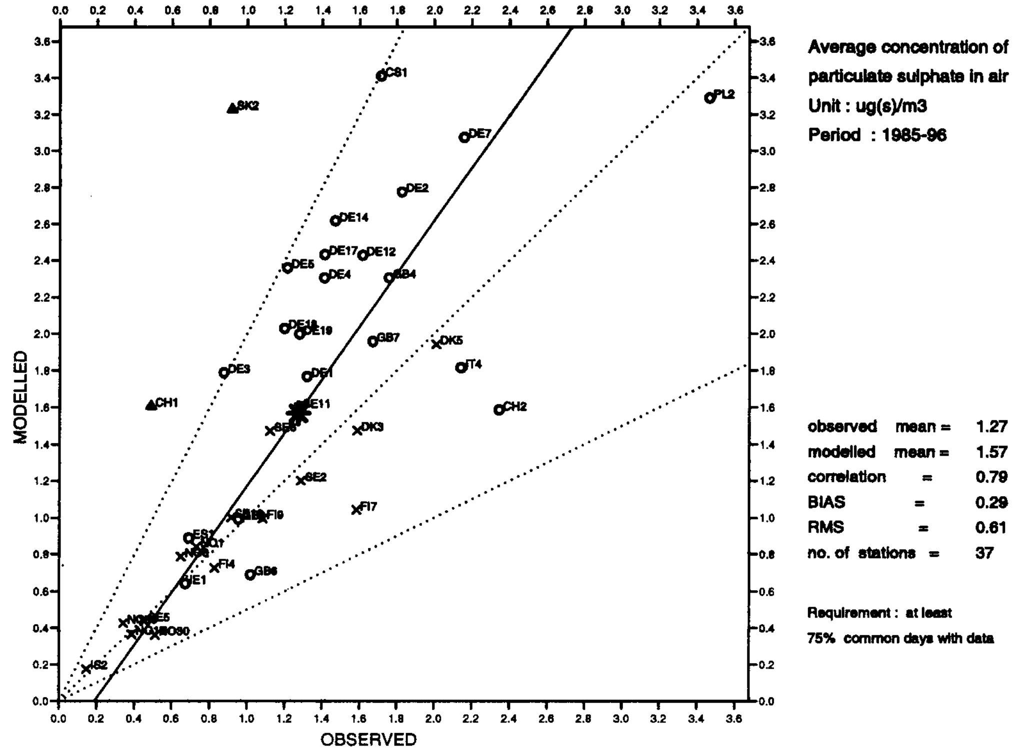


Figure B1.2. Scatter plot for modelled and observed concentrations of particulate sulphate in air averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

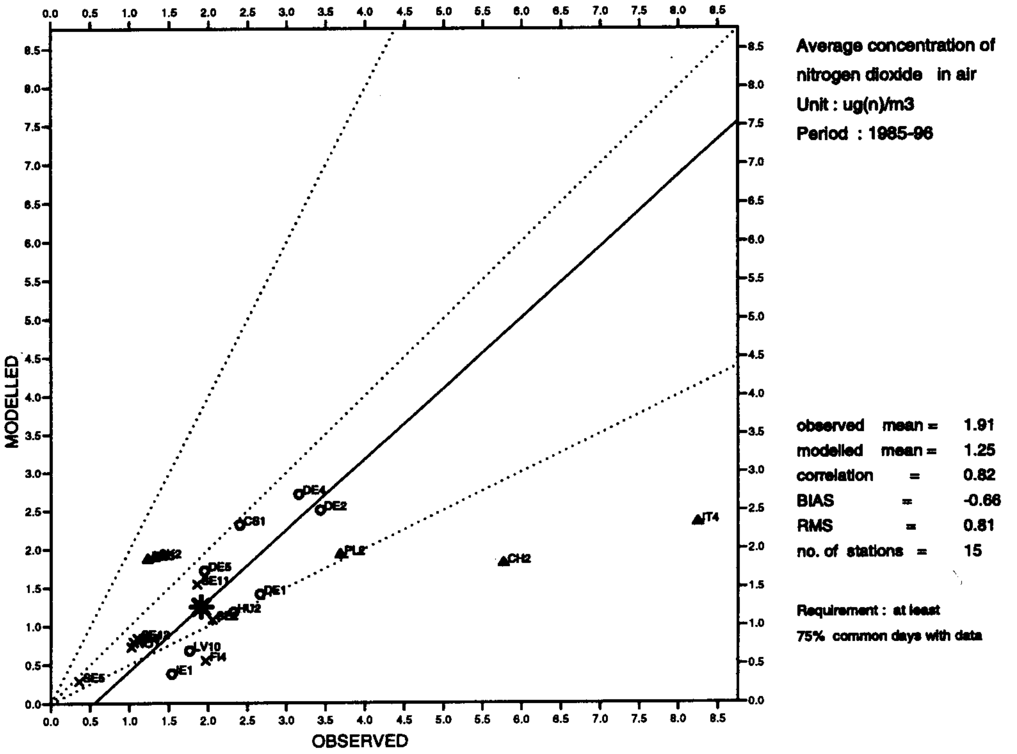


Figure B1.3. Scatter plot for modelled and observed concentrations of nitrogen dioxide in air averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

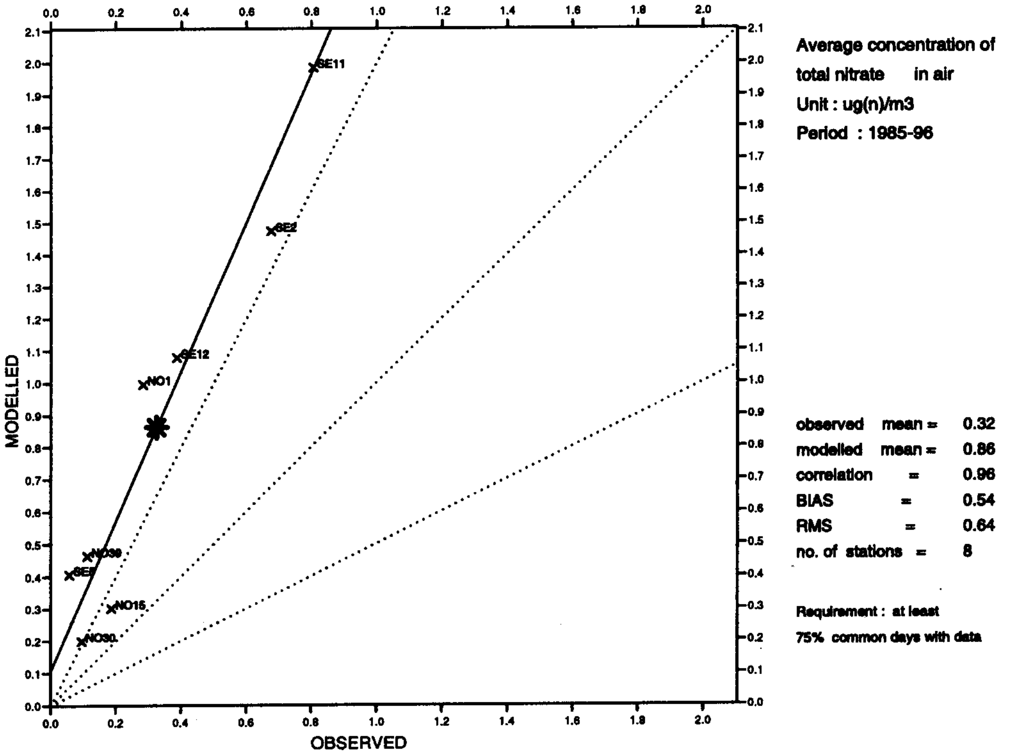


Figure B1.4. Scatter plot for modelled and observed concentrations of total nitrate in air averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

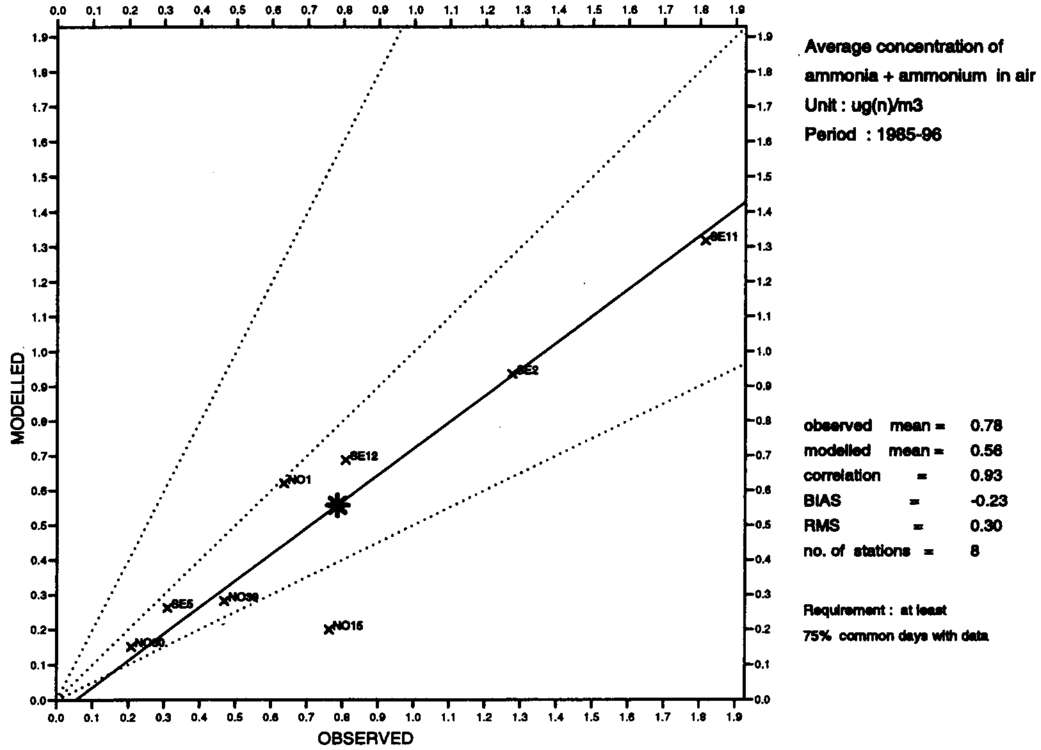


Figure B1.5. Scatter plot for modelled and observed concentrations of ammonia&ammonium in air averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

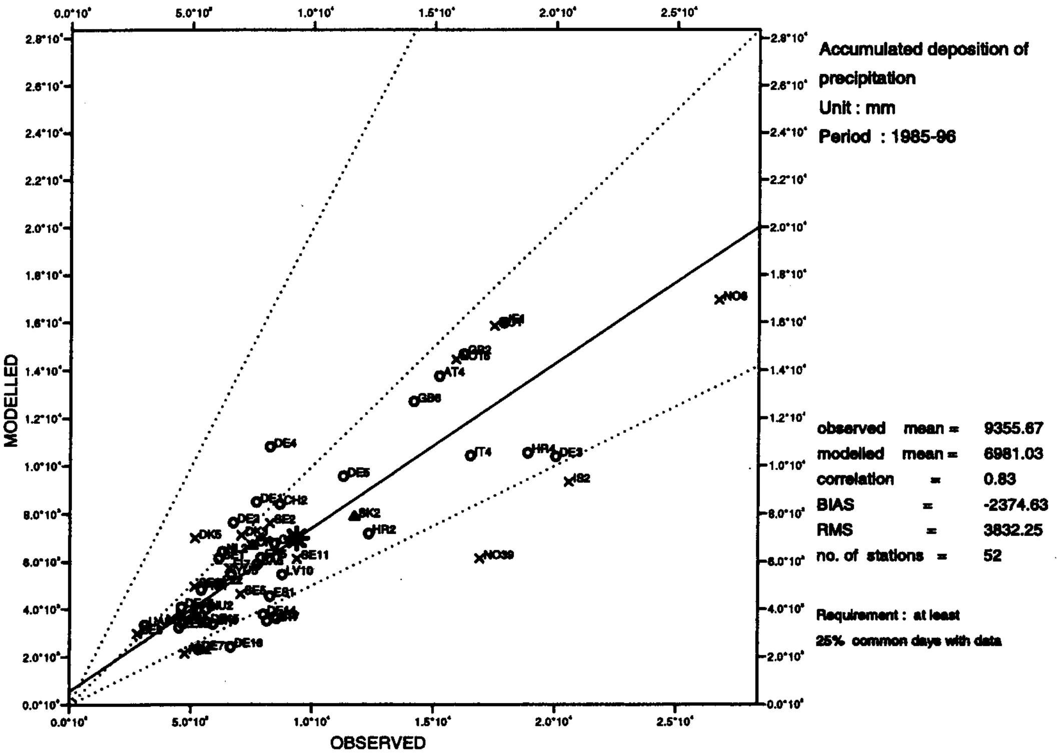
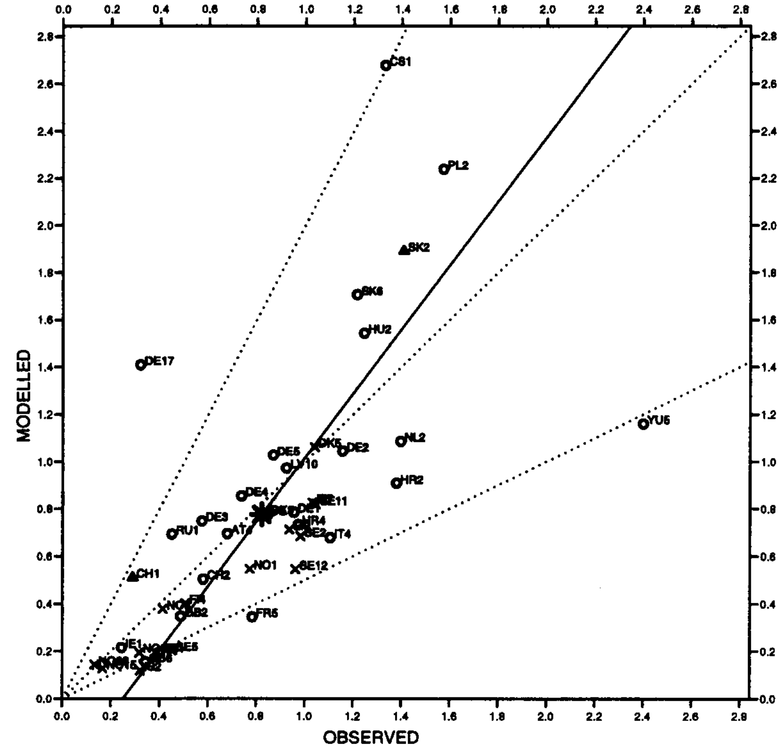


Figure B1.6. Scatter plot for modelled and observed concentrations of precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

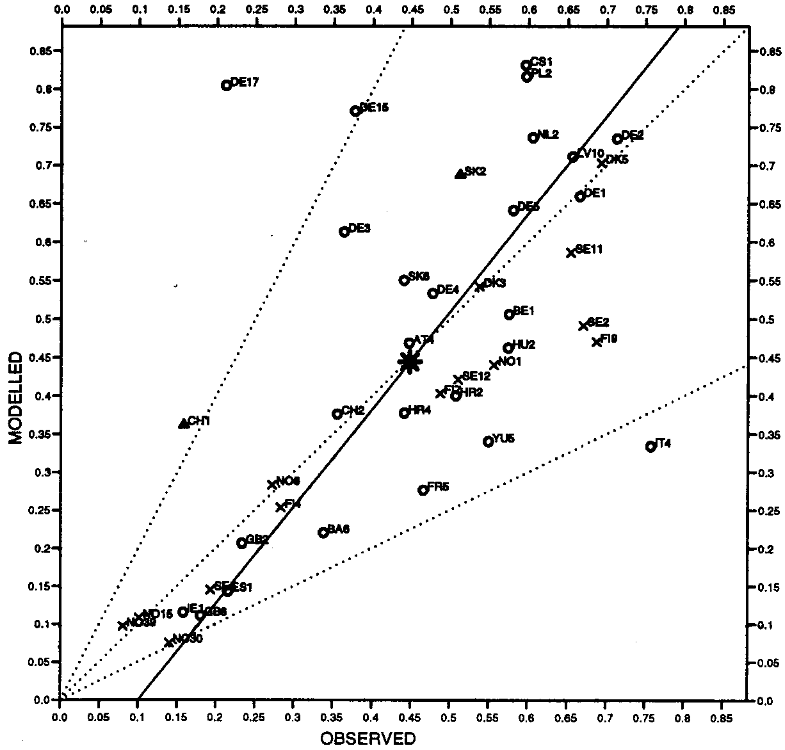


Average concentration of sulphate in precipitation
Unit : mg(s)/l
Period : 1985-96

observed	mean =	0.82
modelled	mean =	0.78
correlation	=	0.67
BIAS	=	-0.05
RMS	=	0.42
no. of stations	=	40

Requirement : at least
25% common days with data

Figure B1.7. Scatter plot for modelled and observed concentrations of sulphate in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.



Average concentration of nitrate in precipitation
Unit : mg(n)/l
Period : 1985-96

observed	mean =	0.45
modelled	mean =	0.44
correlation	=	0.68
BIAS	=	-0.00
RMS	=	0.17
no. of stations	=	40

Requirement : at least
25% common days with data

Figure B1.8. Scatter plot for modelled and observed concentrations of nitrate in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

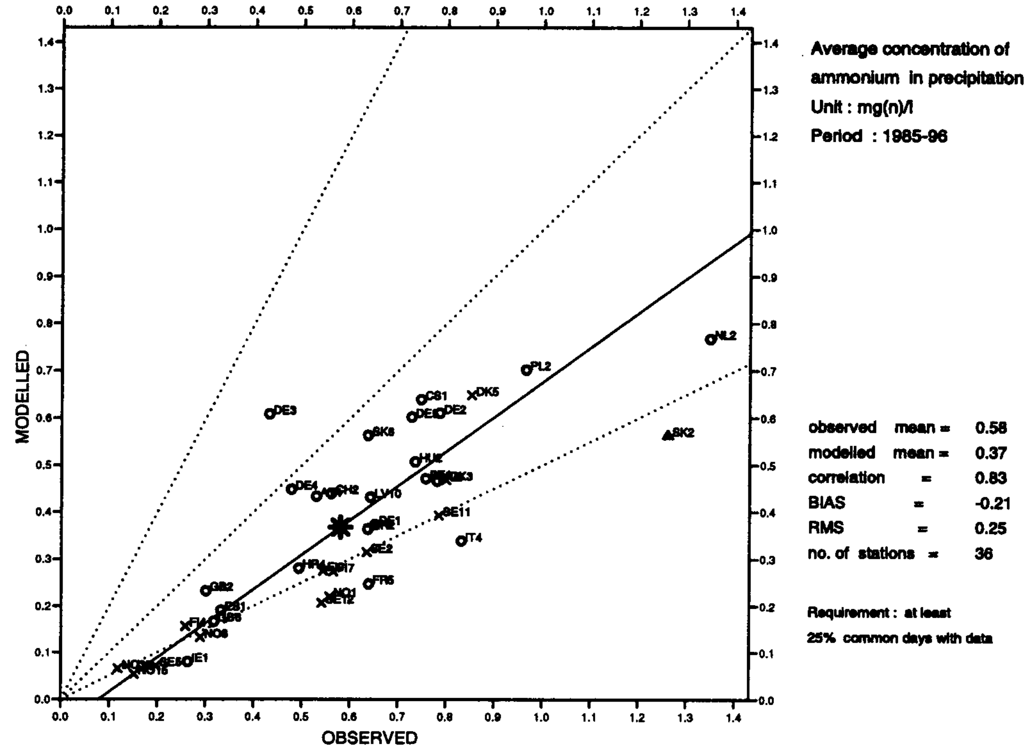


Figure B1.9. Scatter plot for modelled and observed concentrations of ammonium in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

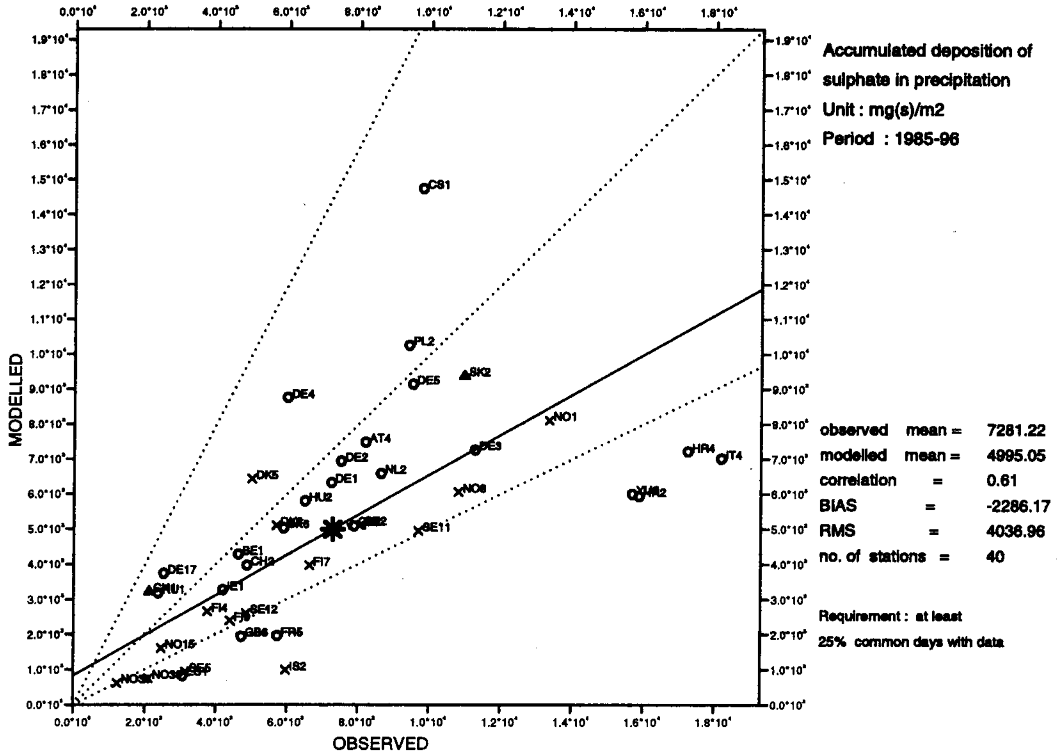


Figure B1.10. Scatter plot for modelled and observed accumulated deposition of sulphate in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

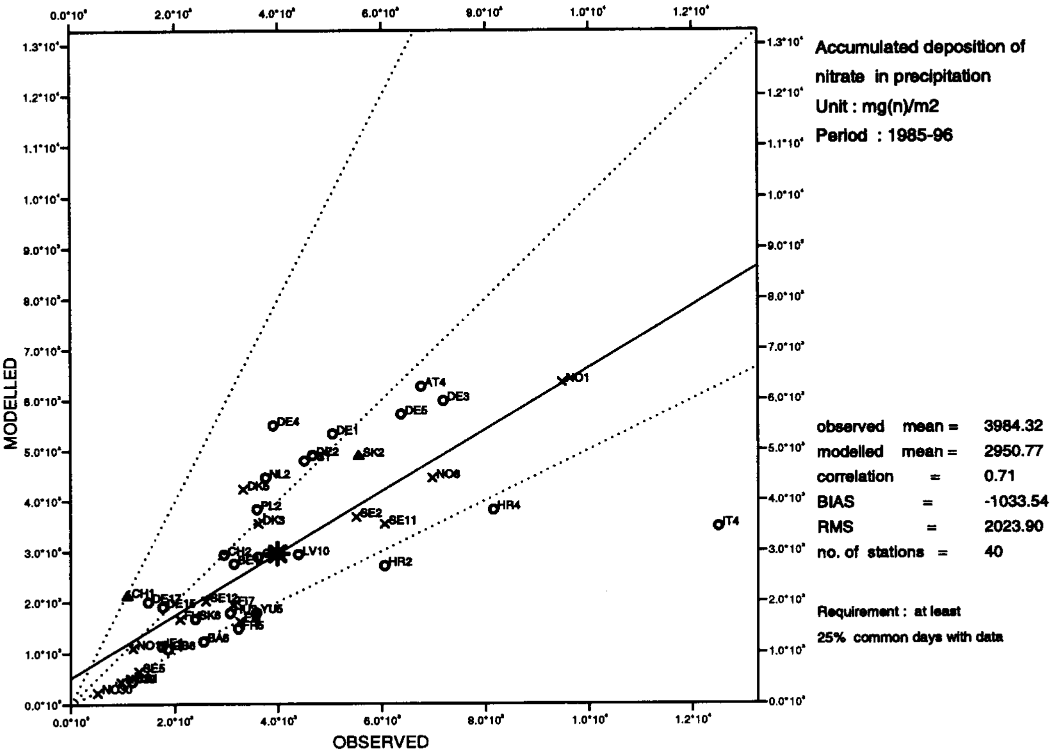


Figure B1.11. Scatter plot for modelled and observed accumulated deposition of nitrate in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

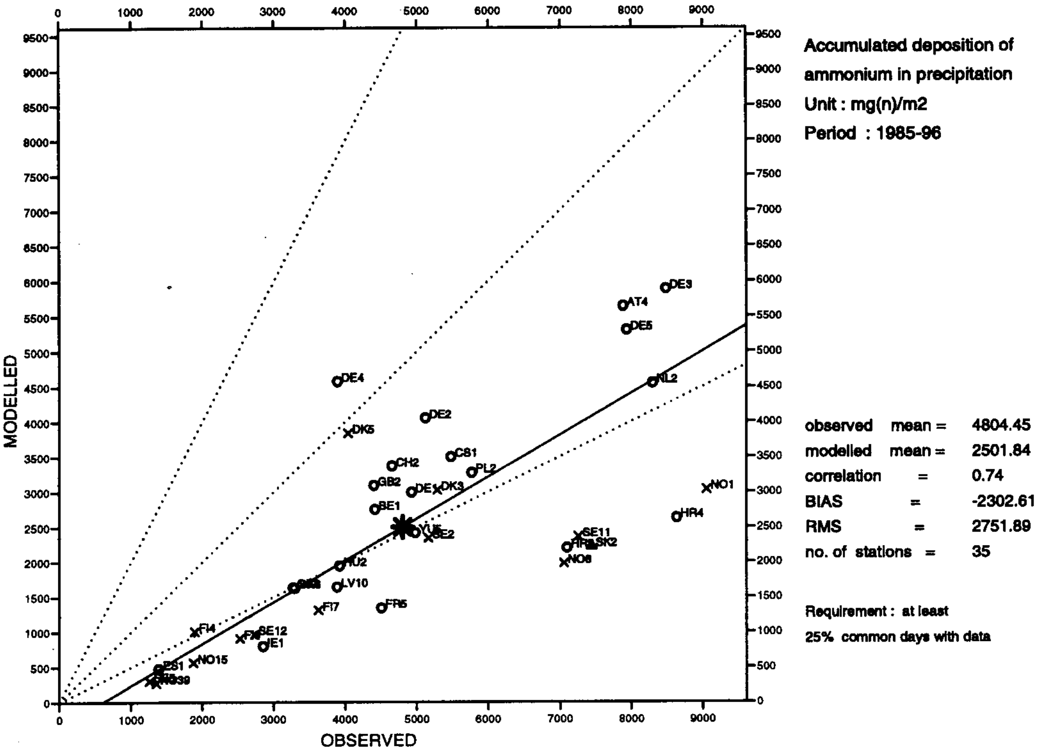


Figure B1.12. Scatter plot for modelled and observed accumulated deposition of ammonium in precipitation averaged over 1985-96. Dashed lines indicate perfect agreement (middle line), and factor of 2 disagreement. The full line represents optimal linear regression. The star denotes the mean.

B3. Time series of monthly data for the 12 year period 1985-96.

Time series are based on the monthly averaged concentrations for all EMEP stations which were in operation for at least 6 months during the 12 year period 1985-96. However, only representative months, i.e. when the requirement of 75 % days with measurements for air concentrations and 25 % for precipitation concentrations is fulfilled, were plotted in the time series and included in the statistical calculations.

The present Appendix presents the time series for the following concentrations:

- sulphur dioxide in air
- particulate sulphate in air
- nitrogen dioxide in air
- total nitrate in air
- ammonia & ammonium in air

- sulphate in precipitation
- nitrate in precipitation
- ammonium in precipitation

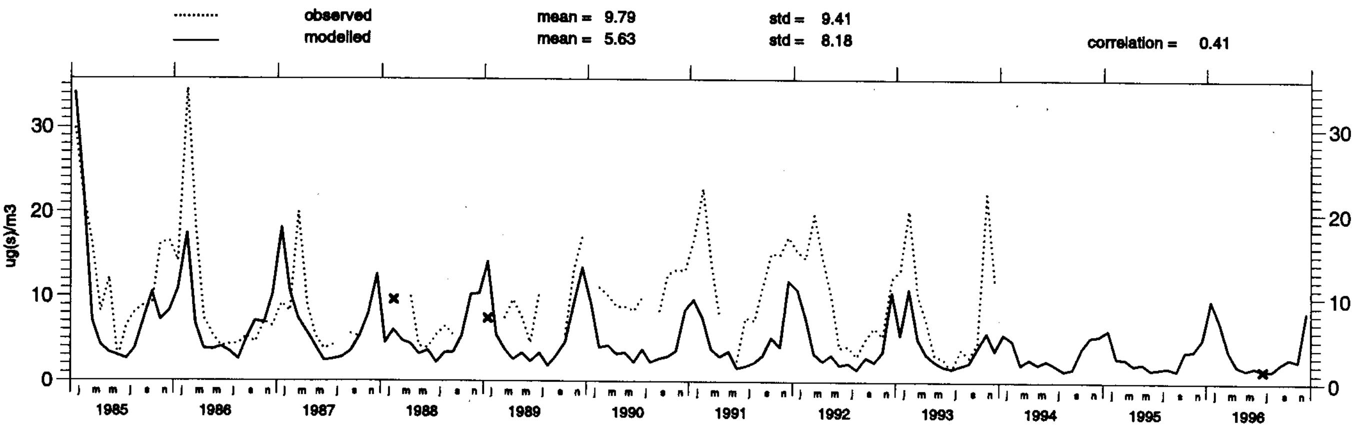
Prepered by Egil Støren and Svetlana Tsyro

Time series for concentration of Sulphur Dioxide in air

Period: 1985-96

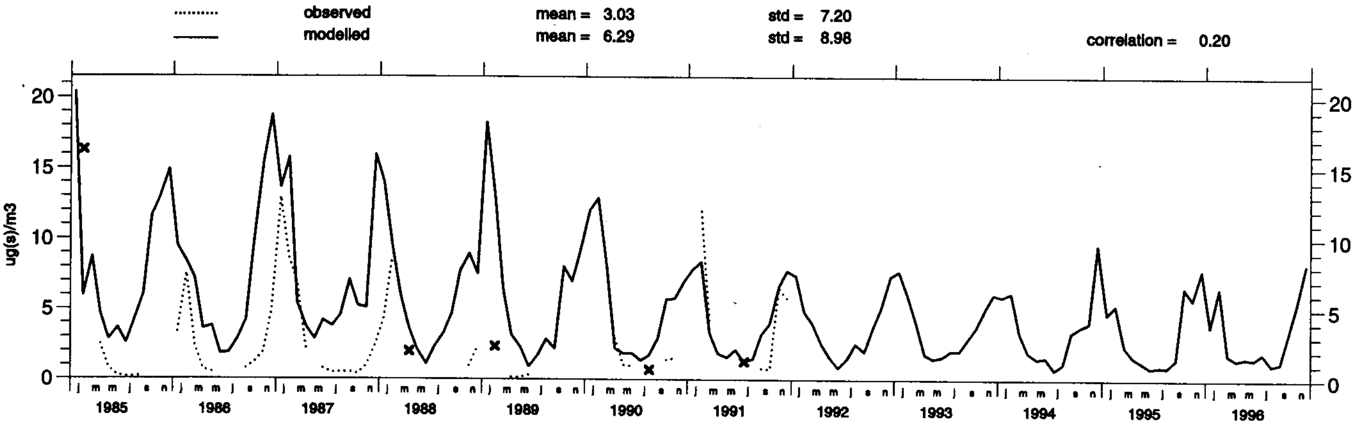
Illmitz (AT 2)

Concentration of sulphur dioxide in air



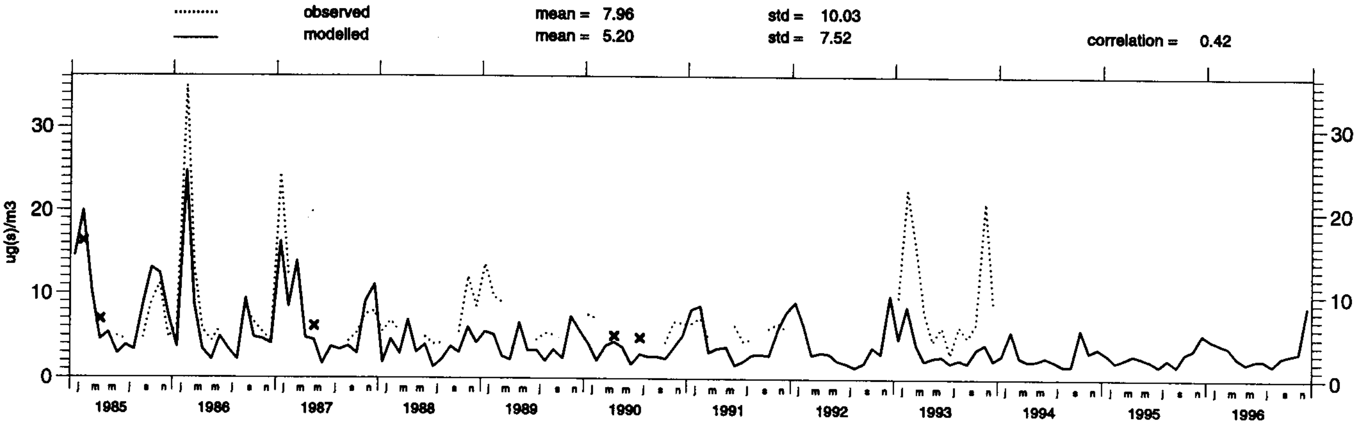
Vysokoe (BY 4)

Concentration of sulphur dioxide in air



Offagne (BE 1)

Concentration of sulphur dioxide in air

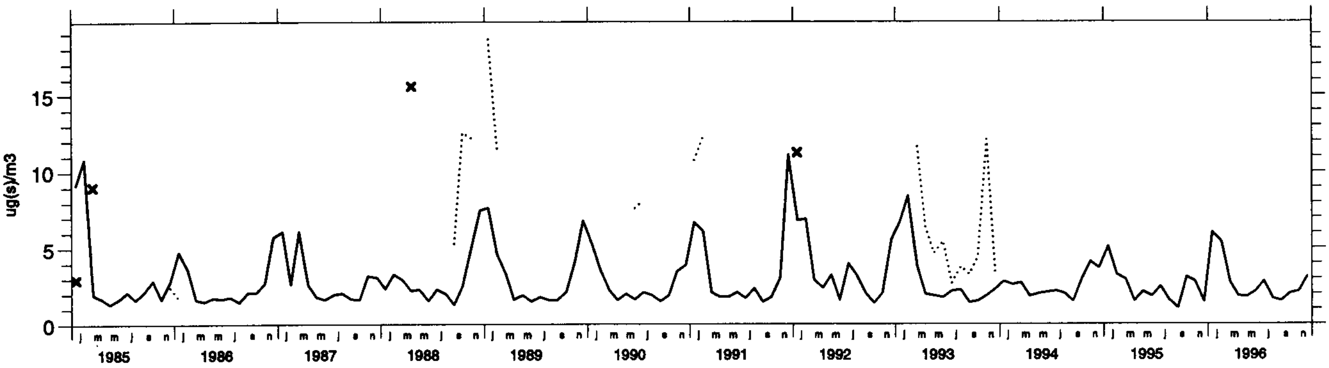


Ivan_Sedlo (BA 6)

Concentration of sulphur dioxide in air

.... observed mean = 8.05 std = 6.54

—— modelled mean = 3.55 std = 4.63 correlation = 0.17

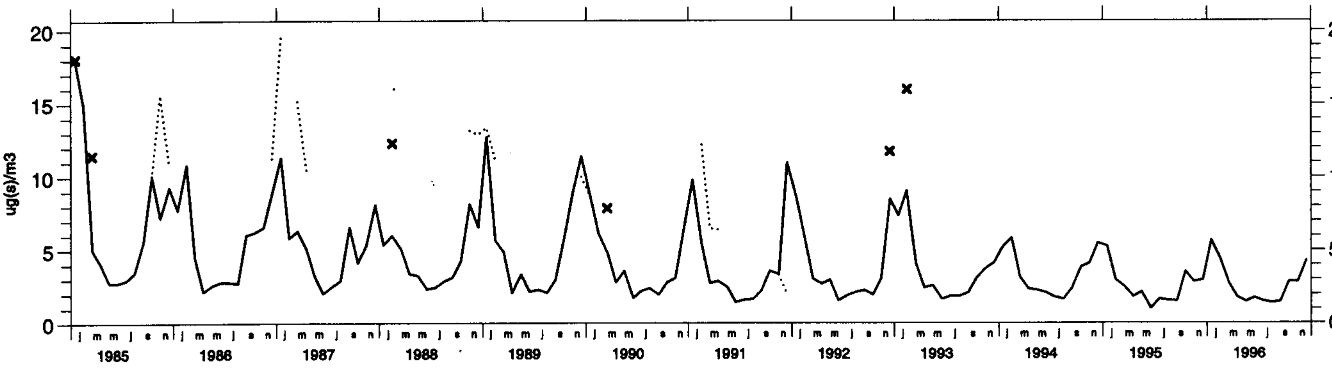


Puntijarka (HR 2)

Concentration of sulphur dioxide in air

.... observed mean = 10.55 std = 9.32

—— modelled mean = 6.91 std = 7.13 correlation = 0.25

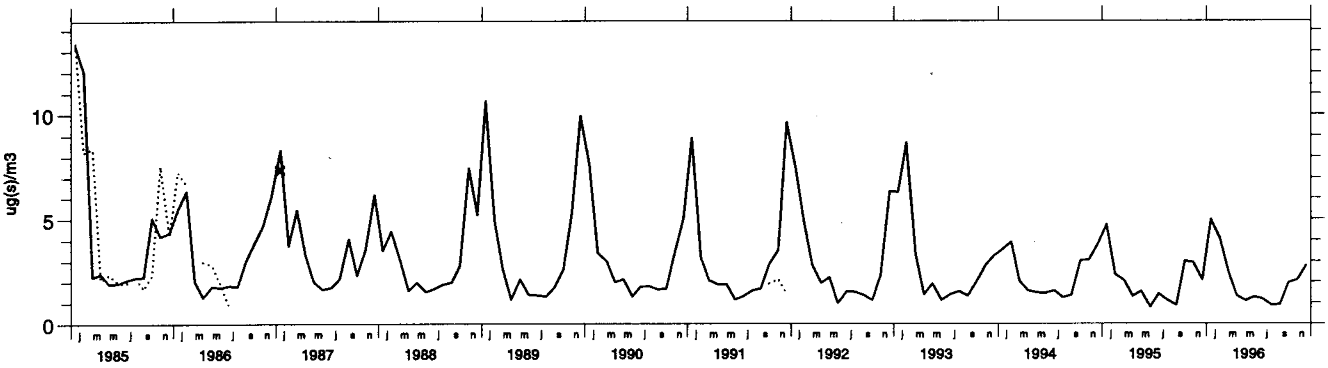


Zavizan (HR 4)

Concentration of sulphur dioxide in air

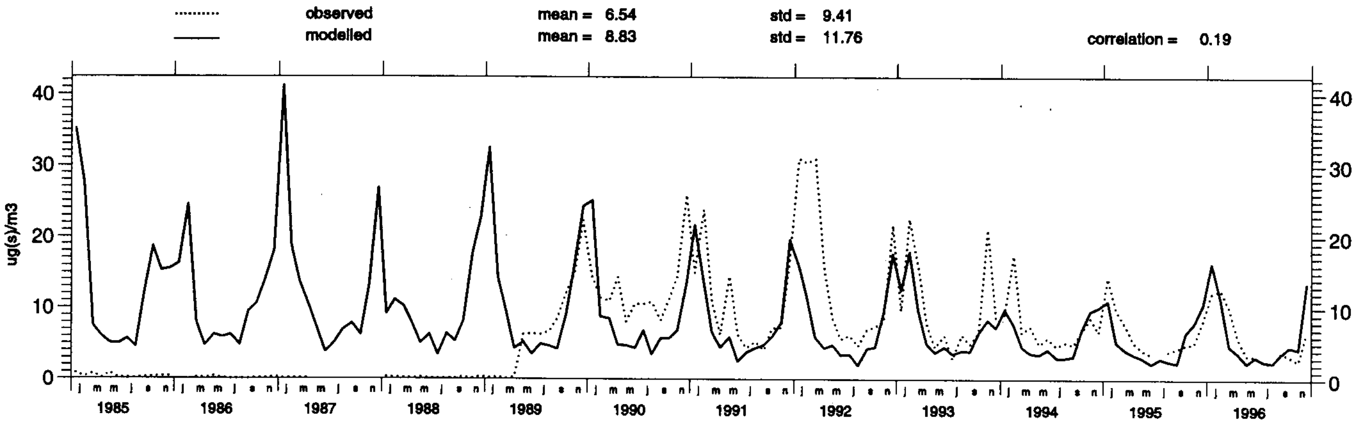
.... observed mean = 4.67 std = 5.60

—— modelled mean = 4.69 std = 5.95 correlation = 0.20



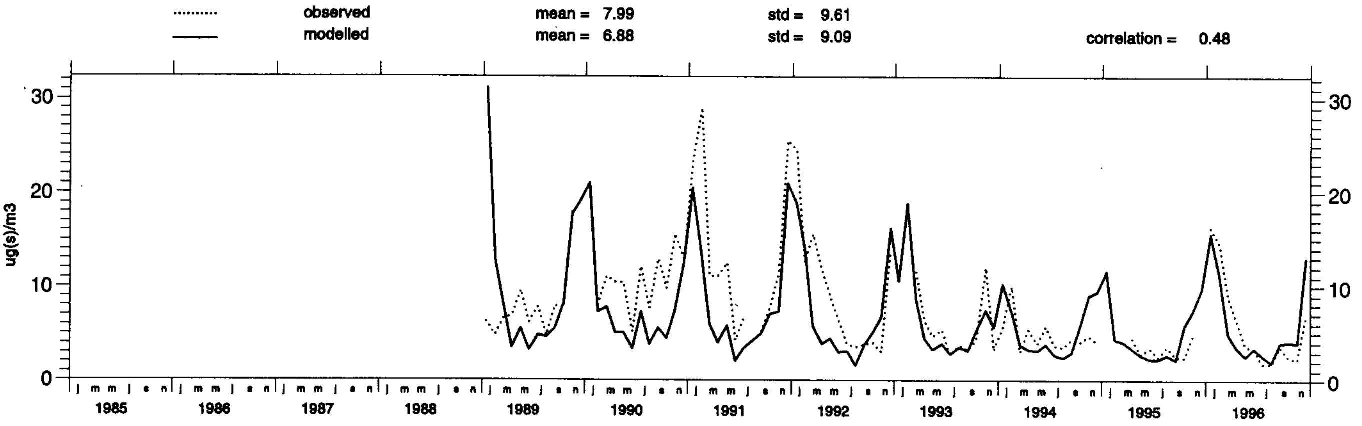
Svratouch (CS 1)

Concentration of sulphur dioxide in air



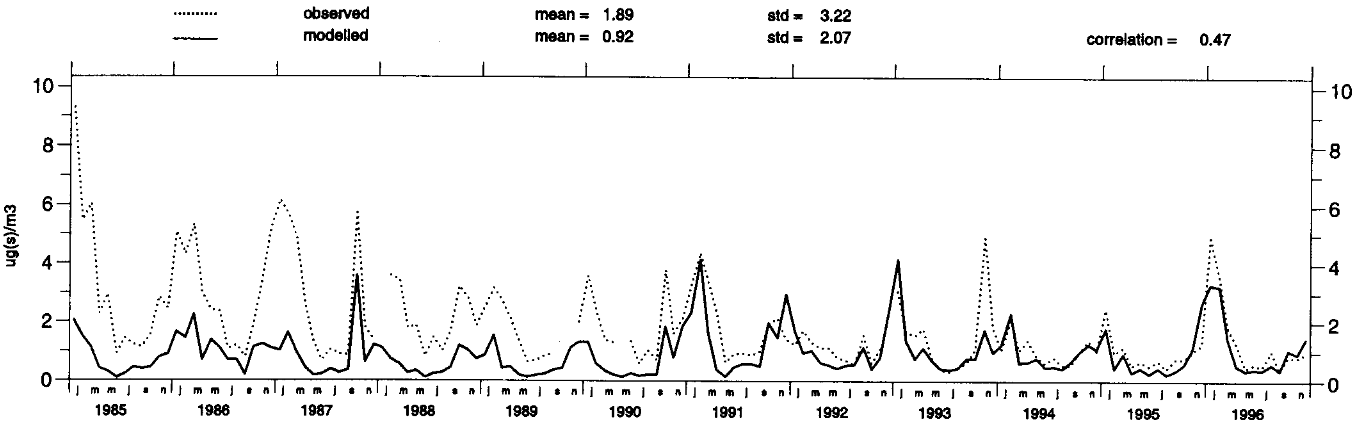
Kosetice (CS 3)

Concentration of sulphur dioxide in air



Tange (DK 3)

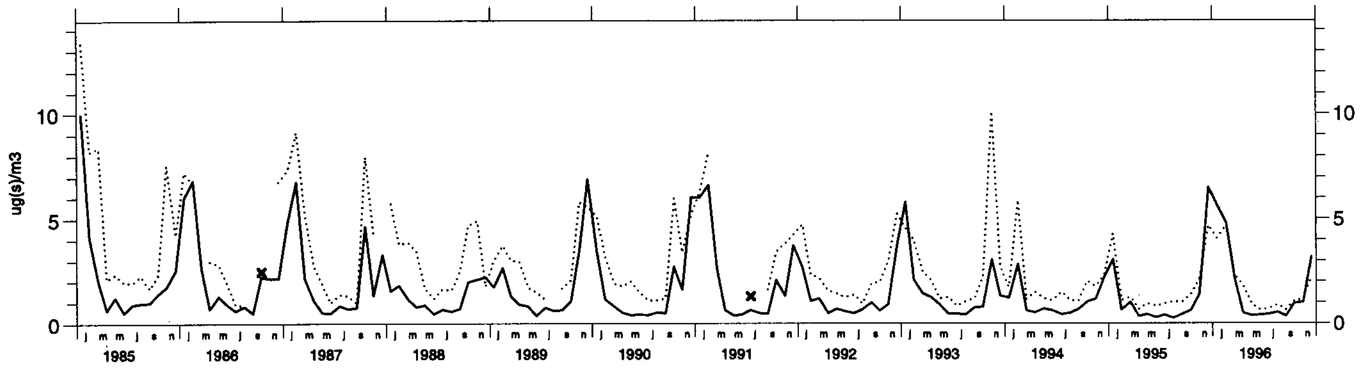
Concentration of sulphur dioxide in air



Keldsnor (DK 5)

Concentration of sulphur dioxide in air

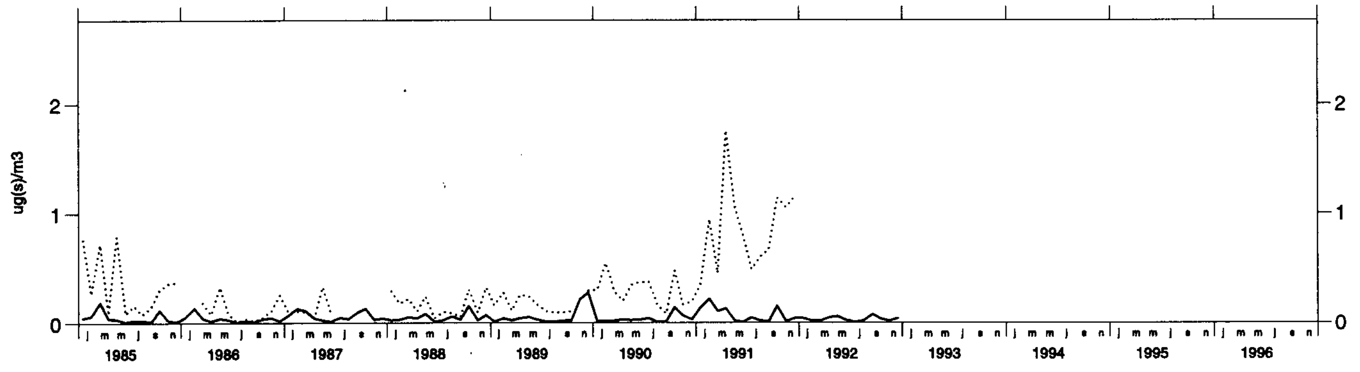
....	observed	mean = 2.90	std = 4.88	
———	modelled	mean = 1.71	std = 4.43	correlation = 0.57



Faer.-Akraberg (DK 7)

Concentration of sulphur dioxide in air

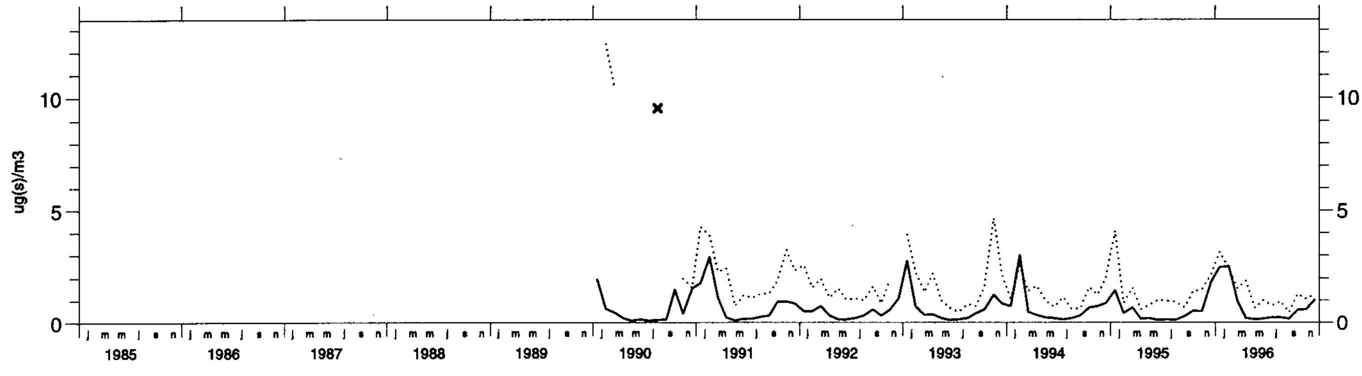
....	observed	mean = 0.33	std = 0.67	
———	modelled	mean = 0.06	std = 0.21	correlation = 0.22



Anholt (DK 8)

Concentration of sulphur dioxide in air

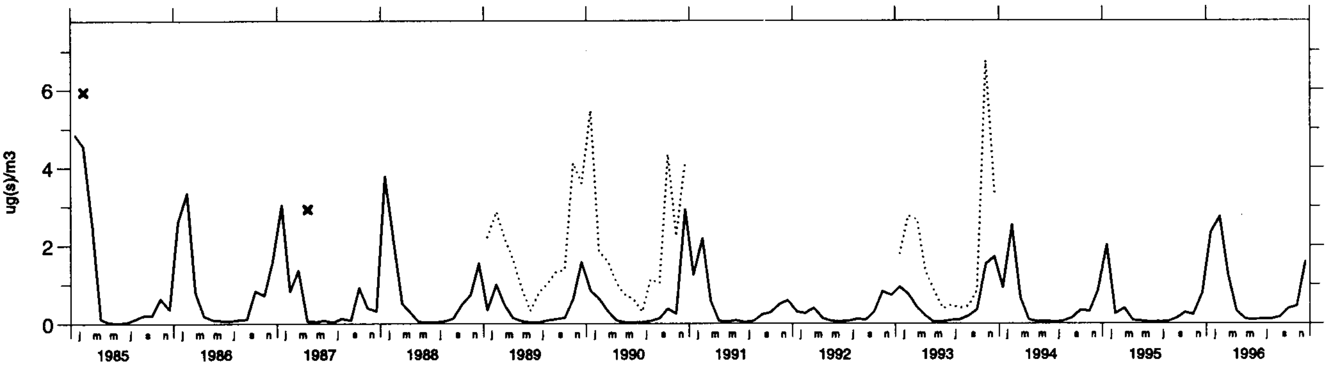
....	observed	mean = 2.28	std = 4.18	
———	modelled	mean = 0.64	std = 1.51	correlation = 0.28



Syrve (EE 2)

Concentration of sulphur dioxide in air

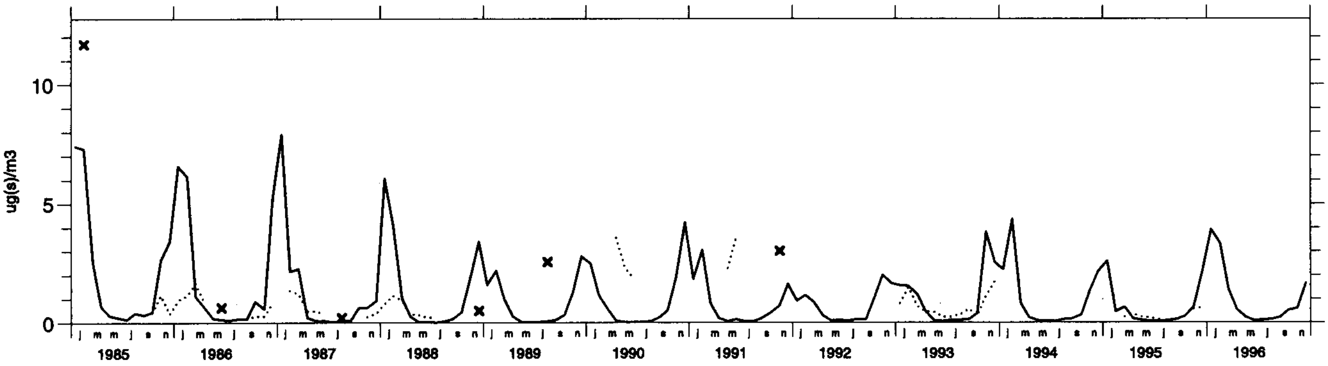
··········	observed	mean = 1.99	std = 4.42	
————	modelled	mean = 0.59	std = 1.61	correlation = 0.18



Lahemaa (EE 9)

Concentration of sulphur dioxide in air

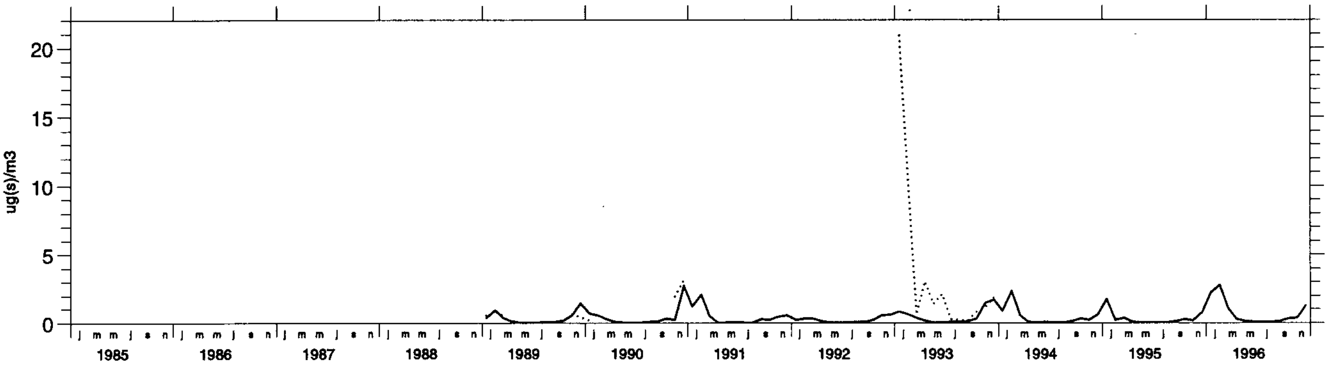
··········	observed	mean = 1.19	std = 2.59	
————	modelled	mean = 1.27	std = 2.65	correlation = 0.27



Vilsandy (EE 11)

Concentration of sulphur dioxide in air

··········	observed	mean = 2.00	std = 5.91	
————	modelled	mean = 0.52	std = 1.33	correlation = 0.07

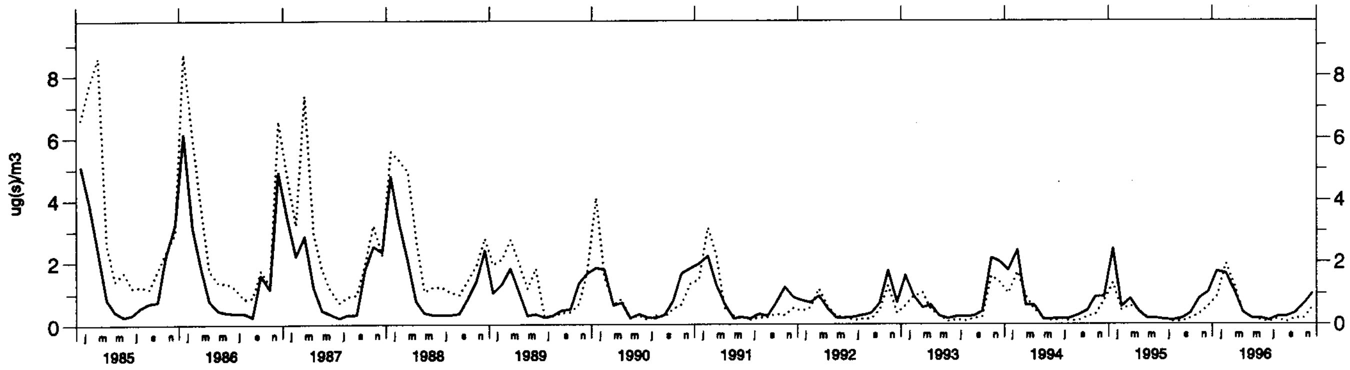


Athari (FI 4)

Concentration of sulphur dioxide in air

.... observed mean = 1.40 std = 2.45

——— modelled mean = 1.04 std = 1.69 correlation = 0.63

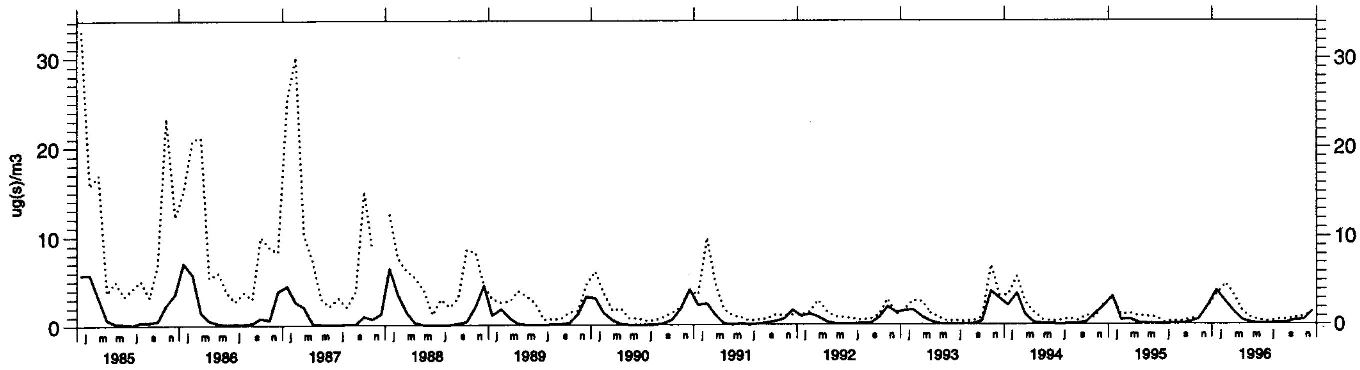


Virolahti_II (FI 17)

Concentration of sulphur dioxide in air

.... observed mean = 4.16 std = 9.85

——— modelled mean = 1.09 std = 2.18 correlation = 0.27

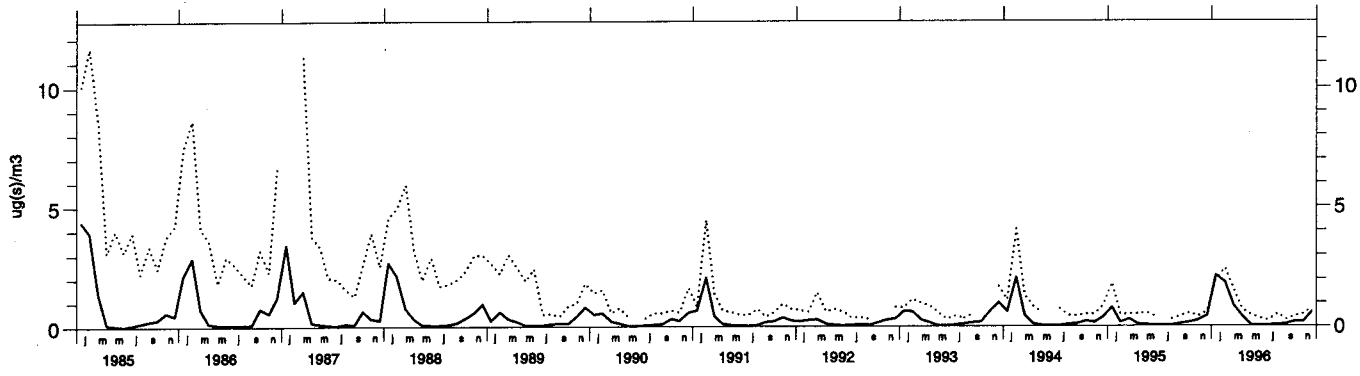


Utoe (FI 9)

Concentration of sulphur dioxide in air

.... observed mean = 1.95 std = 2.94

——— modelled mean = 0.44 std = 1.13 correlation = 0.55

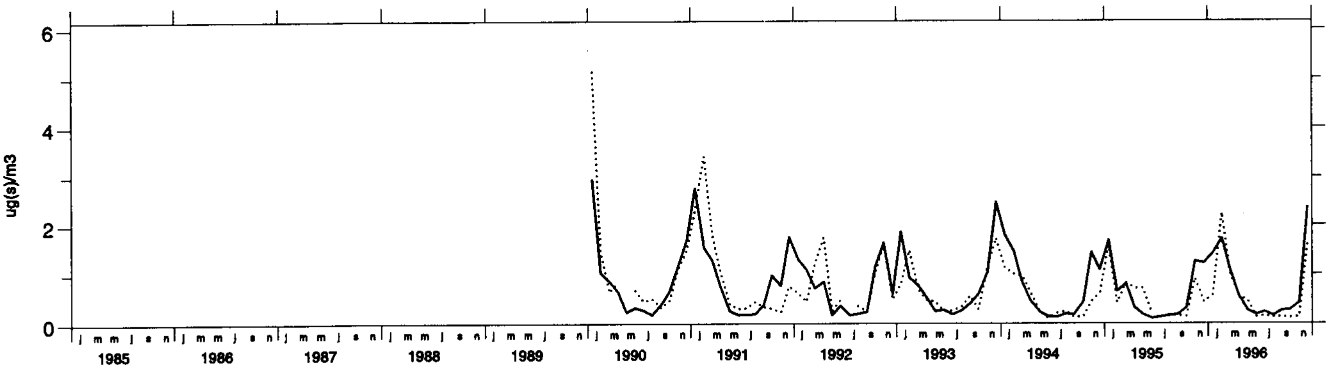


Oulanka (FI 22)

Concentration of sulphur dioxide in air

.... observed mean = 0.75 std = 1.44

——— modelled mean = 0.78 std = 1.24 correlation = 0.41

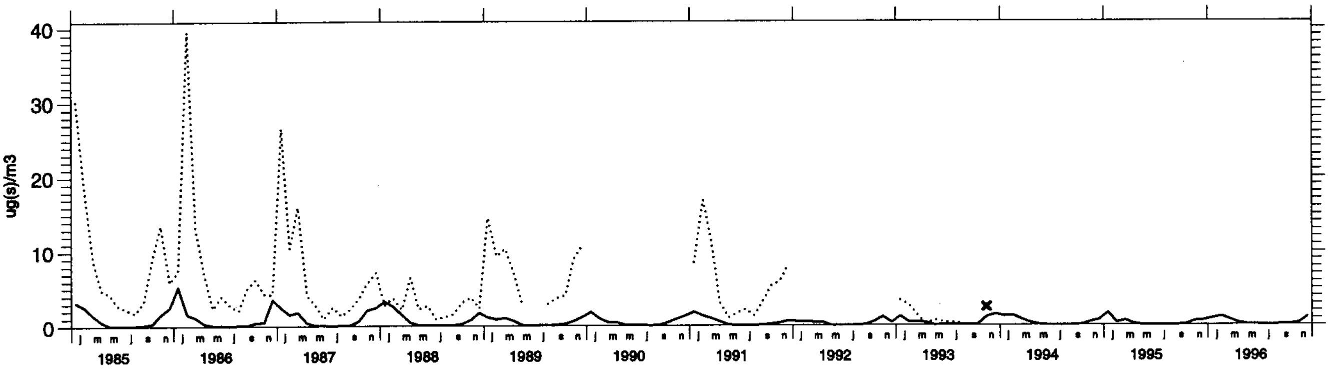


Haiuoto (FI 50)

Concentration of sulphur dioxide in air

.... observed mean = 5.93 std = 10.90

——— modelled mean = 0.85 std = 1.70 correlation = 0.10

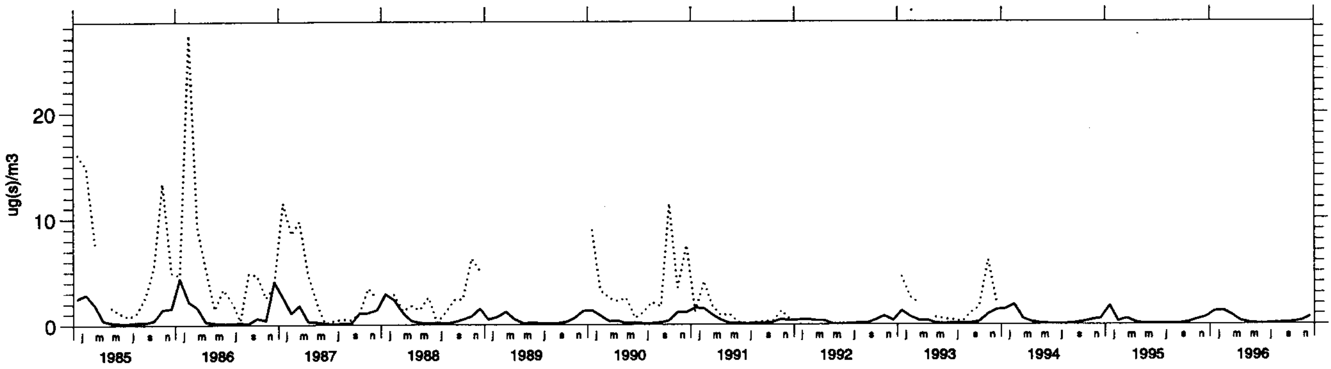


Sulva (FI 52)

Concentration of sulphur dioxide in air

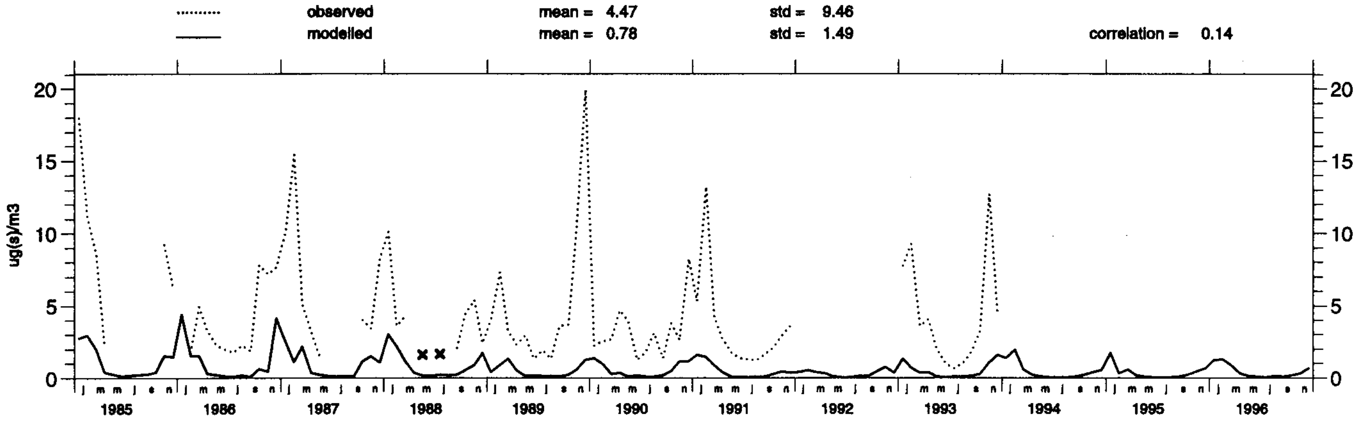
.... observed mean = 3.55 std = 7.57

——— modelled mean = 0.77 std = 1.50 correlation = 0.18



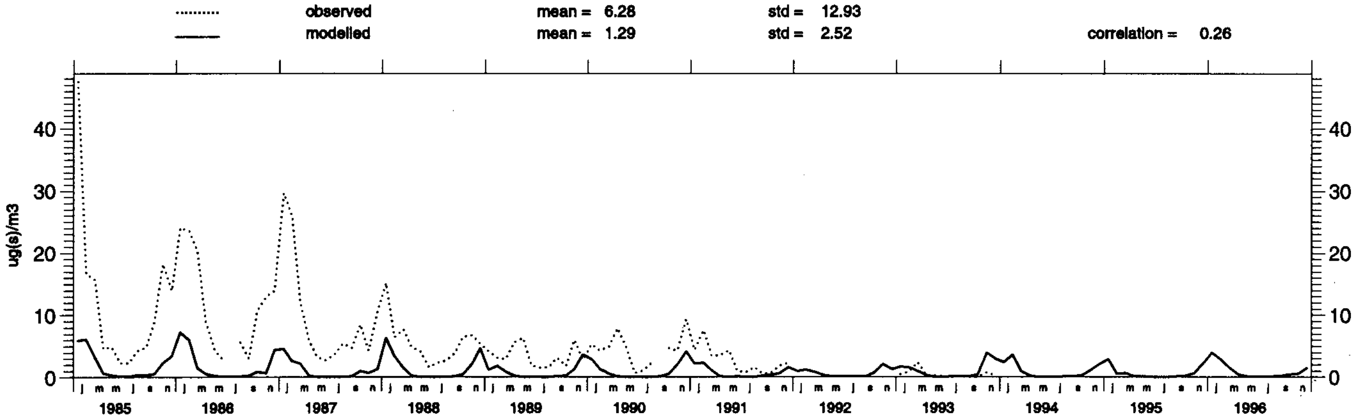
Ylimarkku (FI 53)

Concentration of sulphur dioxide in air



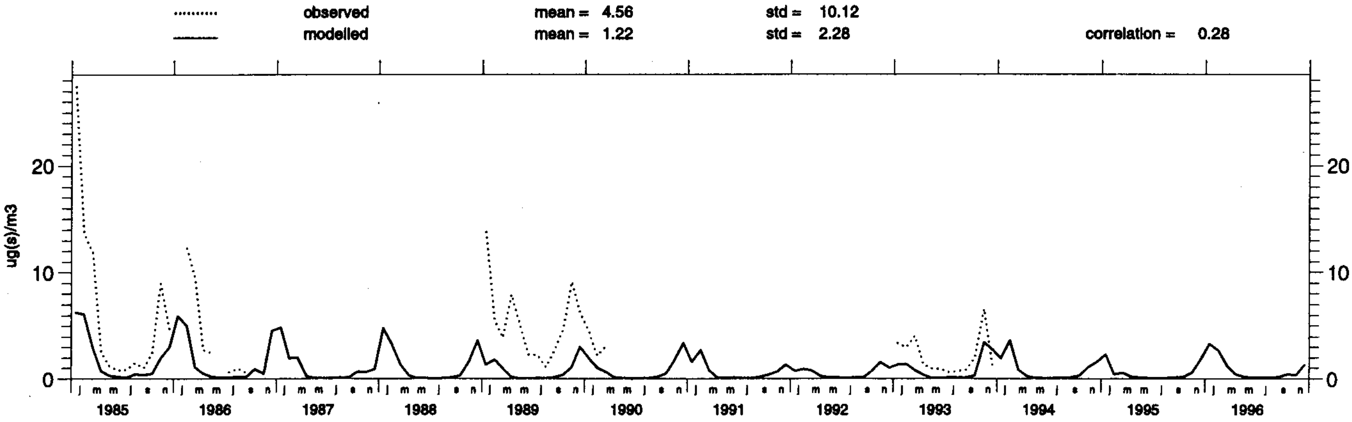
Haapasaari (FI 55)

Concentration of sulphur dioxide in air



Sipo (FI 56)

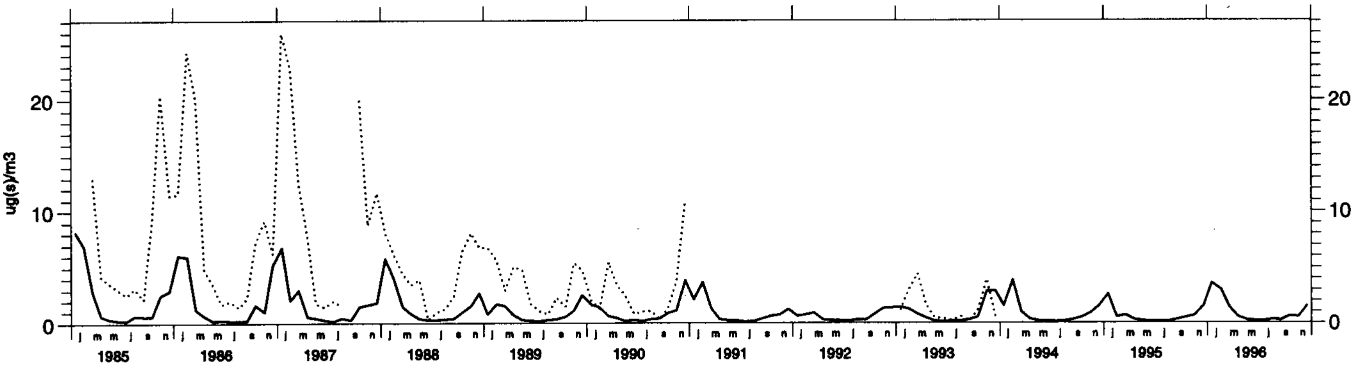
Concentration of sulphur dioxide in air



Tvarminne (FI 57)

Concentration of sulphur dioxide in air

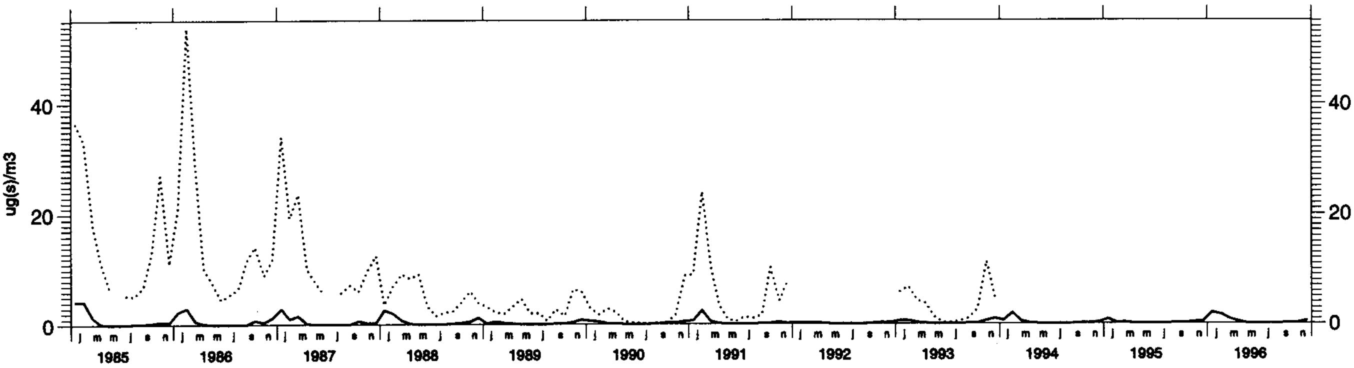
.... observed mean = 5.36 std = 11.50
——— modelled mean = 1.37 std = 2.47 correlation = 0.21



Korpoo (FI 58)

Concentration of sulphur dioxide in air

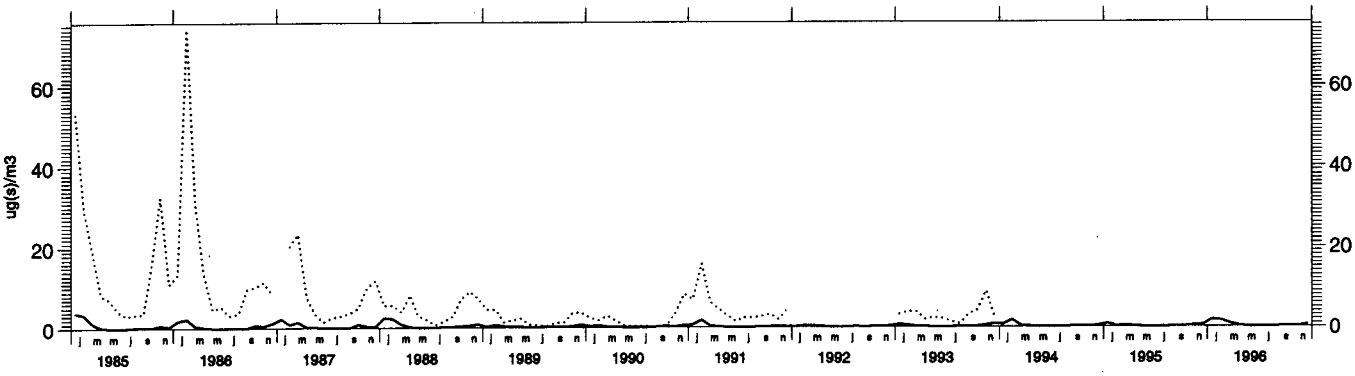
.... observed mean = 7.73 std = 13.60
——— modelled mean = 0.52 std = 1.37 correlation = 0.30



Jomala (FI 59)

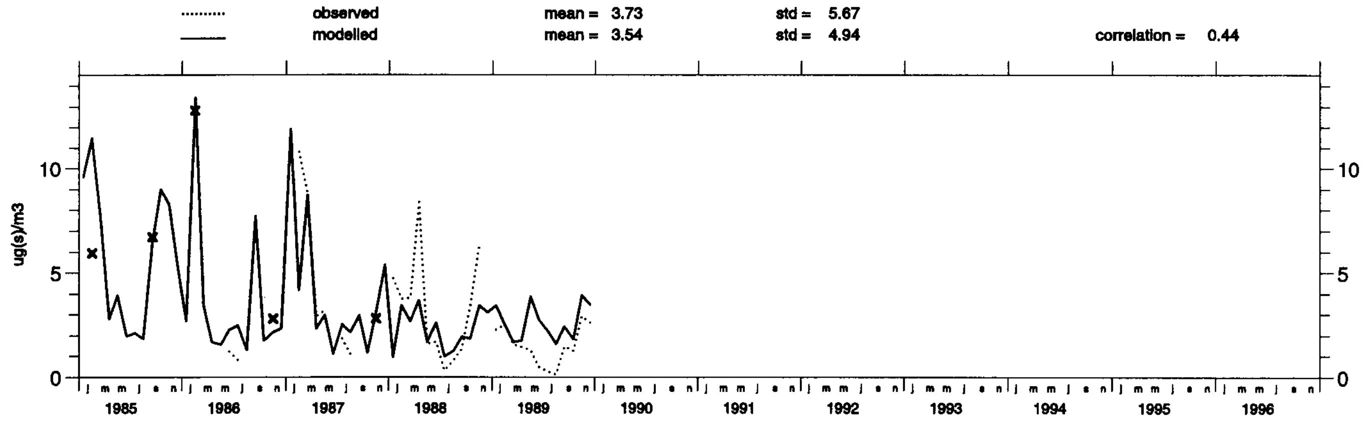
Concentration of sulphur dioxide in air

.... observed mean = 7.18 std = 16.11
——— modelled mean = 0.43 std = 1.14 correlation = 0.23



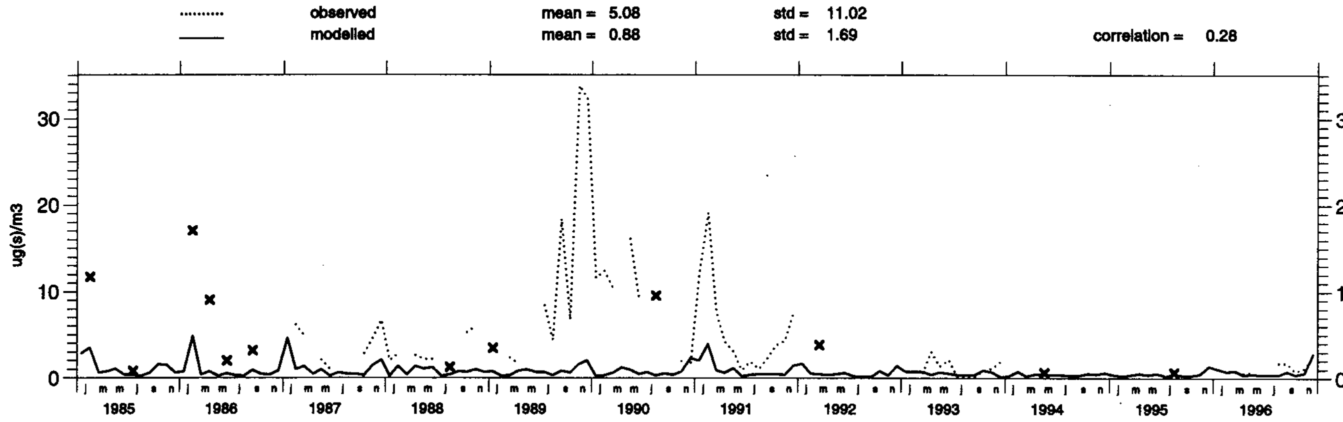
Vert-le-Petit (FR 1)

Concentration of sulphur dioxide in air



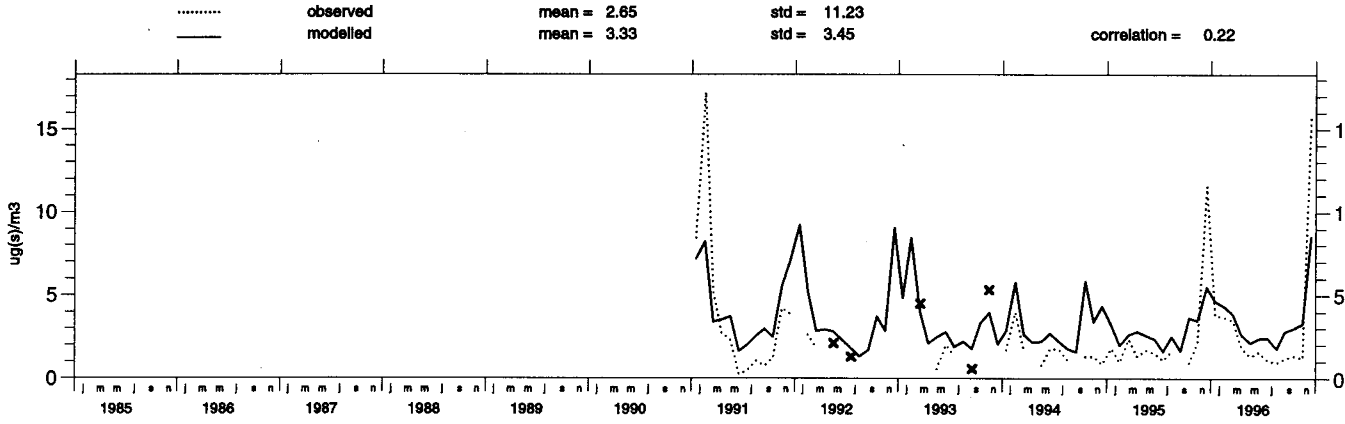
La_Hague (FR 5)

Concentration of sulphur dioxide in air



Revin (FR 9)

Concentration of sulphur dioxide in air

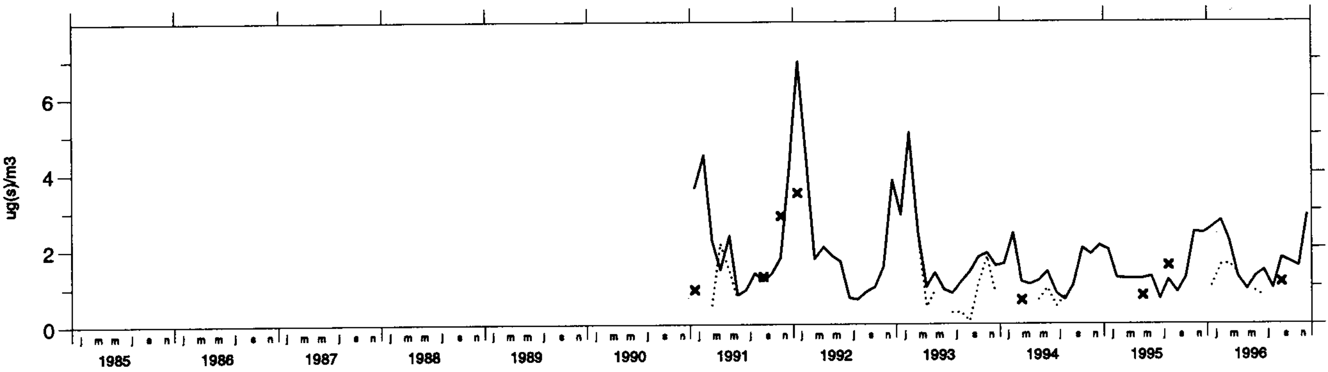


Morvan (FR 10)

Concentration of sulphur dioxide in air

.... observed mean = 1.18 std = 1.41

—— modelled mean = 1.96 std = 2.37 correlation = 0.37

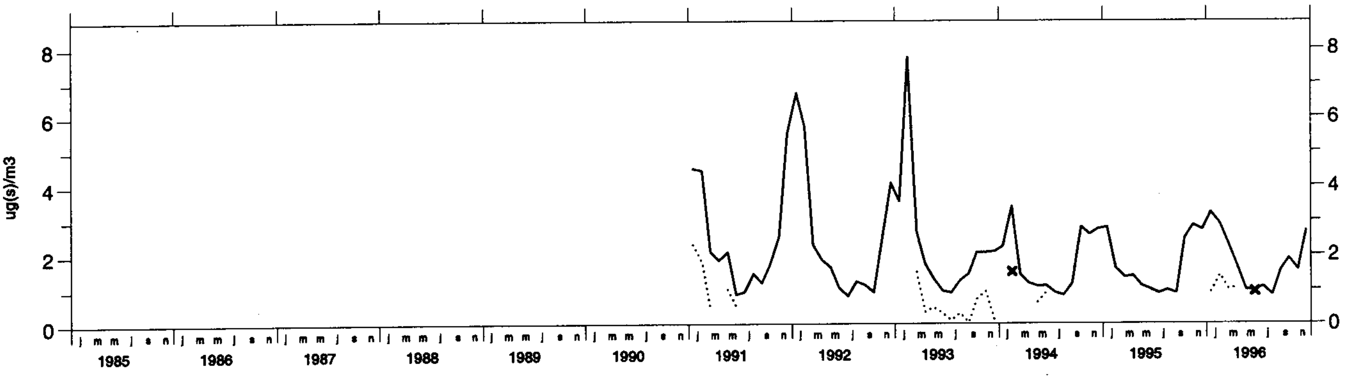


Bonnevaux (FR 11)

Concentration of sulphur dioxide in air

.... observed mean = 1.32 std = 5.18

—— modelled mean = 2.09 std = 2.42 correlation = 0.13

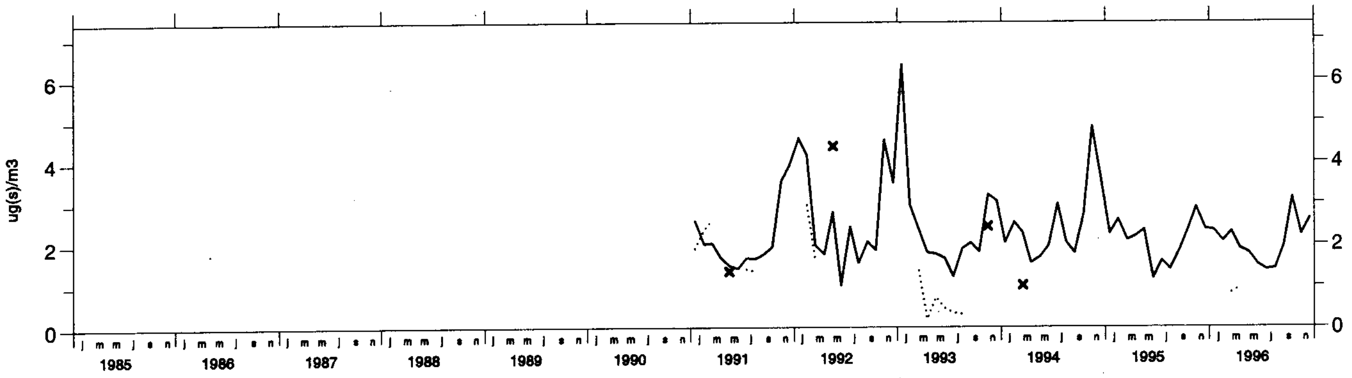


Iraty (FR 12)

Concentration of sulphur dioxide in air

.... observed mean = 1.50 std = 1.72

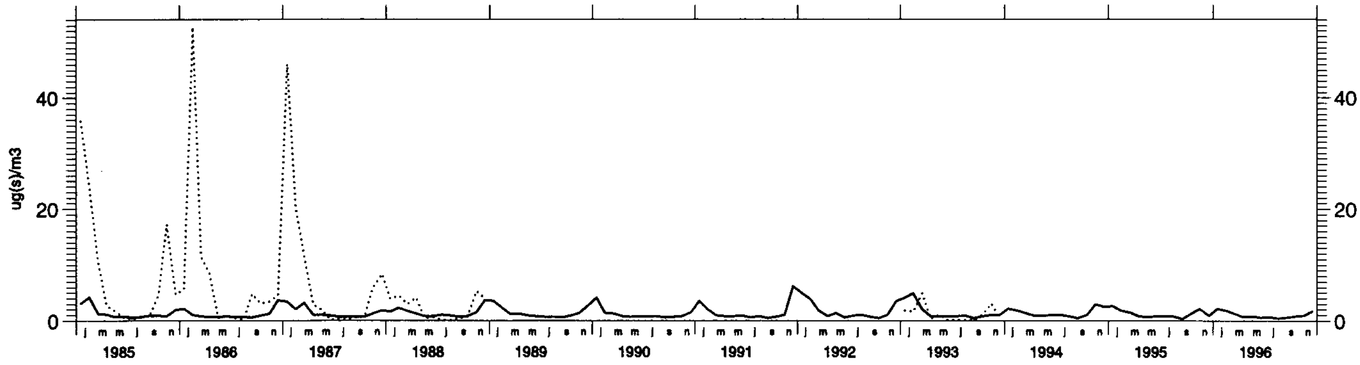
—— modelled mean = 2.29 std = 2.23 correlation = 0.10



Lazaropole (FY 7)

Concentration of sulphur dioxide in air

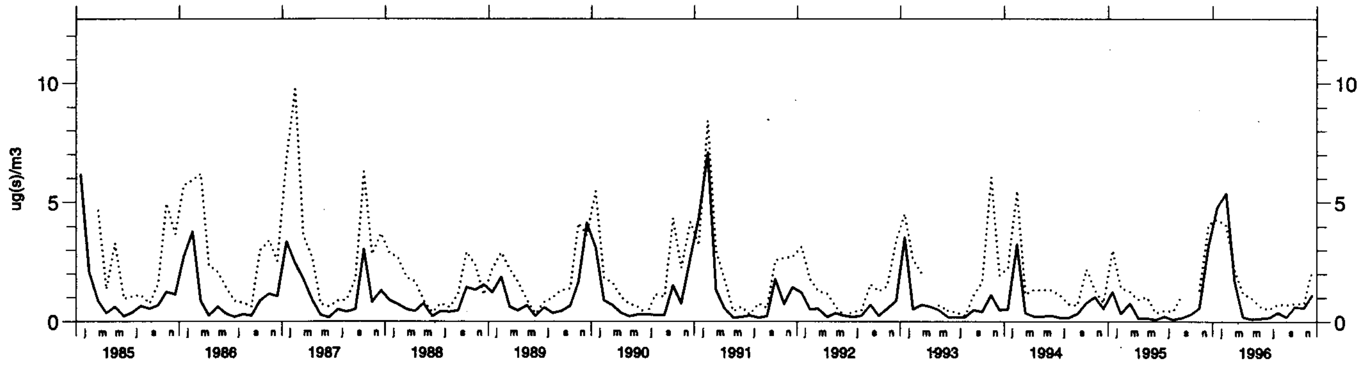
………	observed	mean = 5.91	std = 14.62	
———	modelled	mean = 1.39	std = 1.85	correlation = 0.12



Westerland (DE 1)

Concentration of sulphur dioxide in air

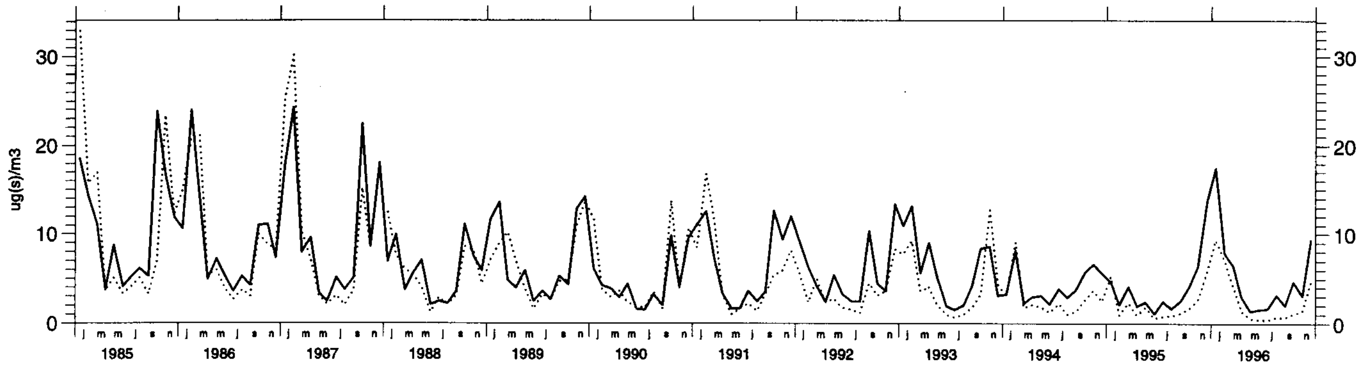
………	observed	mean = 2.13	std = 4.90	
———	modelled	mean = 0.98	std = 2.99	correlation = 0.36



Langenbrugge (DE 2)

Concentration of sulphur dioxide in air

………	observed	mean = 5.74	std = 11.45	
———	modelled	mean = 6.66	std = 13.50	correlation = 0.60

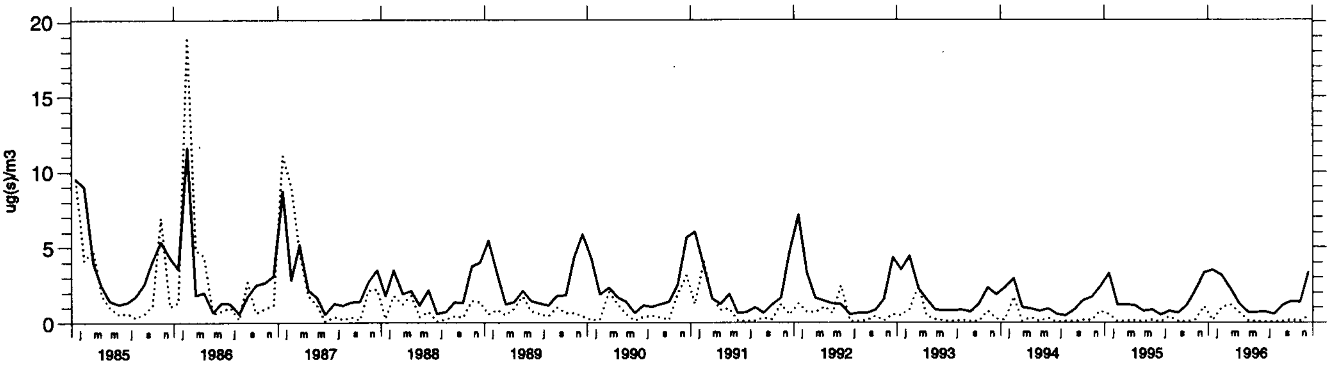


Schauinsland (DE 3)

Concentration of sulphur dioxide in air

.... observed mean = 1.17 std = 4.13

——— modelled mean = 2.21 std = 3.28 correlation = 0.44

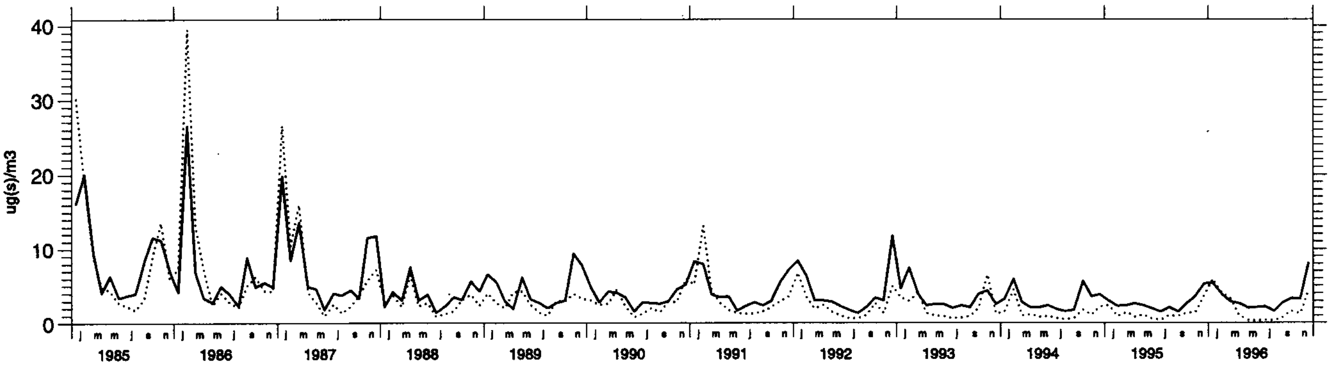


Deuselbach (DE 4)

Concentration of sulphur dioxide in air

.... observed mean = 3.74 std = 7.66

——— modelled mean = 4.63 std = 7.09 correlation = 0.57

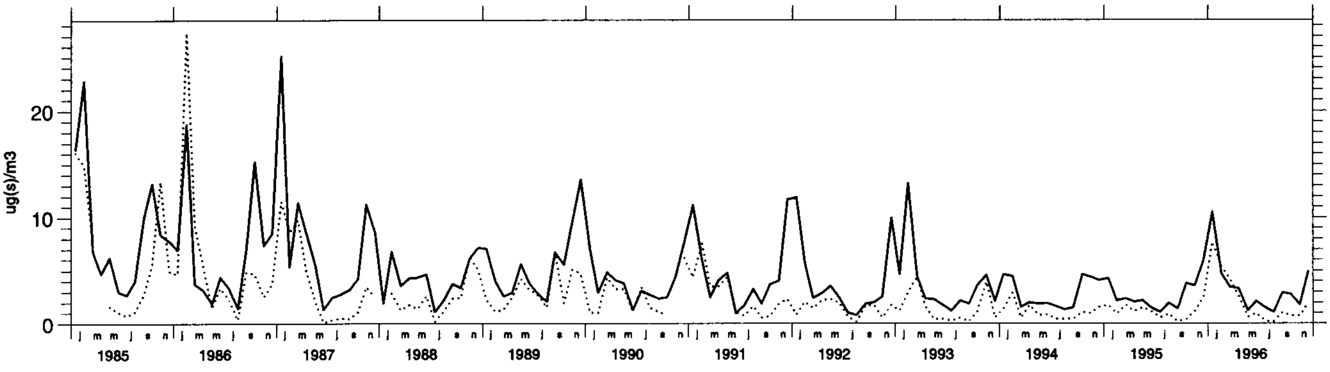


Brotjacklr. (DE 5)

Concentration of sulphur dioxide in air

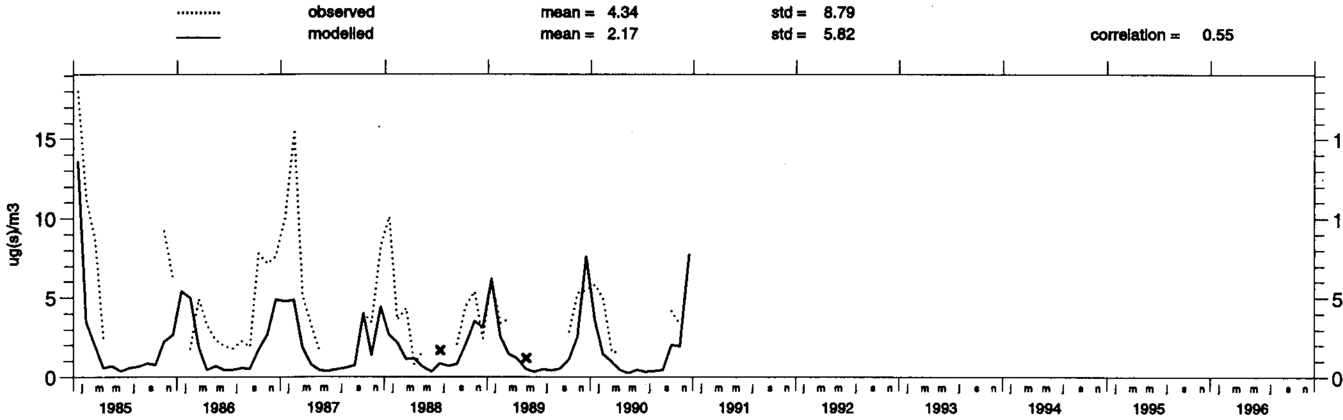
.... observed mean = 2.79 std = 5.81

——— modelled mean = 4.81 std = 8.43 correlation = 0.47



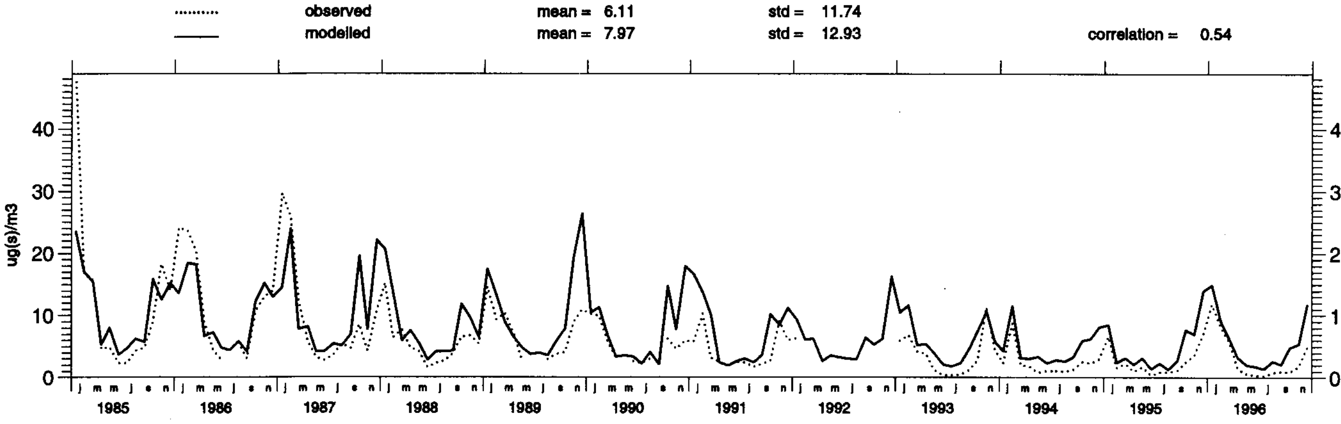
Arkona (DE 6)

Concentration of sulphur dioxide in air



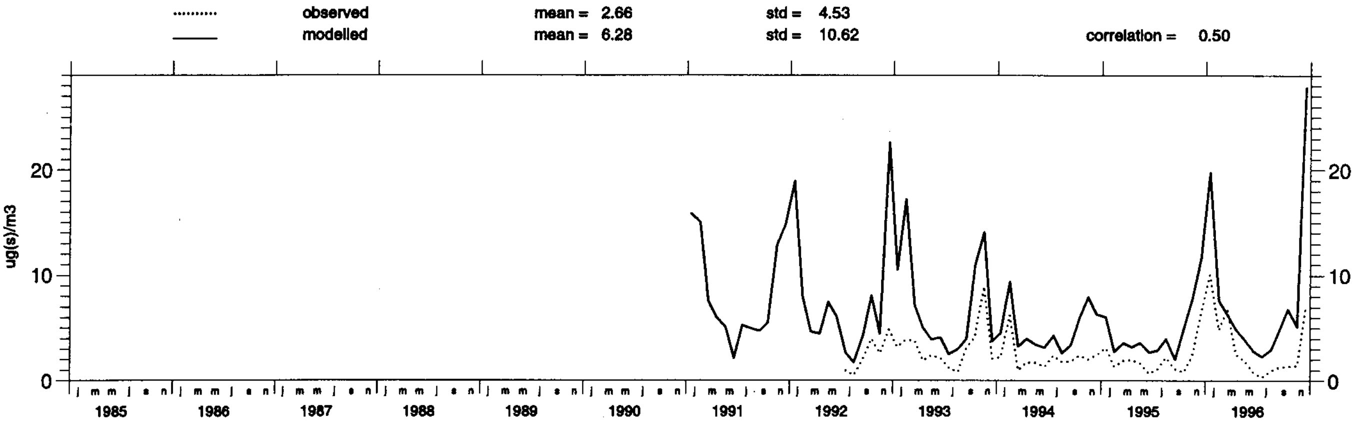
Neuglobsow (DE 7)

Concentration of sulphur dioxide in air



Schmucke (DE 8)

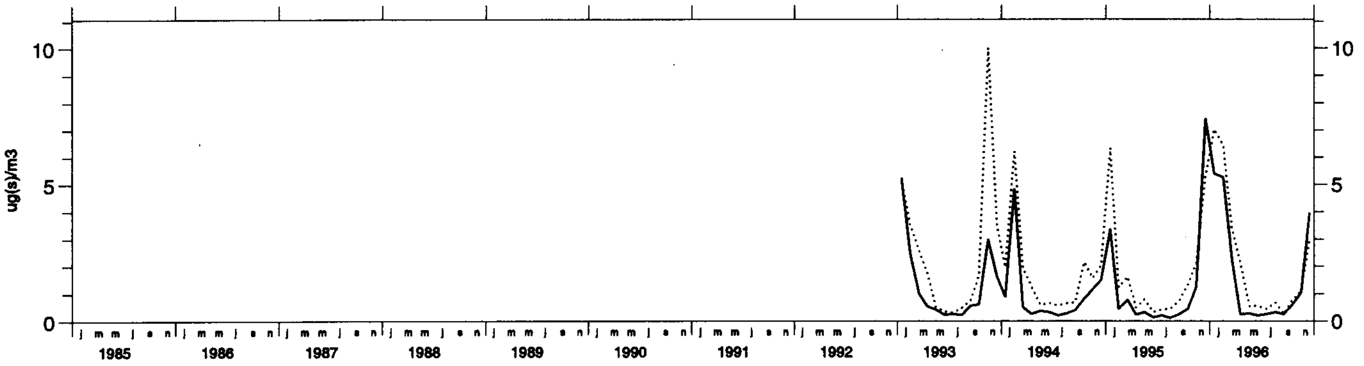
Concentration of sulphur dioxide in air



Zingst (DE 9)

Concentration of sulphur dioxide in air

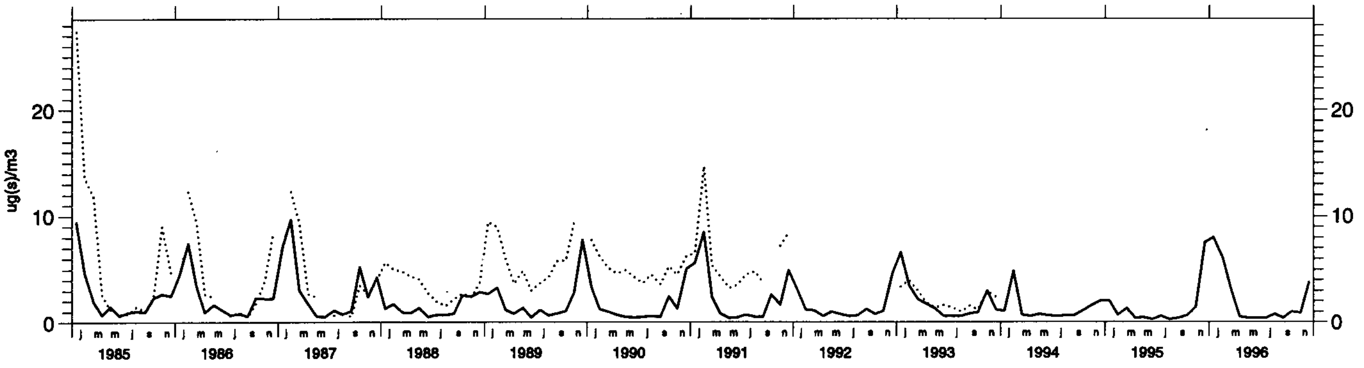
....	observed	mean = 2.05	std = 4.03	
————	modelled	mean = 1.31	std = 3.67	correlation = 0.56



Hohenwestedt (DE 11)

Concentration of sulphur dioxide in air

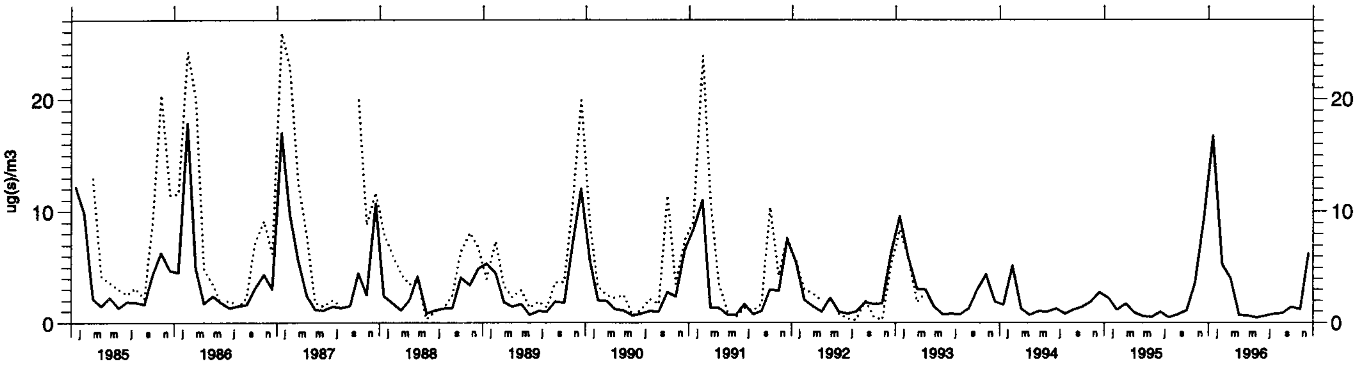
....	observed	mean = 4.71	std = 7.38	
————	modelled	mean = 2.09	std = 5.75	correlation = 0.29



Bassum (DE 12)

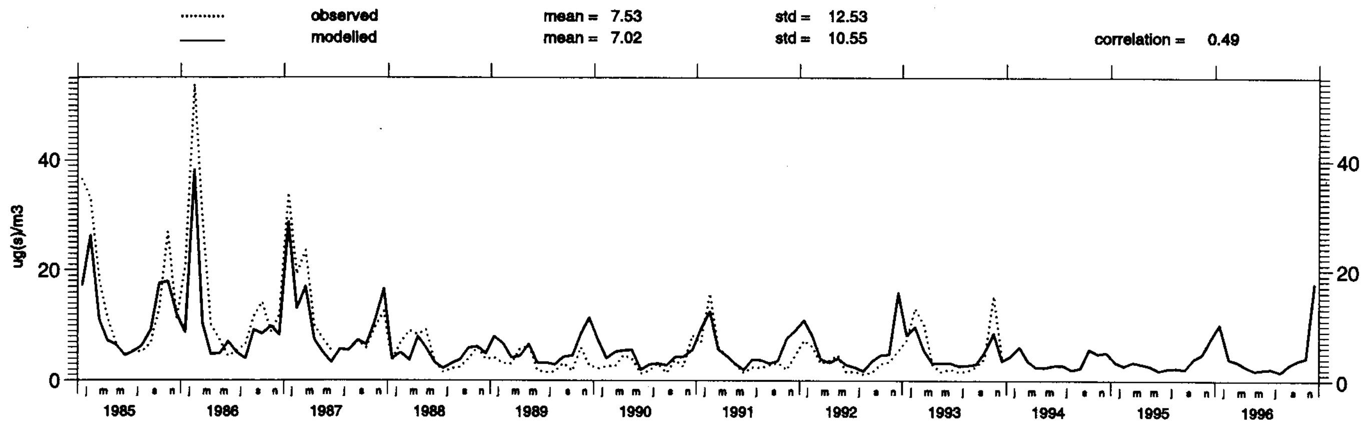
Concentration of sulphur dioxide in air

....	observed	mean = 5.88	std = 12.81	
————	modelled	mean = 3.27	std = 8.37	correlation = 0.56



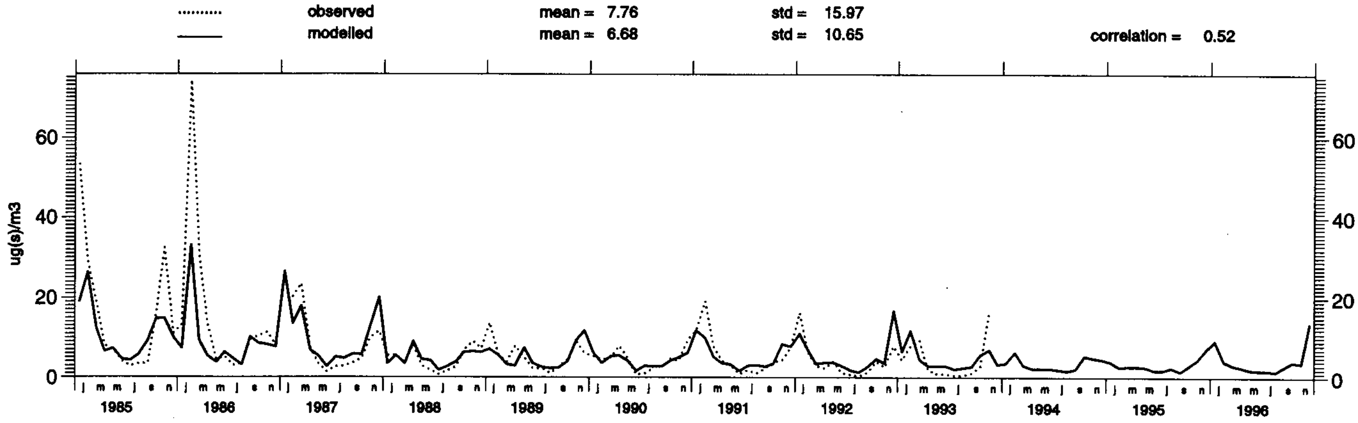
Meinerzhagen (DE 14)

Concentration of sulphur dioxide in air



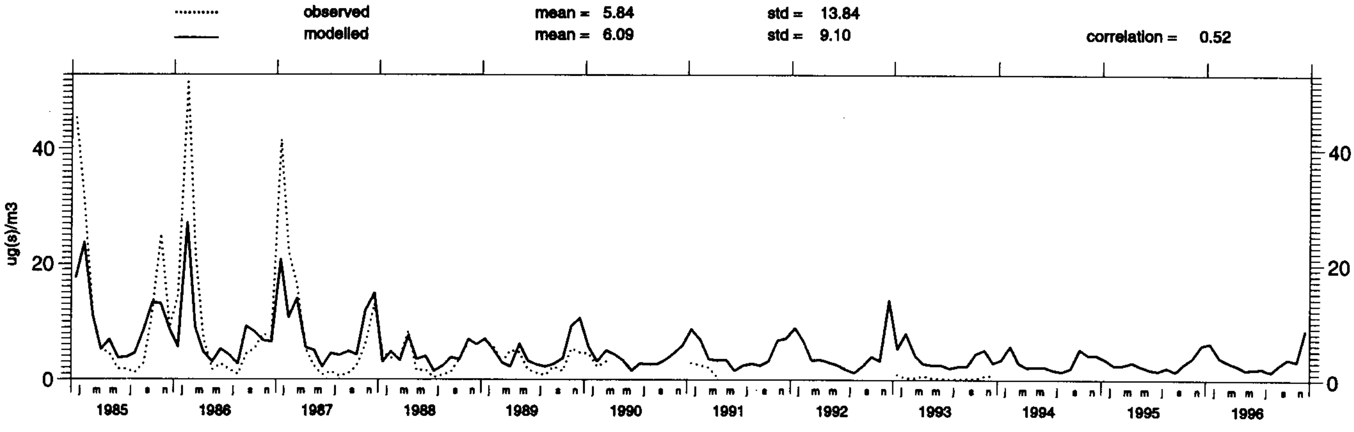
Usingen (DE 15)

Concentration of sulphur dioxide in air



Bad_Kreuznach (DE 16)

Concentration of sulphur dioxide in air

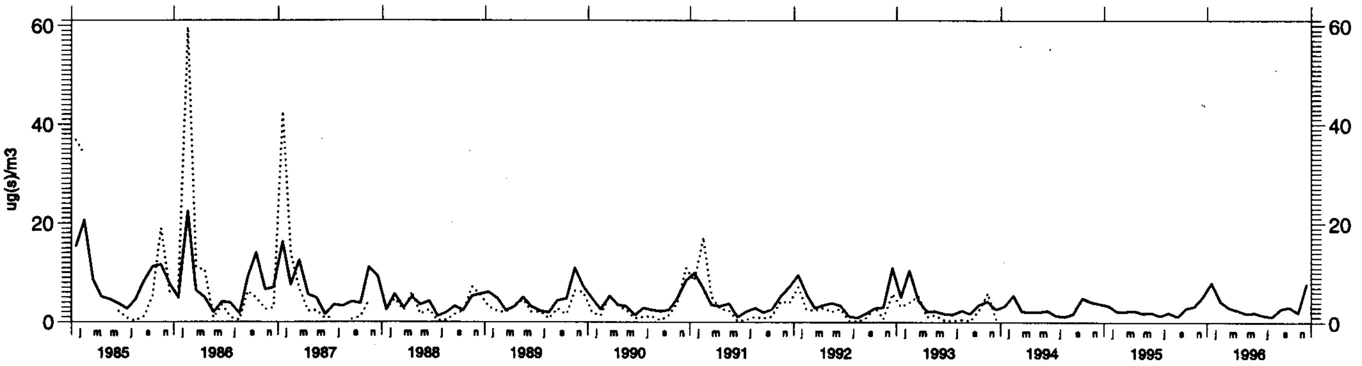


Ansbach (DE 17)

Concentration of sulphur dioxide in air

.... observed mean = 4.89 std = 12.99

——— modelled mean = 5.18 std = 8.50 correlation = 0.49

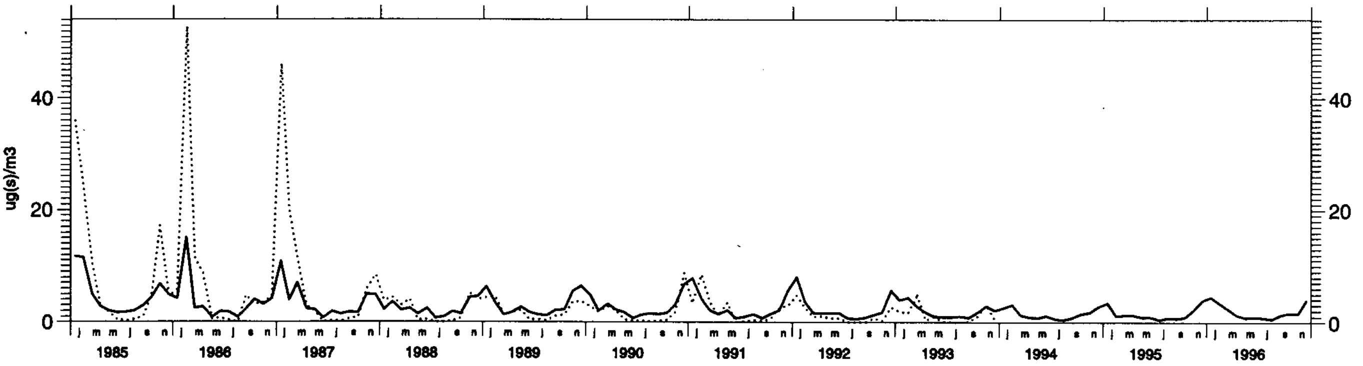


Rottenburg (DE 18)

Concentration of sulphur dioxide in air

.... observed mean = 3.94 std = 11.79

——— modelled mean = 3.00 std = 4.52 correlation = 0.49

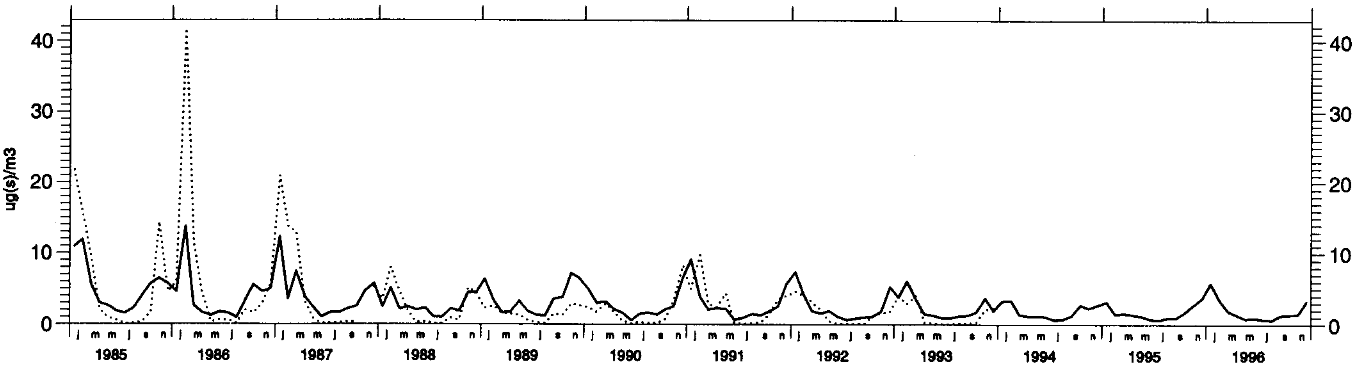


Starnberg (DE 19)

Concentration of sulphur dioxide in air

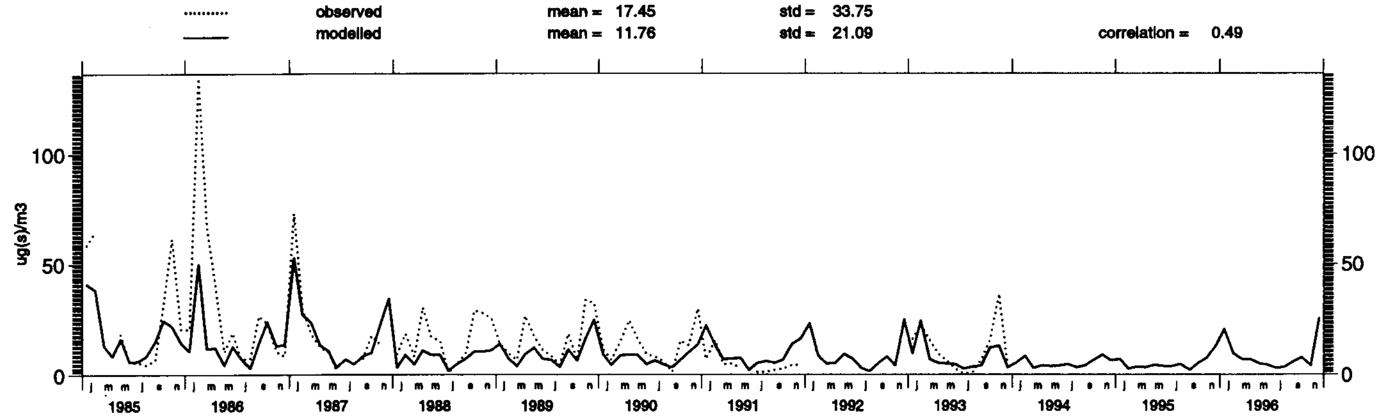
.... observed mean = 3.22 std = 8.34

——— modelled mean = 3.24 std = 4.76 correlation = 0.46



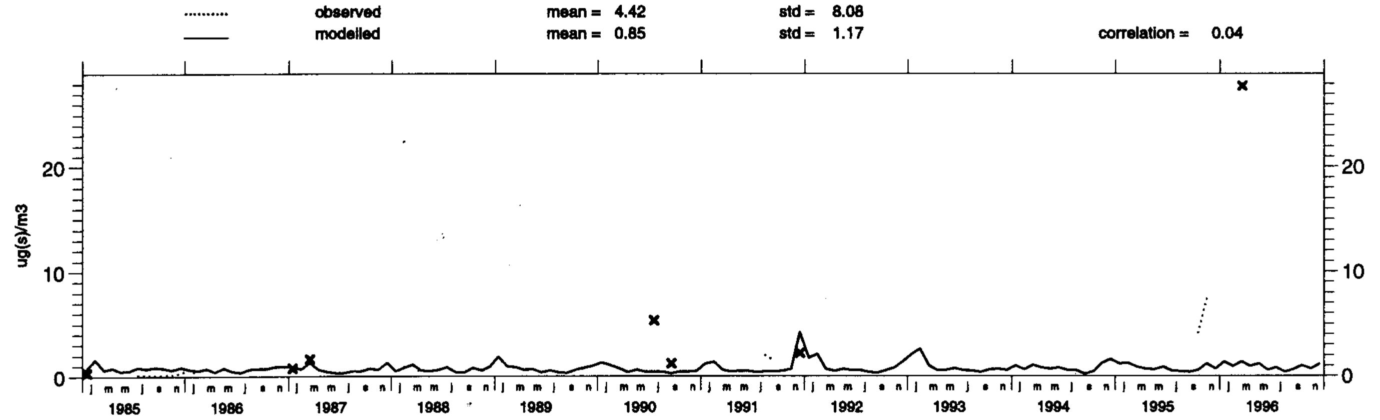
Hof (DE 20)

Concentration of sulphur dioxide in air



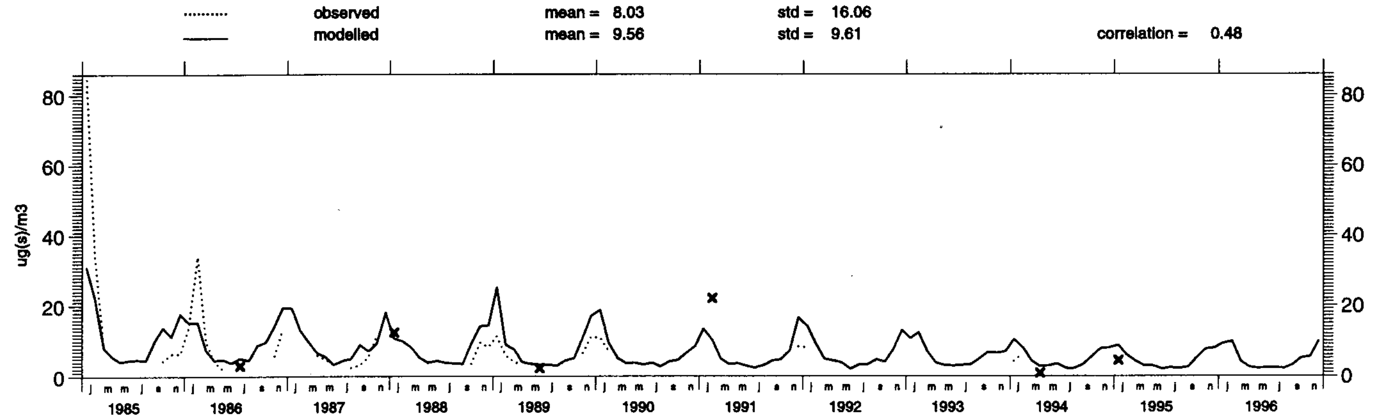
Aliartos (GR 1)

Concentration of sulphur dioxide in air



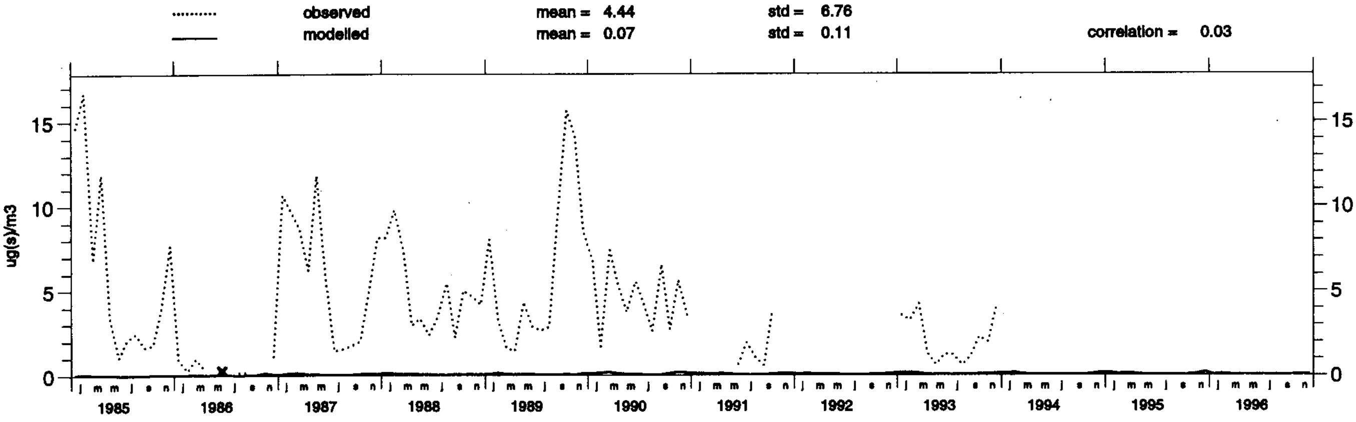
K-puszta (HU 2)

Concentration of sulphur dioxide in air



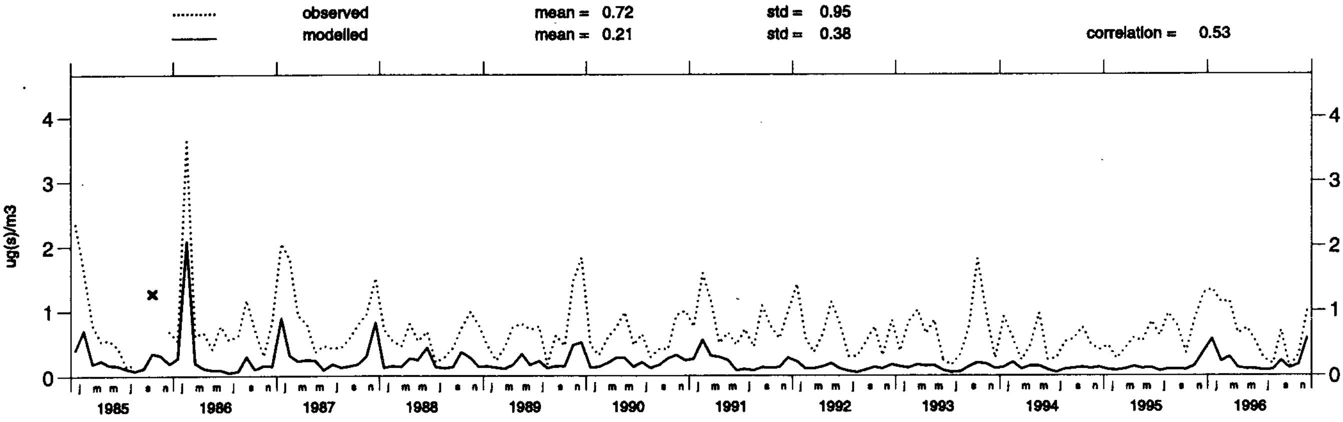
Irafoss (IS 2)

Concentration of sulphur dioxide in air



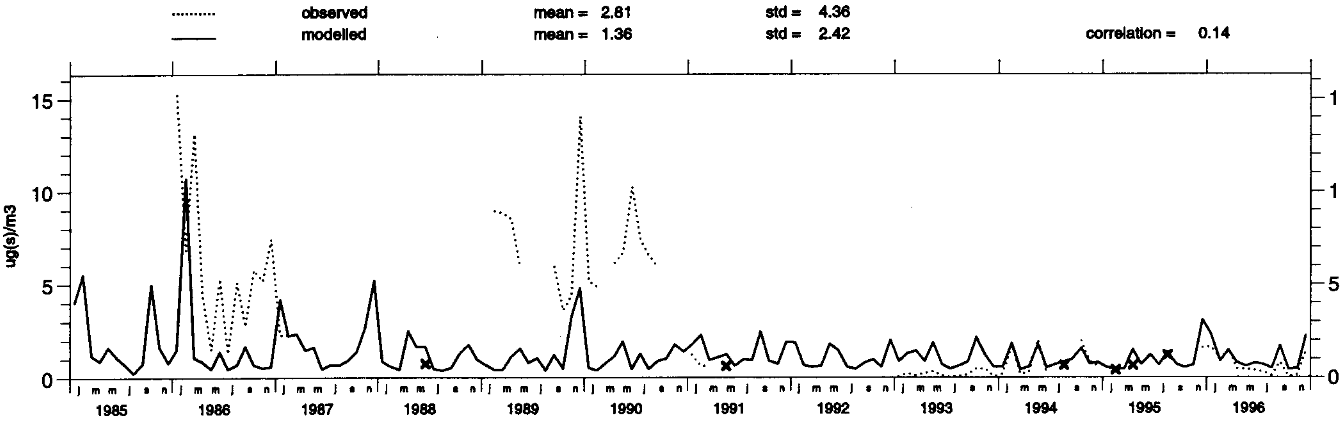
Valentia_Obs. (IE 1)

Concentration of sulphur dioxide in air



Turlough Hill (IE 2)

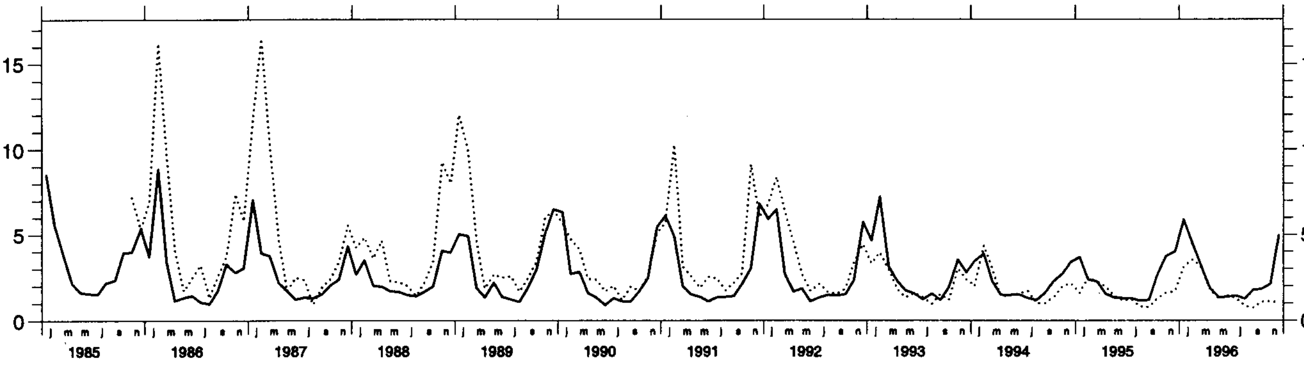
Concentration of sulphur dioxide in air



Ispra (IT 4)

Concentration of sulphur dioxide in air

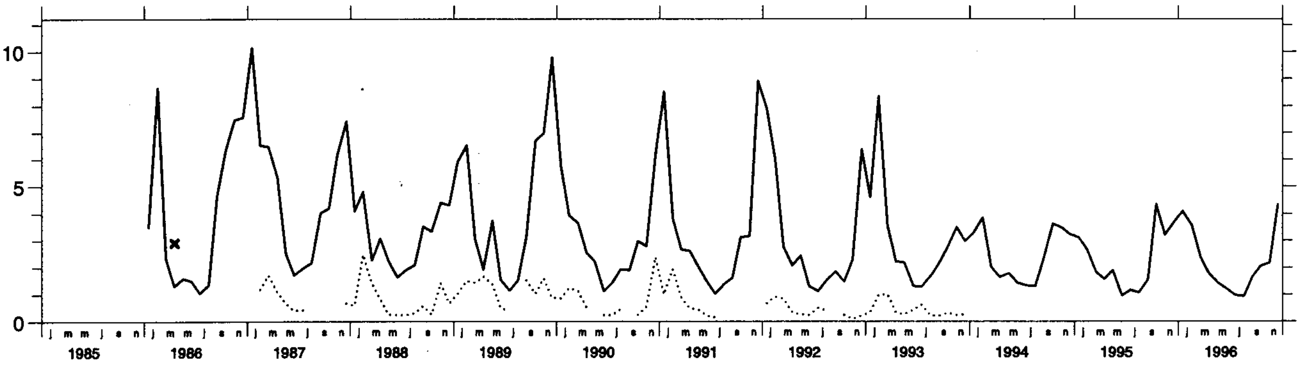
·········· observed	mean = 3.46	std = 4.19		
—— modelled	mean = 2.63	std = 2.69	correlation =	0.42



Arabba (IT 5)

Concentration of sulphur dioxide in air

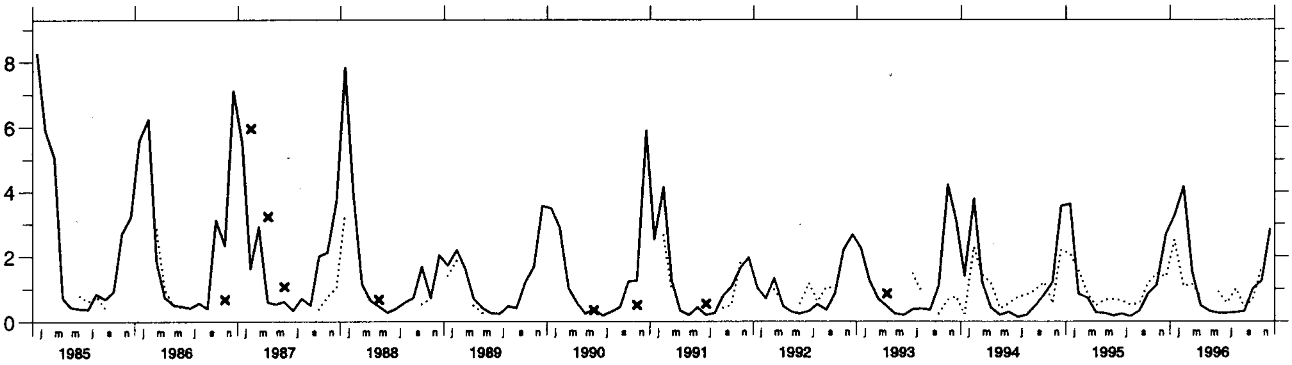
·········· observed	mean = 0.88	std = 1.60		
—— modelled	mean = 3.56	std = 4.41	correlation =	0.11



Rucava (LV 10)

Concentration of sulphur dioxide in air

·········· observed	mean = 1.07	std = 1.98		
—— modelled	mean = 1.36	std = 2.96	correlation =	0.29

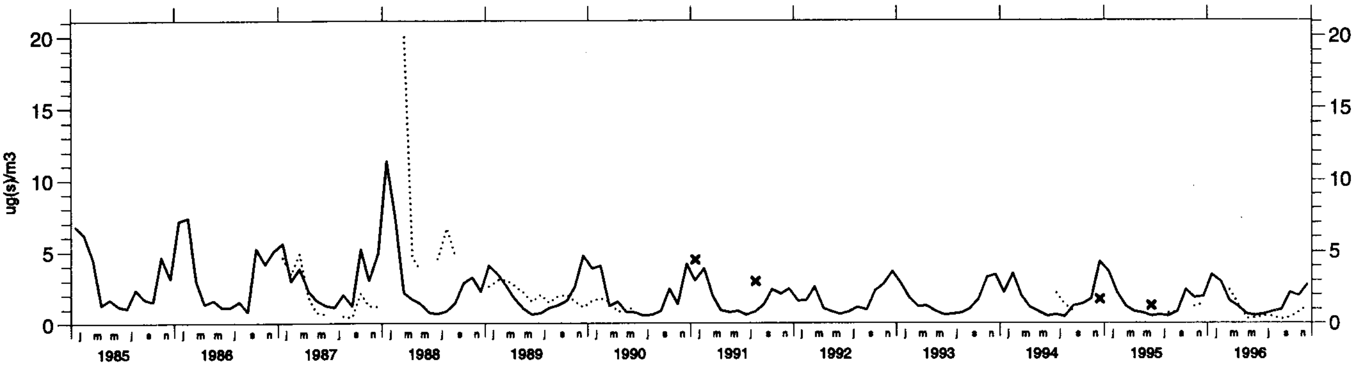


Zoseni (LV 16)

Concentration of sulphur dioxide in air

.... observed mean = 2.27 std = 4.42

—— modelled mean = 2.05 std = 3.10 correlation = 0.13

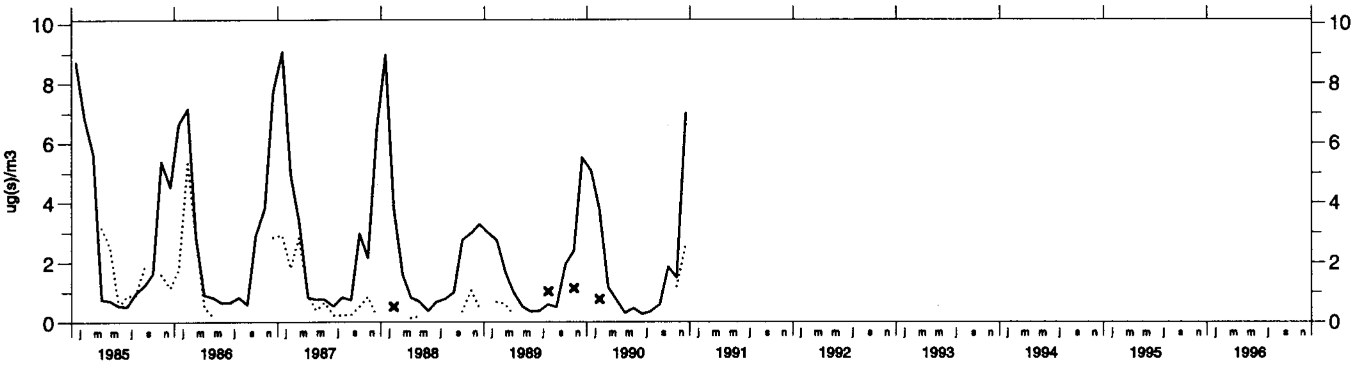


Nida (LT 3)

Concentration of sulphur dioxide in air

.... observed mean = 1.01 std = 1.76

—— modelled mean = 2.61 std = 5.15 correlation = 0.24

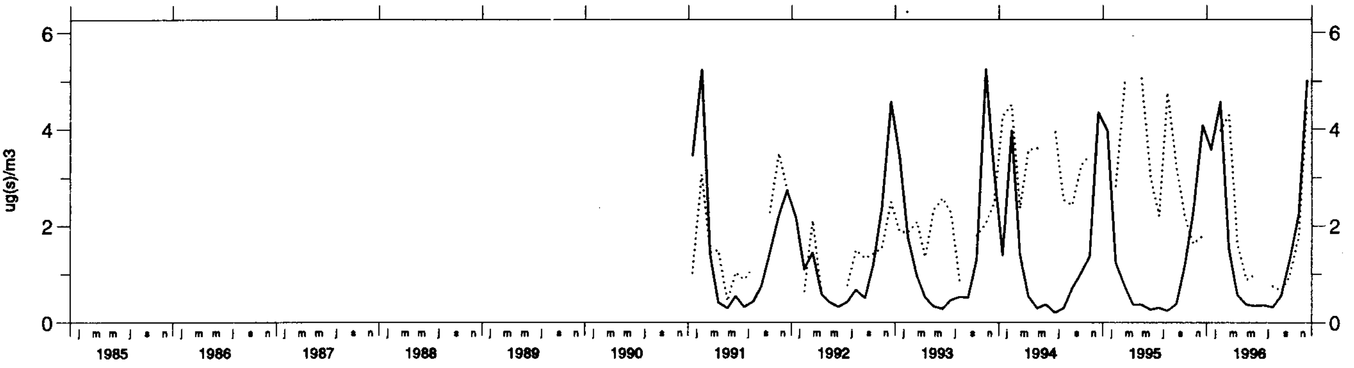


Preila (LT 15)

Concentration of sulphur dioxide in air

.... observed mean = 2.30 std = 2.55

—— modelled mean = 1.44 std = 2.86 correlation = 0.21

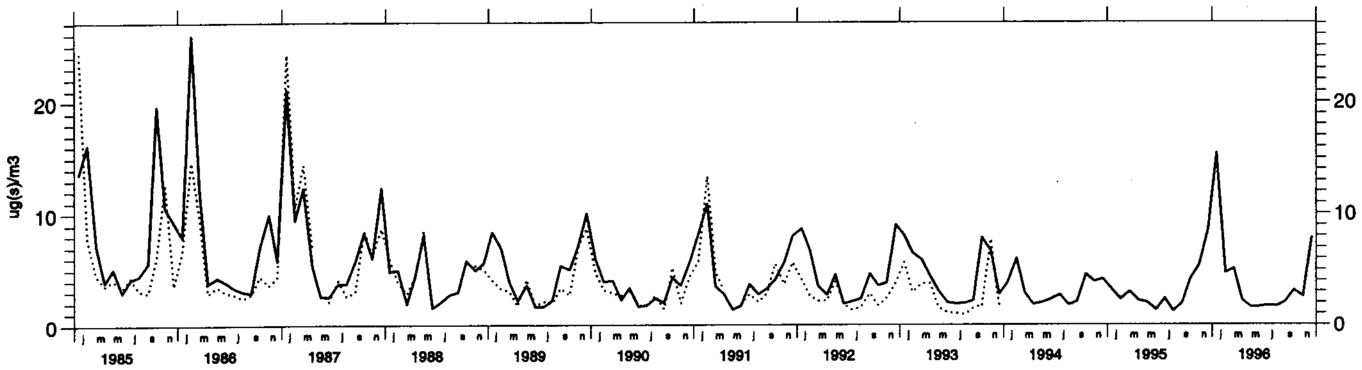


Wittenveen (NL 2)

Concentration of sulphur dioxide in air

.... observed mean = 4.49 std = 8.92

——— modelled mean = 5.63 std = 9.54 correlation = 0.64

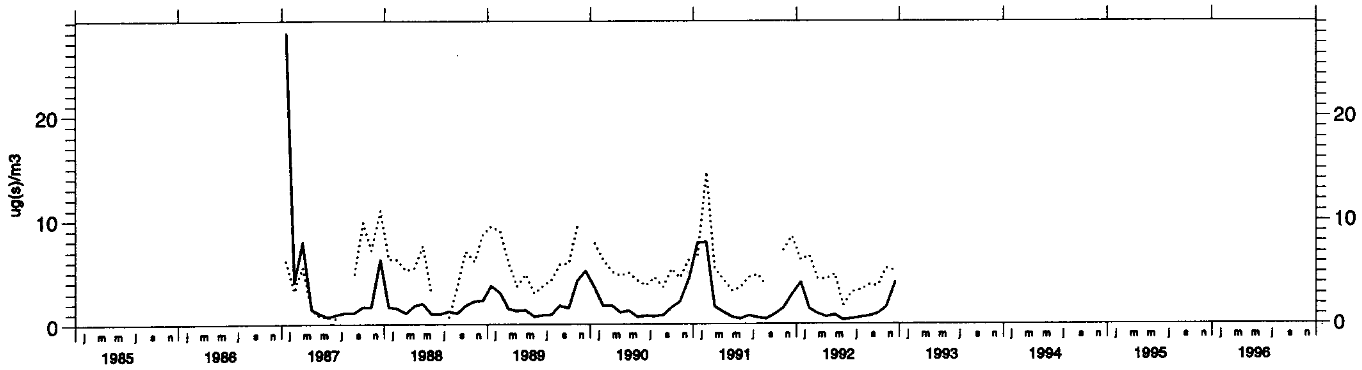


Bilthoven (NL 8)

Concentration of sulphur dioxide in air

.... observed mean = 5.19 std = 4.89

——— modelled mean = 2.30 std = 6.64 correlation = 0.21

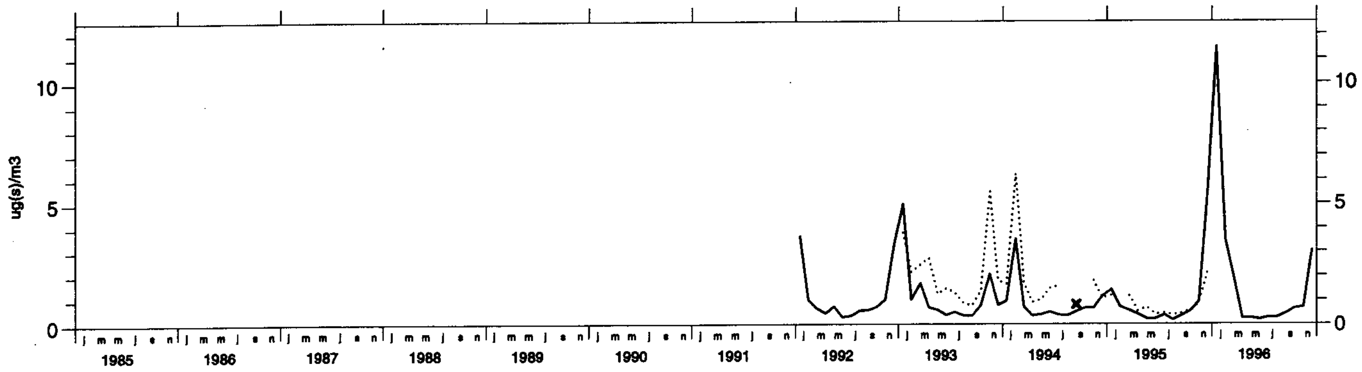


Kollumerwaard (NL 9)

Concentration of sulphur dioxide in air

.... observed mean = 1.60 std = 2.32

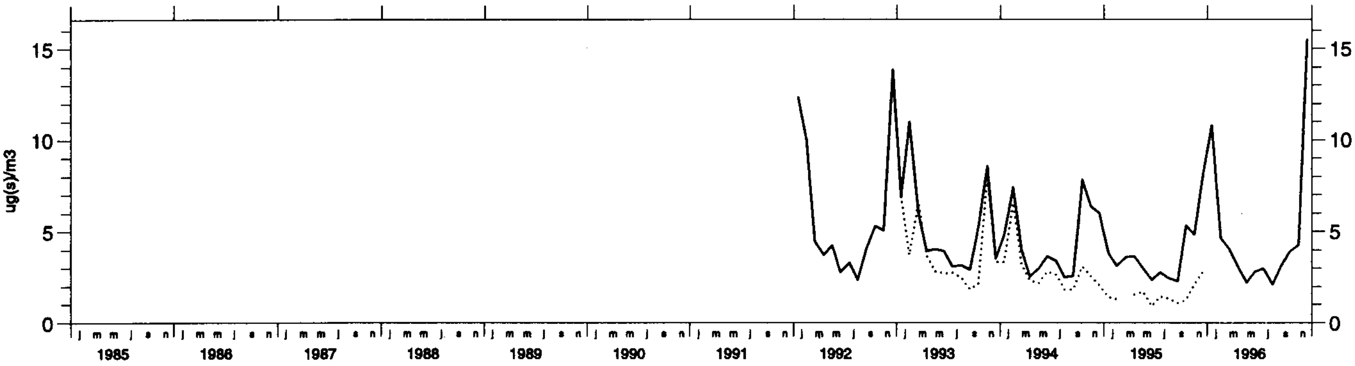
——— modelled mean = 1.03 std = 2.94 correlation = 0.39



Vreedepeel (NL 10)

Concentration of sulphur dioxide in air

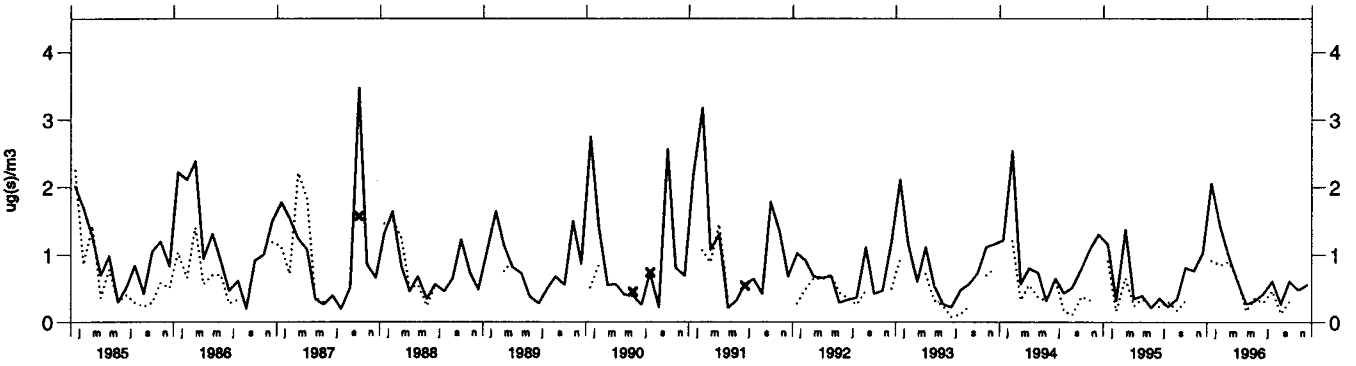
....	observed	mean = 2.80	std = 2.98	
———	modelled	mean = 4.49	std = 4.97	correlation = 0.36



Birkenes (NO 1)

Concentration of sulphur dioxide in air

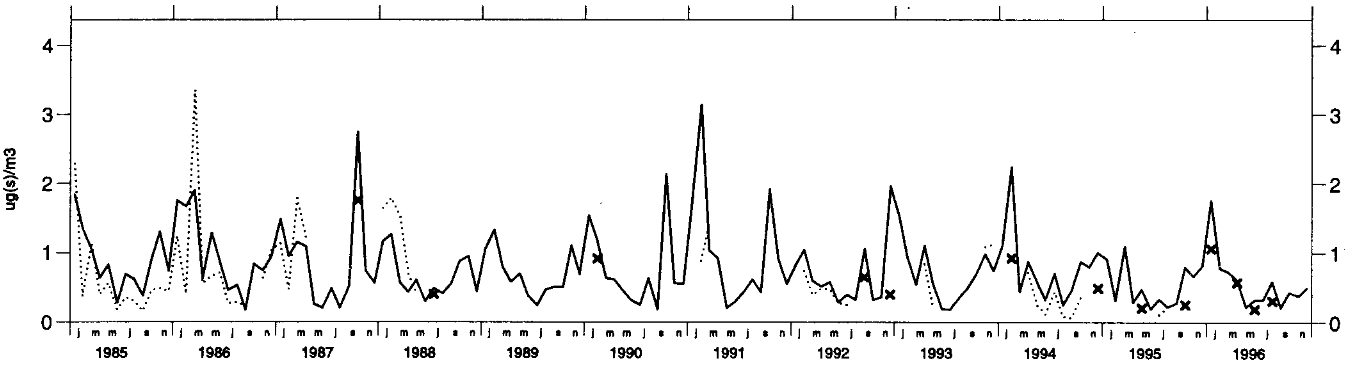
....	observed	mean = 0.61	std = 1.04	
———	modelled	mean = 0.99	std = 1.96	correlation = 0.37



Skreaadalen (NO 8)

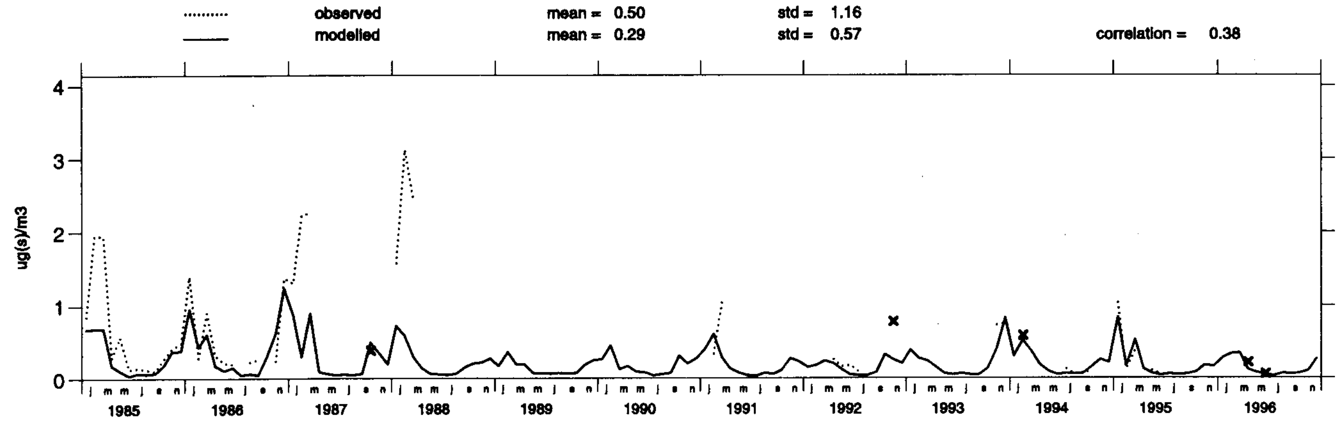
Concentration of sulphur dioxide in air

....	observed	mean = 0.67	std = 1.37	
———	modelled	mean = 0.94	std = 1.69	correlation = 0.38



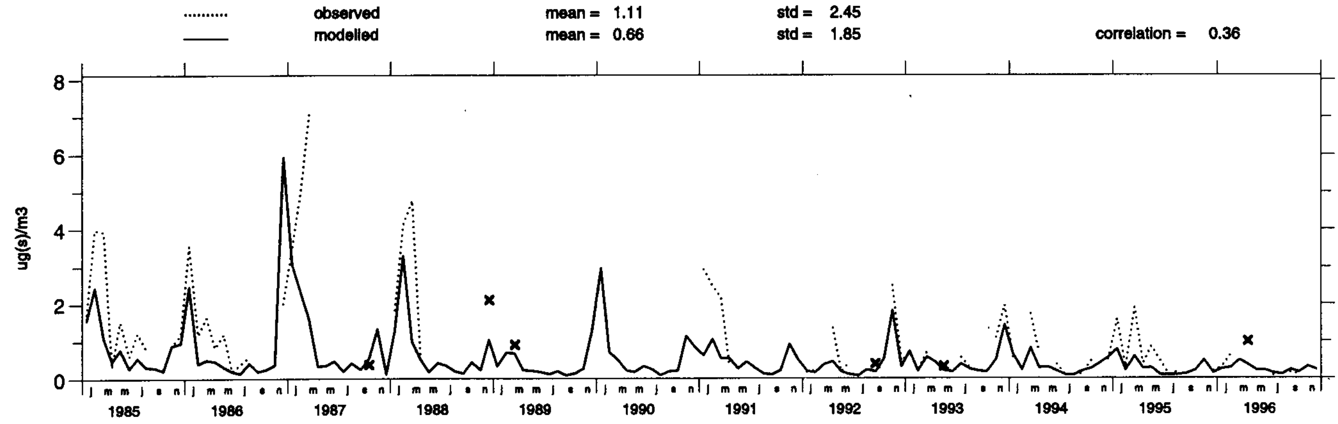
Tustervatn (NO 15)

Concentration of sulphur dioxide in air



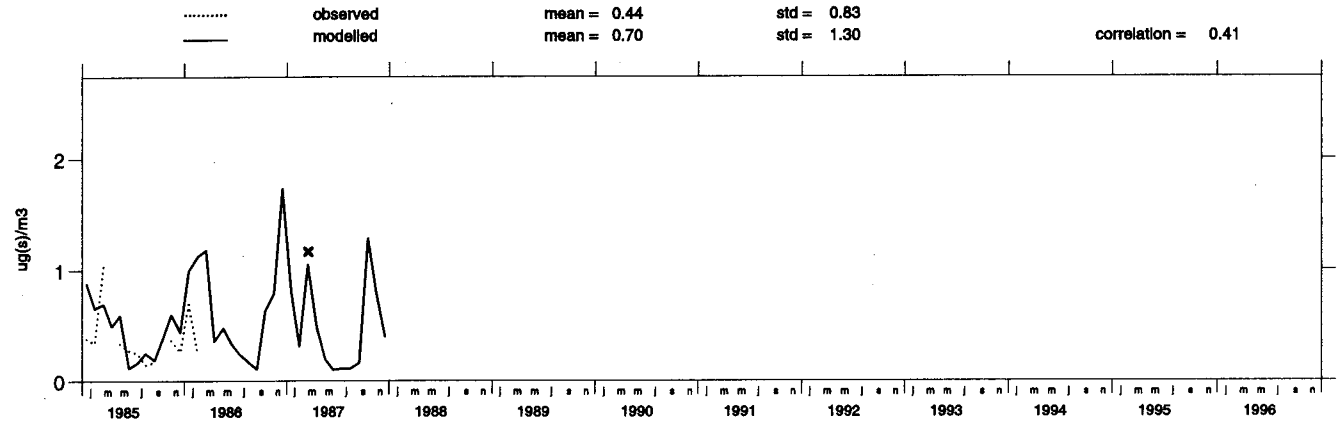
Jergul (NO 30)

Concentration of sulphur dioxide in air



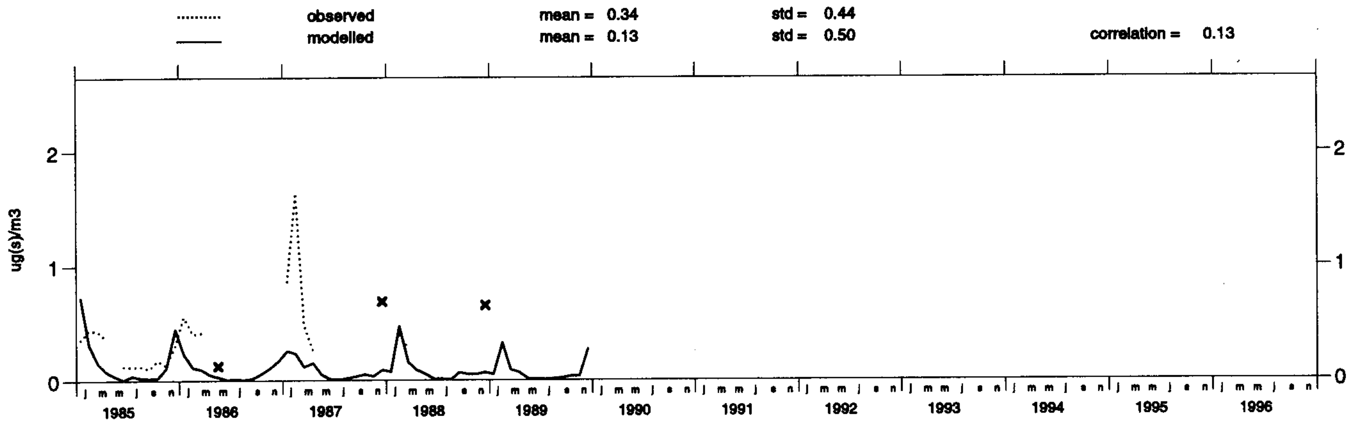
Hummelfjell (NO 36)

Concentration of sulphur dioxide in air



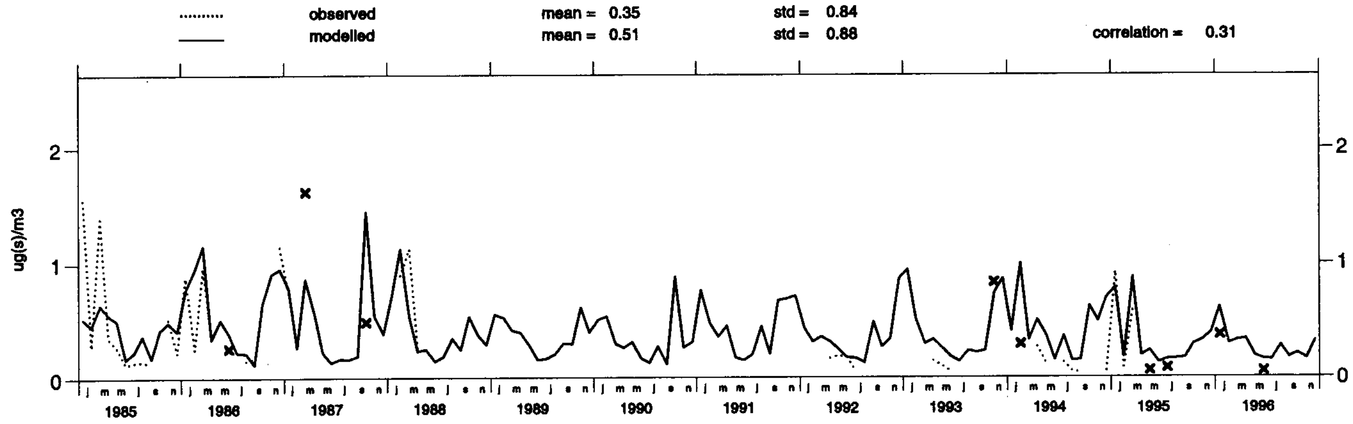
Bjoernoeya (NO 37)

Concentration of sulphur dioxide in air



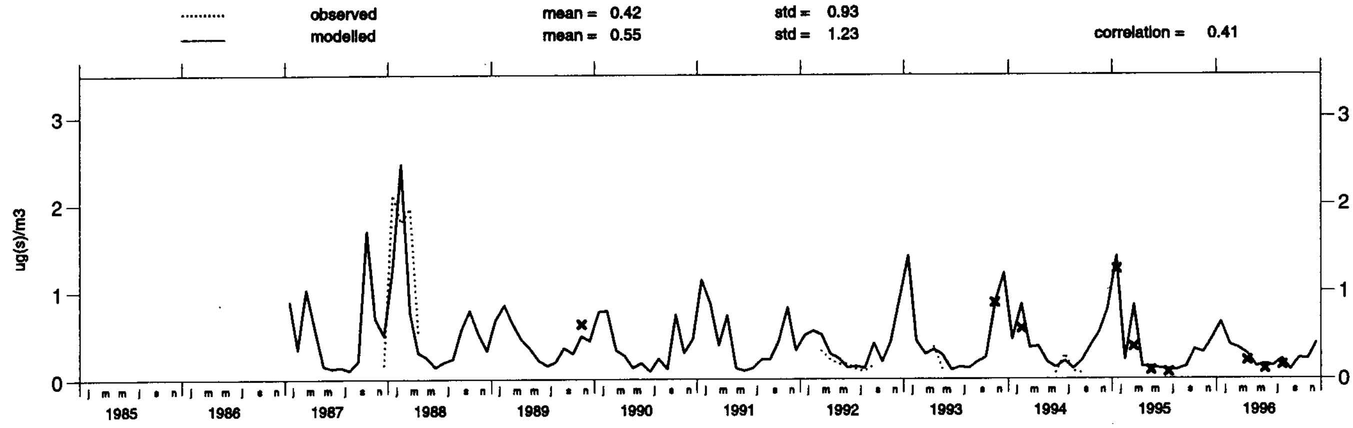
Kaarvatn (NO 39)

Concentration of sulphur dioxide in air



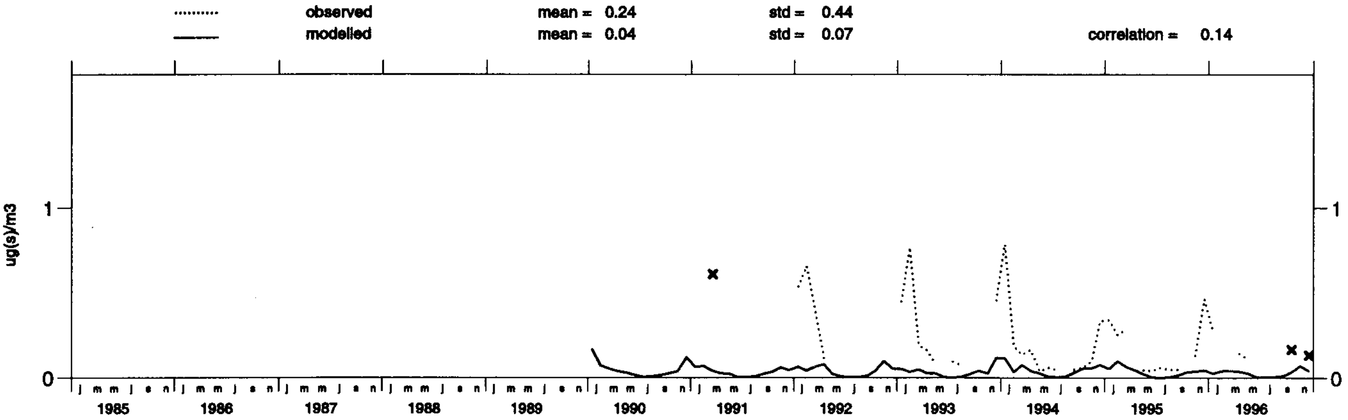
Osen (NO 41)

Concentration of sulphur dioxide in air



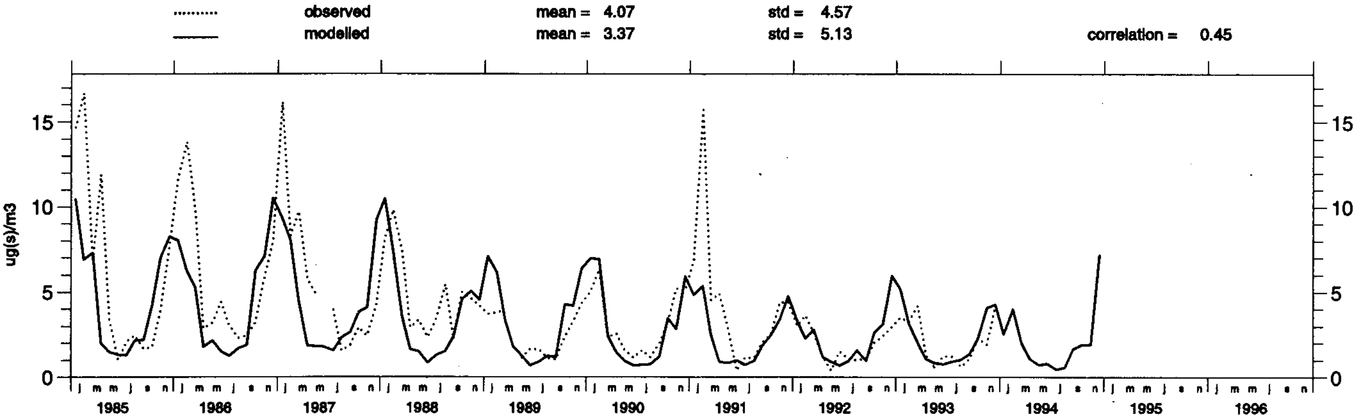
Spitzbergen,Z (NO 42)

Concentration of sulphur dioxide in air



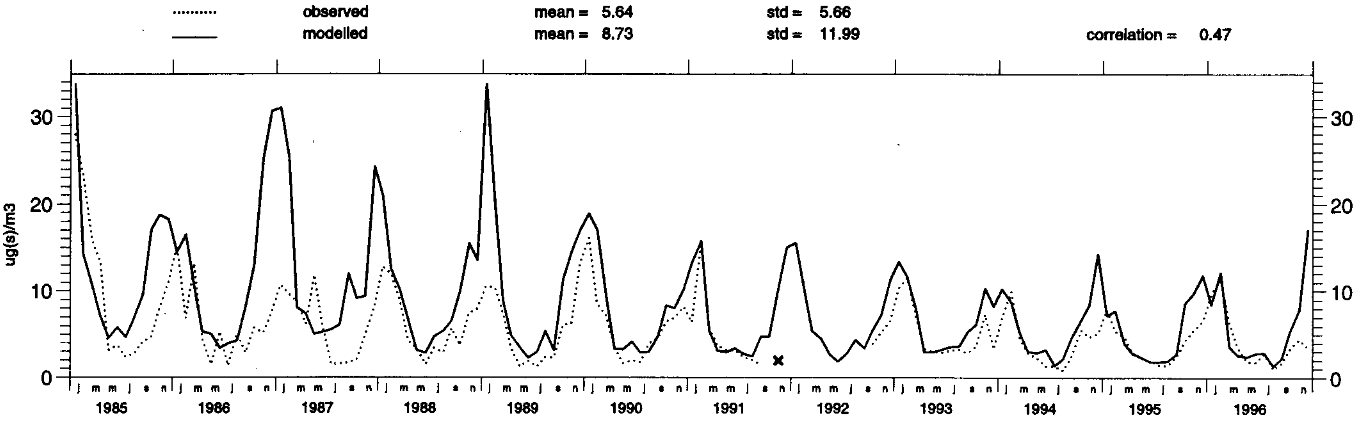
Suwalki (PL 1)

Concentration of sulphur dioxide in air



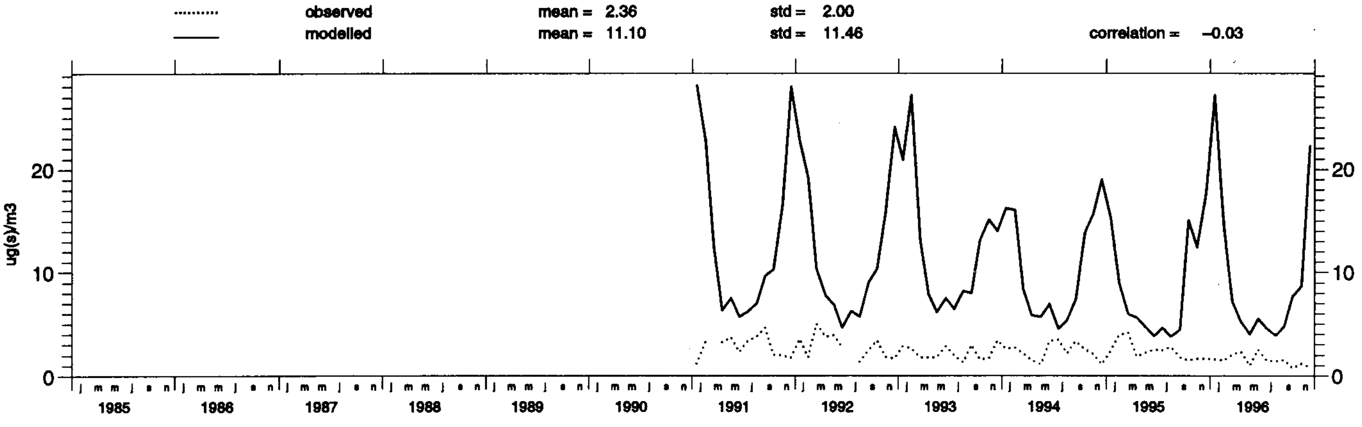
Jarczew (PL 2)

Concentration of sulphur dioxide in air



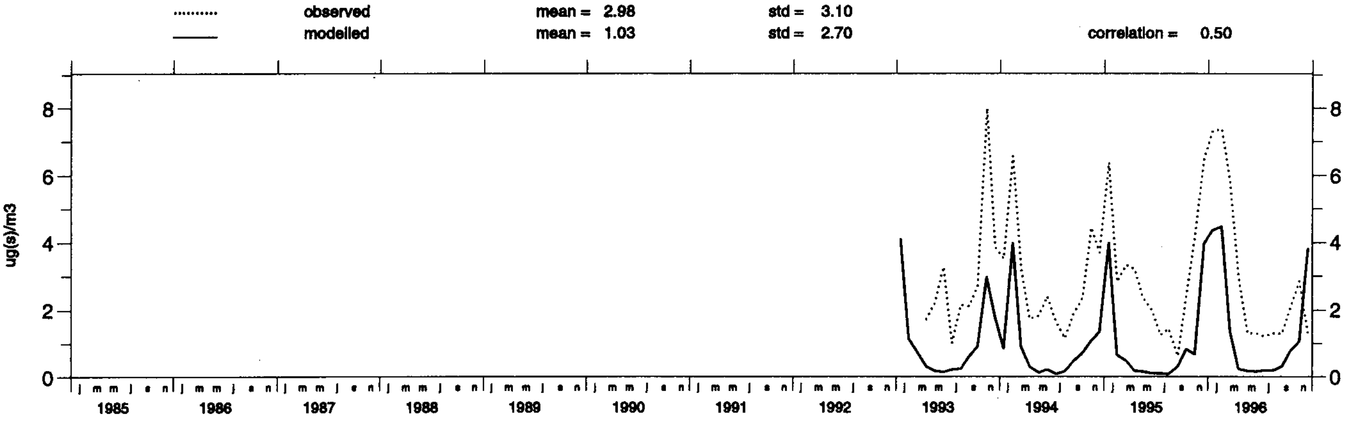
Sniezka (PL 3)

Concentration of sulphur dioxide in air



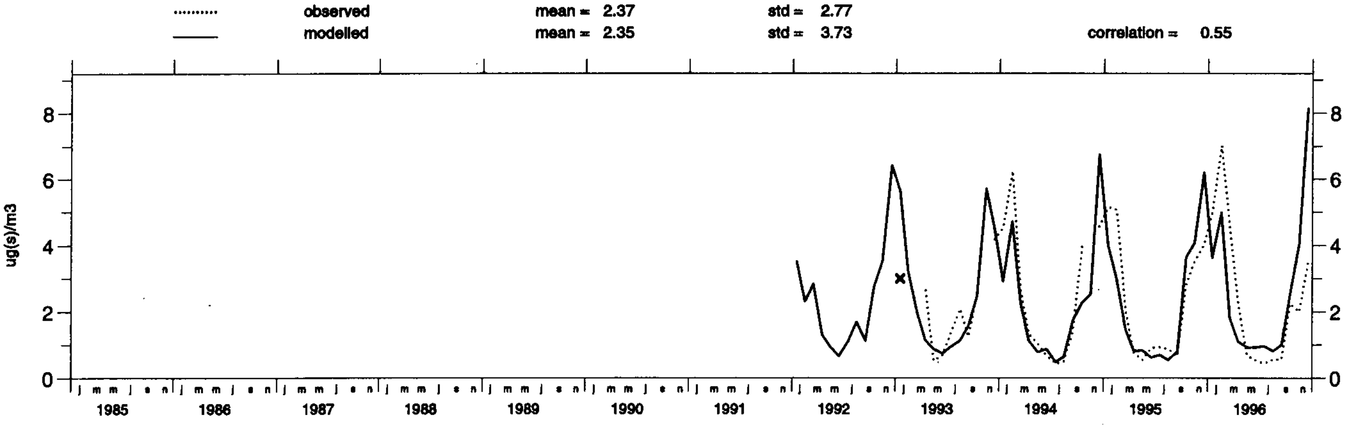
Leba (PL 4)

Concentration of sulphur dioxide in air



Diabla Gora (PL 5)

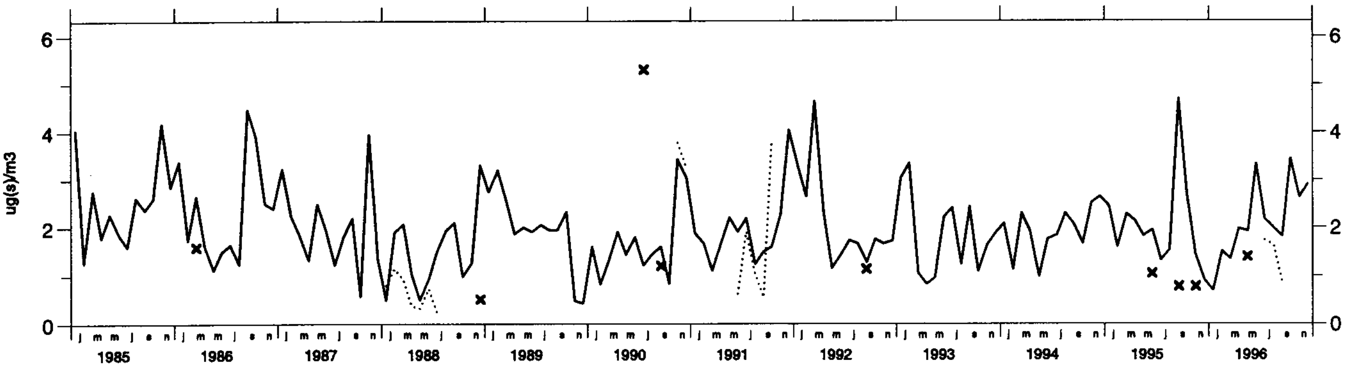
Concentration of sulphur dioxide in air



Braganca (PT 1)

Concentration of sulphur dioxide in air

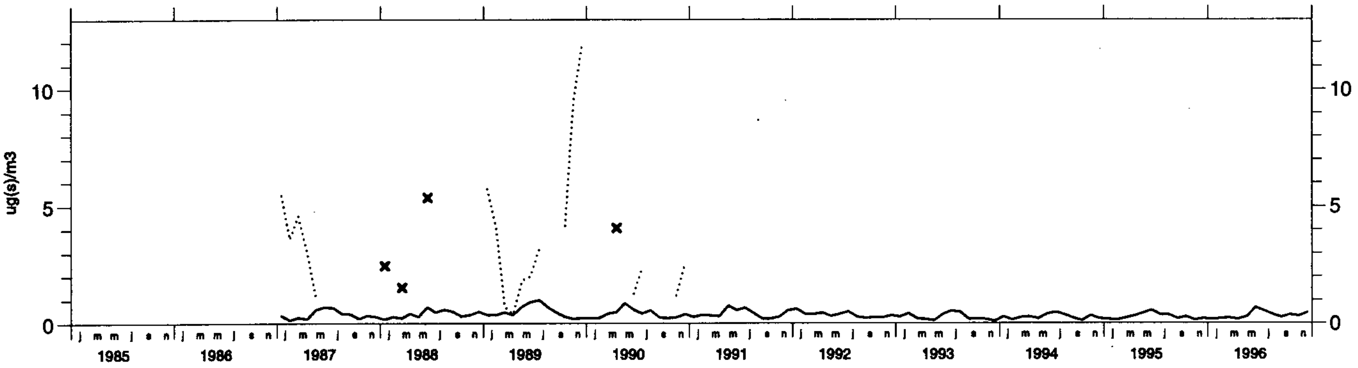
....	observed	mean = 2.12	std = 4.85	
———	modelled	mean = 1.99	std = 2.96	correlation = 0.08



V.d.Castelo (PT 3)

Concentration of sulphur dioxide in air

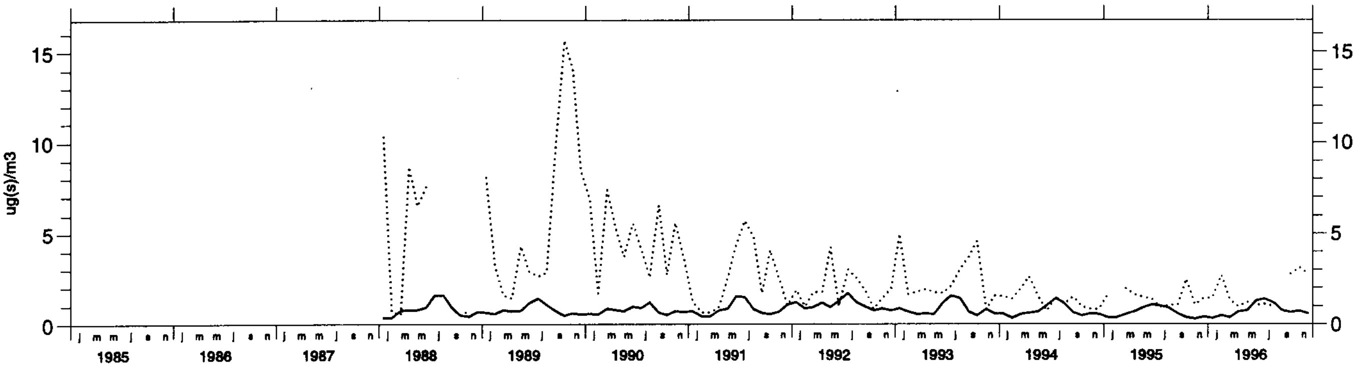
....	observed	mean = 3.79	std = 7.66	
———	modelled	mean = 0.43	std = 0.60	correlation = -0.08



Monte_Velho (PT 4)

Concentration of sulphur dioxide in air

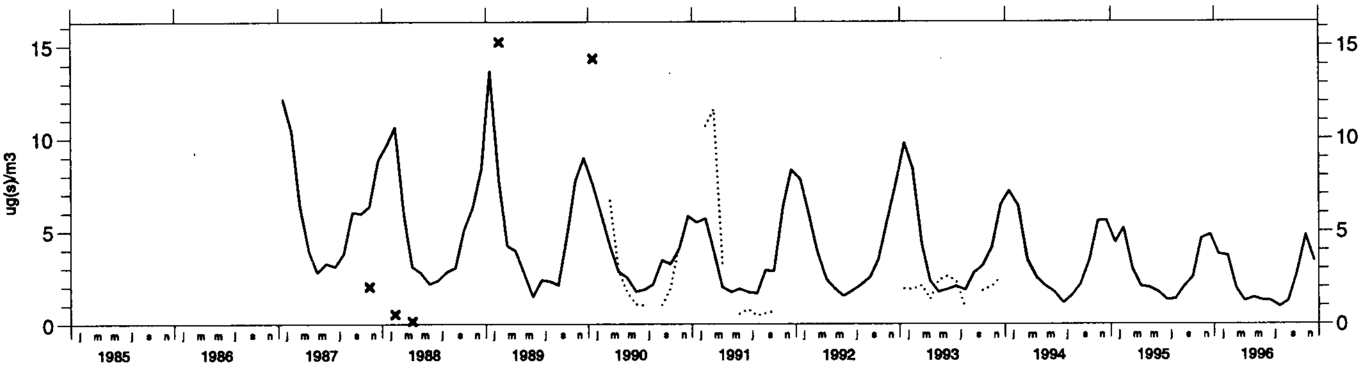
....	observed	mean = 2.90	std = 6.61	
———	modelled	mean = 0.79	std = 0.60	correlation = -0.04



Leovo (MD 12)

Concentration of sulphur dioxide in air

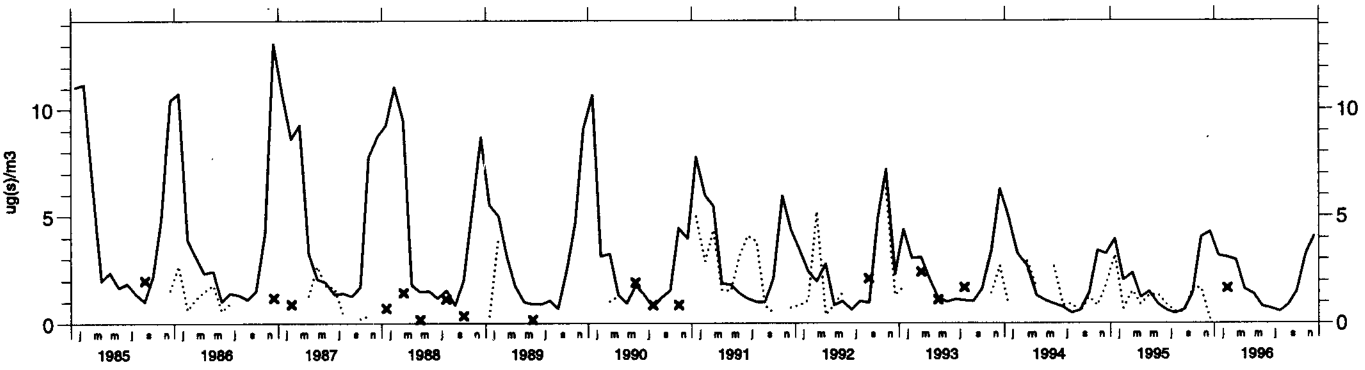
.... observed mean = 2.84 std = 4.75
——— modelled mean = 4.38 std = 4.75 correlation = 0.23



Janiskoski (RU 1)

Concentration of sulphur dioxide in air

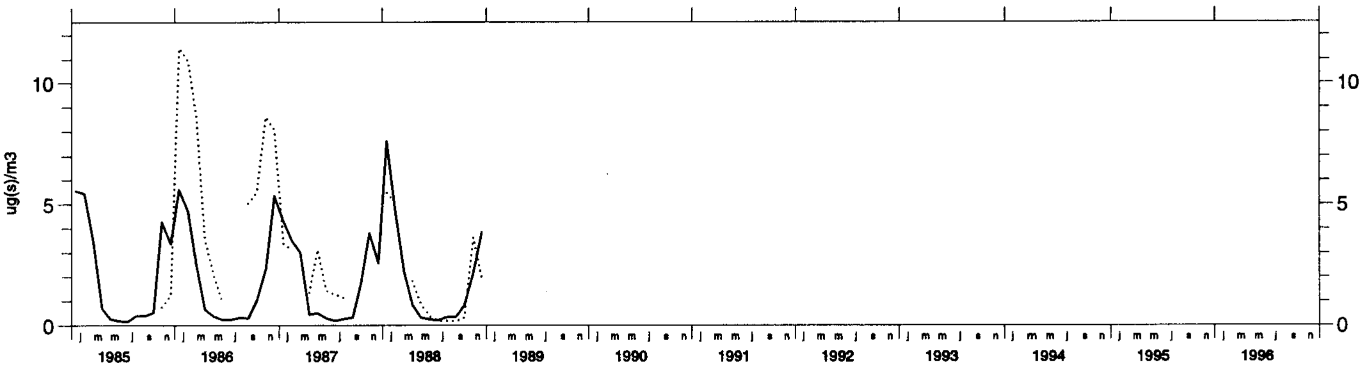
.... observed mean = 1.50 std = 3.59
——— modelled mean = 3.09 std = 4.39 correlation = 0.11



Lesogorsky (RU 8)

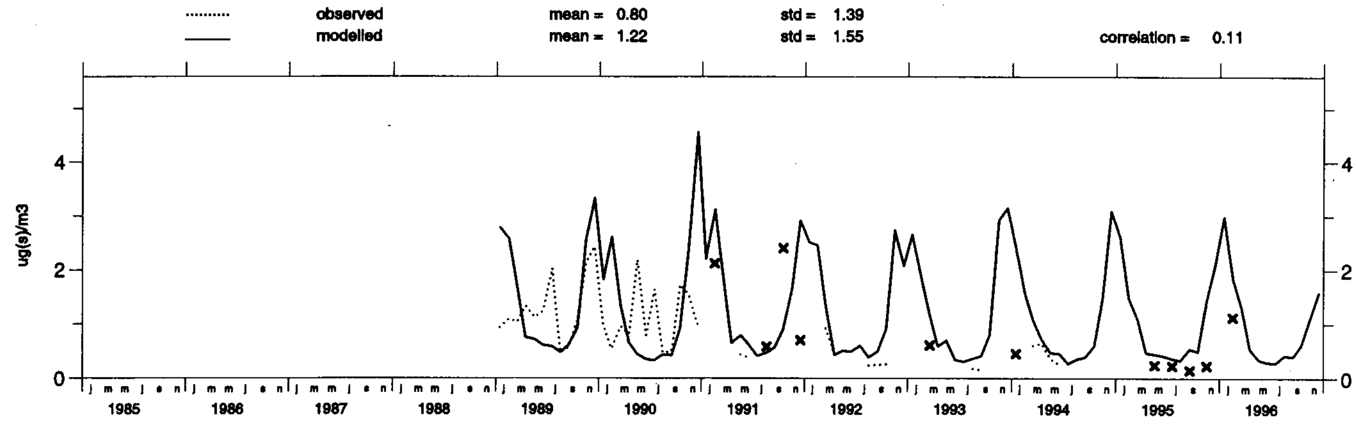
Concentration of sulphur dioxide in air

.... observed mean = 3.07 std = 4.17
——— modelled mean = 1.99 std = 2.94 correlation = 0.29



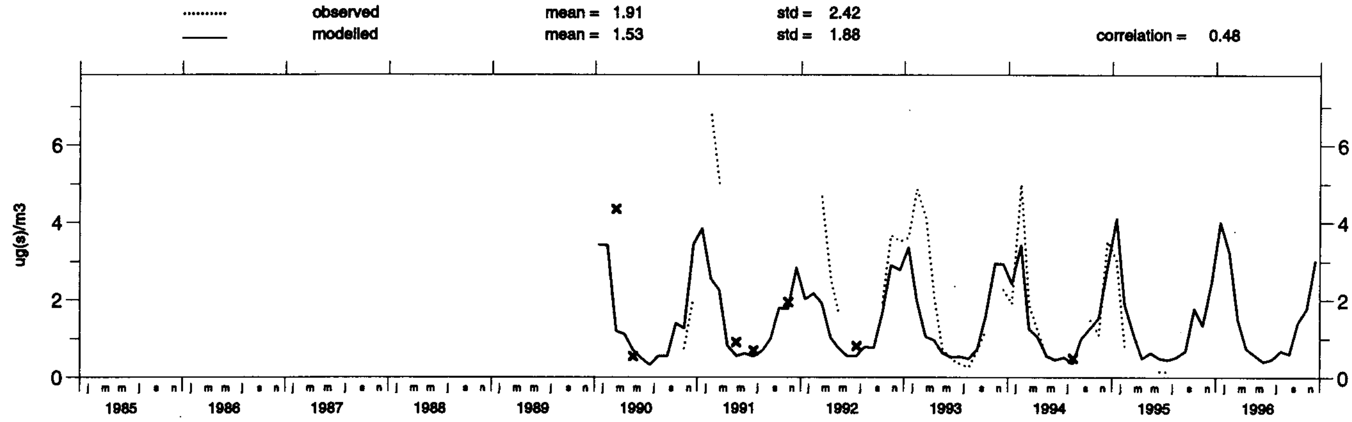
Pinega (RU 13)

Concentration of sulphur dioxide in air



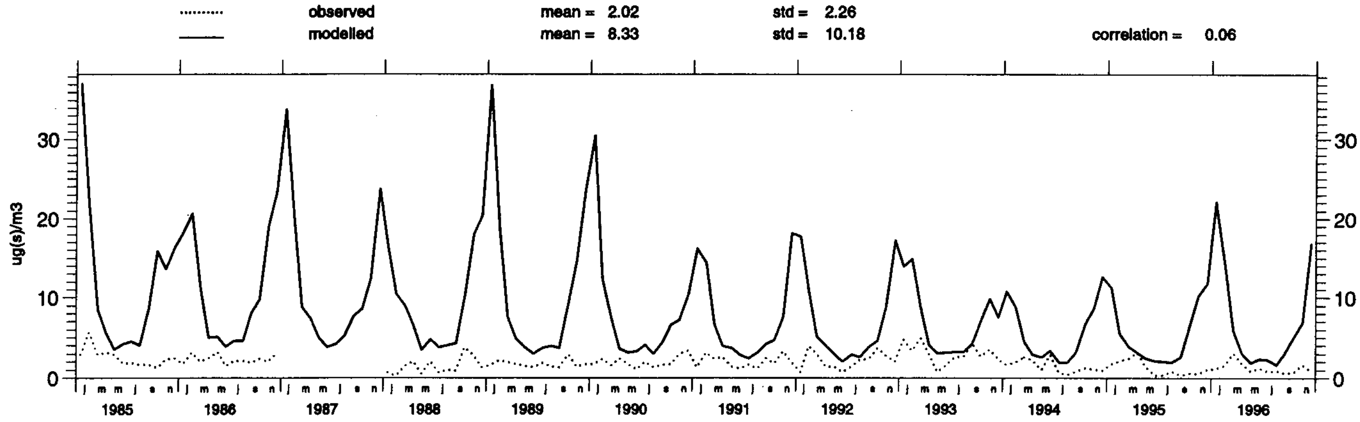
Pushkinsk_Gory (RU 14)

Concentration of sulphur dioxide in air



Chopok (SK 2)

Concentration of sulphur dioxide in air

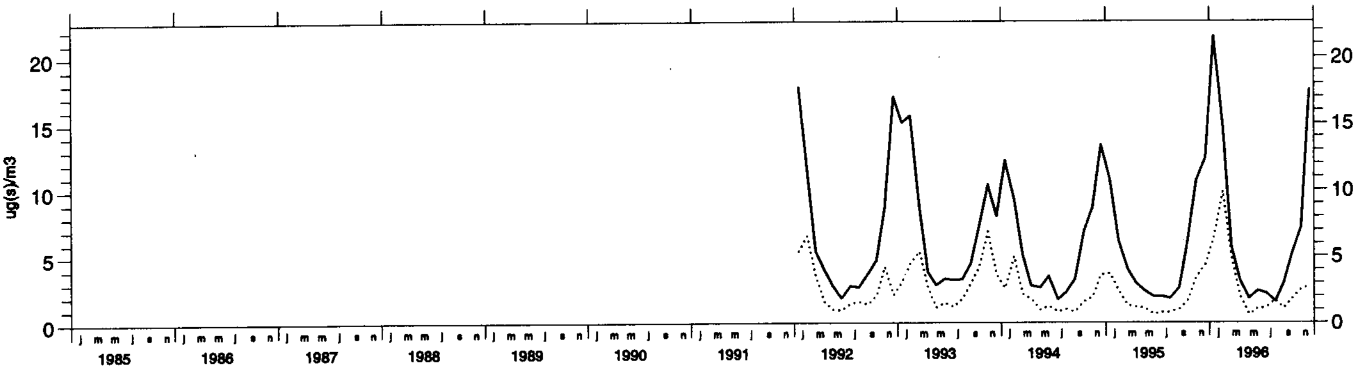


Stara Lesna (SK 4)

Concentration of sulphur dioxide in air

.... observed mean = 2.53 std = 2.50

—— modelled mean = 6.52 std = 7.63 correlation = 0.43

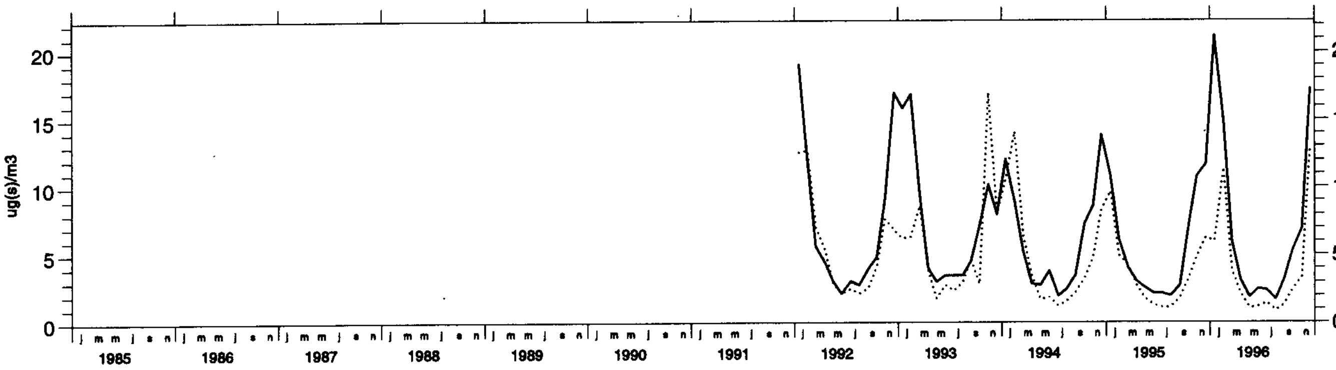


Liesek (SK 5)

Concentration of sulphur dioxide in air

.... observed mean = 4.75 std = 5.05

—— modelled mean = 6.70 std = 7.88 correlation = 0.45

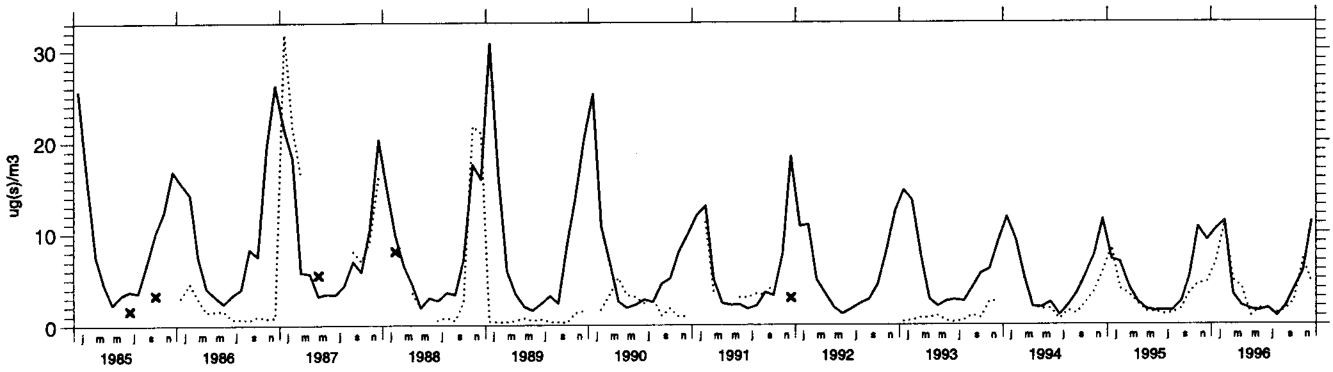


Starina (SK 6)

Concentration of sulphur dioxide in air

.... observed mean = 3.56 std = 5.83

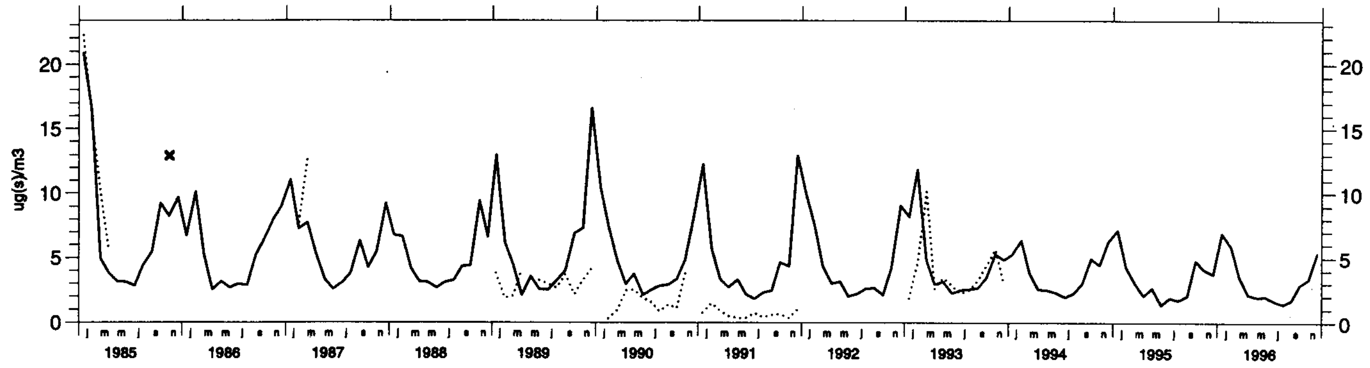
—— modelled mean = 6.91 std = 9.17 correlation = 0.27



Masun (SI 1)

Concentration of sulphur dioxide in air

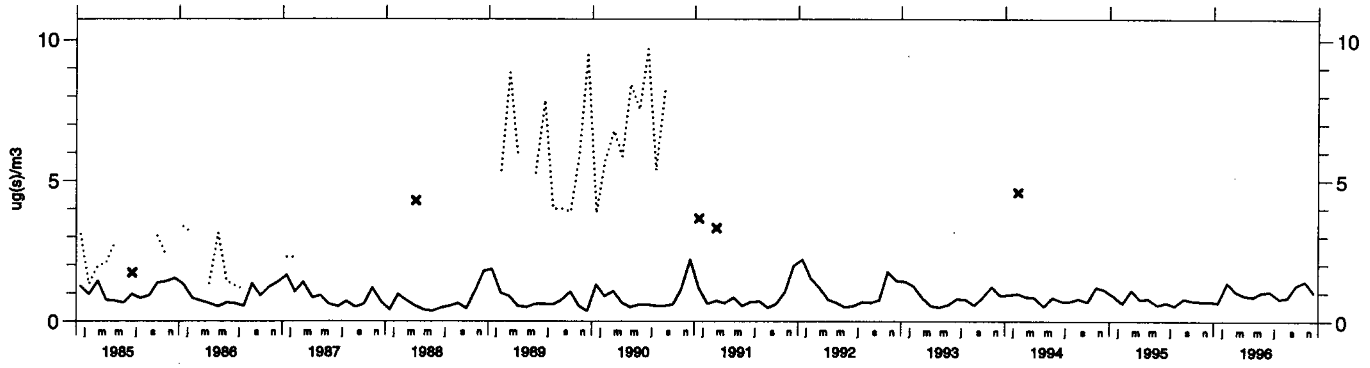
.... observed	mean = 4.32	std = 6.53		
——— modelled	mean = 5.96	std = 6.94	correlation =	0.31



Toledo (ES 1)

Concentration of sulphur dioxide in air

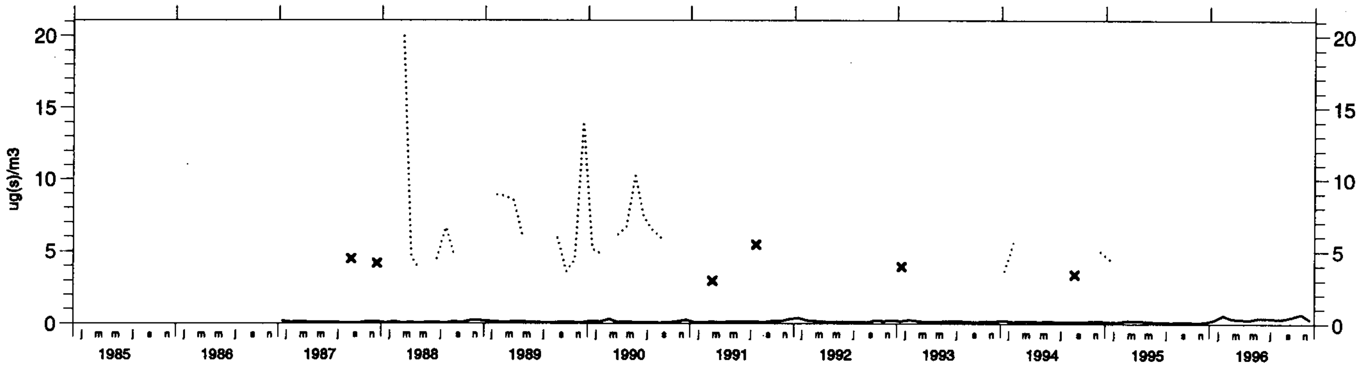
.... observed	mean = 3.68	std = 3.87		
——— modelled	mean = 0.90	std = 0.87	correlation =	–0.06



La_Cartuja (ES 2)

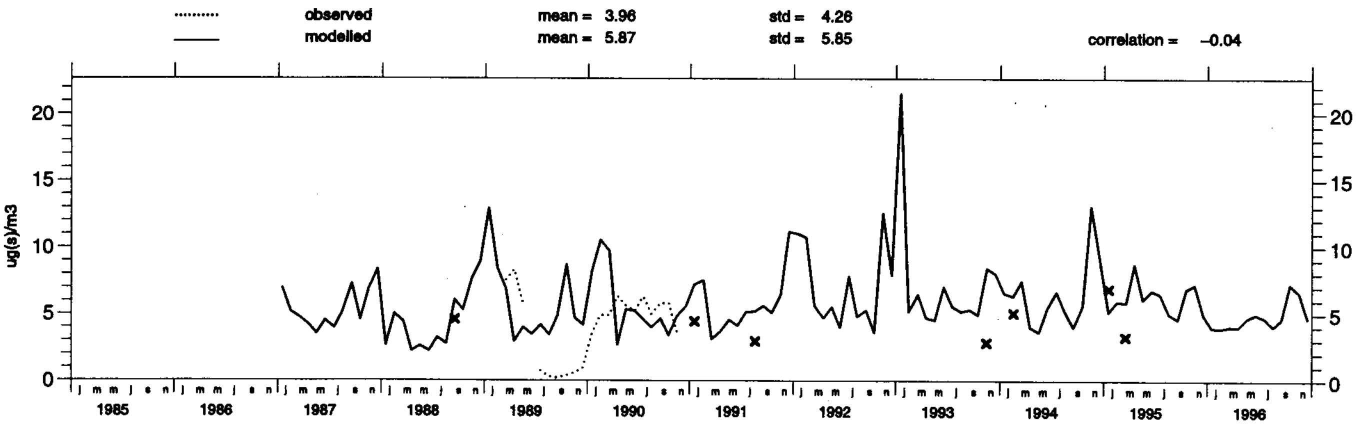
Concentration of sulphur dioxide in air

.... observed	mean = 5.28	std = 5.89		
——— modelled	mean = 0.13	std = 0.15	correlation =	–0.09



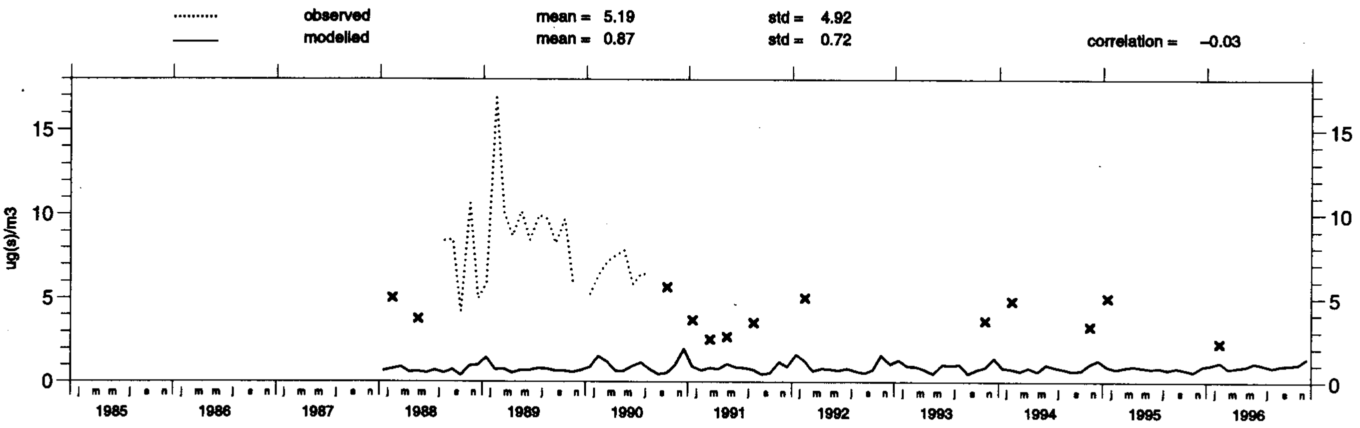
Roquetas (ES 3)

Concentration of sulphur dioxide in air



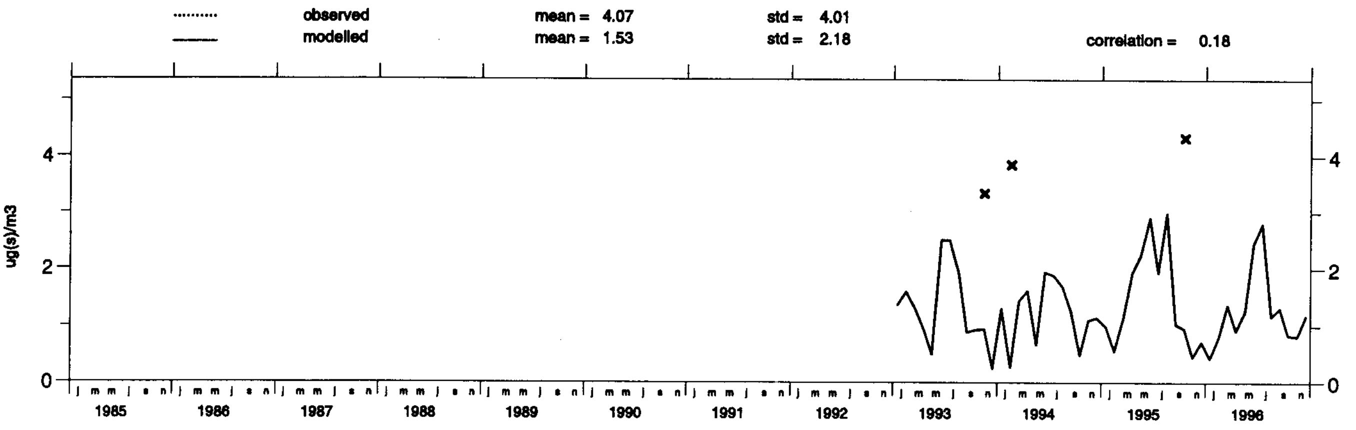
Logrono (ES 4)

Concentration of sulphur dioxide in air



Noio (ES 5)

Concentration of sulphur dioxide in air

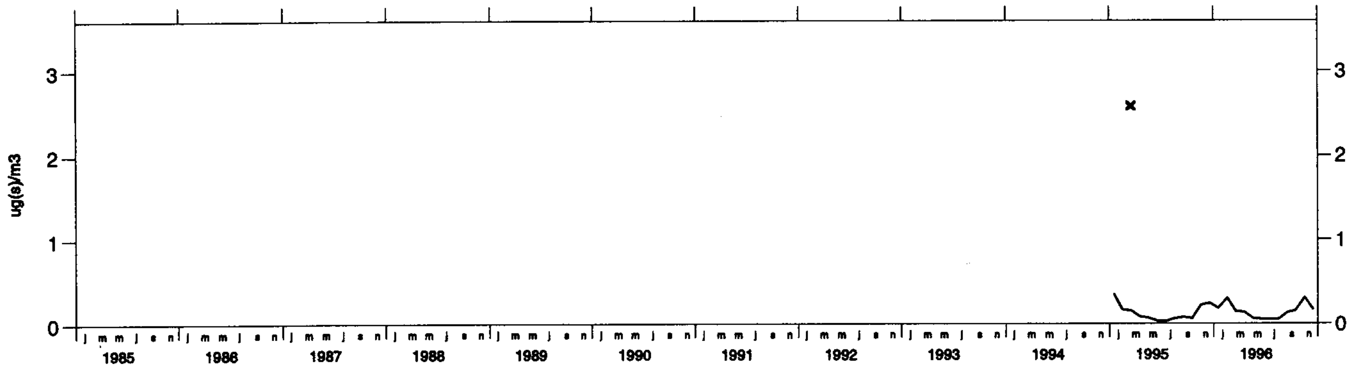


Mahon (ES 6)

Concentration of sulphur dioxide in air

.... observed mean = 3.48 std = 3.58

——— modelled mean = 0.13 std = 0.16 correlation = -0.16

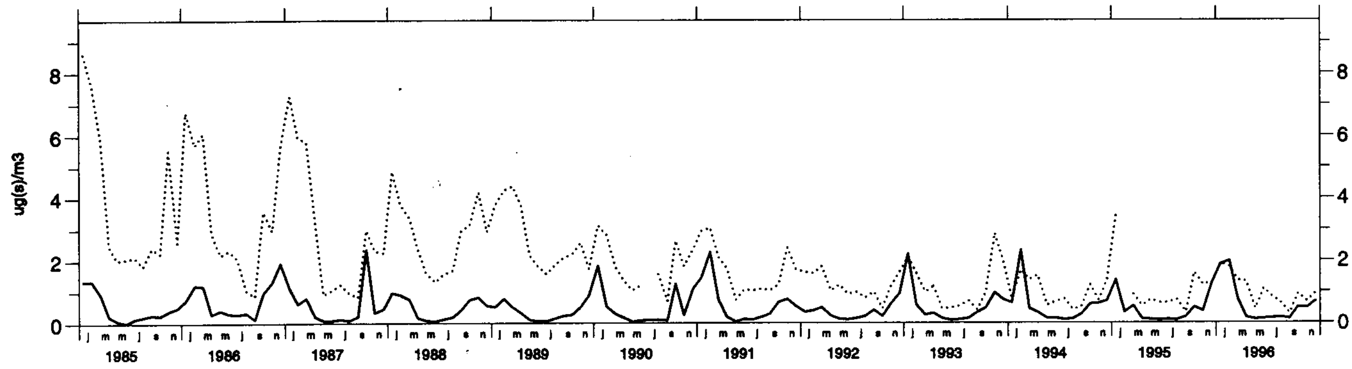


Roervik (SE 2)

Concentration of sulphur dioxide in air

.... observed mean = 2.06 std = 3.05

——— modelled mean = 0.52 std = 1.29 correlation = 0.38

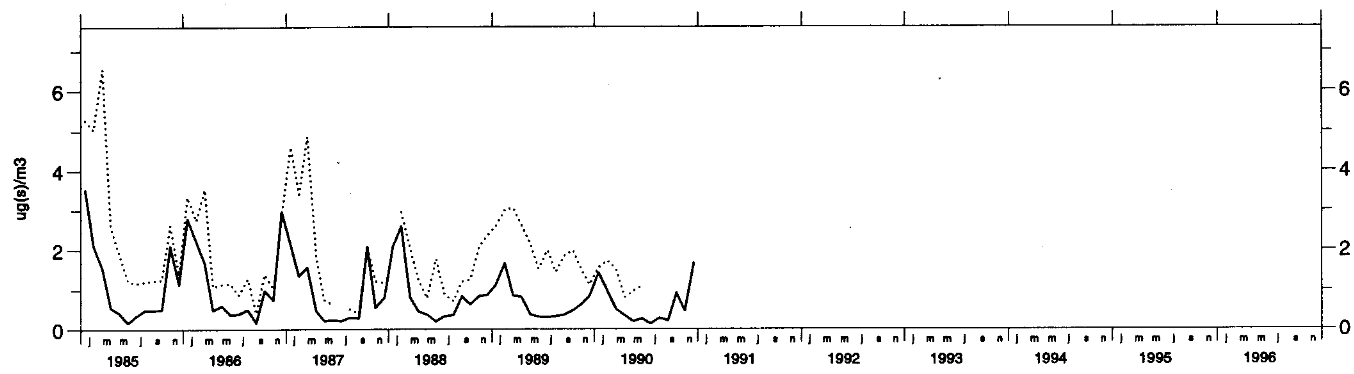


Velen (SE 3)

Concentration of sulphur dioxide in air

.... observed mean = 1.97 std = 2.56

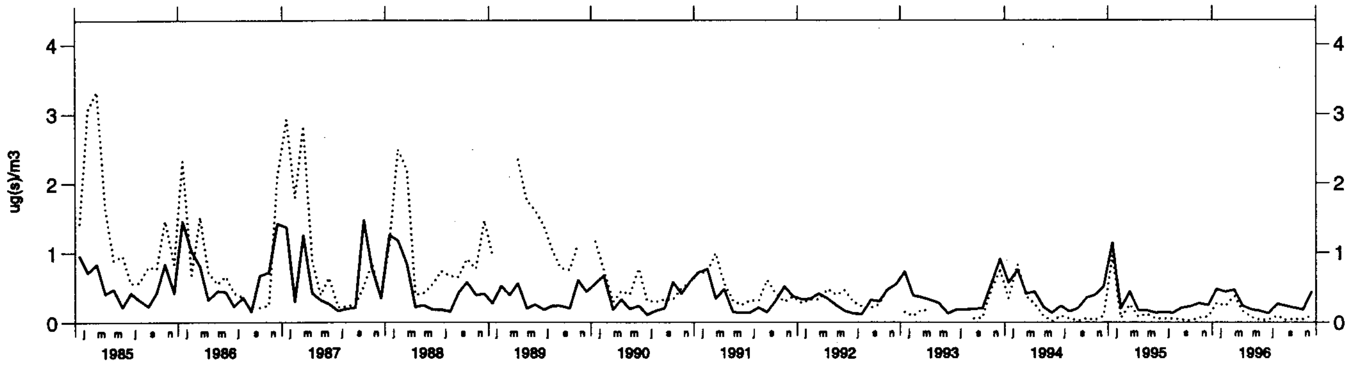
——— modelled mean = 0.91 std = 1.85 correlation = 0.48



Bredkelen (SE 5)

Concentration of sulphur dioxide in air

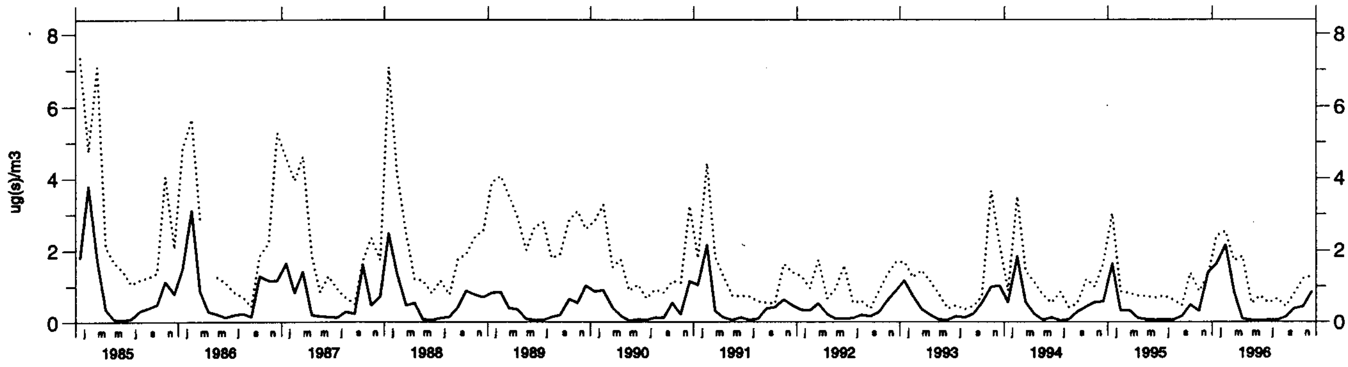
·········· observed	mean = 0.63	std = 1.10		
——— modelled	mean = 0.42	std = 0.76	correlation =	0.34



Hoburg (SE 8)

Concentration of sulphur dioxide in air

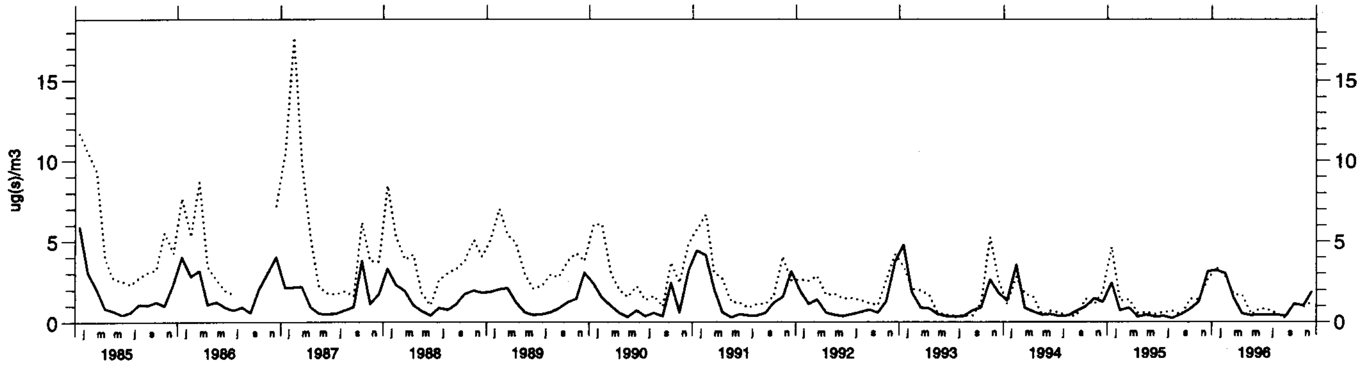
·········· observed	mean = 1.76	std = 2.55		
——— modelled	mean = 0.55	std = 1.25	correlation =	0.53



Vavihill (SE 11)

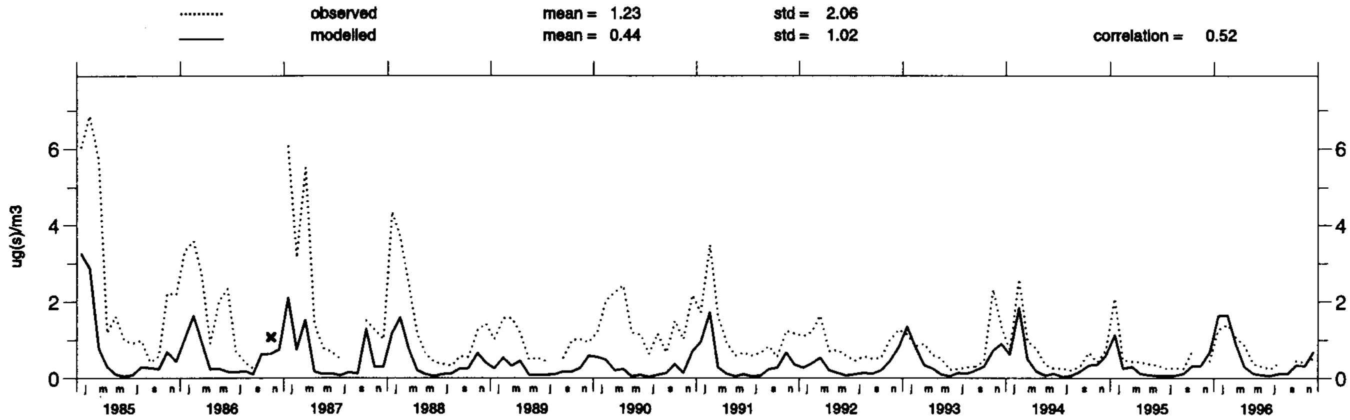
Concentration of sulphur dioxide in air

·········· observed	mean = 2.98	std = 5.38		
——— modelled	mean = 1.35	std = 2.64	correlation =	0.47



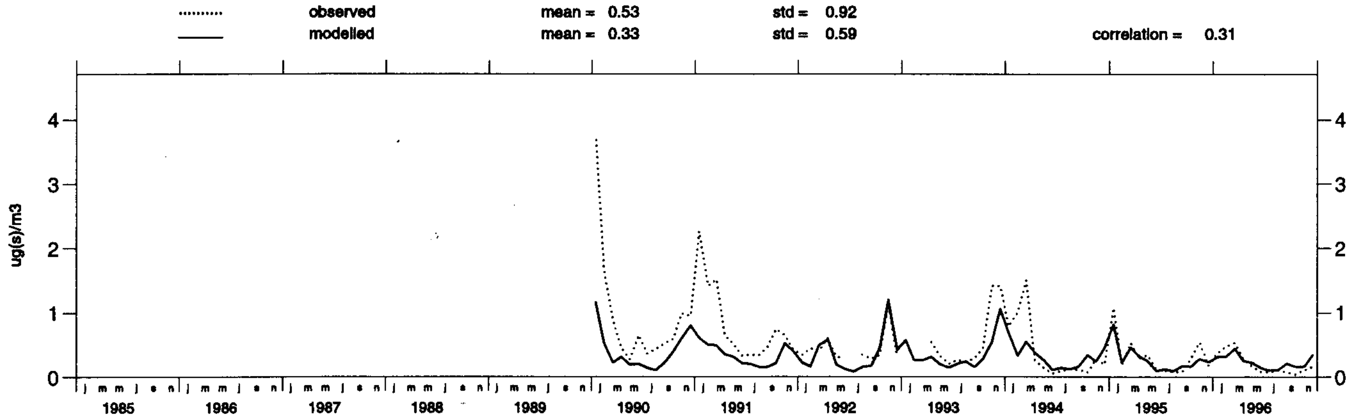
Aspvreten (SE 12)

Concentration of sulphur dioxide in air



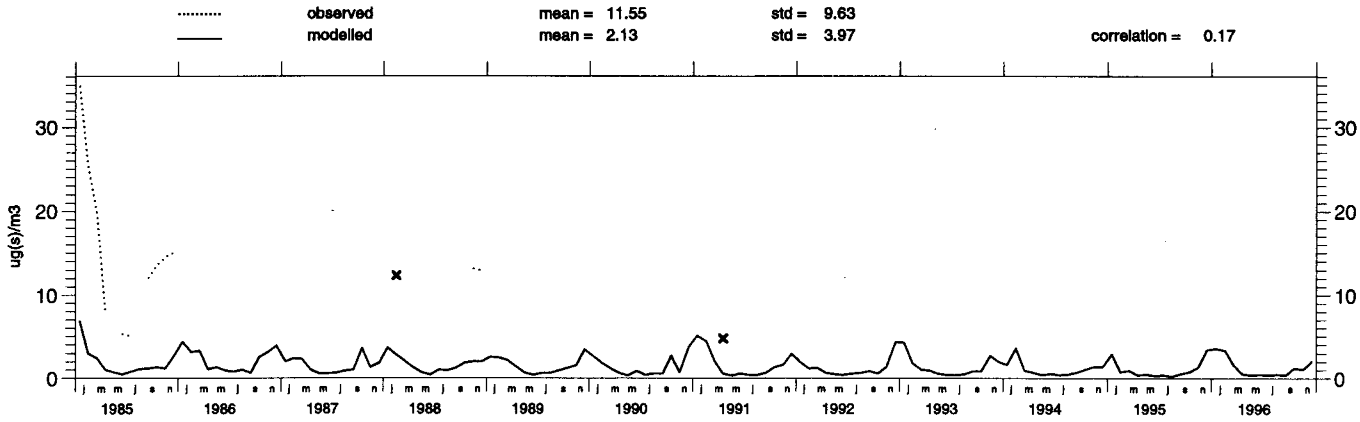
Esrange (SE 13)

Concentration of sulphur dioxide in air



Arup (SE 50)

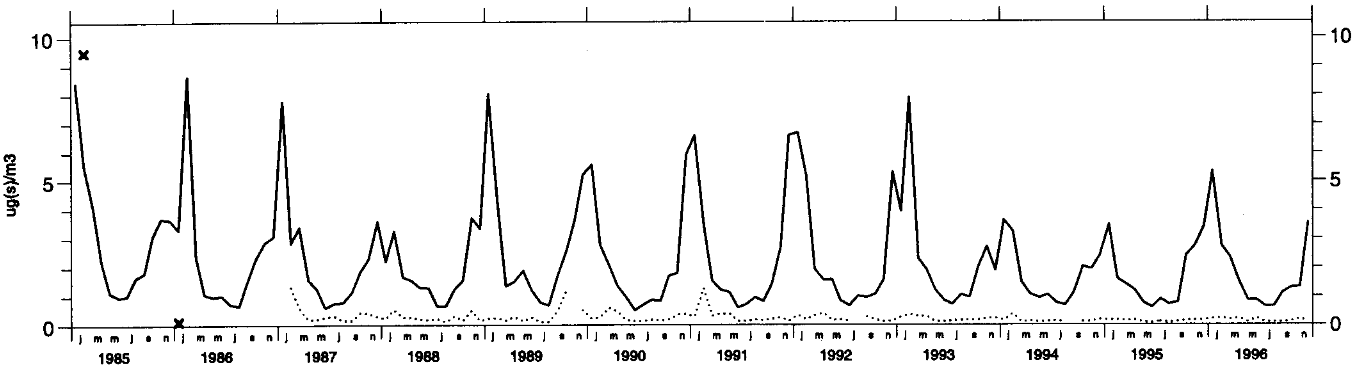
Concentration of sulphur dioxide in air



Jungfraujoch (CH 1)

Concentration of sulphur dioxide in air

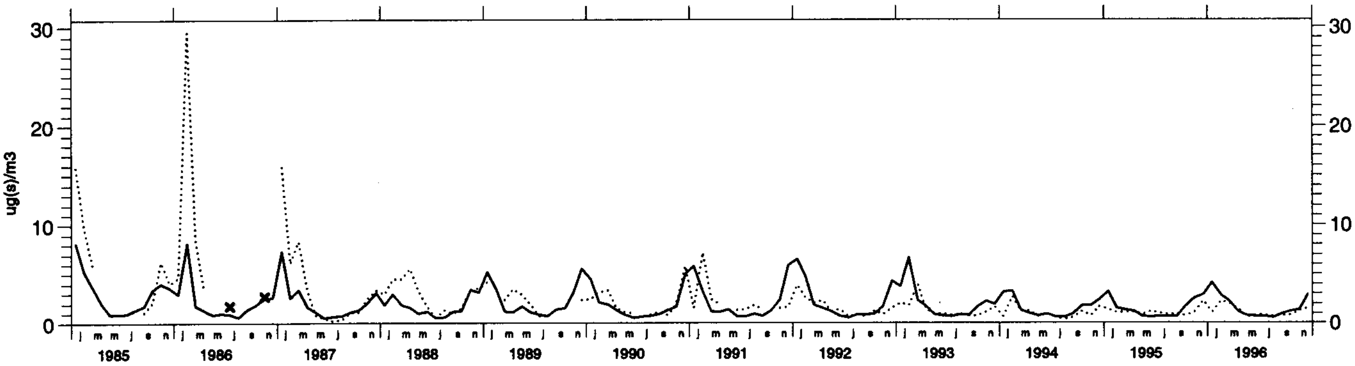
.... observed	mean = 0.34	std = 1.15	
——— modelled	mean = 2.19	std = 3.08	correlation = 0.14



Payerne (CH 2)

Concentration of sulphur dioxide in air

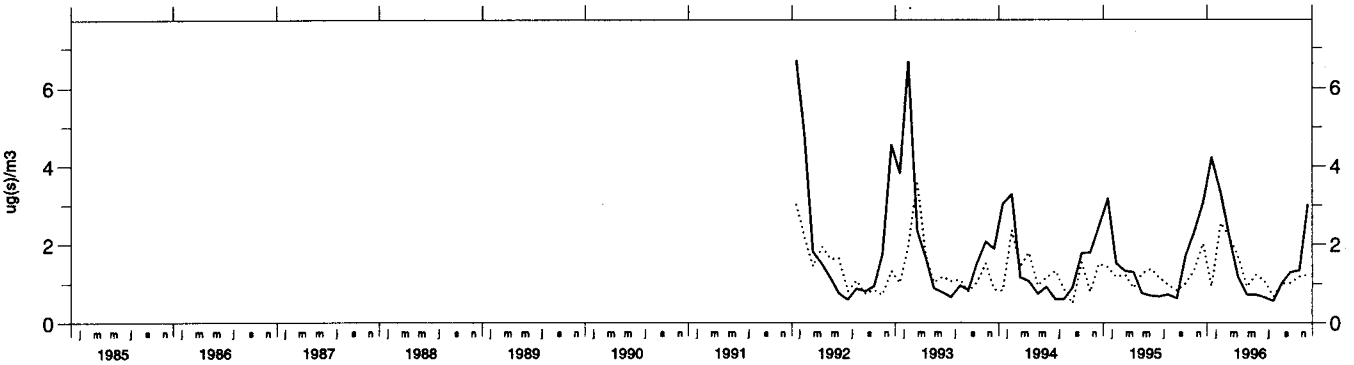
.... observed	mean = 2.43	std = 4.70	
——— modelled	mean = 2.06	std = 2.81	correlation = 0.40



Chaumont (CH 4)

Concentration of sulphur dioxide in air

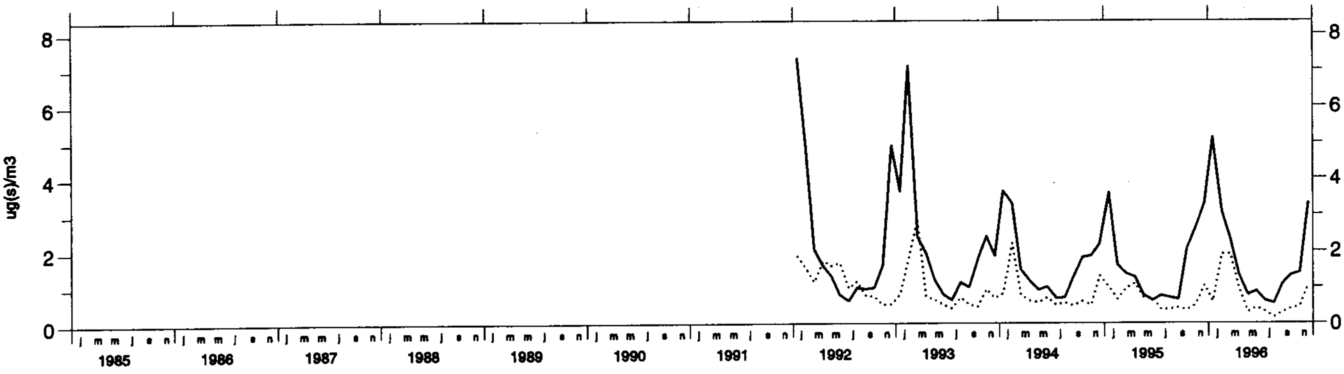
.... observed	mean = 1.33	std = 1.34	
——— modelled	mean = 1.78	std = 2.32	correlation = 0.31



Rigi (CH 5)

Concentration of sulphur dioxide in air

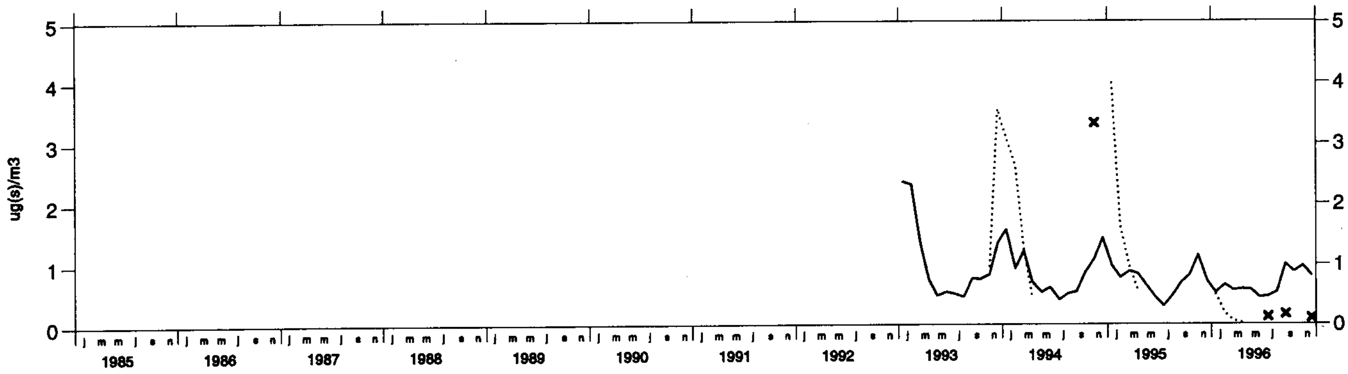
....	observed	mean = 0.87	std = 1.07	
———	modelled	mean = 1.93	std = 2.59	correlation = 0.27



Cubuk11 (TR 1)

Concentration of sulphur dioxide in air

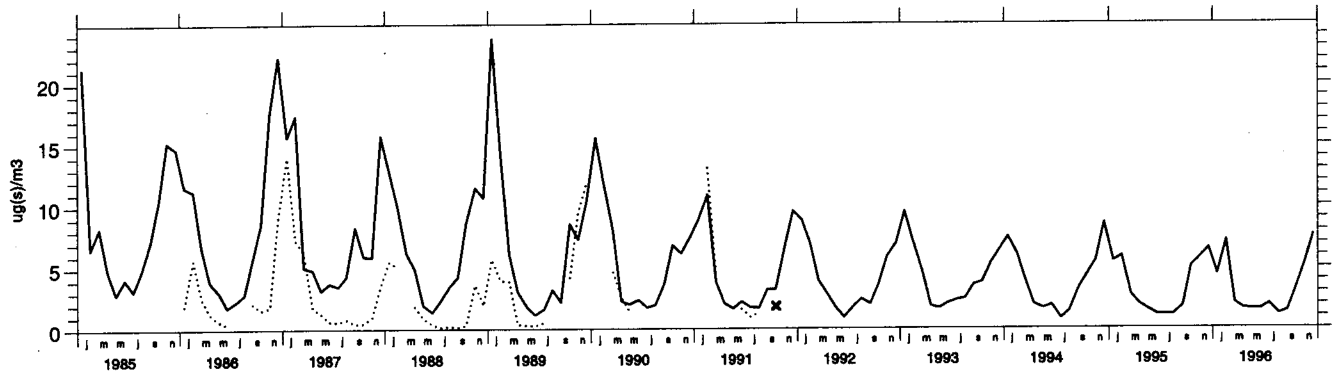
....	observed	mean = 1.14	std = 2.13	
———	modelled	mean = 0.87	std = 0.79	correlation = 0.30



Svityatz (UA 5)

Concentration of sulphur dioxide in air

....	observed	mean = 3.02	std = 4.81	
———	modelled	mean = 6.96	std = 10.72	correlation = 0.41

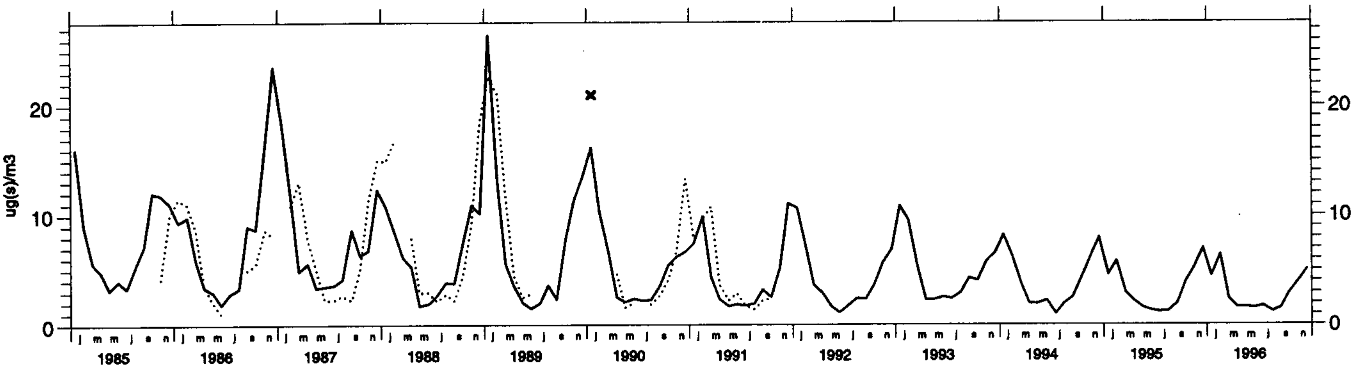


Rava-Russkaya (UA 6)

Concentration of sulphur dioxide in air

.... observed mean = 6.97 std = 7.70

——— modelled mean = 6.60 std = 8.76 correlation = 0.39

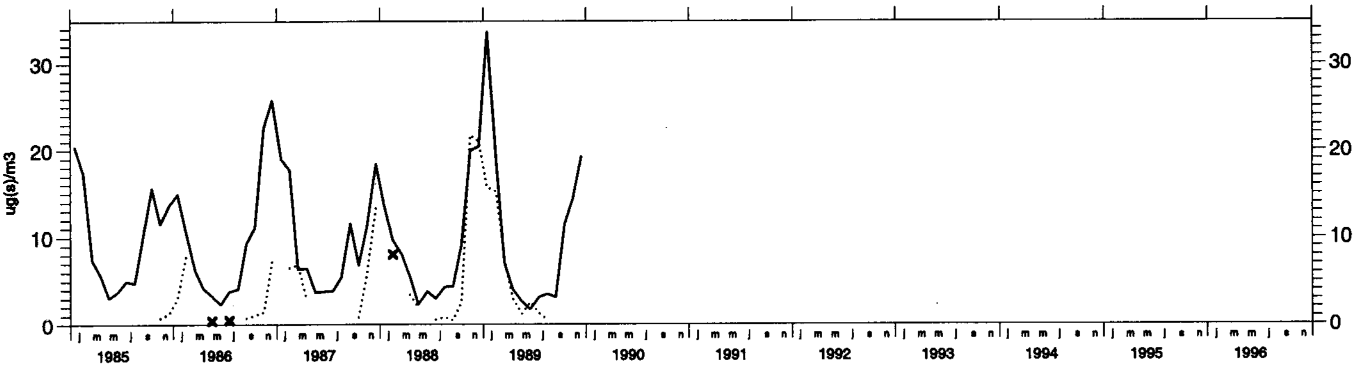


Beregovo (UA 7)

Concentration of sulphur dioxide in air

.... observed mean = 4.86 std = 6.99

——— modelled mean = 10.31 std = 12.35 correlation = 0.36

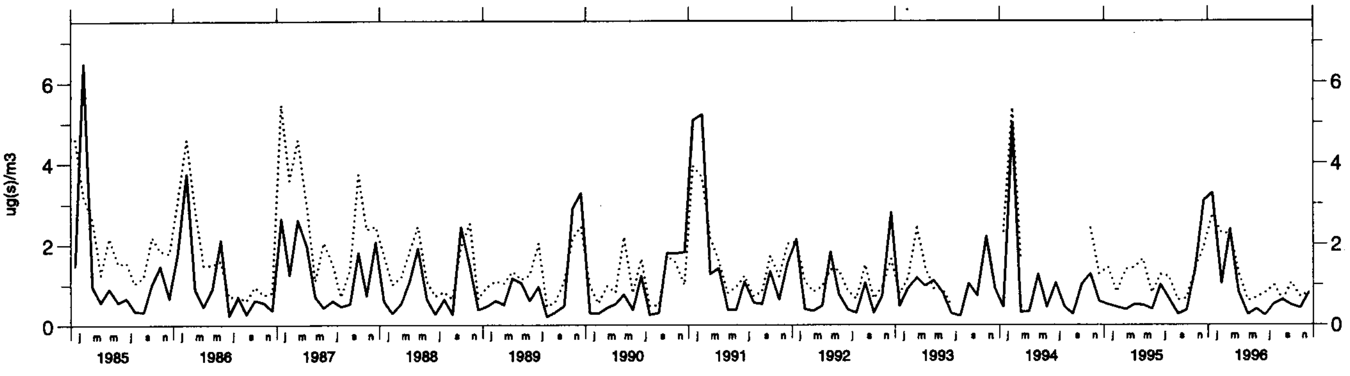


Eskdalemuir (GB 2)

Concentration of sulphur dioxide in air

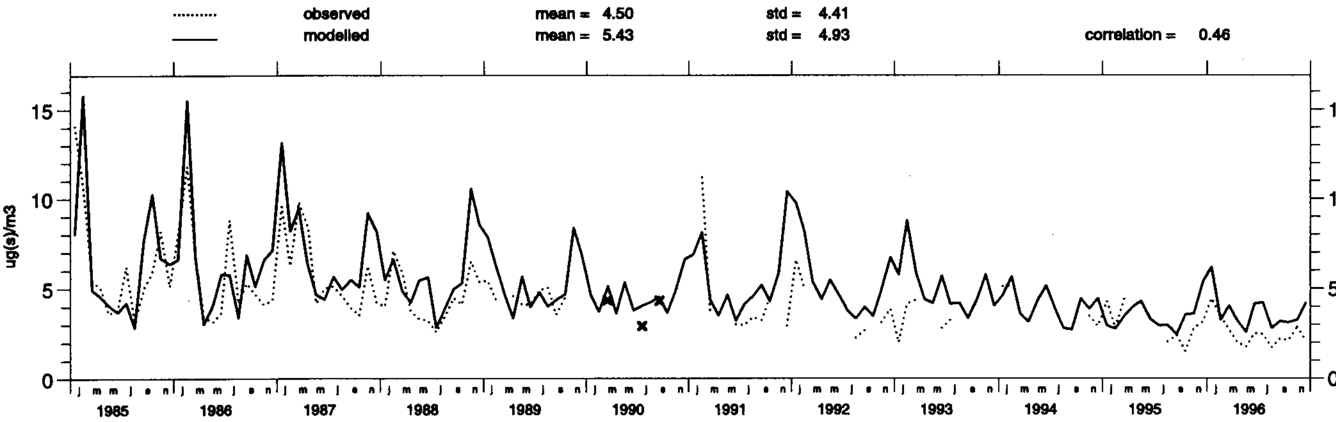
.... observed mean = 1.57 std = 2.46

——— modelled mean = 1.06 std = 2.61 correlation = 0.52



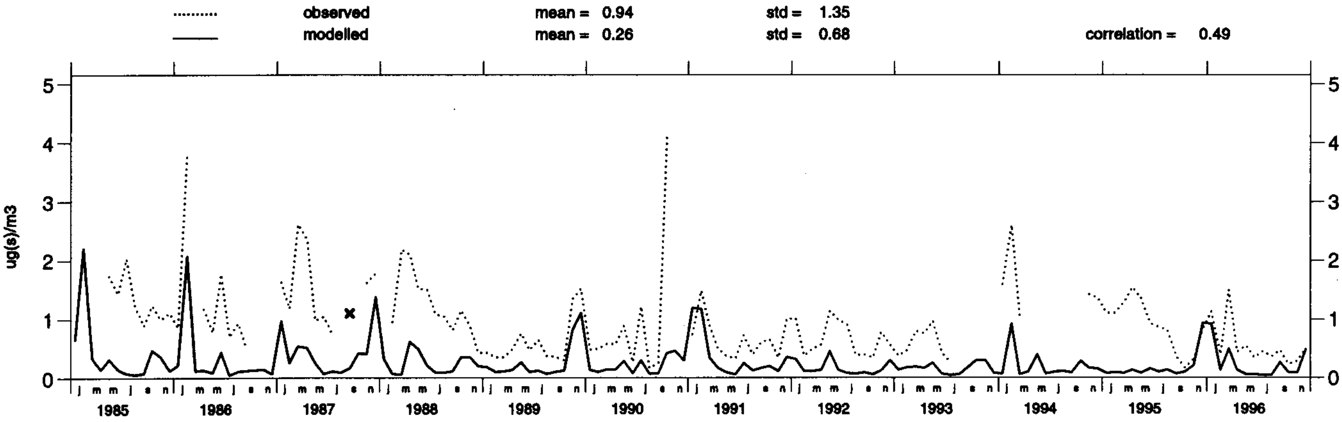
Stoke_Ferry (GB 4)

Concentration of sulphur dioxide in air



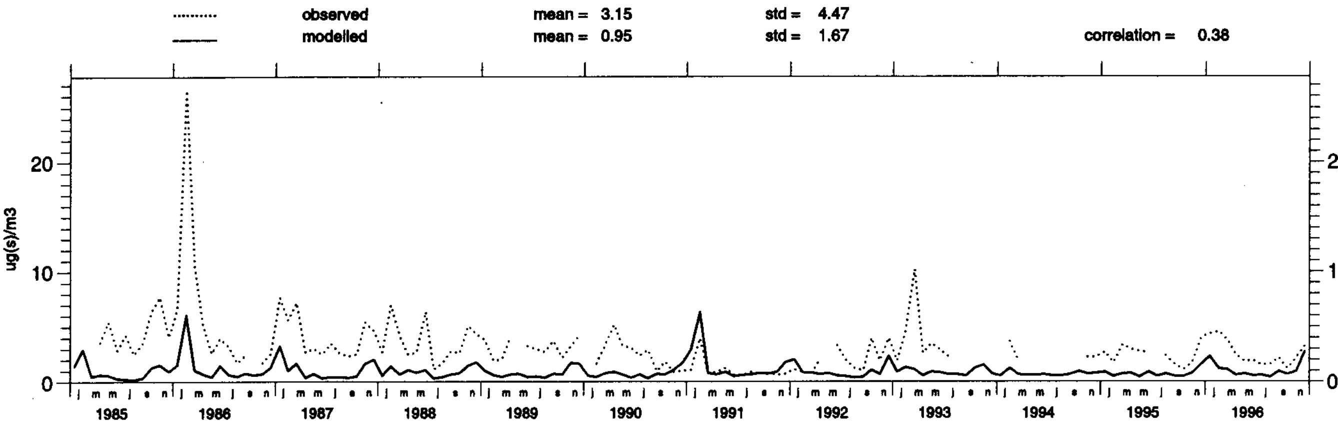
Lough_Navar (GB 6)

Concentration of sulphur dioxide in air

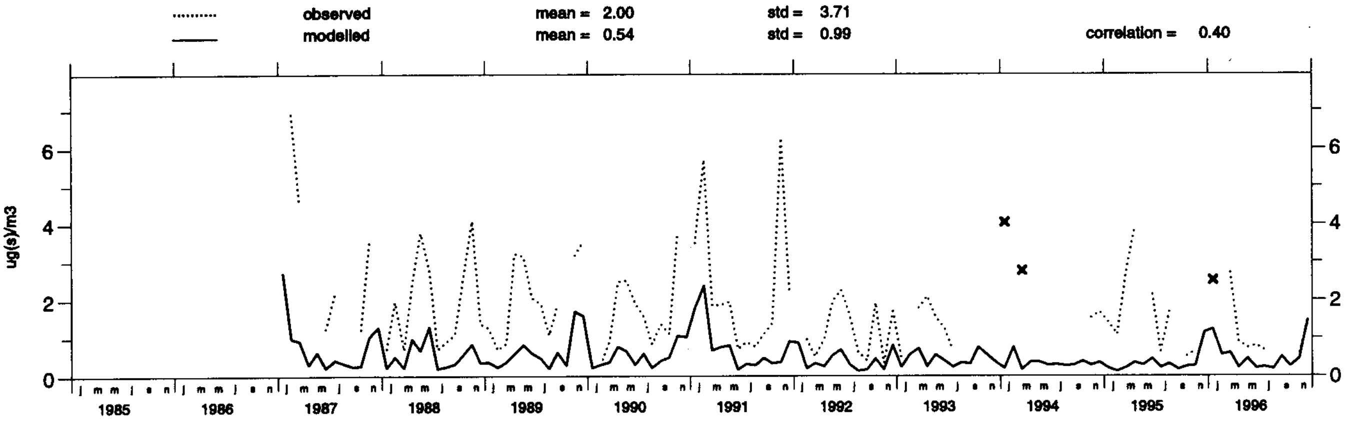


Barcombe_Mills (GB 7)

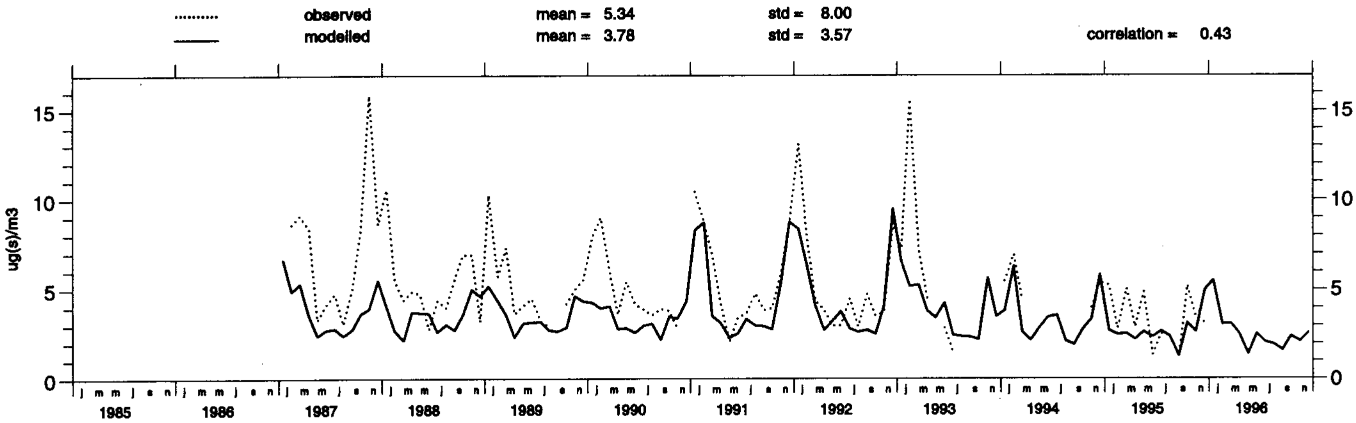
Concentration of sulphur dioxide in air



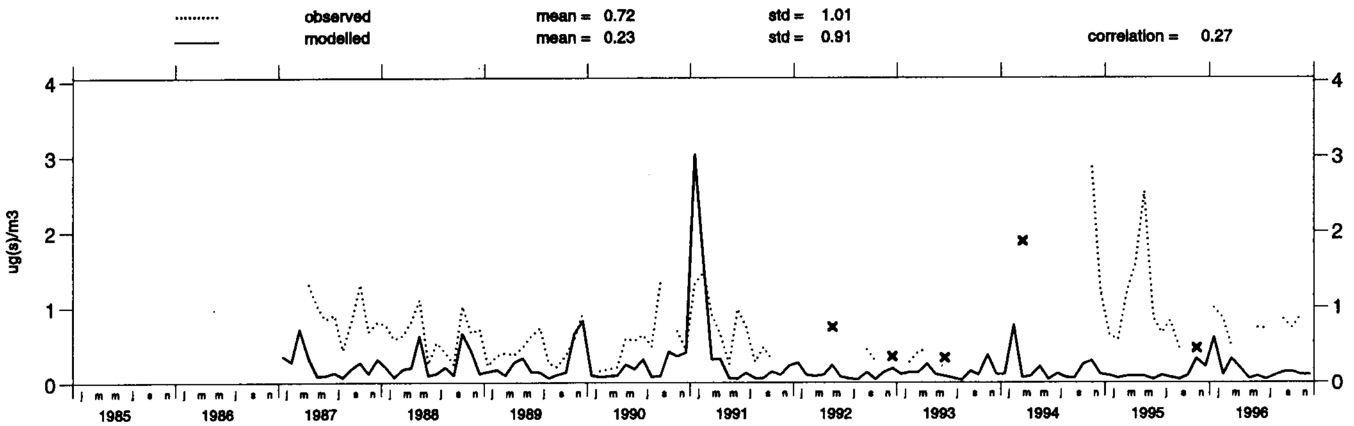
Yarner_Wood (GB 13)
Concentration of sulphur dioxide in air



High_Muffles (GB 14)
Concentration of sulphur dioxide in air

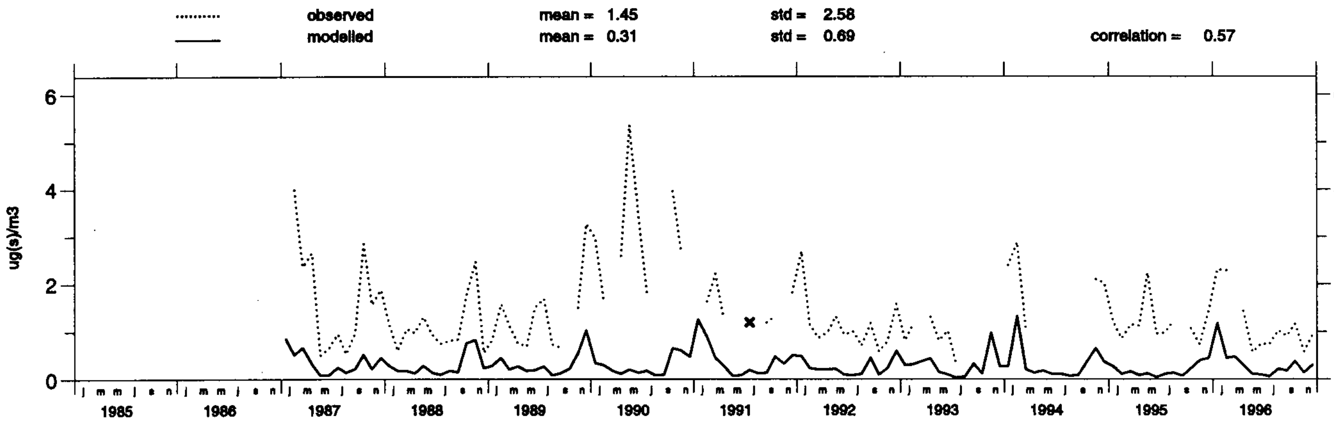


Strath_Vaich_D. (GB 15)
Concentration of sulphur dioxide in air



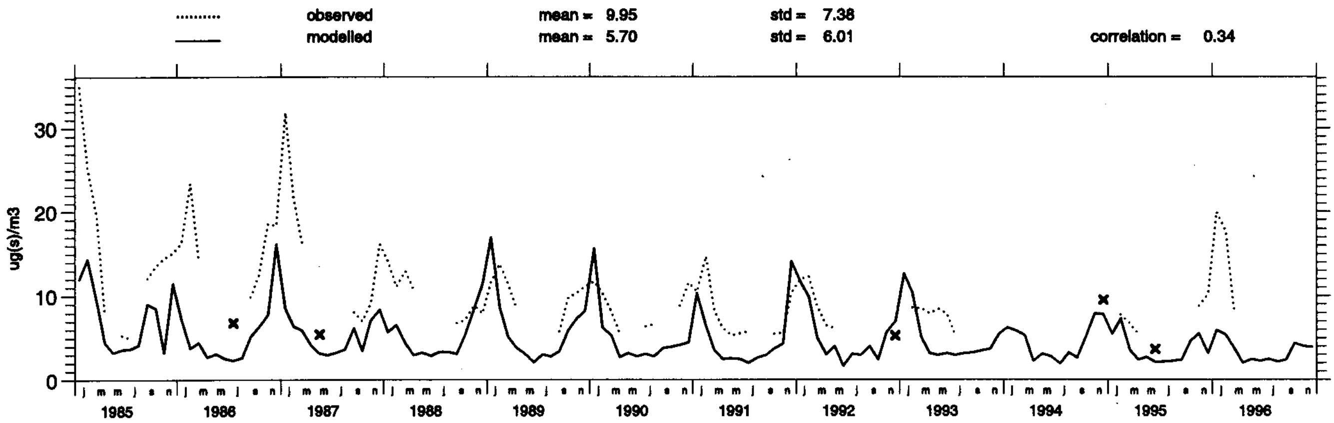
Glen_Dye (GB 16)

Concentration of sulphur dioxide in air



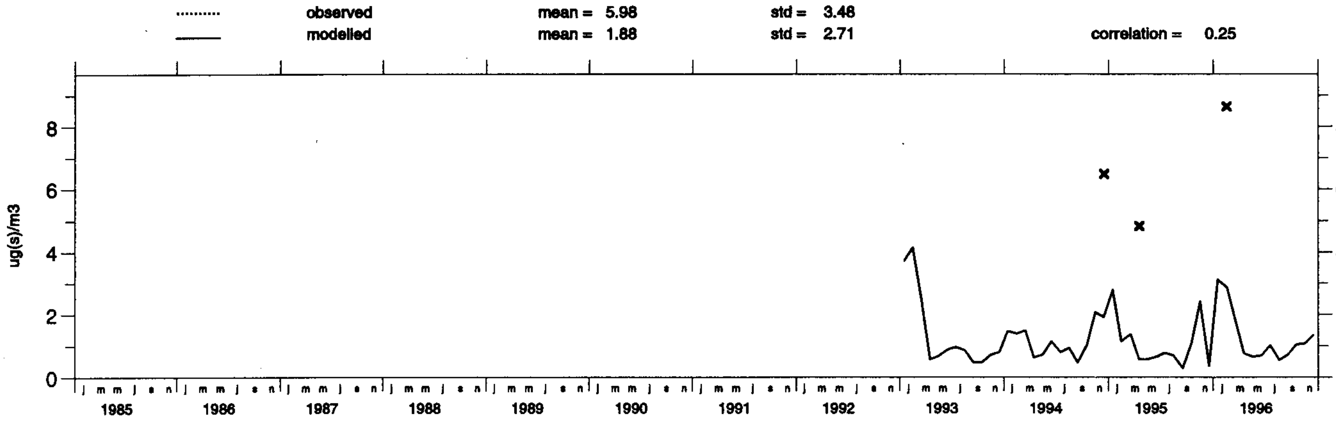
Kamenicki_vis (YU 5)

Concentration of sulphur dioxide in air



Zabljak (YU 8)

Concentration of sulphur dioxide in air

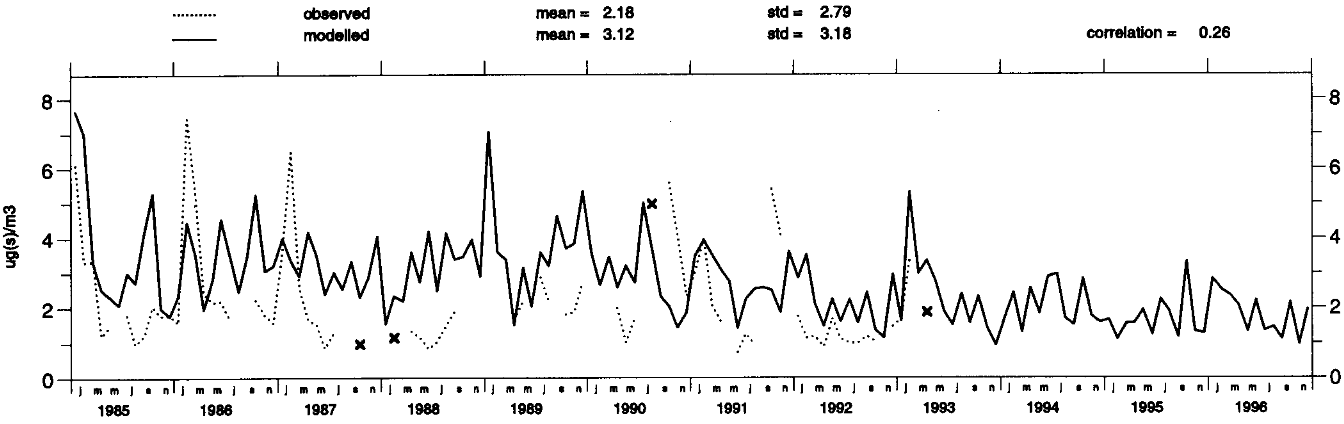


Time series for concentration of Particulate Sulphate in air

Period: 1985-96

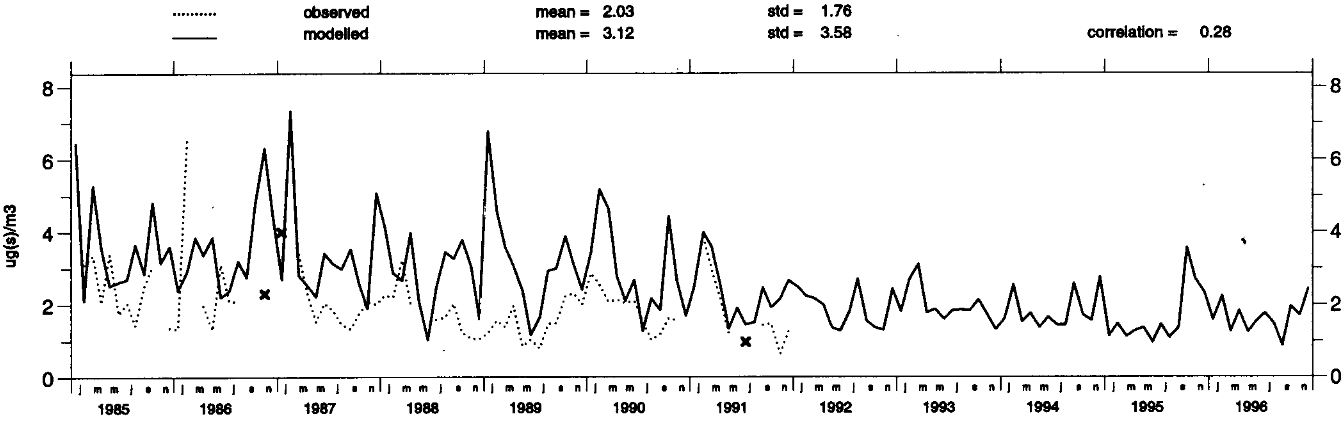
Illmitz (AT 2)

Concentration of particulate sulphate in air



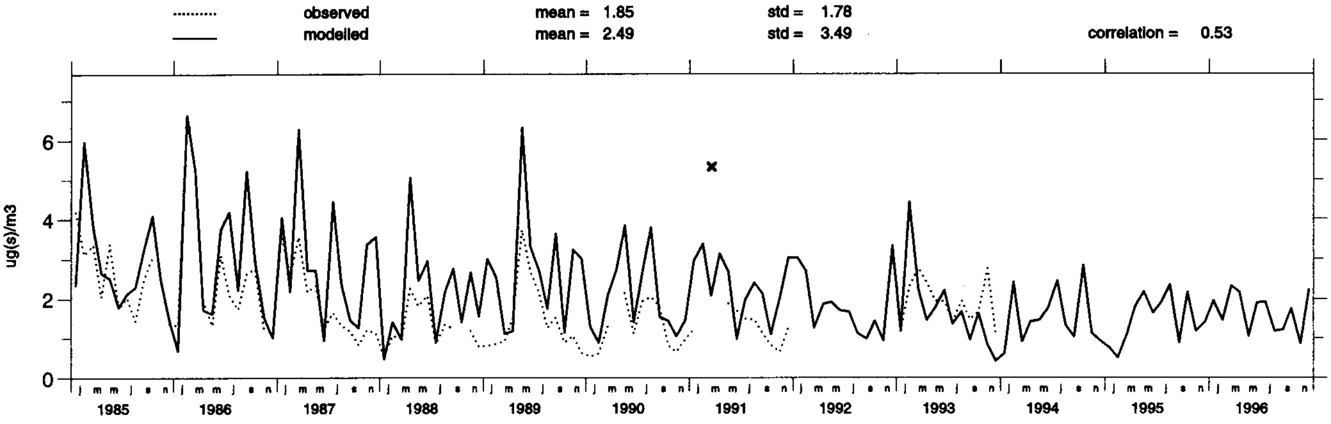
Vysokoe (BY 4)

Concentration of particulate sulphate in air



Offagne (BE 1)

Concentration of particulate sulphate in air

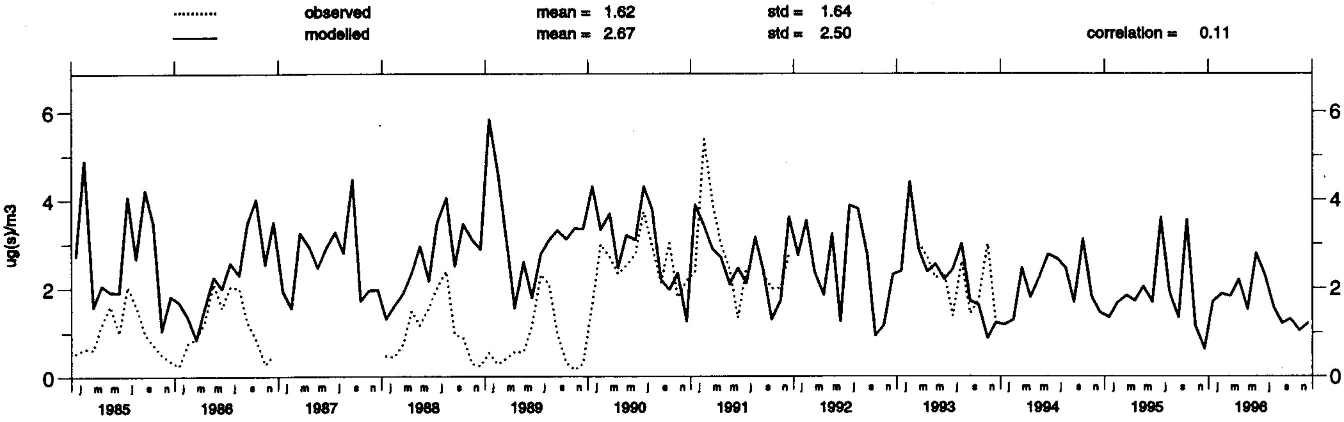


Ivan_Sedlo (BA 6)

Concentration of particulate sulphate in air

observed mean = 1.62 std = 1.64

modelled mean = 2.67 std = 2.50 correlation = 0.11

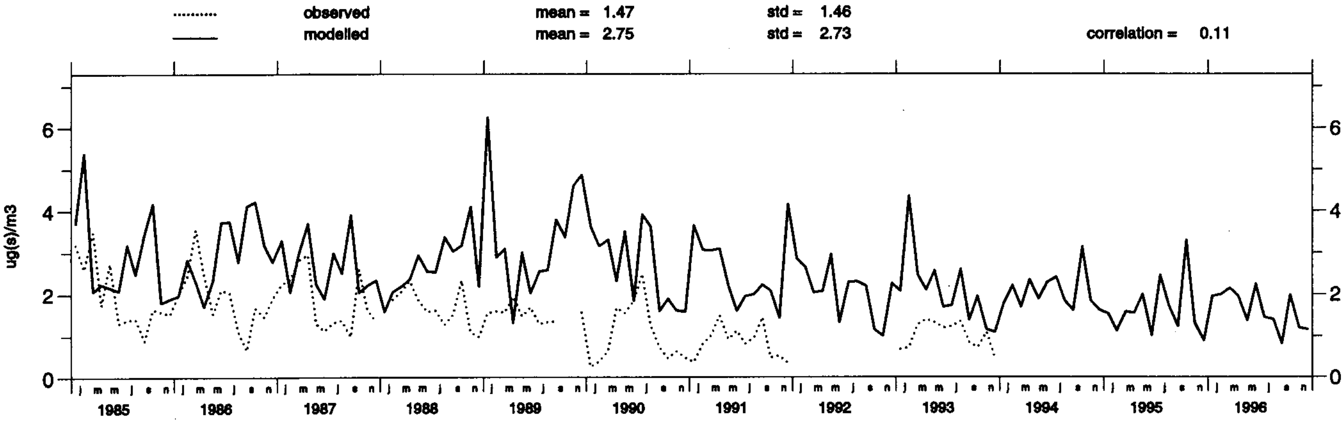


Puntijarka (HR 2)

Concentration of particulate sulphate in air

observed mean = 1.47 std = 1.46

modelled mean = 2.75 std = 2.73 correlation = 0.11

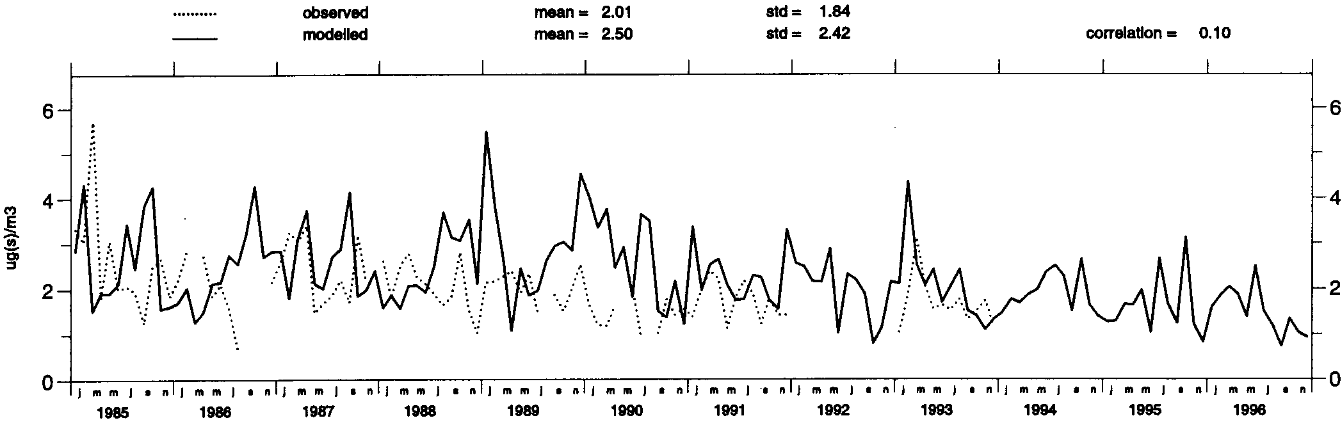


Zavizan (HR 4)

Concentration of particulate sulphate in air

observed mean = 2.01 std = 1.84

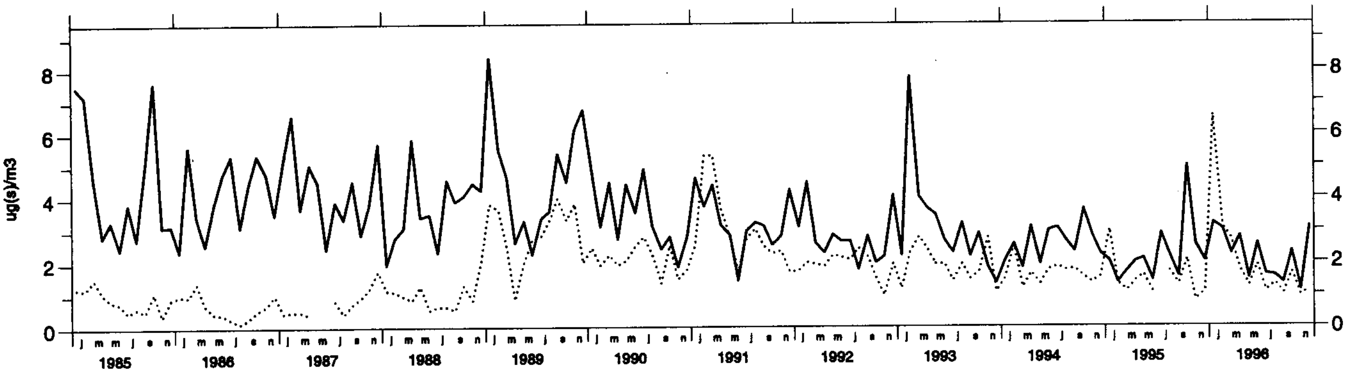
modelled mean = 2.50 std = 2.42 correlation = 0.10



Svratouch (CS 1)

Concentration of particulate sulphate in air

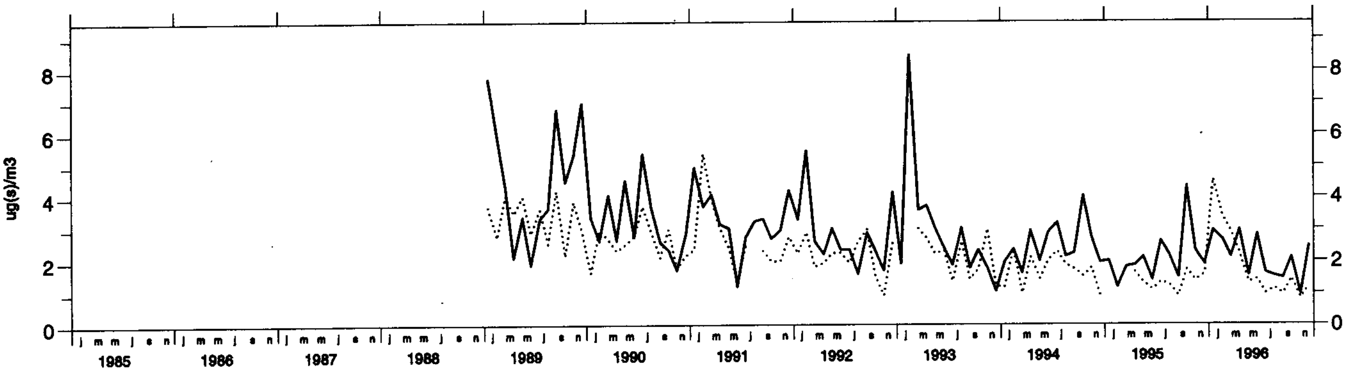
....	observed	mean = 1.71	std = 1.75	
———	modelled	mean = 3.41	std = 3.89	correlation = 0.21



Kosetice (CS 3)

Concentration of particulate sulphate in air

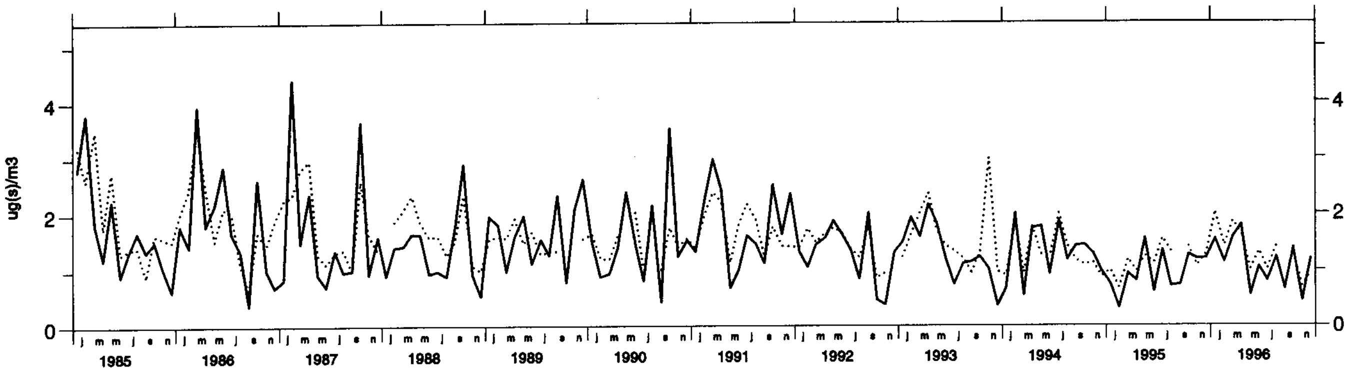
....	observed	mean = 2.26	std = 1.94	
———	modelled	mean = 2.95	std = 3.47	correlation = 0.40



Tange (DK 3)

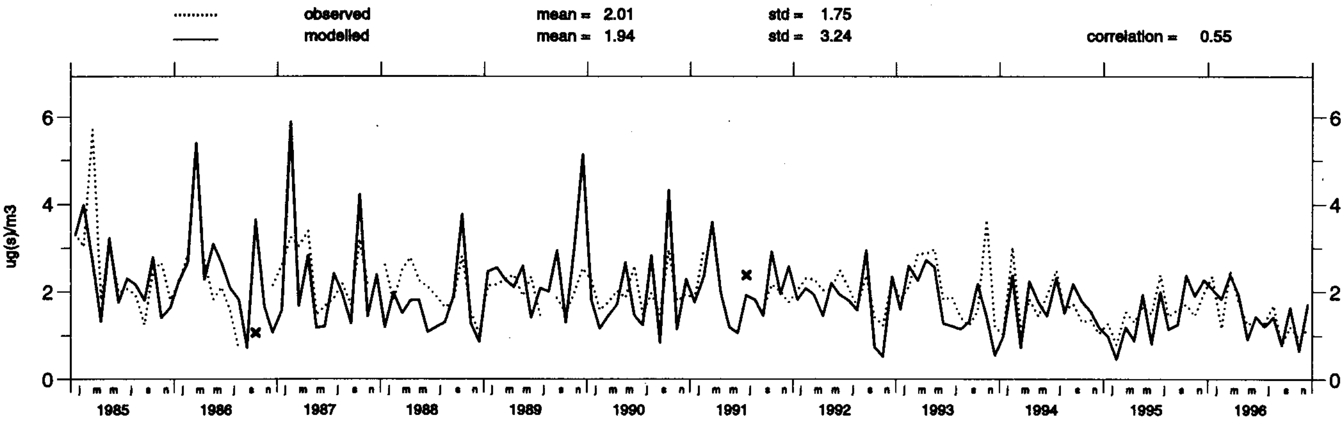
Concentration of particulate sulphate in air

....	observed	mean = 1.59	std = 1.40	
———	modelled	mean = 1.47	std = 2.74	correlation = 0.53



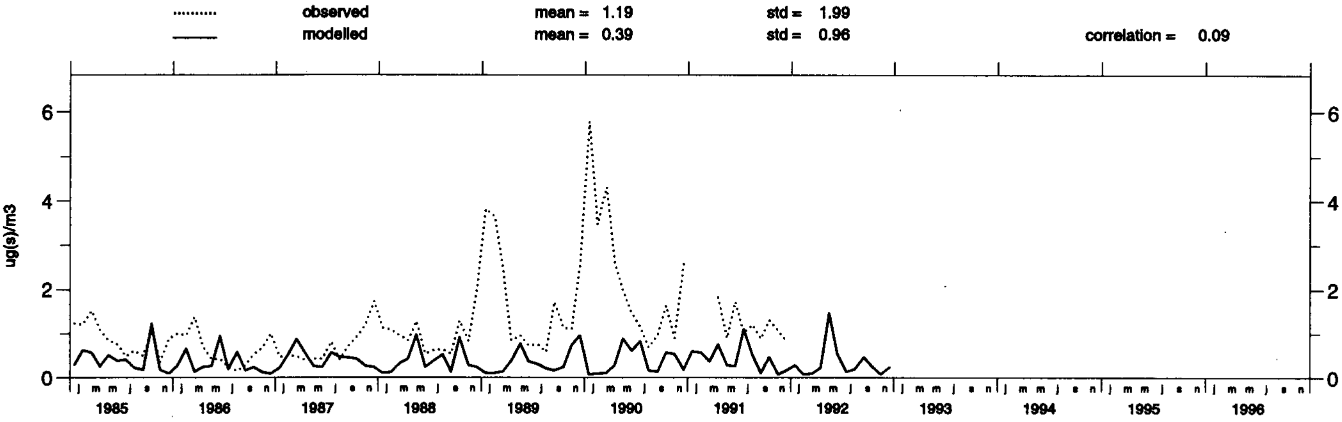
Keldsnor (DK 5)

Concentration of particulate sulphate in air



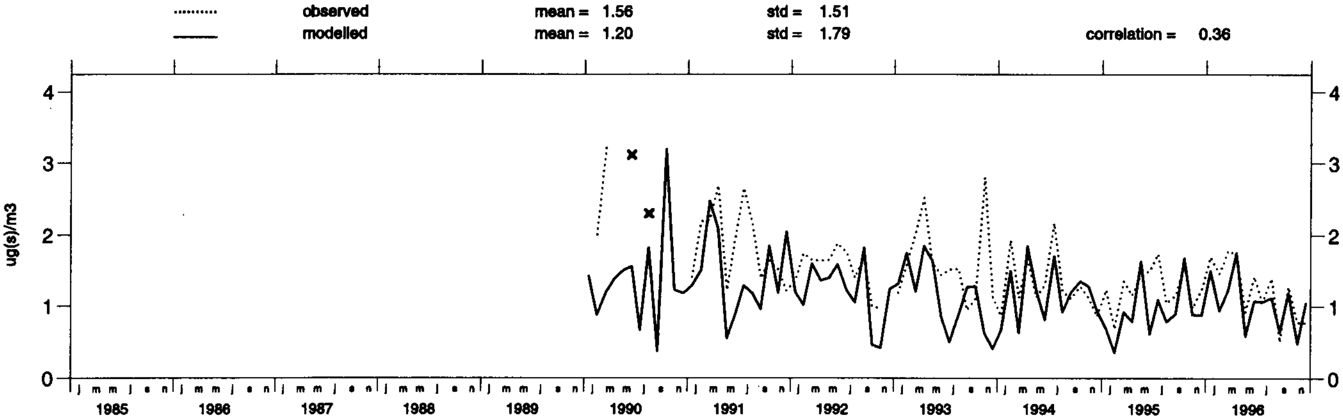
Faer.–Akraberg (DK 7)

Concentration of particulate sulphate in air



Anholt (DK 8)

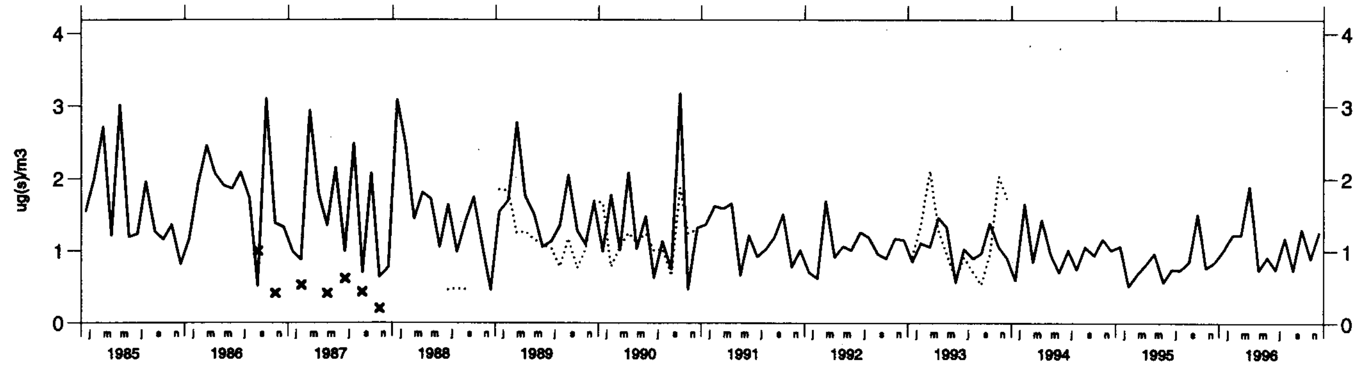
Concentration of particulate sulphate in air



Syrve (EE 2)

Concentration of particulate sulphate in air

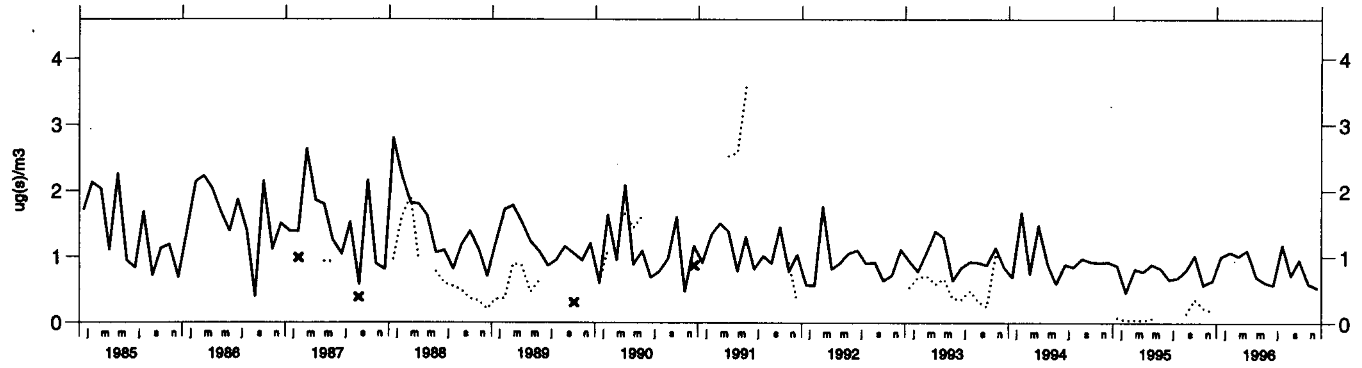
··········	observed	mean = 1.05	std = 1.24	
——	modelled	mean = 1.37	std = 1.88	correlation = 0.17



Lahemaa (EE 9)

Concentration of particulate sulphate in air

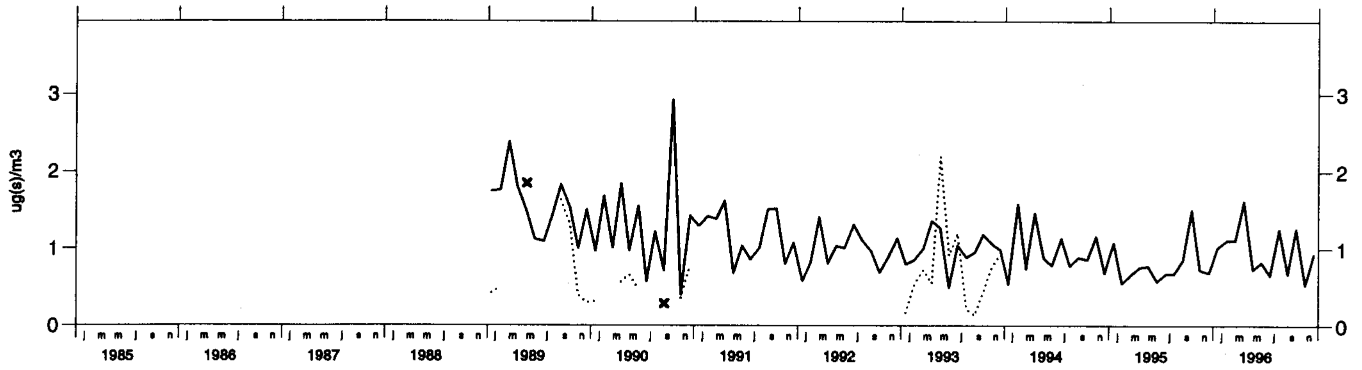
··········	observed	mean = 0.87	std = 1.21	
——	modelled	mean = 1.19	std = 1.49	correlation = 0.15



Vilsandy (EE 11)

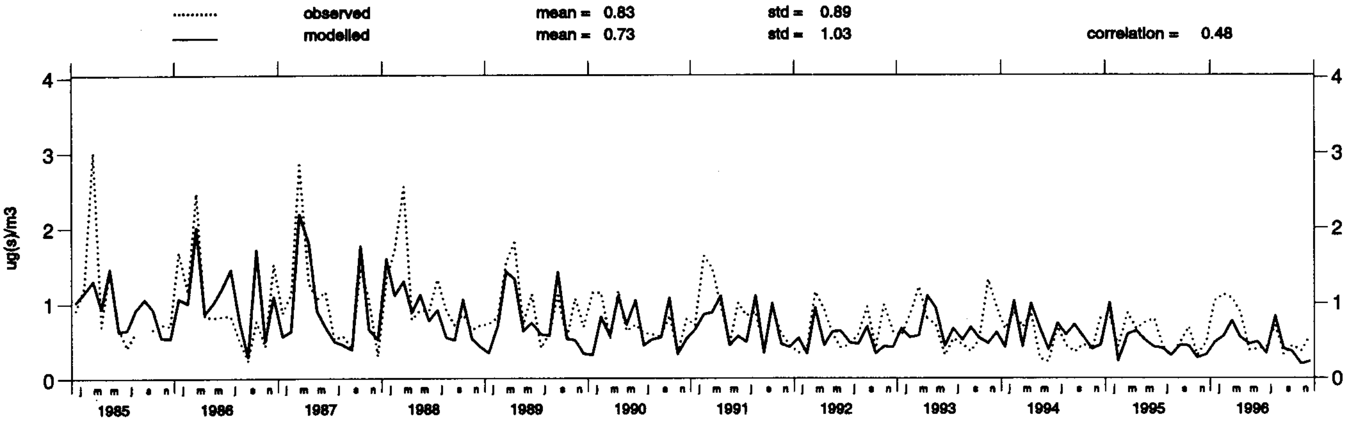
Concentration of particulate sulphate in air

··········	observed	mean = 0.71	std = 1.39	
——	modelled	mean = 1.26	std = 1.94	correlation = 0.05



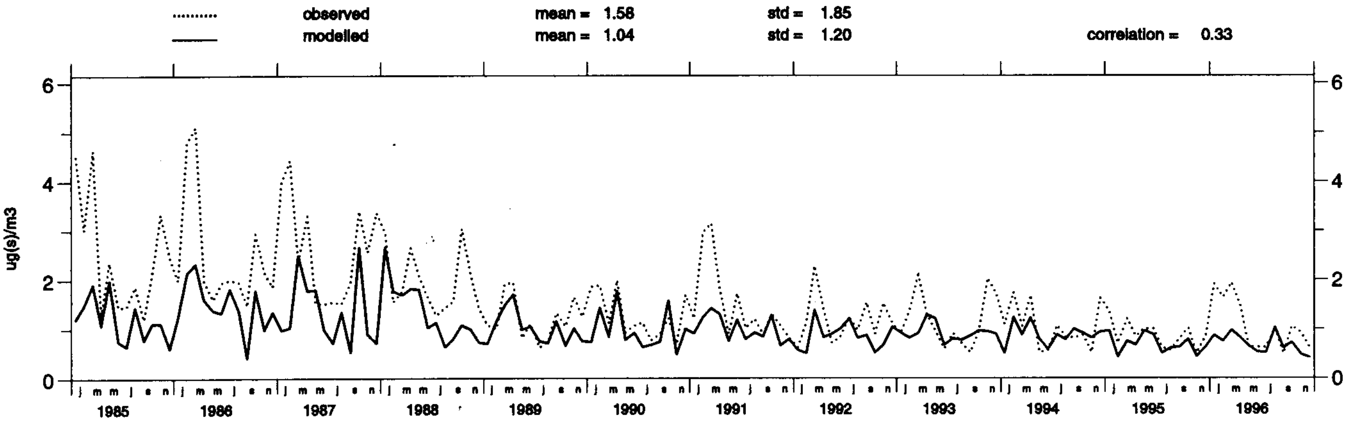
Athari (FI 4)

Concentration of particulate sulphate in air



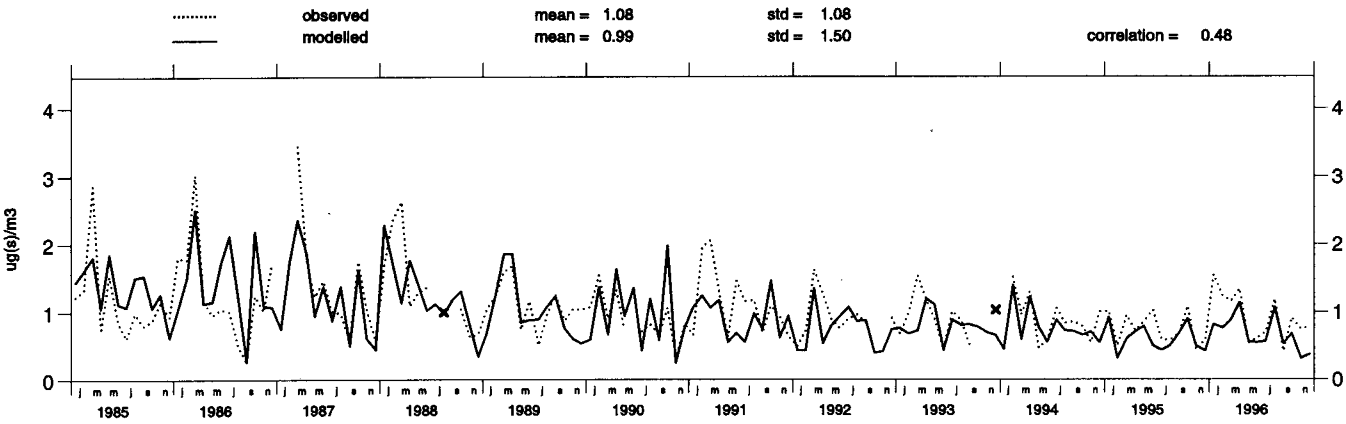
Virolahti_II (FI 17)

Concentration of particulate sulphate in air



Utoe (FI 9)

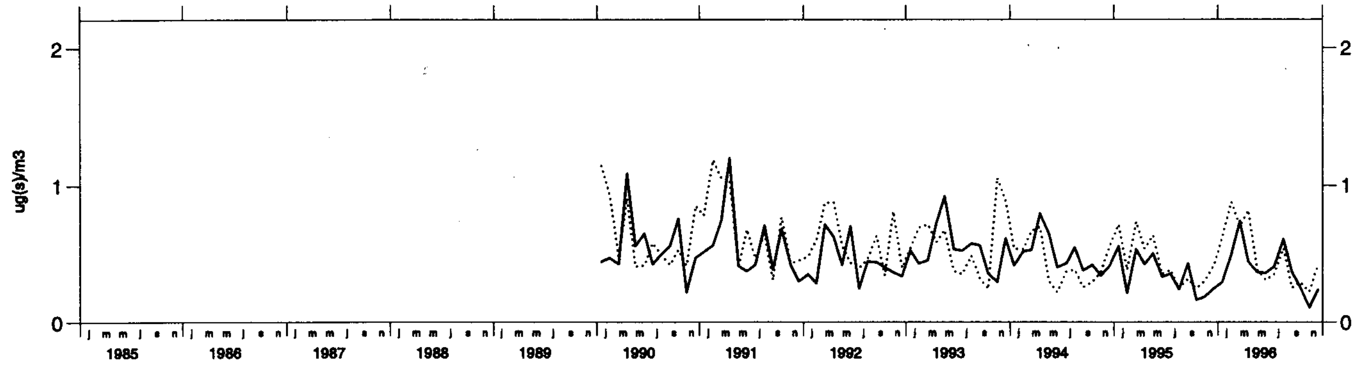
Concentration of particulate sulphate in air



Oulanka (FI 22)

Concentration of particulate sulphate in air

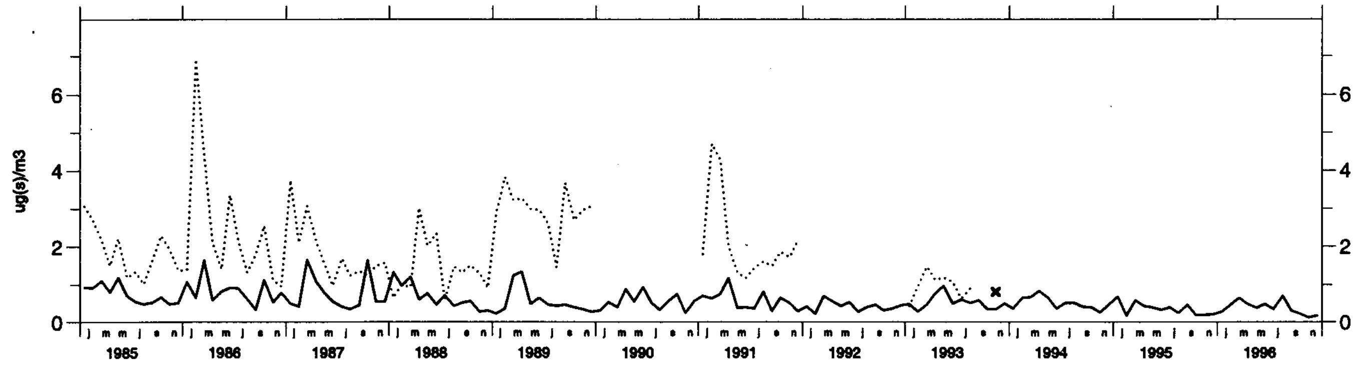
·········· observed	mean = 0.55	std = 0.52	
——— modelled	mean = 0.48	std = 0.51	correlation = 0.40



Haiuoto (FI 50)

Concentration of particulate sulphate in air

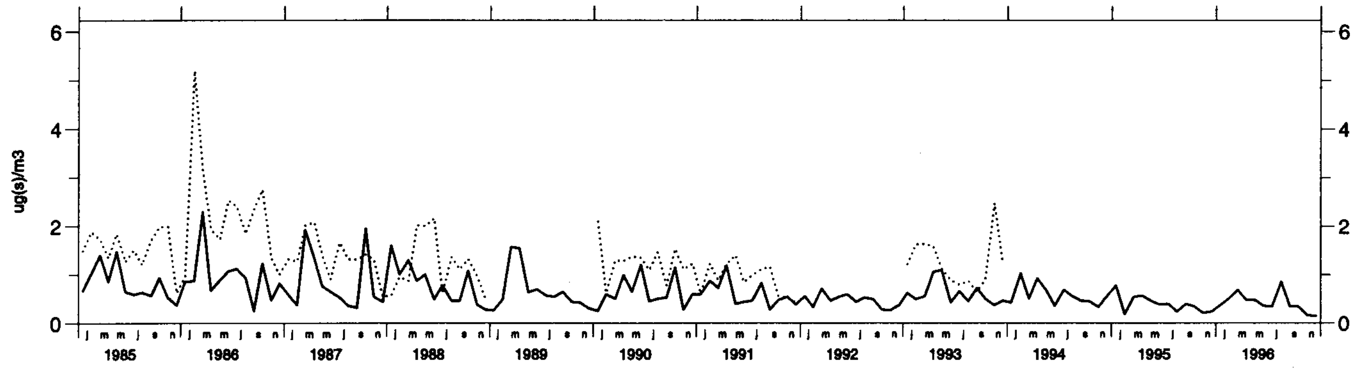
·········· observed	mean = 1.97	std = 2.15	
——— modelled	mean = 0.68	std = 0.88	correlation = -0.01



Sulva (FI 52)

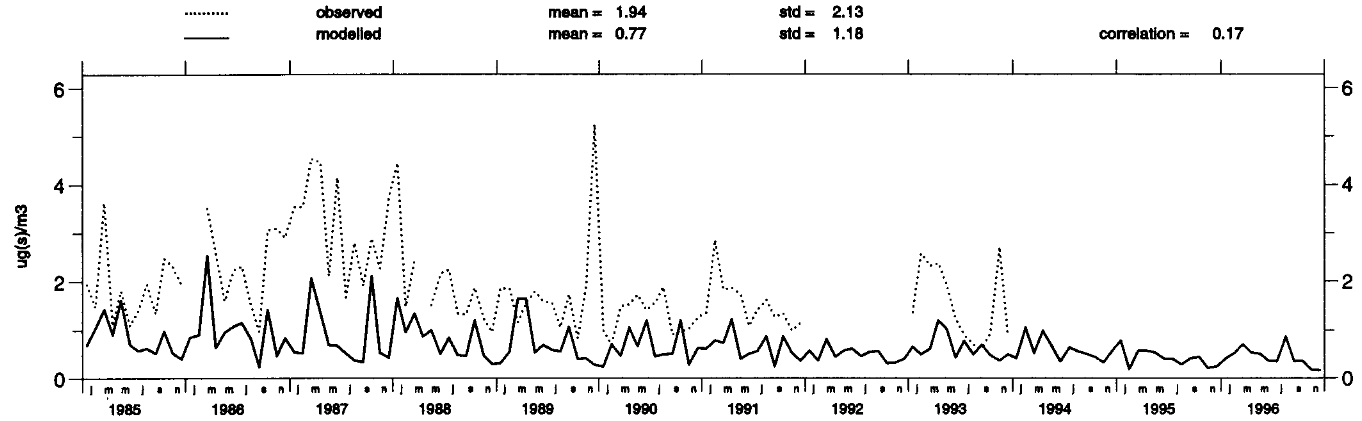
Concentration of particulate sulphate in air

·········· observed	mean = 1.41	std = 1.32	
——— modelled	mean = 0.75	std = 1.12	correlation = 0.04



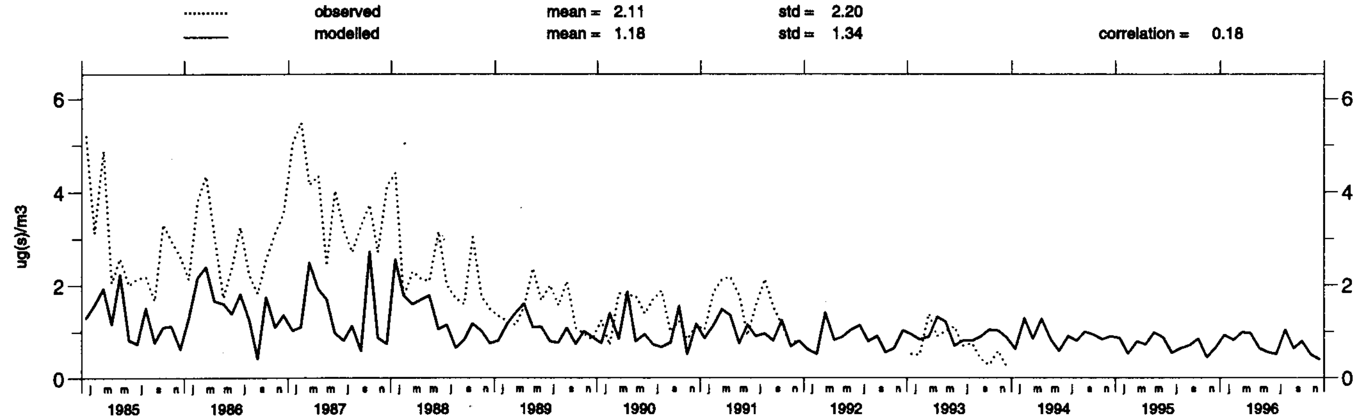
Ylimarkku (FI 53)

Concentration of particulate sulphate in air



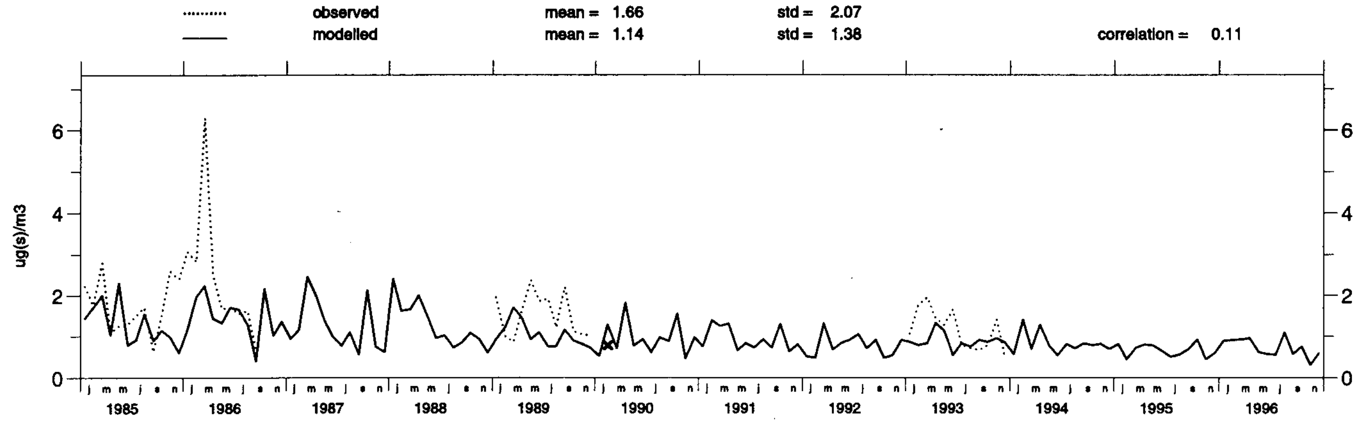
Haapasaari (FI 55)

Concentration of particulate sulphate in air



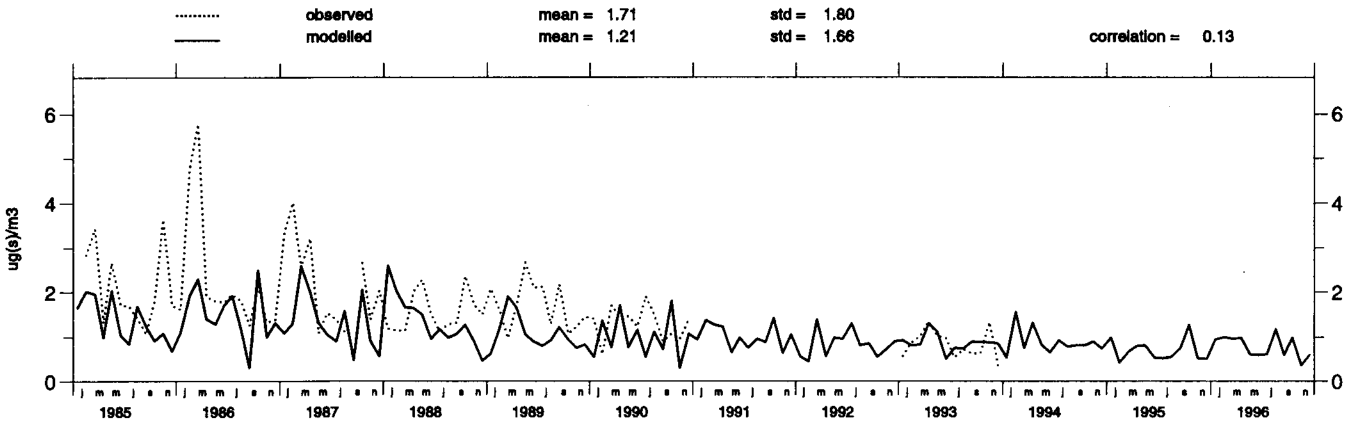
Sipo (FI 56)

Concentration of particulate sulphate in air



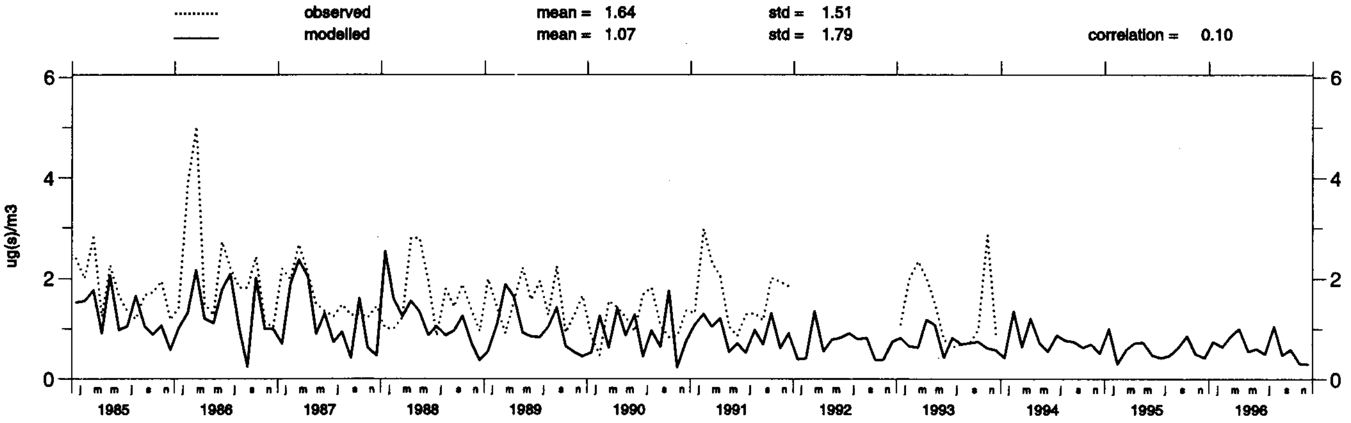
Tvarminne (FI 57)

Concentration of particulate sulphate in air



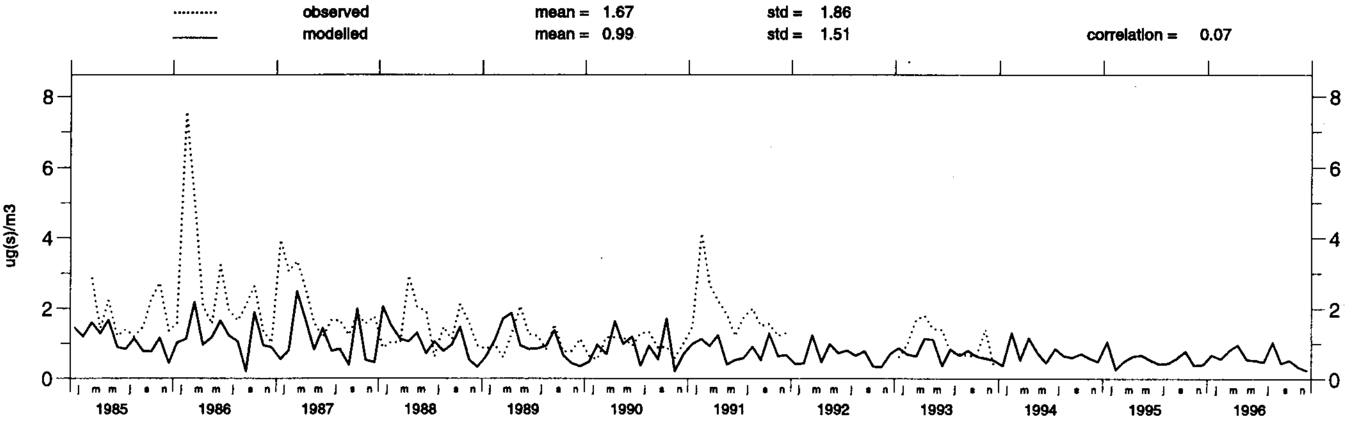
Korpoo (FI 58)

Concentration of particulate sulphate in air



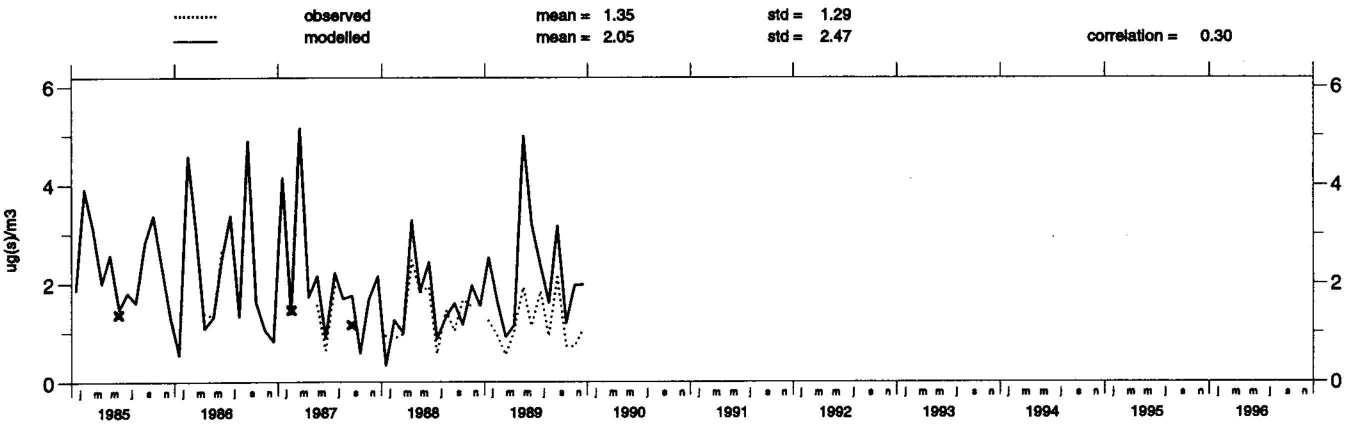
Jomala (FI 59)

Concentration of particulate sulphate in air



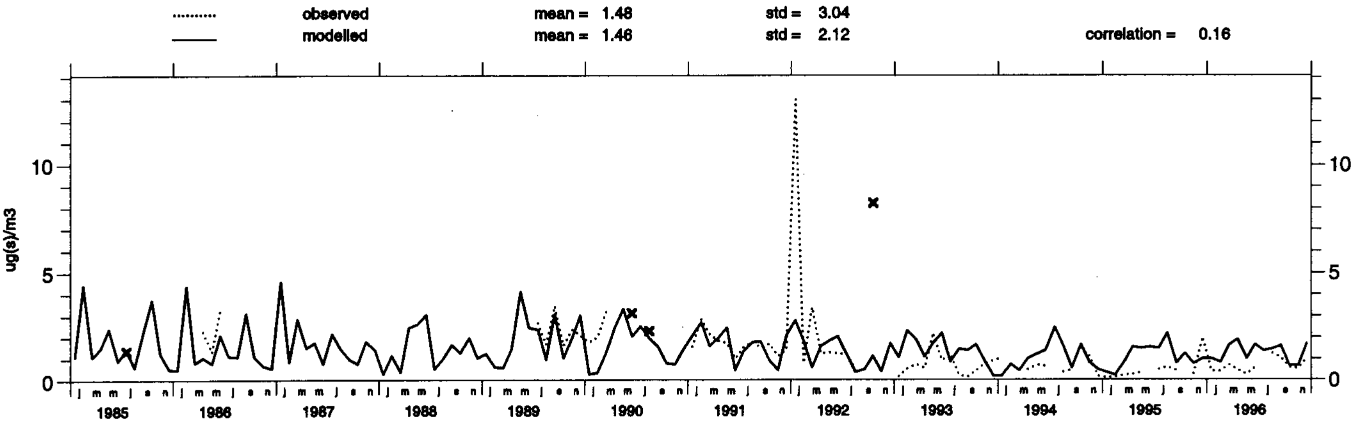
Vert–le–Petit (FR 1)

Concentration of particulate sulphate in air



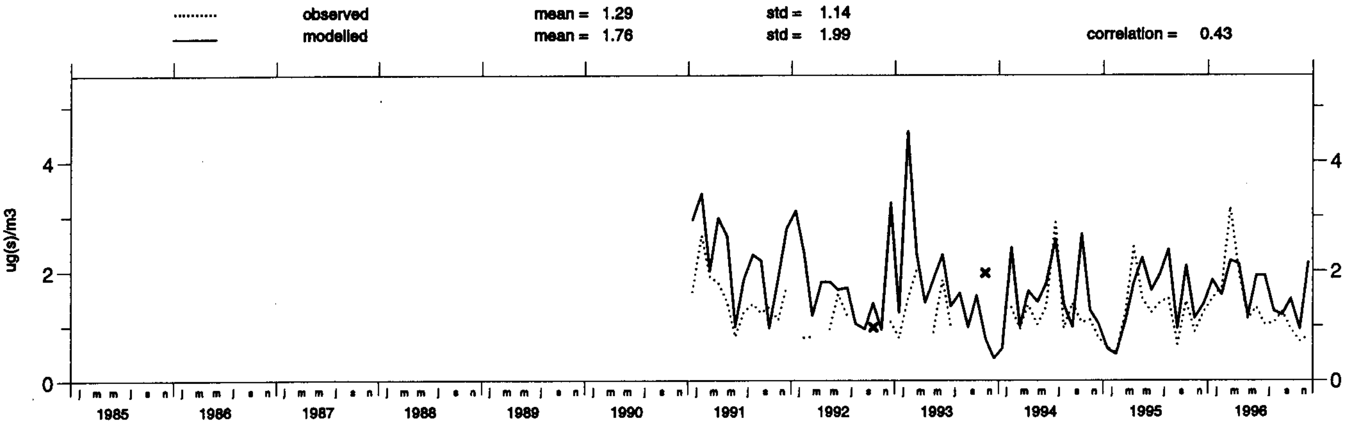
La_Hague (FR 5)

Concentration of particulate sulphate in air



Revin (FR 9)

Concentration of particulate sulphate in air

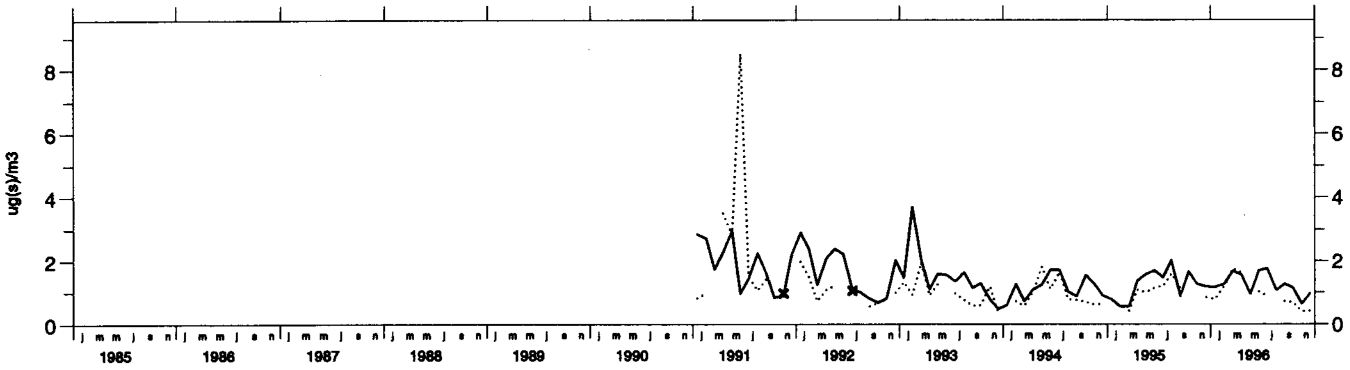


Morvan (FR 10)

Concentration of particulate sulphate in air

.... observed mean = 1.18 std = 1.57

——— modelled mean = 1.51 std = 1.59 correlation = 0.24

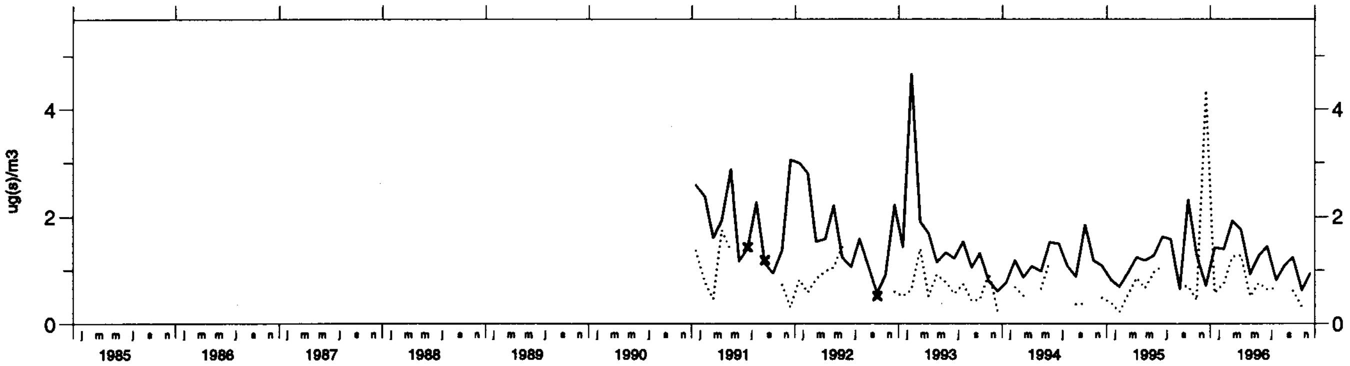


Bonnevaux (FR 11)

Concentration of particulate sulphate in air

.... observed mean = 0.87 std = 1.13

——— modelled mean = 1.48 std = 1.66 correlation = 0.14

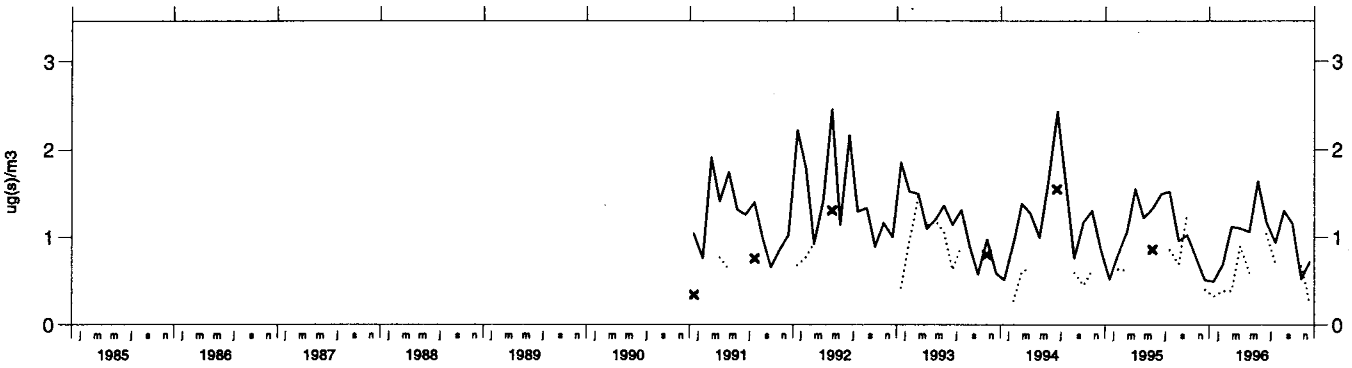


Iraty (FR 12)

Concentration of particulate sulphate in air

.... observed mean = 0.81 std = 0.87

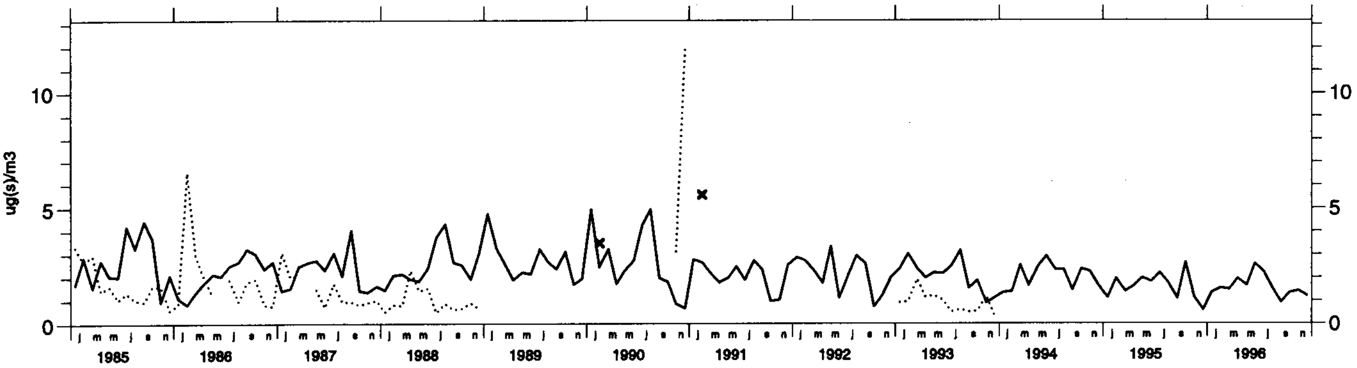
——— modelled mean = 1.23 std = 1.21 correlation = 0.25



Lazaropole (FY 7)

Concentration of particulate sulphate in air

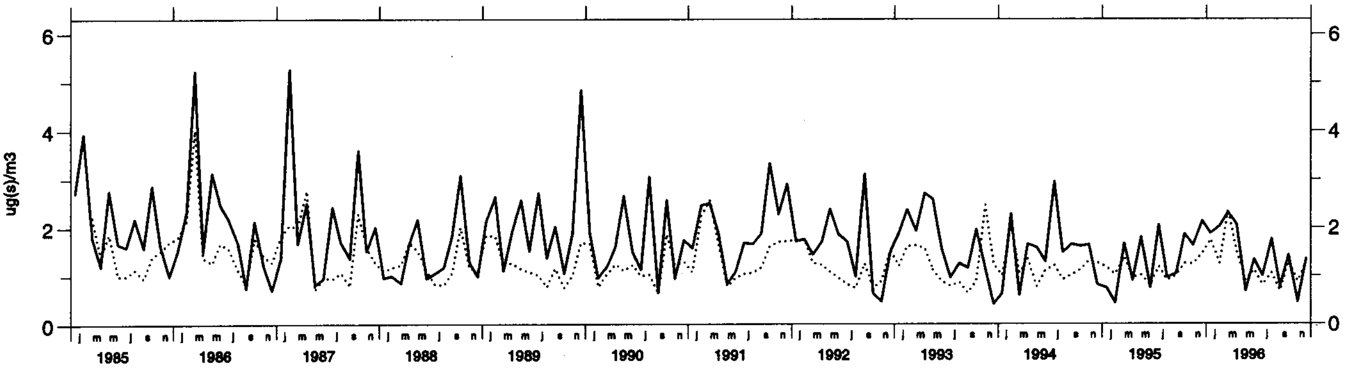
....	observed	mean = 2.01	std = 2.87	
———	modelled	mean = 2.34	std = 2.00	correlation = -0.03



Westerland (DE 1)

Concentration of particulate sulphate in air

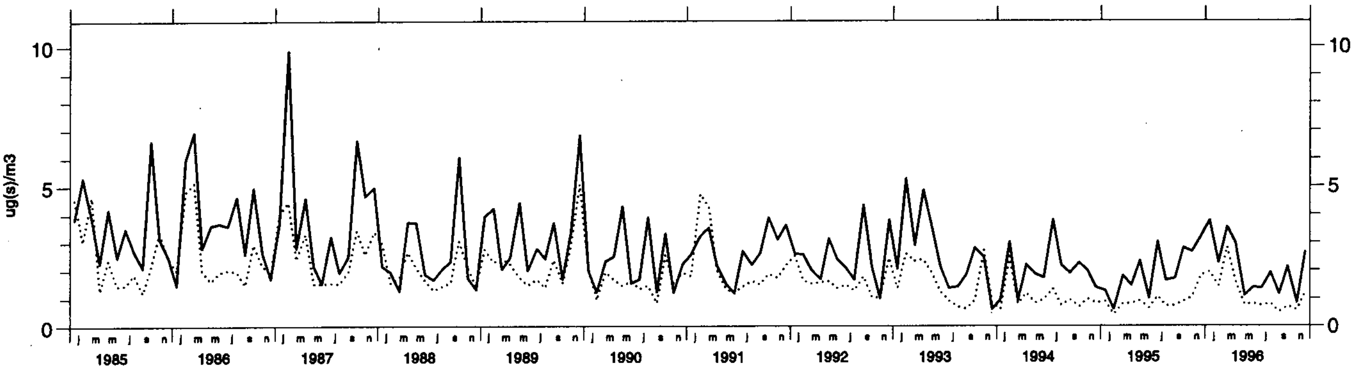
....	observed	mean = 1.32	std = 1.24	
———	modelled	mean = 1.77	std = 3.07	correlation = 0.41



Langenbrugge (DE 2)

Concentration of particulate sulphate in air

....	observed	mean = 1.83	std = 2.19	
———	modelled	mean = 2.77	std = 4.55	correlation = 0.50

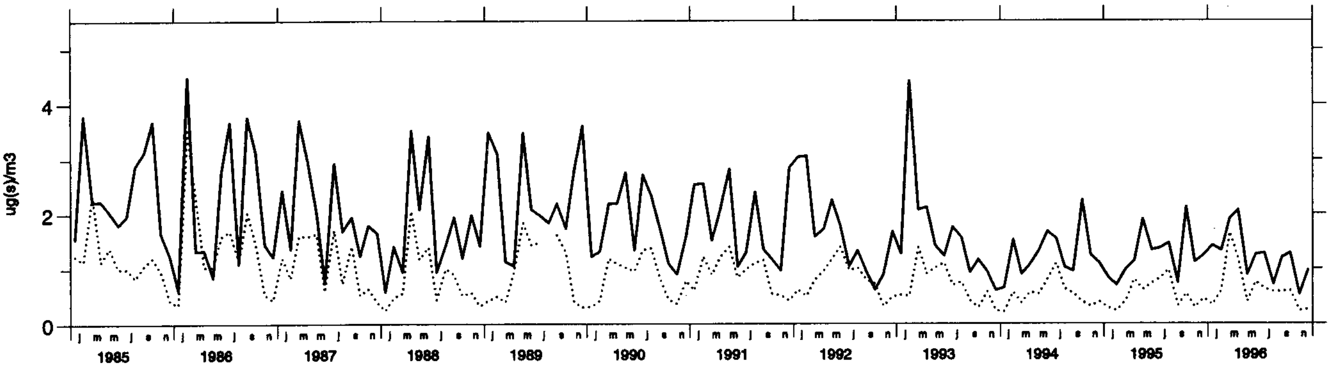


Schauinsland (DE 3)

Concentration of particulate sulphate in air

.... observed mean = 0.87 std = 0.93

——— modelled mean = 1.79 std = 2.25 correlation = 0.40

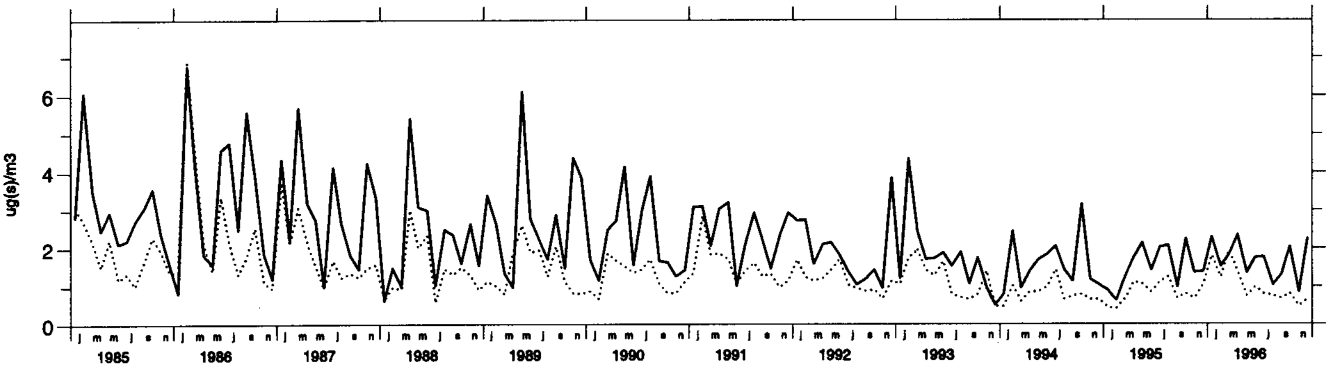


Deuselbach (DE 4)

Concentration of particulate sulphate in air

.... observed mean = 1.41 std = 1.44

——— modelled mean = 2.30 std = 3.17 correlation = 0.46

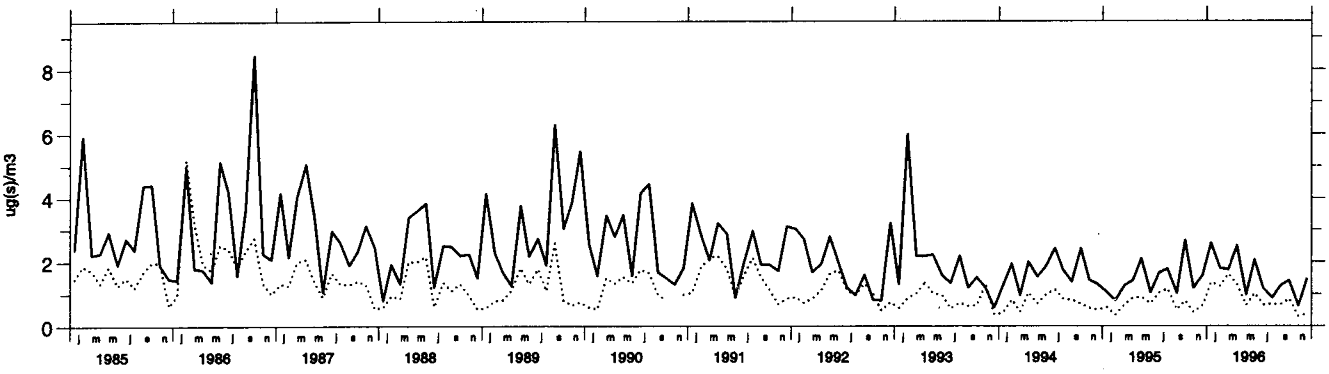


Brotjacklr. (DE 5)

Concentration of particulate sulphate in air

.... observed mean = 1.21 std = 1.14

——— modelled mean = 2.36 std = 3.42 correlation = 0.37

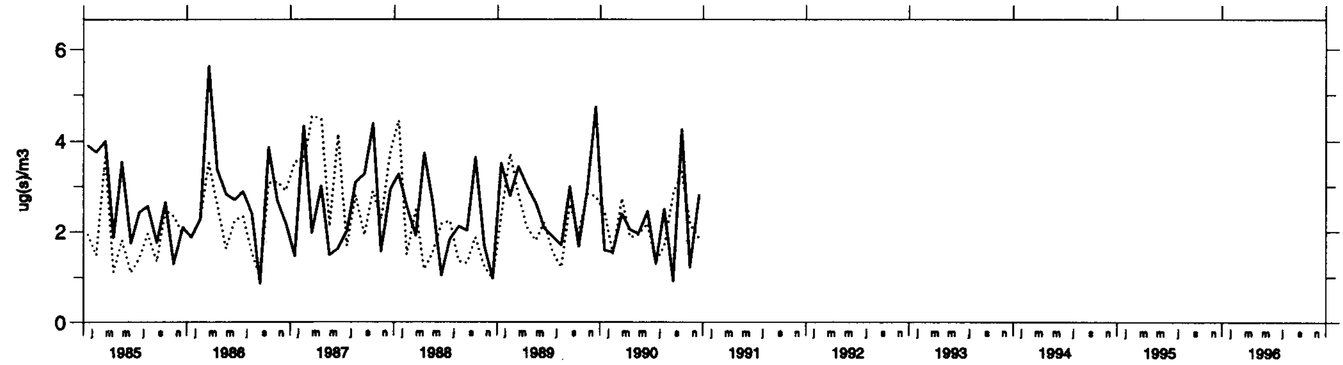


Arkona (DE 6)

Concentration of particulate sulphate in air

.... observed mean = 2.29 std = 2.23

——— modelled mean = 2.53 std = 3.89 correlation = 0.53

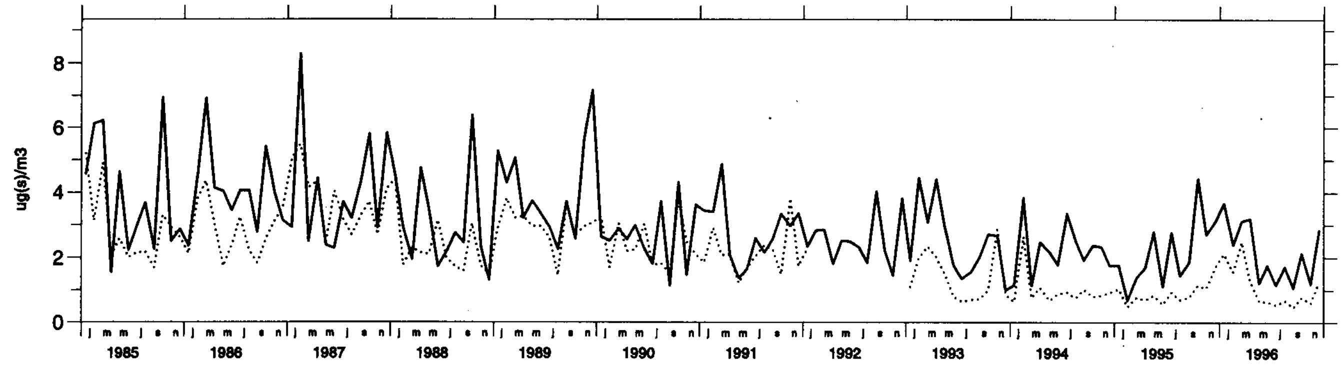


Neuglobsow (DE 7)

Concentration of particulate sulphate in air

.... observed mean = 2.16 std = 2.24

——— modelled mean = 3.08 std = 4.52 correlation = 0.54

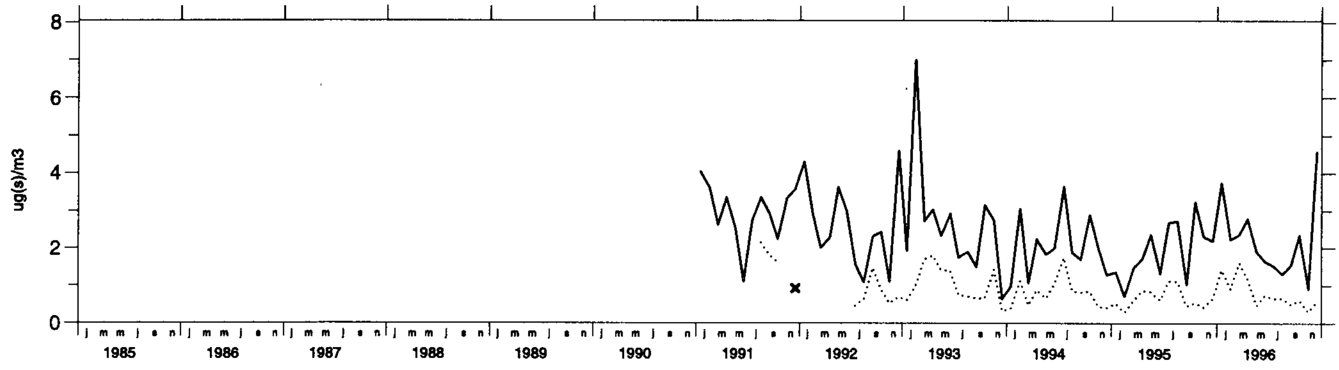


Schmucke (DE 8)

Concentration of particulate sulphate in air

.... observed mean = 0.88 std = 0.81

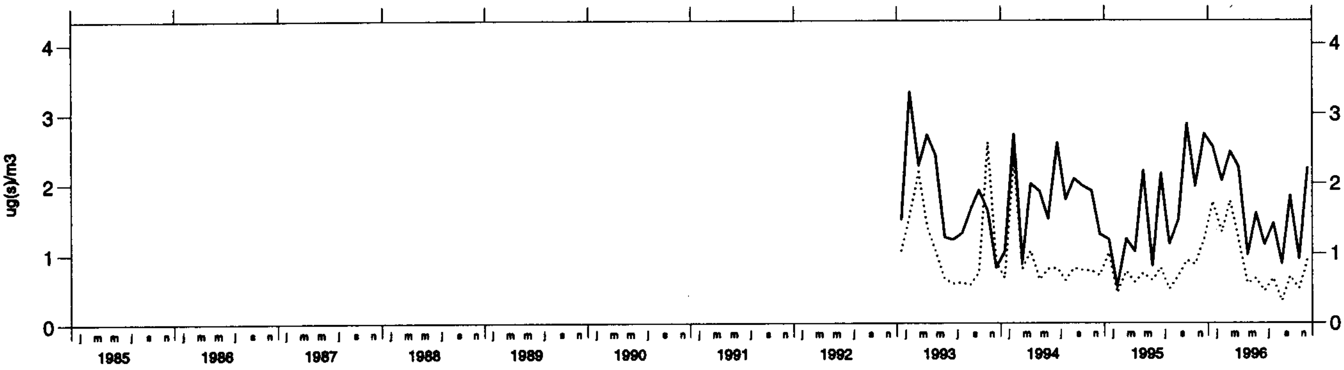
——— modelled mean = 2.30 std = 2.76 correlation = 0.36



Zingst (DE 9)

Concentration of particulate sulphate in air

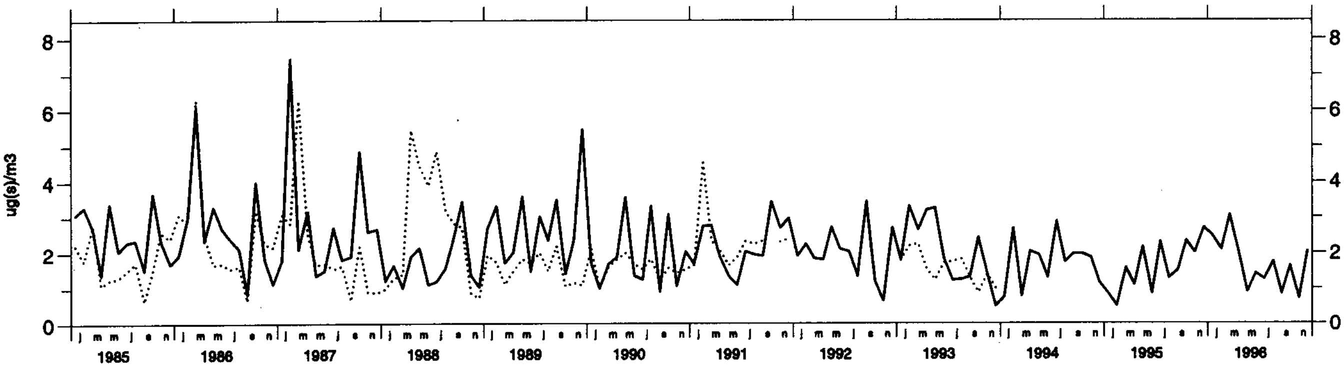
....	observed	mean = 0.92	std = 0.96	
———	modelled	mean = 1.73	std = 2.06	correlation = 0.42



Hohenwestedt (DE 11)

Concentration of particulate sulphate in air

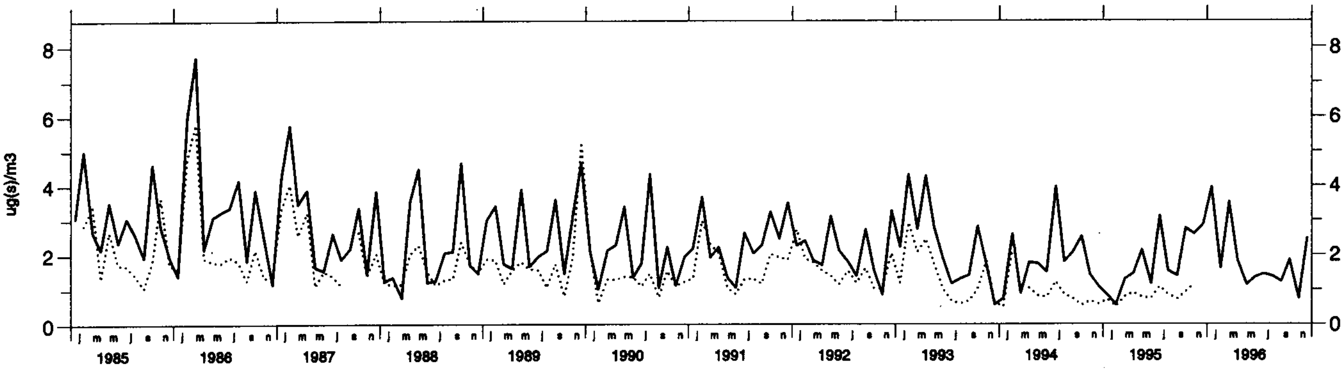
....	observed	mean = 2.04	std = 2.13	
———	modelled	mean = 2.34	std = 4.18	correlation = 0.20



Bassum (DE 12)

Concentration of particulate sulphate in air

....	observed	mean = 1.61	std = 1.88	
———	modelled	mean = 2.43	std = 3.70	correlation = 0.52

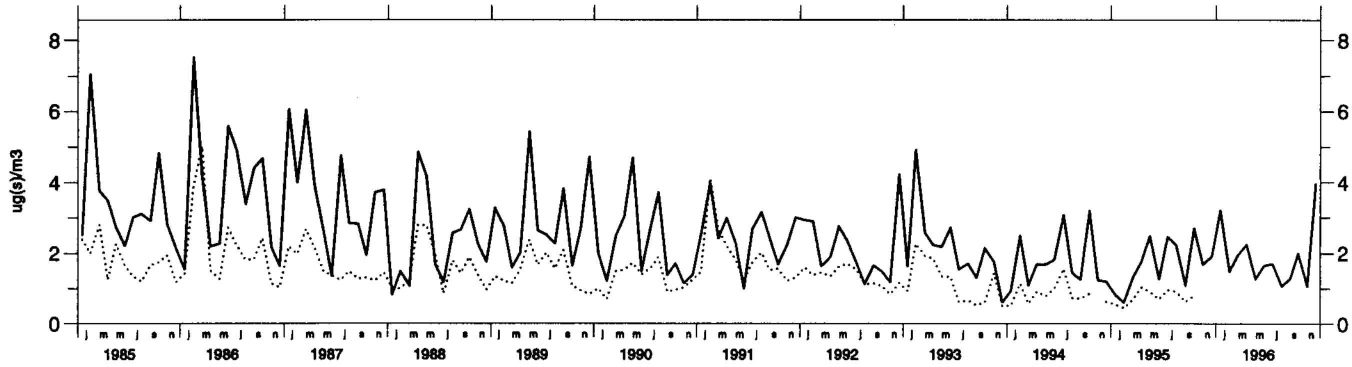


Meinerzhagen (DE 14)

Concentration of particulate sulphate in air

observed mean = 1.47 std = 1.34

modelled mean = 2.62 std = 3.52 correlation = 0.44

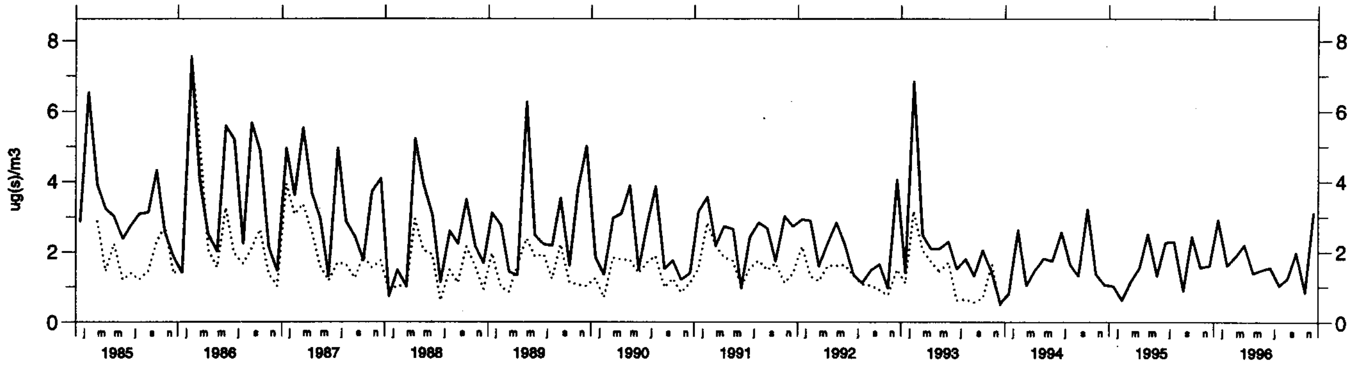


Usingen (DE 15)

Concentration of particulate sulphate in air

observed mean = 1.73 std = 1.79

modelled mean = 2.77 std = 3.82 correlation = 0.48

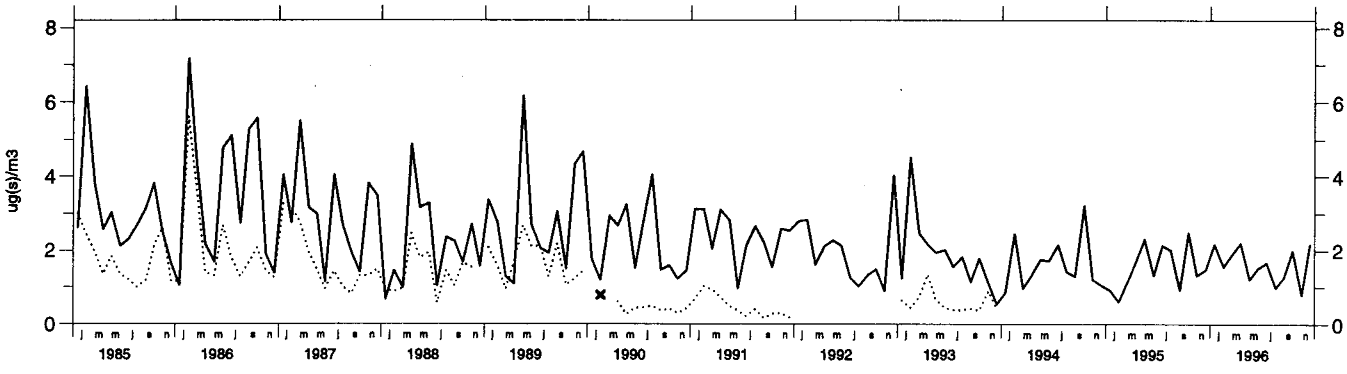


Bad_Kreuznach (DE 16)

Concentration of particulate sulphate in air

observed mean = 1.31 std = 1.60

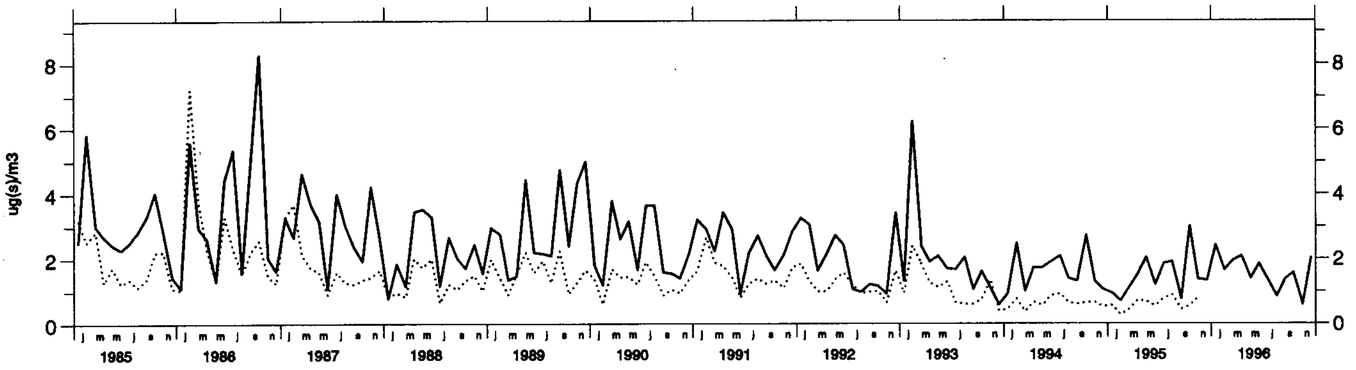
modelled mean = 2.67 std = 3.82 correlation = 0.36



Ansbach (DE 17)

Concentration of particulate sulphate in air

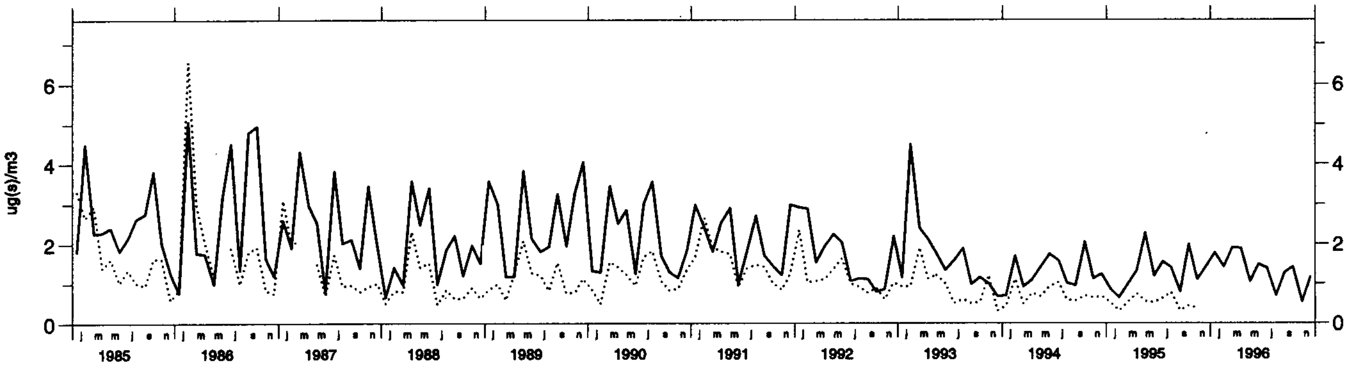
.... observed mean = 1.41 std = 1.50
——— modelled mean = 2.43 std = 3.55 correlation = 0.43



Rottenburg (DE 18)

Concentration of particulate sulphate in air

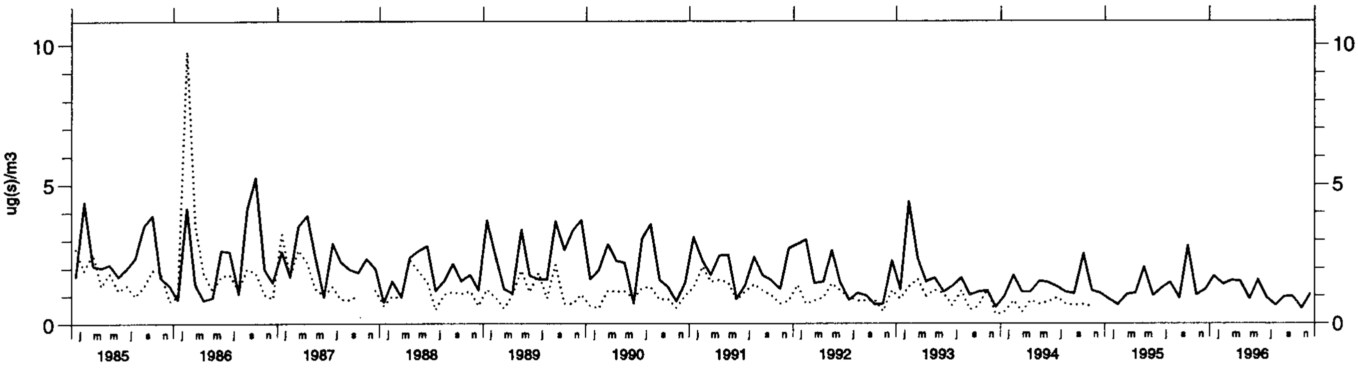
.... observed mean = 1.20 std = 1.33
——— modelled mean = 2.03 std = 2.73 correlation = 0.42



Starnberg (DE 19)

Concentration of particulate sulphate in air

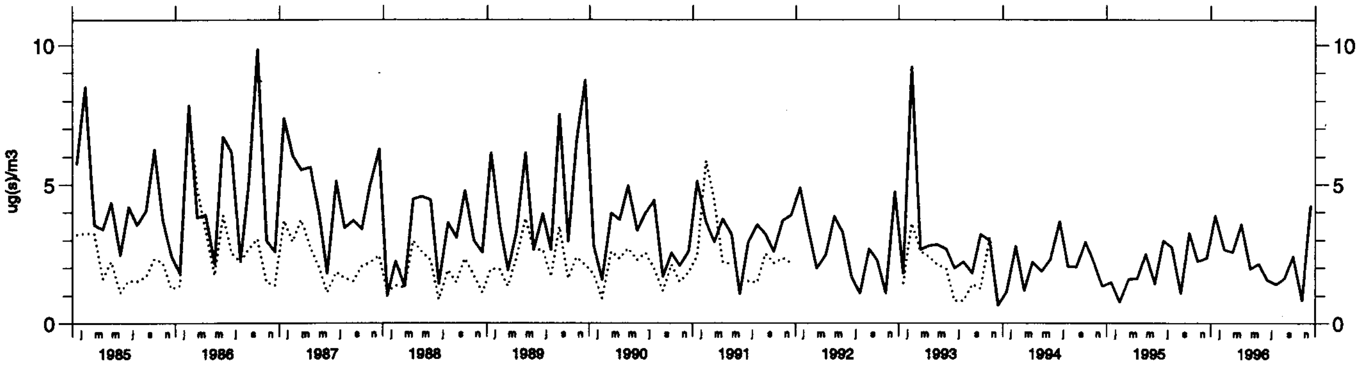
.... observed mean = 1.28 std = 1.55
——— modelled mean = 2.00 std = 2.59 correlation = 0.32



Hof (DE 20)

Concentration of particulate sulphate in air

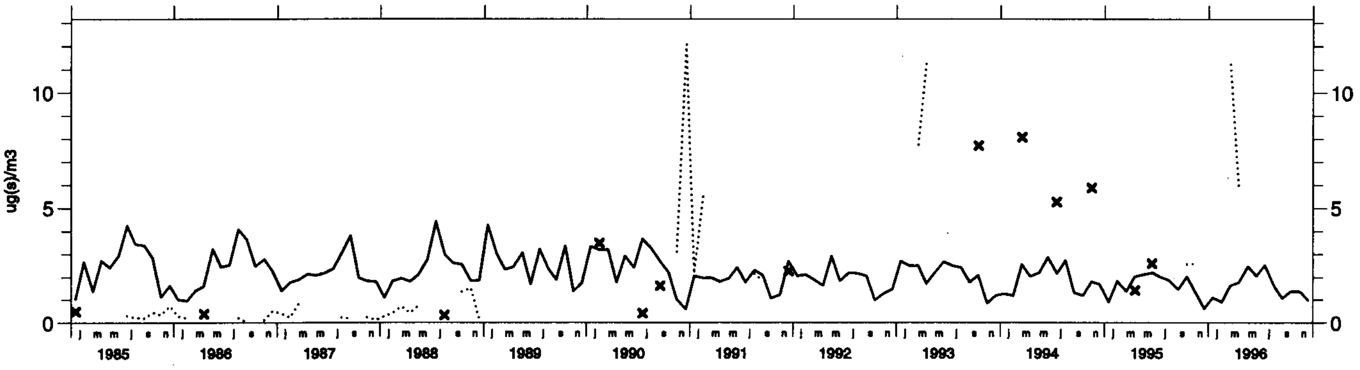
.... observed	mean = 2.26	std = 2.16	
——— modelled	mean = 3.89	std = 5.75	correlation = 0.43



Aliartos (GR 1)

Concentration of particulate sulphate in air

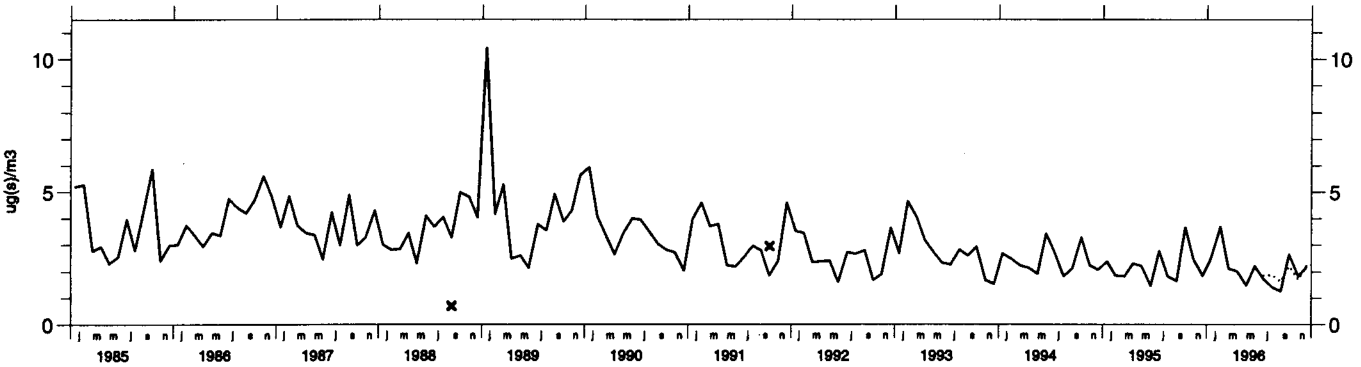
.... observed	mean = 2.83	std = 4.82	
——— modelled	mean = 2.24	std = 1.85	correlation = -0.05



K-puszta (HU 2)

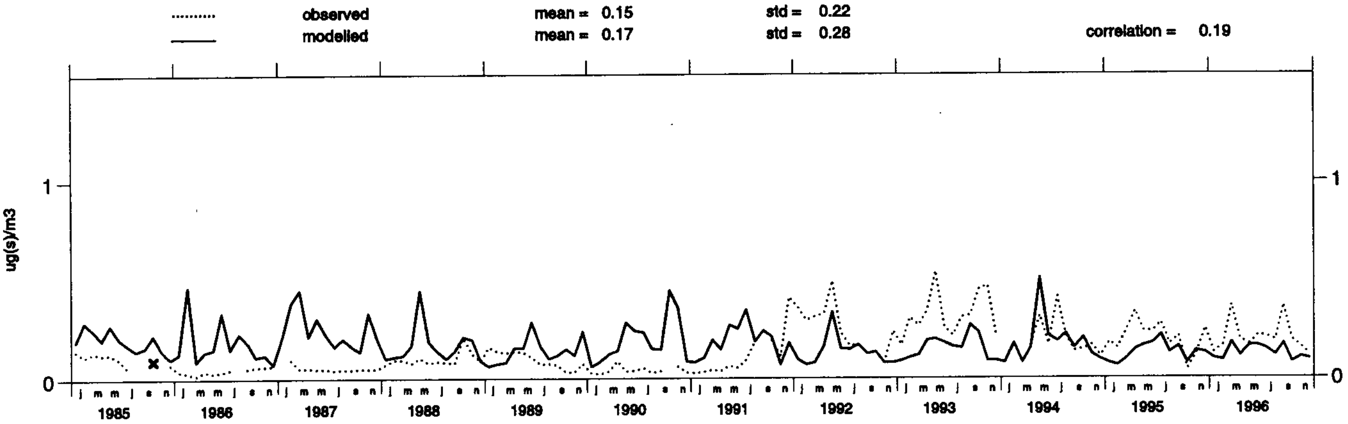
Concentration of particulate sulphate in air

.... observed	mean = 2.15	std = 2.90	
——— modelled	mean = 3.17	std = 2.87	correlation = 0.14



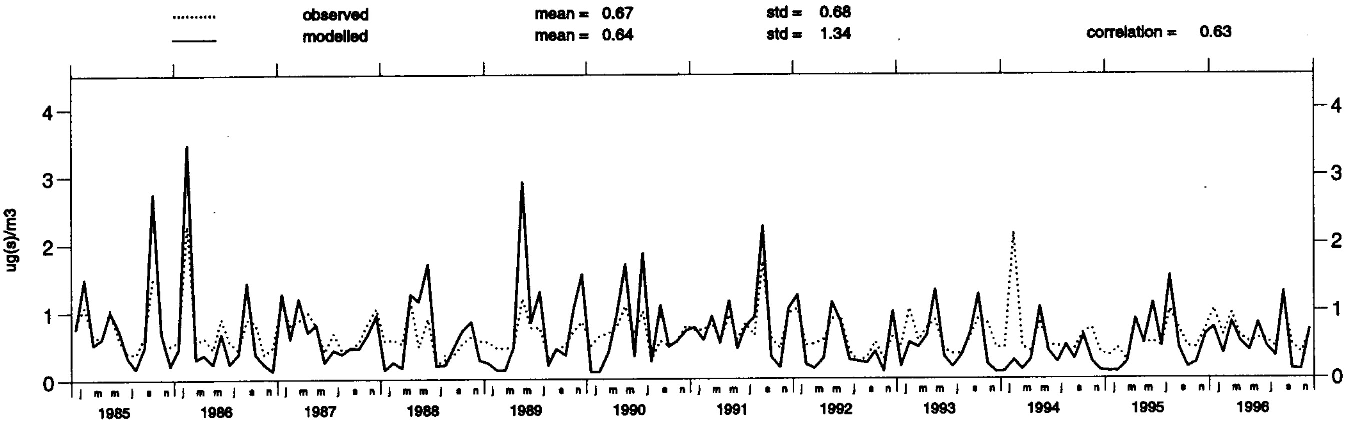
Irafoss (IS 2)

Concentration of particulate sulphate in air



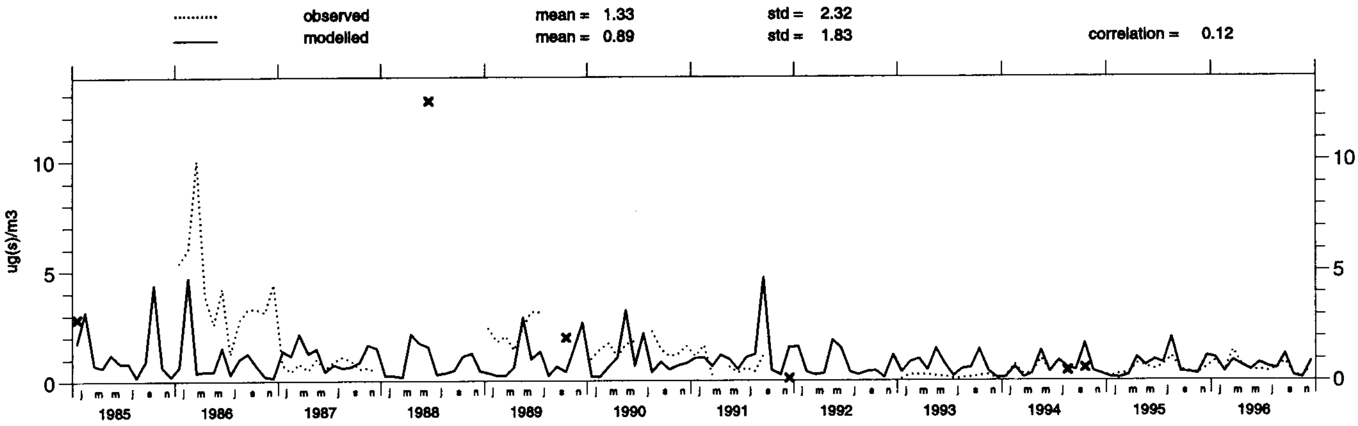
Valentia_Obs. (IE 1)

Concentration of particulate sulphate in air



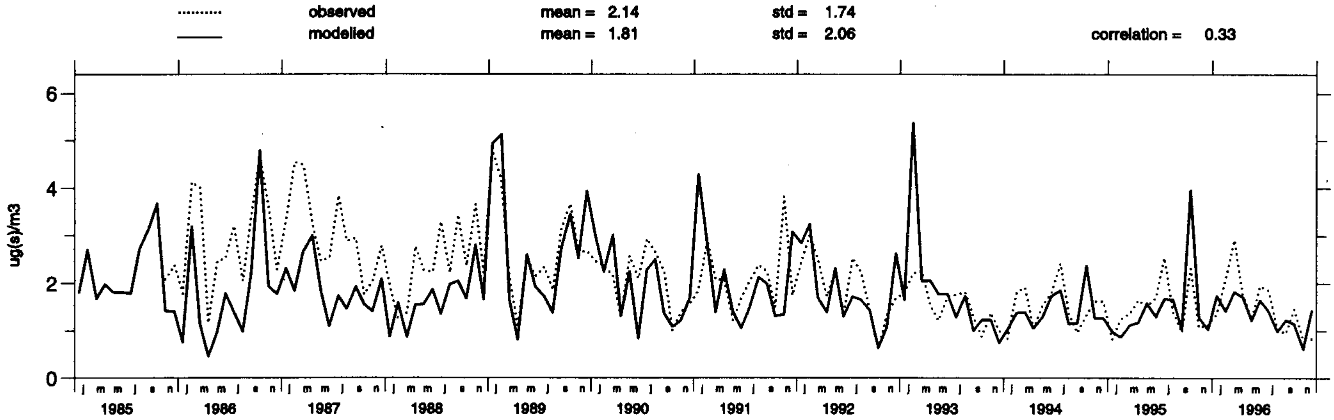
Turlough Hill (IE 2)

Concentration of particulate sulphate in air



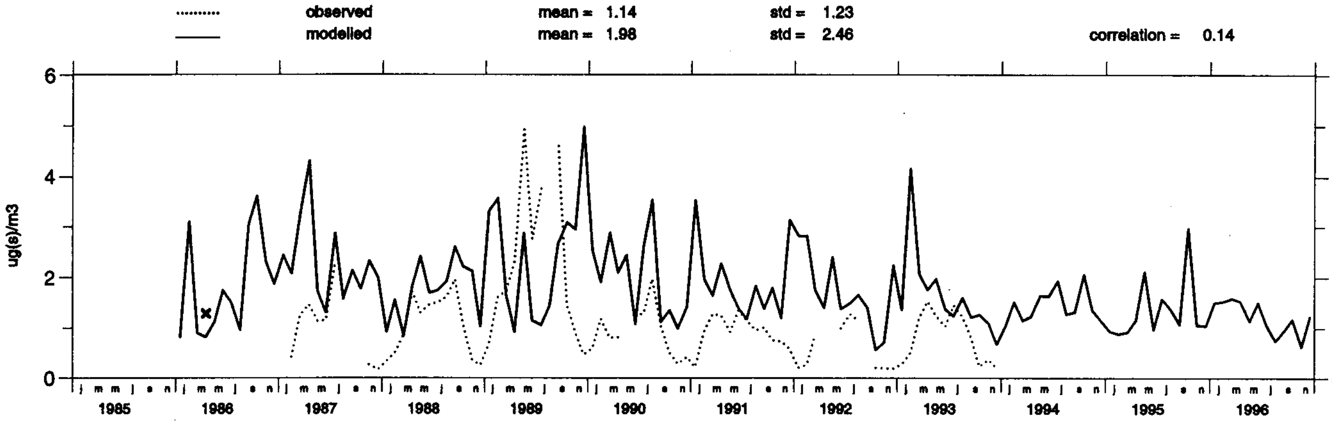
Ispra (IT 4)

Concentration of particulate sulphate in air



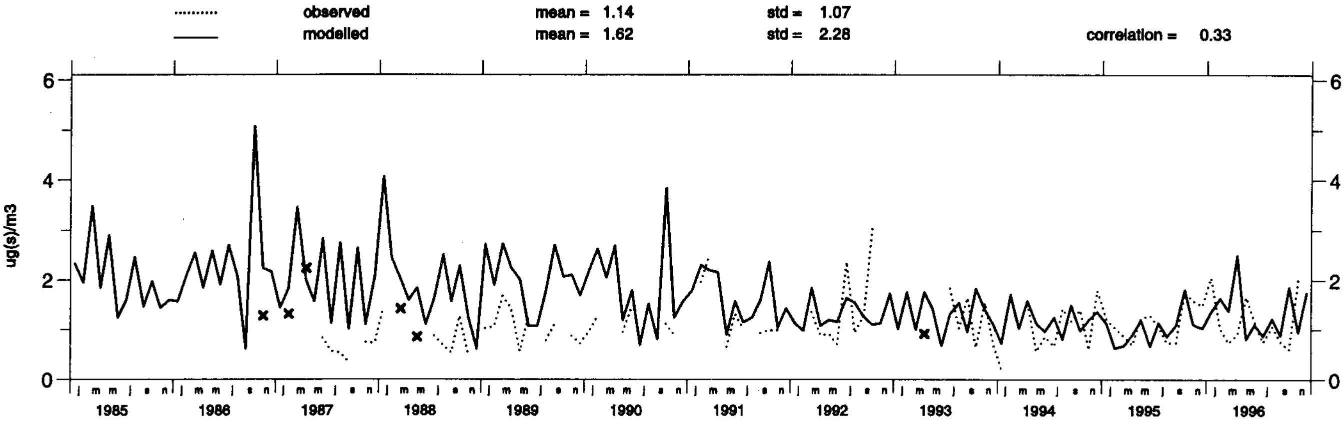
Arabba (IT 5)

Concentration of particulate sulphate in air



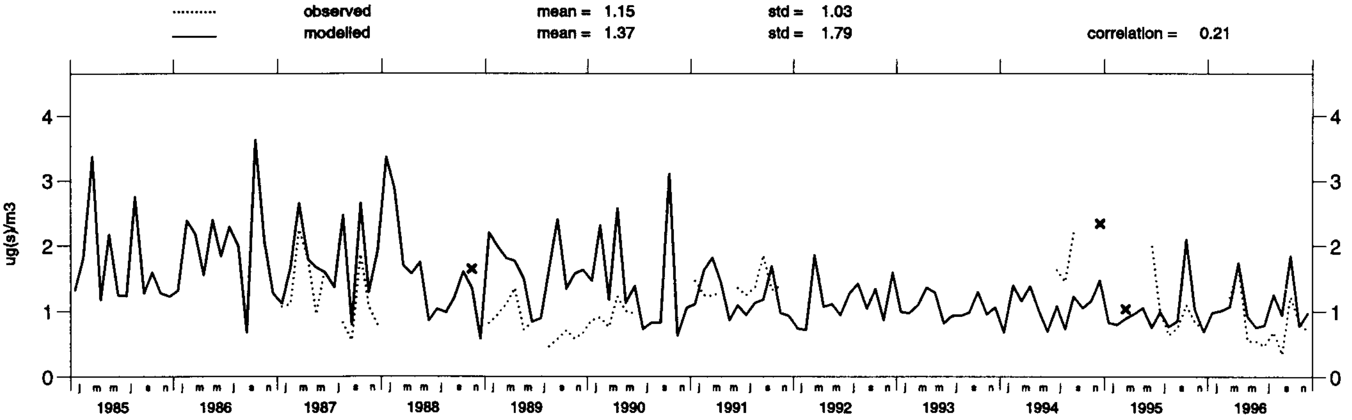
Rucava (LV 10)

Concentration of particulate sulphate in air



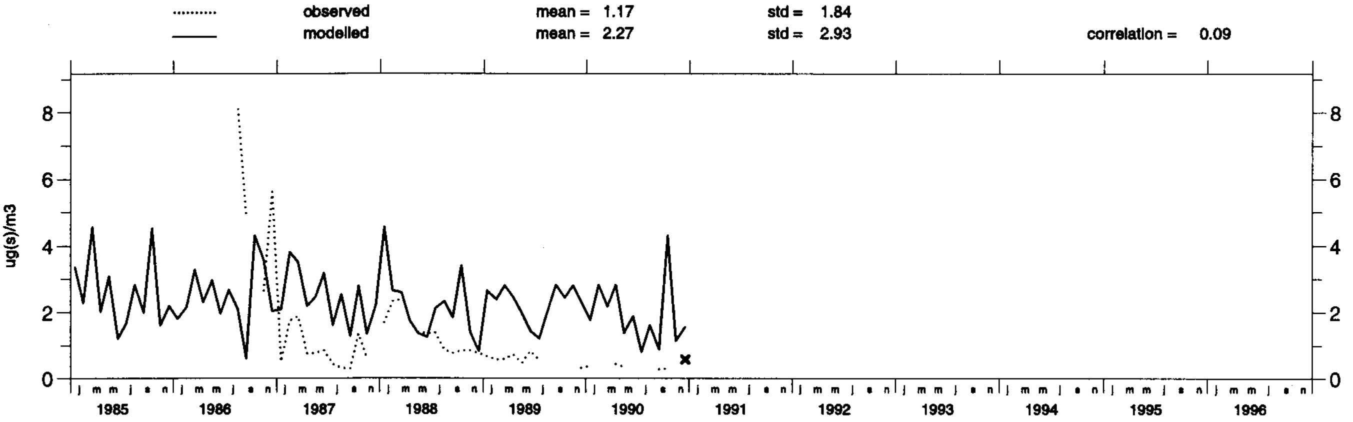
Zoseni (LV 16)

Concentration of particulate sulphate in air



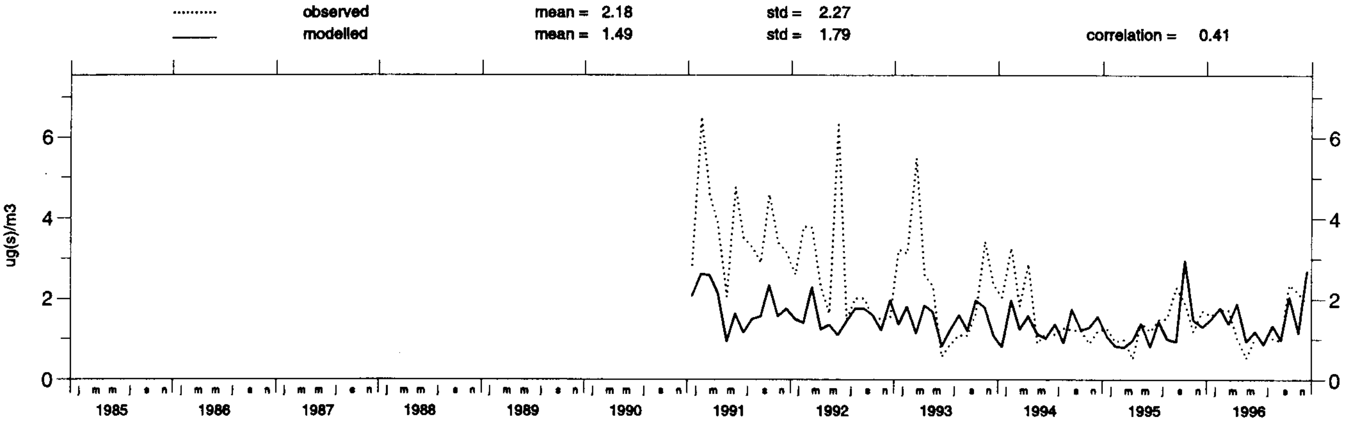
Nida (LT 3)

Concentration of particulate sulphate in air



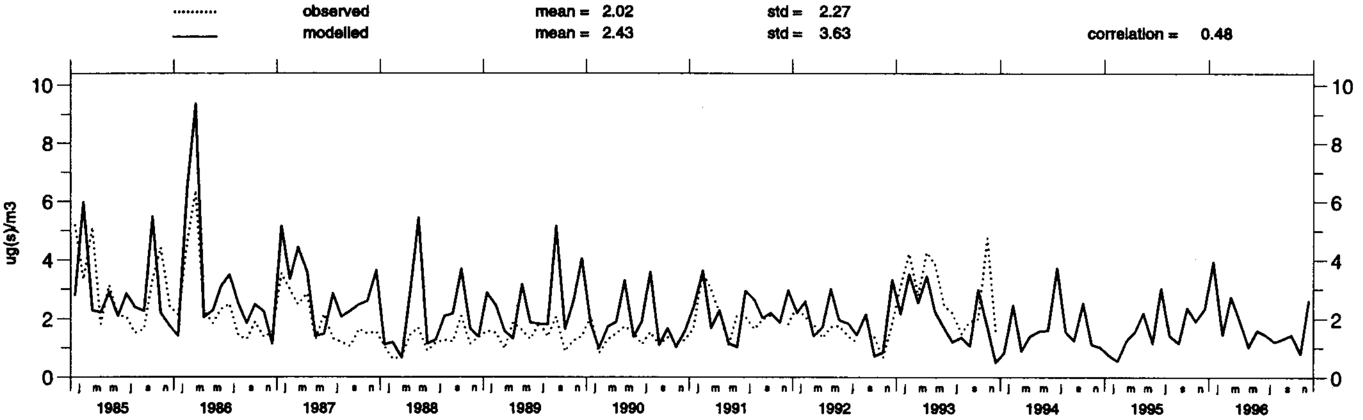
Preila (LT 15)

Concentration of particulate sulphate in air



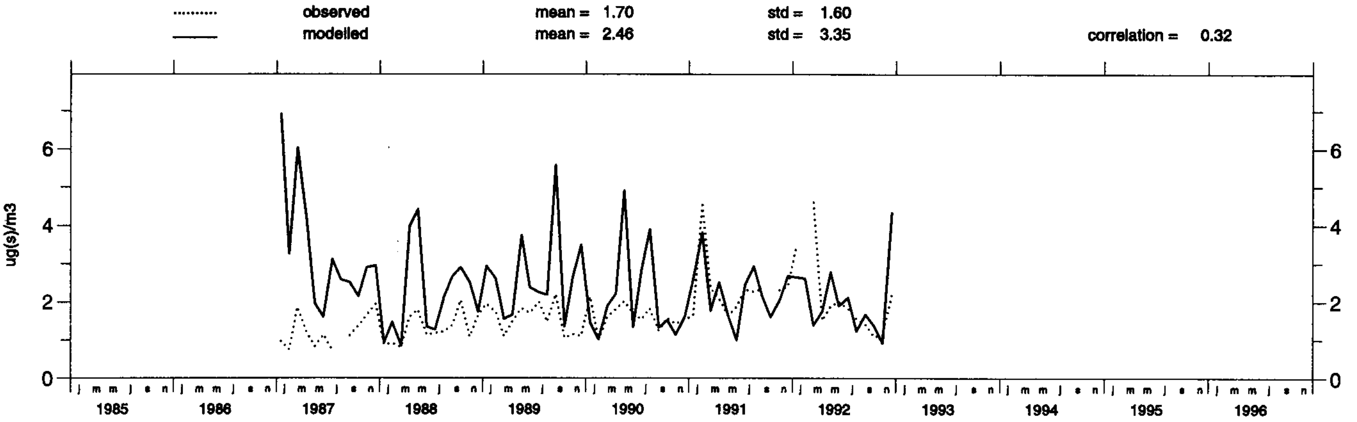
Wittenveen (NL 2)

Concentration of particulate sulphate in air



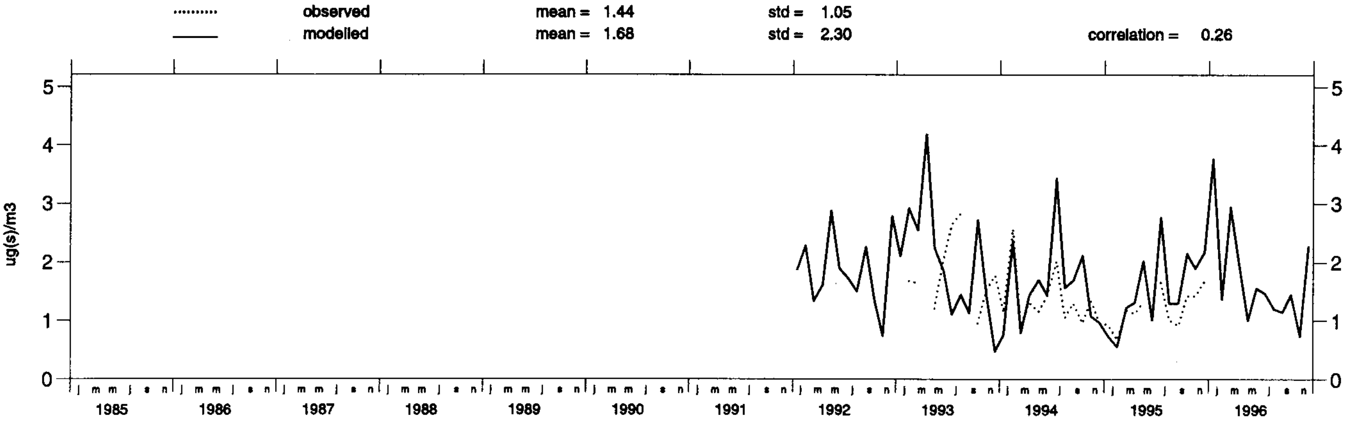
Bilthoven (NL 8)

Concentration of particulate sulphate in air



Kollumerwaard (NL 9)

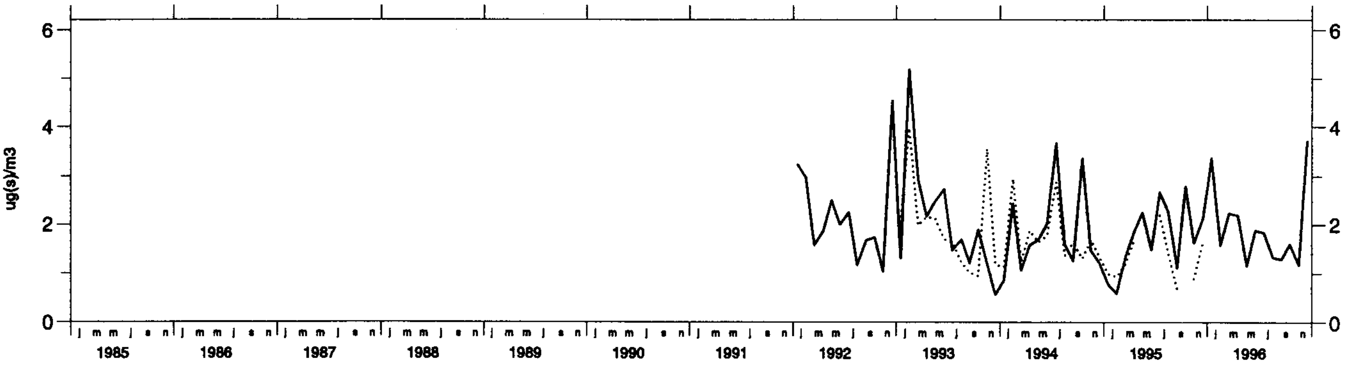
Concentration of particulate sulphate in air



Vreedepeel (NL 10)

Concentration of particulate sulphate in air

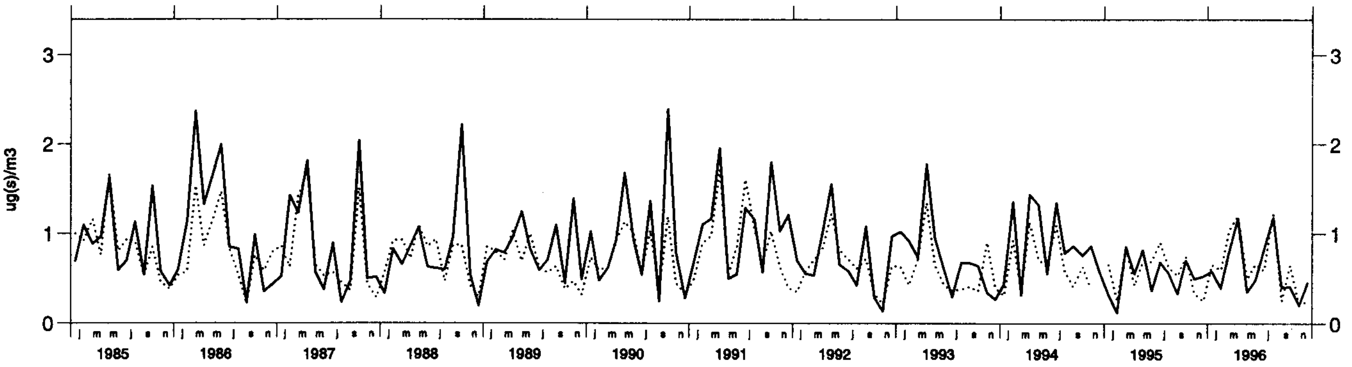
.... observed	mean = 1.66	std = 1.37		
——— modelled	mean = 1.88	std = 2.12	correlation =	0.38



Birkenes (NO 1)

Concentration of particulate sulphate in air

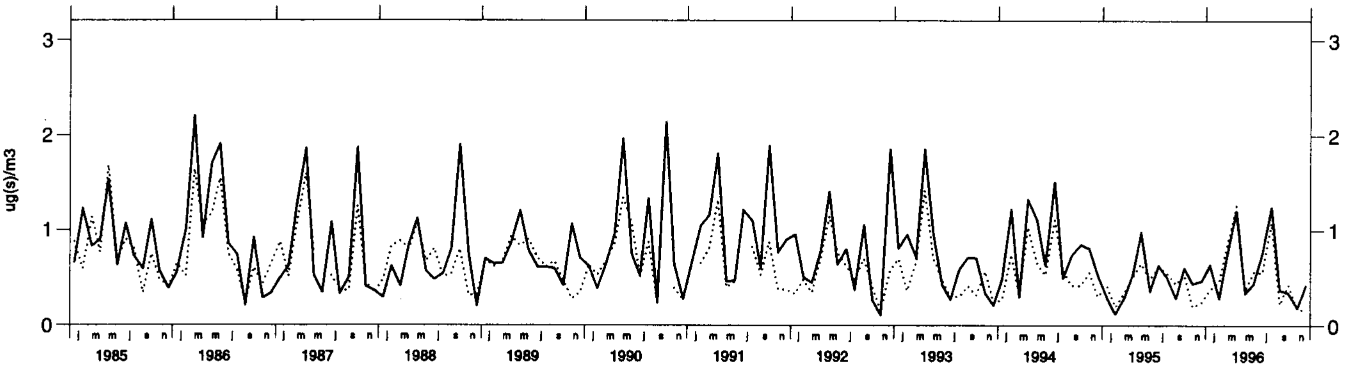
.... observed	mean = 0.73	std = 0.86		
——— modelled	mean = 0.84	std = 1.65	correlation =	0.53



Skreaadalen (NO 8)

Concentration of particulate sulphate in air

.... observed	mean = 0.65	std = 0.81		
——— modelled	mean = 0.79	std = 1.56	correlation =	0.57

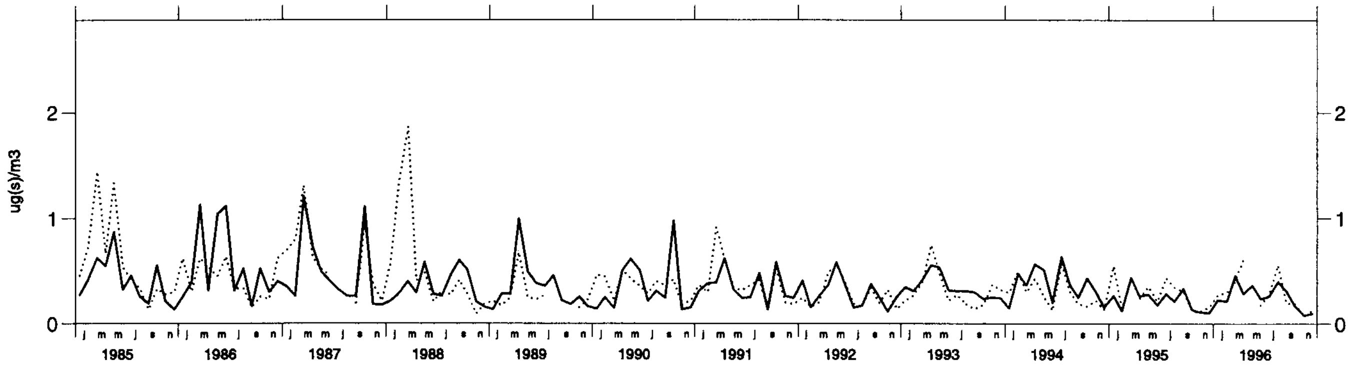


Tustervatn (NO 15)

Concentration of particulate sulphate in air

.... observed mean = 0.39 std = 0.55

——— modelled mean = 0.36 std = 0.66 correlation = 0.39

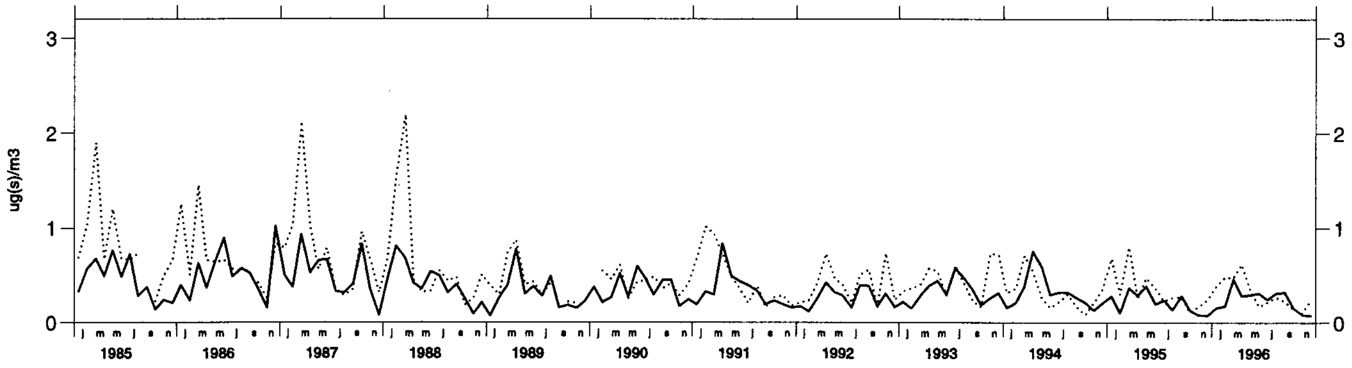


Jergul (NO 30)

Concentration of particulate sulphate in air

.... observed mean = 0.51 std = 0.65

——— modelled mean = 0.36 std = 0.50 correlation = 0.40

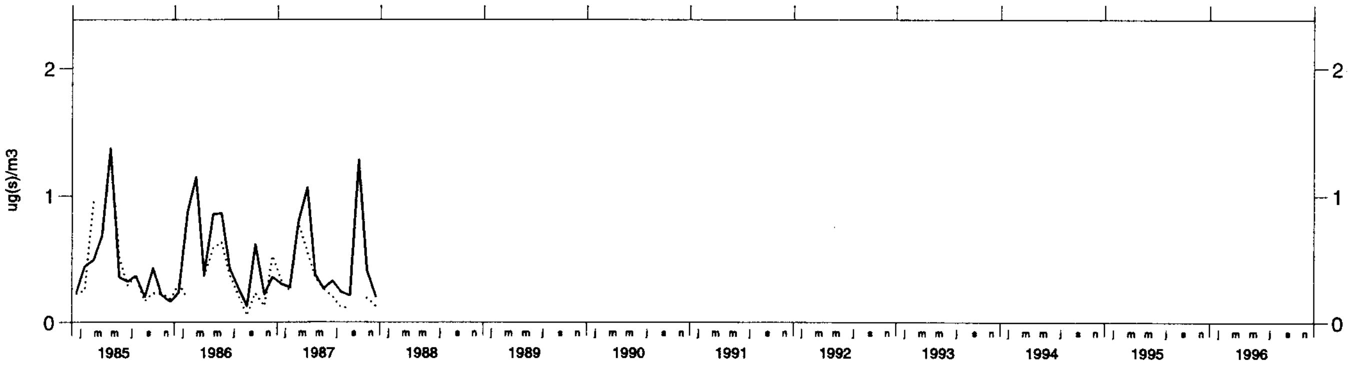


Hummelfjell (NO 36)

Concentration of particulate sulphate in air

.... observed mean = 0.38 std = 0.70

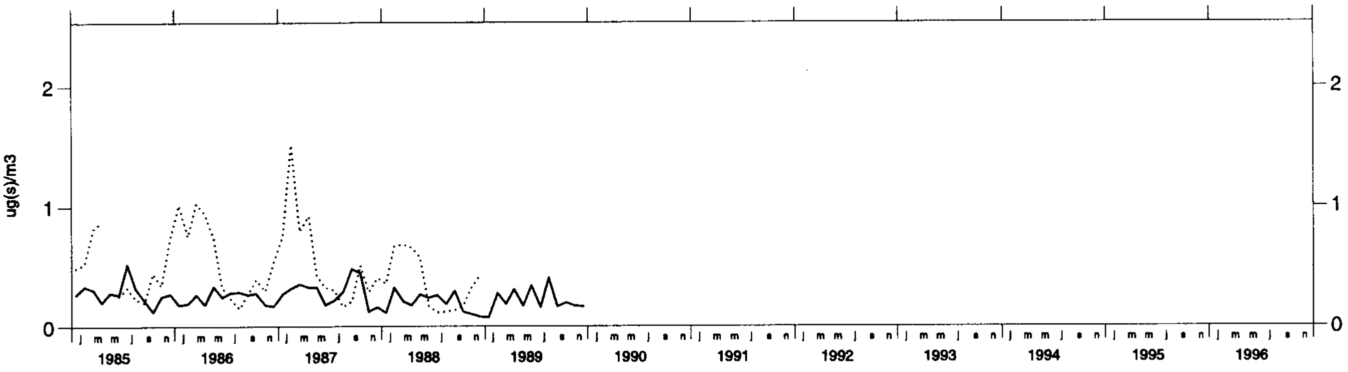
——— modelled mean = 0.47 std = 0.88 correlation = 0.49



Bjoernoeya (NO 37)

Concentration of particulate sulphate in air

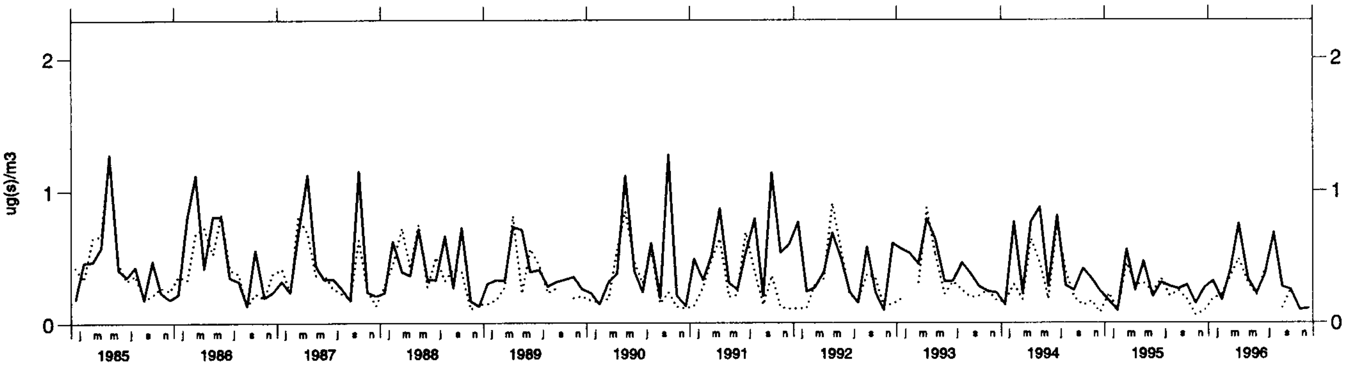
....	observed	mean = 0.49	std = 0.45	
———	modelled	mean = 0.26	std = 0.30	correlation = 0.15



Kaarvatn (NO 39)

Concentration of particulate sulphate in air

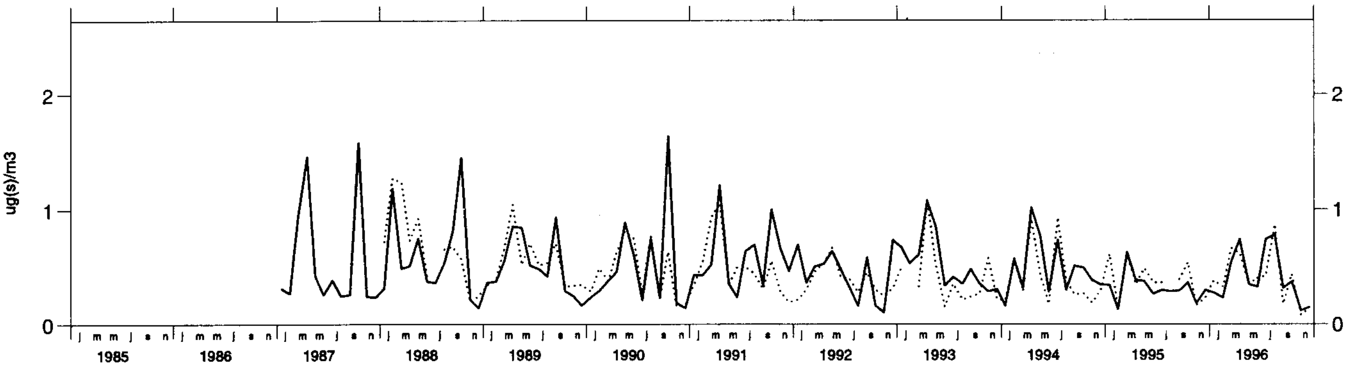
....	observed	mean = 0.34	std = 0.47	
———	modelled	mean = 0.43	std = 0.82	correlation = 0.46



Osen (NO 41)

Concentration of particulate sulphate in air

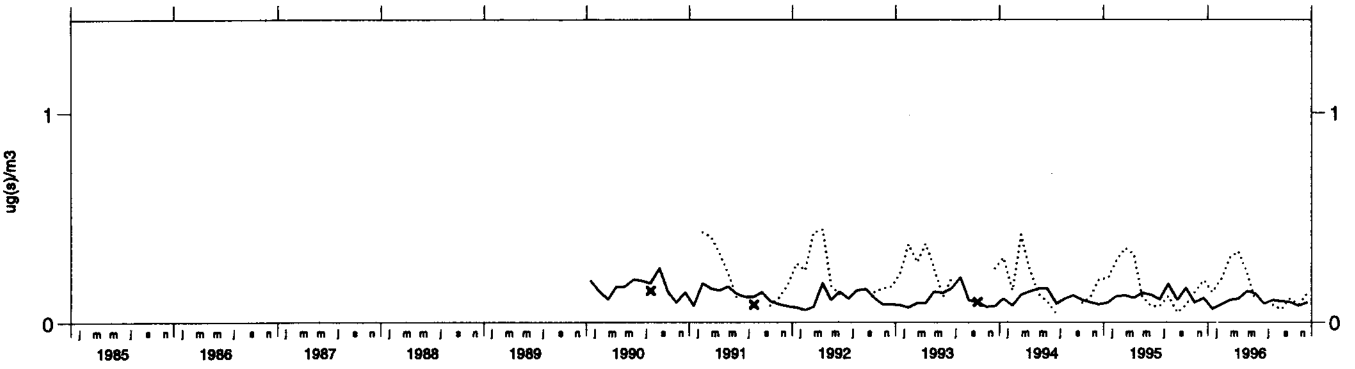
....	observed	mean = 0.48	std = 0.63	
———	modelled	mean = 0.49	std = 1.00	correlation = 0.51



Spitzbergen,Z (NO 42)

Concentration of particulate sulphate in air

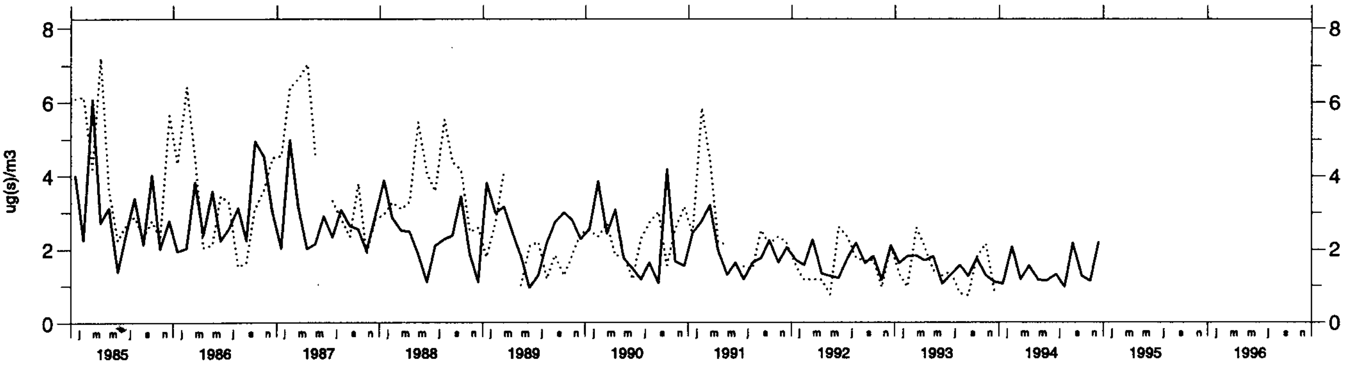
.... observed	mean = 0.20	std = 0.19		
——— modelled	mean = 0.12	std = 0.10	correlation =	0.12



Suwalki (PL 1)

Concentration of particulate sulphate in air

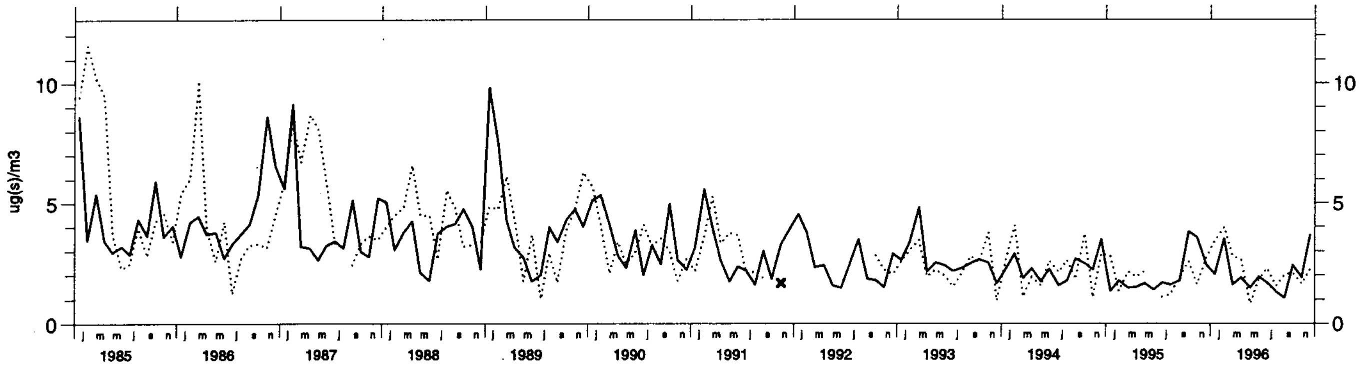
.... observed	mean = 2.82	std = 2.35		
——— modelled	mean = 2.34	std = 2.89	correlation =	0.25



Jarczew (PL 2)

Concentration of particulate sulphate in air

.... observed	mean = 3.46	std = 2.89		
——— modelled	mean = 3.29	std = 3.84	correlation =	0.31

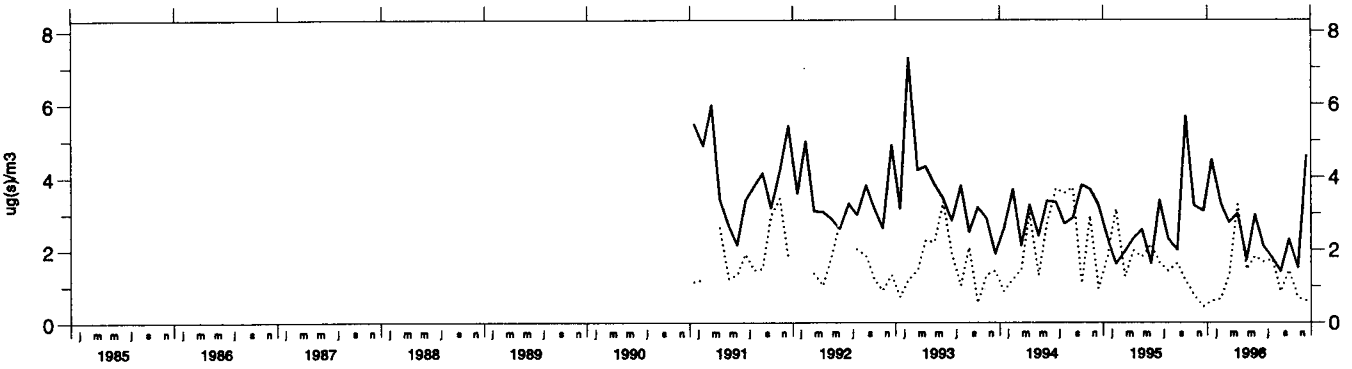


Sniezka (PL 3)

Concentration of particulate sulphate in air

.... observed mean = 1.69 std = 1.48

——— modelled mean = 3.21 std = 3.01 correlation = 0.09

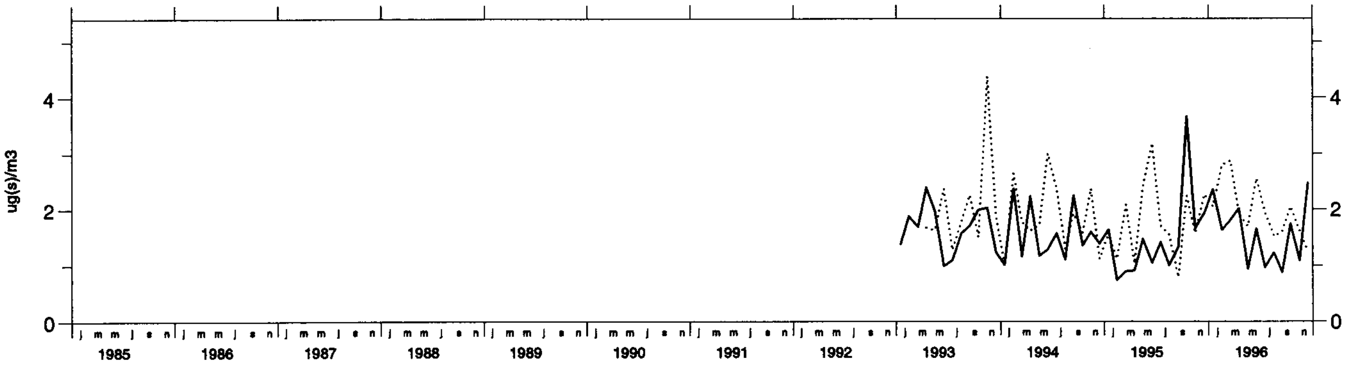


Leba (PL 4)

Concentration of particulate sulphate in air

.... observed mean = 1.93 std = 1.31

——— modelled mean = 1.56 std = 1.79 correlation = 0.27

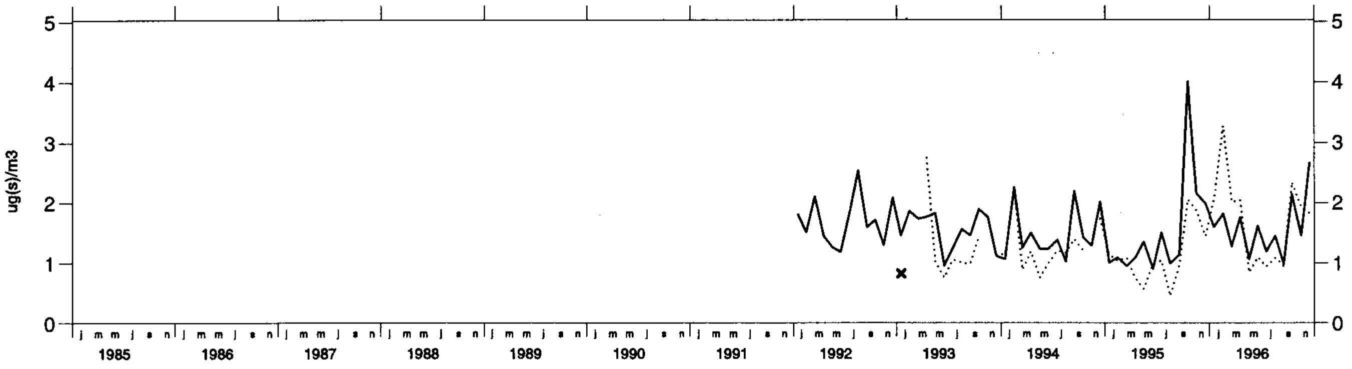


Diabla Gora (PL 5)

Concentration of particulate sulphate in air

.... observed mean = 1.35 std = 1.20

——— modelled mean = 1.53 std = 1.60 correlation = 0.42

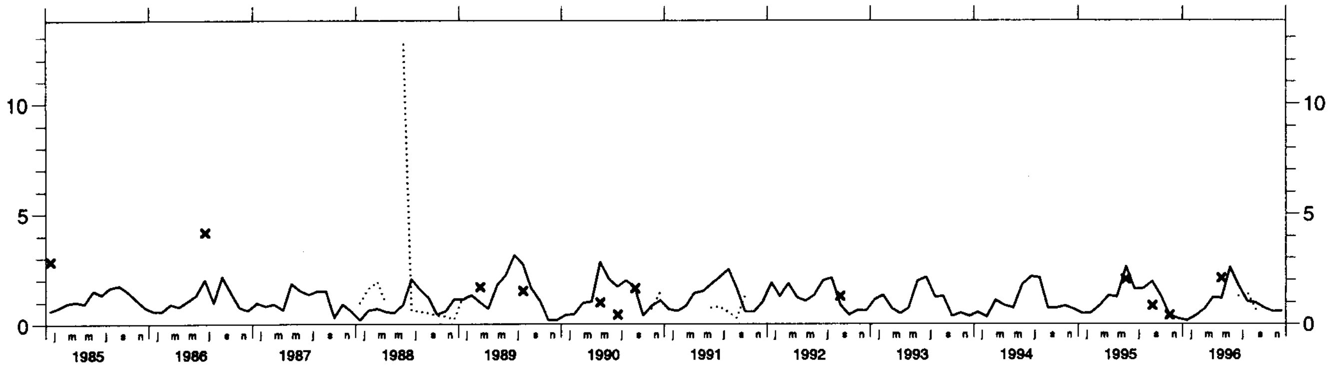


Braganca (PT 1)

Concentration of particulate sulphate in air

.... observed mean = 1.40 std = 2.74

——— modelled mean = 1.23 std = 2.02 correlation = 0.01

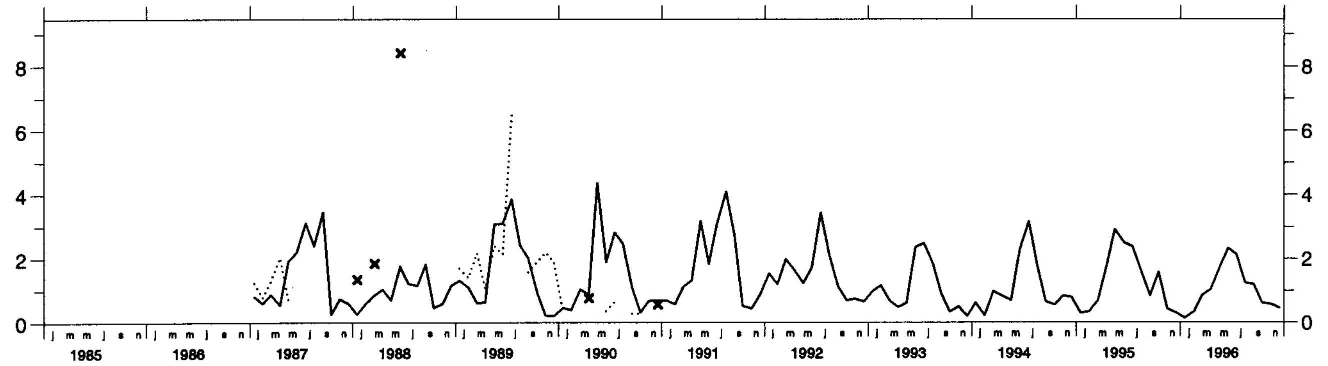


V.d.Castelo (PT 3)

Concentration of particulate sulphate in air

.... observed mean = 2.01 std = 2.99

——— modelled mean = 1.38 std = 2.22 correlation = 0.13

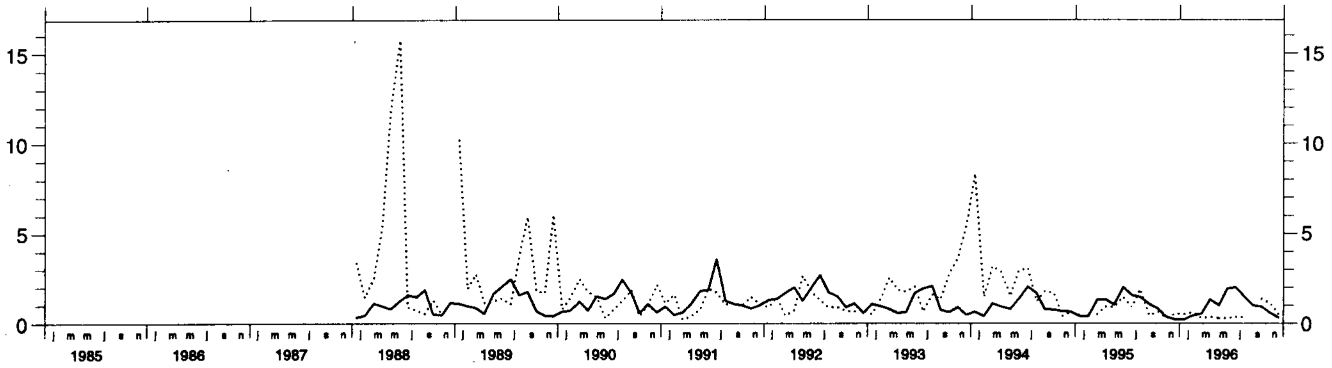


Monte_Velho (PT 4)

Concentration of particulate sulphate in air

.... observed mean = 1.85 std = 3.99

——— modelled mean = 1.14 std = 1.36 correlation = -0.00

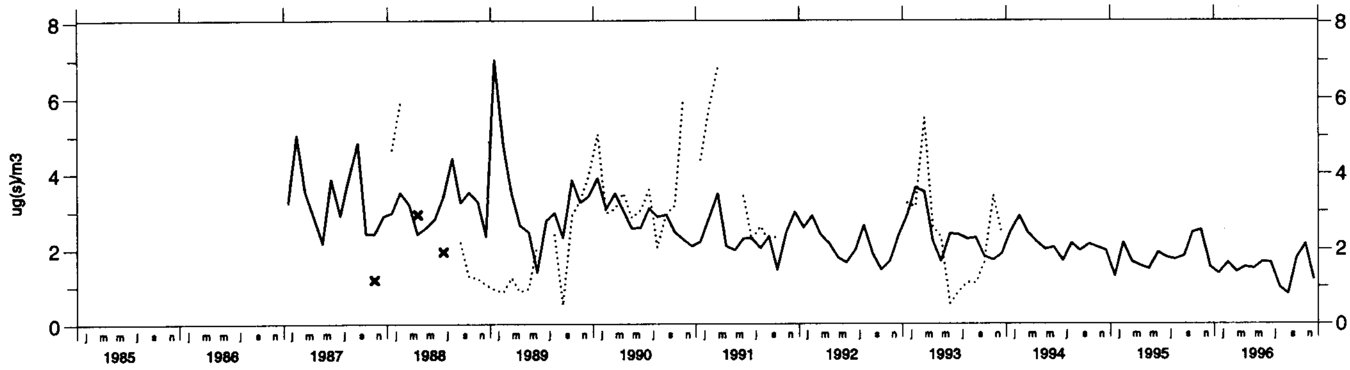


Leovo (MD 12)

Concentration of particulate sulphate in air

.... observed mean = 2.57 std = 2.36

——— modelled mean = 2.88 std = 2.48 correlation = 0.14

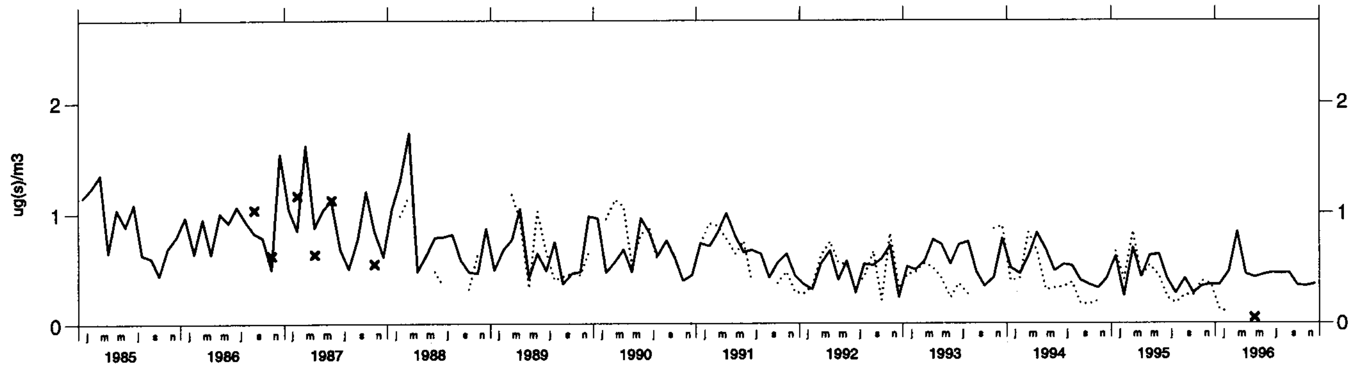


Janiskoski (RU 1)

Concentration of particulate sulphate in air

.... observed mean = 0.55 std = 0.59

——— modelled mean = 0.64 std = 0.67 correlation = 0.30

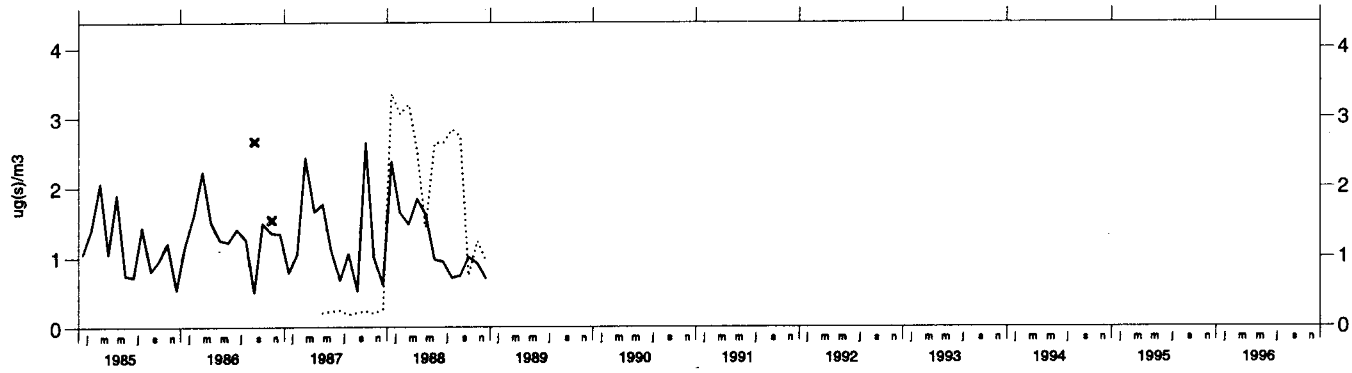


Lesogorsky (RU 8)

Concentration of particulate sulphate in air

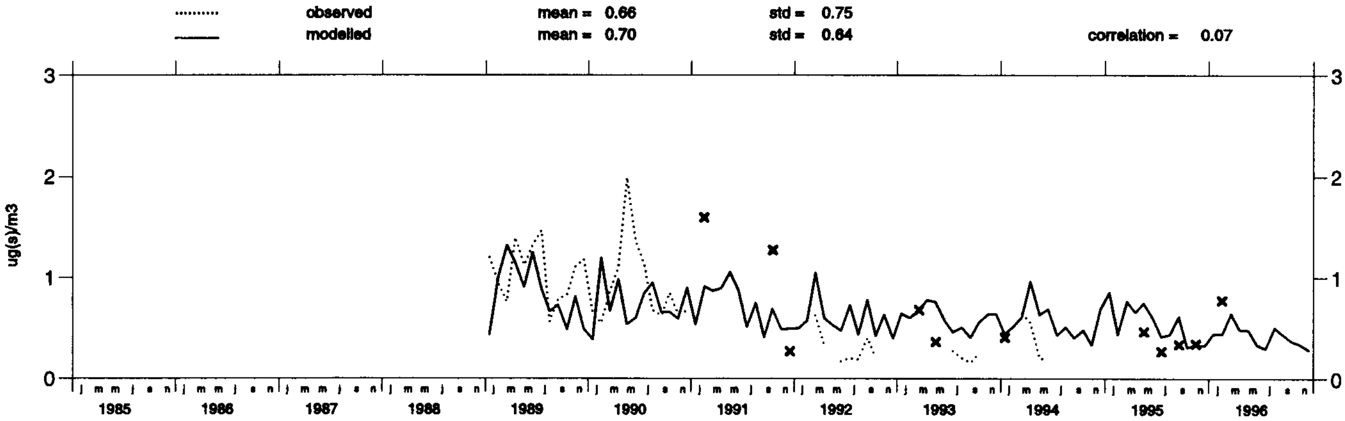
.... observed mean = 1.46 std = 1.60

——— modelled mean = 1.22 std = 1.55 correlation = 0.02



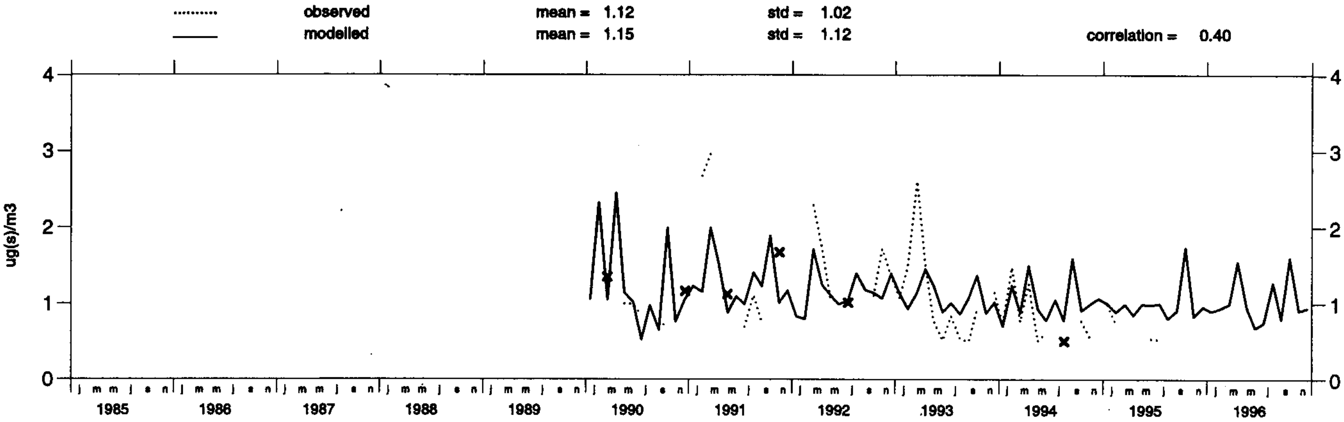
Pinega (RU 13)

Concentration of particulate sulphate in air



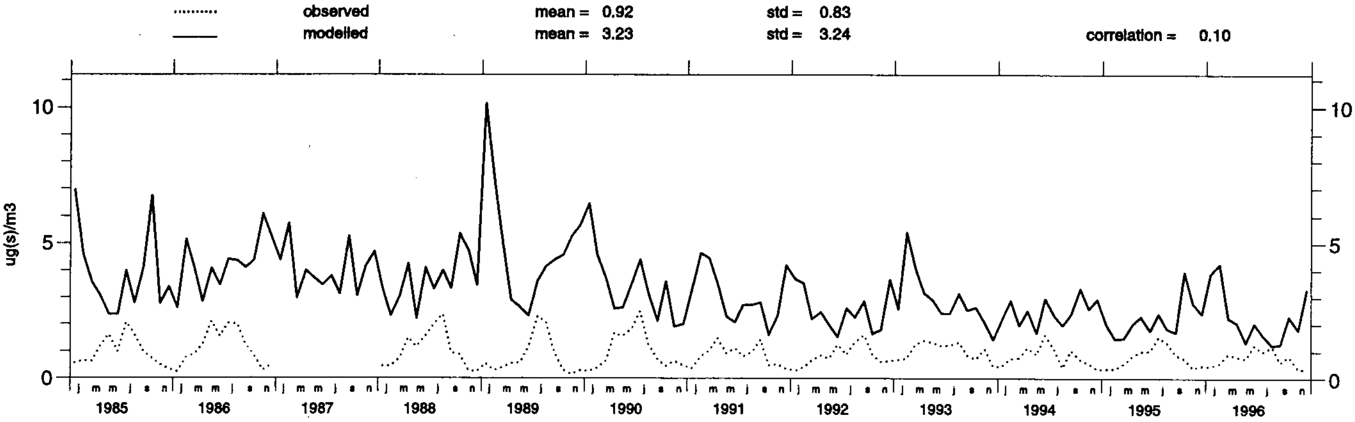
Pushkinsk_Gory (RU 14)

Concentration of particulate sulphate in air



Chopok (SK 2)

Concentration of particulate sulphate in air

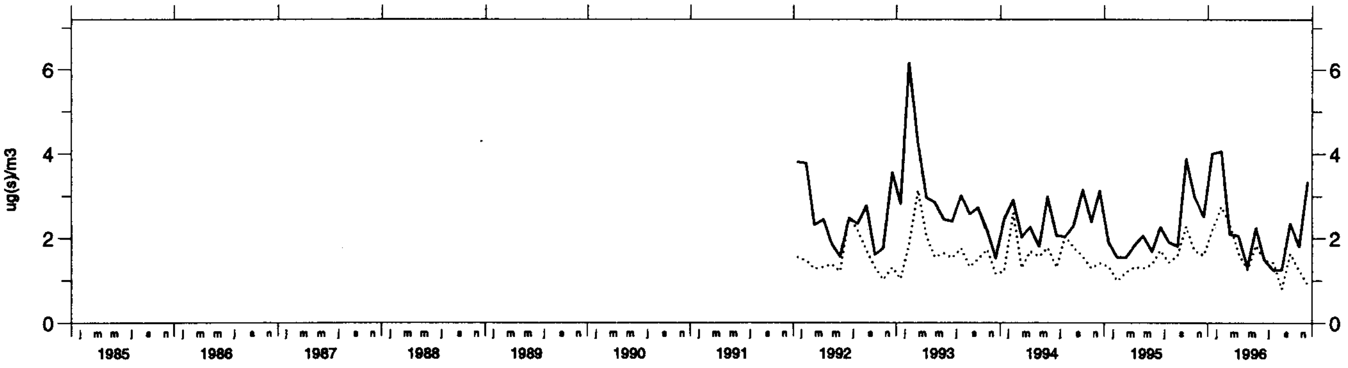


Stara Lesna (SK 4)

Concentration of particulate sulphate in air

.... observed mean = 1.60 std = 0.90

——— modelled mean = 2.49 std = 2.42 correlation = 0.33

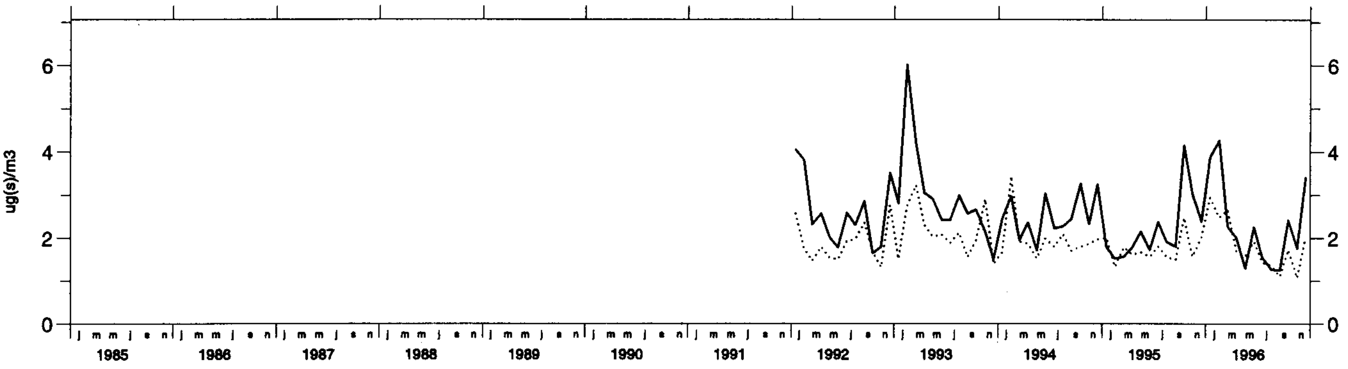


Liesek (SK 5)

Concentration of particulate sulphate in air

.... observed mean = 1.93 std = 1.06

——— modelled mean = 2.53 std = 2.49 correlation = 0.45

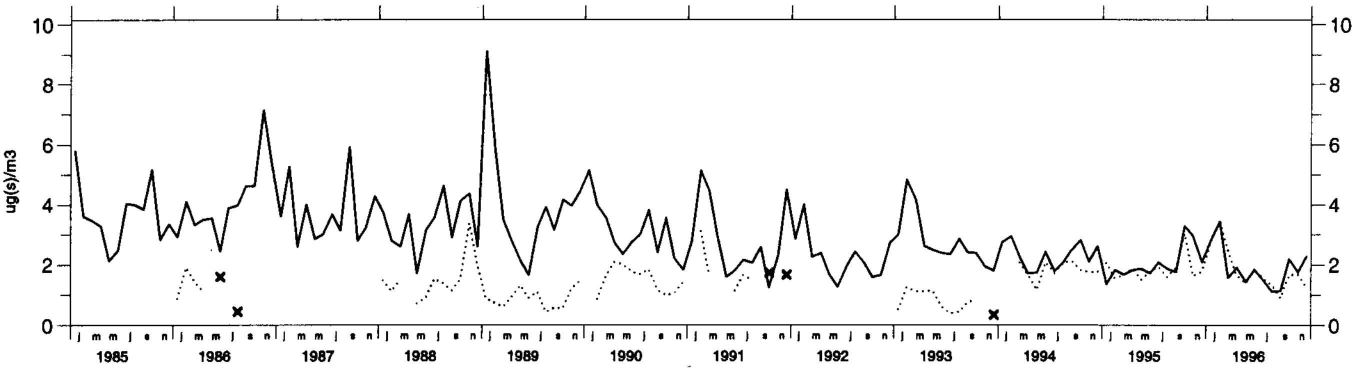


Starina (SK 6)

Concentration of particulate sulphate in air

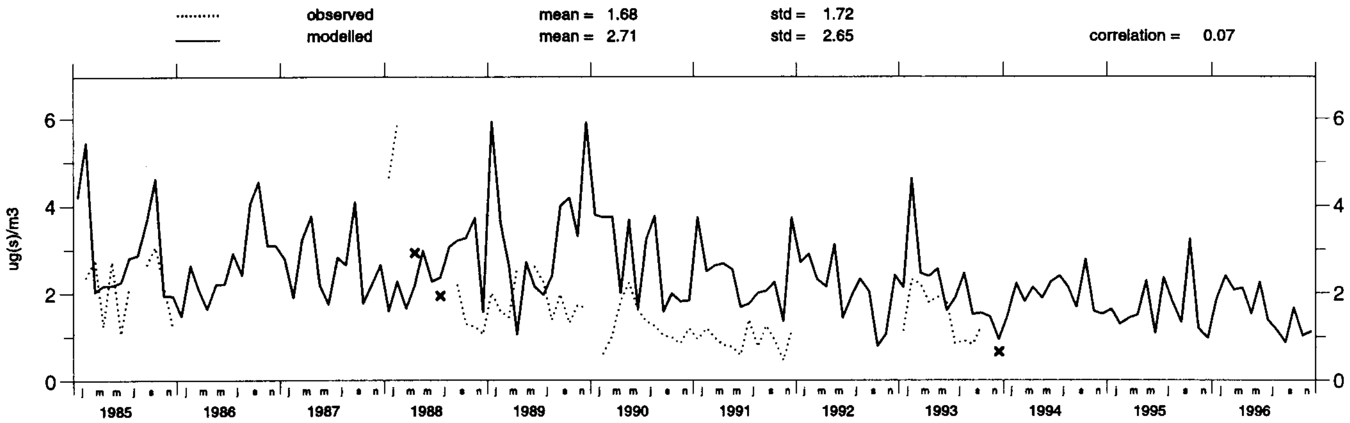
.... observed mean = 1.43 std = 1.20

——— modelled mean = 2.91 std = 2.95 correlation = 0.05



Masun (SI 1)

Concentration of particulate sulphate in air

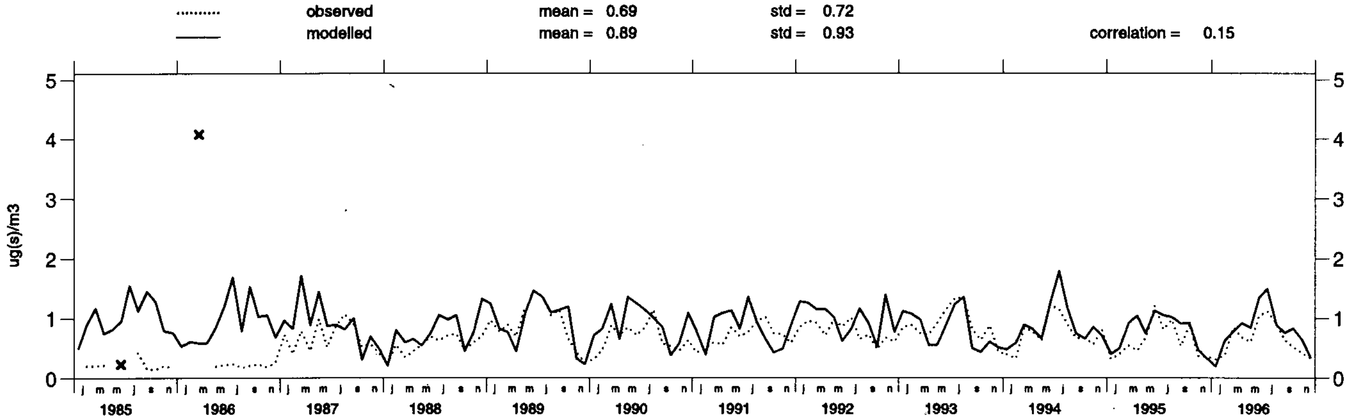


observed mean = 1.68 std = 1.72

modelled mean = 2.71 std = 2.65 correlation = 0.07

Toledo (ES 1)

Concentration of particulate sulphate in air

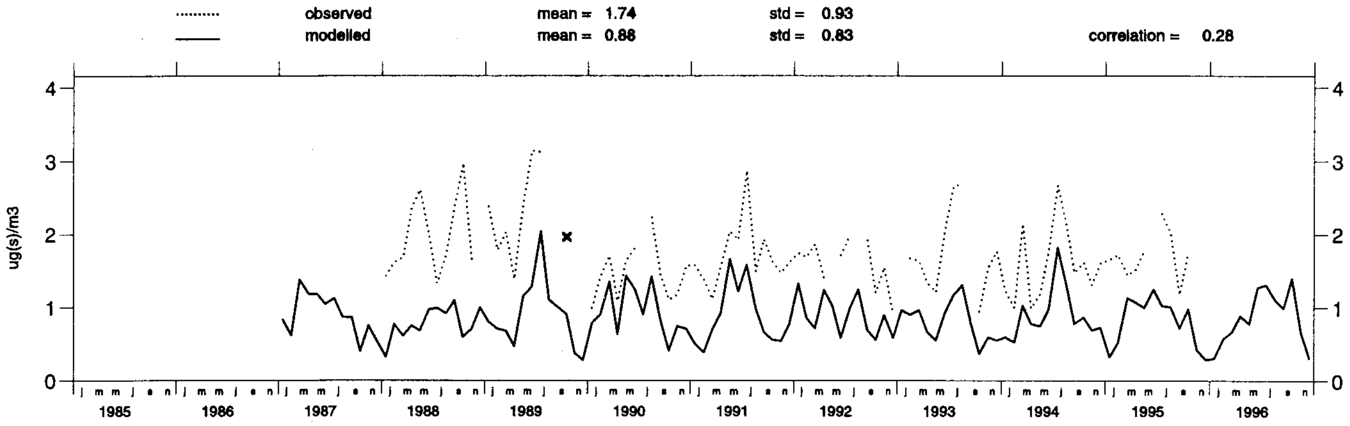


observed mean = 0.69 std = 0.72

modelled mean = 0.89 std = 0.93 correlation = 0.15

La_Cartuja (ES 2)

Concentration of particulate sulphate in air

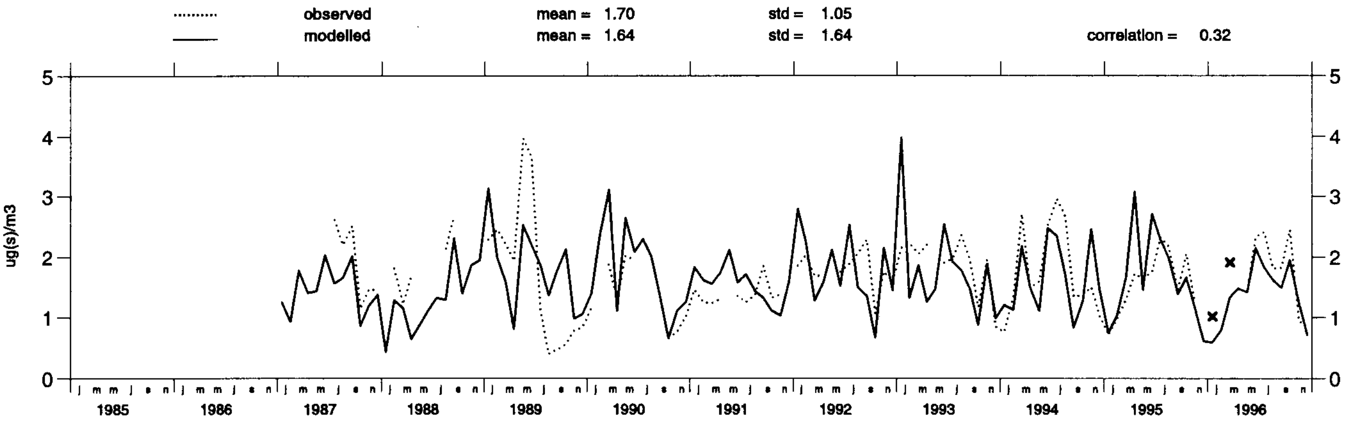


observed mean = 1.74 std = 0.93

modelled mean = 0.88 std = 0.83 correlation = 0.28

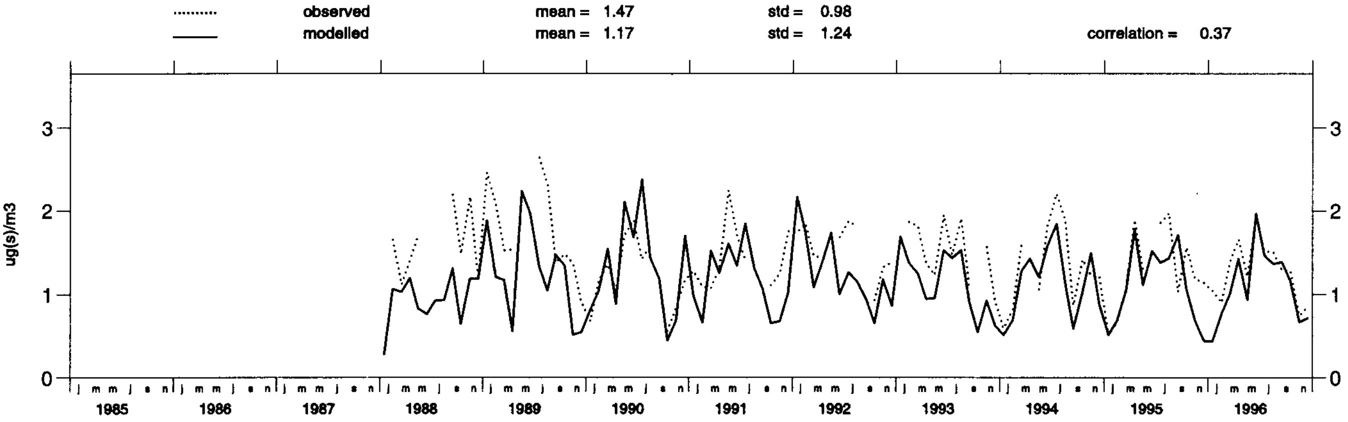
Roquetas (ES 3)

Concentration of particulate sulphate in air



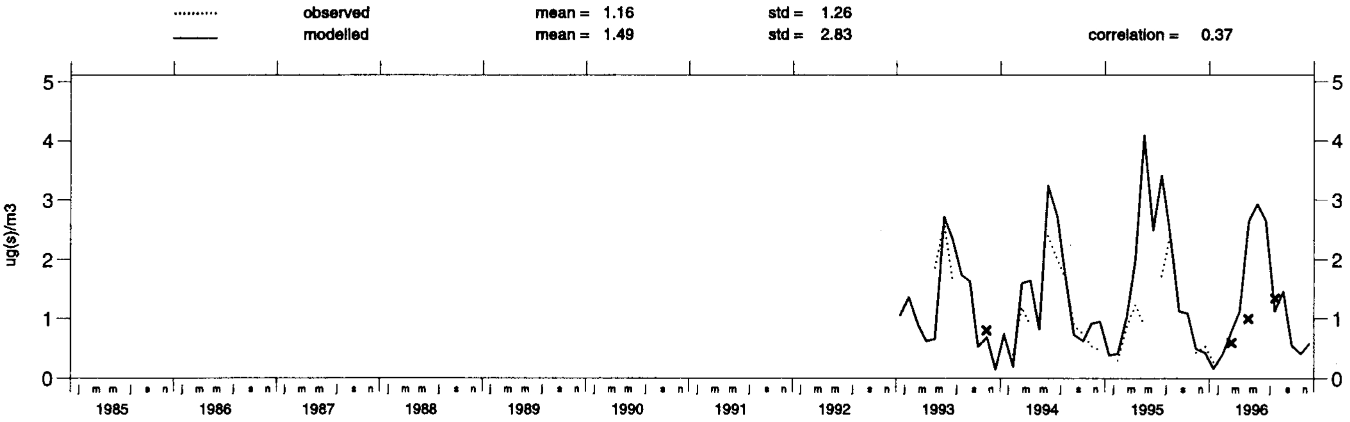
Logrono (ES 4)

Concentration of particulate sulphate in air



Noio (ES 5)

Concentration of particulate sulphate in air

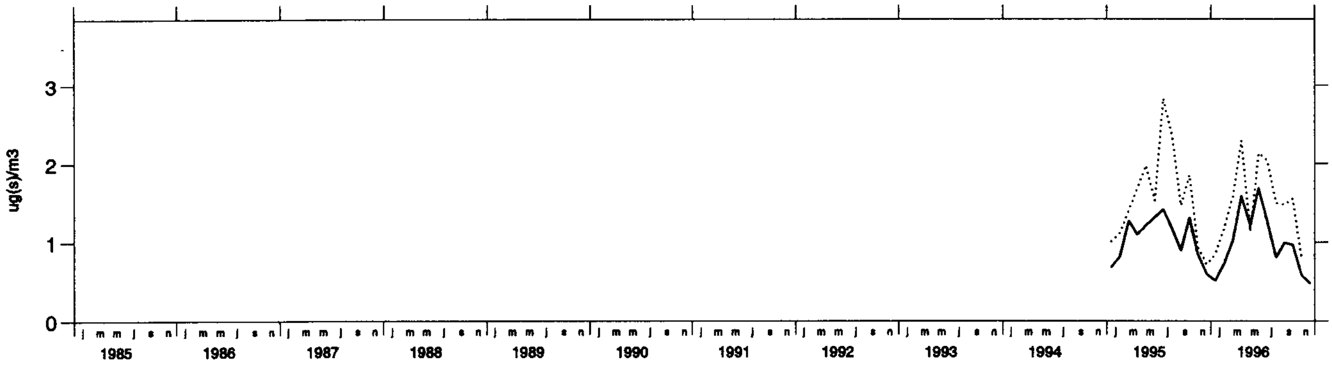


Mahon (ES 6)

Concentration of particulate sulphate in air

.... observed mean = 1.55 std = 0.95

——— modelled mean = 1.05 std = 0.80 correlation = 0.38

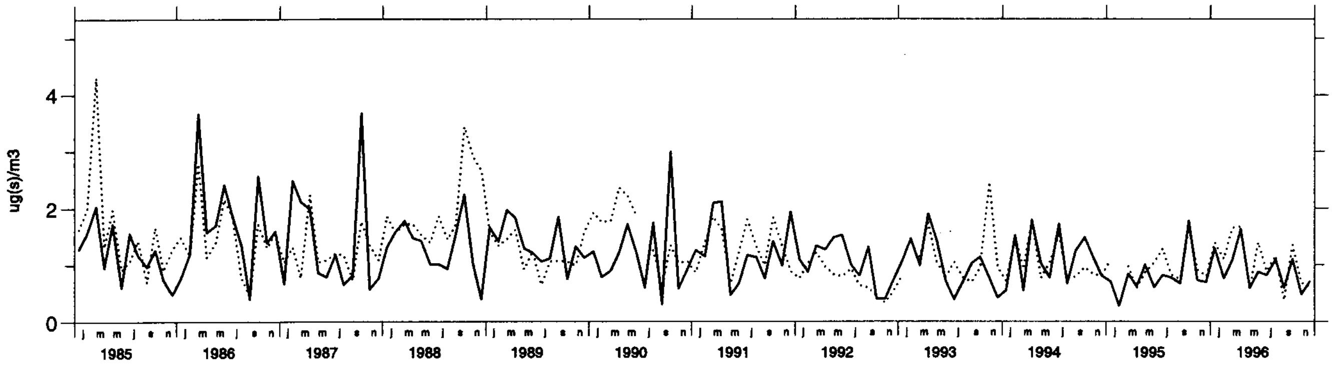


Roervik (SE 2)

Concentration of particulate sulphate in air

.... observed mean = 1.29 std = 1.26

——— modelled mean = 1.20 std = 2.13 correlation = 0.48

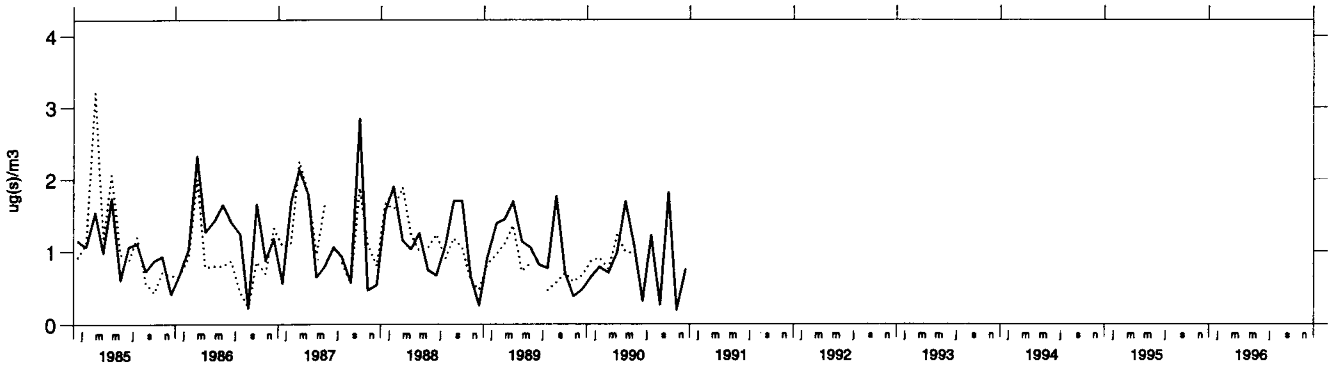


Velen (SE 3)

Concentration of particulate sulphate in air

.... observed mean = 1.06 std = 1.15

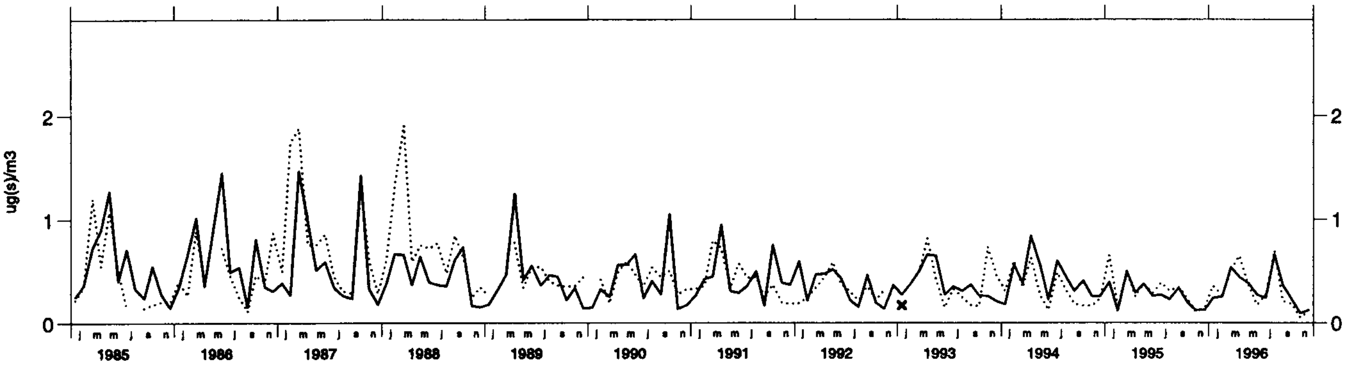
——— modelled mean = 1.13 std = 2.01 correlation = 0.50



Bredkelen (SE 5)

Concentration of particulate sulphate in air

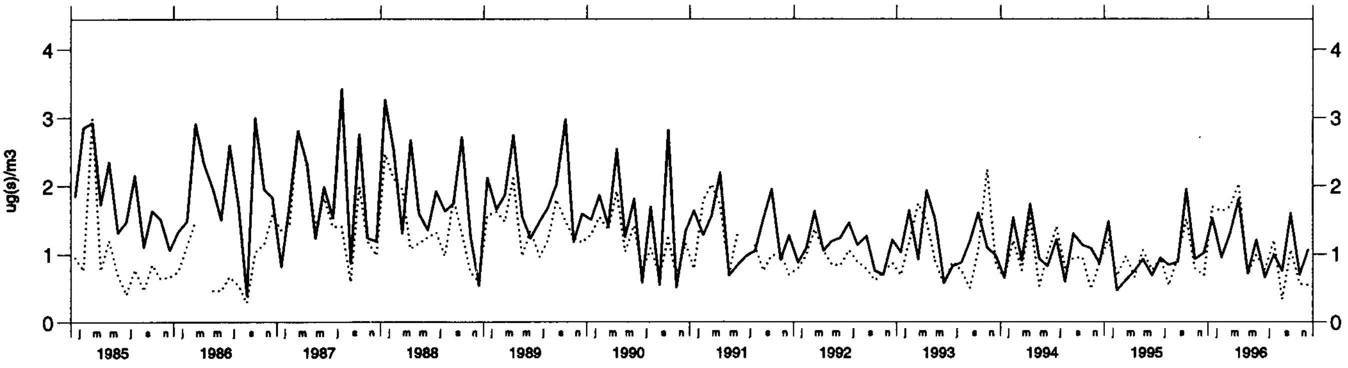
·········· observed	mean = 0.45	std = 0.61		
—— modelled	mean = 0.44	std = 0.78	correlation =	0.42



Hoburg (SE 8)

Concentration of particulate sulphate in air

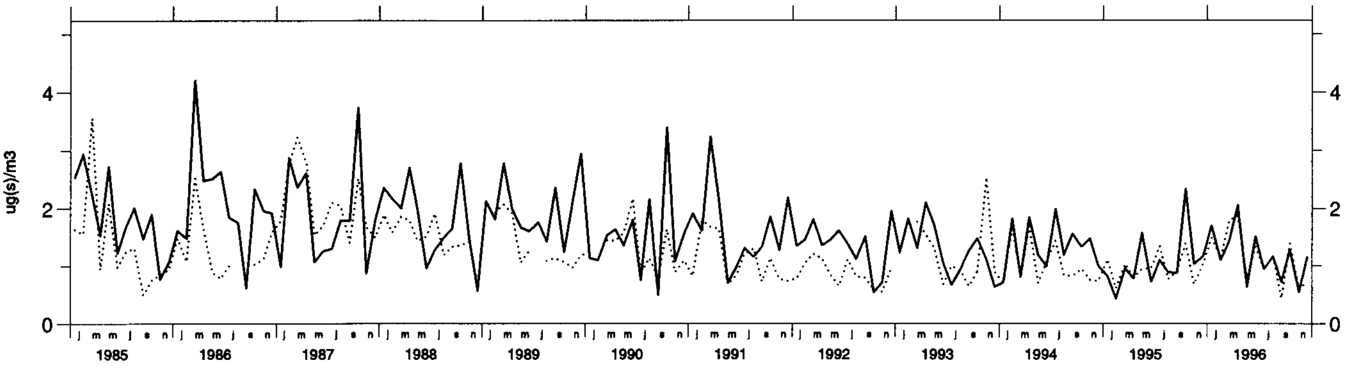
·········· observed	mean = 1.12	std = 1.04		
—— modelled	mean = 1.47	std = 2.36	correlation =	0.50



Vavihill (SE 11)

Concentration of particulate sulphate in air

·········· observed	mean = 1.27	std = 1.29		
—— modelled	mean = 1.60	std = 2.54	correlation =	0.50

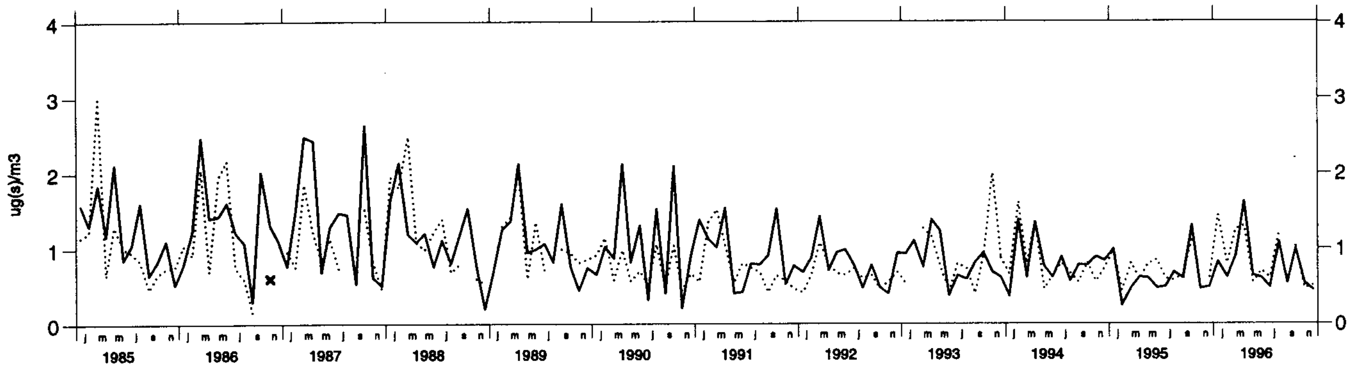


Aspvreten (SE 12)

Concentration of particulate sulphate in air

.... observed mean = 0.92 std = 0.99

——— modelled mean = 1.00 std = 1.69 correlation = 0.43

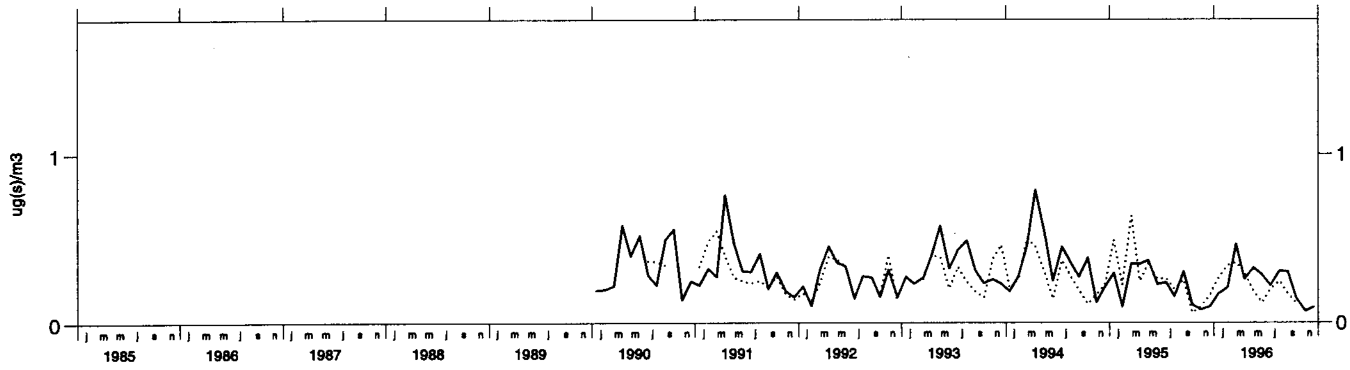


Esrange (SE 13)

Concentration of particulate sulphate in air

.... observed mean = 0.27 std = 0.30

——— modelled mean = 0.30 std = 0.40 correlation = 0.37

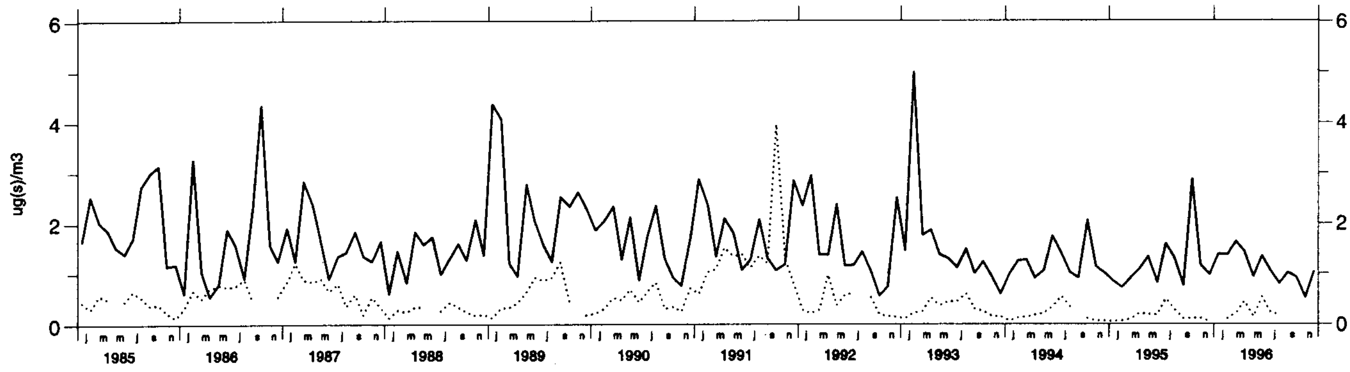


Jungfraujoch (CH 1)

Concentration of particulate sulphate in air

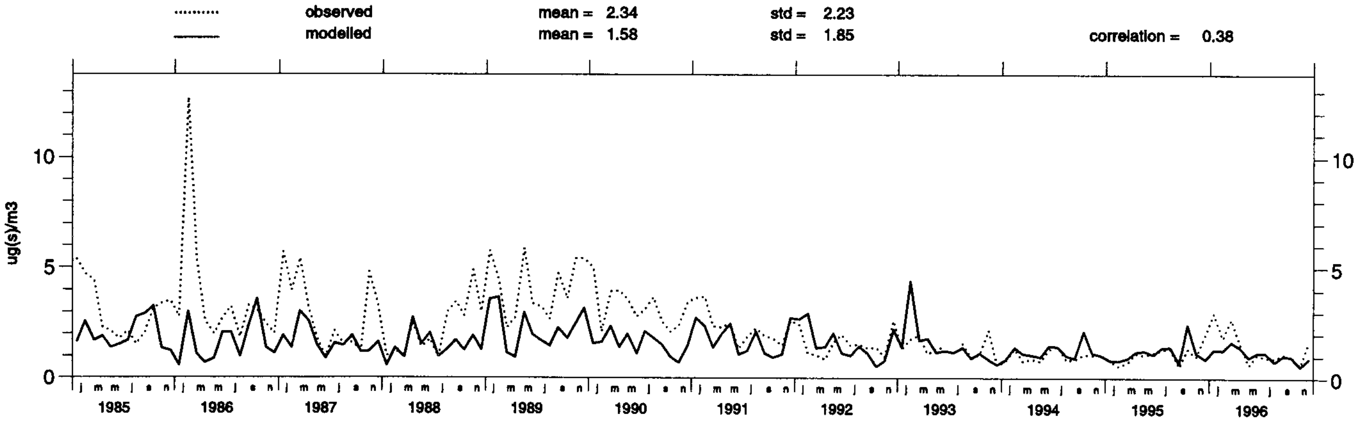
.... observed mean = 0.49 std = 0.66

——— modelled mean = 1.61 std = 1.90 correlation = 0.06



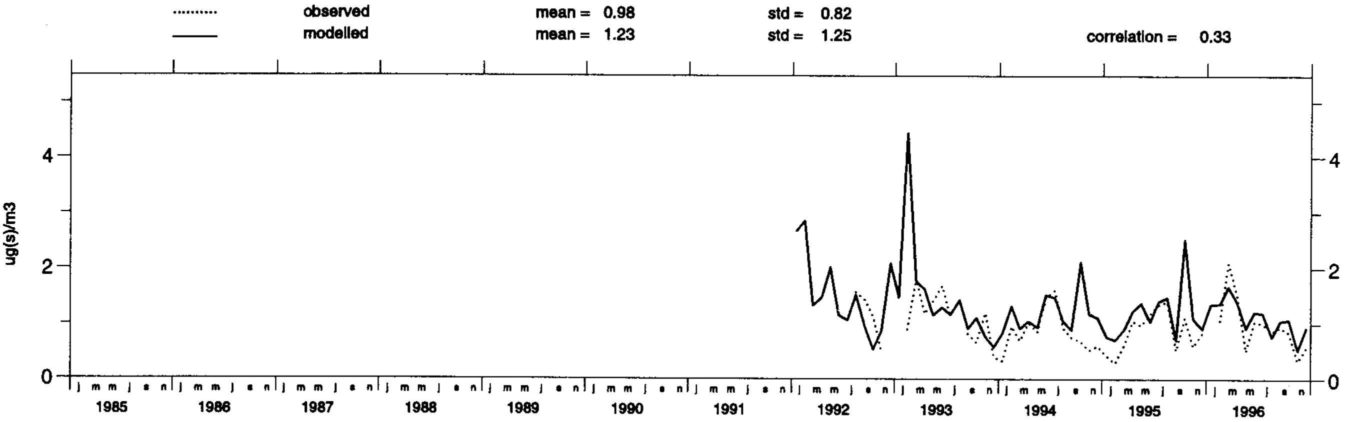
Payerne (CH 2)

Concentration of particulate sulphate in air



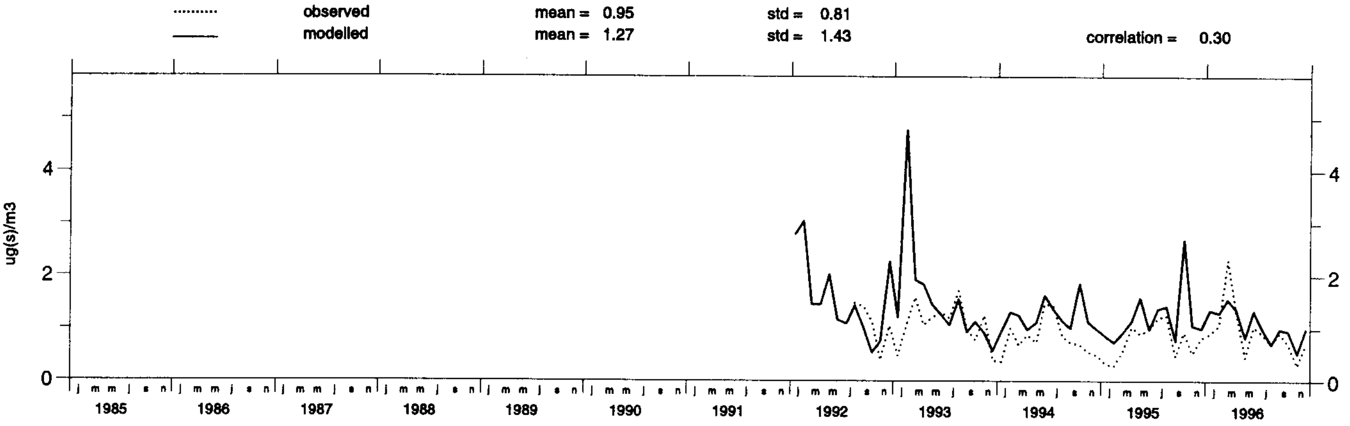
Chaumont (CH 4)

Concentration of particulate sulphate in air



Rigi (CH 5)

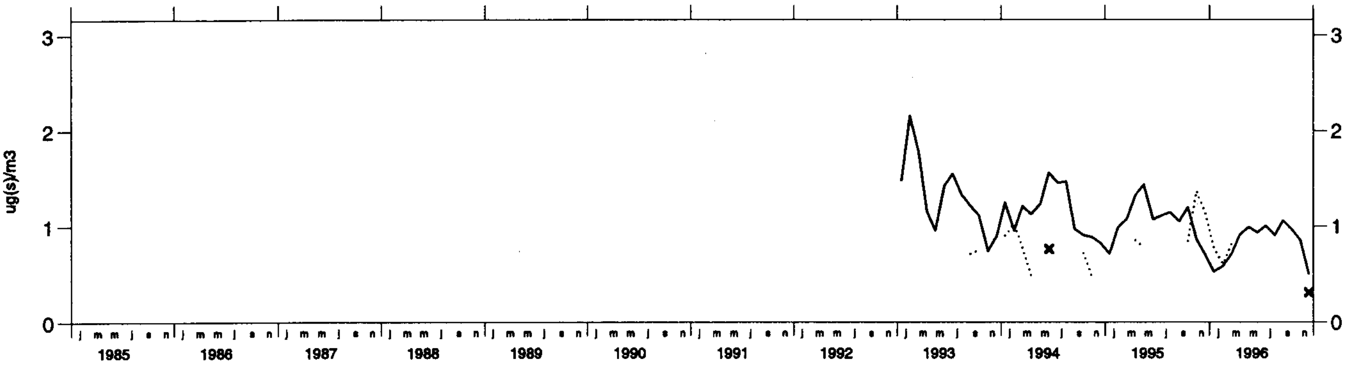
Concentration of particulate sulphate in air



Cubuk11 (TR 1)

Concentration of particulate sulphate in air

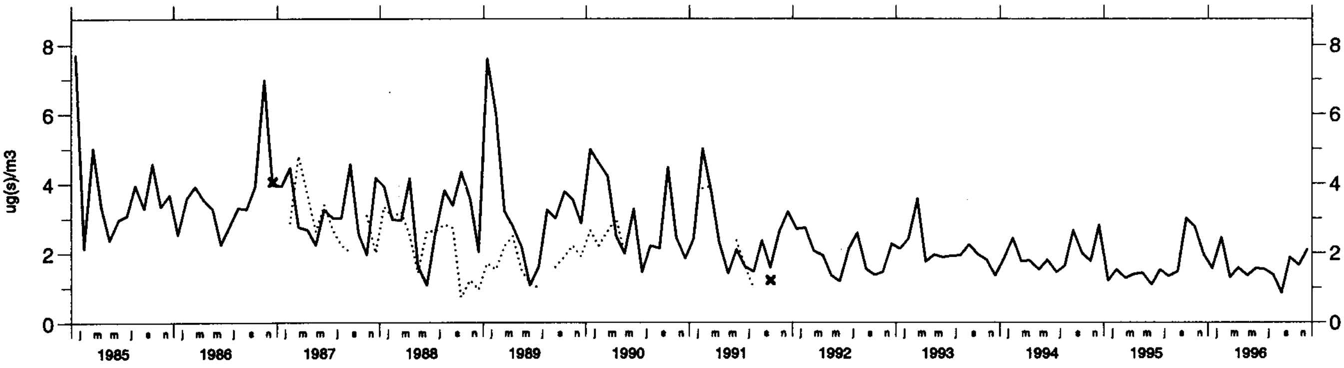
....	observed	mean = 0.73	std = 0.51	
———	modelled	mean = 1.03	std = 0.65	correlation = 0.19



Svityatz (UA 5)

Concentration of particulate sulphate in air

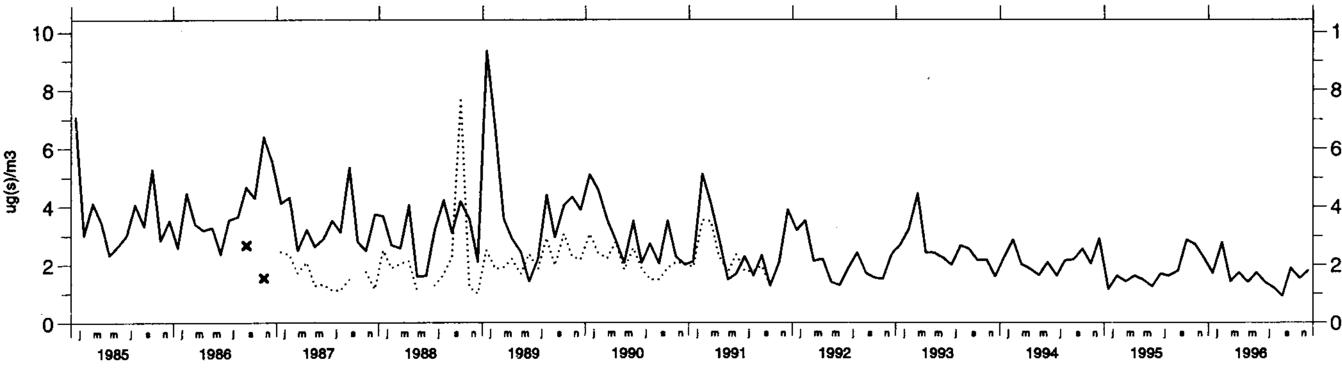
....	observed	mean = 2.42	std = 1.84	
———	modelled	mean = 3.25	std = 3.91	correlation = 0.29



Rava-Russkaya (UA 6)

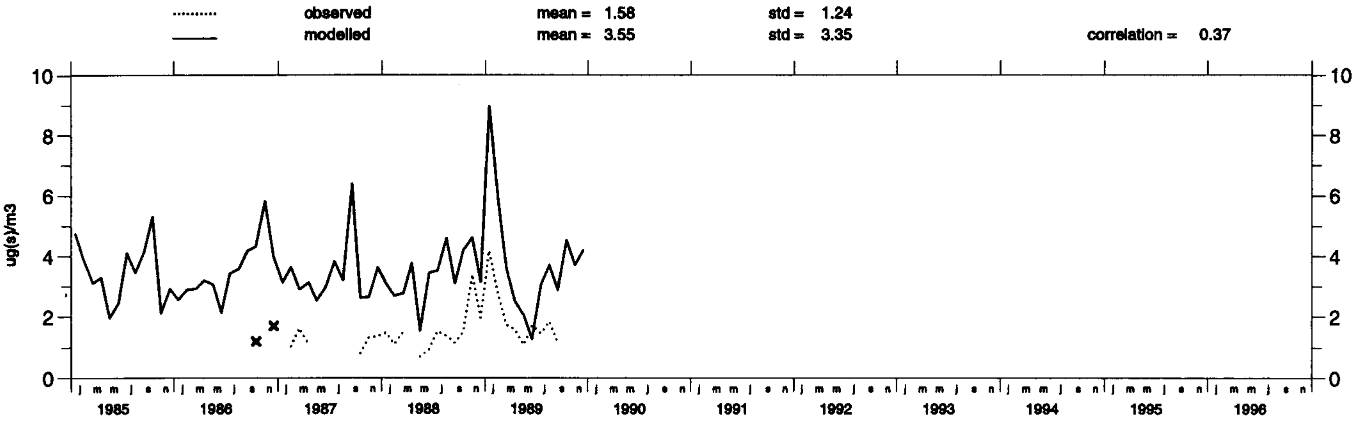
Concentration of particulate sulphate in air

....	observed	mean = 2.13	std = 1.75	
———	modelled	mean = 3.35	std = 3.58	correlation = 0.28



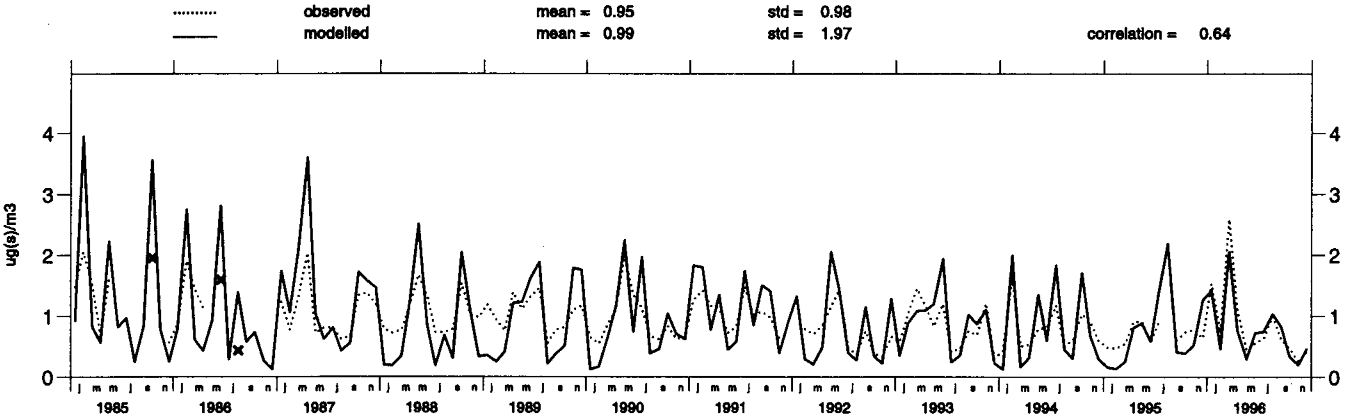
Beregovo (UA 7)

Concentration of particulate sulphate in air



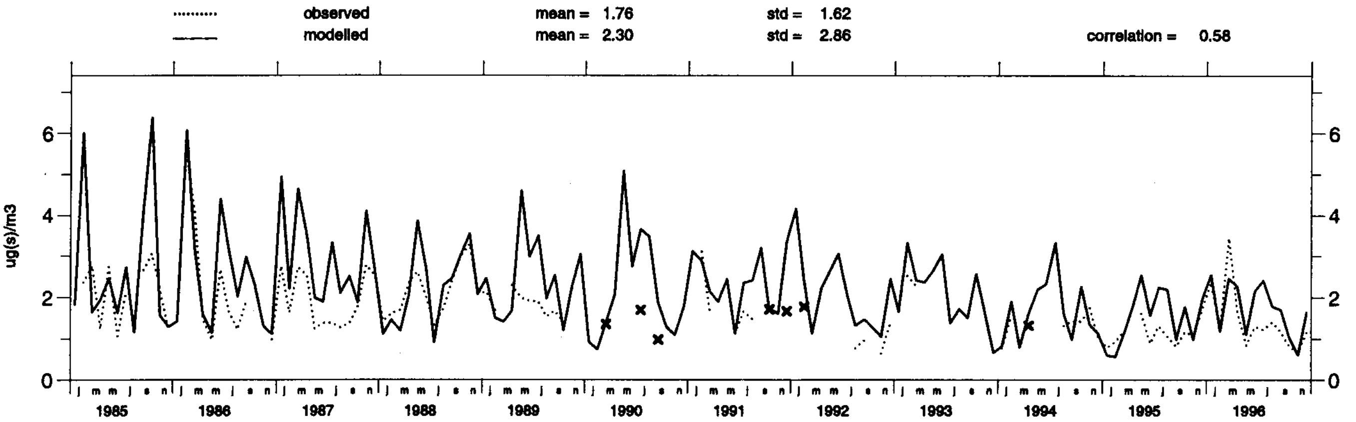
Eskdalemuir (GB 2)

Concentration of particulate sulphate in air



Stoke_Ferry (GB 4)

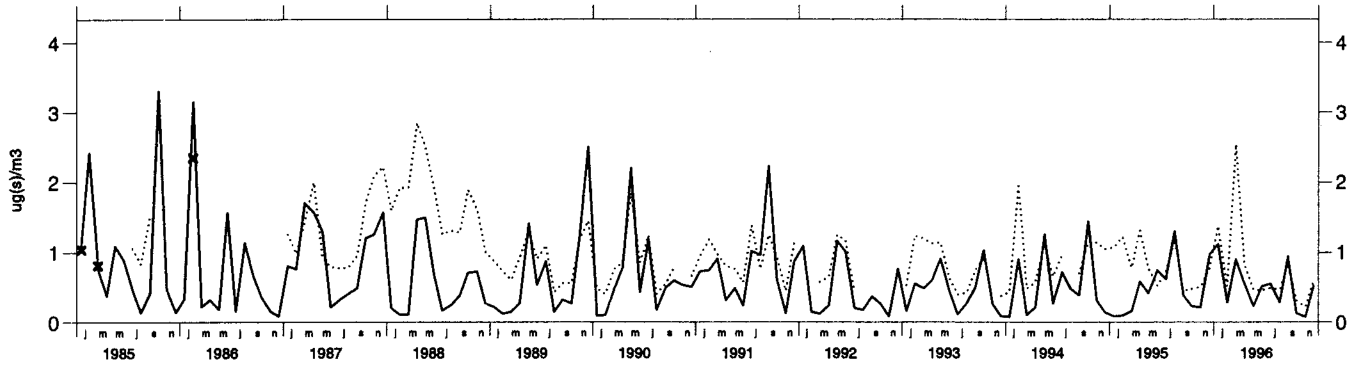
Concentration of particulate sulphate in air



Lough_Navar (GB 6)

Concentration of particulate sulphate in air

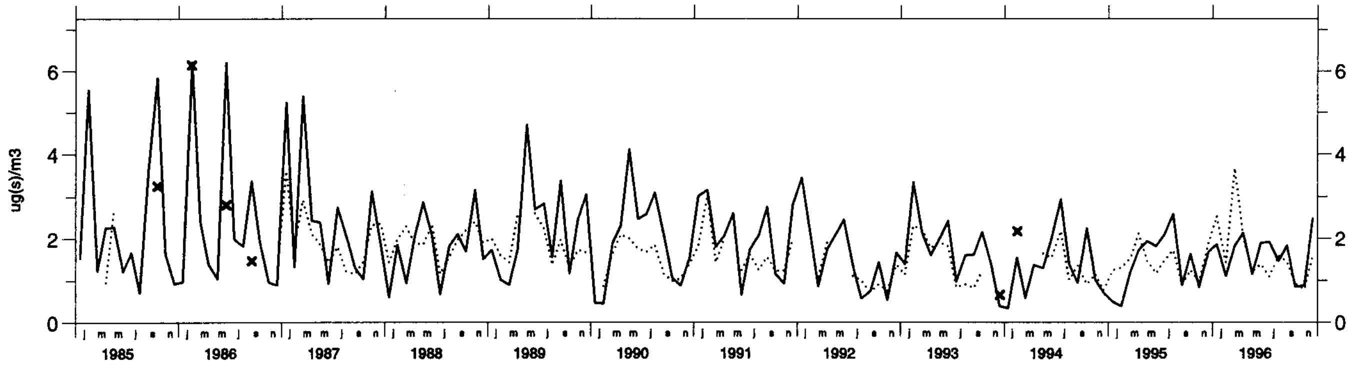
....	observed	mean = 1.02	std = 0.99		
———	modelled	mean = 0.69	std = 1.58	correlation =	0.59



Barcombe_Mills (GB 7)

Concentration of particulate sulphate in air

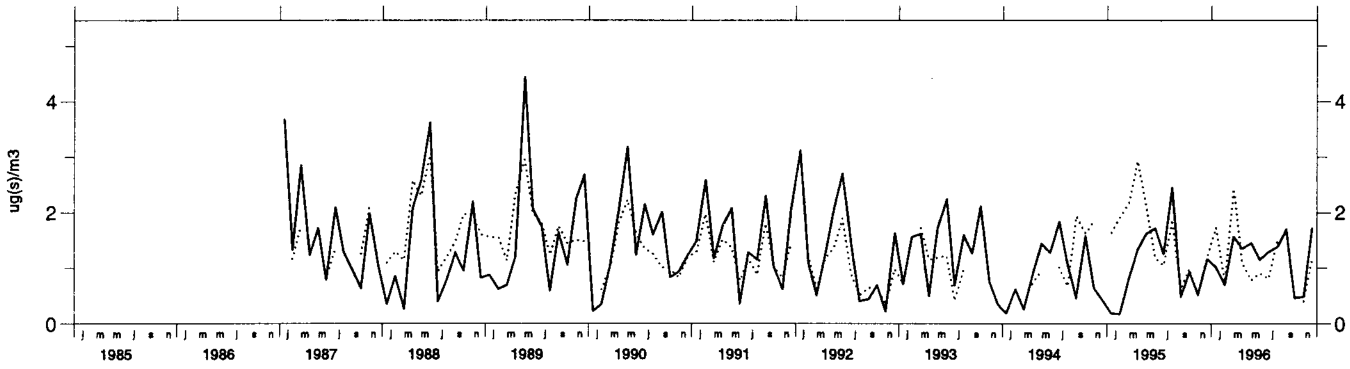
....	observed	mean = 1.67	std = 1.46		
———	modelled	mean = 1.96	std = 2.64	correlation =	0.55



Yarner_Wood (GB 13)

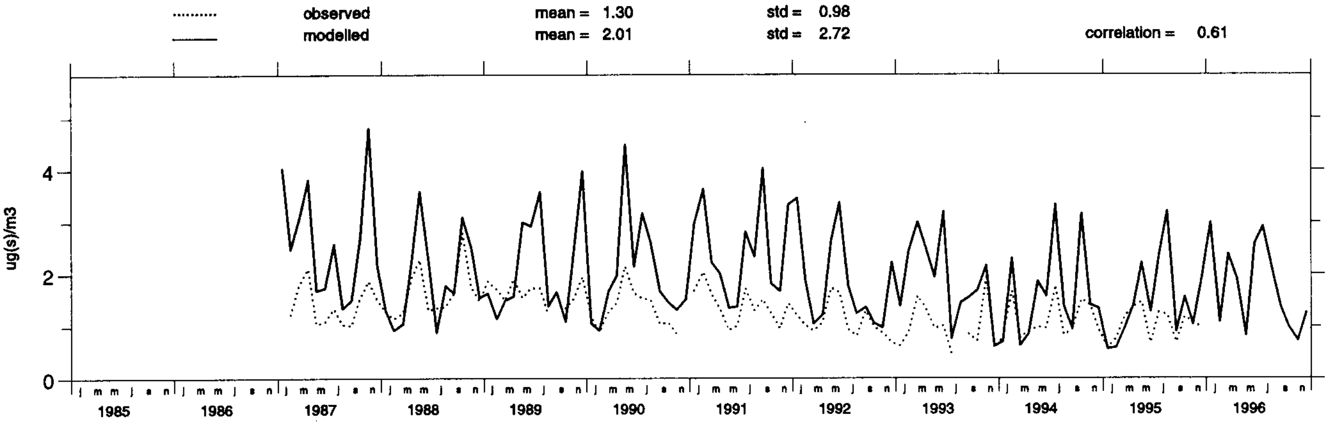
Concentration of particulate sulphate in air

....	observed	mean = 1.35	std = 1.18		
———	modelled	mean = 1.35	std = 2.03	correlation =	0.56



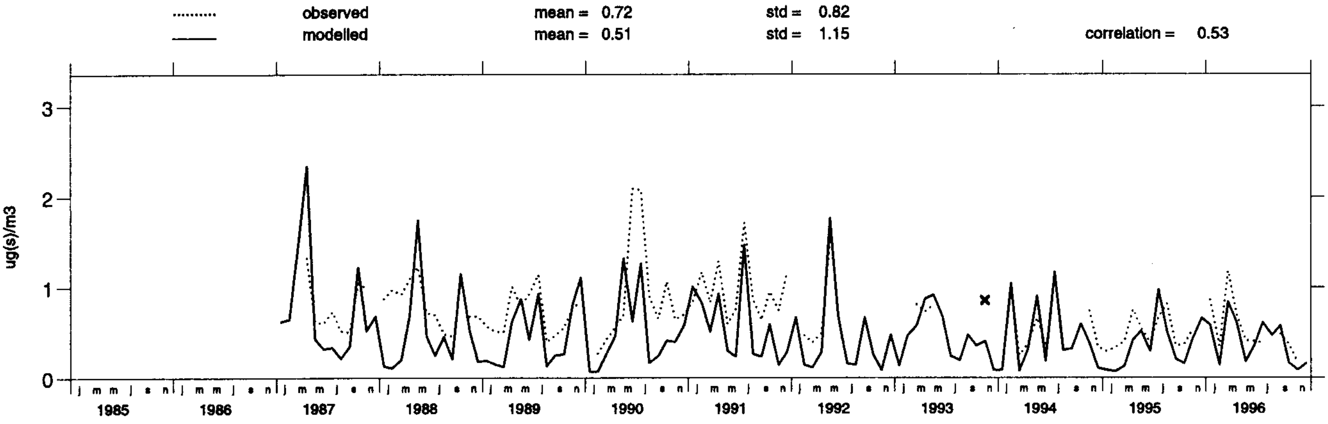
High_Muffles (GB 14)

Concentration of particulate sulphate in air



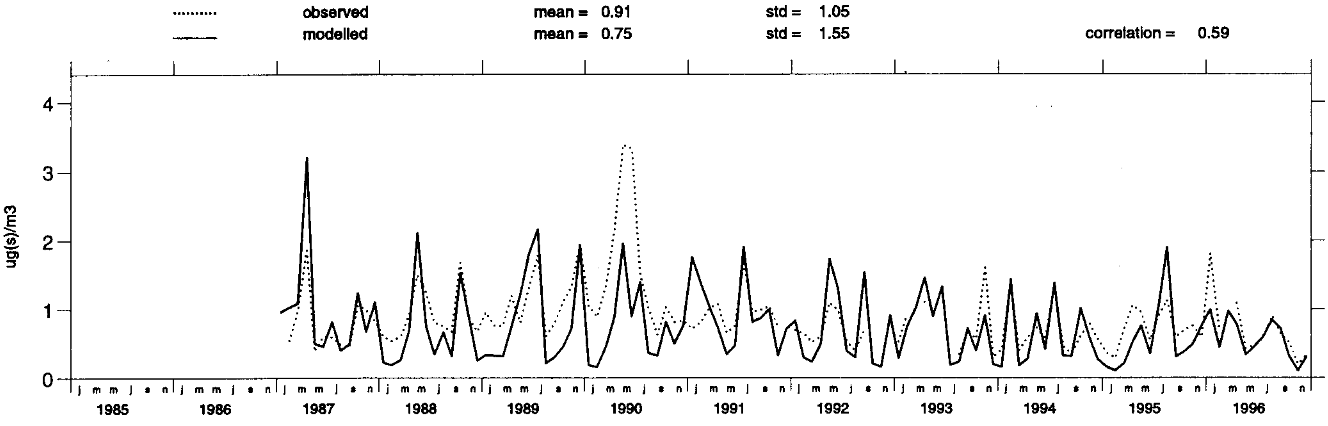
Strath_Vaich_D. (GB 15)

Concentration of particulate sulphate in air



Glen_Dye (GB 16)

Concentration of particulate sulphate in air



Time series for concentration of Nitrogen Dioxide in air

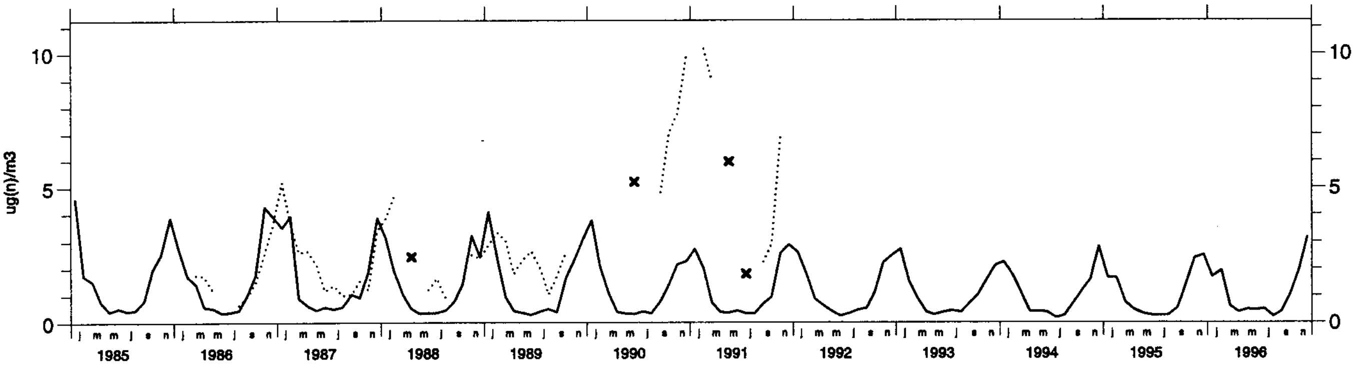
Period: 1985-96

Vysokoe (BY 4)

Concentration of nitrogen dioxide in air

.... observed mean = 3.35 std = 3.25

——— modelled mean = 1.36 std = 1.73 correlation = 0.24

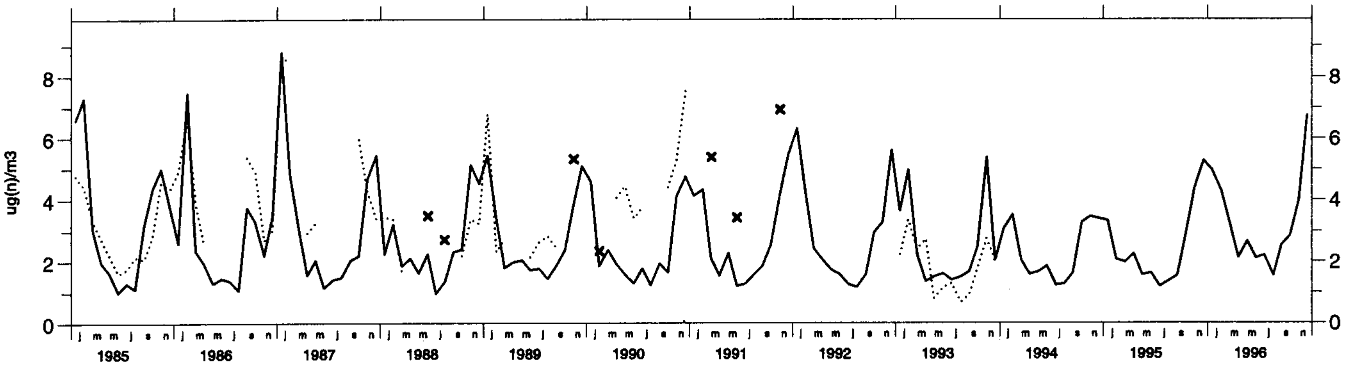


Offagne (BE 1)

Concentration of nitrogen dioxide in air

.... observed mean = 3.71 std = 3.13

——— modelled mean = 2.92 std = 2.68 correlation = 0.41

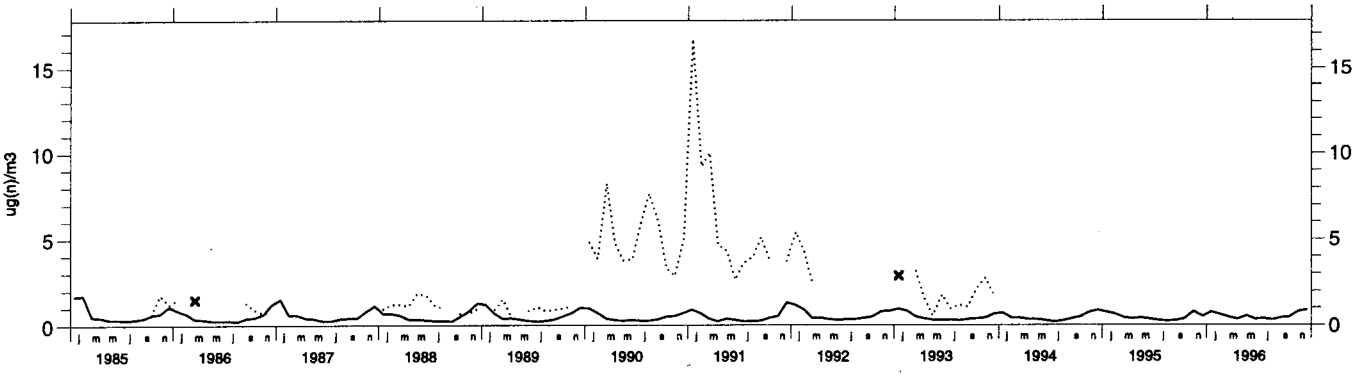


Ivan_Sedlo (BA 6)

Concentration of nitrogen dioxide in air

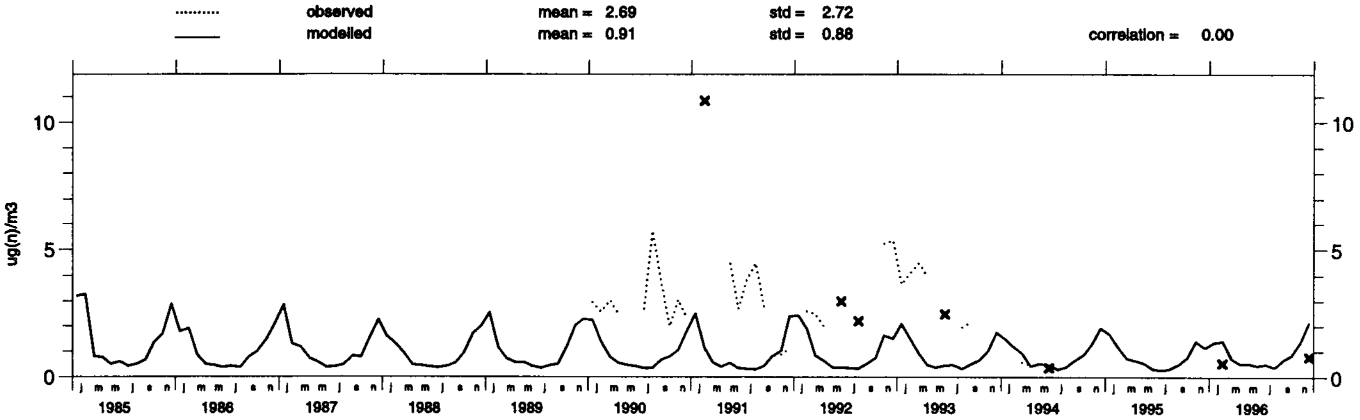
.... observed mean = 2.82 std = 3.21

——— modelled mean = 0.52 std = 0.46 correlation = 0.05



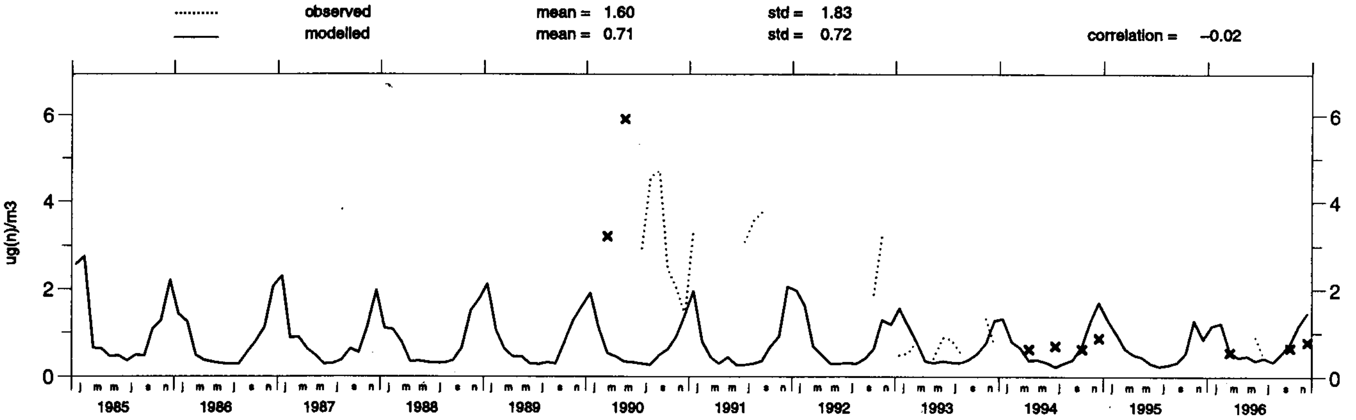
Puntijarka (HR 2)

Concentration of nitrogen dioxide in air



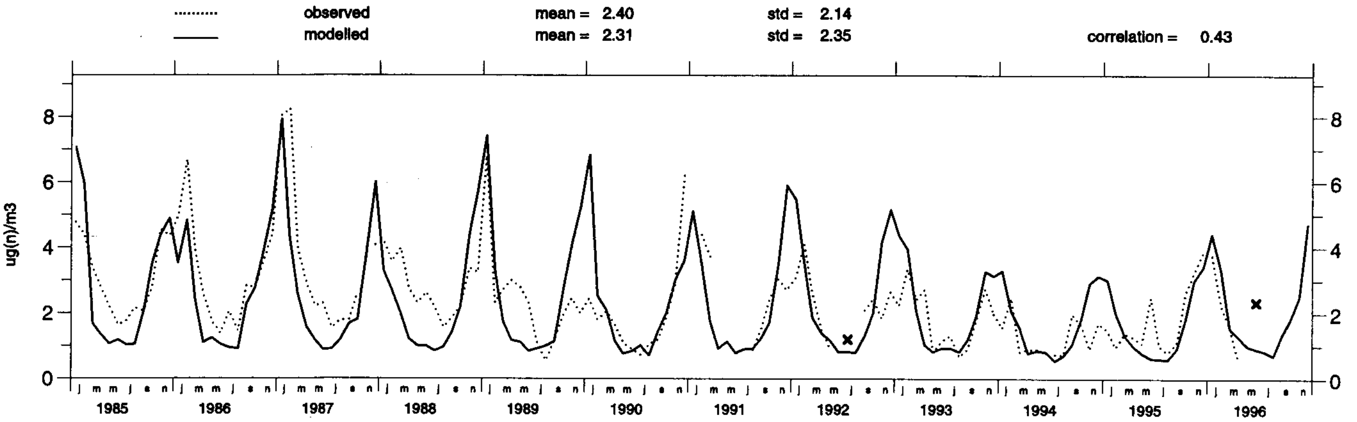
Zavizan (HR 4)

Concentration of nitrogen dioxide in air



Svratouch (CS 1)

Concentration of nitrogen dioxide in air

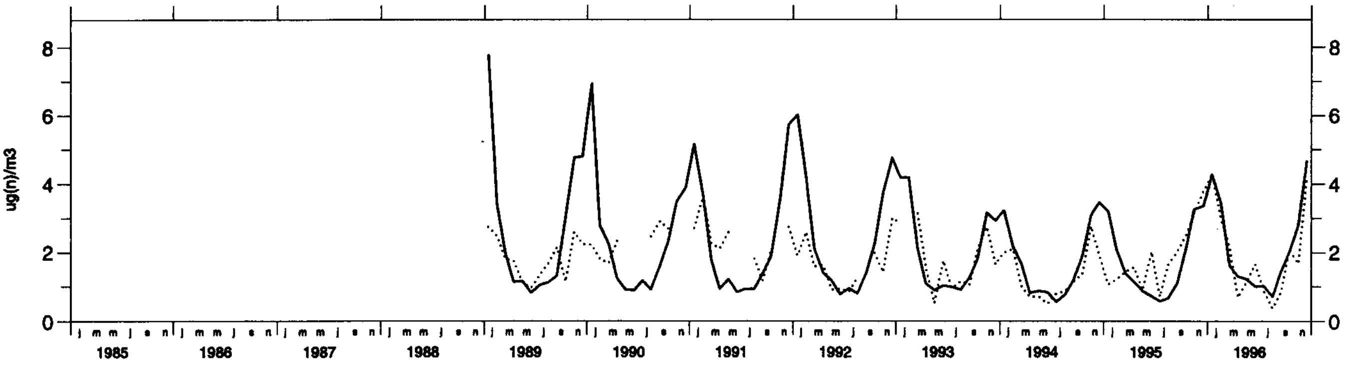


Kosetice (CS 3)

Concentration of nitrogen dioxide in air

.... observed mean = 1.89 std = 1.55

——— modelled mean = 2.21 std = 2.18 correlation = 0.34

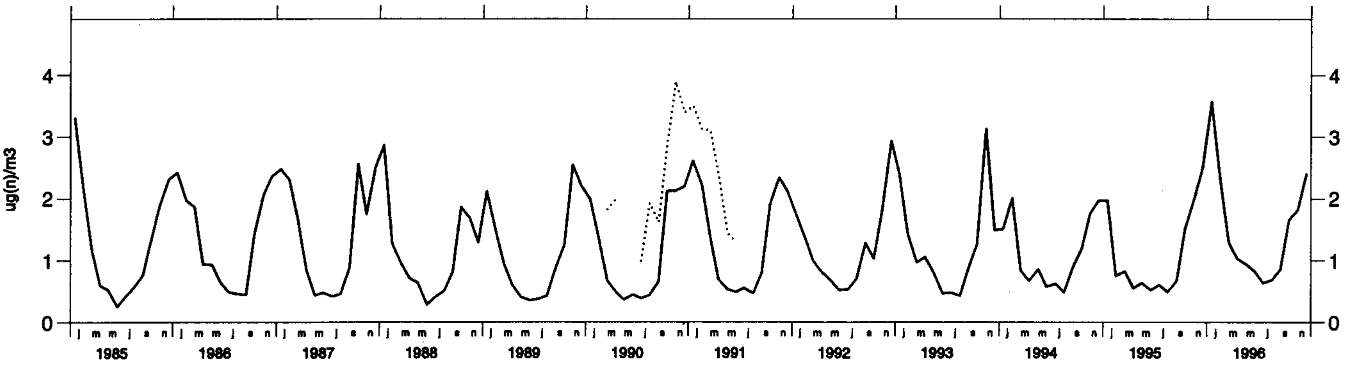


Tange (DK 3)

Concentration of nitrogen dioxide in air

.... observed mean = 2.31 std = 1.73

——— modelled mean = 1.13 std = 1.37 correlation = 0.61

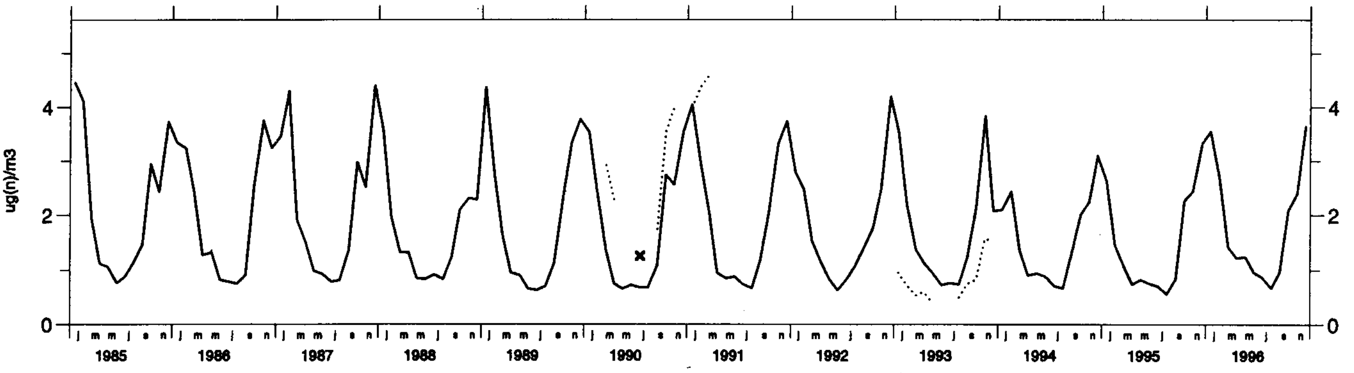


Keldsnor (DK 5)

Concentration of nitrogen dioxide in air

.... observed mean = 1.94 std = 2.16

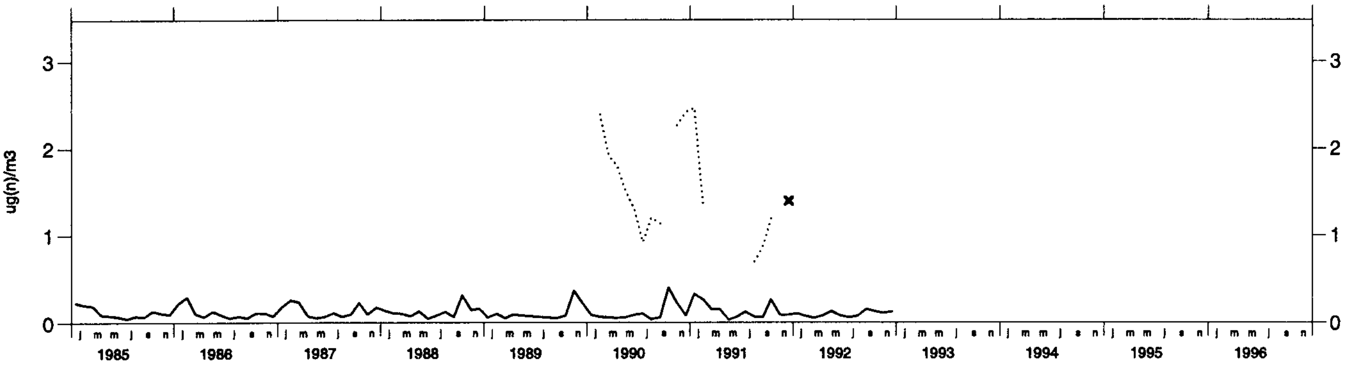
——— modelled mean = 1.85 std = 1.74 correlation = 0.41



Faer.-Akraberg (DK 7)

Concentration of nitrogen dioxide in air

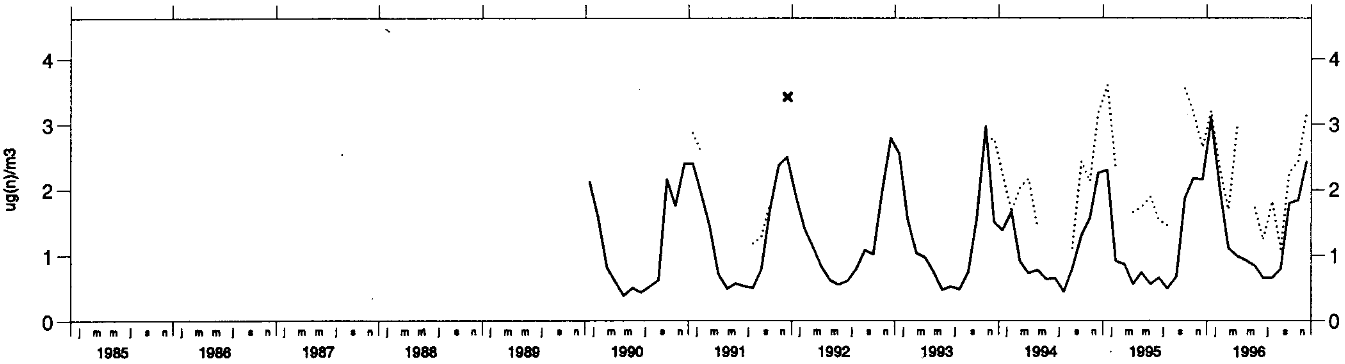
....	observed	mean = 1.63	std = 1.31	
———	modelled	mean = 0.13	std = 0.28	correlation = 0.05



Anholt (DK 8)

Concentration of nitrogen dioxide in air

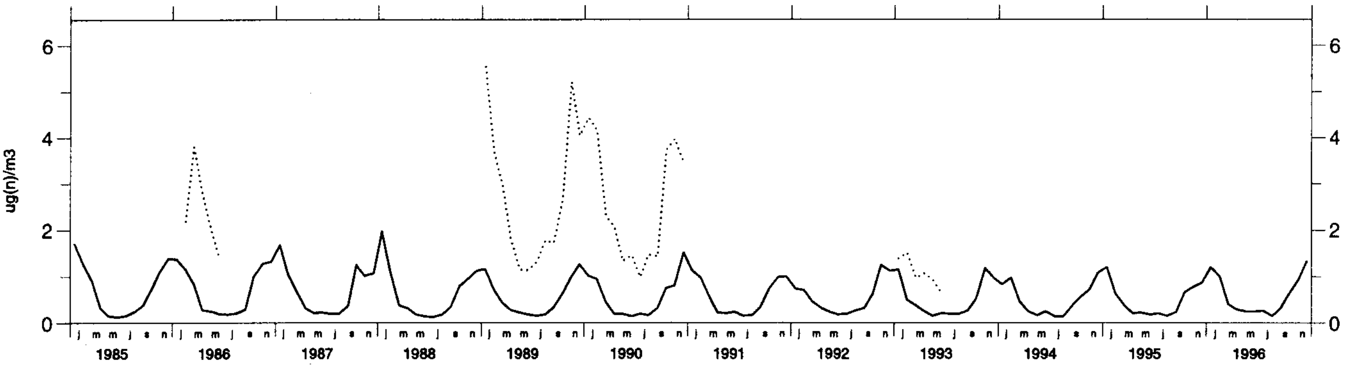
....	observed	mean = 2.19	std = 1.99	
———	modelled	mean = 1.39	std = 1.37	correlation = 0.60



Syrve (EE 2)

Concentration of nitrogen dioxide in air

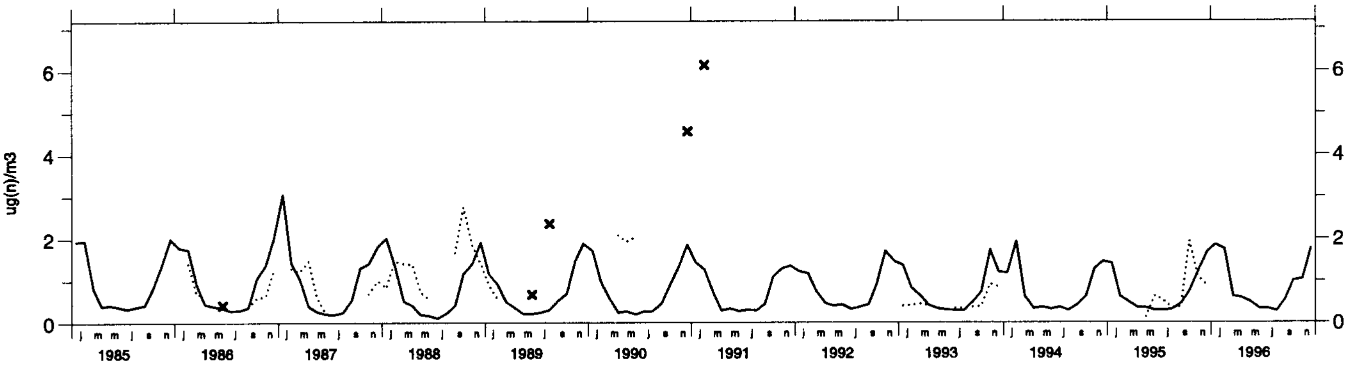
....	observed	mean = 1.94	std = 2.28	
———	modelled	mean = 0.56	std = 0.64	correlation = 0.34



Lahemaa (EE 9)

Concentration of nitrogen dioxide in air

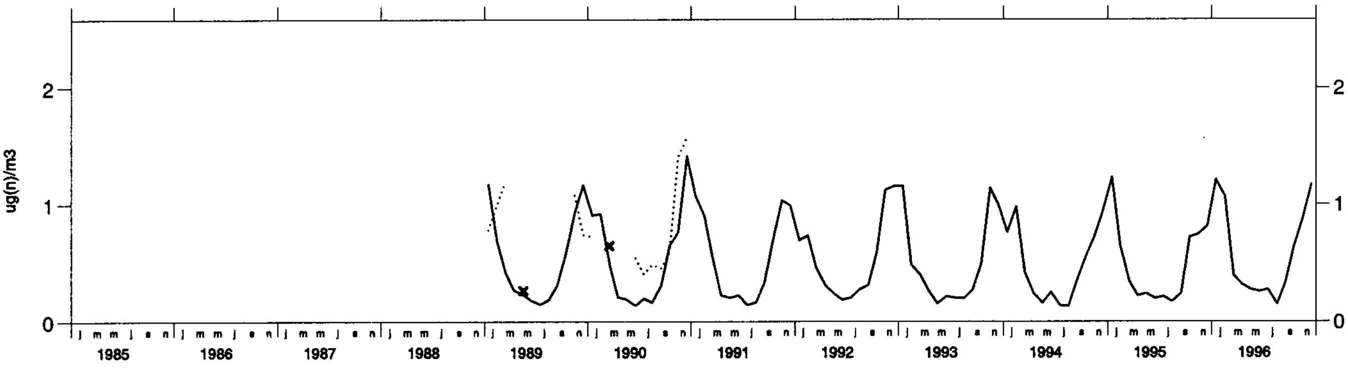
··········	observed	mean = 1.16	std = 1.46	
———	modelled	mean = 0.80	std = 0.79	correlation = 0.27



Vilsandy (EE 11)

Concentration of nitrogen dioxide in air

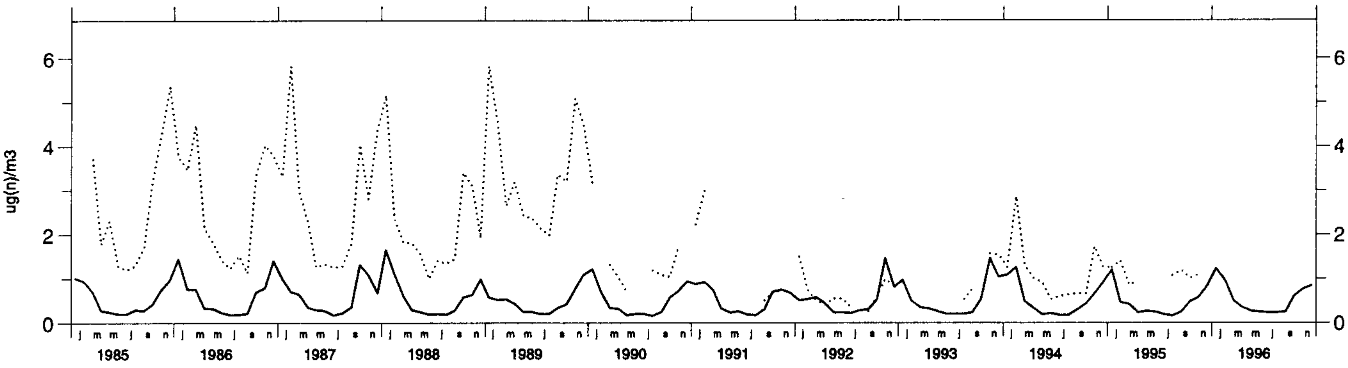
··········	observed	mean = 0.70	std = 0.63	
———	modelled	mean = 0.57	std = 0.64	correlation = 0.21



Athari (FI 4)

Concentration of nitrogen dioxide in air

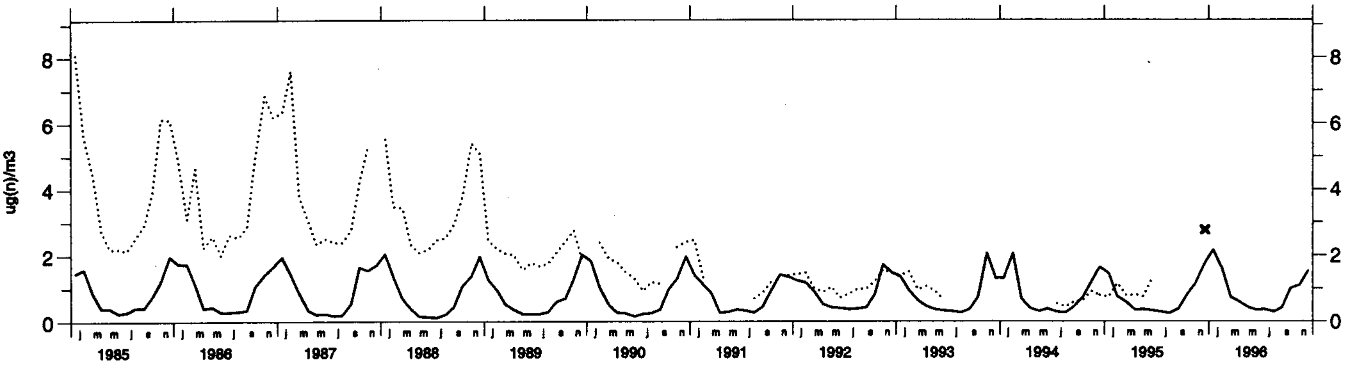
··········	observed	mean = 1.97	std = 2.07	
———	modelled	mean = 0.55	std = 0.55	correlation = 0.26



Virolahti_II (FI 17)

Concentration of nitrogen dioxide in air

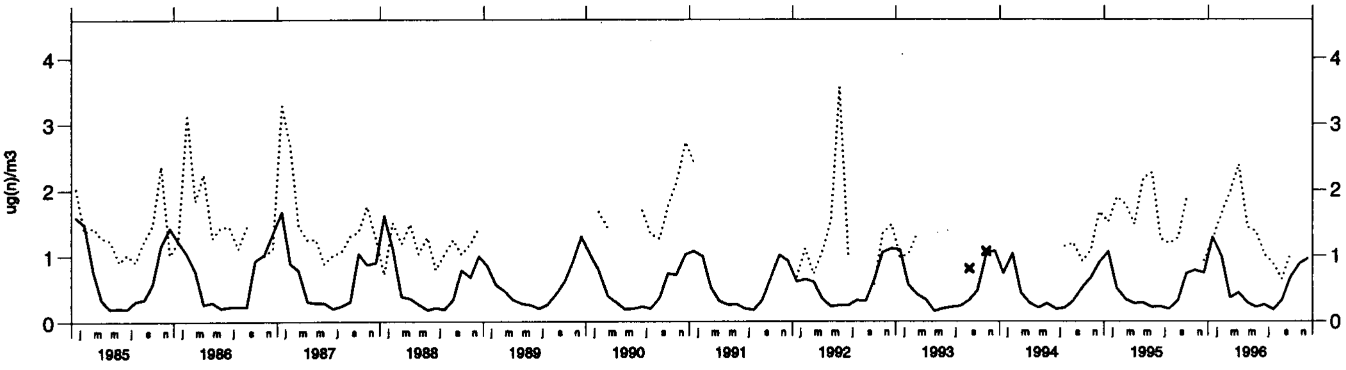
··········	observed	mean = 2.49	std = 2.28	
———	modelled	mean = 0.82	std = 0.80	correlation = 0.33



Utoe (FI 9)

Concentration of nitrogen dioxide in air

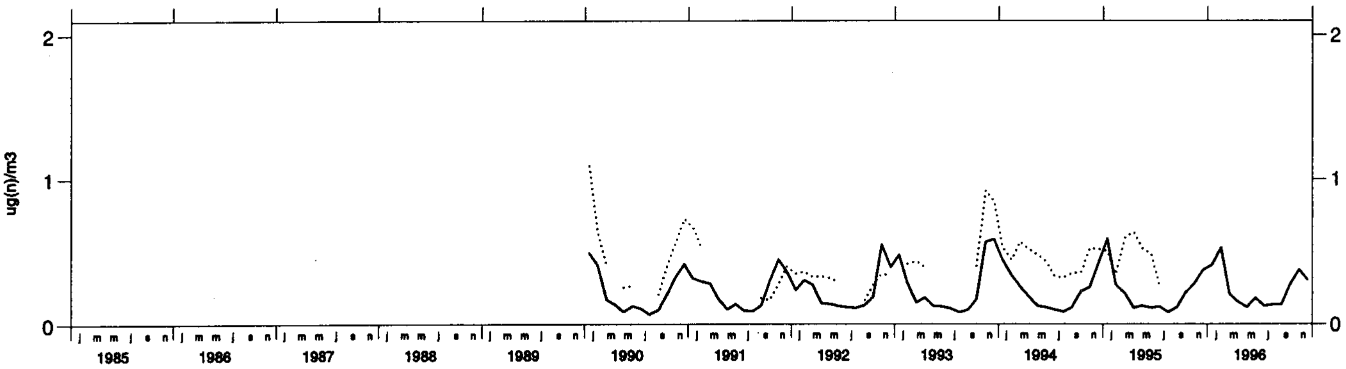
··········	observed	mean = 1.42	std = 1.26	
———	modelled	mean = 0.59	std = 0.63	correlation = 0.09



Oulanka (FI 22)

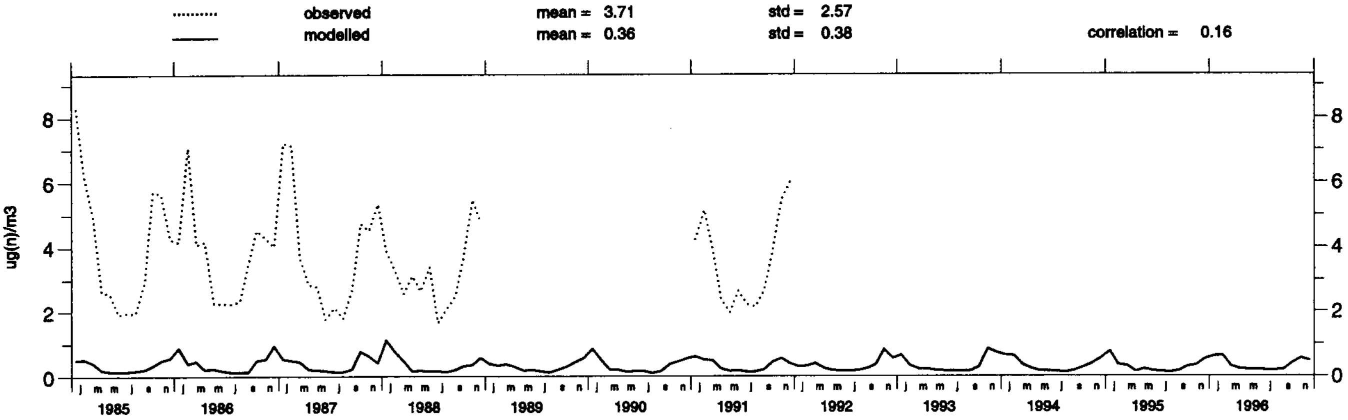
Concentration of nitrogen dioxide in air

··········	observed	mean = 0.43	std = 0.30	
———	modelled	mean = 0.24	std = 0.27	correlation = 0.36



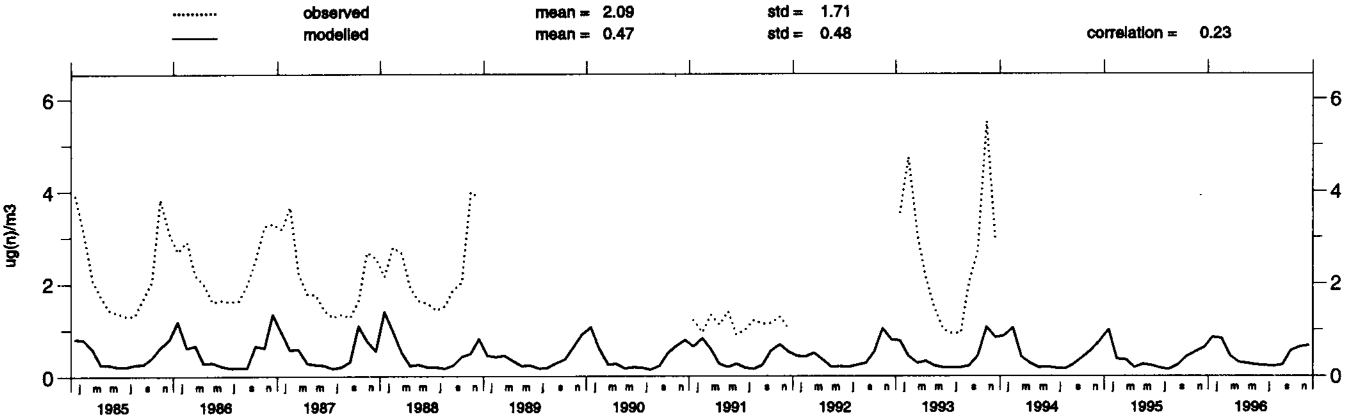
Haiuoto (FI 50)

Concentration of nitrogen dioxide in air



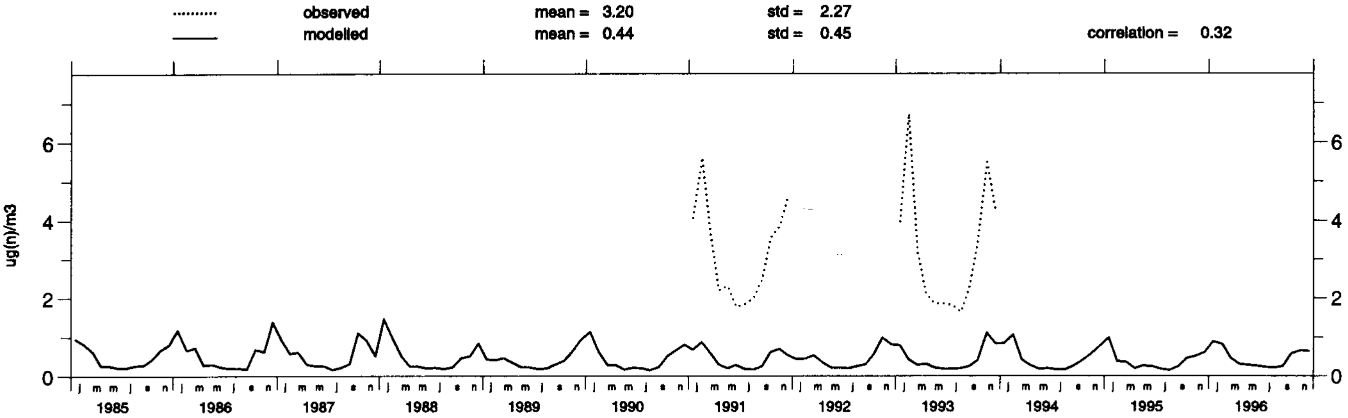
Sulva (FI 52)

Concentration of nitrogen dioxide in air



Ylimarkku (FI 53)

Concentration of nitrogen dioxide in air

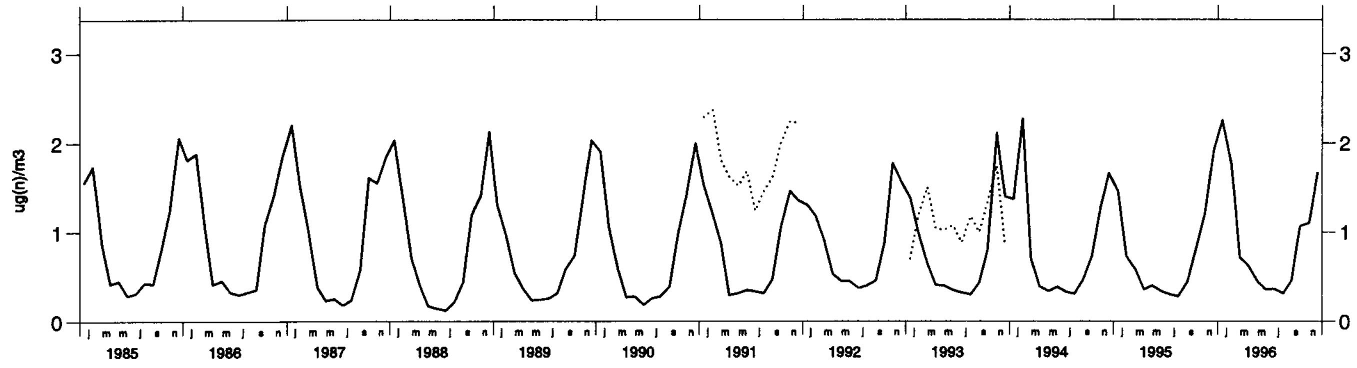


Haapasaari (FI 55)

Concentration of nitrogen dioxide in air

.... observed mean = 1.49 std = 1.03

______ modelled mean = 0.80 std = 0.72 correlation = 0.11

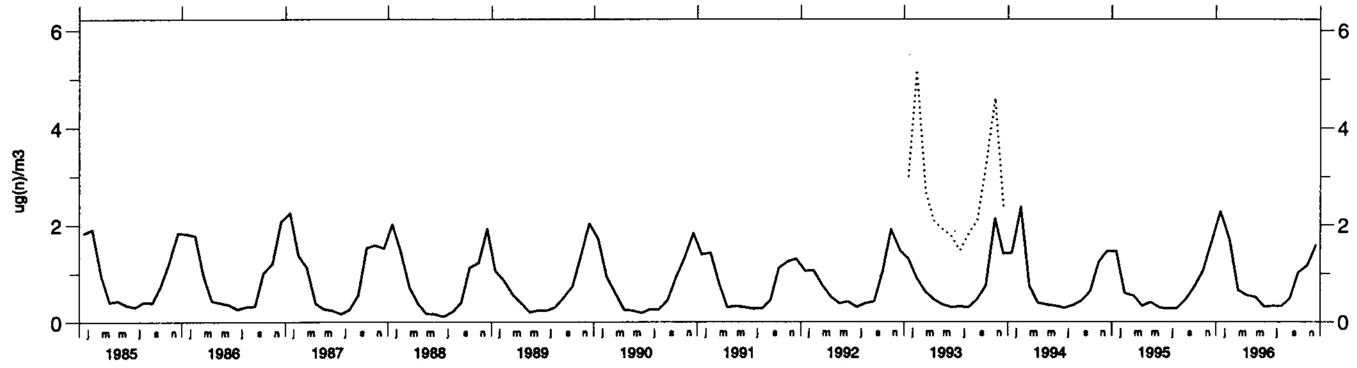


Sipo (FI 56)

Concentration of nitrogen dioxide in air

.... observed mean = 2.69 std = 1.69

______ modelled mean = 0.79 std = 0.72 correlation = 0.37

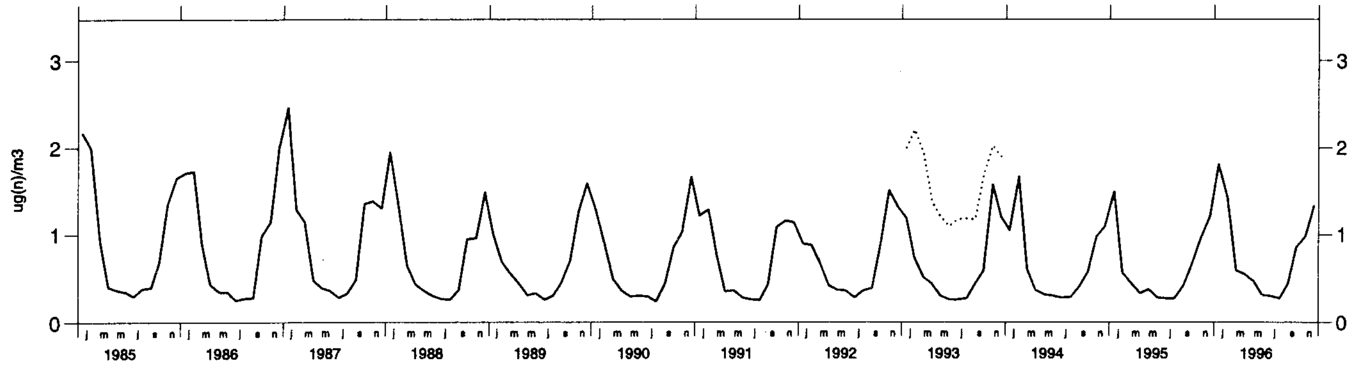


Tvarminne (FI 57)

Concentration of nitrogen dioxide in air

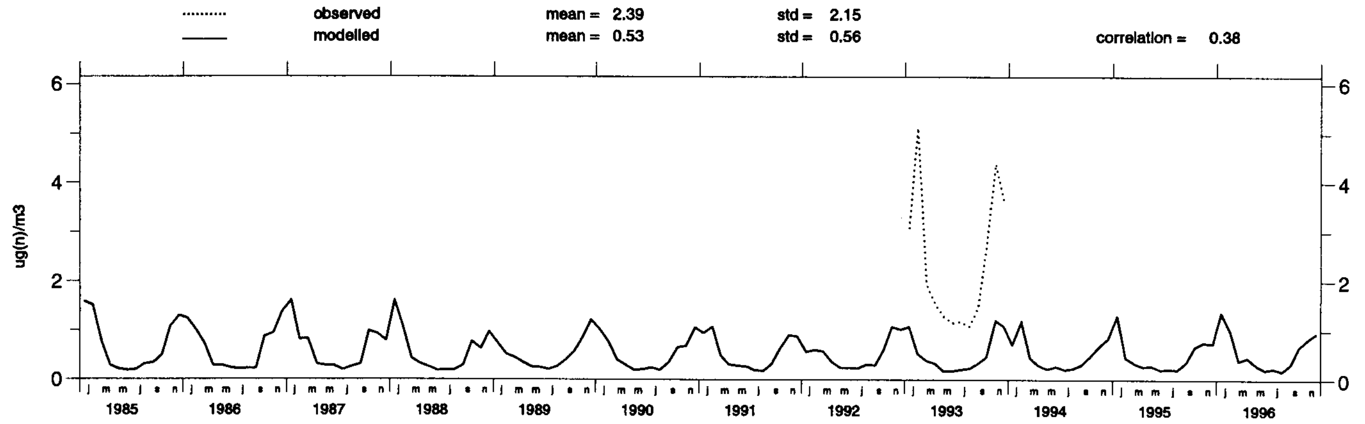
.... observed mean = 1.59 std = 0.93

______ modelled mean = 0.65 std = 0.59 correlation = 0.20



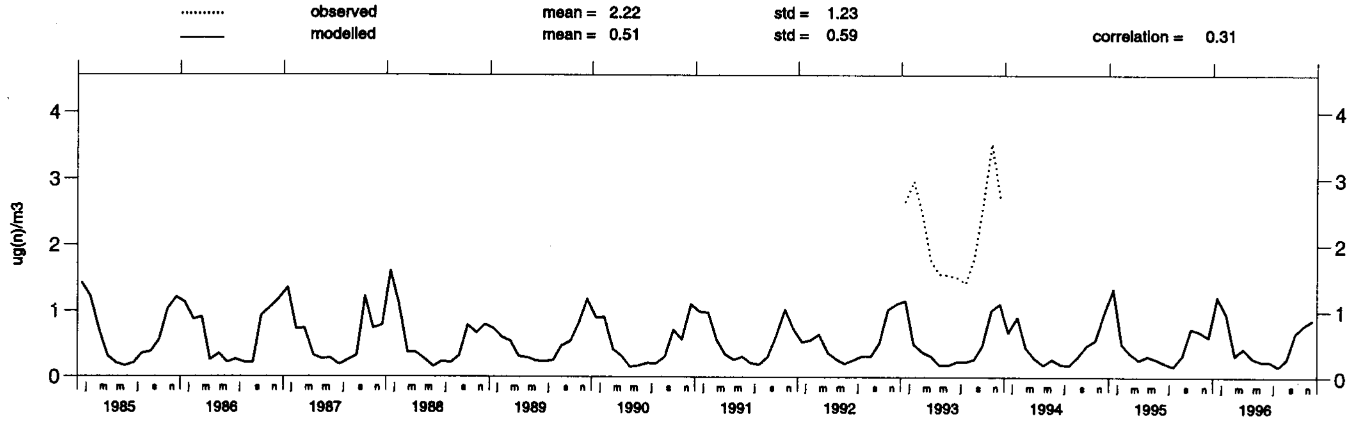
Korpoo (FI 58)

Concentration of nitrogen dioxide in air



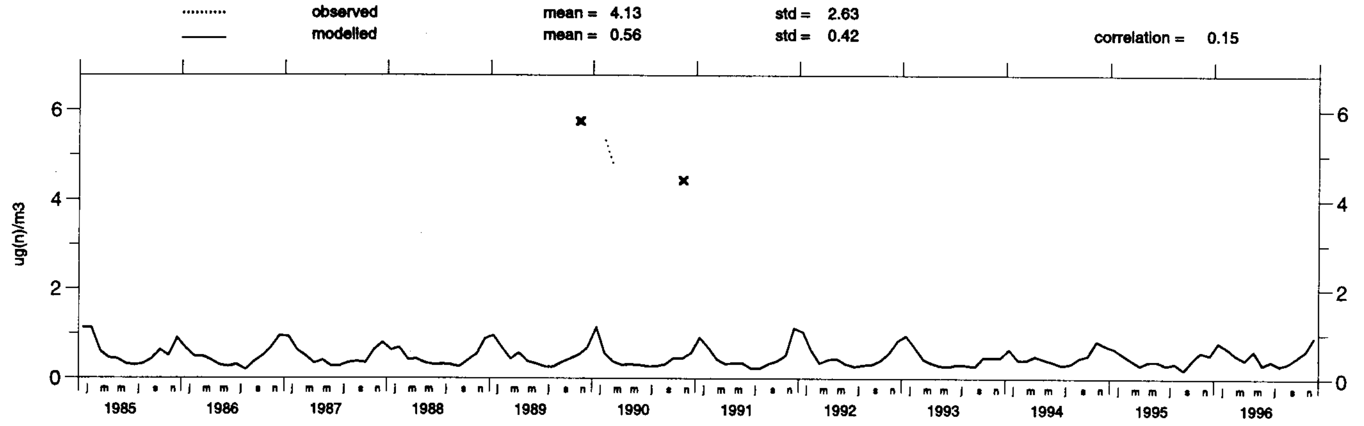
Jomala (FI 59)

Concentration of nitrogen dioxide in air



Lazaropole (FY 7)

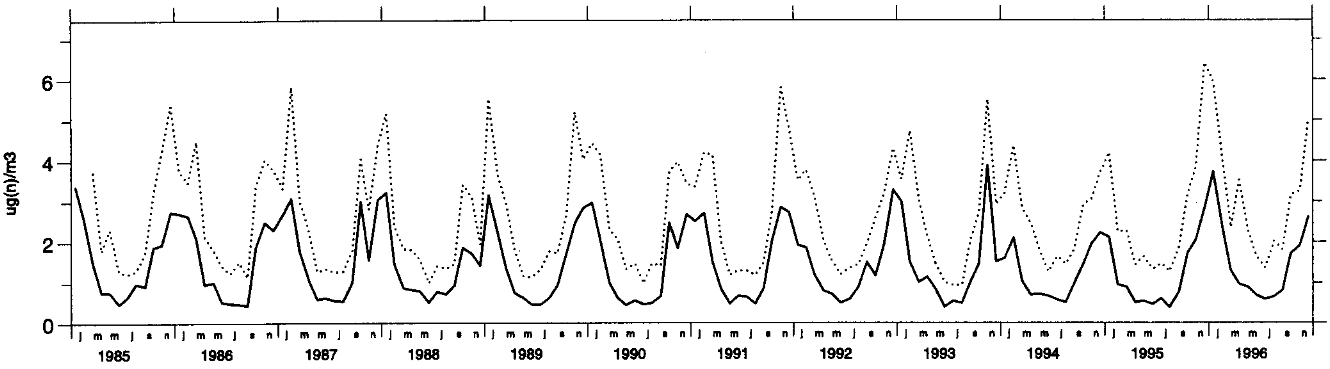
Concentration of nitrogen dioxide in air



Westerland (DE 1)

Concentration of nitrogen dioxide in air

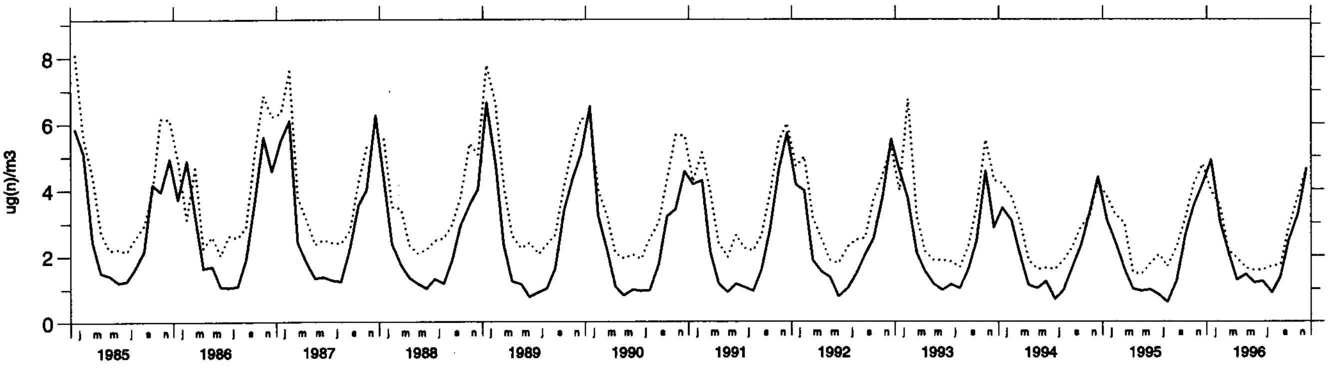
....	observed	mean = 2.66	std = 2.53	
———	modelled	mean = 1.41	std = 1.71	correlation = 0.65



Langenbrugge (DE 2)

Concentration of nitrogen dioxide in air

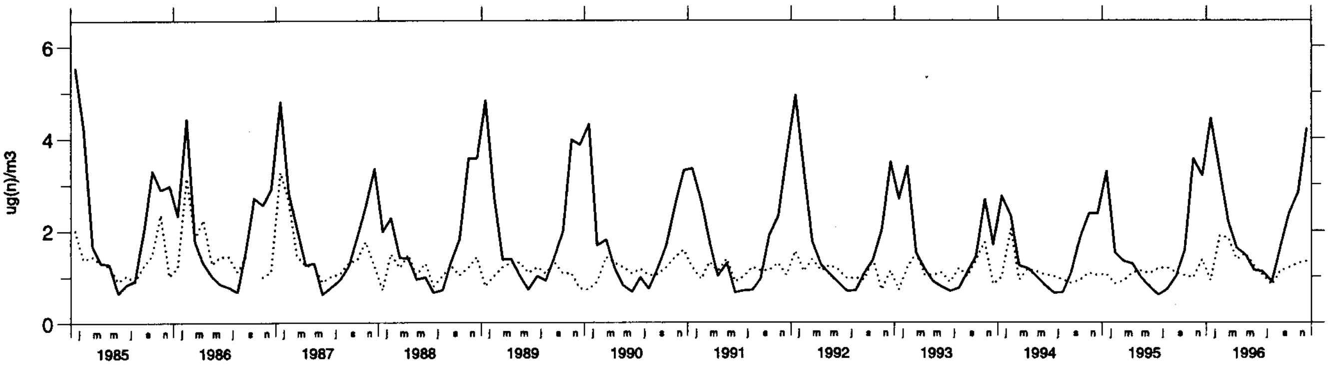
....	observed	mean = 3.43	std = 2.43	
———	modelled	mean = 2.50	std = 2.41	correlation = 0.67



Schauinsland (DE 3)

Concentration of nitrogen dioxide in air

....	observed	mean = 1.23	std = 0.92	
———	modelled	mean = 1.87	std = 1.72	correlation = 0.20

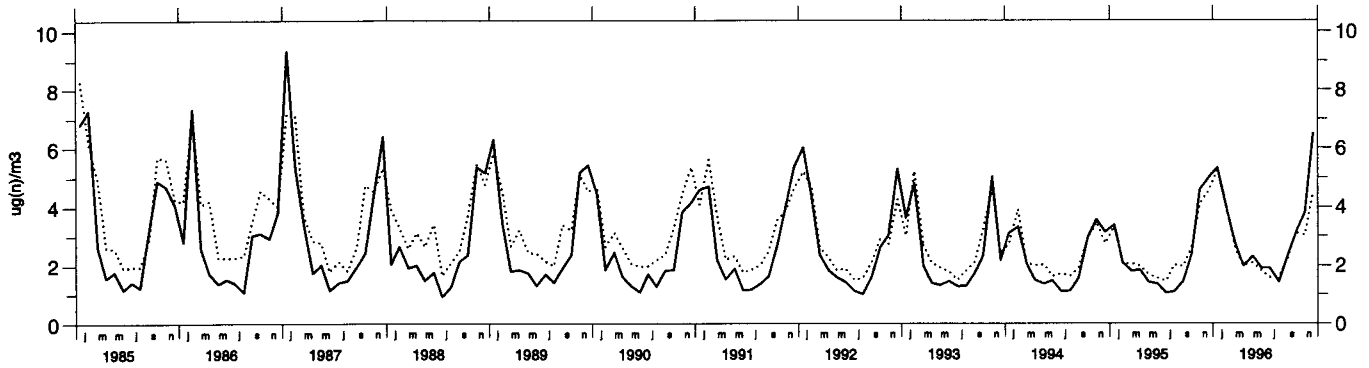


Deuselbach (DE 4)

Concentration of nitrogen dioxide in air

.... observed mean = 3.16 std = 2.14

——— modelled mean = 2.71 std = 2.51 correlation = 0.64

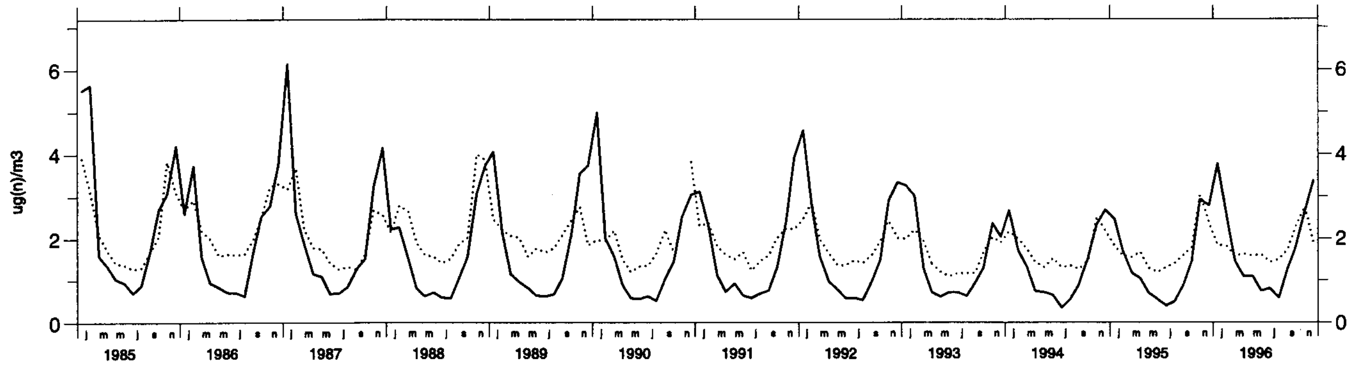


Brotjacklr. (DE 5)

Concentration of nitrogen dioxide in air

.... observed mean = 1.95 std = 1.25

——— modelled mean = 1.72 std = 1.64 correlation = 0.39

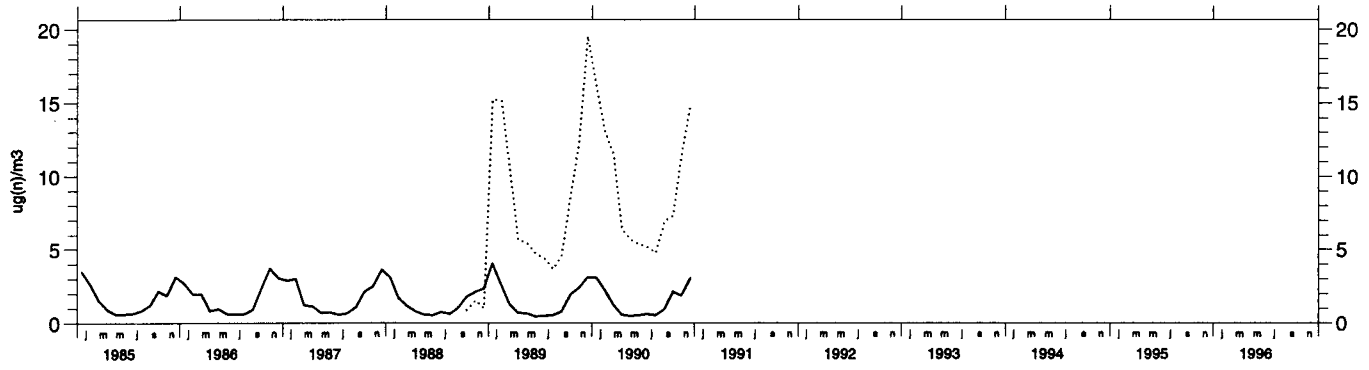


Arkona (DE 6)

Concentration of nitrogen dioxide in air

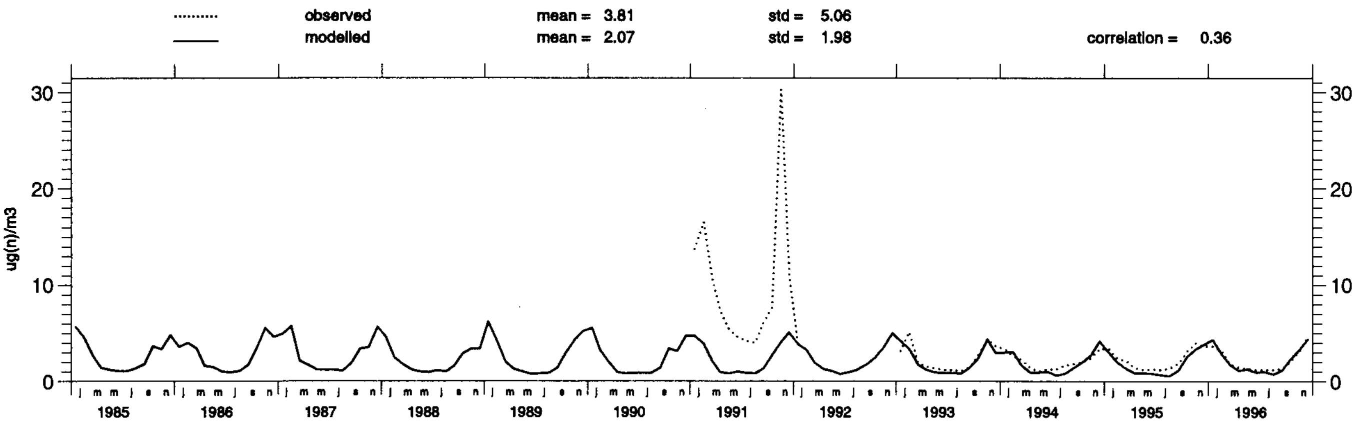
.... observed mean = 8.28 std = 6.47

——— modelled mean = 1.59 std = 1.71 correlation = 0.37



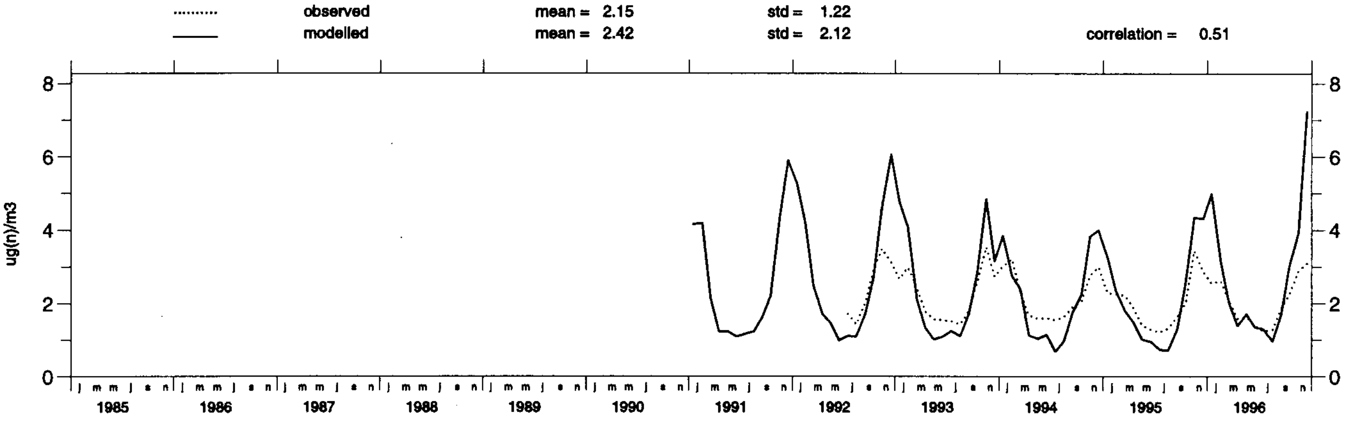
Neuglobsow (DE 7)

Concentration of nitrogen dioxide in air



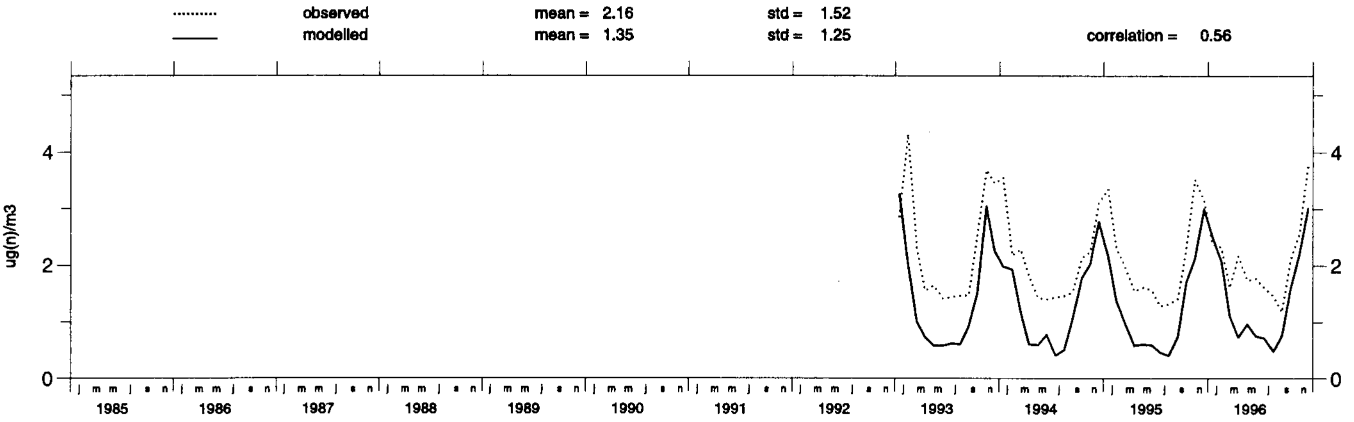
Schmucke (DE 8)

Concentration of nitrogen dioxide in air



Zingst (DE 9)

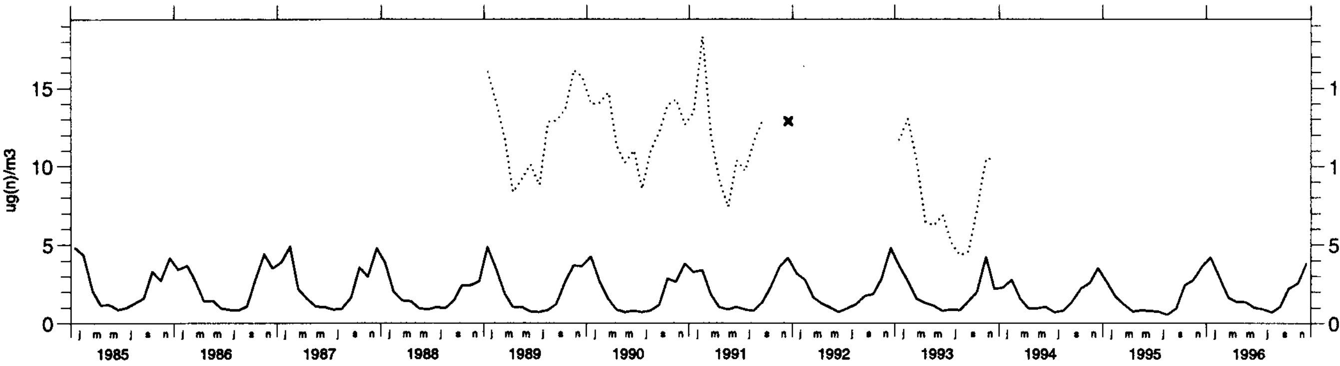
Concentration of nitrogen dioxide in air



Hohenwestedt (DE 11)

Concentration of nitrogen dioxide in air

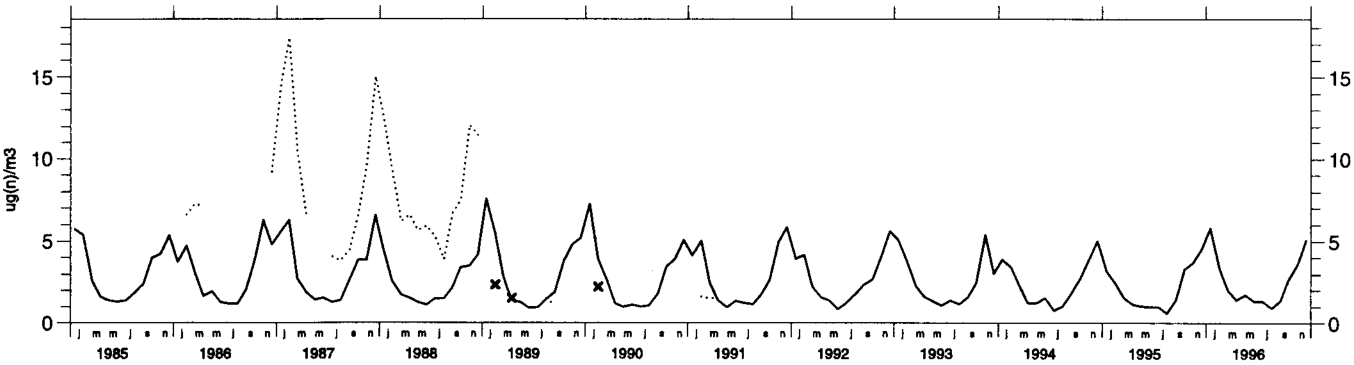
·········· observed mean = 11.24 std = 4.92
—— modelled mean = 1.98 std = 2.12 correlation = 0.41



Bassum (DE 12)

Concentration of nitrogen dioxide in air

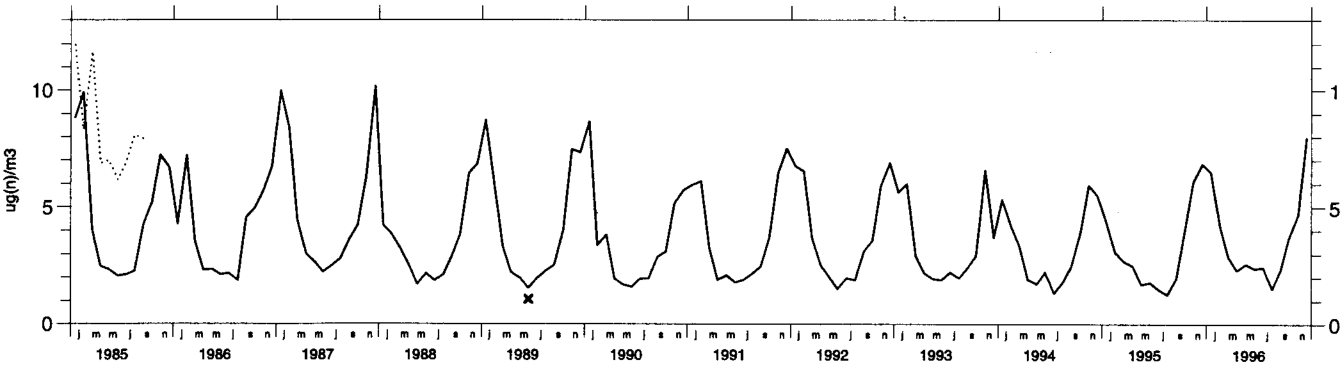
·········· observed mean = 5.19 std = 5.12
—— modelled mean = 3.28 std = 3.25 correlation = 0.23



Meinerzhagen (DE 14)

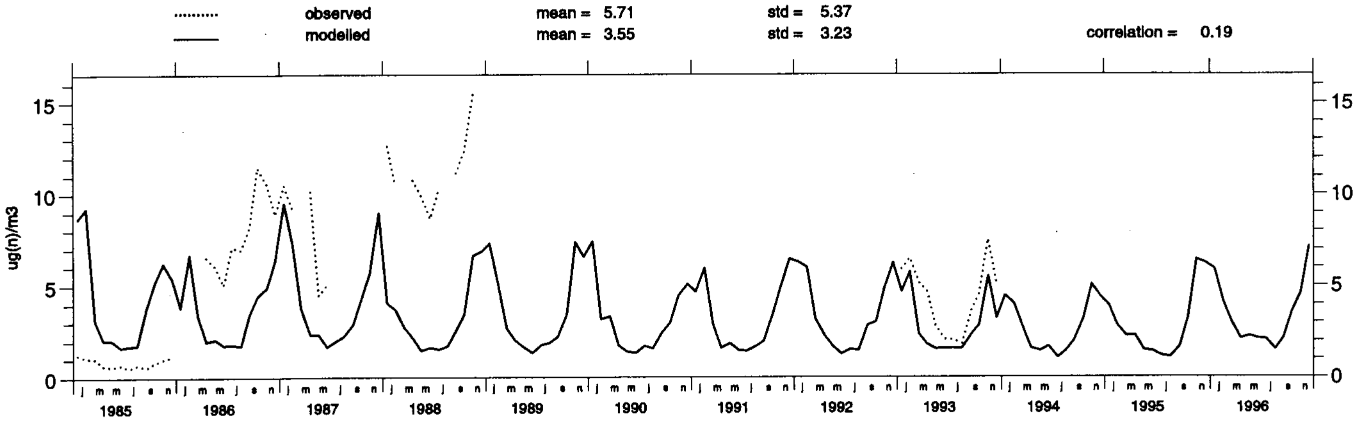
Concentration of nitrogen dioxide in air

·········· observed mean = 4.35 std = 4.67
—— modelled mean = 4.12 std = 3.93 correlation = 0.26



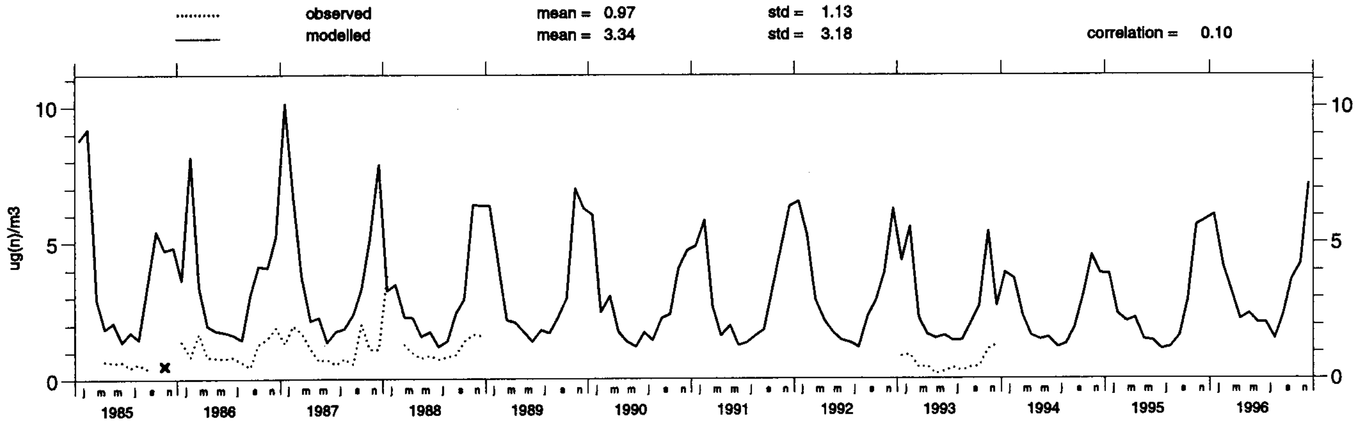
Usingen (DE 15)

Concentration of nitrogen dioxide in air



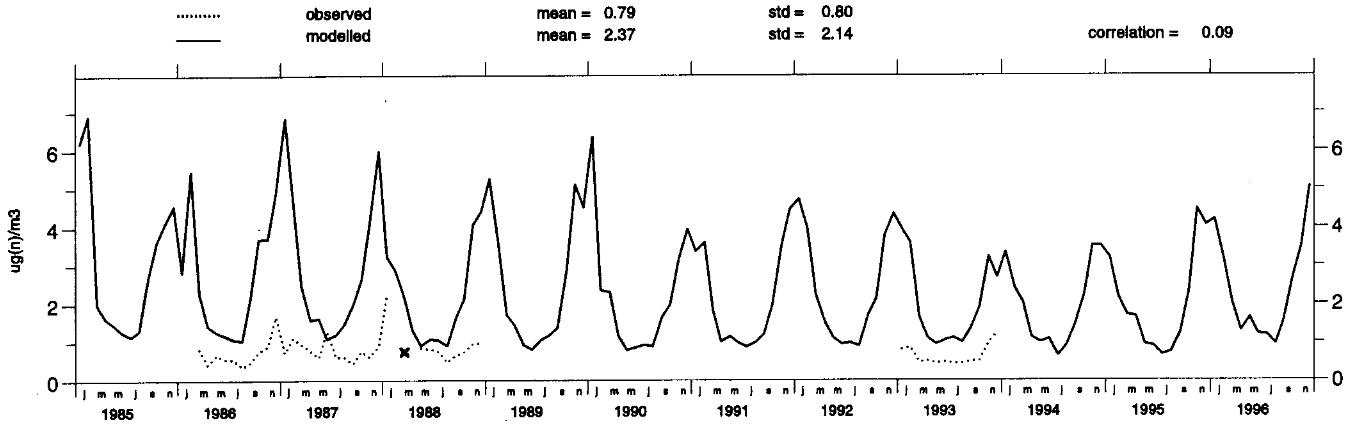
Bad_Kreuznach (DE 16)

Concentration of nitrogen dioxide in air



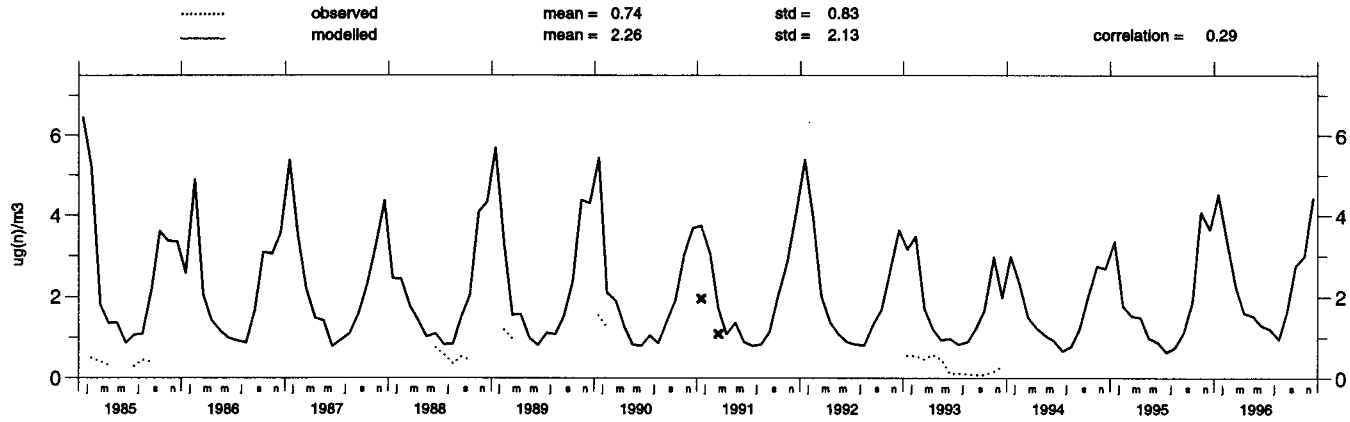
Ansbach (DE 17)

Concentration of nitrogen dioxide in air



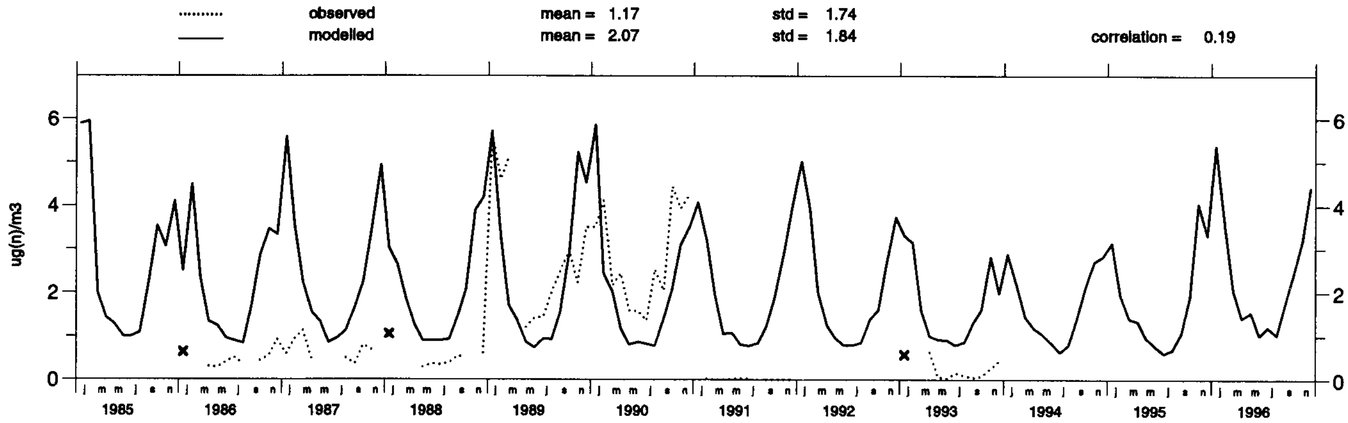
Rottenburg (DE 18)

Concentration of nitrogen dioxide in air



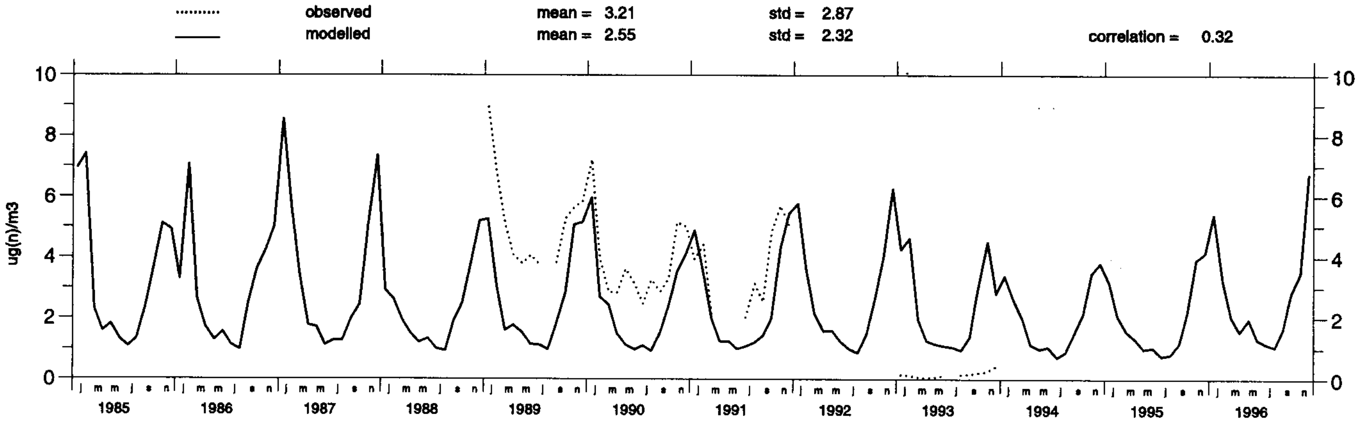
Starnberg (DE 19)

Concentration of nitrogen dioxide in air



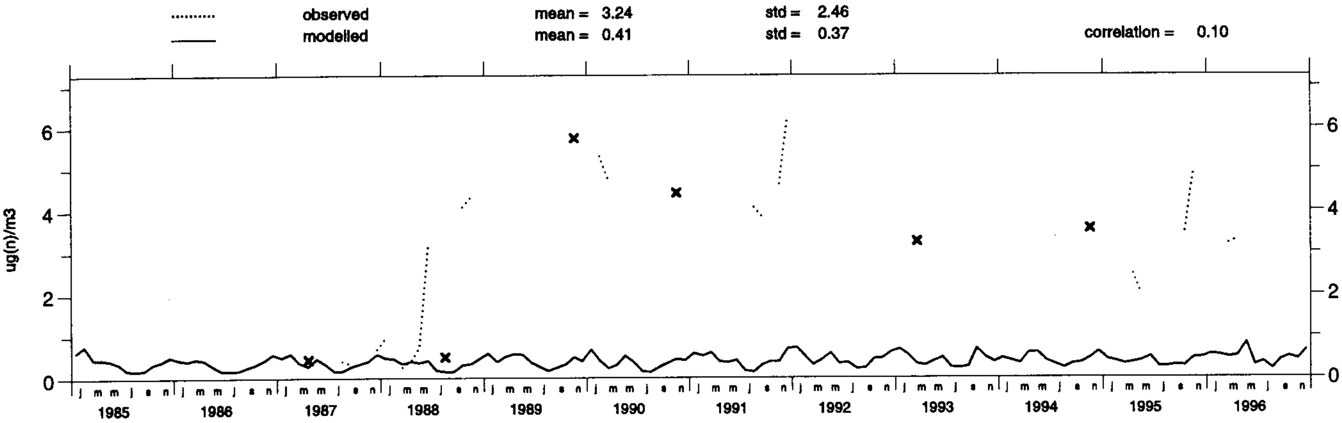
Hof (DE 20)

Concentration of nitrogen dioxide in air



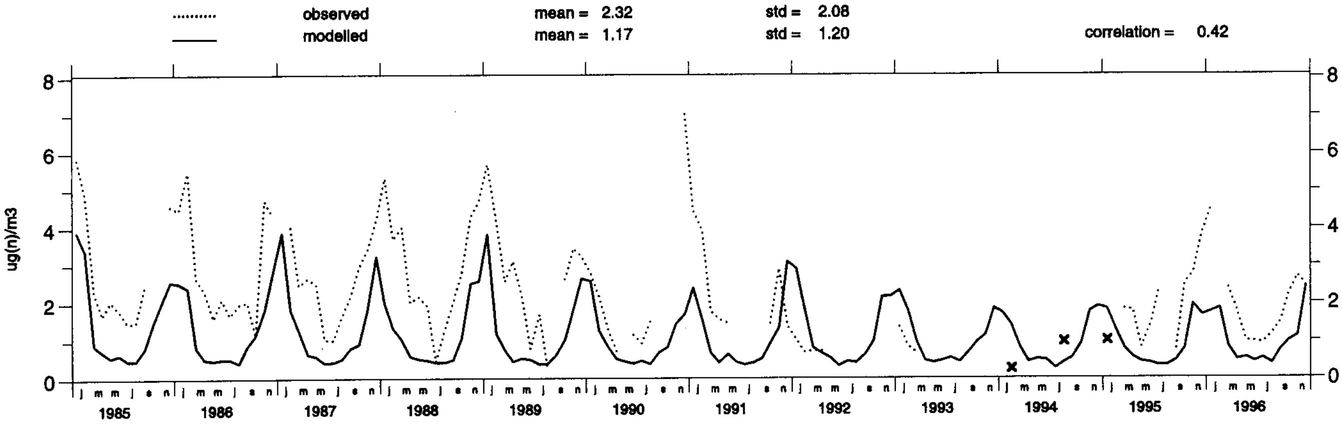
Aliartos (GR 1)

Concentration of nitrogen dioxide in air



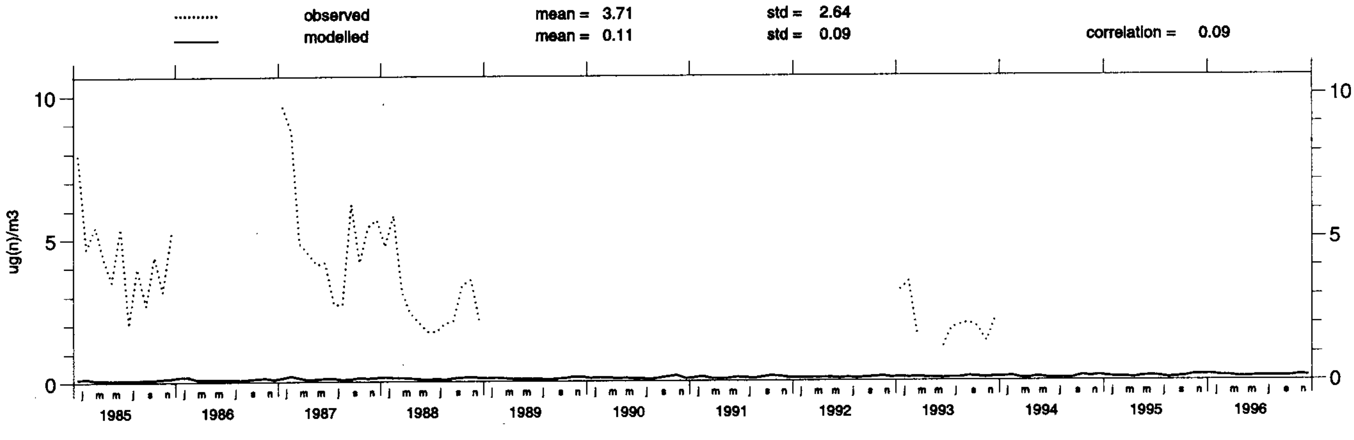
K-puszta (HU 2)

Concentration of nitrogen dioxide in air



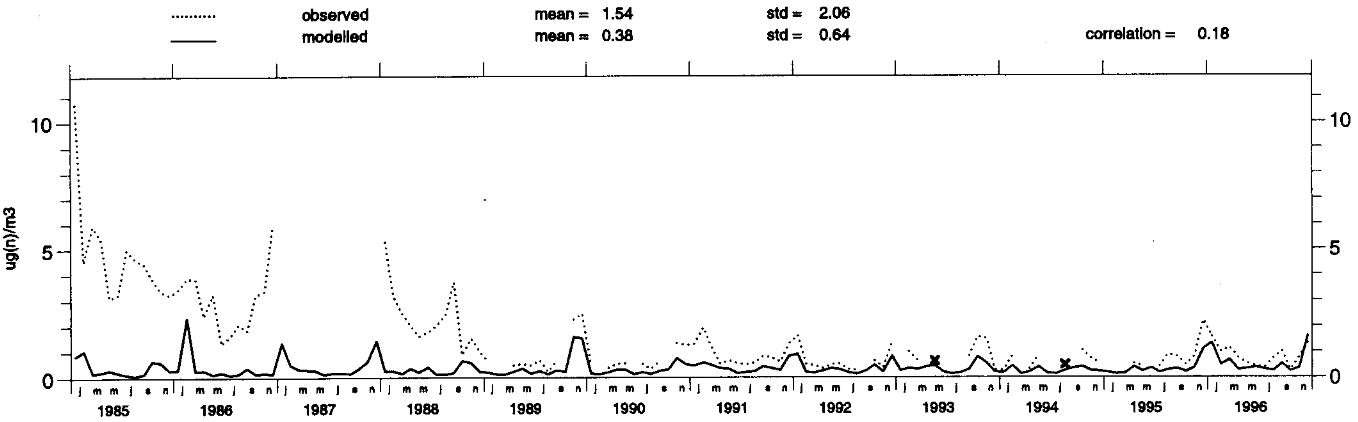
Irafoss (IS 2)

Concentration of nitrogen dioxide in air



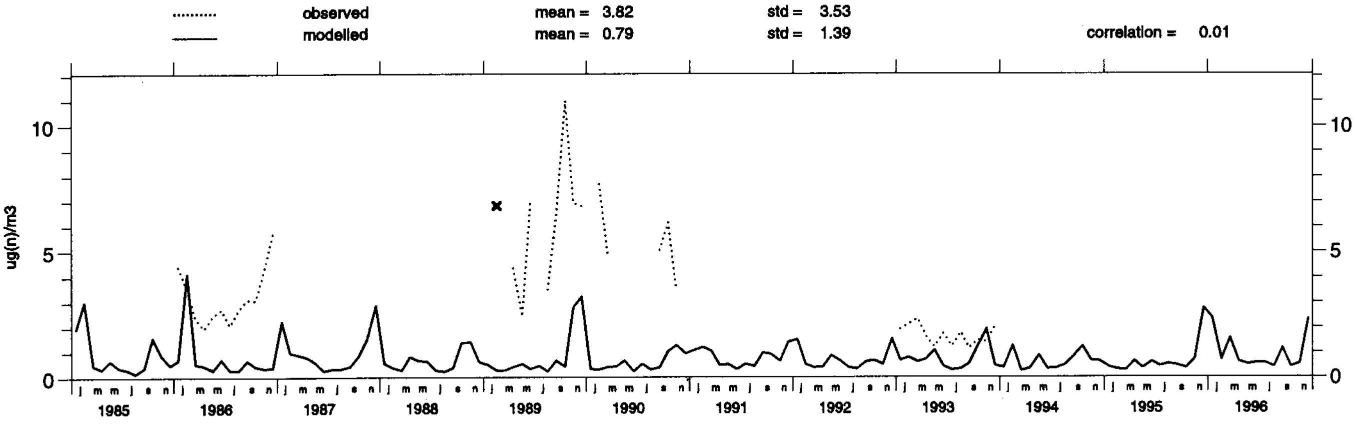
Valentia_Obs. (IE 1)

Concentration of nitrogen dioxide in air



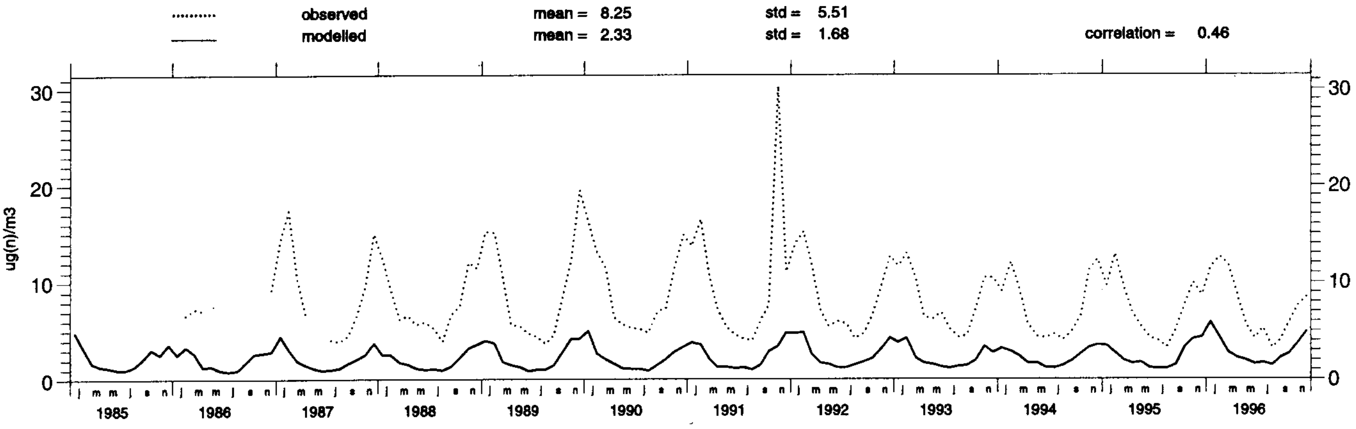
Turlough Hill (IE 2)

Concentration of nitrogen dioxide in air



Ispra (IT 4)

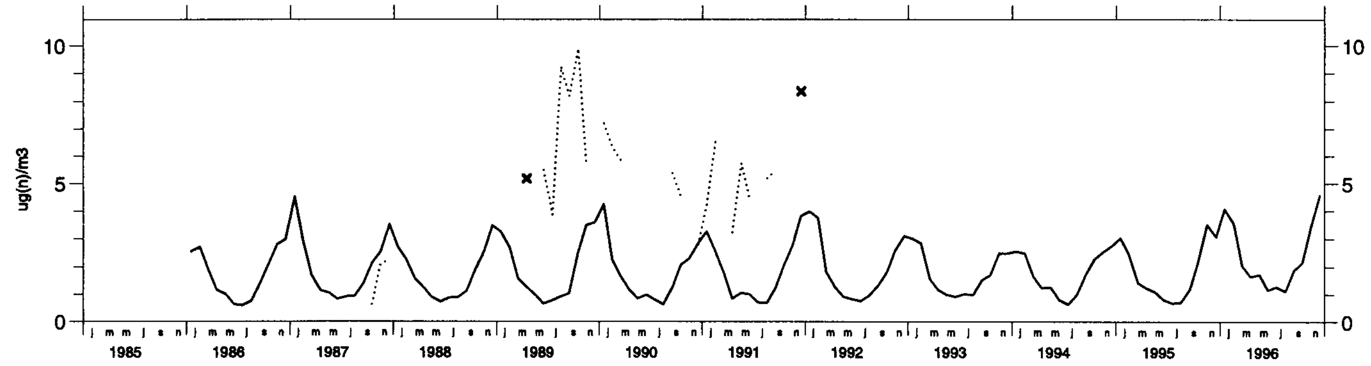
Concentration of nitrogen dioxide in air



Arabba (IT 5)

Concentration of nitrogen dioxide in air

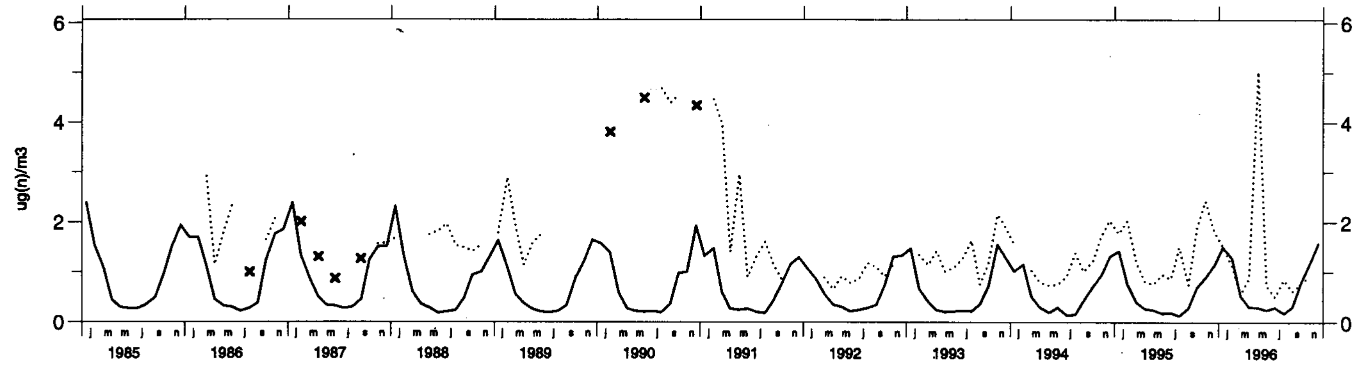
·········· observed	mean = 5.19	std = 4.04	
—— modelled	mean = 1.96	std = 1.52	correlation = 0.07



Rucava (LV 10)

Concentration of nitrogen dioxide in air

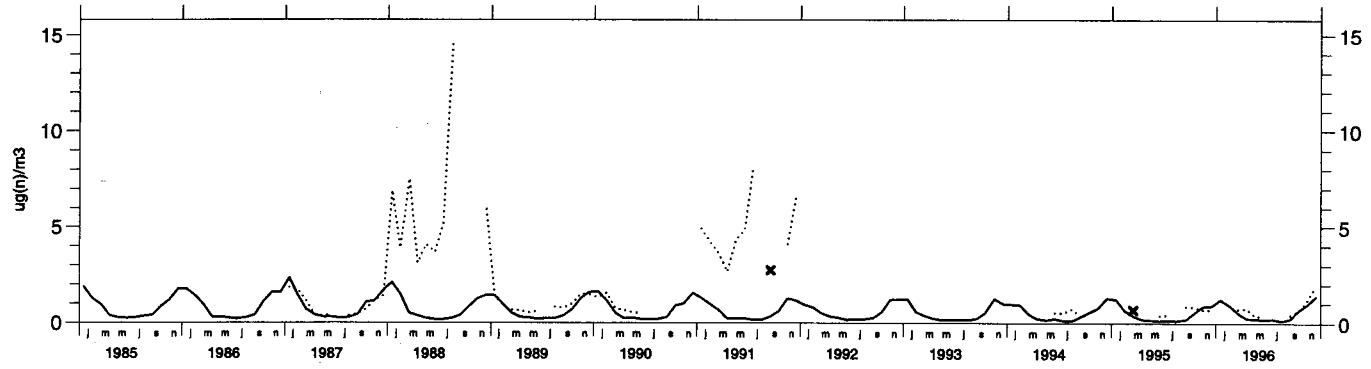
·········· observed	mean = 1.76	std = 1.99	
—— modelled	mean = 0.68	std = 0.79	correlation = 0.23



Zoseni (LV 16)

Concentration of nitrogen dioxide in air

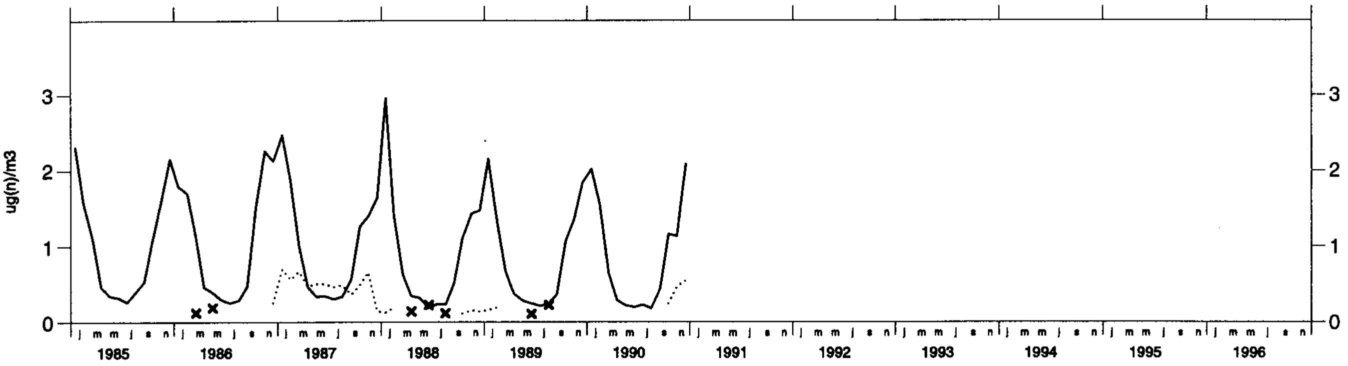
·········· observed	mean = 2.15	std = 3.21	
—— modelled	mean = 0.65	std = 0.74	correlation = 0.10



Nida (LT 3)

Concentration of nitrogen dioxide in air

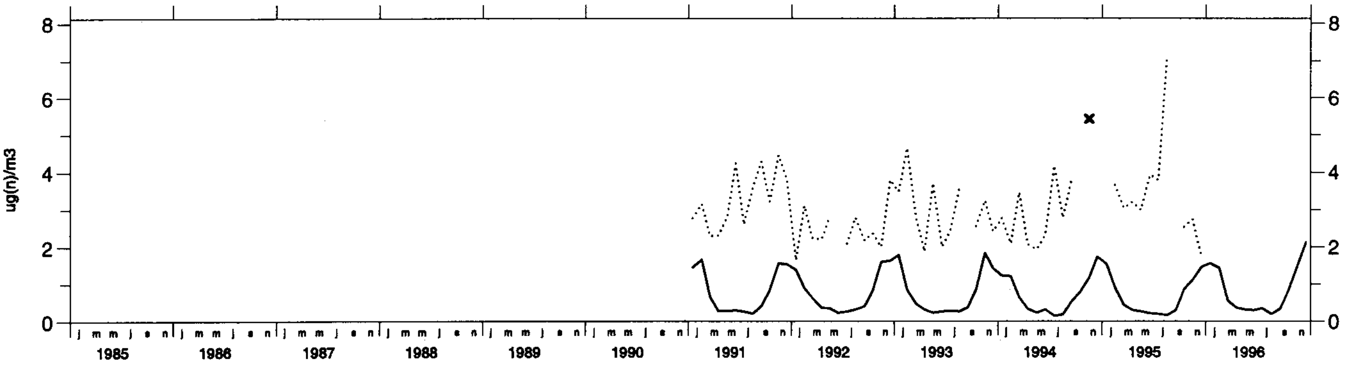
....	observed	mean = 0.28	std = 0.26	
———	modelled	mean = 0.98	std = 1.17	correlation = 0.17



Preila (LT 15)

Concentration of nitrogen dioxide in air

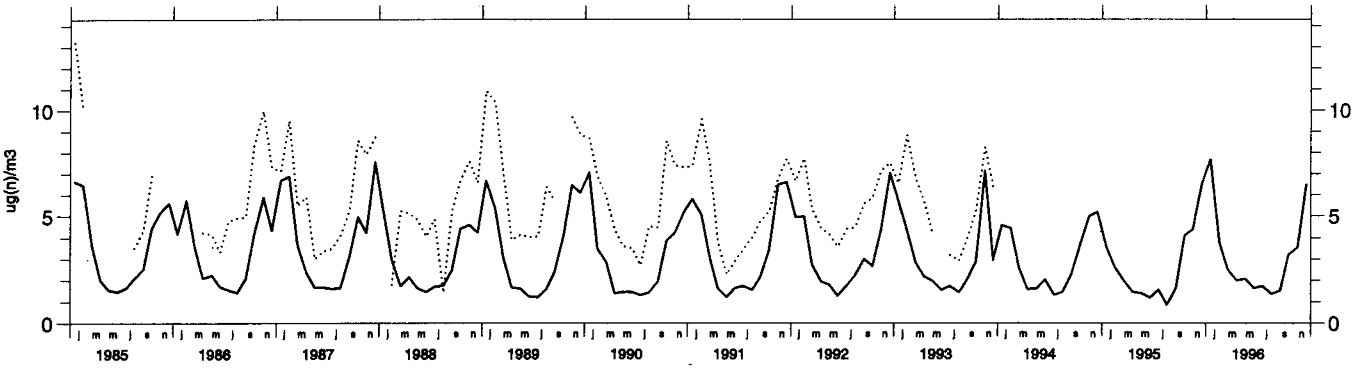
....	observed	mean = 3.16	std = 3.08	
———	modelled	mean = 0.73	std = 0.82	correlation = 0.06



Wittenveen (NL 2)

Concentration of nitrogen dioxide in air

....	observed	mean = 5.81	std = 3.90	
———	modelled	mean = 3.23	std = 3.22	correlation = 0.65

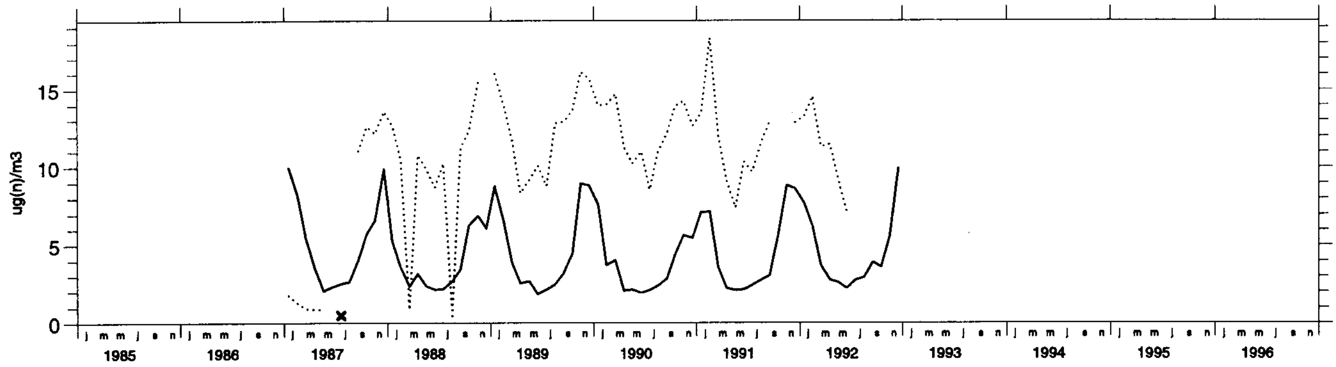


Bilthoven (NL 8)

Concentration of nitrogen dioxide in air

.... observed mean = 10.44 std = 5.89

——— modelled mean = 4.44 std = 4.54 correlation = 0.29

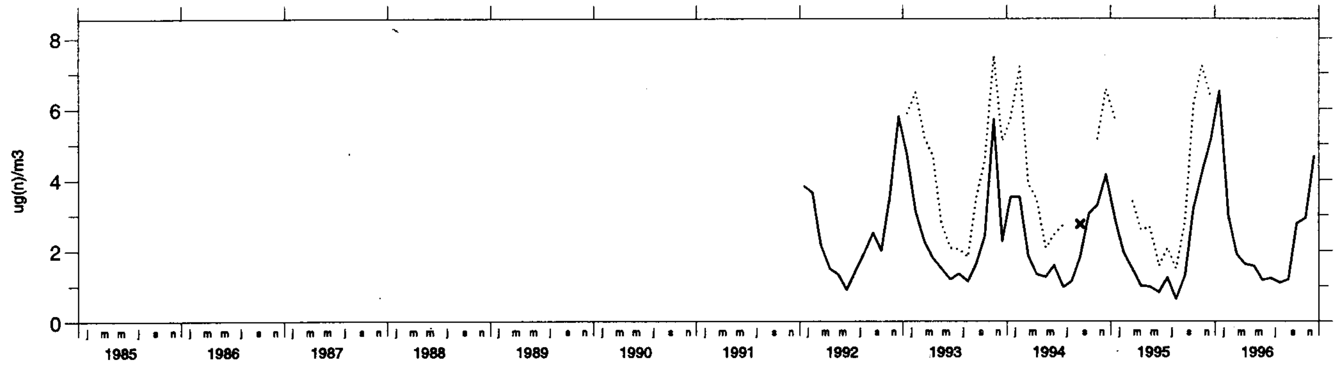


Kollumerwaard (NL 9)

Concentration of nitrogen dioxide in air

.... observed mean = 4.15 std = 3.32

——— modelled mean = 2.30 std = 2.35 correlation = 0.62

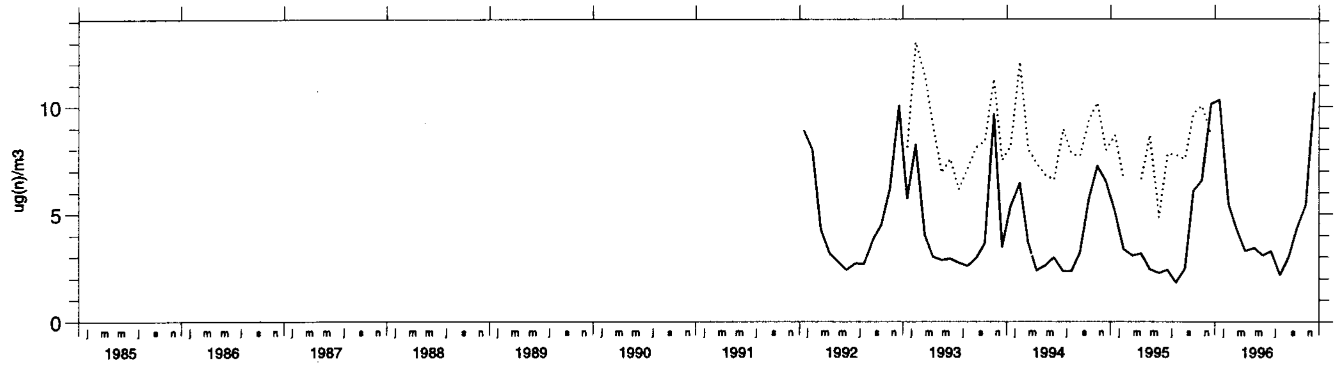


Vreedepeel (NL 10)

Concentration of nitrogen dioxide in air

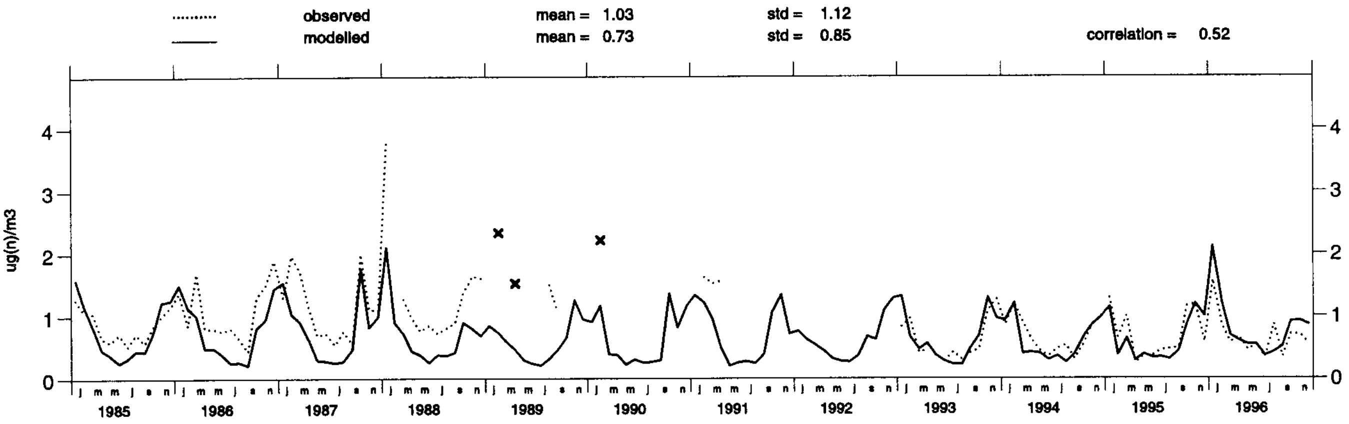
.... observed mean = 8.41 std = 3.95

——— modelled mean = 4.25 std = 3.46 correlation = 0.48



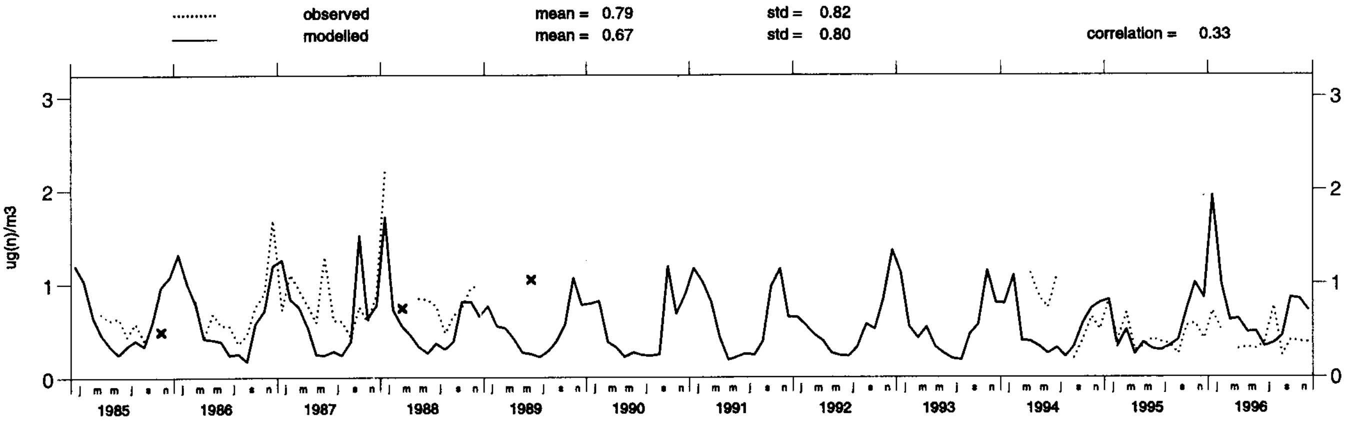
Birkenes (NO 1)

Concentration of nitrogen dioxide in air



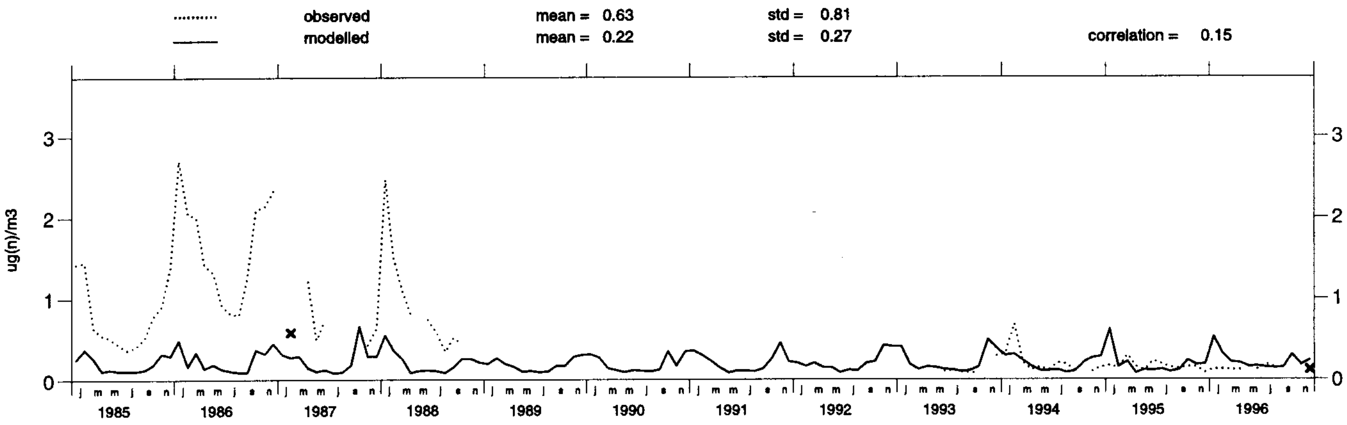
Skreaadalen (NO 8)

Concentration of nitrogen dioxide in air



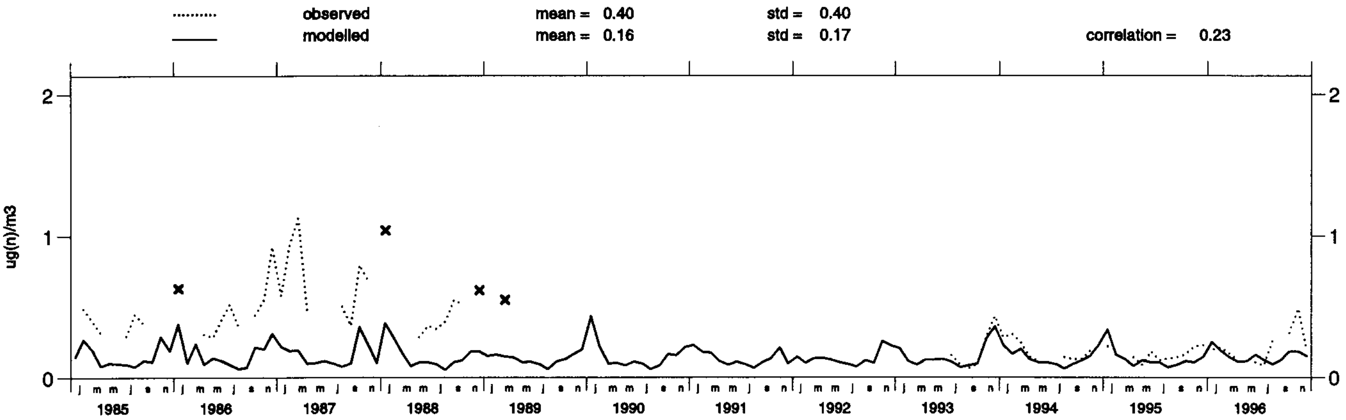
Tustervatn (NO 15)

Concentration of nitrogen dioxide in air



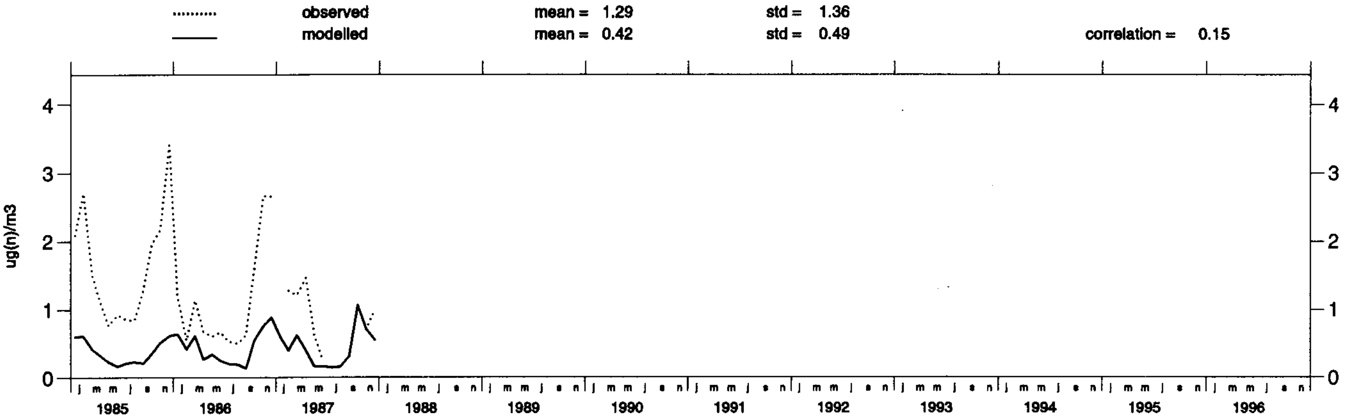
Jergul (NO 30)

Concentration of nitrogen dioxide in air



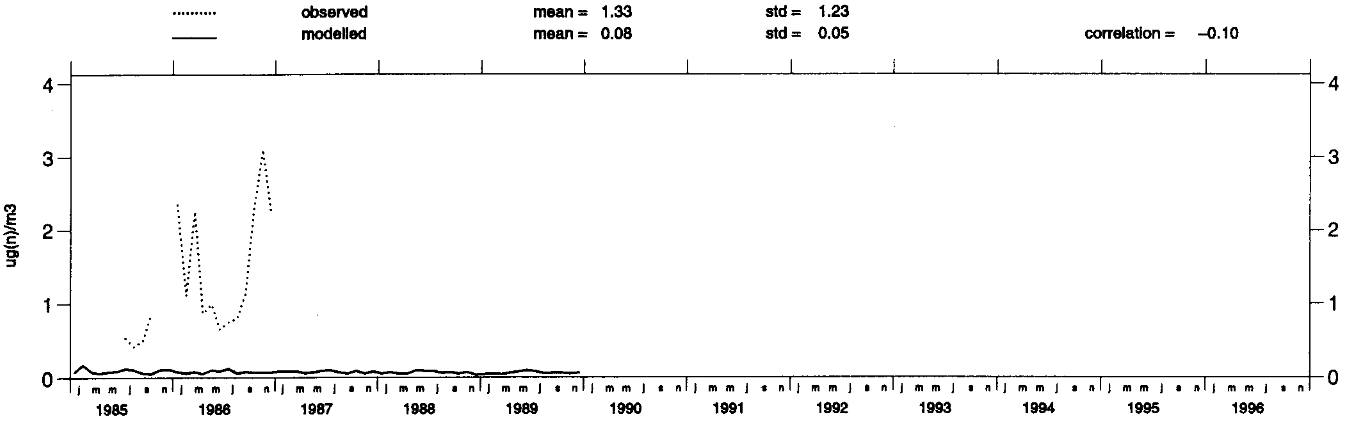
Hummelfjell (NO 36)

Concentration of nitrogen dioxide in air



Bjoernoeya (NO 37)

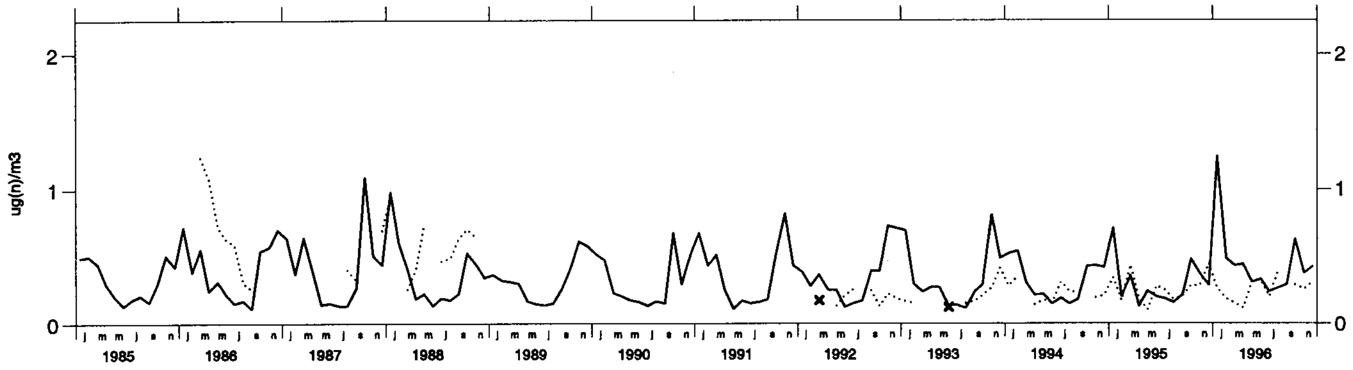
Concentration of nitrogen dioxide in air



Kaarvatn (NO 39)

Concentration of nitrogen dioxide in air

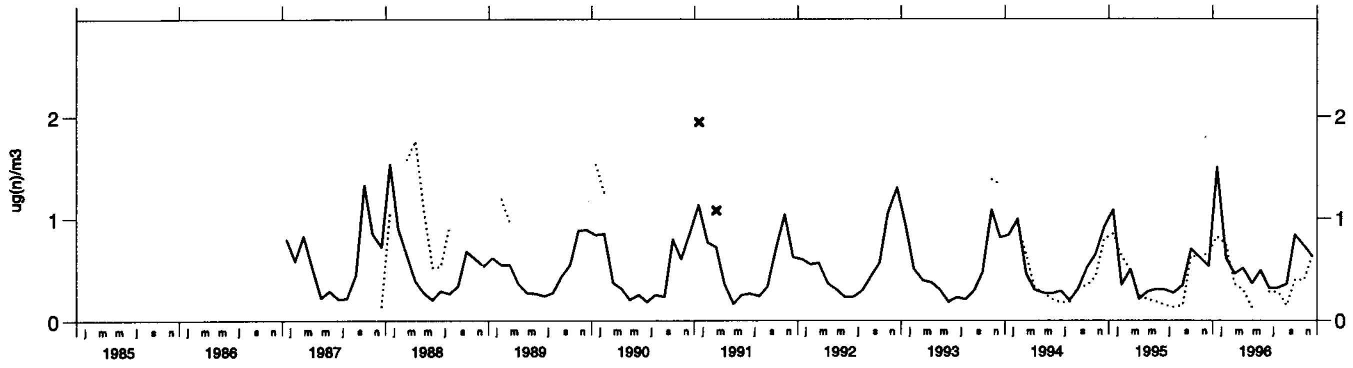
.... observed	mean = 0.45	std = 0.65		
——— modelled	mean = 0.36	std = 0.45	correlation =	0.12



Osen (NO 41)

Concentration of nitrogen dioxide in air

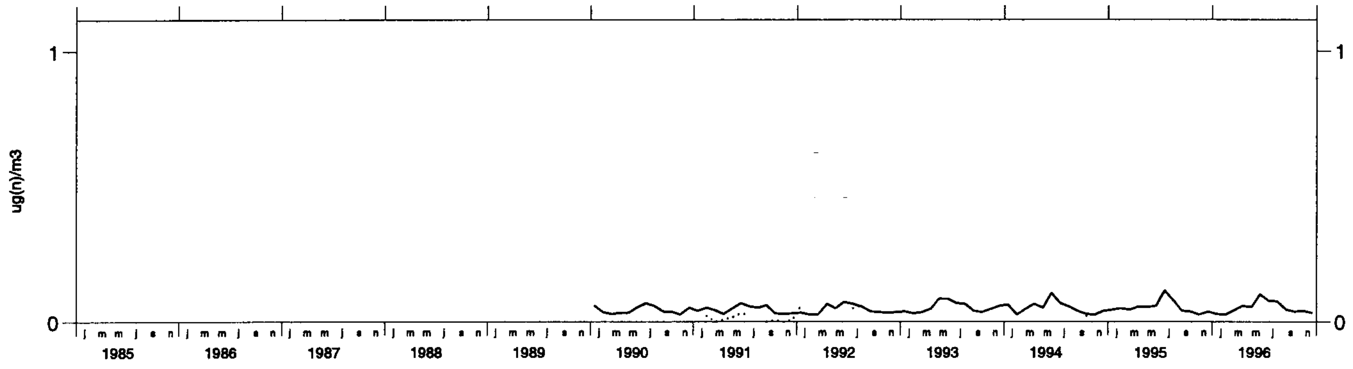
.... observed	mean = 0.82	std = 0.85		
——— modelled	mean = 0.60	std = 0.63	correlation =	0.29



Spitzbergen,Z (NO 42)

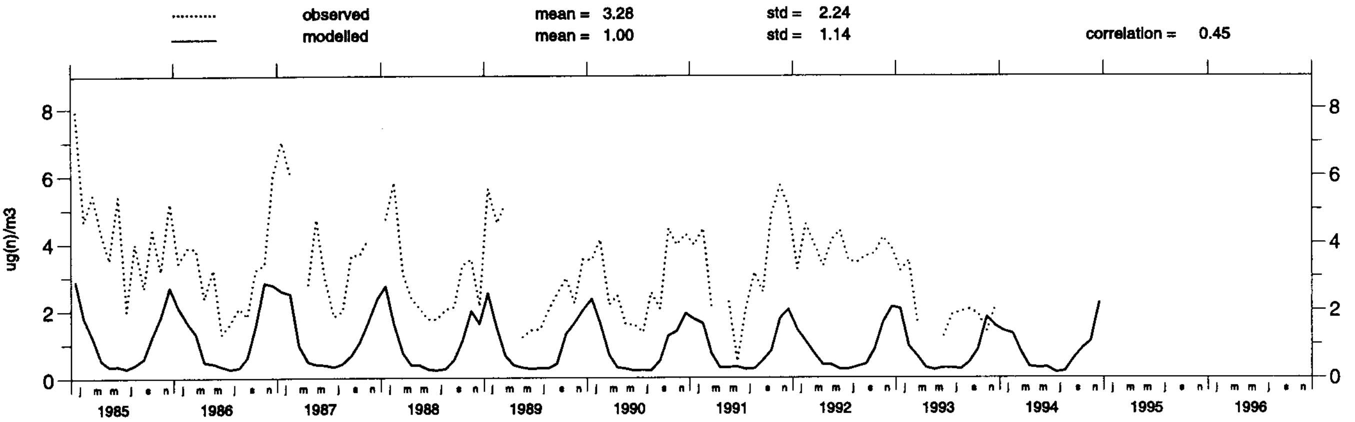
Concentration of nitrogen dioxide in air

.... observed	mean = 0.04	std = 0.06		
——— modelled	mean = 0.05	std = 0.04	correlation =	0.12



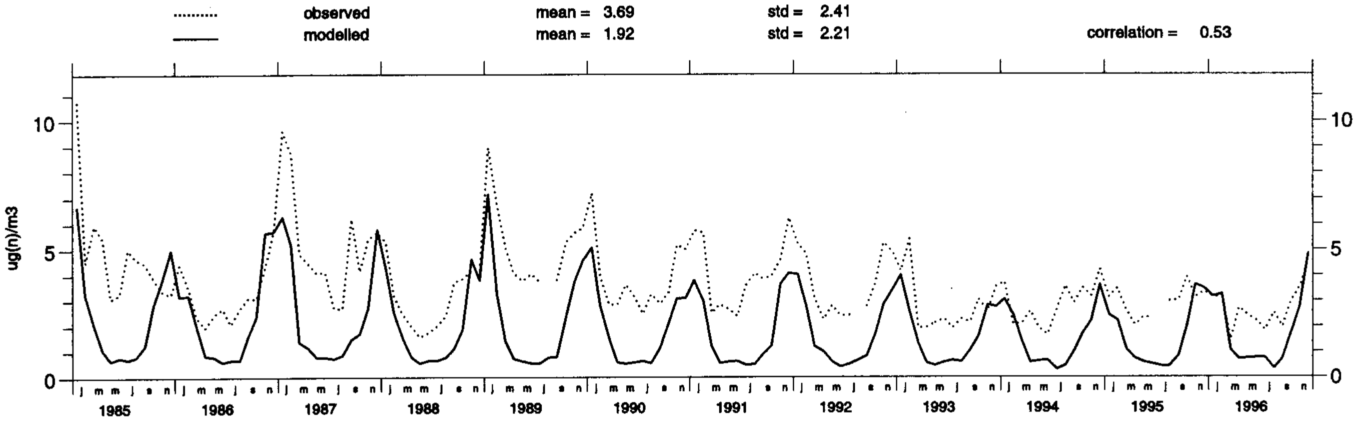
Suwalki (PL 1)

Concentration of nitrogen dioxide in air



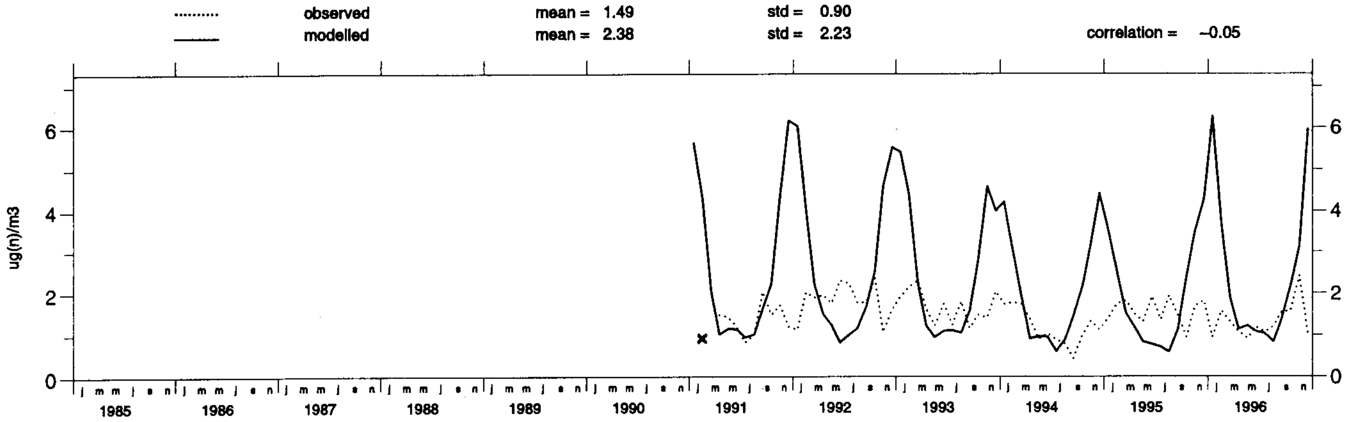
Jarczew (PL 2)

Concentration of nitrogen dioxide in air



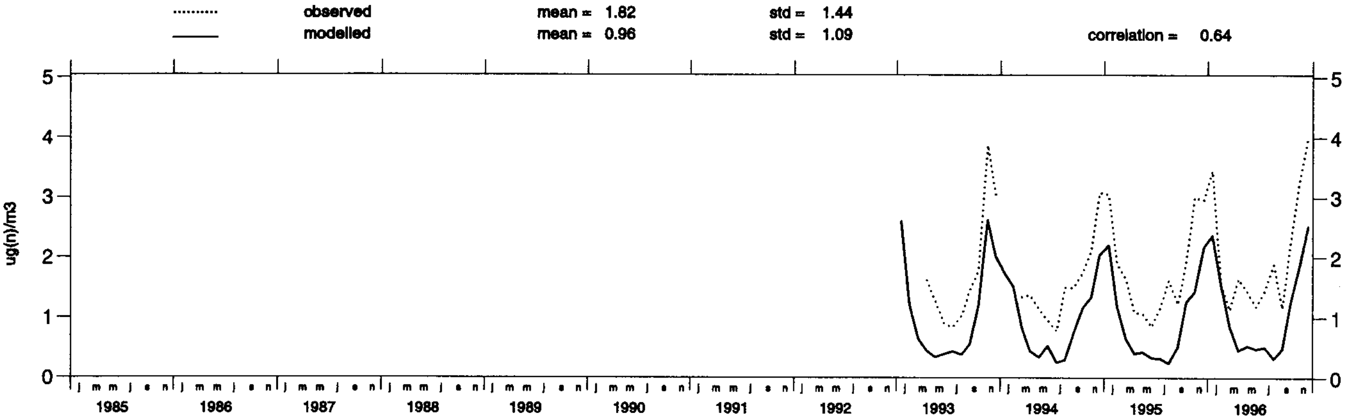
Sniezka (PL 3)

Concentration of nitrogen dioxide in air



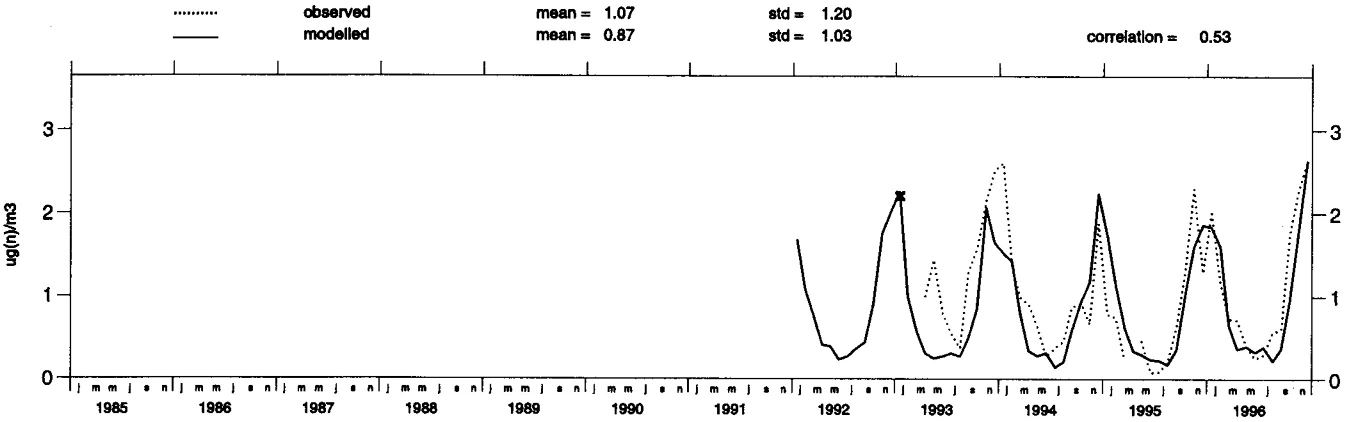
Leba (PL 4)

Concentration of nitrogen dioxide in air



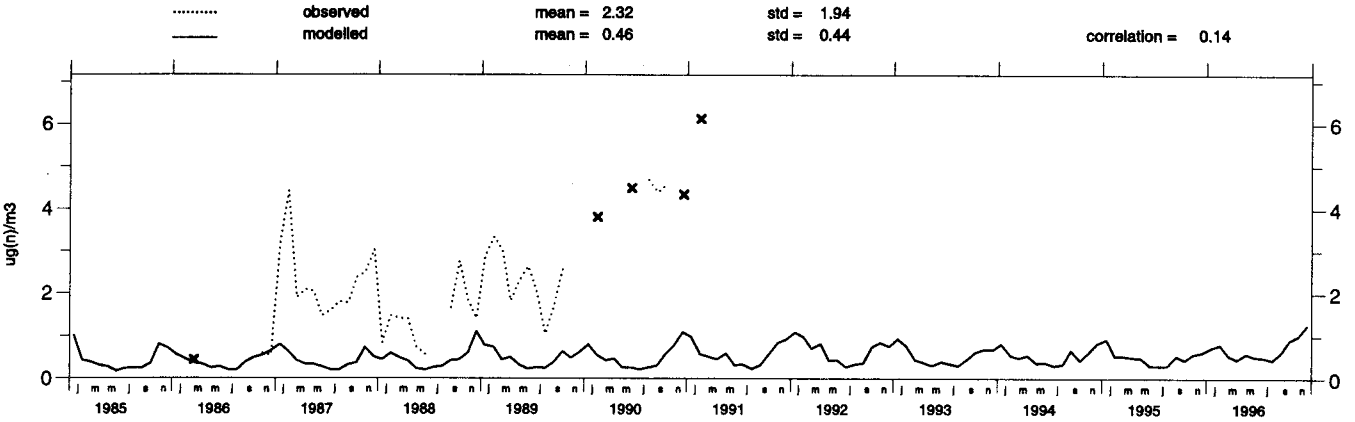
Diabla Gora (PL 5)

Concentration of nitrogen dioxide in air



Braganca (PT 1)

Concentration of nitrogen dioxide in air

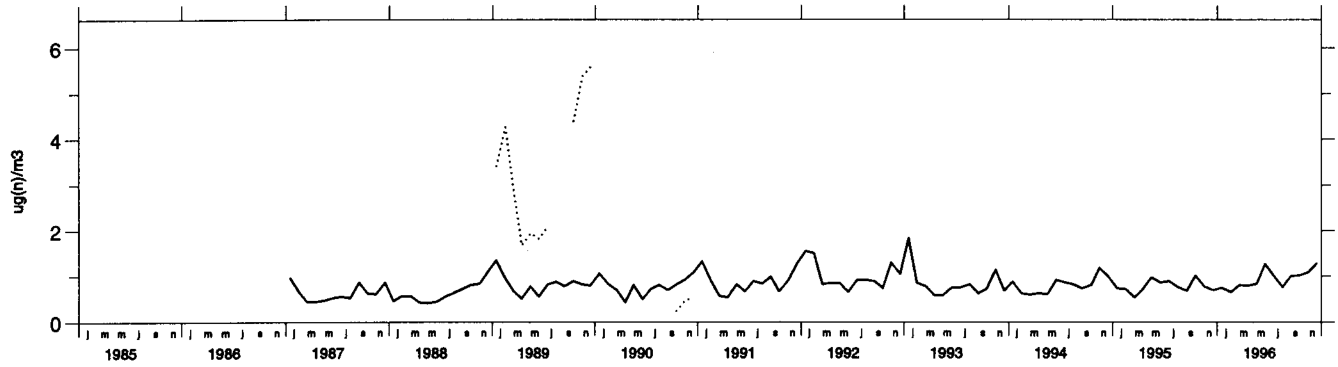


V.d.Castelo (PT 3)

Concentration of nitrogen dioxide in air

.... observed mean = 2.15 std = 2.09

——— modelled mean = 0.83 std = 0.60 correlation = 0.04

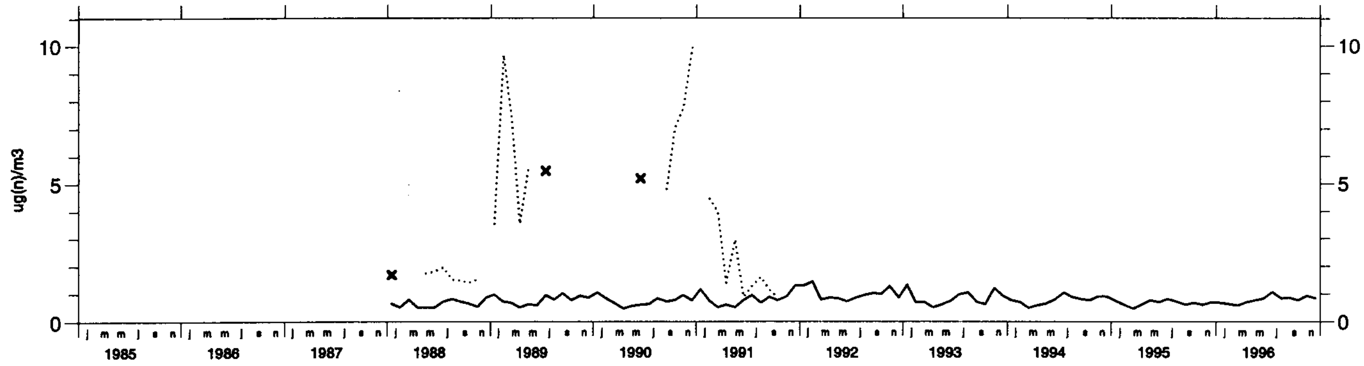


Monte_Velho (PT 4)

Concentration of nitrogen dioxide in air

.... observed mean = 4.46 std = 4.92

——— modelled mean = 0.75 std = 0.44 correlation = 0.08

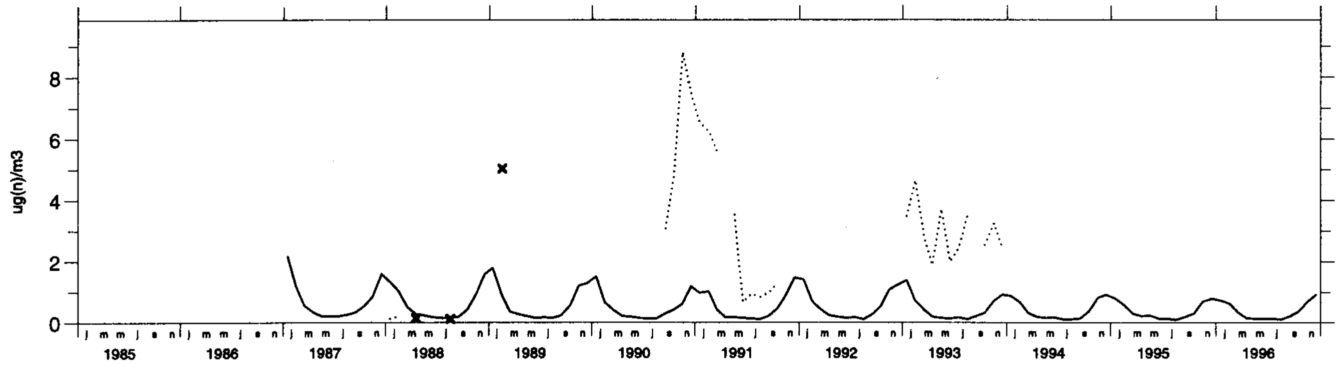


Leovo (MD 12)

Concentration of nitrogen dioxide in air

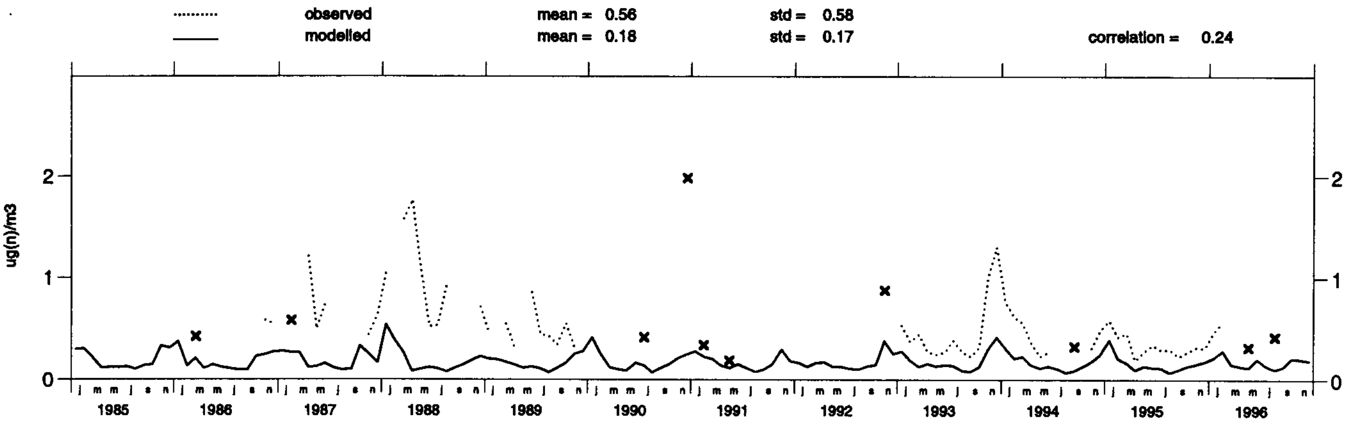
.... observed mean = 2.73 std = 3.04

——— modelled mean = 0.49 std = 0.61 correlation = 0.11



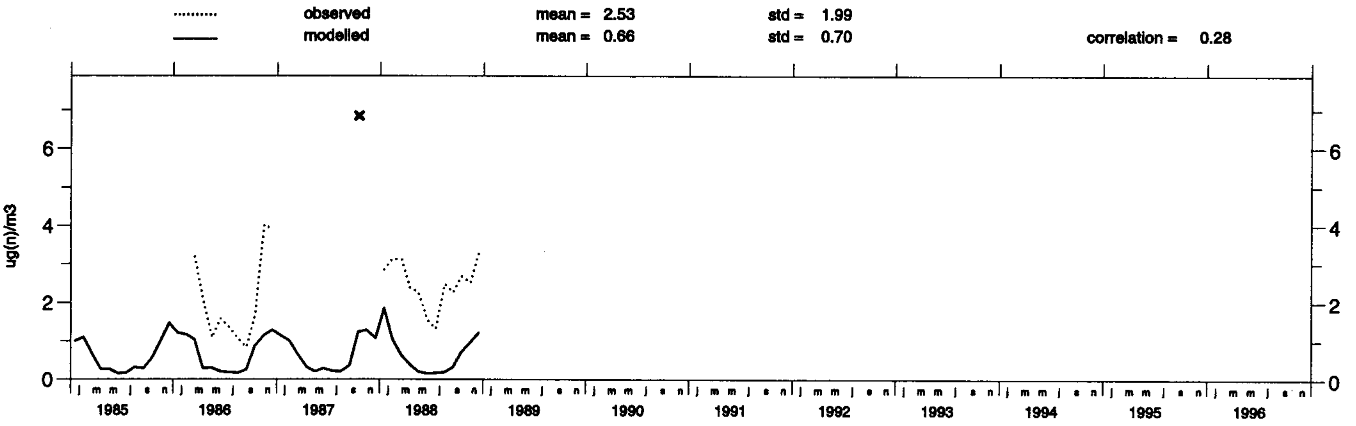
Janiskoski (RU 1)

Concentration of nitrogen dioxide in air



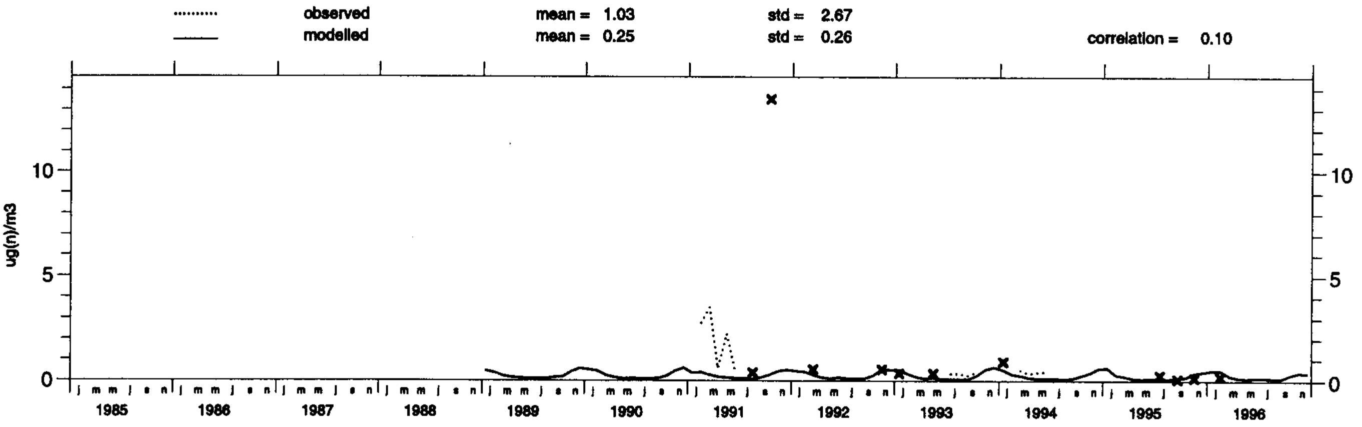
Lesogorsky (RU 8)

Concentration of nitrogen dioxide in air



Pinega (RU 13)

Concentration of nitrogen dioxide in air

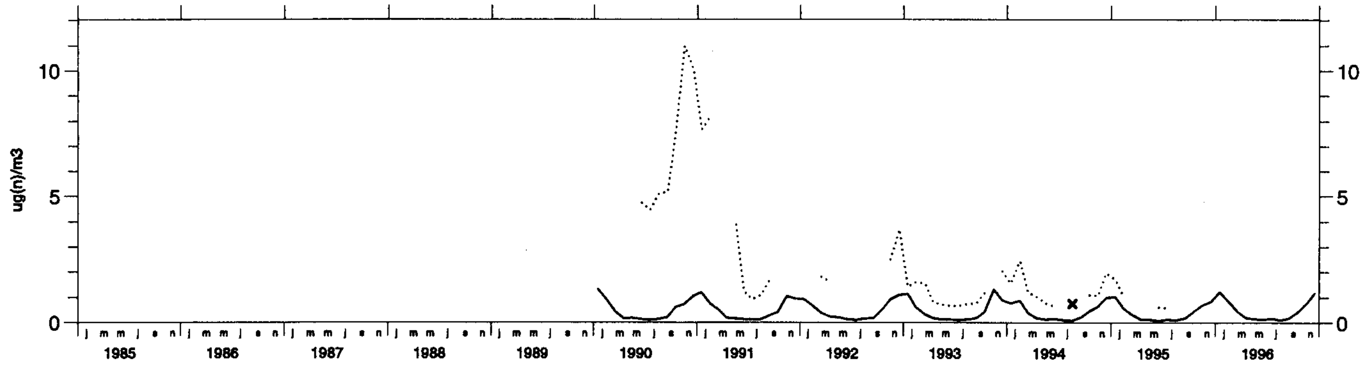


Pushkinsk_Gory (RU 14)

Concentration of nitrogen dioxide in air

.... observed mean = 2.47 std = 3.34

——— modelled mean = 0.43 std = 0.48 correlation = 0.27

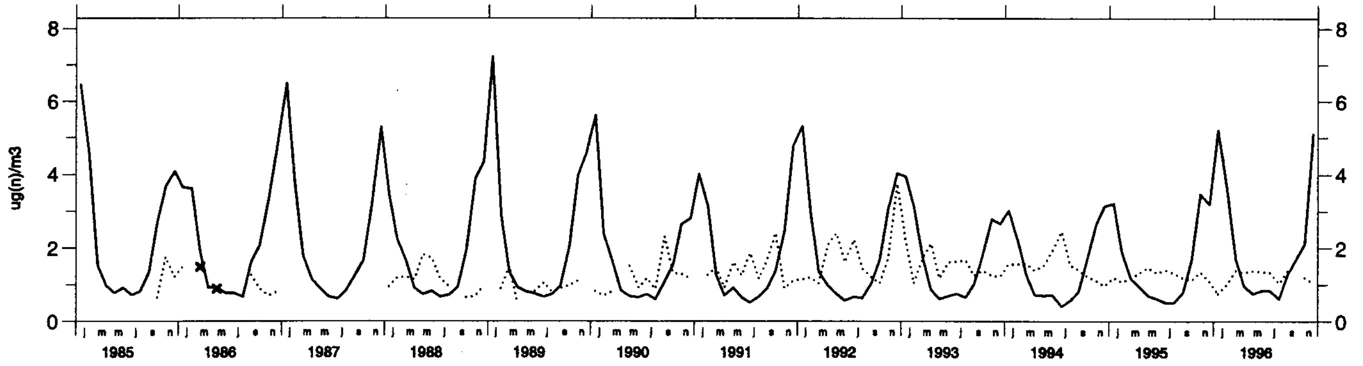


Chopok (SK 2)

Concentration of nitrogen dioxide in air

.... observed mean = 1.32 std = 0.88

——— modelled mean = 1.89 std = 1.86 correlation = -0.09

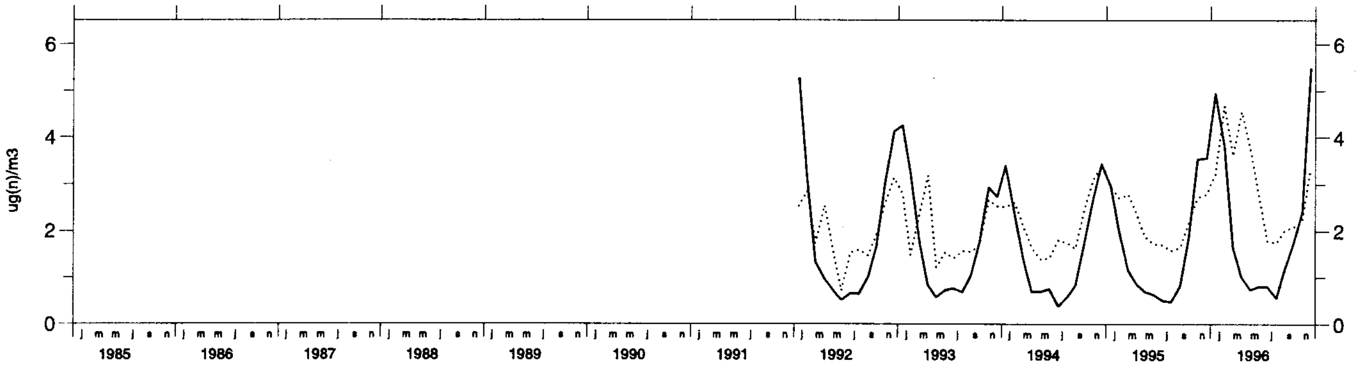


Stara Lesna (SK 4)

Concentration of nitrogen dioxide in air

.... observed mean = 2.30 std = 1.07

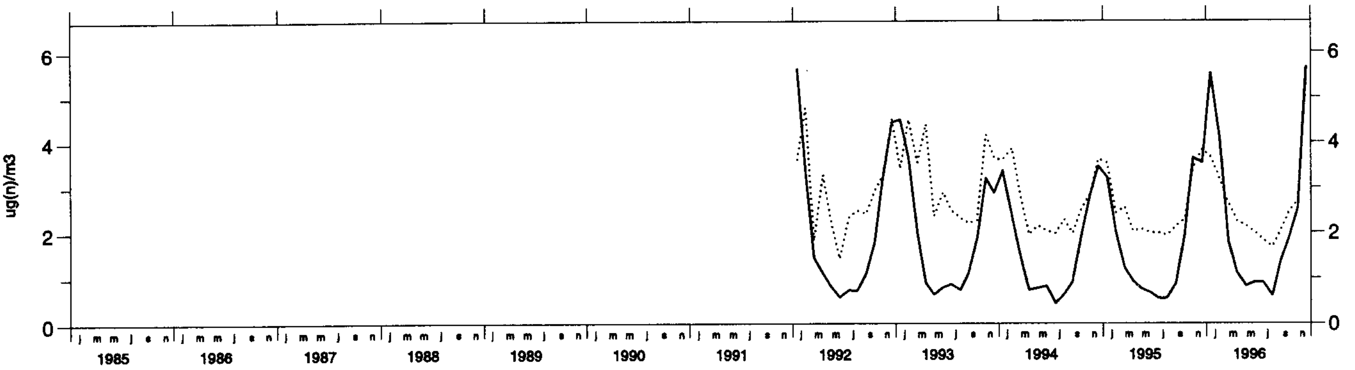
——— modelled mean = 1.81 std = 1.78 correlation = 0.42



Liesek (SK 5)

Concentration of nitrogen dioxide in air

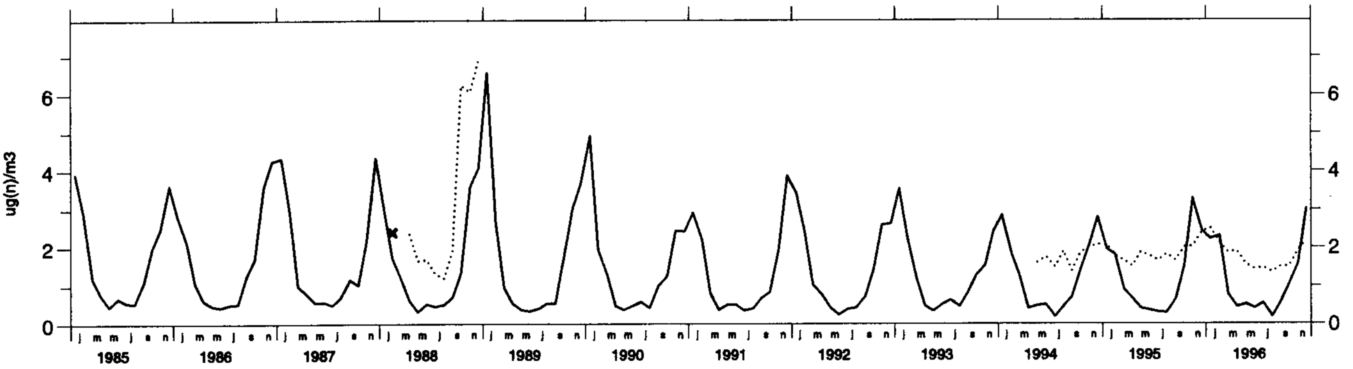
....	observed	mean = 2.80	std = 1.41	
———	modelled	mean = 1.92	std = 1.90	correlation = 0.55



Starina (SK 6)

Concentration of nitrogen dioxide in air

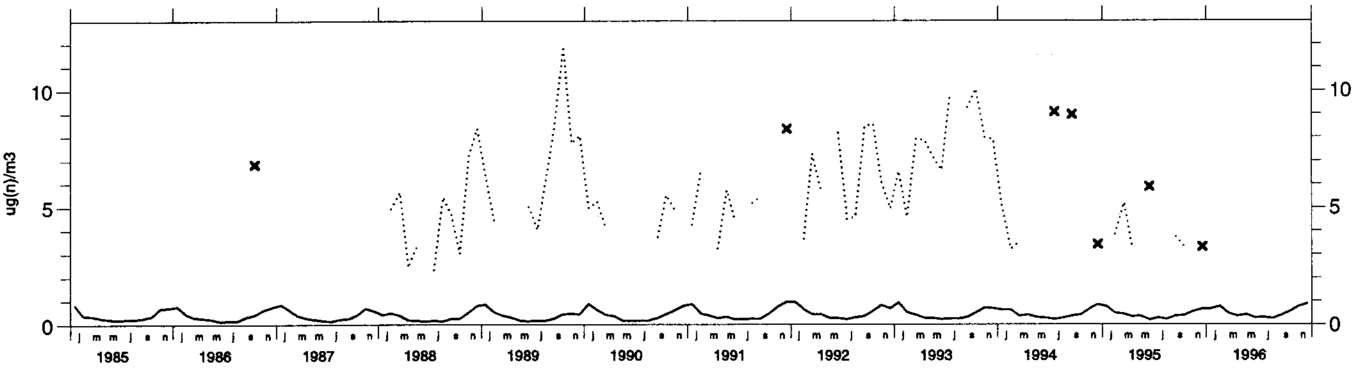
....	observed	mean = 2.19	std = 1.51	
———	modelled	mean = 1.22	std = 1.43	correlation = 0.39



Toledo (ES 1)

Concentration of nitrogen dioxide in air

....	observed	mean = 5.49	std = 4.00	
———	modelled	mean = 0.43	std = 0.35	correlation = 0.03

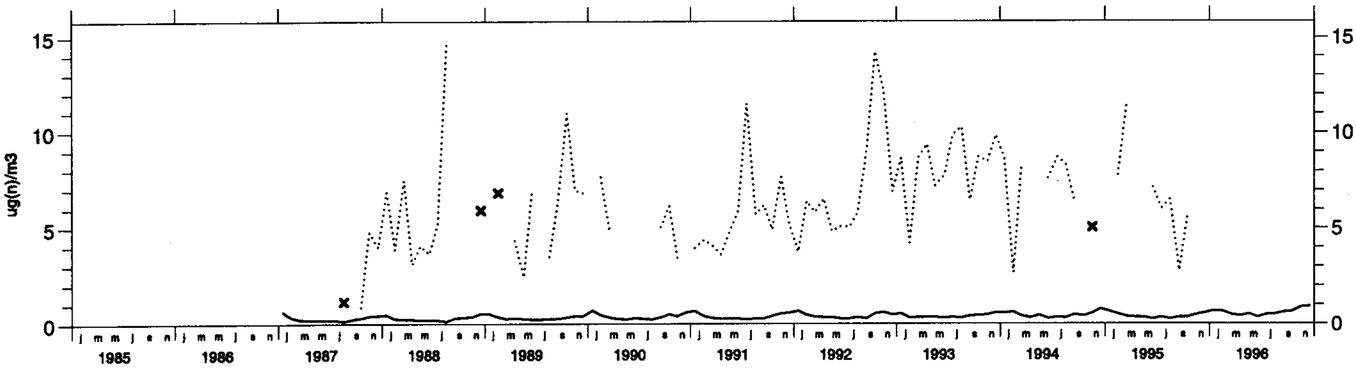


La_Cartuja (ES 2)

Concentration of nitrogen dioxide in air

observed mean = 6.33 std = 4.69

modelled mean = 0.37 std = 0.24 correlation = 0.08

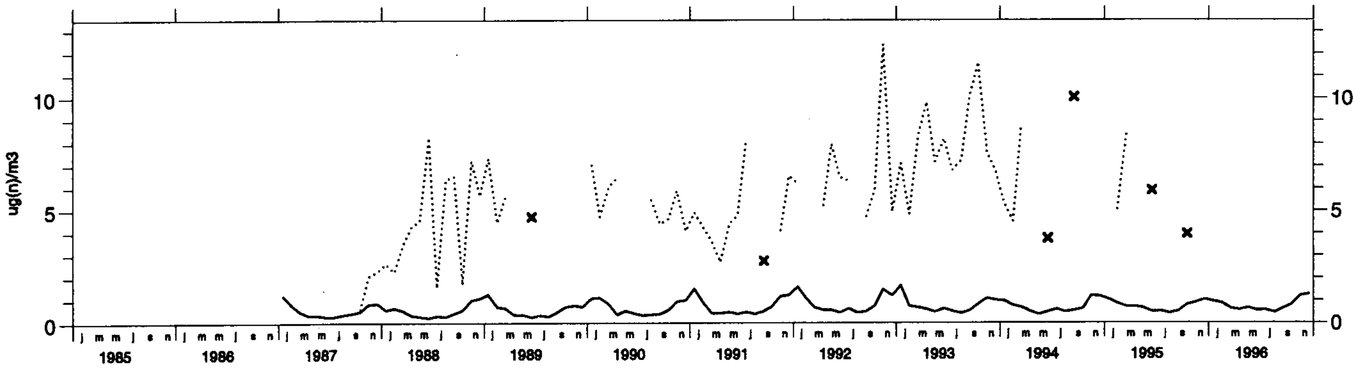


Roquetas (ES 3)

Concentration of nitrogen dioxide in air

observed mean = 5.42 std = 4.05

modelled mean = 0.72 std = 0.51 correlation = 0.09

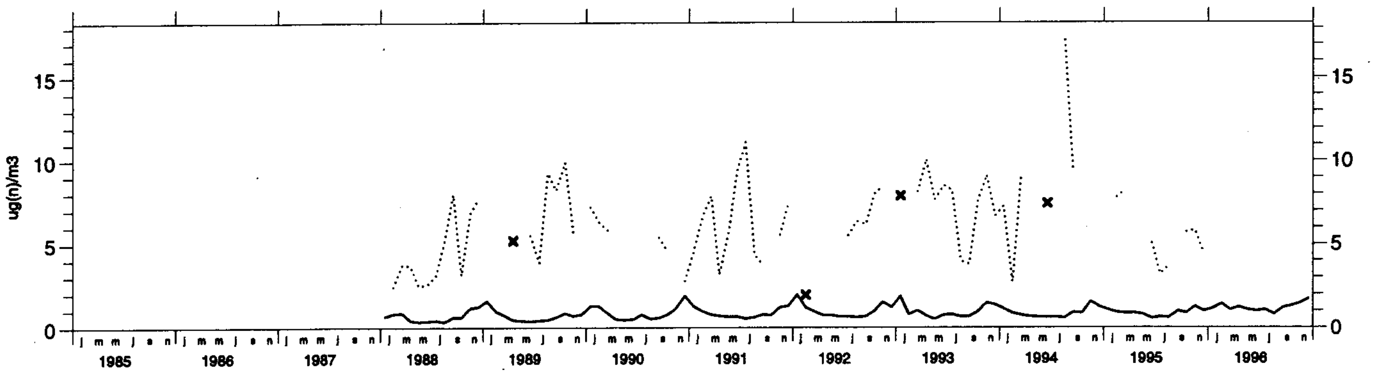


Logrono (ES 4)

Concentration of nitrogen dioxide in air

observed mean = 6.09 std = 4.28

modelled mean = 0.86 std = 0.65 correlation = 0.03

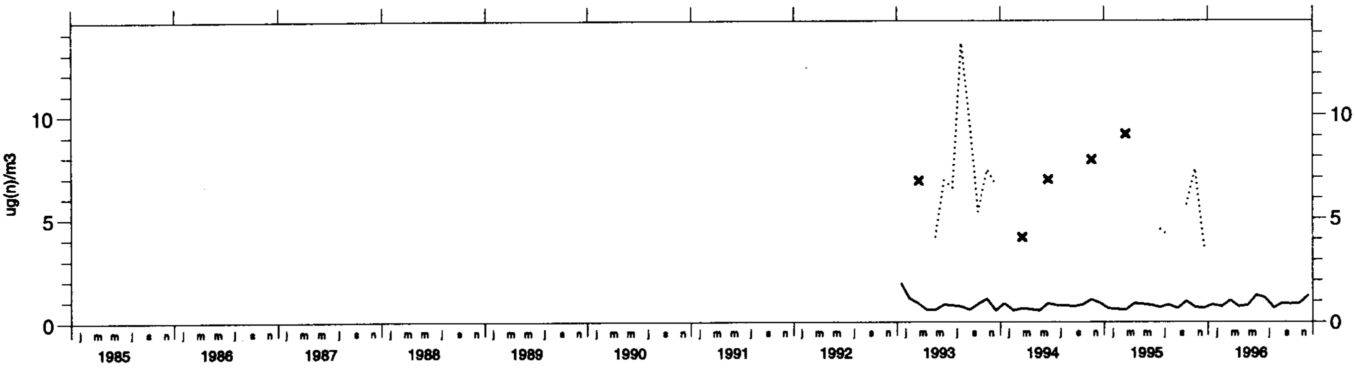


Noio (ES 5)

Concentration of nitrogen dioxide in air

.... observed mean = 6.73 std = 4.82

——— modelled mean = 0.82 std = 0.68 correlation = -0.00

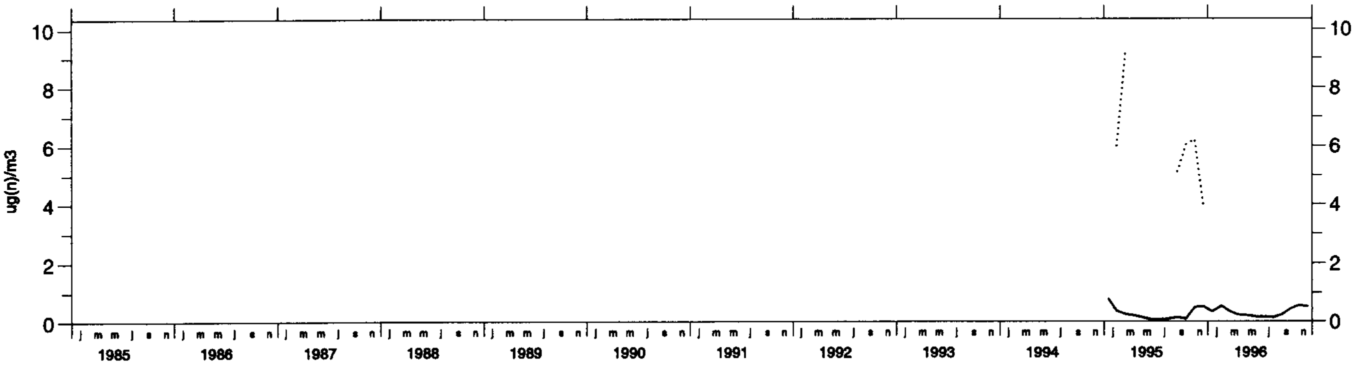


Mahon (ES 6)

Concentration of nitrogen dioxide in air

.... observed mean = 5.22 std = 3.14

——— modelled mean = 0.26 std = 0.27 correlation = 0.02

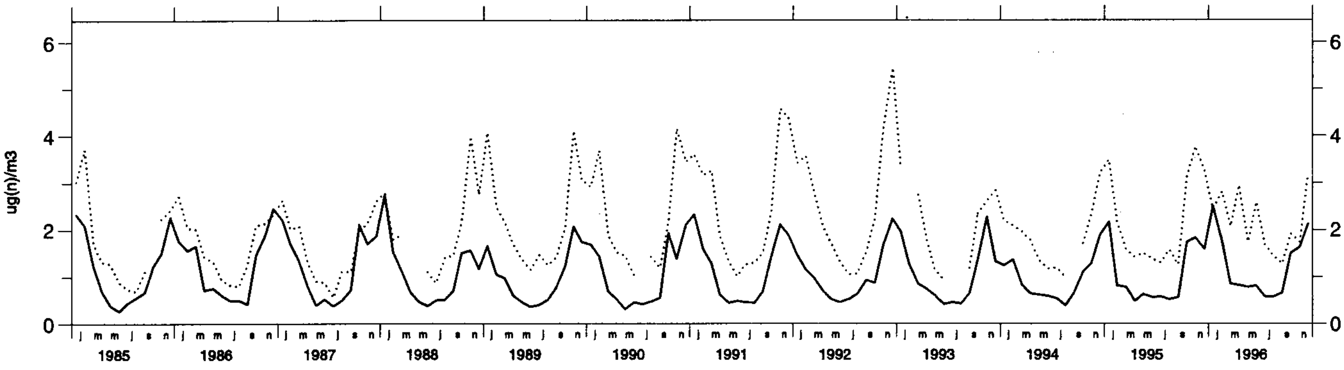


Roervik (SE 2)

Concentration of nitrogen dioxide in air

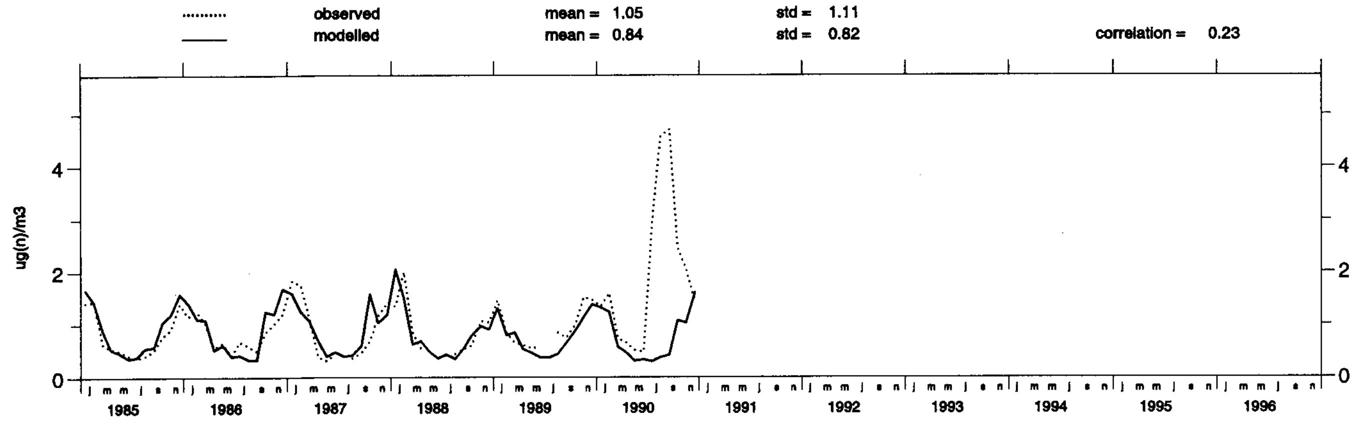
.... observed mean = 2.05 std = 1.78

——— modelled mean = 1.08 std = 1.15 correlation = 0.49



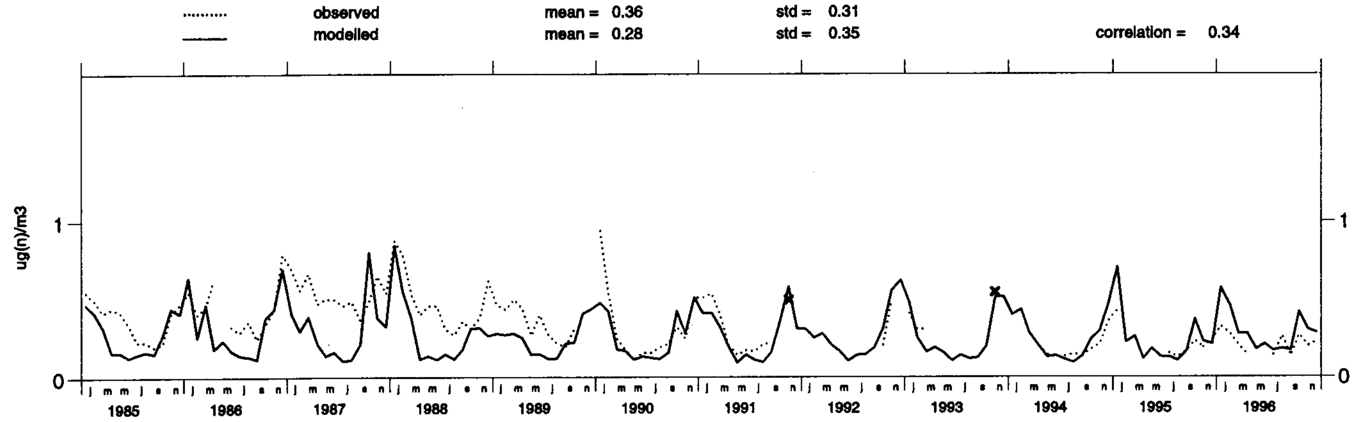
Velen (SE 3)

Concentration of nitrogen dioxide in air



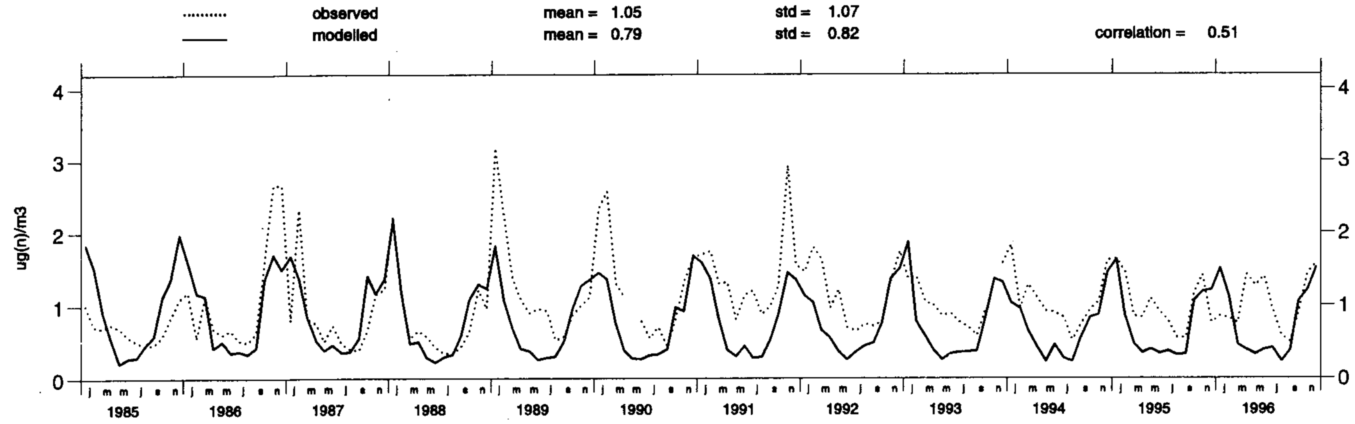
Bredkelen (SE 5)

Concentration of nitrogen dioxide in air



Hoburg (SE 8)

Concentration of nitrogen dioxide in air

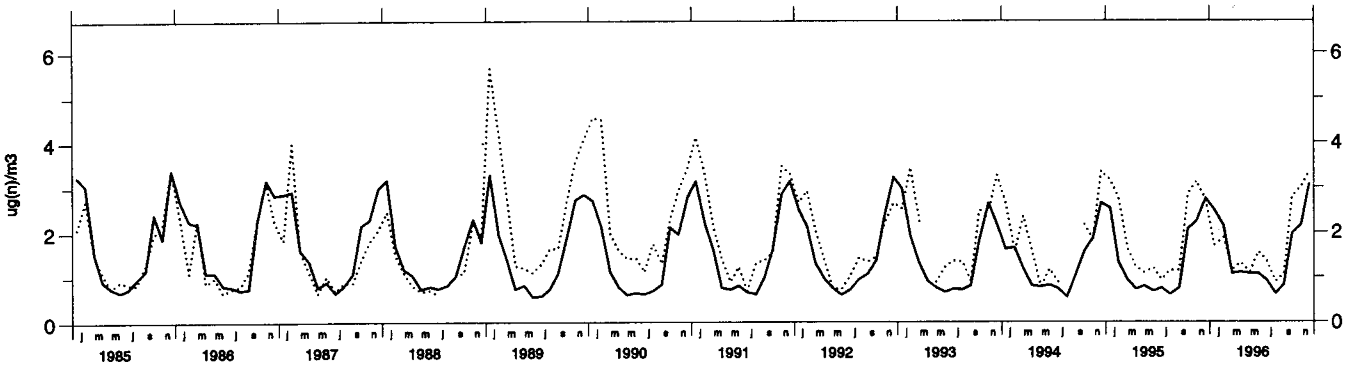


Vavihill (SE 11)

Concentration of nitrogen dioxide in air

.... observed mean = 1.85 std = 1.74

——— modelled mean = 1.54 std = 1.43 correlation = 0.58

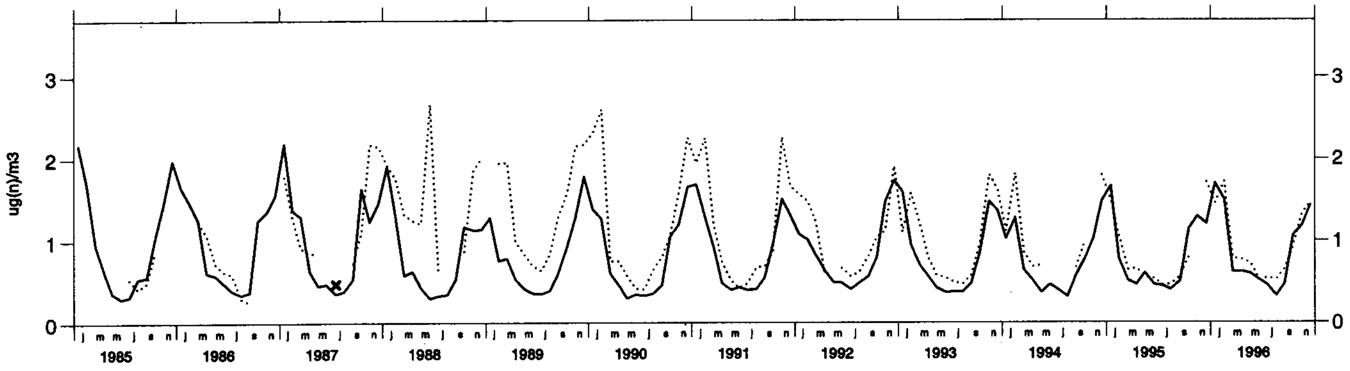


Aspvreten (SE 12)

Concentration of nitrogen dioxide in air

.... observed mean = 1.10 std = 0.98

——— modelled mean = 0.84 std = 0.75 correlation = 0.49

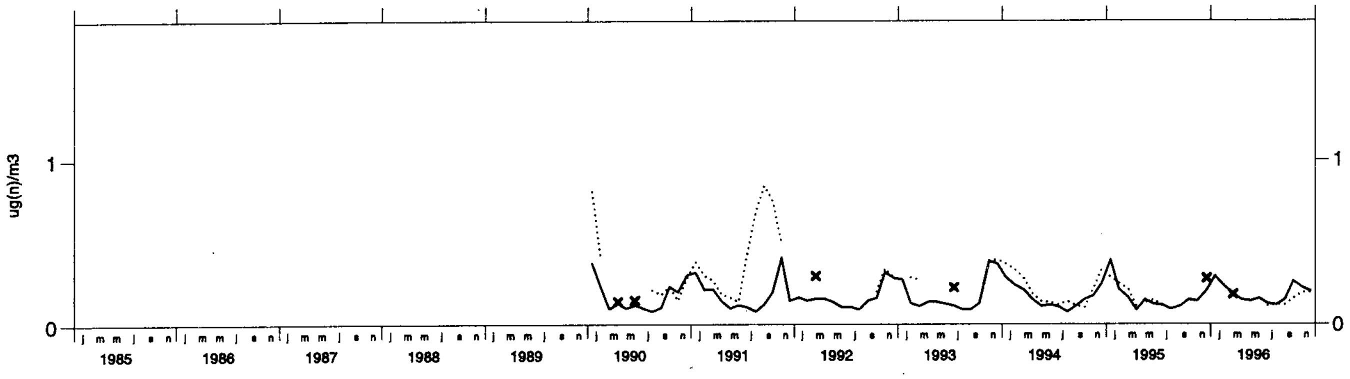


Esrange (SE 13)

Concentration of nitrogen dioxide in air

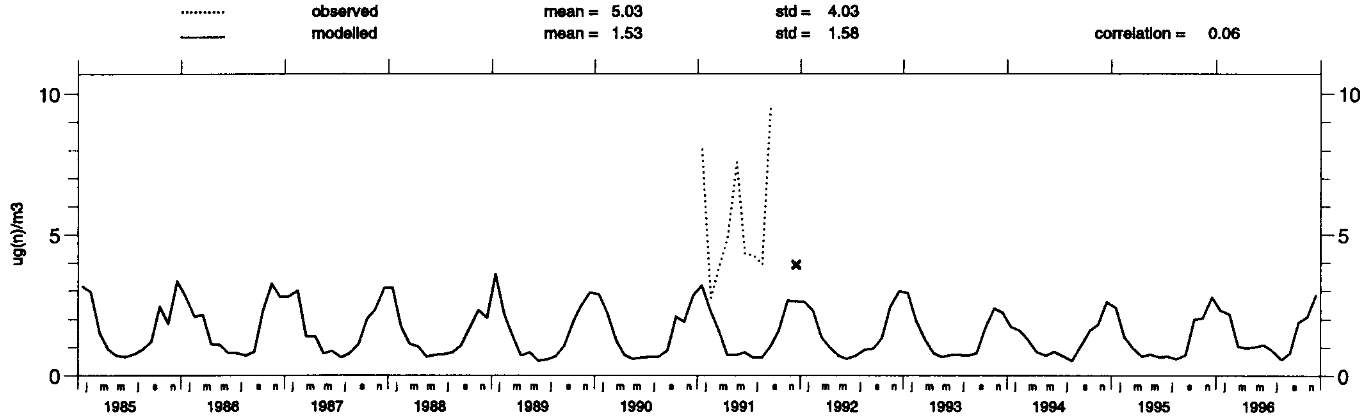
.... observed mean = 0.26 std = 0.28

——— modelled mean = 0.18 std = 0.18 correlation = 0.22



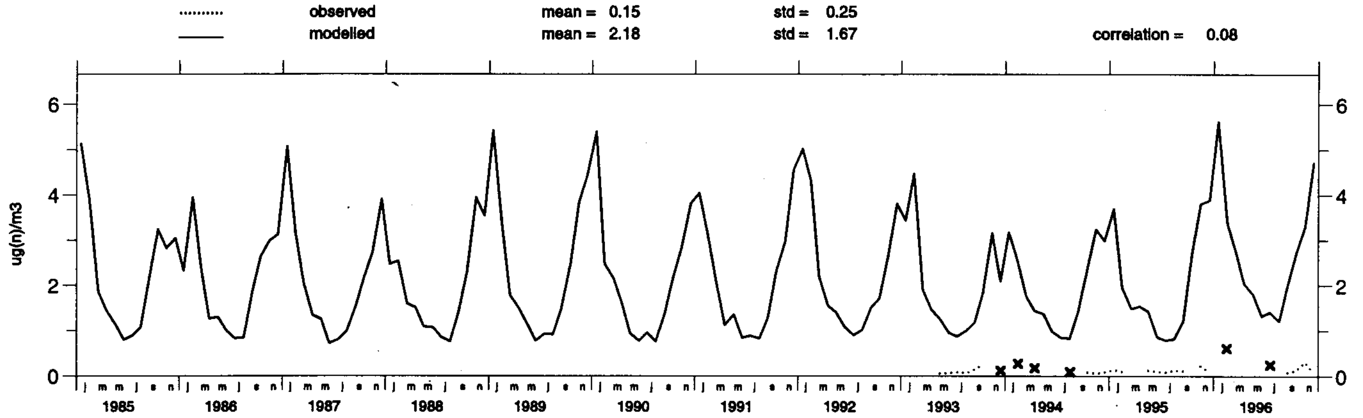
Arup (SE 50)

Concentration of nitrogen dioxide in air



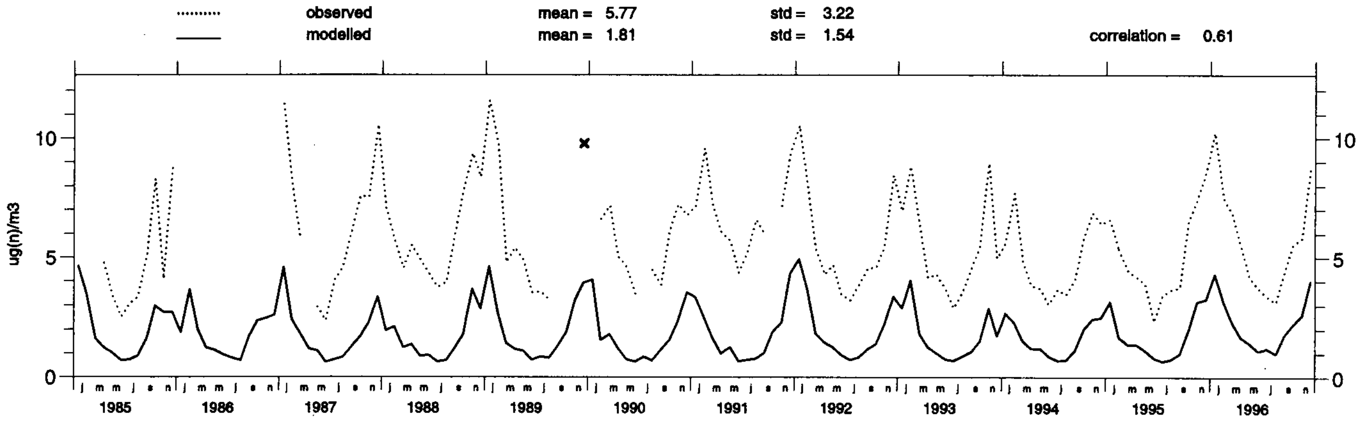
Jungfraujoch (CH 1)

Concentration of nitrogen dioxide in air



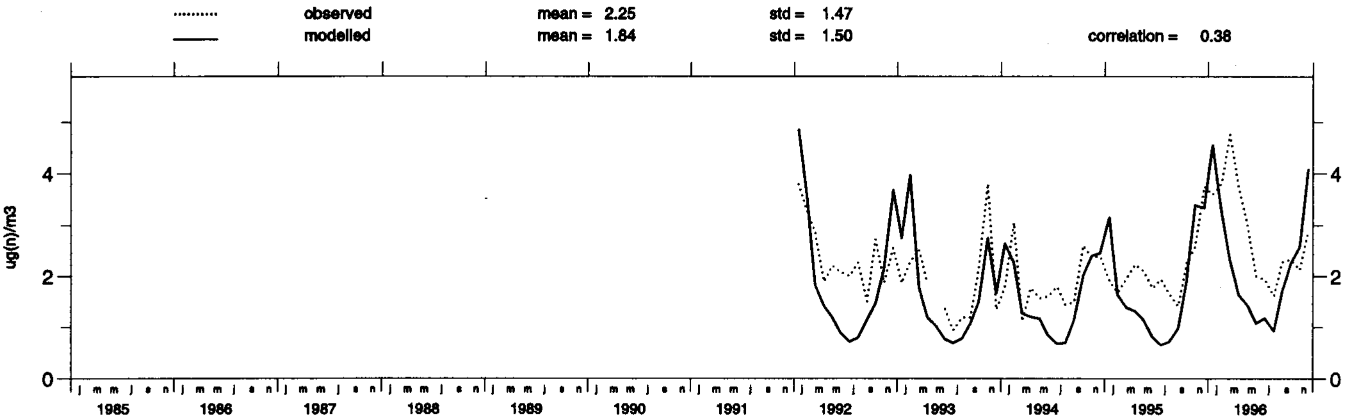
Payerne (CH 2)

Concentration of nitrogen dioxide in air



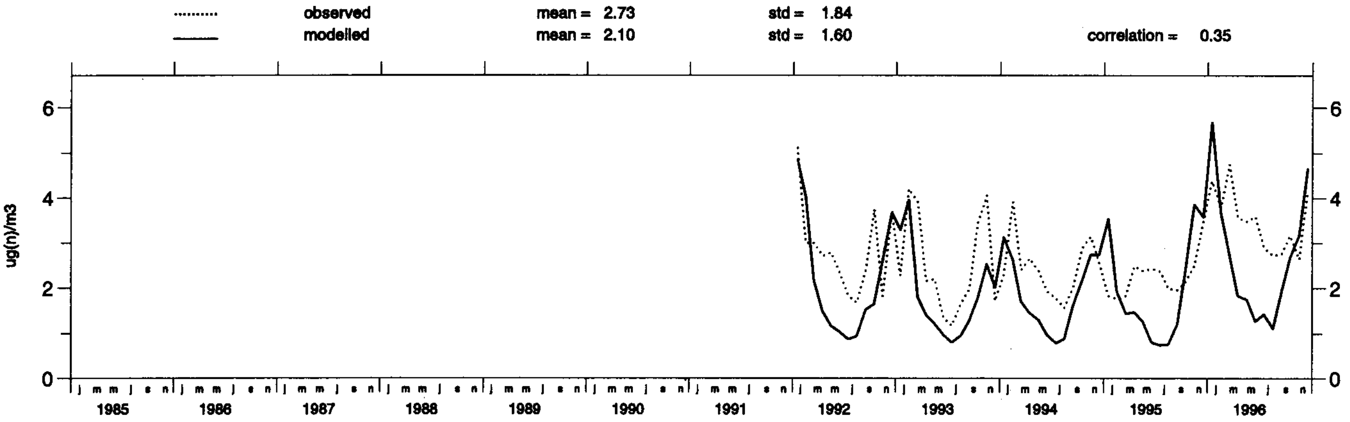
Chaumont (CH 4)

Concentration of nitrogen dioxide in air



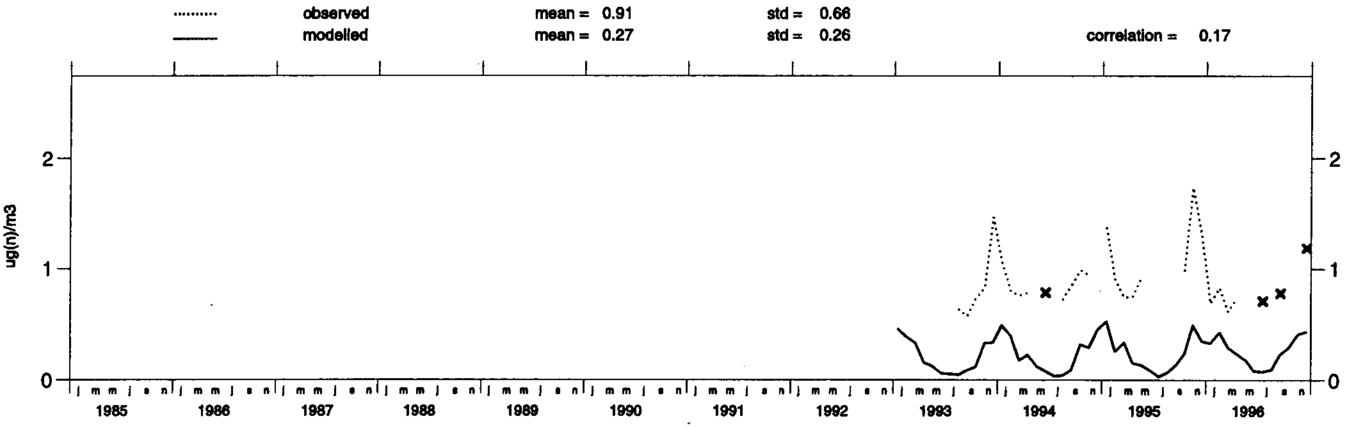
Rigi (CH 5)

Concentration of nitrogen dioxide in air



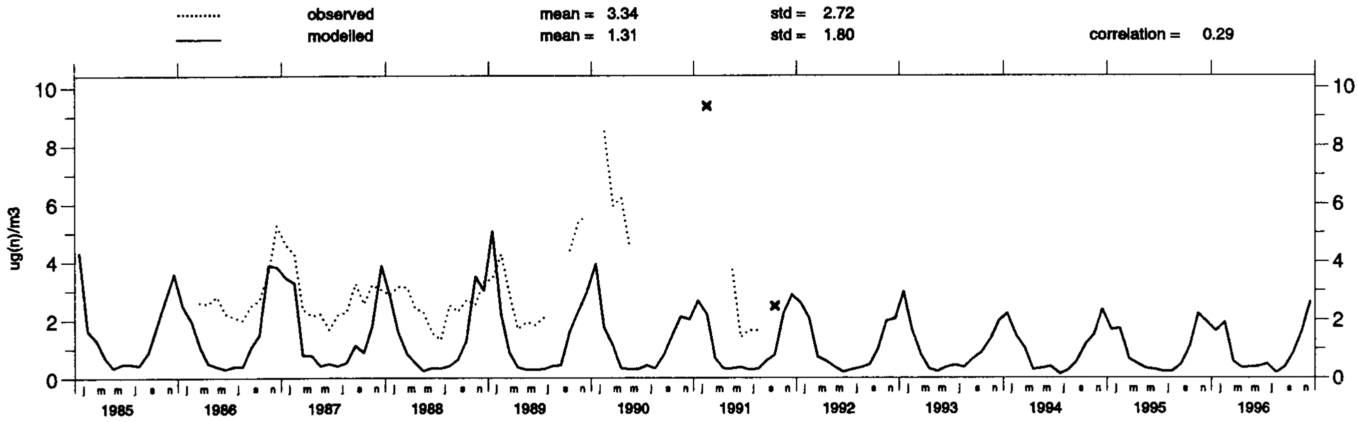
Cubuk11 (TR 1)

Concentration of nitrogen dioxide in air



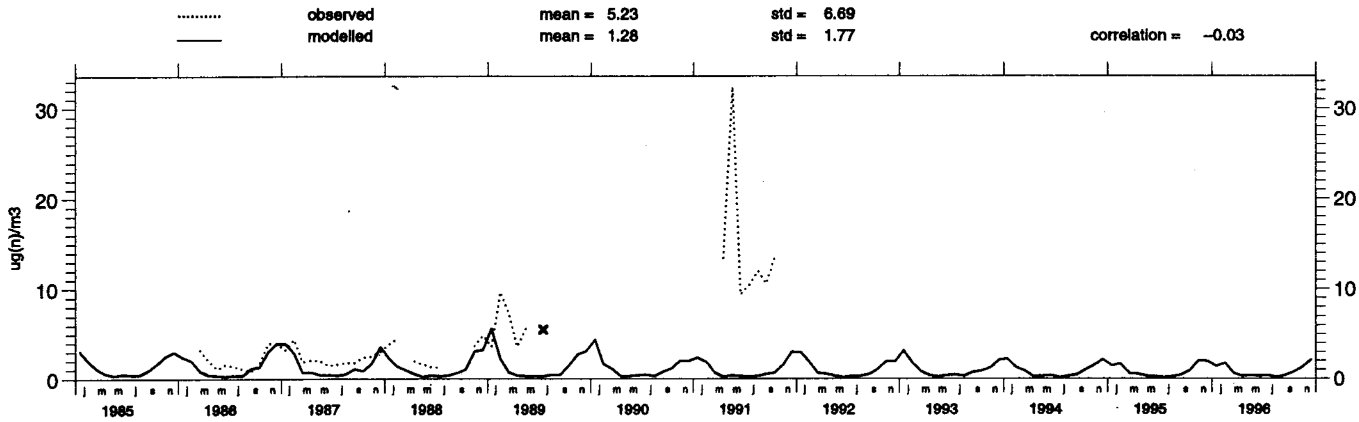
Svityatz (UA 5)

Concentration of nitrogen dioxide in air



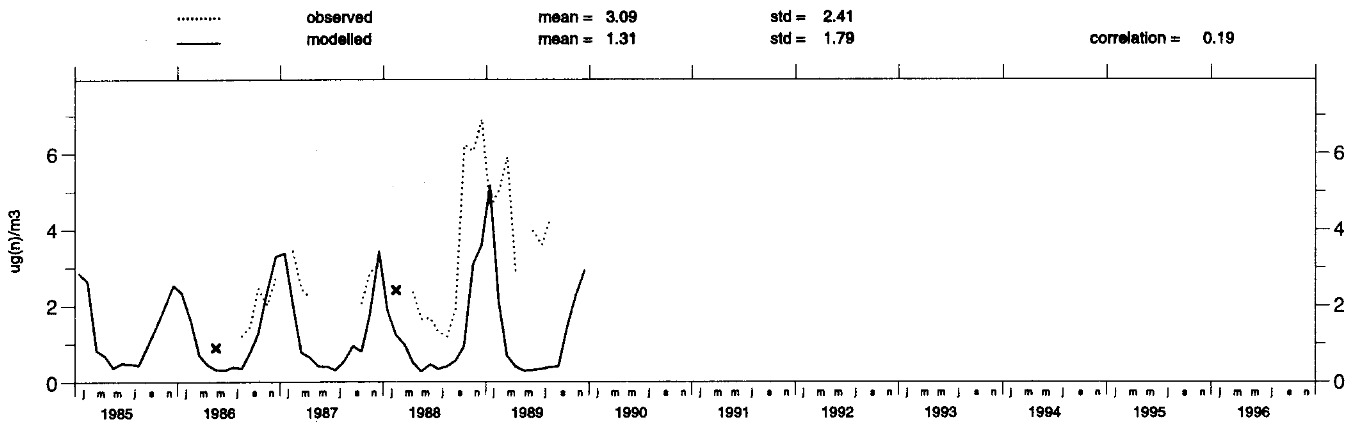
Rava-Russkaya (UA 6)

Concentration of nitrogen dioxide in air



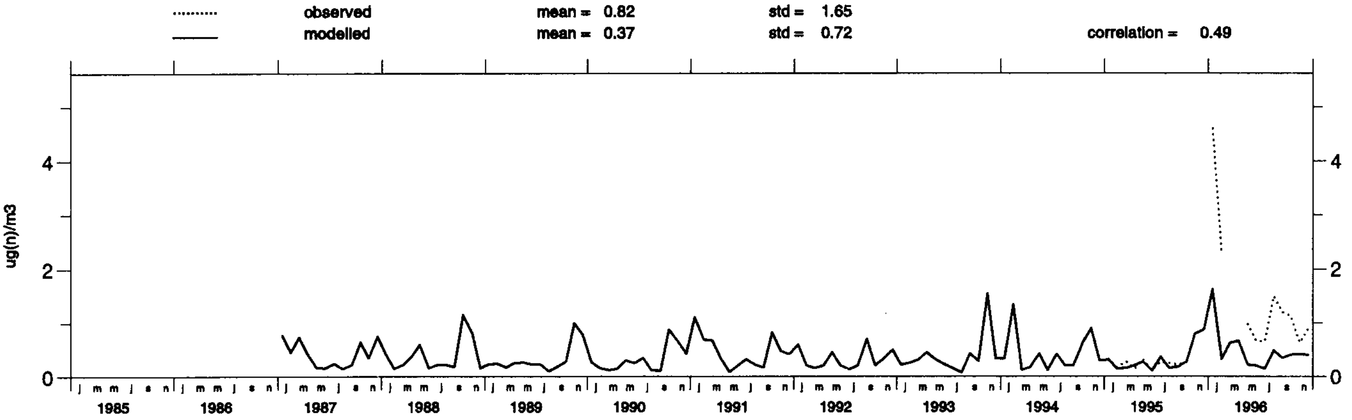
Beregovo (UA 7)

Concentration of nitrogen dioxide in air



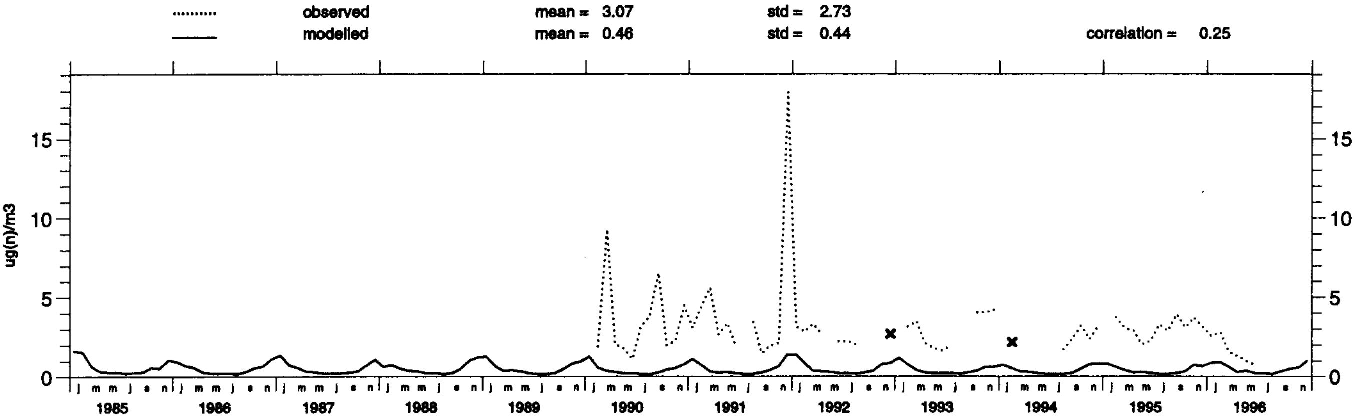
Strath_Vaich_D. (GB 15)

Concentration of nitrogen dioxide in air



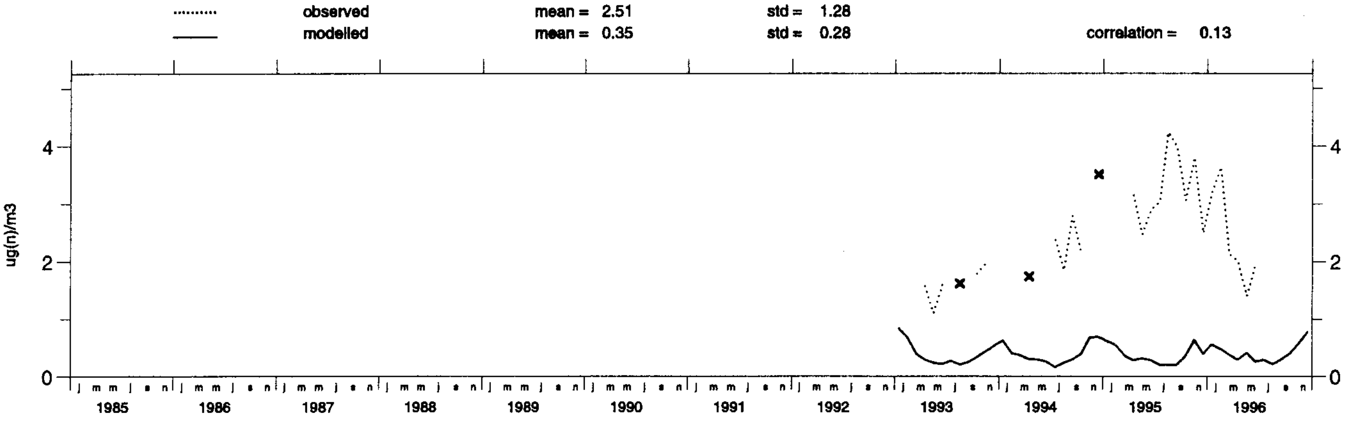
Kamenicki_vis (YU 5)

Concentration of nitrogen dioxide in air



Zabljak (YU 8)

Concentration of nitrogen dioxide in air



Time series for concentration of Total Nitrate in air

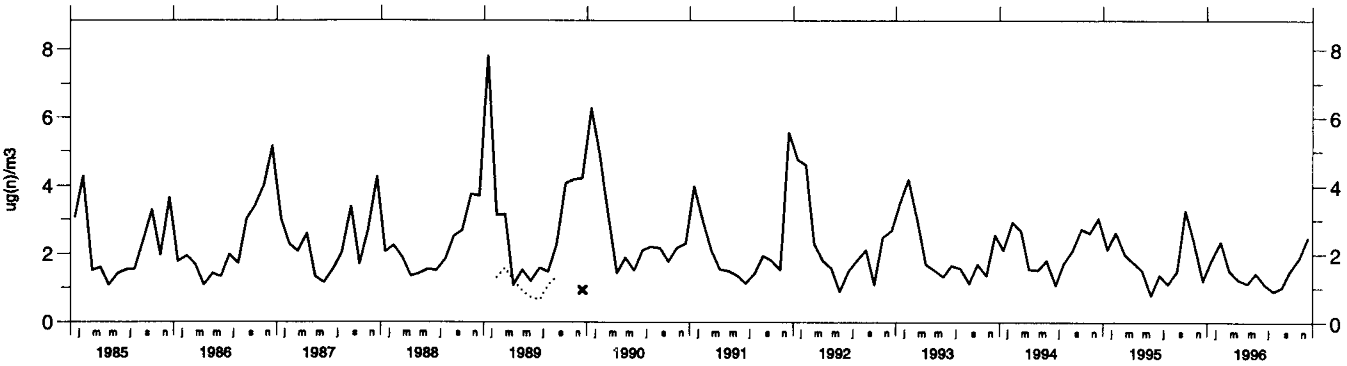
Period: 1985-96

Puntijarka (HR 2)

Concentration of total nitrate in air

·········· observed mean = 1.08 std = 1.07

—— modelled mean = 2.50 std = 2.63 correlation = 0.17

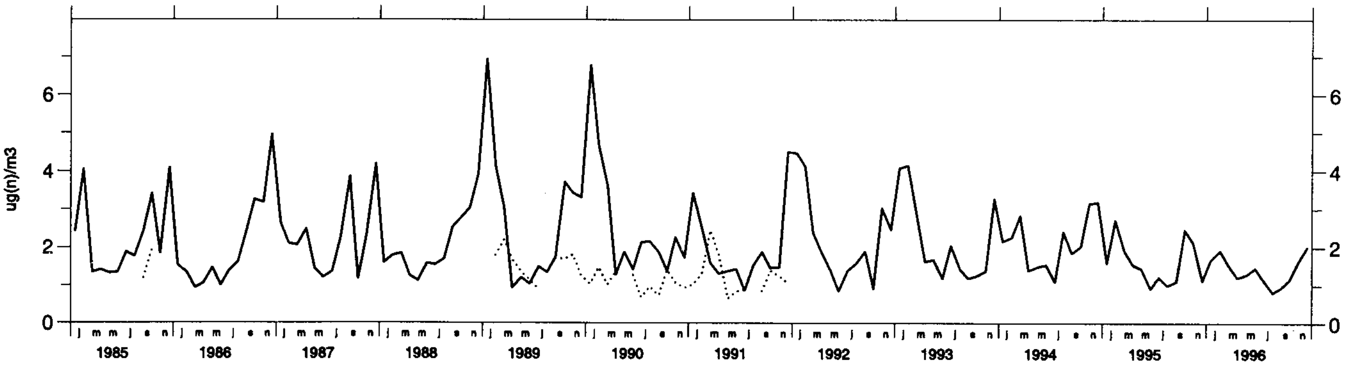


Zavizan (HR 4)

Concentration of total nitrate in air

·········· observed mean = 1.32 std = 1.23

—— modelled mean = 2.34 std = 2.71 correlation = 0.10

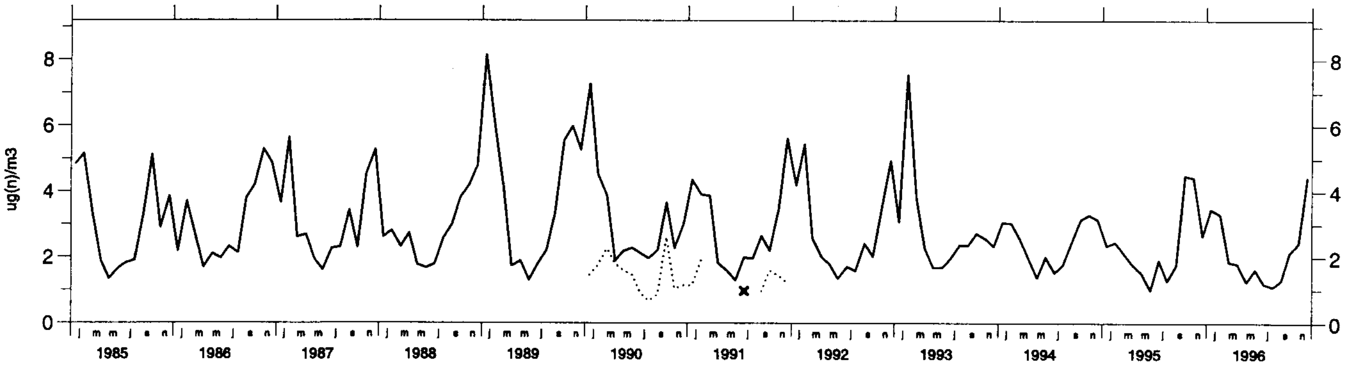


Svratouch (CS 1)

Concentration of total nitrate in air

·········· observed mean = 1.51 std = 1.49

—— modelled mean = 3.21 std = 3.44 correlation = 0.33

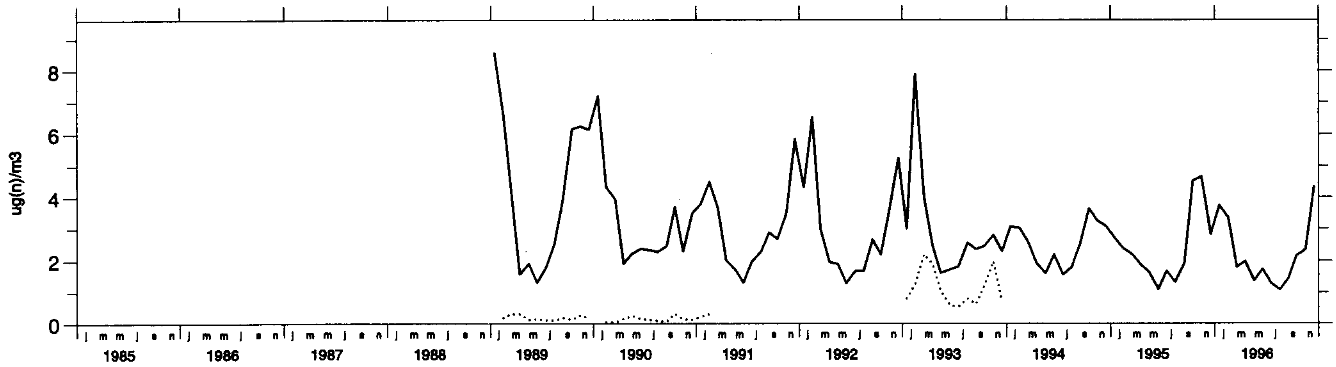


Kosetice (CS 3)

Concentration of total nitrate in air

.... observed mean = 0.47 std = 0.93

——— modelled mean = 3.36 std = 4.03 correlation = 0.04

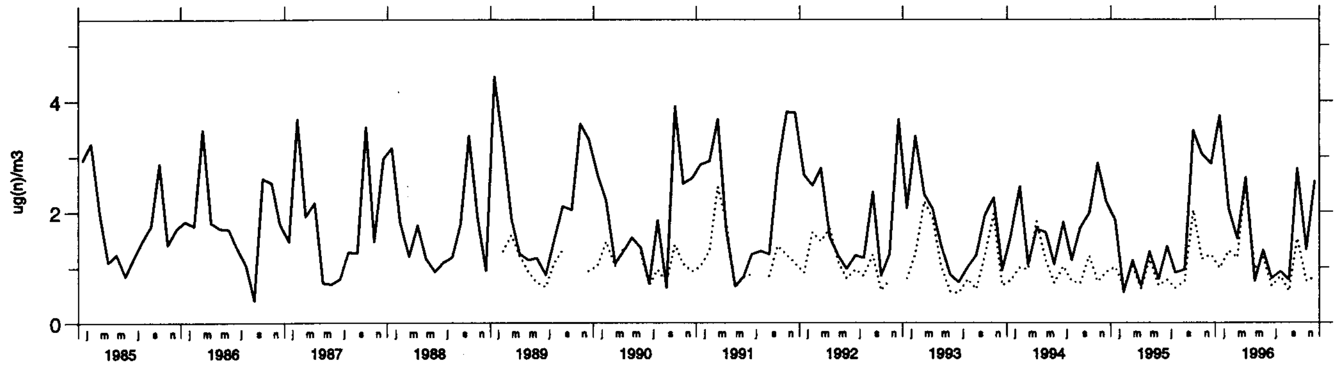


Tange (DK 3)

Concentration of total nitrate in air

.... observed mean = 1.09 std = 1.11

——— modelled mean = 1.85 std = 2.65 correlation = 0.57

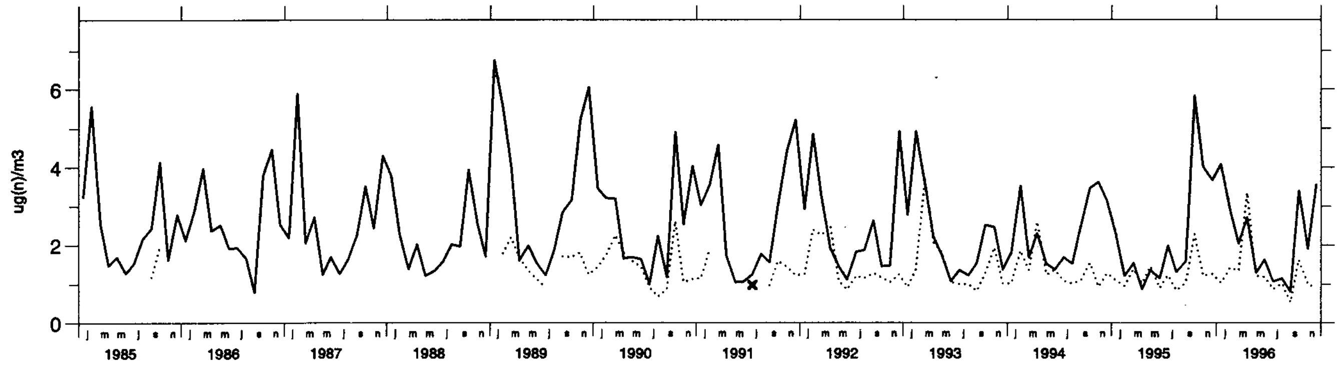


Keldsnor (DK 5)

Concentration of total nitrate in air

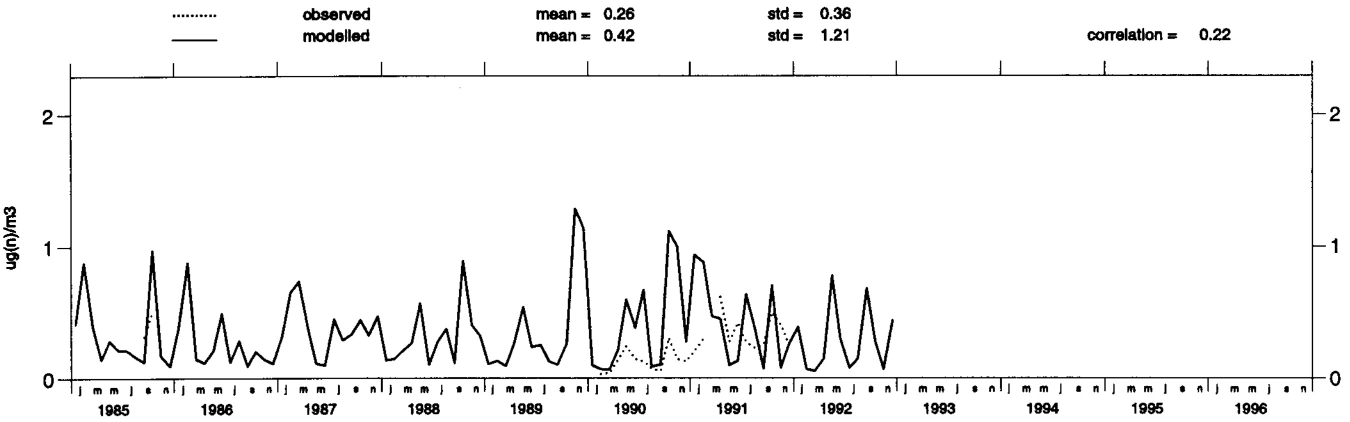
.... observed mean = 1.43 std = 1.45

——— modelled mean = 2.56 std = 3.50 correlation = 0.56



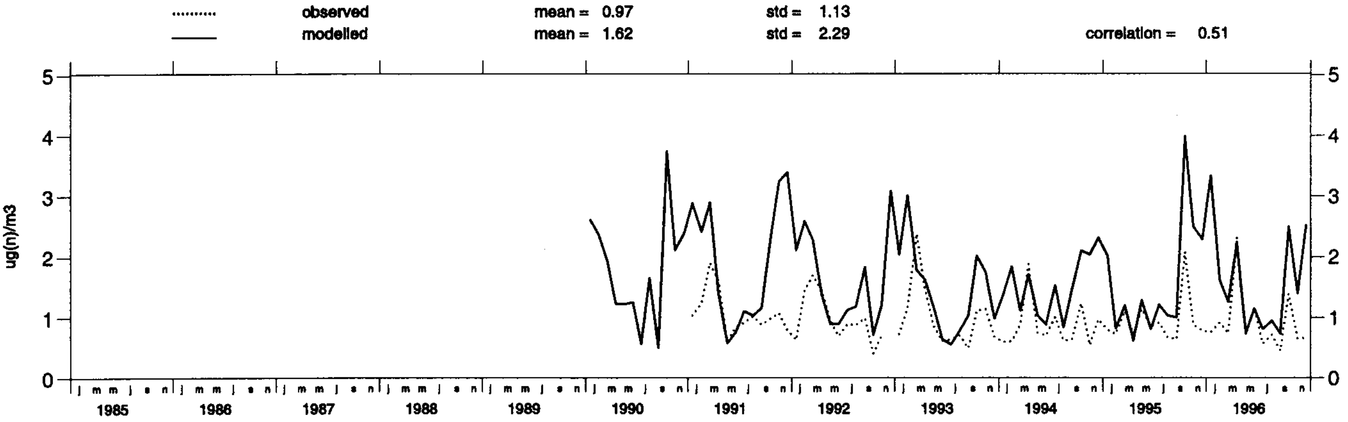
Faer.-Akraberg (DK 7)

Concentration of total nitrate in air



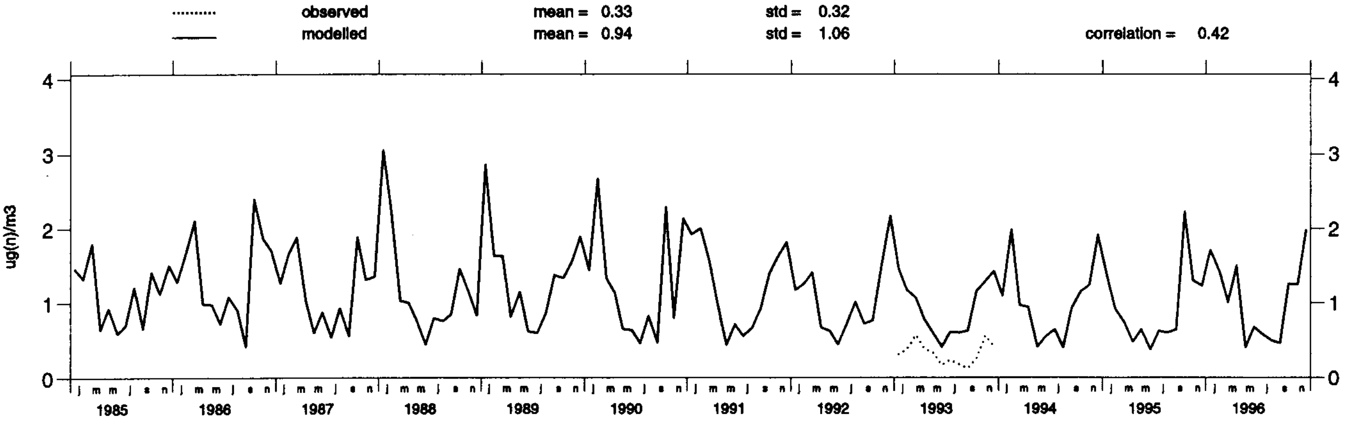
Anholt (DK 8)

Concentration of total nitrate in air



Syrve (EE 2)

Concentration of total nitrate in air

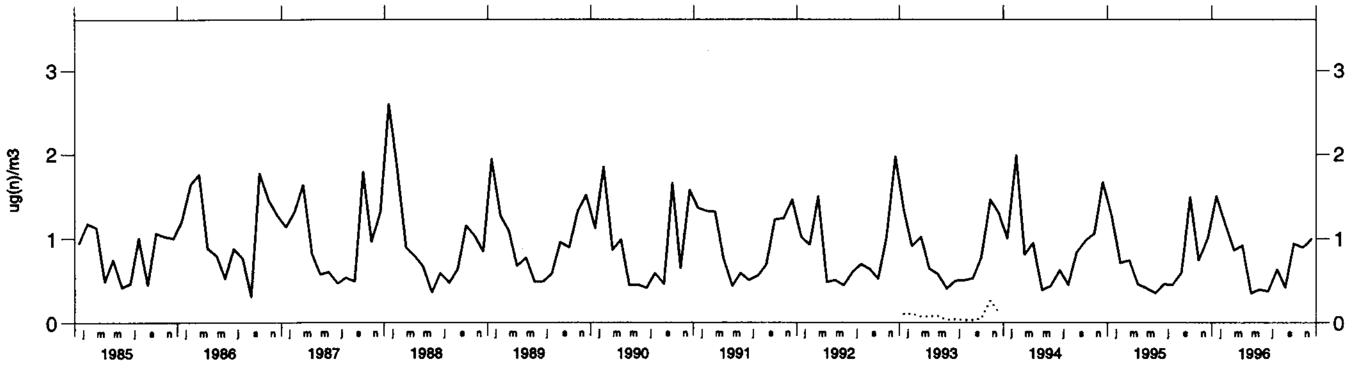


Lahemaa (EE 9)

Concentration of total nitrate in air

.... observed mean = 0.08 std = 0.10

——— modelled mean = 0.83 std = 0.88 correlation = 0.46

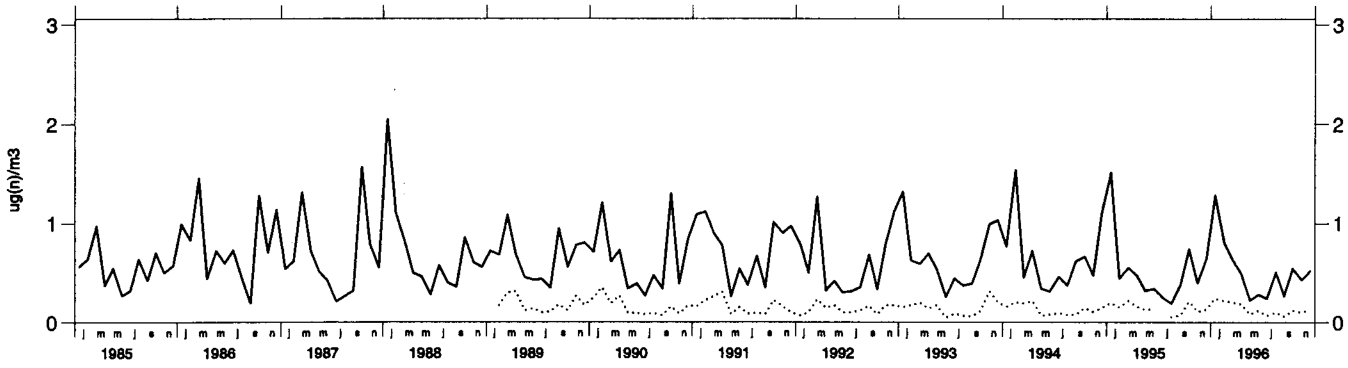


Athari (FI 4)

Concentration of total nitrate in air

.... observed mean = 0.15 std = 0.16

——— modelled mean = 0.63 std = 0.89 correlation = 0.50

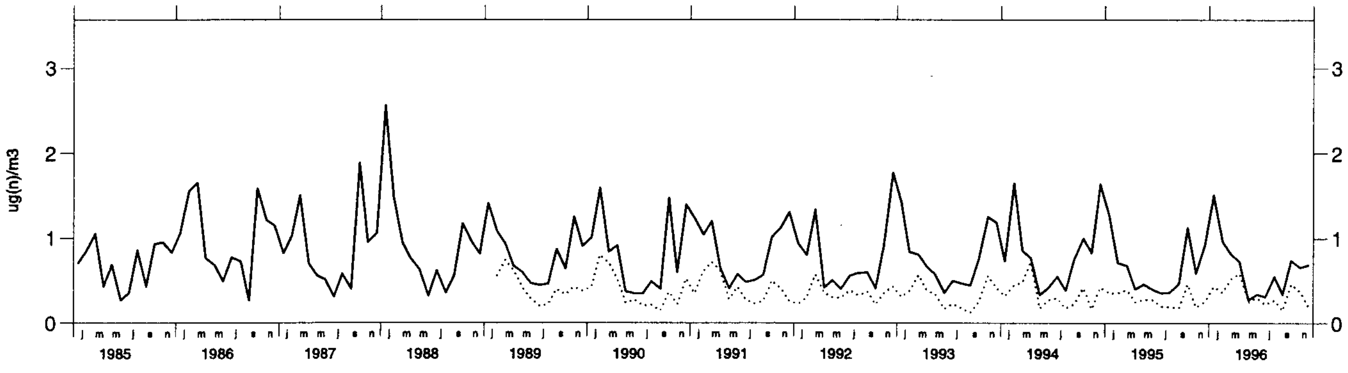


Virolahti_II (FI 17)

Concentration of total nitrate in air

.... observed mean = 0.36 std = 0.36

——— modelled mean = 0.77 std = 0.92 correlation = 0.51

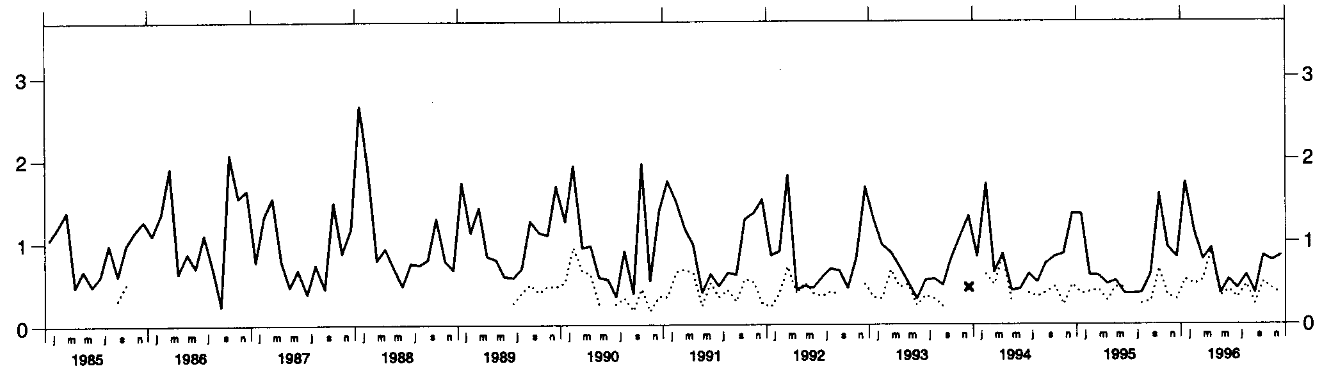


Utoe (FI 9)

Concentration of total nitrate in air

.... observed mean = 0.42 std = 0.43

—— modelled mean = 0.87 std = 1.23 correlation = 0.50

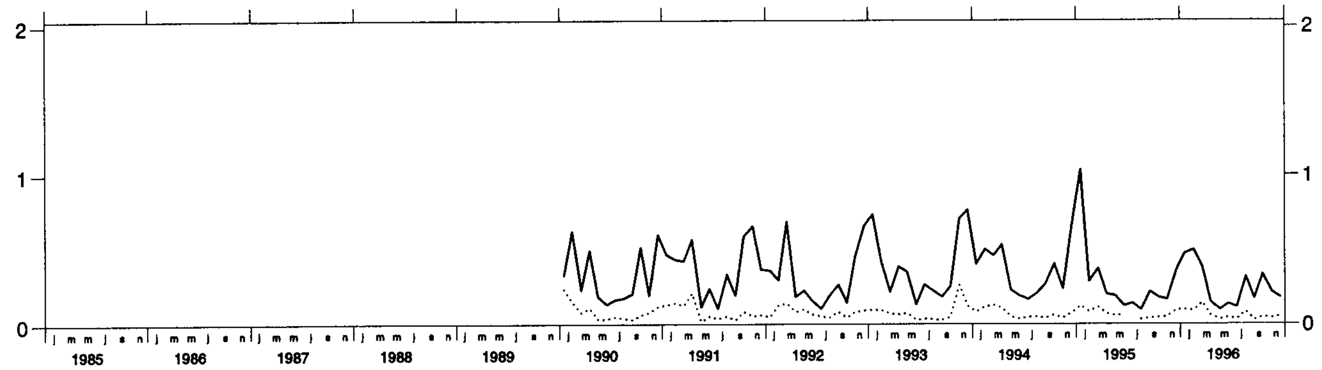


Oulanka (FI 22)

Concentration of total nitrate in air

.... observed mean = 0.08 std = 0.09

—— modelled mean = 0.33 std = 0.51 correlation = 0.45

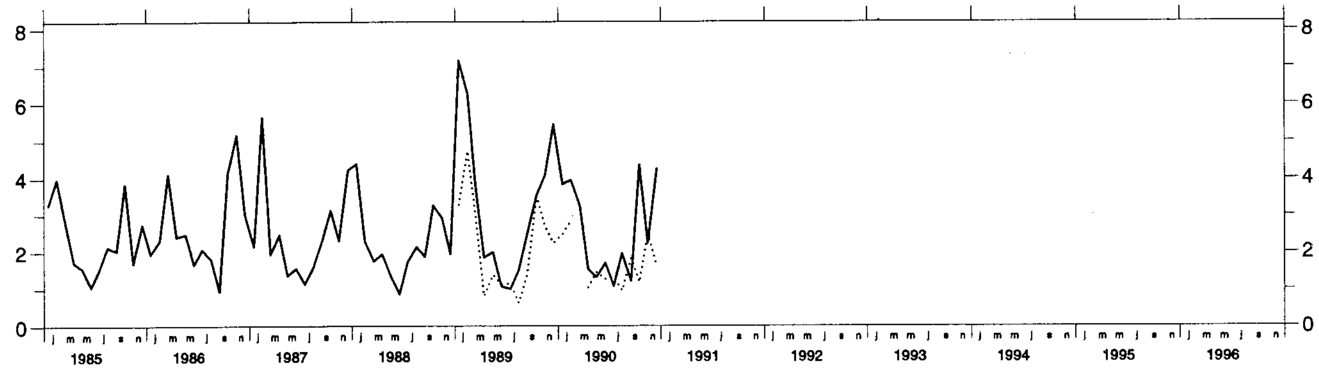


Arkona (DE 6)

Concentration of total nitrate in air

.... observed mean = 1.93 std = 1.83

—— modelled mean = 2.95 std = 4.25 correlation = 0.29

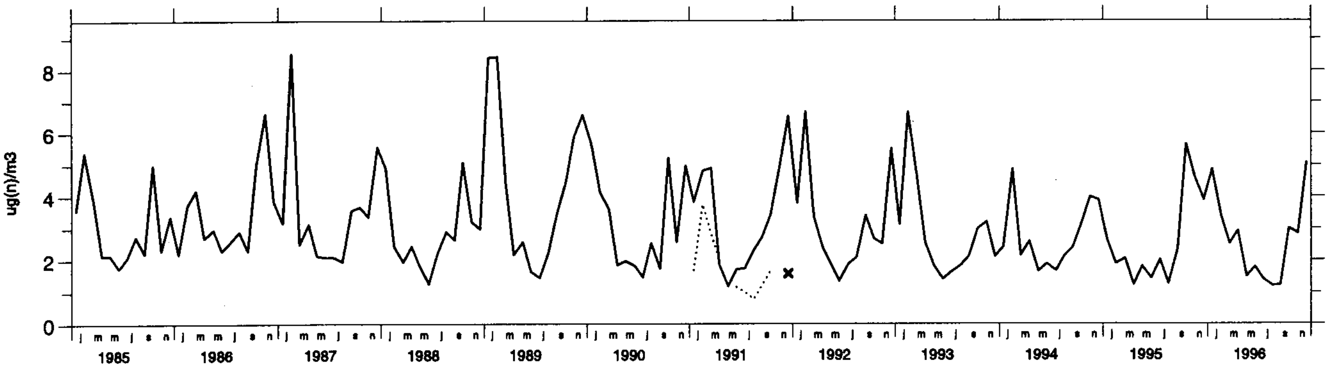


Neuglobsow (DE 7)

Concentration of total nitrate in air

.... observed mean = 1.76 std = 1.67

——— modelled mean = 3.41 std = 4.53 correlation = 0.12

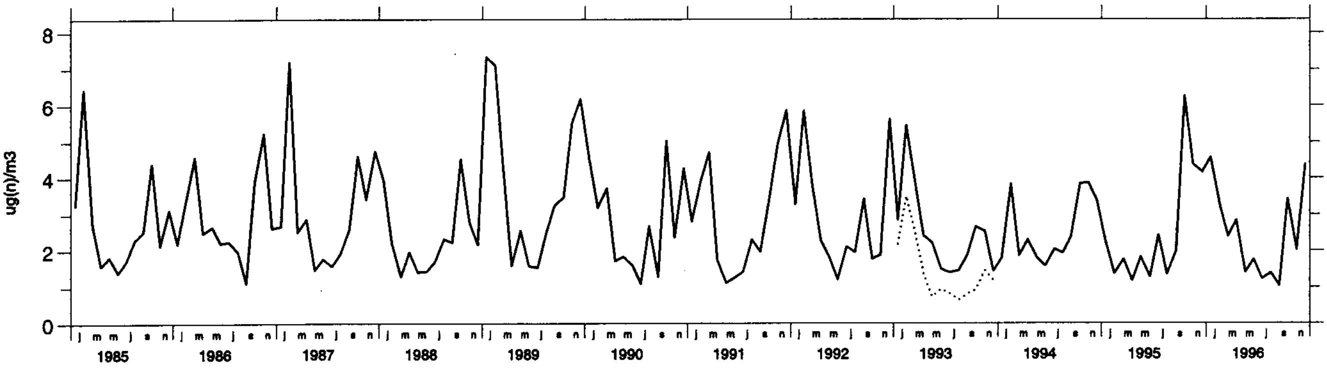


Hohenwestedt (DE 11)

Concentration of total nitrate in air

.... observed mean = 1.42 std = 1.51

——— modelled mean = 2.47 std = 2.81 correlation = 0.25

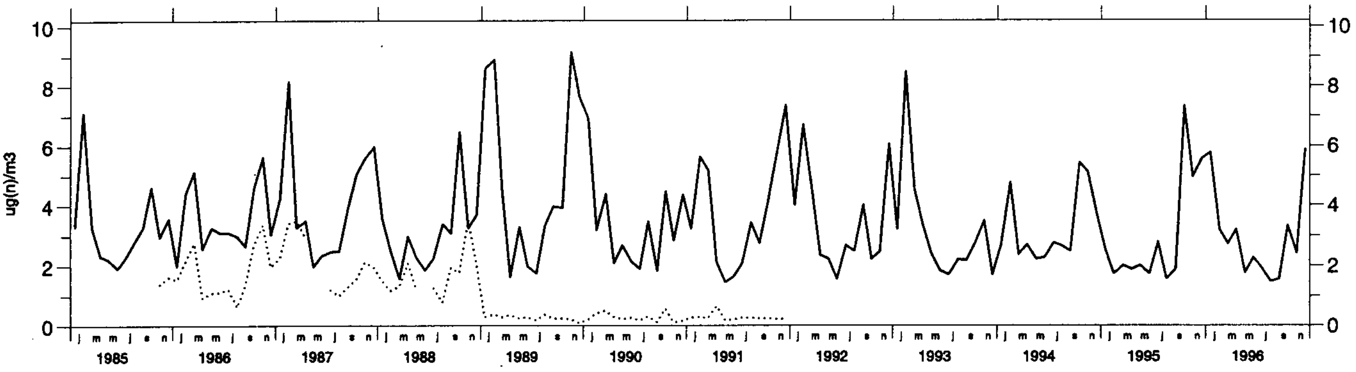


Bassum (DE 12)

Concentration of total nitrate in air

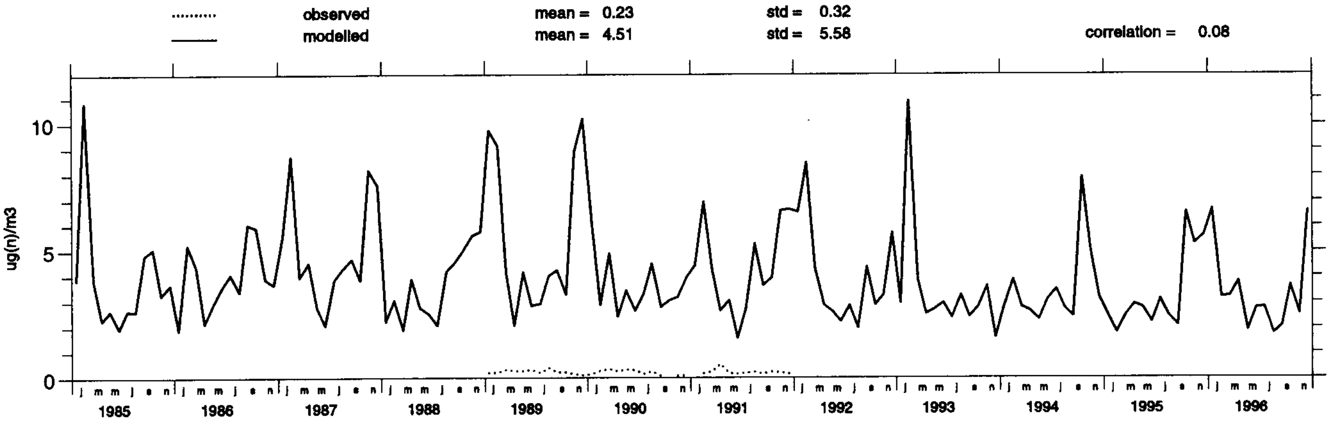
.... observed mean = 1.04 std = 1.46

——— modelled mean = 3.86 std = 5.19 correlation = 0.12



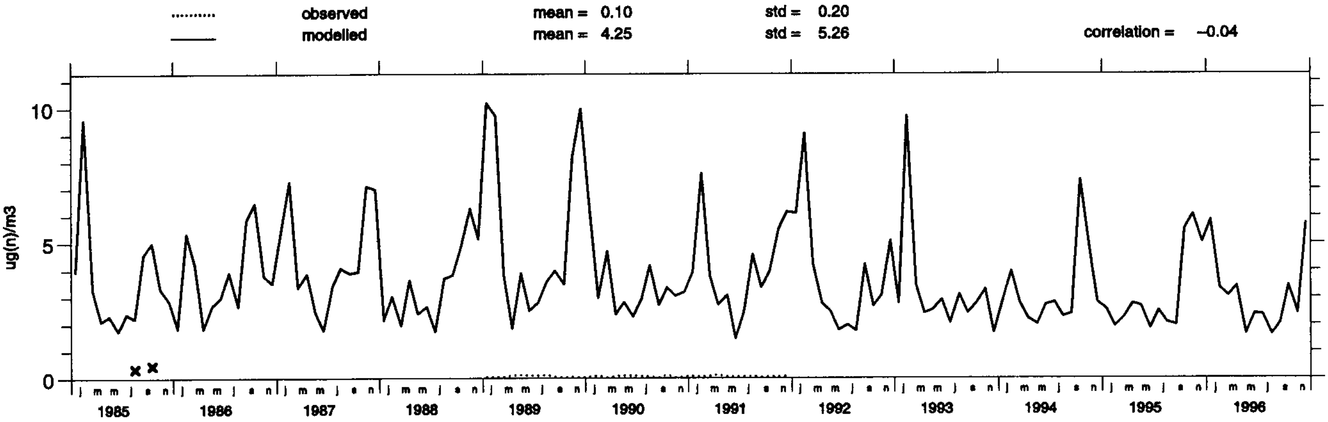
Meinerzhagen (DE 14)

Concentration of total nitrate in air



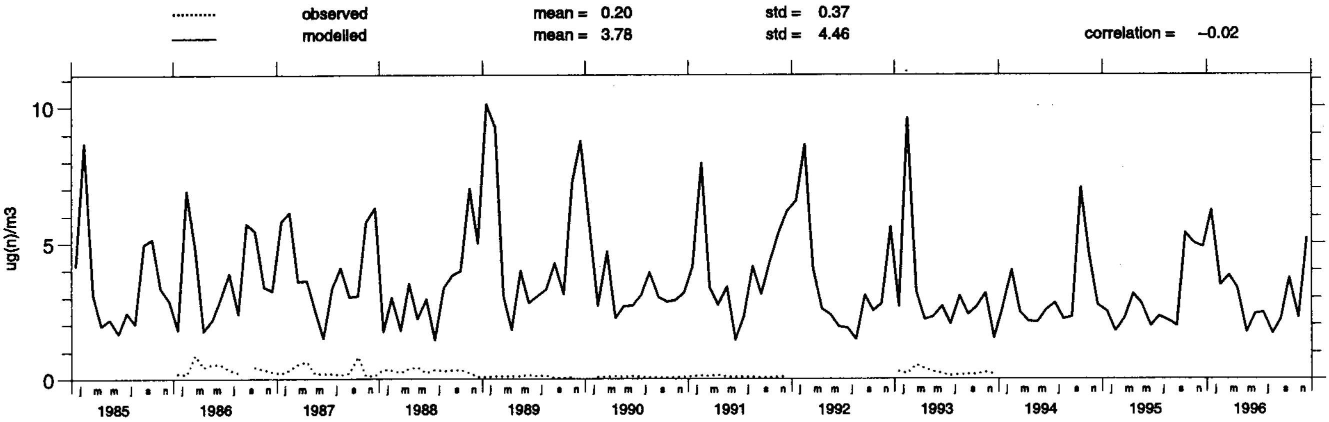
Usingen (DE 15)

Concentration of total nitrate in air



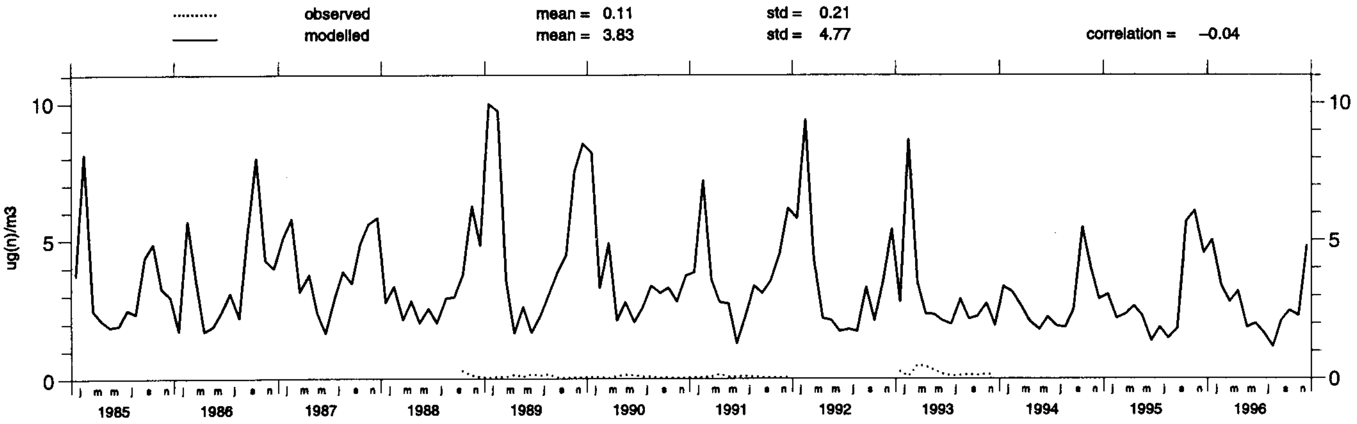
Bad_Kreuznach (DE 16)

Concentration of total nitrate in air



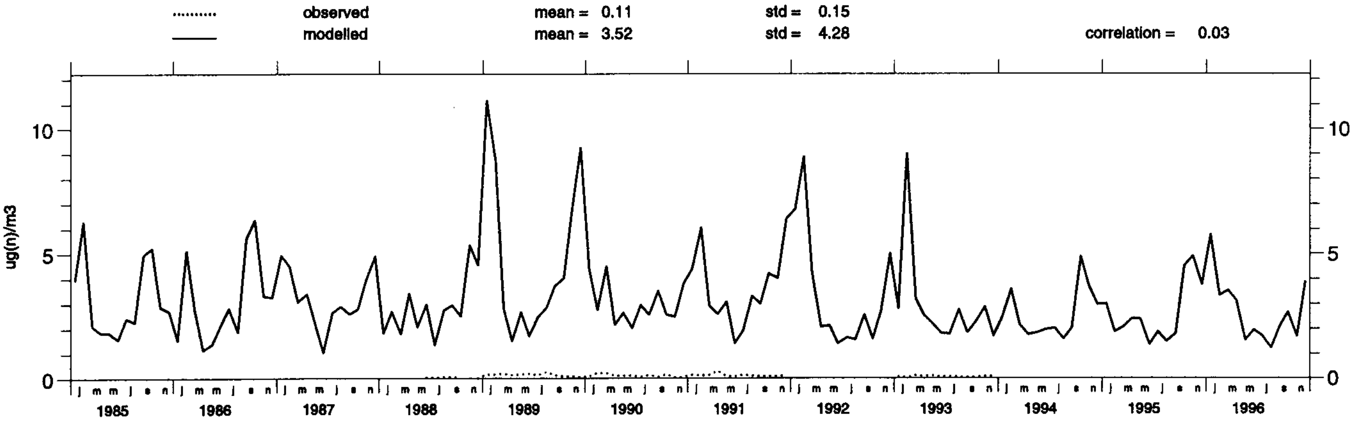
Ansbach (DE 17)

Concentration of total nitrate in air



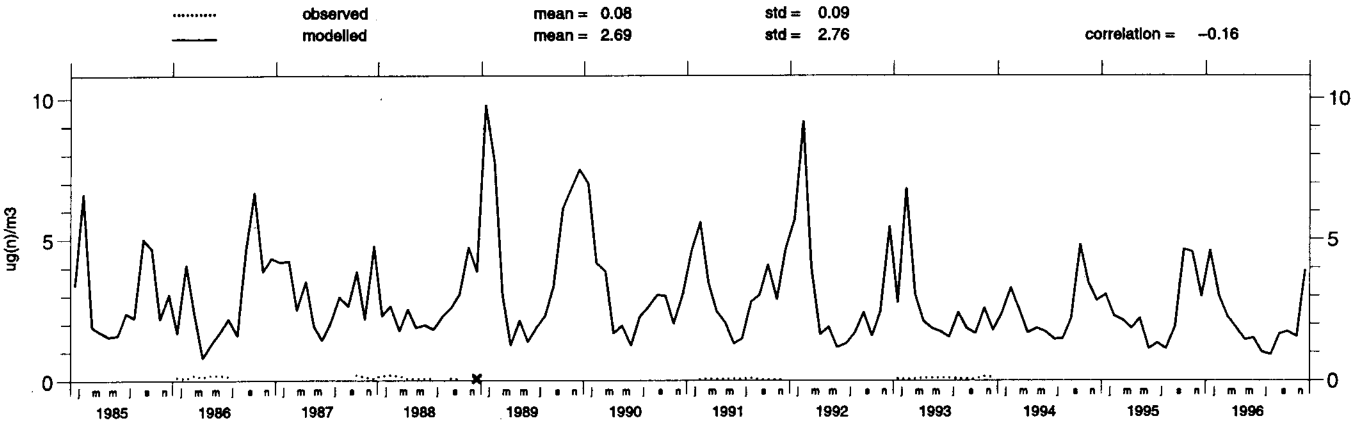
Rottenburg (DE 18)

Concentration of total nitrate in air



Starnberg (DE 19)

Concentration of total nitrate in air

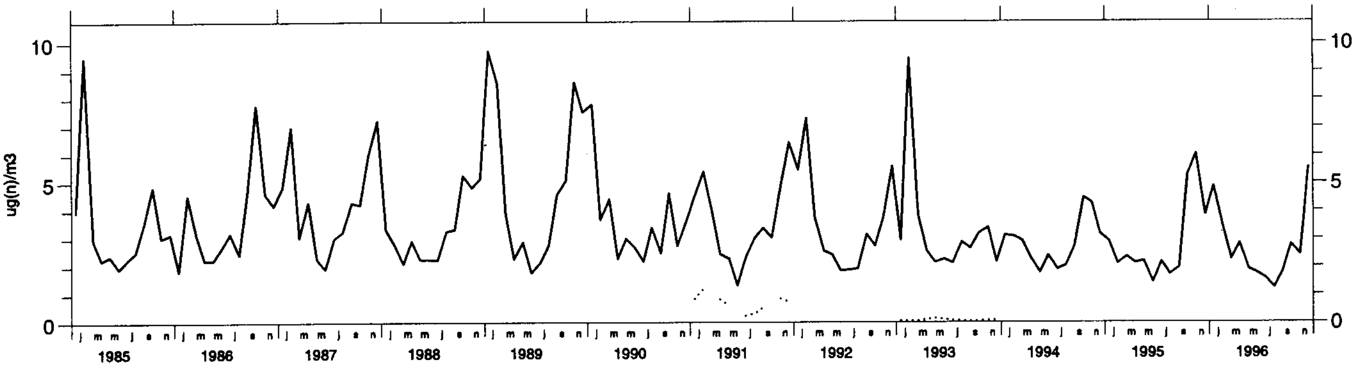


Hof (DE 20)

Concentration of total nitrate in air

.... observed mean = 0.36 std = 0.53

——— modelled mean = 3.55 std = 3.93 correlation = 0.15

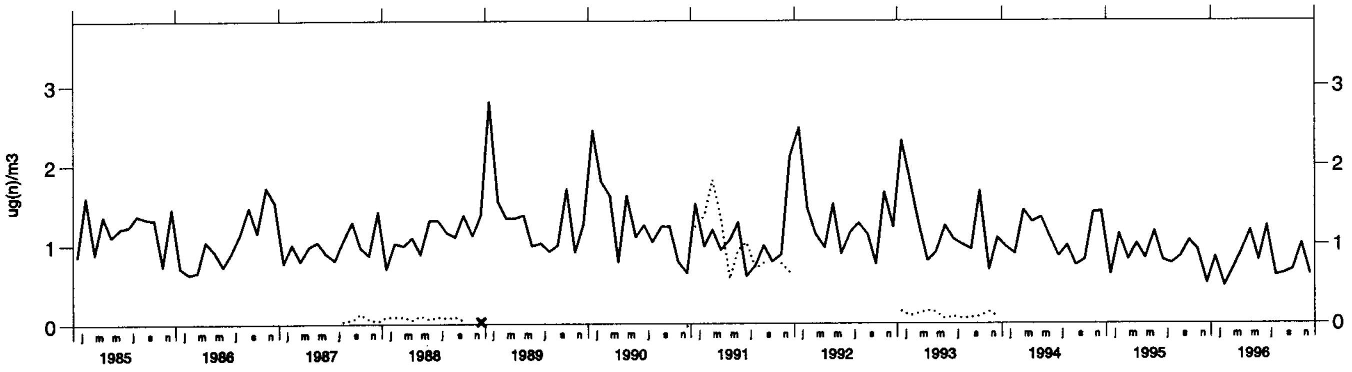


Aliartos (GR 1)

Concentration of total nitrate in air

.... observed mean = 0.34 std = 0.55

——— modelled mean = 1.15 std = 0.97 correlation = -0.04

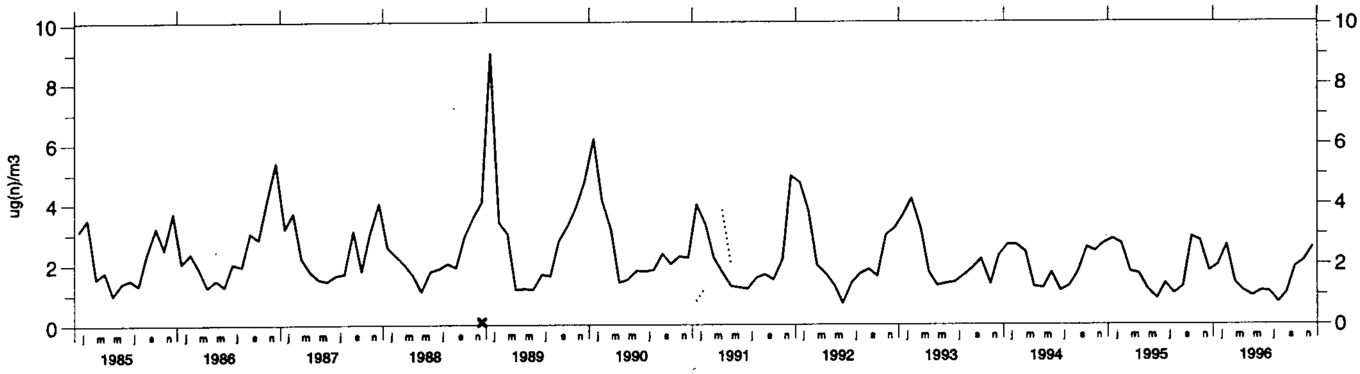


K-puszta (HU 2)

Concentration of total nitrate in air

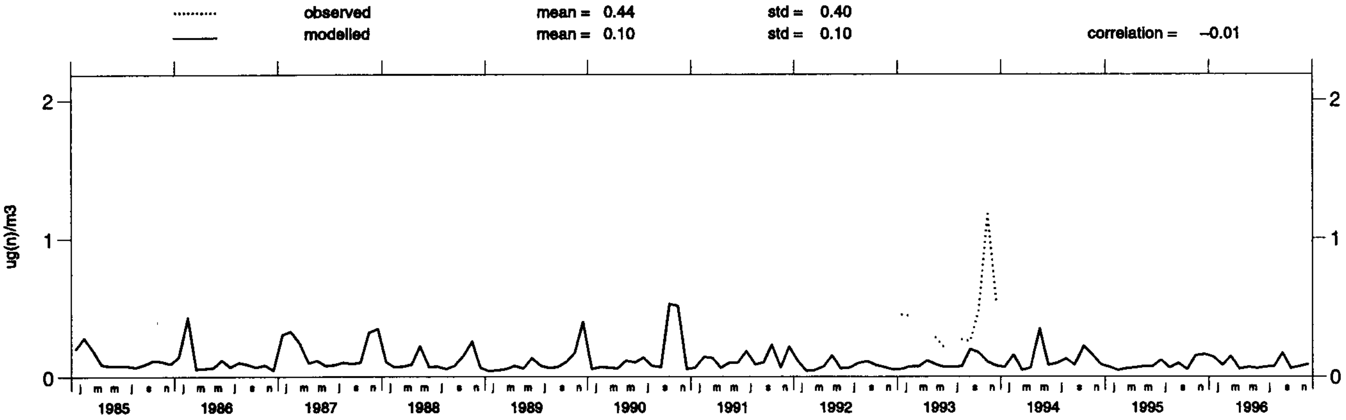
.... observed mean = 1.11 std = 1.18

——— modelled mean = 2.24 std = 2.17 correlation = 0.12



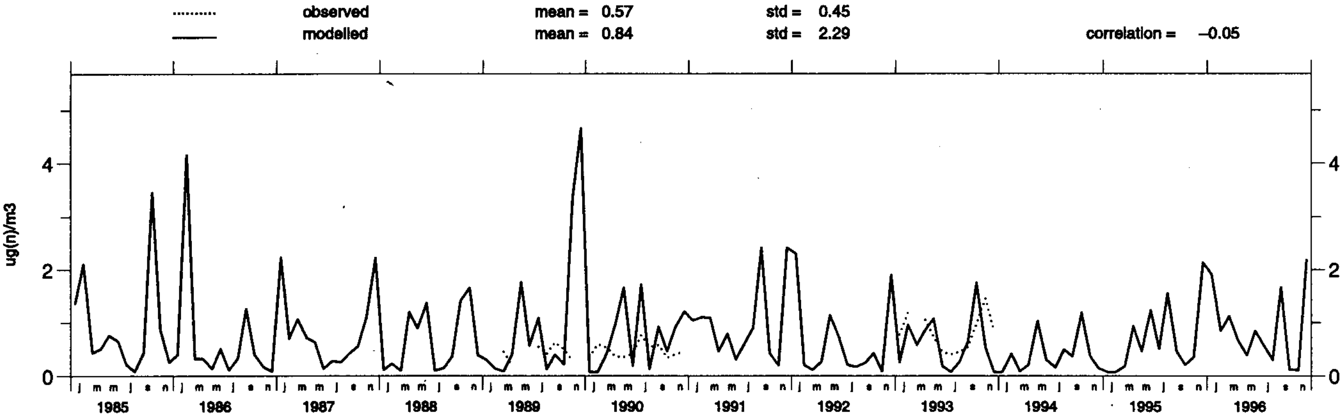
Irafoss (IS 2)

Concentration of total nitrate in air



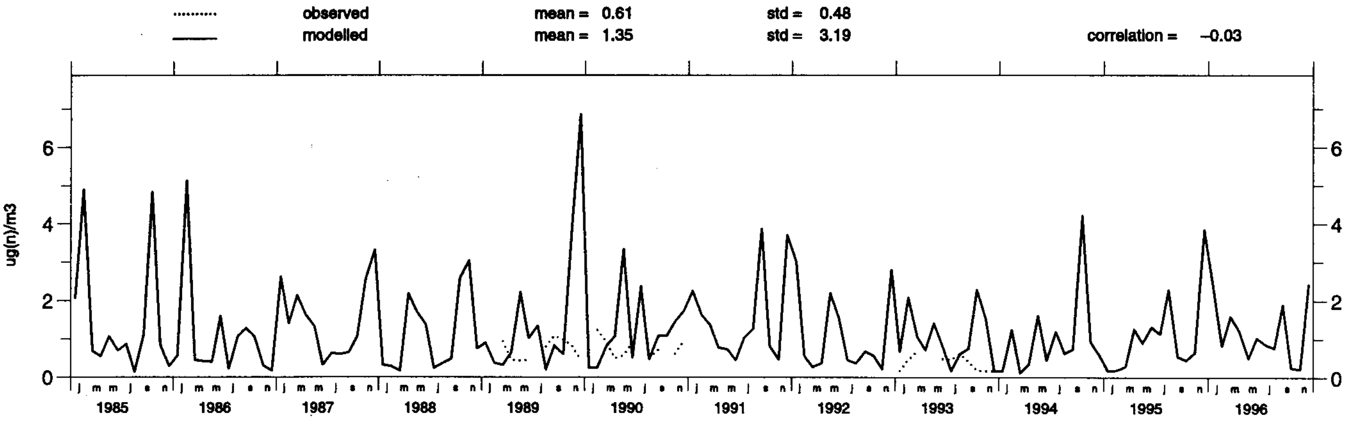
Valentia_Obs. (IE 1)

Concentration of total nitrate in air



Turlough Hill (IE 2)

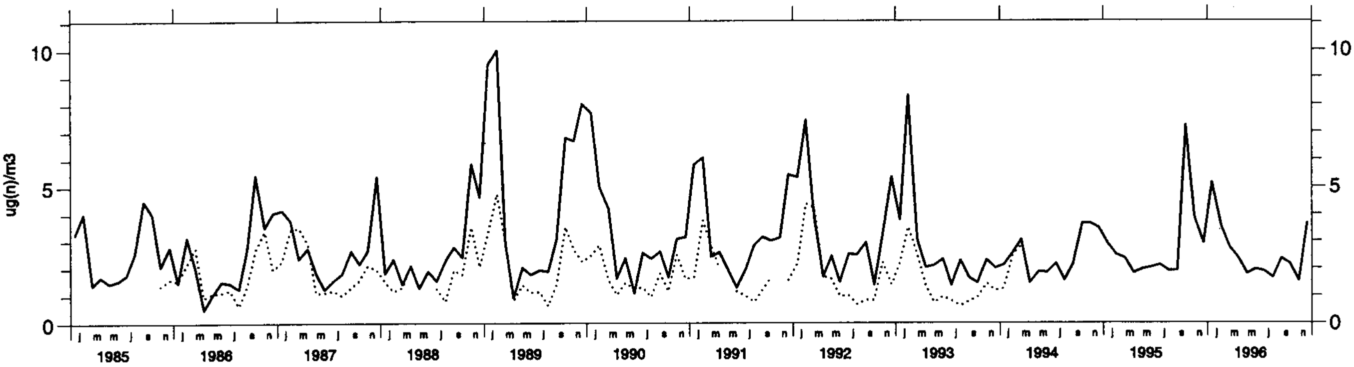
Concentration of total nitrate in air



Ispra (IT 4)

Concentration of total nitrate in air

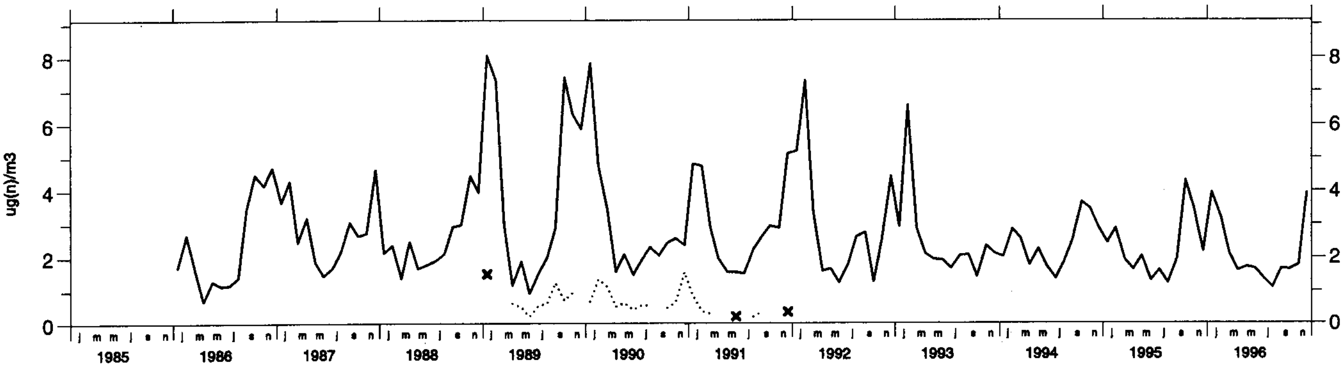
.... observed mean = 1.79 std = 1.77
——— modelled mean = 3.09 std = 3.87 correlation = 0.37



Arabba (IT 5)

Concentration of total nitrate in air

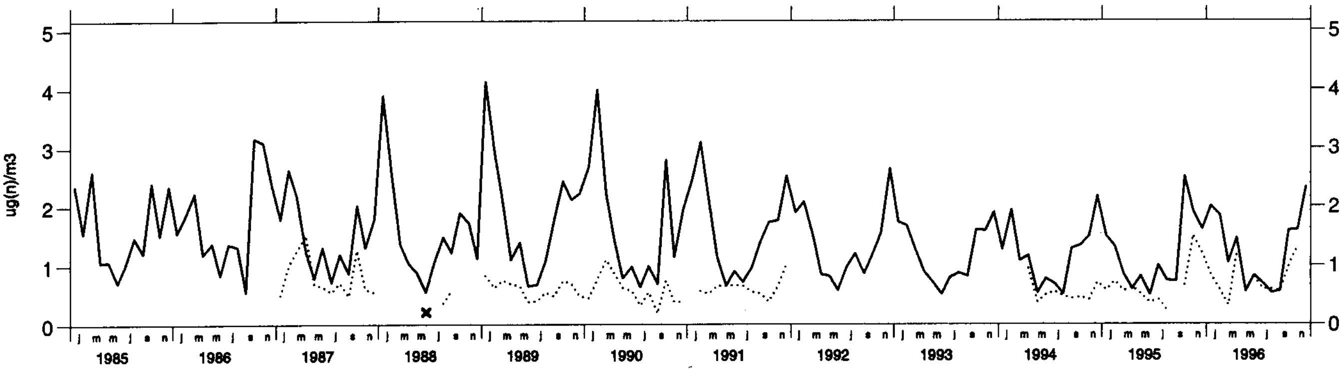
.... observed mean = 0.66 std = 0.68
——— modelled mean = 3.41 std = 4.35 correlation = 0.26



Rucava (LV 10)

Concentration of total nitrate in air

.... observed mean = 0.66 std = 0.68
——— modelled mean = 1.47 std = 2.07 correlation = 0.36

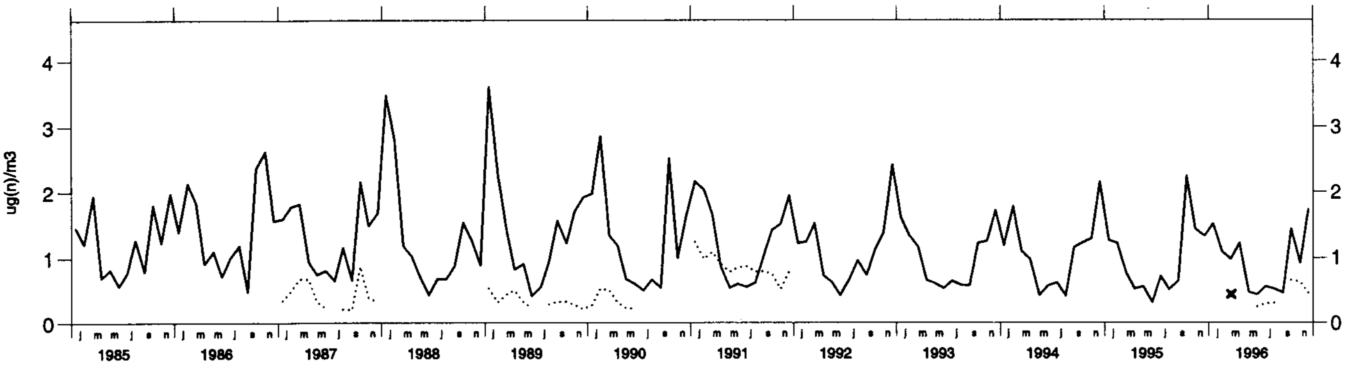


Zoseni (LV 16)

Concentration of total nitrate in air

.... observed mean = 0.50 std = 0.50

——— modelled mean = 1.27 std = 1.72 correlation = 0.28

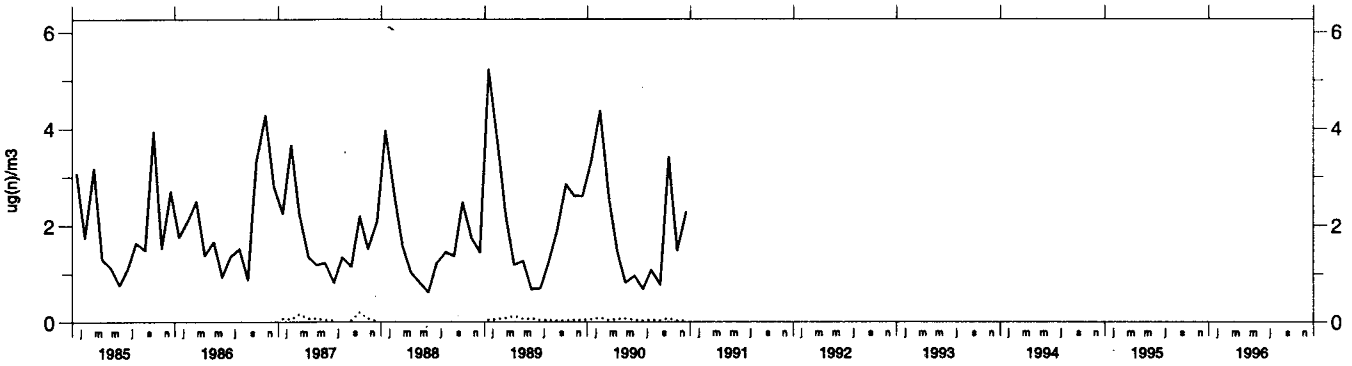


Nida (LT 3)

Concentration of total nitrate in air

.... observed mean = 0.06 std = 0.08

——— modelled mean = 1.96 std = 2.76 correlation = 0.05

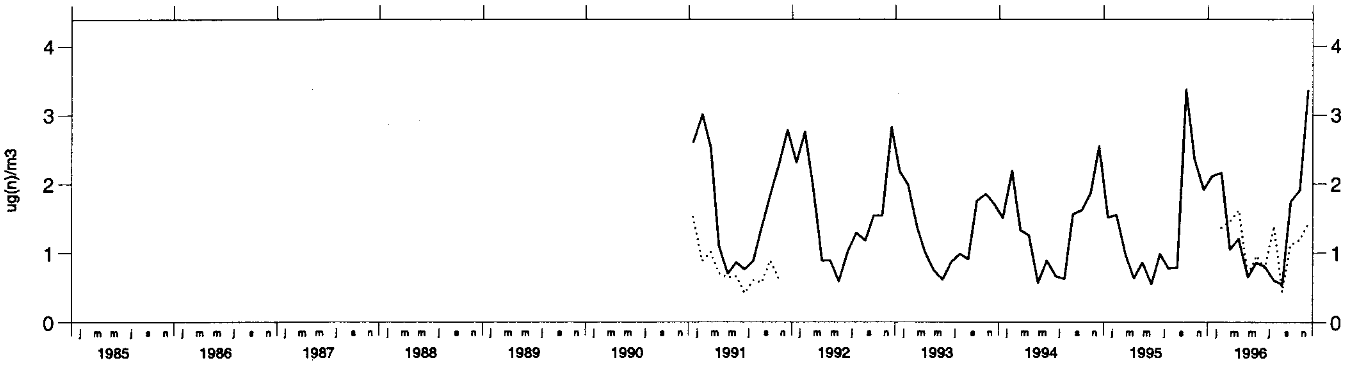


Preila (LT 15)

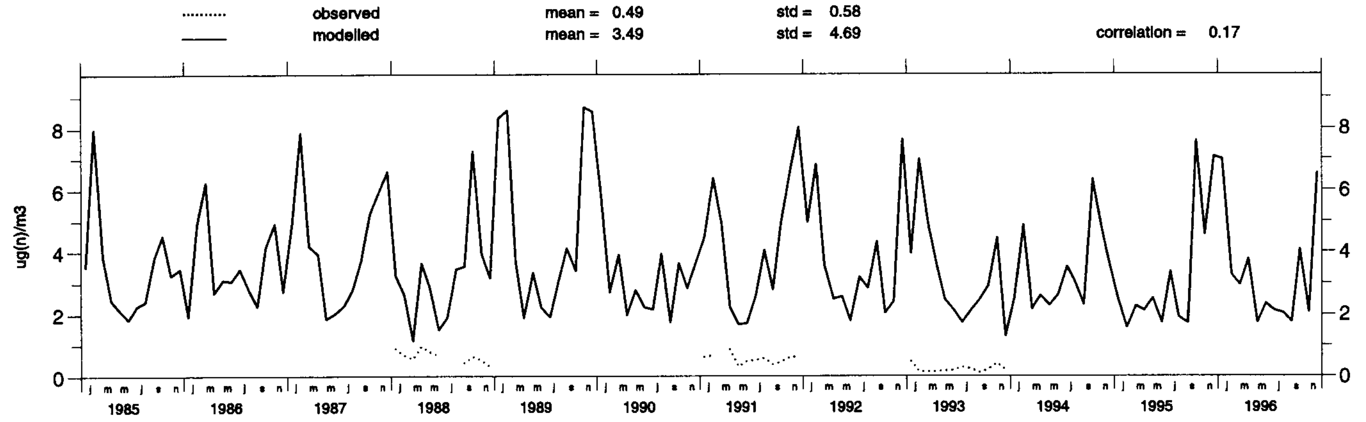
Concentration of total nitrate in air

.... observed mean = 0.95 std = 0.82

——— modelled mean = 1.51 std = 2.00 correlation = 0.22



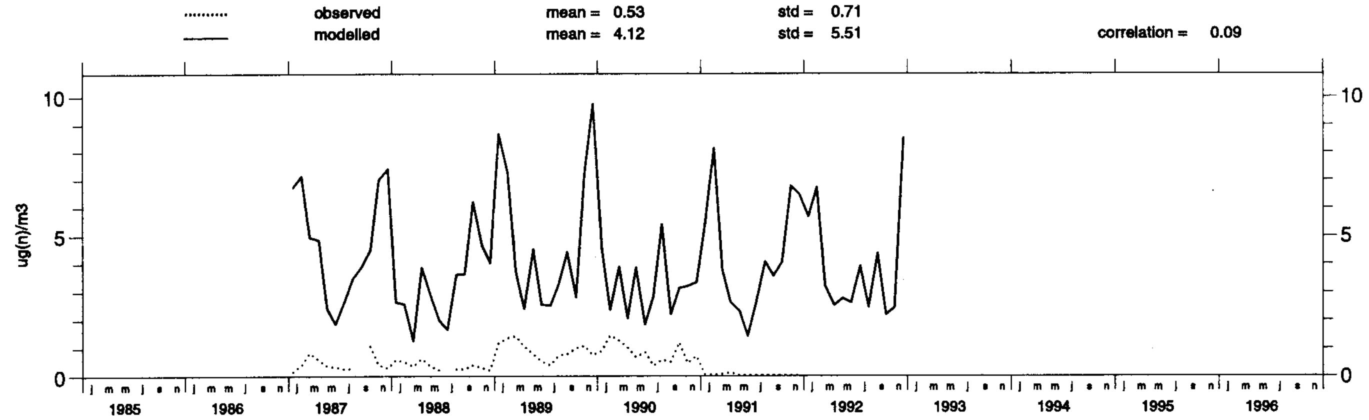
Wittenveen (NL 2)
Concentration of total nitrate in air



.... observed mean = 0.49 std = 0.58

——— modelled mean = 3.49 std = 4.69 correlation = 0.17

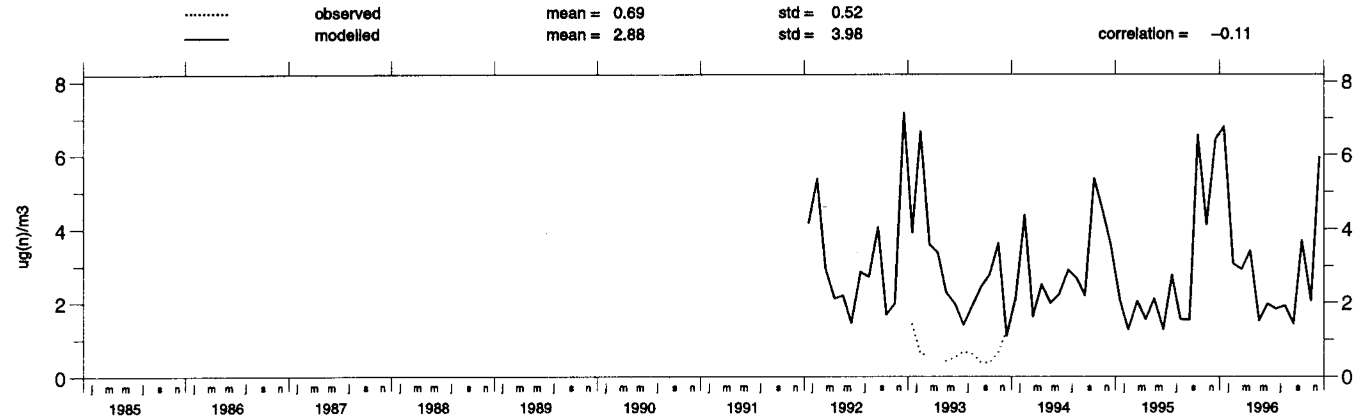
Bilthoven (NL 8)
Concentration of total nitrate in air



.... observed mean = 0.53 std = 0.71

——— modelled mean = 4.12 std = 5.51 correlation = 0.09

Kollumerwaard (NL 9)
Concentration of total nitrate in air



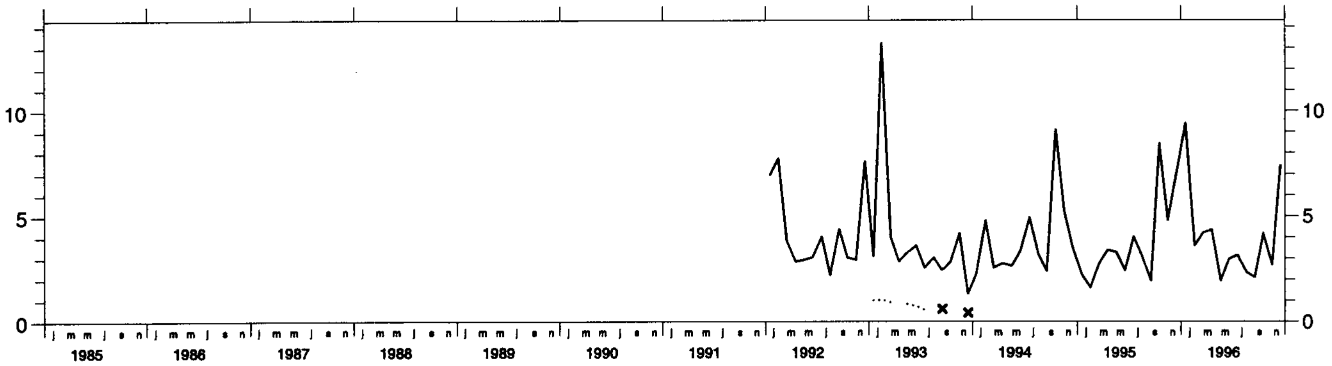
.... observed mean = 0.69 std = 0.52

——— modelled mean = 2.88 std = 3.98 correlation = -0.11

Vreedepeel (NL 10)

Concentration of total nitrate in air

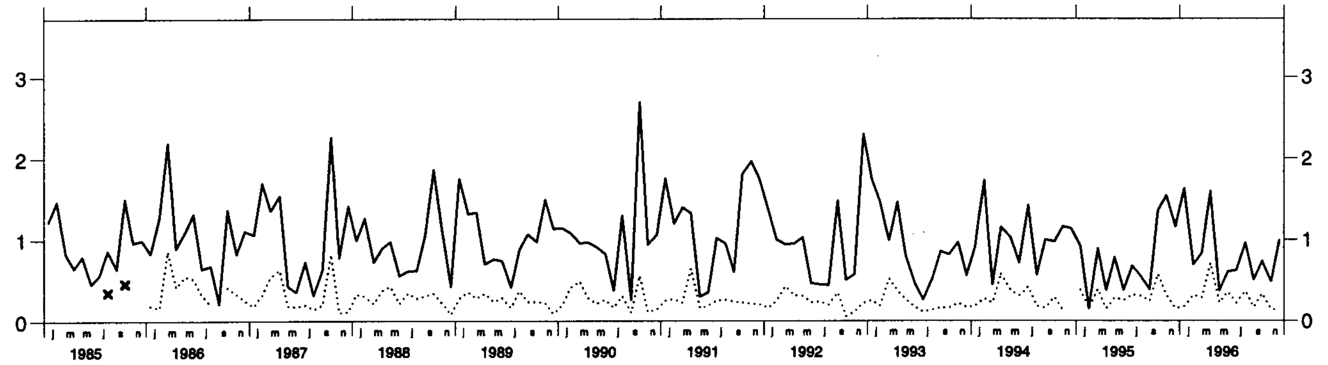
....	observed	mean = 0.72	std = 0.63	
———	modelled	mean = 3.96	std = 6.77	correlation = 0.35



Birkenes (NO 1)

Concentration of total nitrate in air

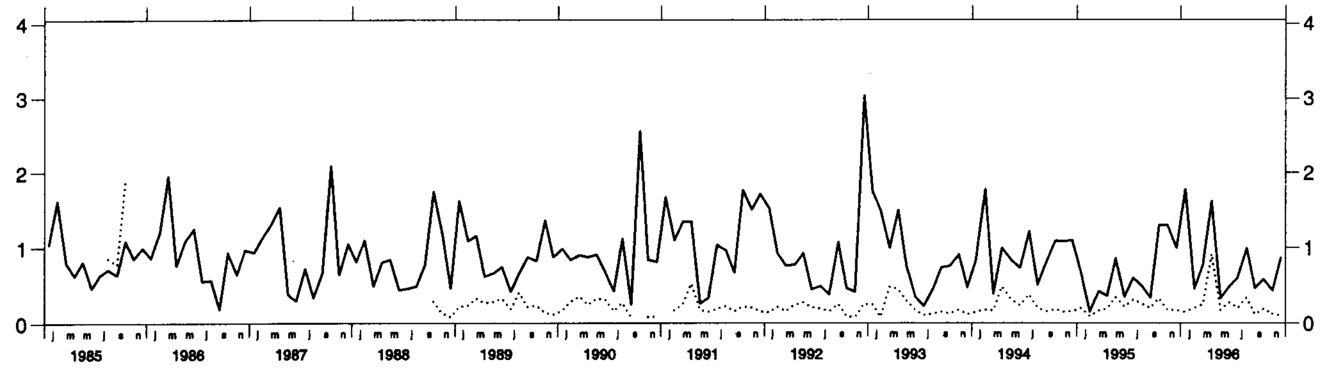
....	observed	mean = 0.28	std = 0.41	
———	modelled	mean = 1.00	std = 1.78	correlation = 0.44



Skreaadalen (NO 8)

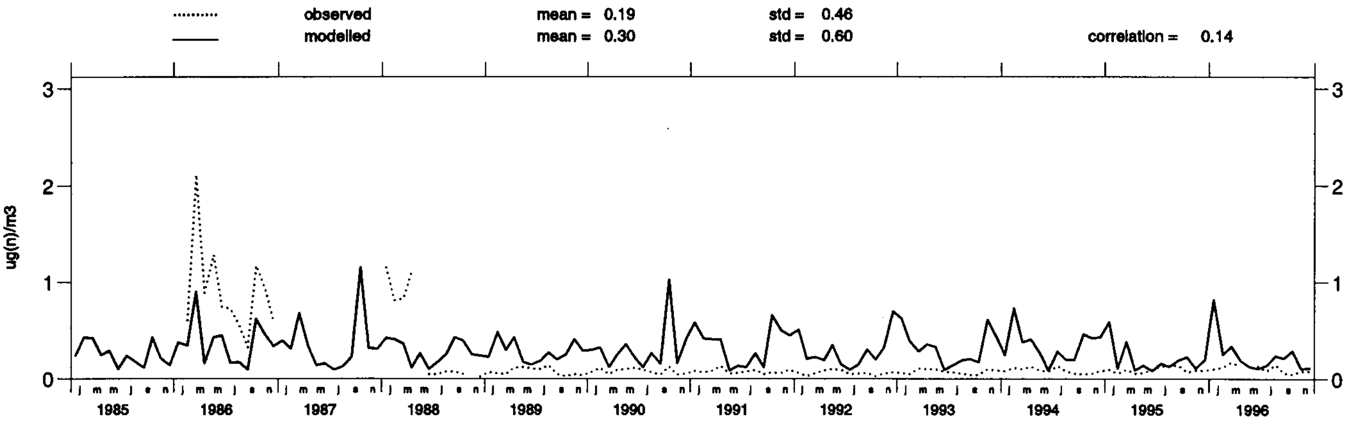
Concentration of total nitrate in air

....	observed	mean = 0.25	std = 0.47	
———	modelled	mean = 0.90	std = 1.77	correlation = 0.33



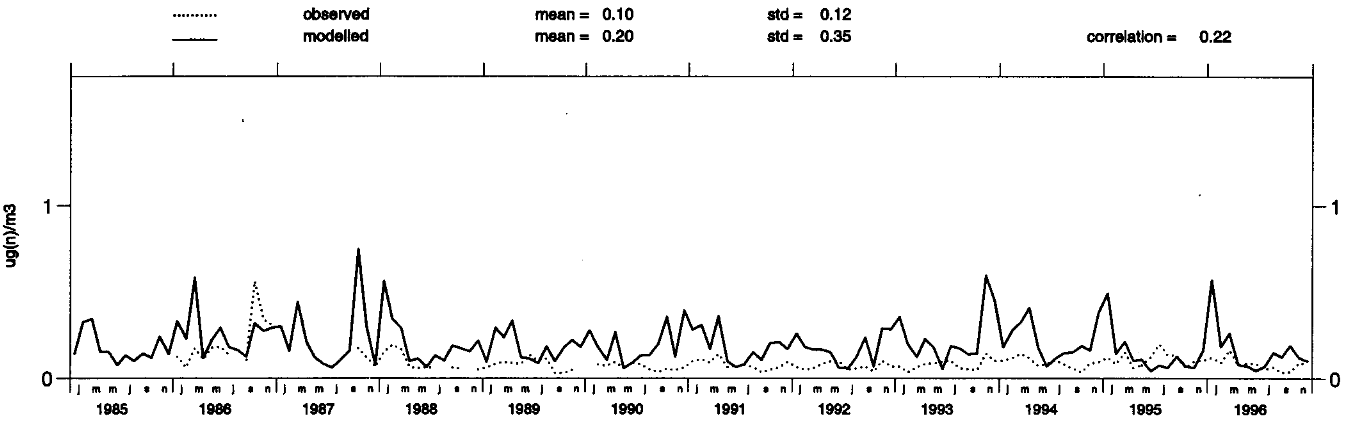
Tustervatn (NO 15)

Concentration of total nitrate in air



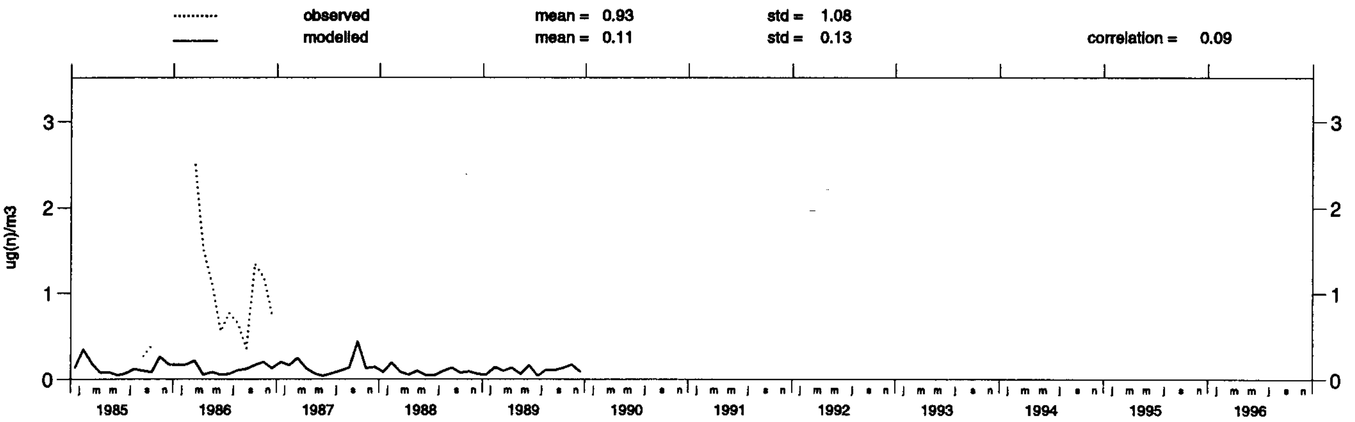
Jergul (NO 30)

Concentration of total nitrate in air



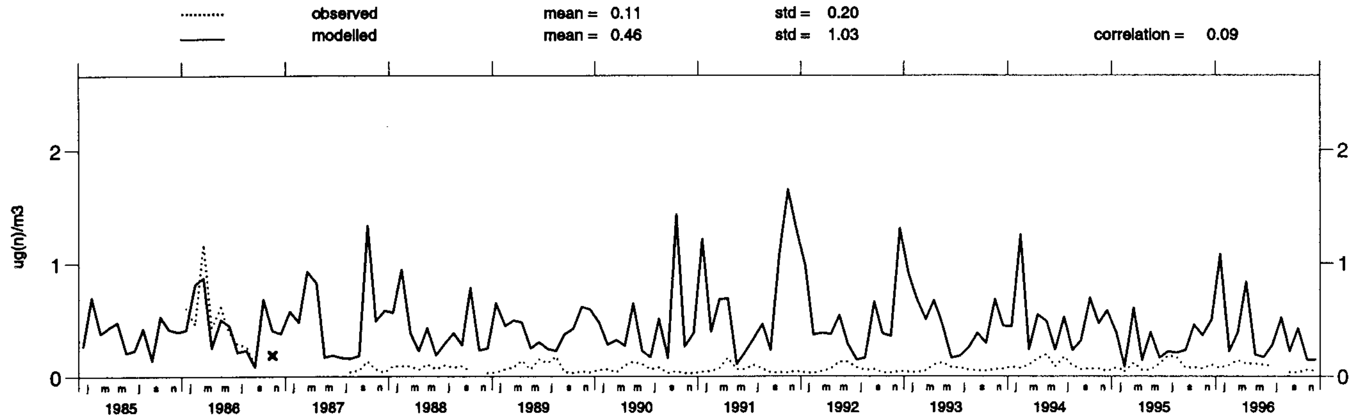
Bjoernoeya (NO 37)

Concentration of total nitrate in air



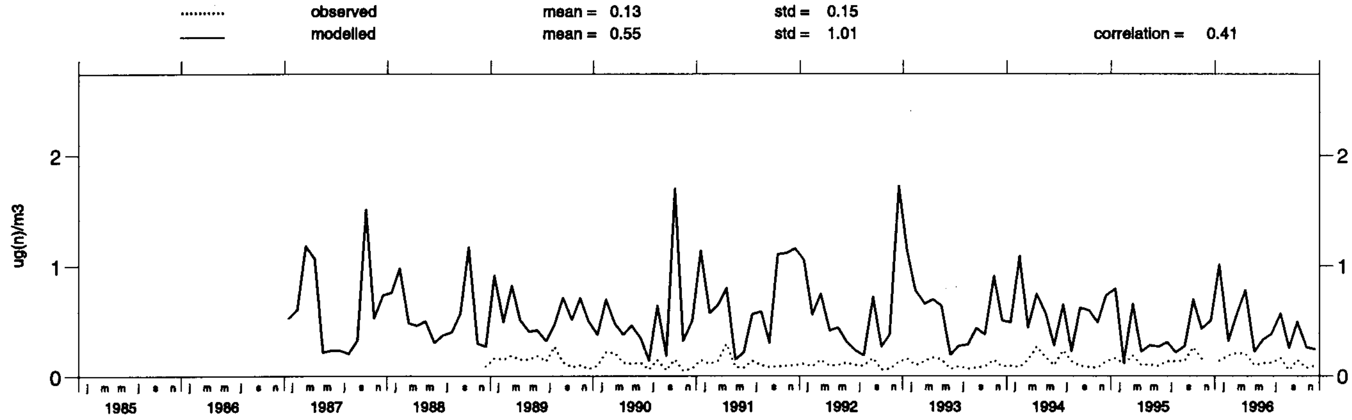
Kaarvatn (NO 39)

Concentration of total nitrate in air



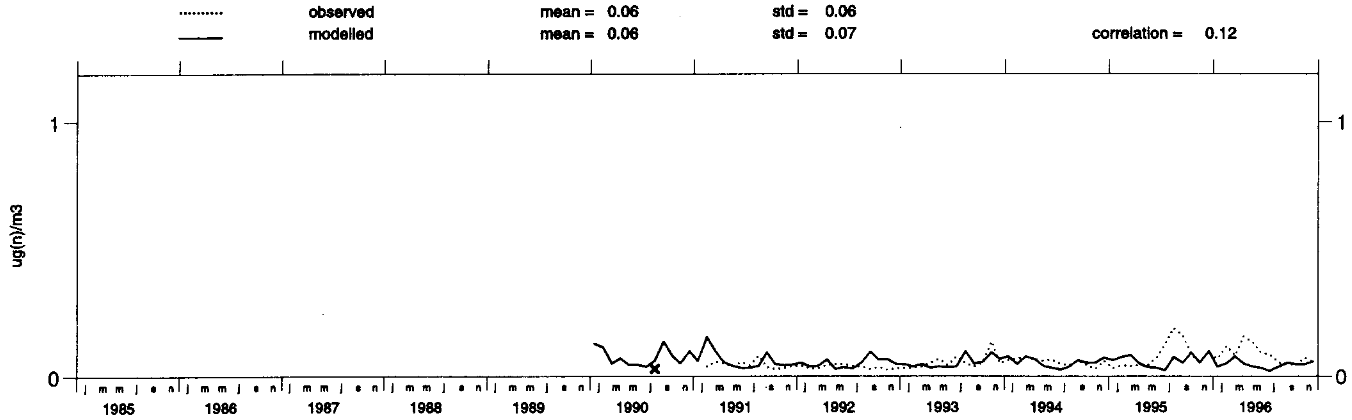
Osen (NO 41)

Concentration of total nitrate in air



Spitzbergen,Z (NO 42)

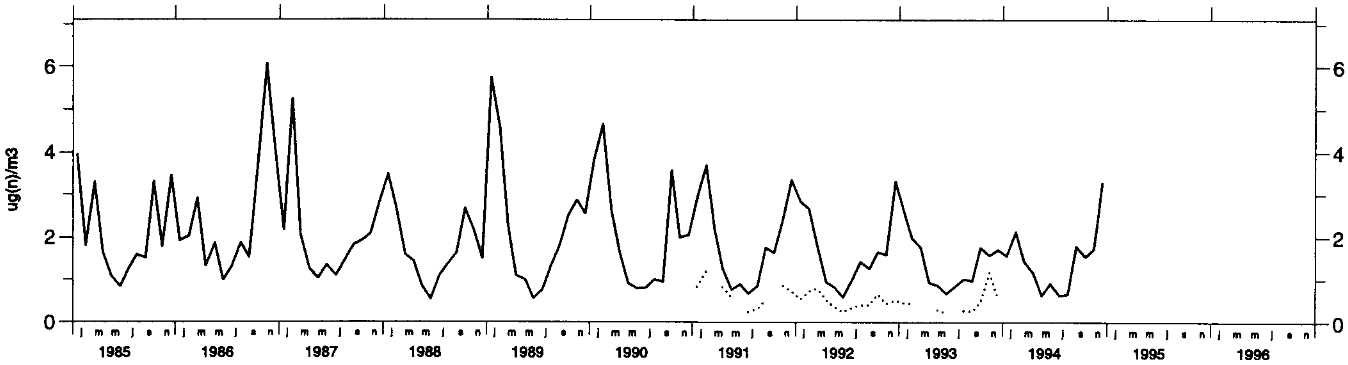
Concentration of total nitrate in air



Suwalki (PL 1)

Concentration of total nitrate in air

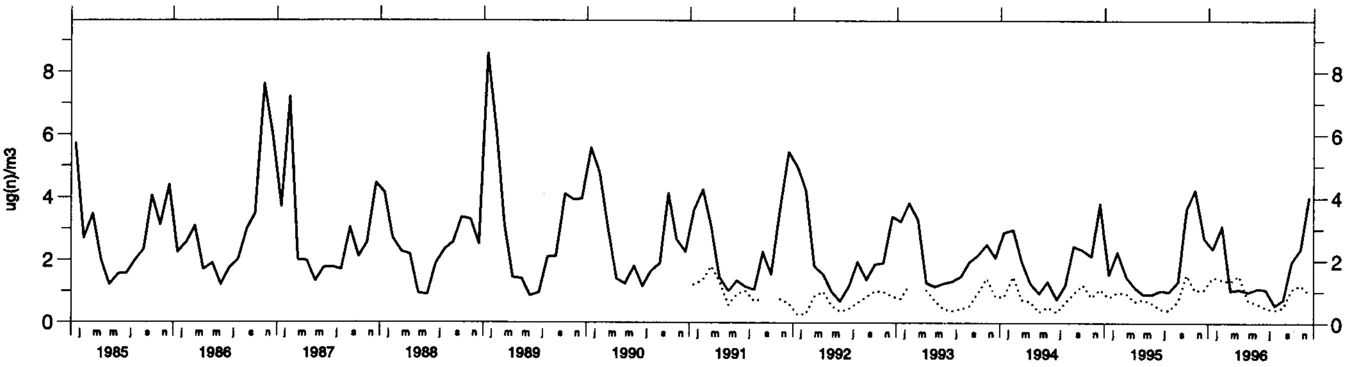
··········	observed	mean = 0.55	std = 0.51	
———	modelled	mean = 1.71	std = 2.30	correlation = 0.54



Jarczew (PL 2)

Concentration of total nitrate in air

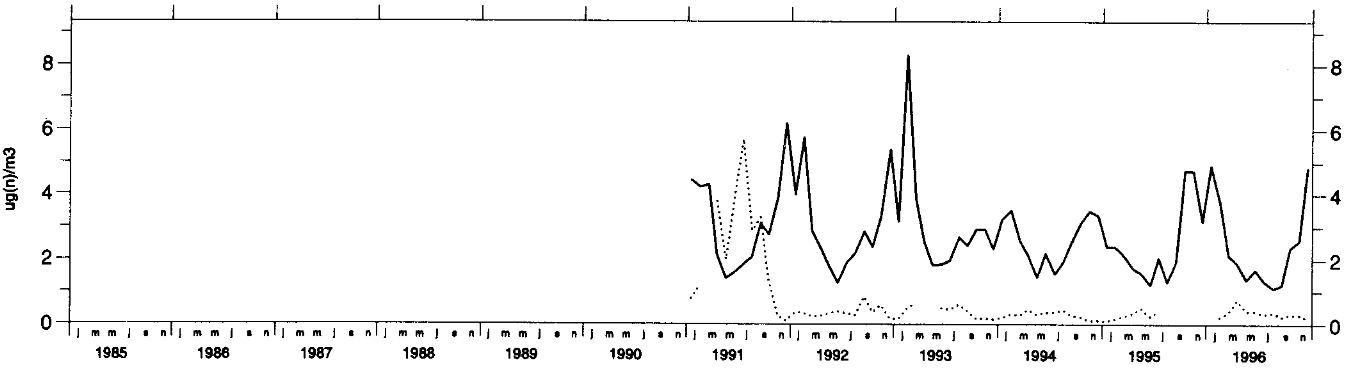
··········	observed	mean = 0.86	std = 0.58	
———	modelled	mean = 2.07	std = 2.53	correlation = 0.37



Sniezka (PL 3)

Concentration of total nitrate in air

··········	observed	mean = 0.70	std = 1.30	
———	modelled	mean = 2.75	std = 3.06	correlation = -0.01

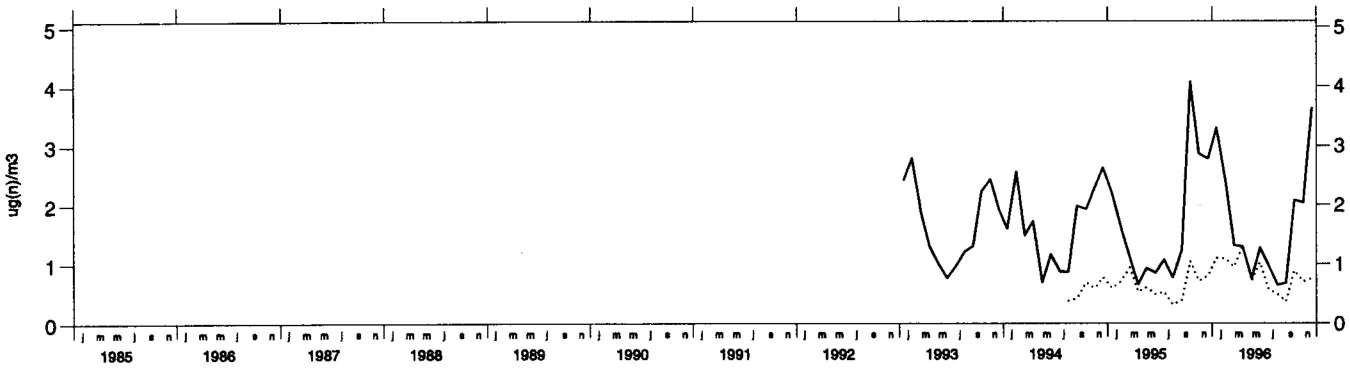


Leba (PL 4)

Concentration of total nitrate in air

.... observed mean = 0.71 std = 0.54

——— modelled mean = 1.75 std = 2.13 correlation = 0.48

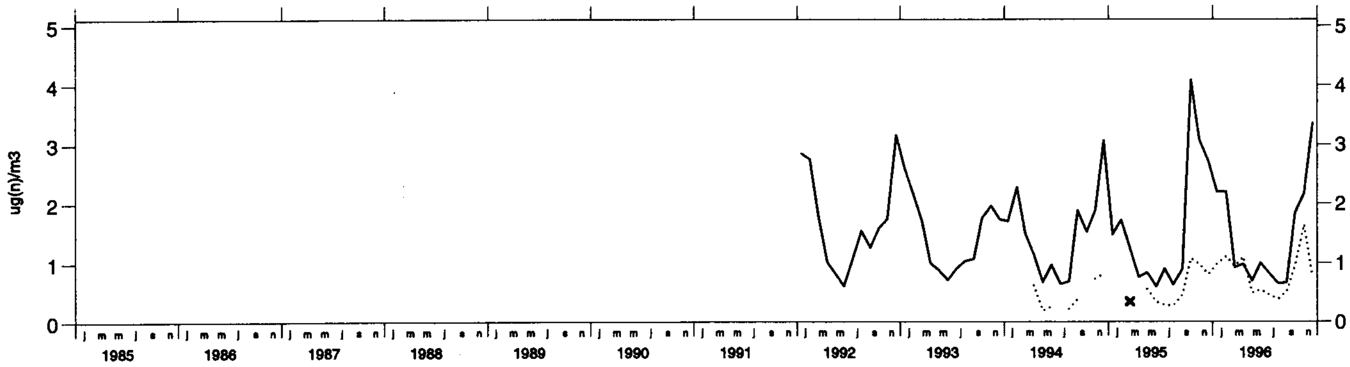


Diabla Gora (PL 5)

Concentration of total nitrate in air

.... observed mean = 0.64 std = 0.62

——— modelled mean = 1.49 std = 1.94 correlation = 0.44

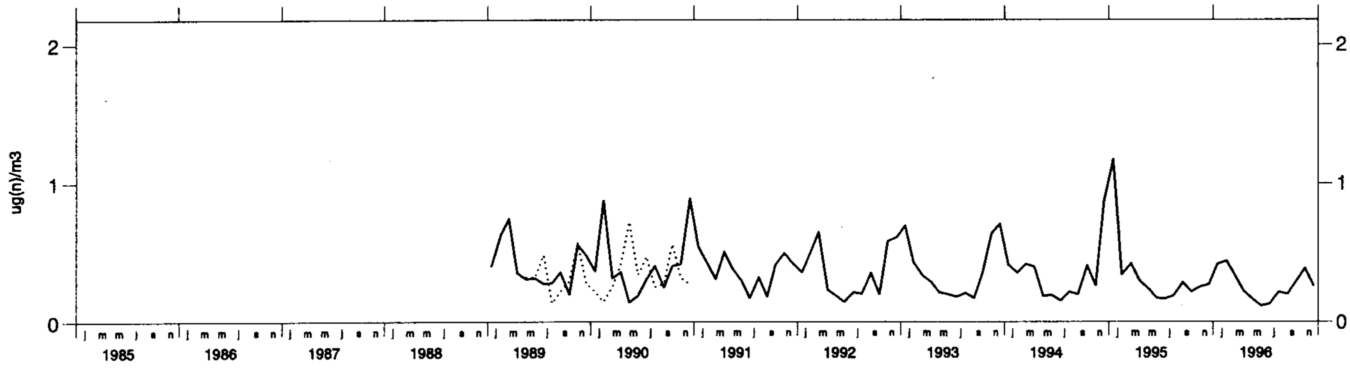


Pinega (RU 13)

Concentration of total nitrate in air

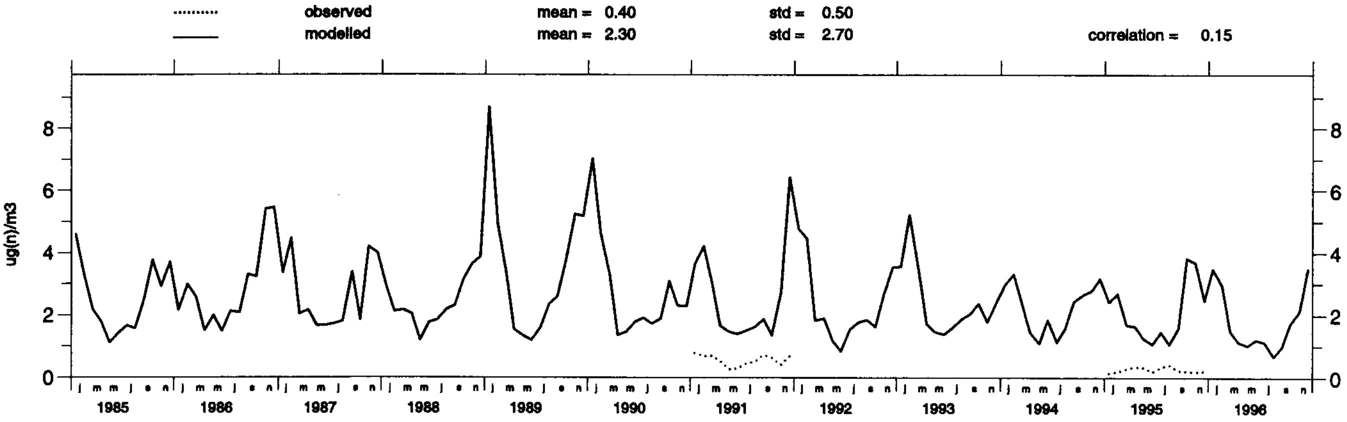
.... observed mean = 0.34 std = 0.44

——— modelled mean = 0.39 std = 0.50 correlation = -0.14



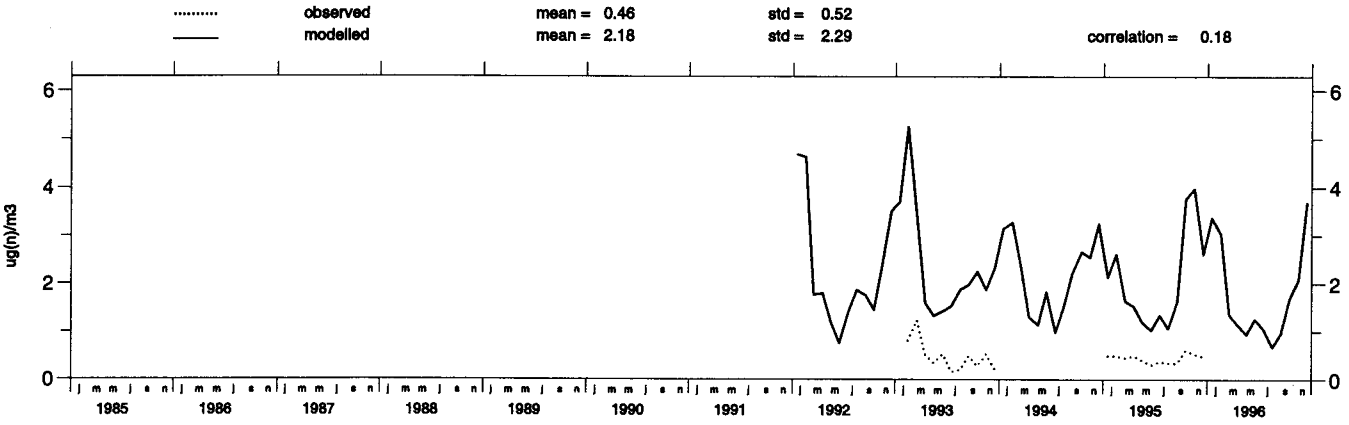
Chopok (SK 2)

Concentration of total nitrate in air



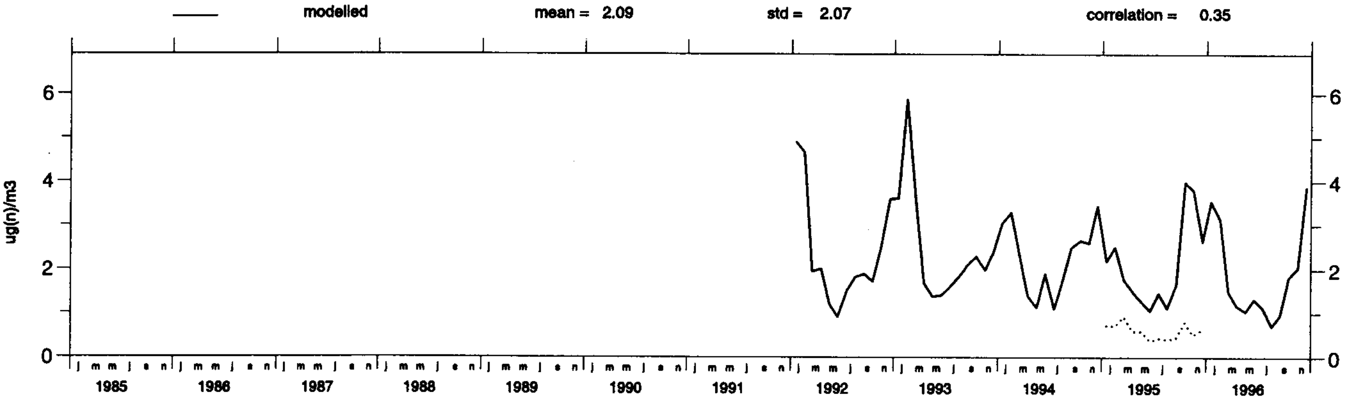
Stara Lesna (SK 4)

Concentration of total nitrate in air



Liesek (SK 5)

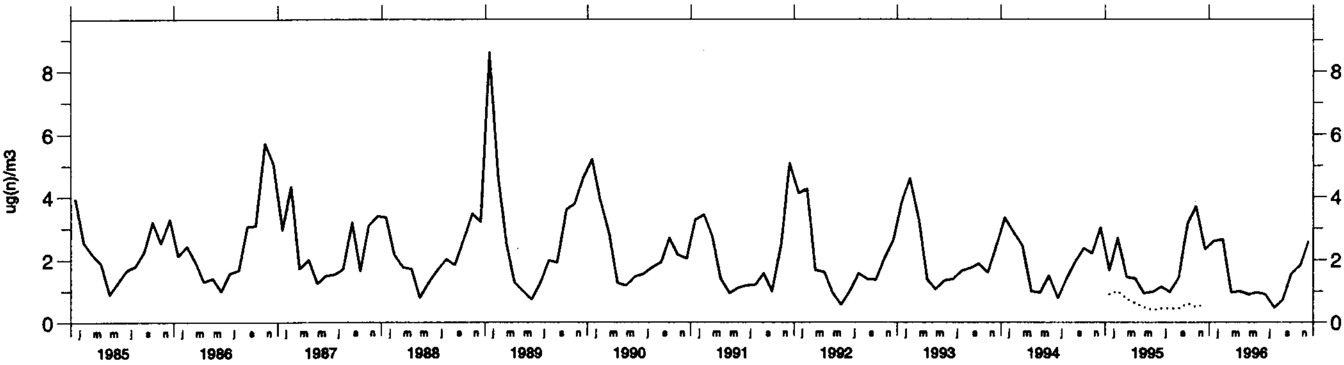
Concentration of total nitrate in air



Starina (SK 6)

Concentration of total nitrate in air

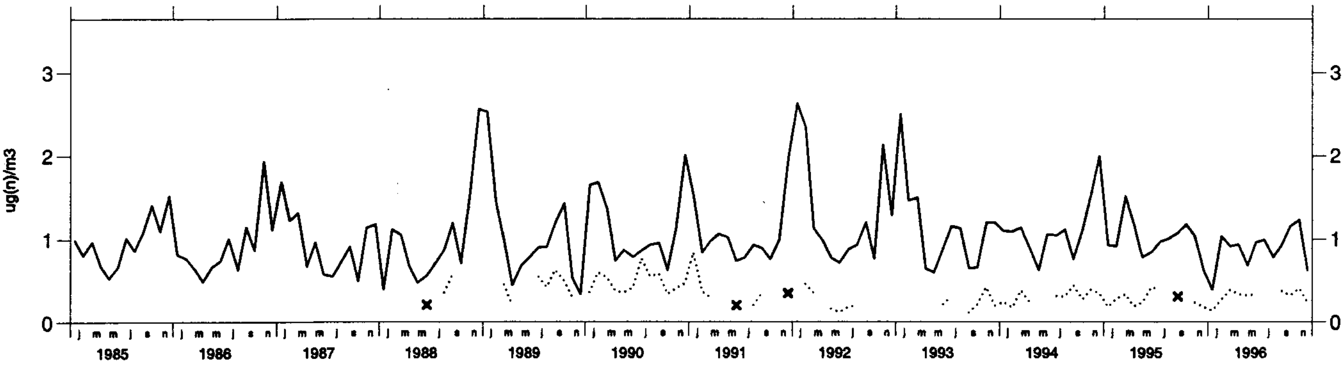
.... observed	mean = 0.60	std = 0.36		
——— modelled	mean = 1.83	std = 1.84	correlation =	0.32



Toledo (ES 1)

Concentration of total nitrate in air

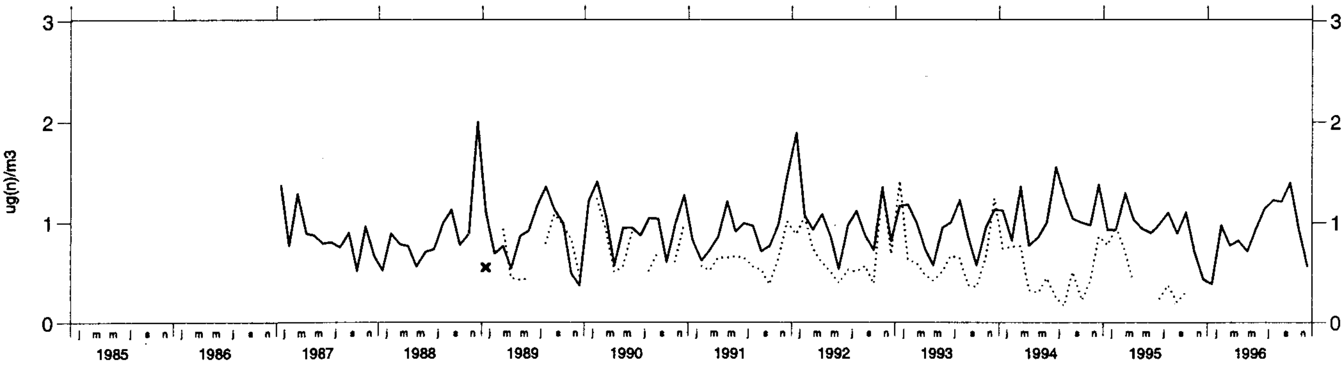
.... observed	mean = 0.34	std = 0.33		
——— modelled	mean = 1.05	std = 1.01	correlation =	0.27



La_Cartuja (ES 2)

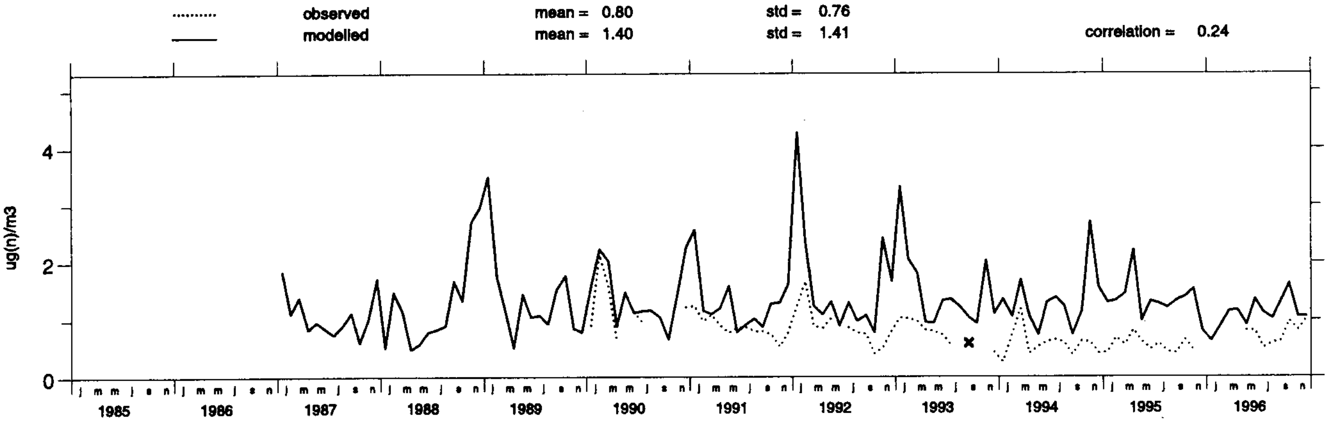
Concentration of total nitrate in air

.... observed	mean = 0.63	std = 0.50		
——— modelled	mean = 0.99	std = 0.83	correlation =	0.22



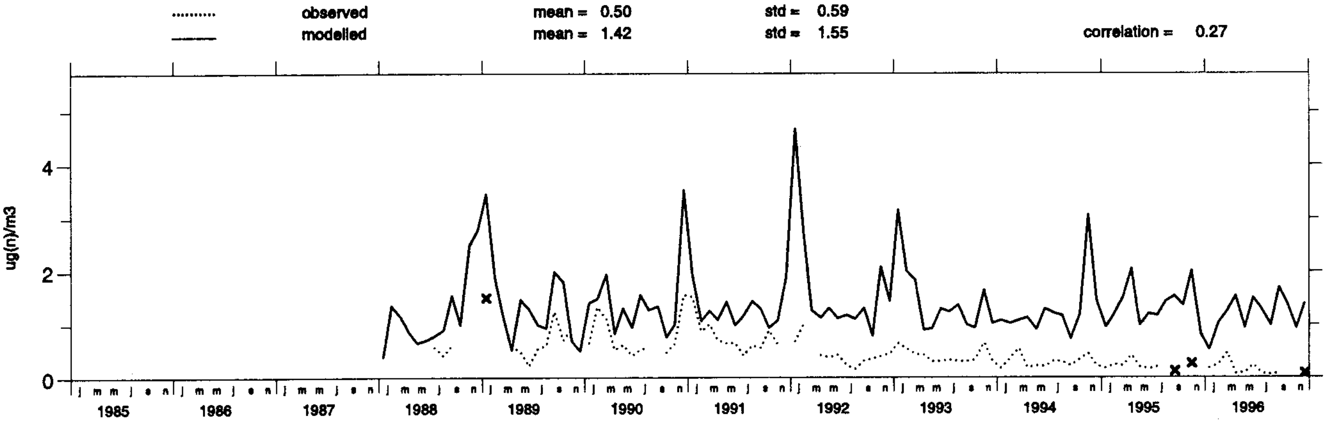
Roquetas (ES 3)

Concentration of total nitrate in air



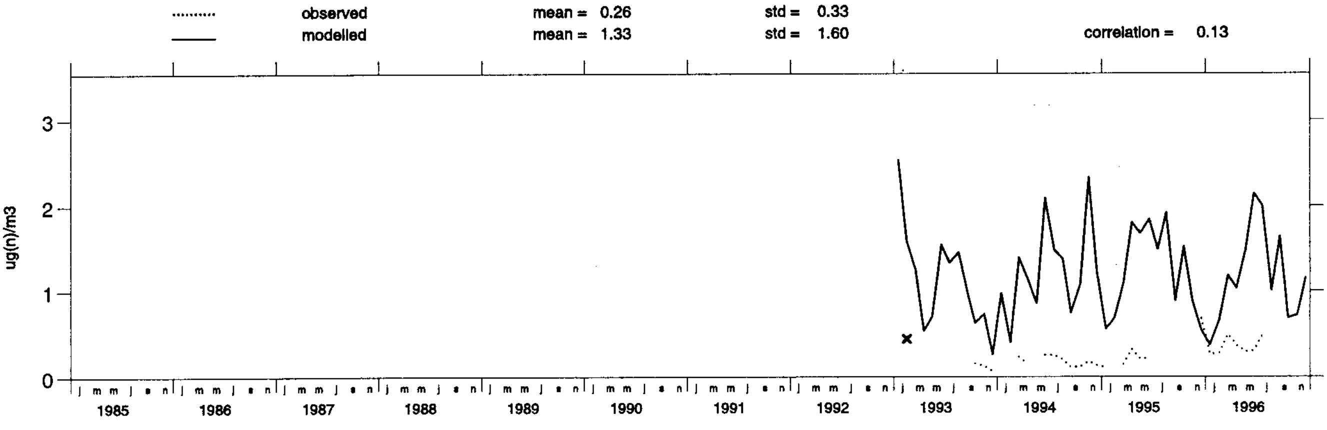
Logrono (ES 4)

Concentration of total nitrate in air



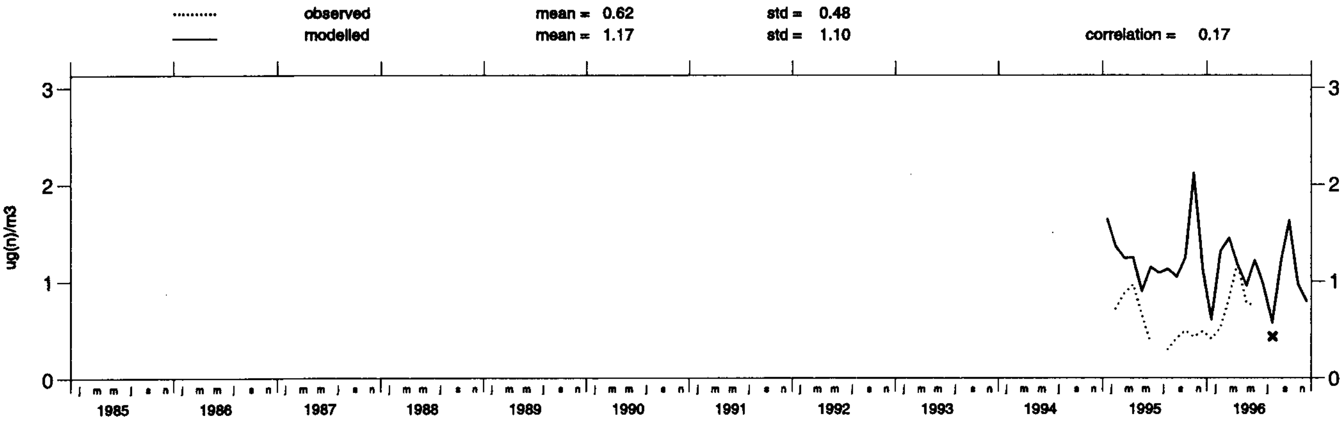
Noio (ES 5)

Concentration of total nitrate in air



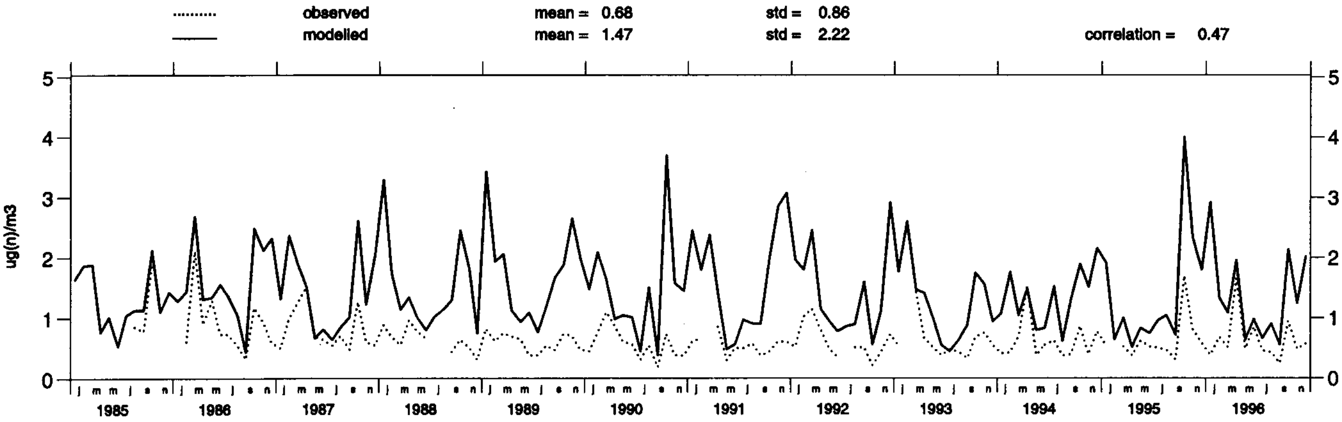
Mahon (ES 6)

Concentration of total nitrate in air



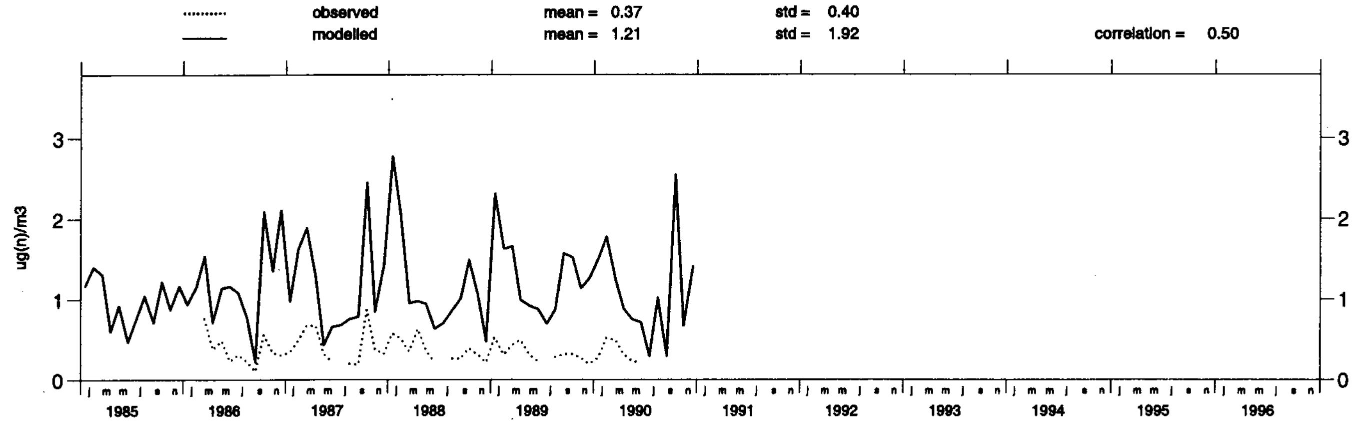
Roervik (SE 2)

Concentration of total nitrate in air



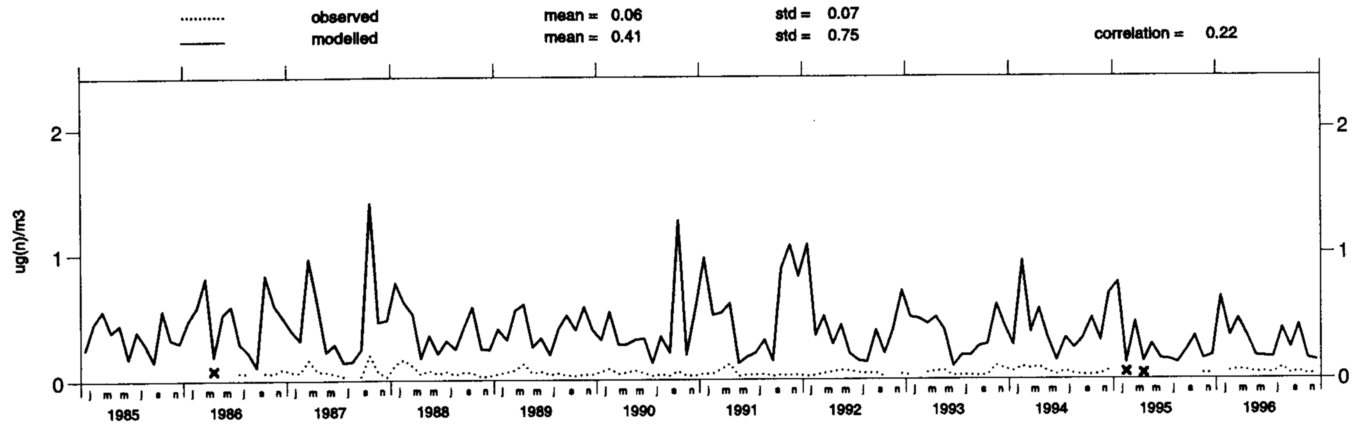
Velen (SE 3)

Concentration of total nitrate in air



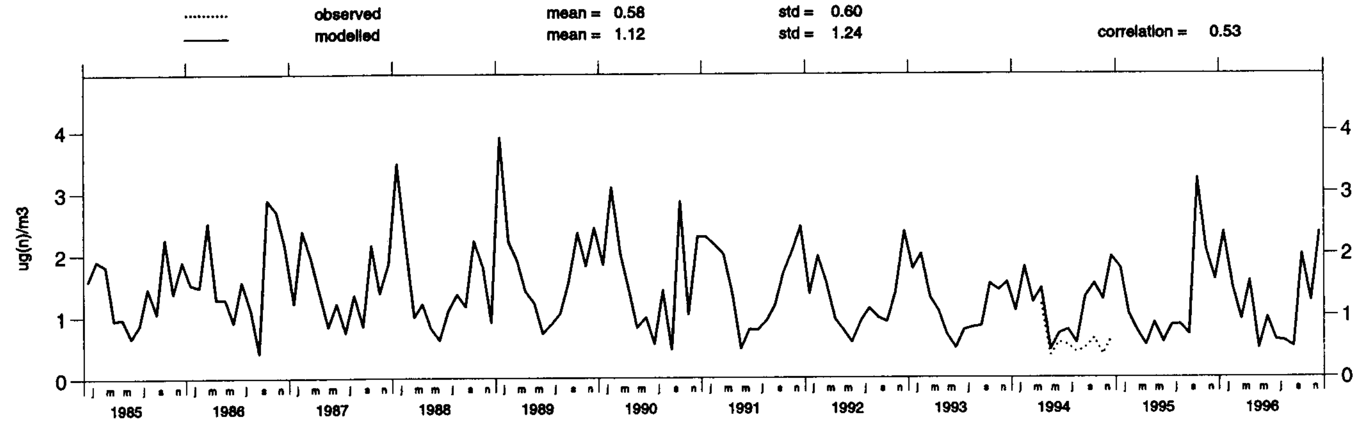
Bredkelen (SE 5)

Concentration of total nitrate in air



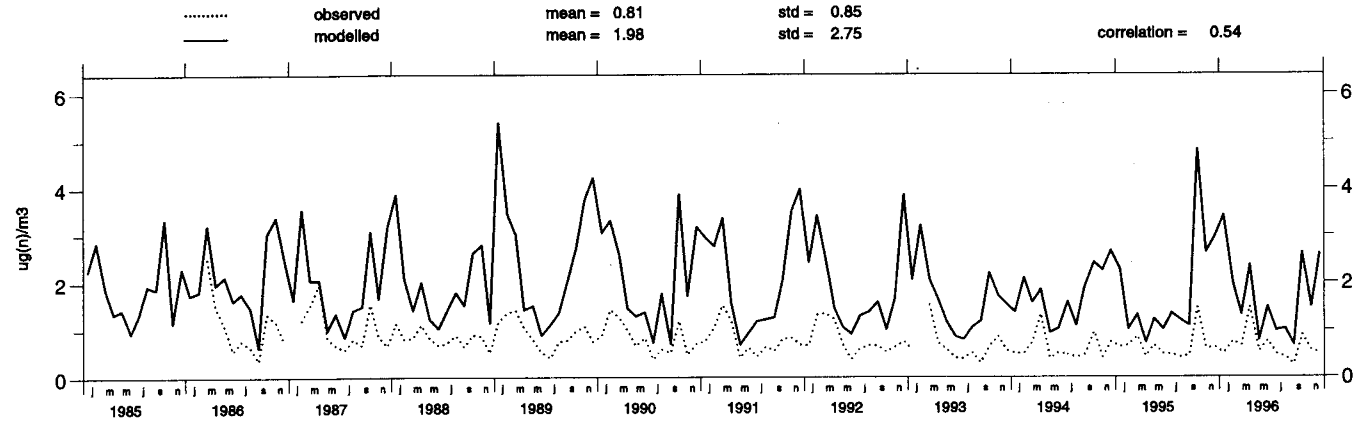
Hoburg (SE 8)

Concentration of total nitrate in air



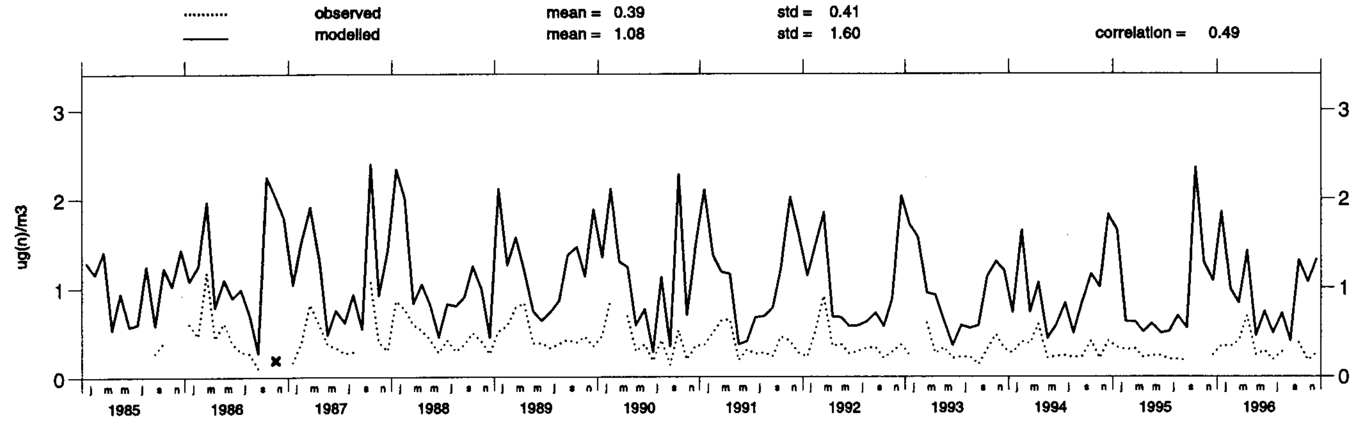
Vavihill (SE 11)

Concentration of total nitrate in air



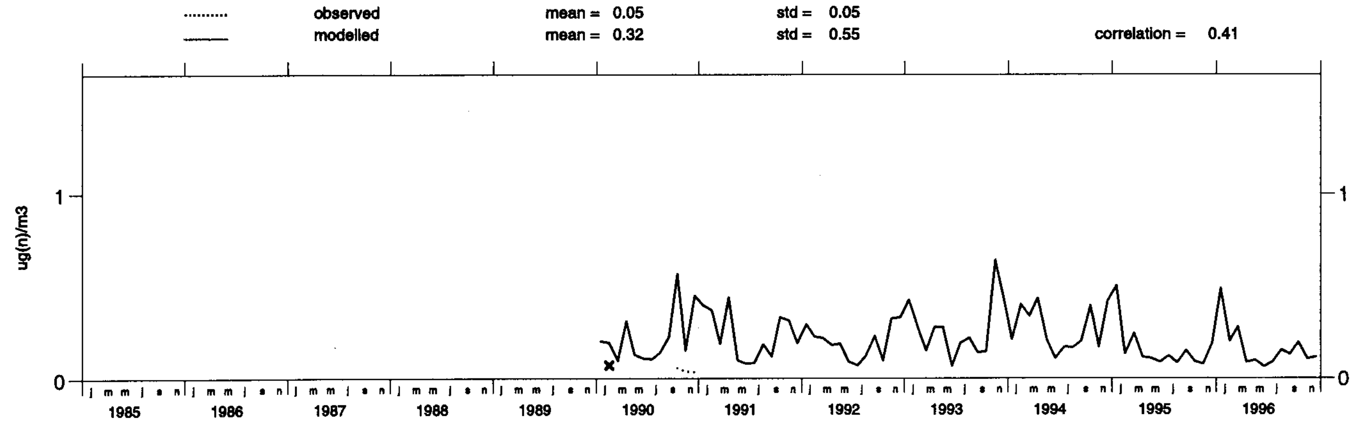
Aspvreten (SE 12)

Concentration of total nitrate in air



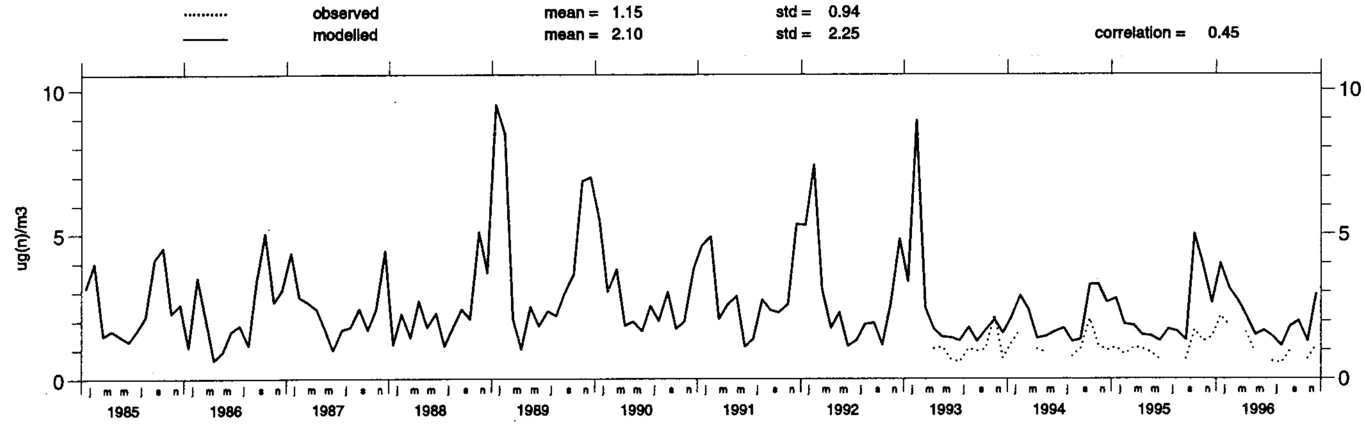
Esrange (SE 13)

Concentration of total nitrate in air



Payerne (CH 2)

Concentration of total nitrate in air

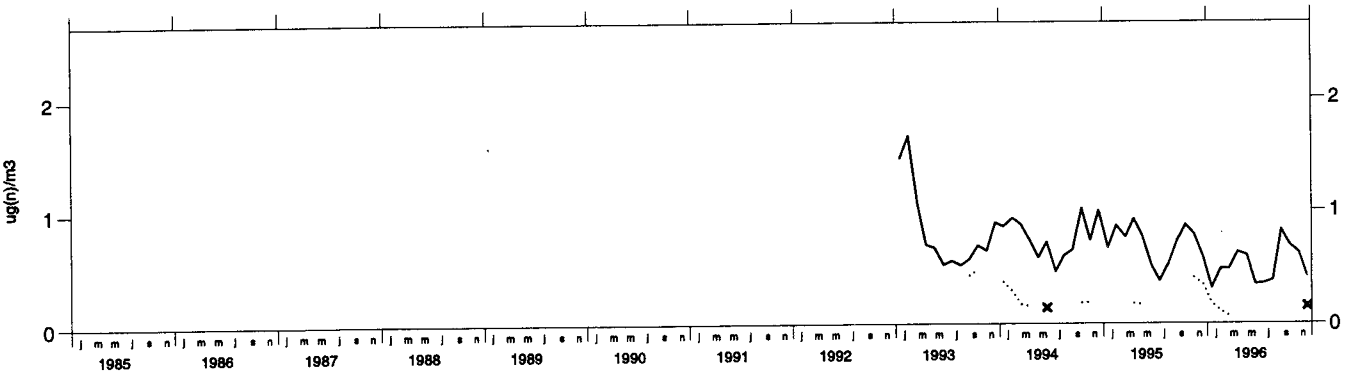


Cubuk11 (TR 1)

Concentration of total nitrate in air

.... observed mean = 0.20 std = 0.20

—— modelled mean = 0.66 std = 0.54 correlation = 0.20

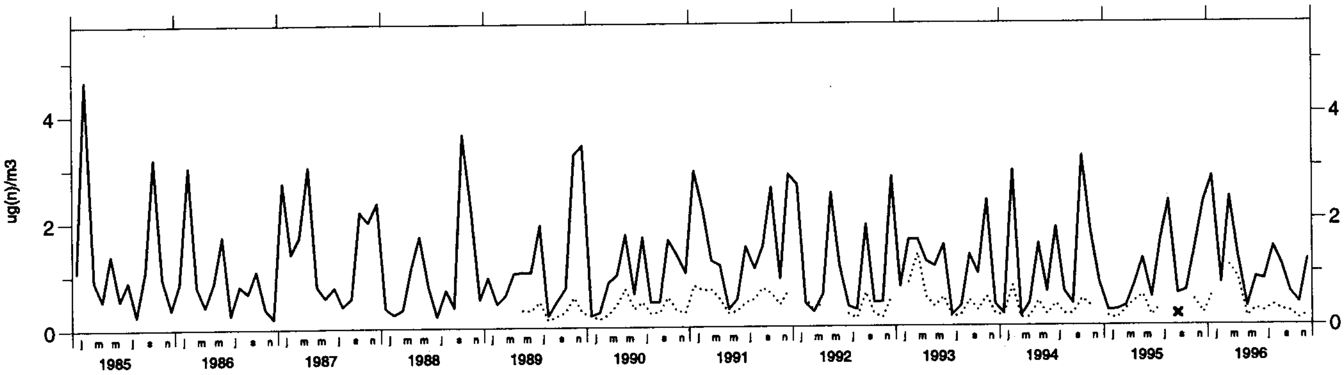


Eskdalemuir (GB 2)

Concentration of total nitrate in air

.... observed mean = 0.40 std = 0.56

—— modelled mean = 1.20 std = 2.38 correlation = 0.53

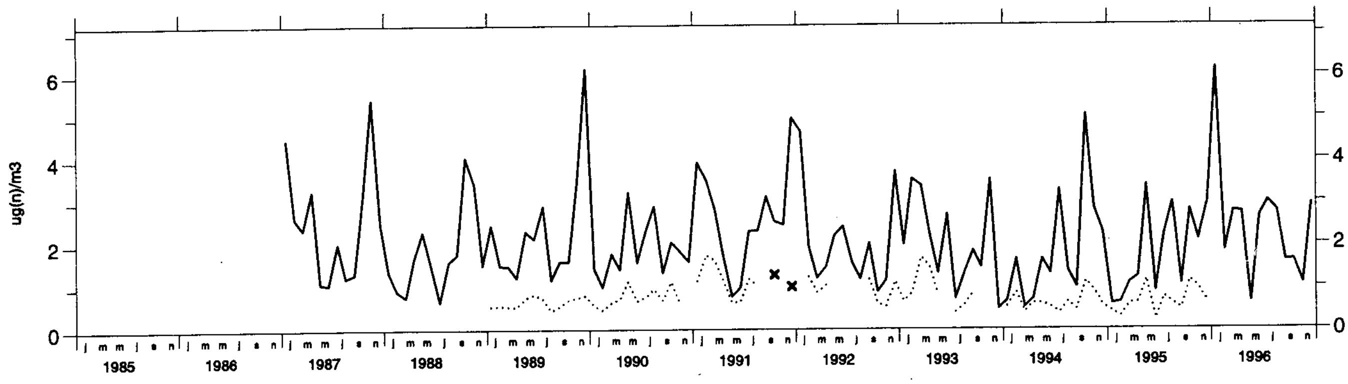


High_Muffles (GB 14)

Concentration of total nitrate in air

.... observed mean = 0.78 std = 0.84

—— modelled mean = 2.07 std = 3.37 correlation = 0.53

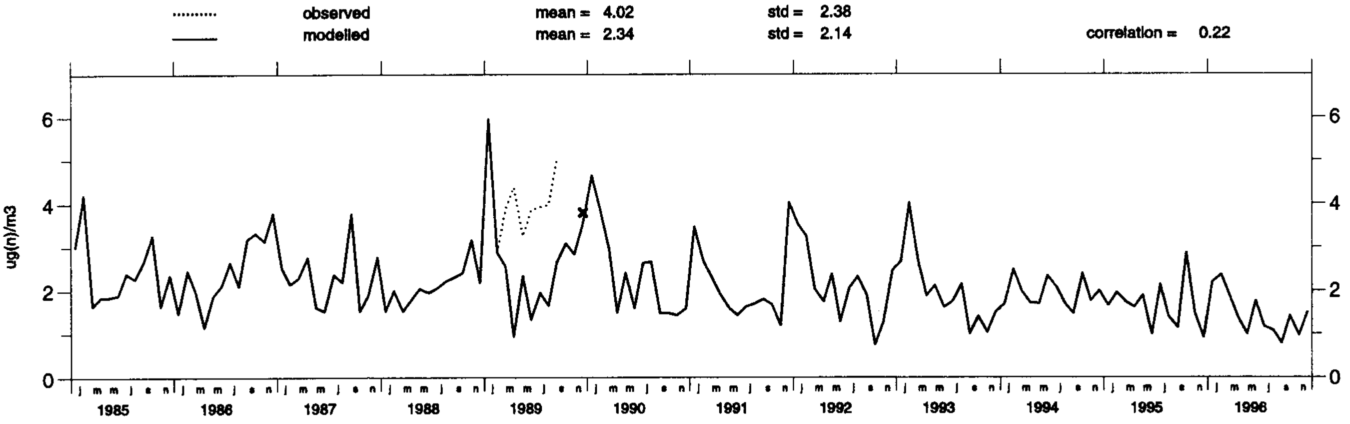


Time series for concentration of Ammonia+Ammonium in air

Period: 1985-96

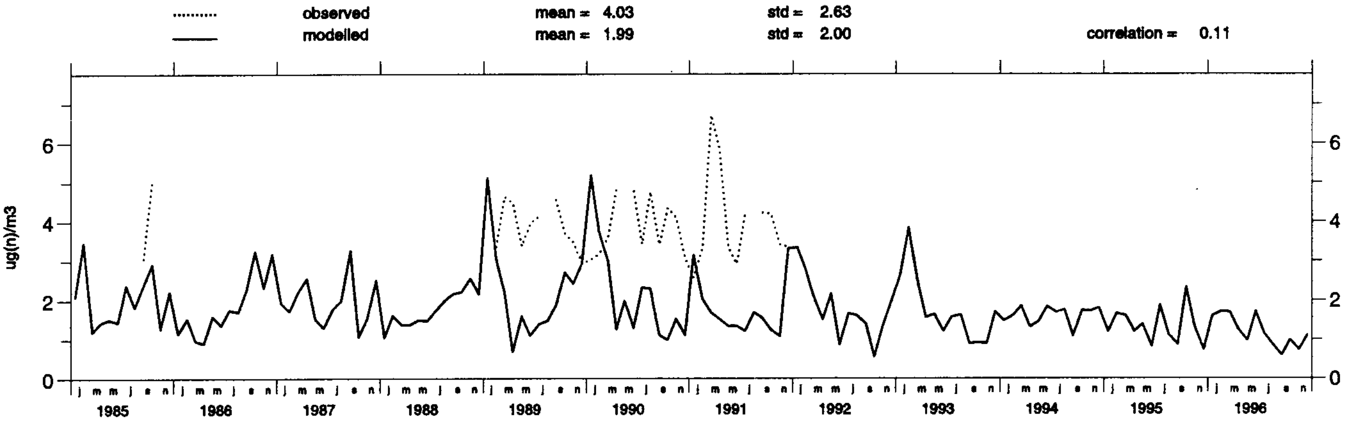
Puntijarka (HR 2)

Concentration of ammonia + ammonium in air



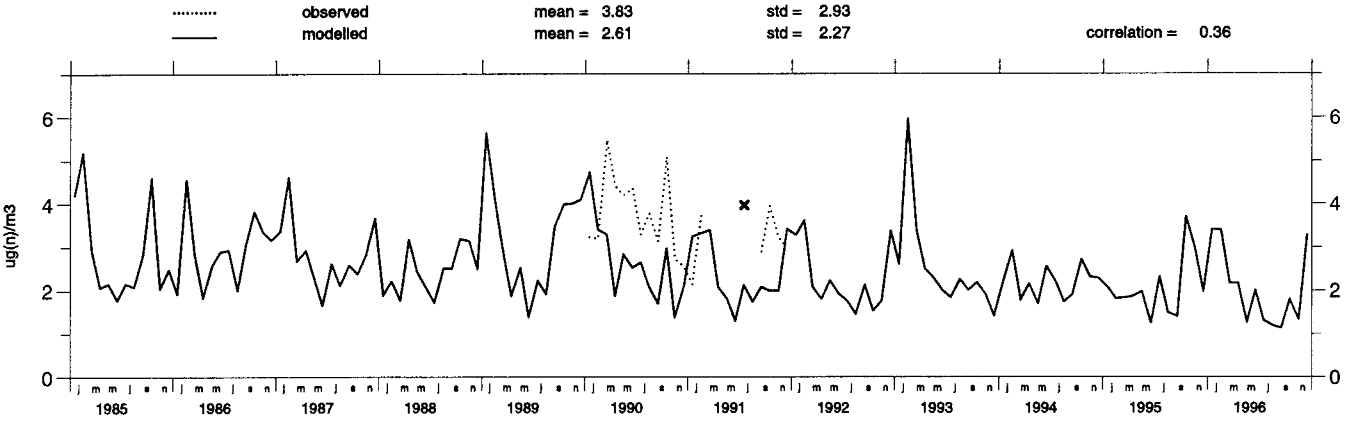
Zavizan (HR 4)

Concentration of ammonia + ammonium in air



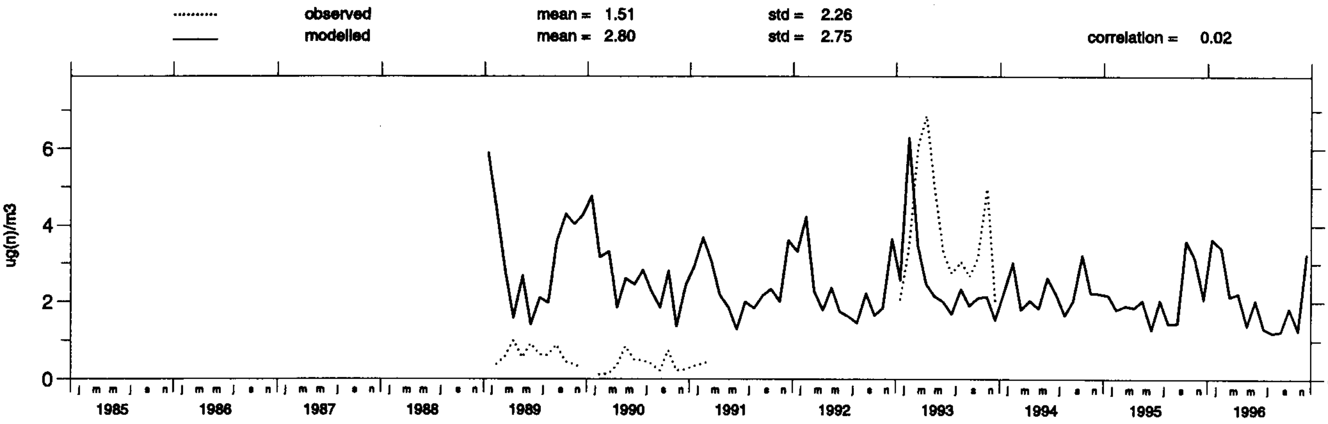
Svratouch (CS 1)

Concentration of ammonia + ammonium in air



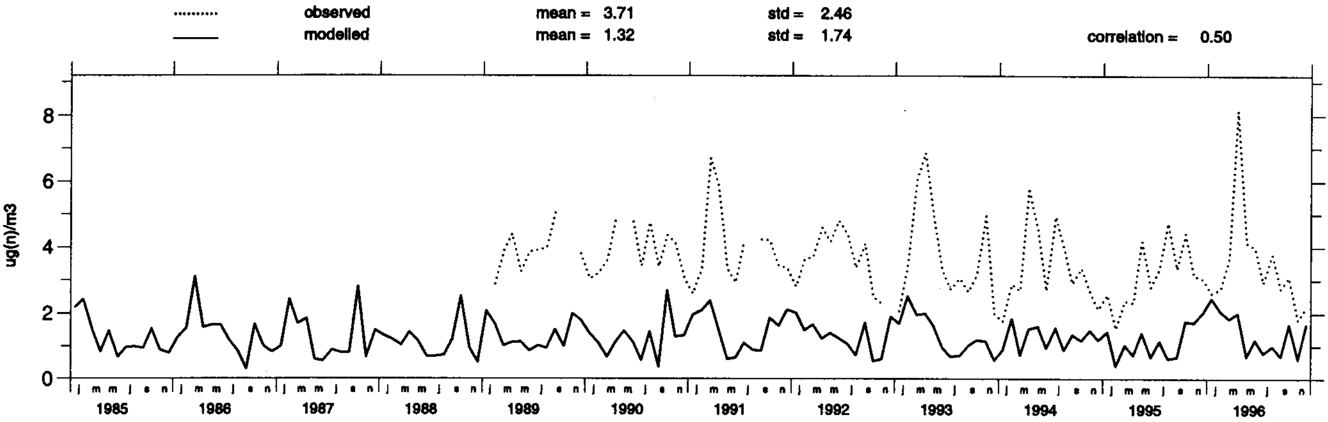
Kosetice (CS 3)

Concentration of ammonia + ammonium in air



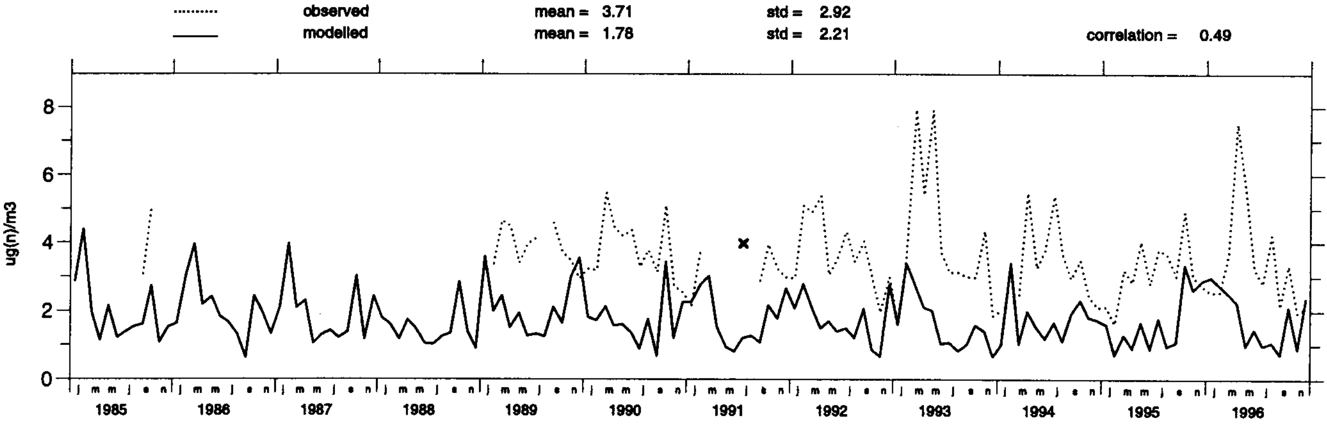
Tange (DK 3)

Concentration of ammonia + ammonium in air



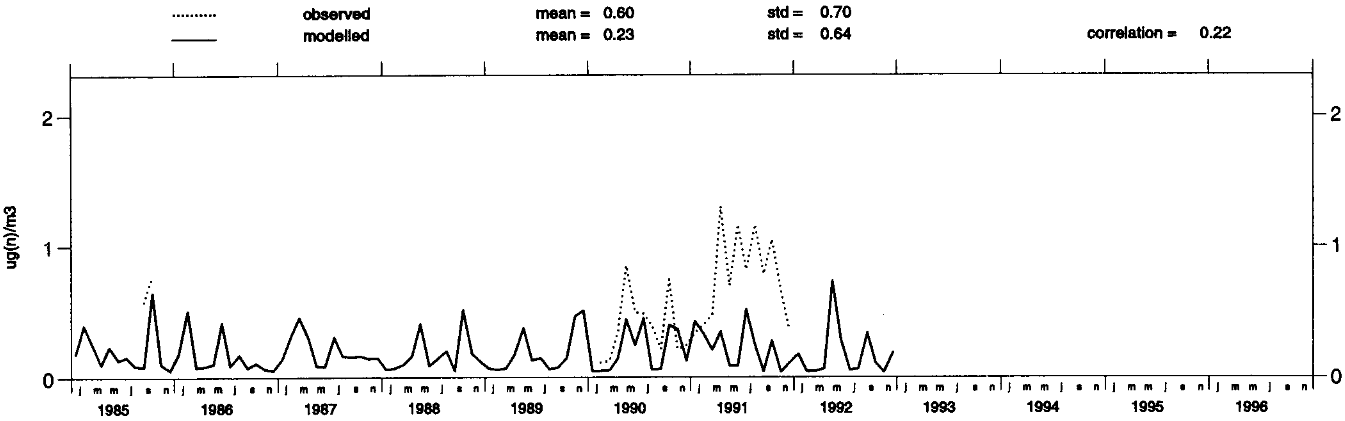
Keldsnor (DK 5)

Concentration of ammonia + ammonium in air



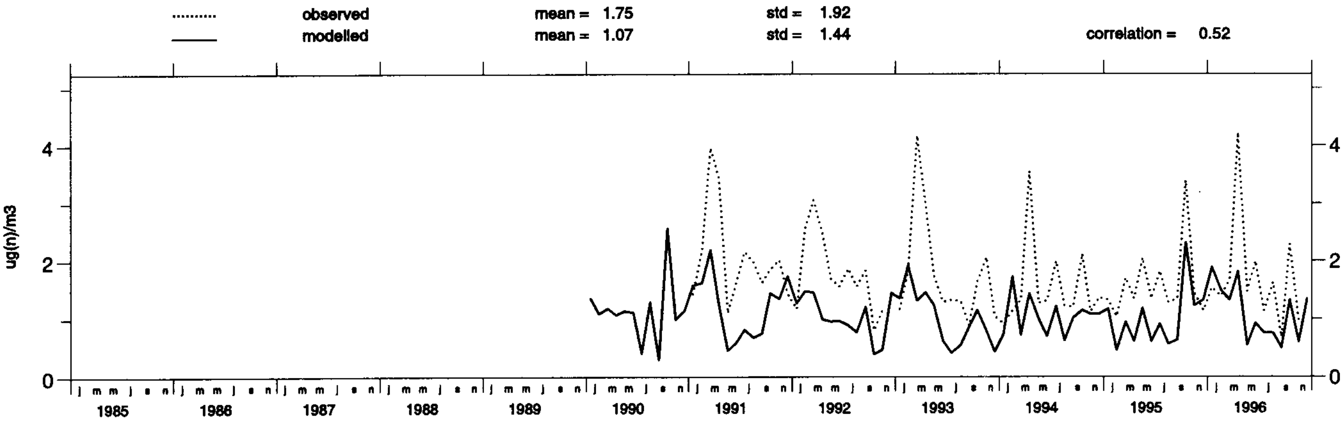
Faer.–Akraberg (DK 7)

Concentration of ammonia + ammonium in air



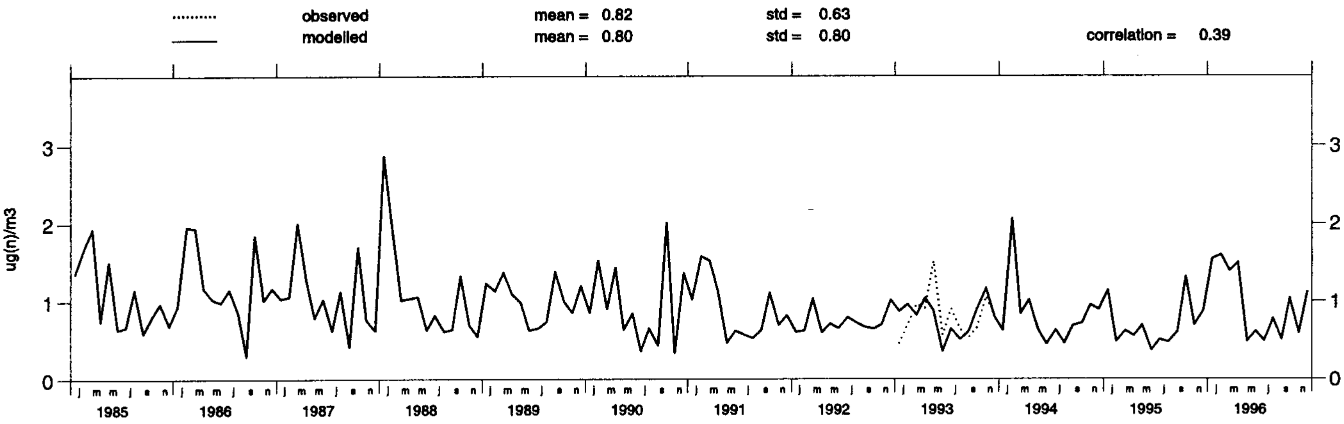
Anholt (DK 8)

Concentration of ammonia + ammonium in air



Syrve (EE 2)

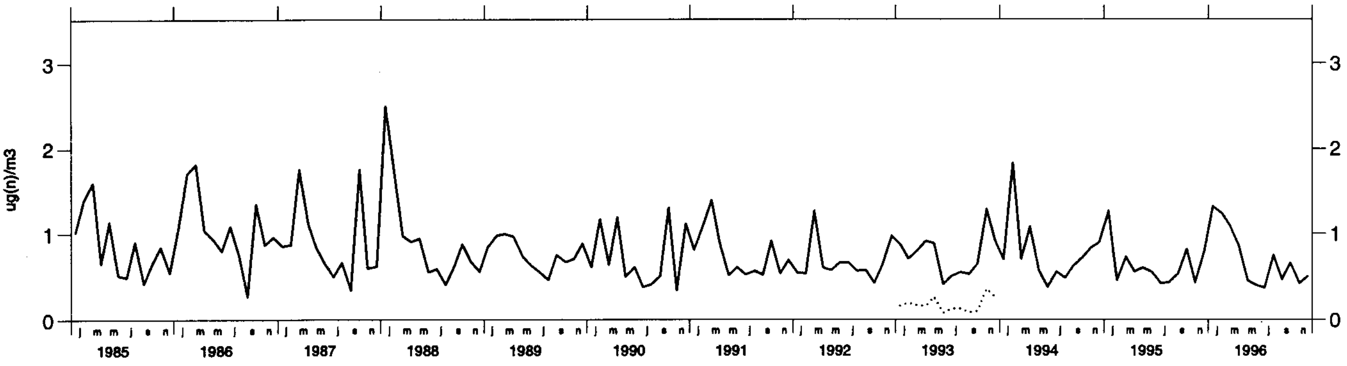
Concentration of ammonia + ammonium in air



Lahemaa (EE 9)

Concentration of ammonia + ammonium in air

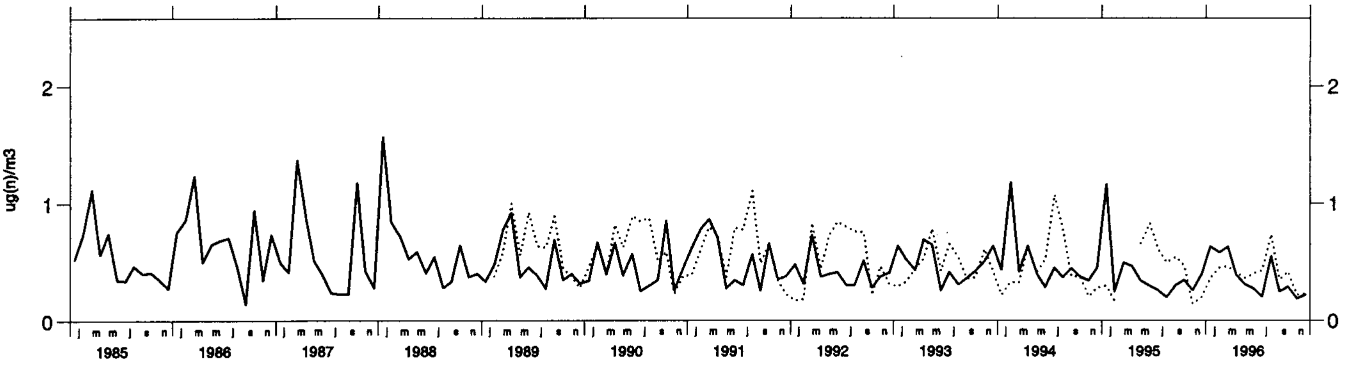
....	observed	mean = 0.17	std = 0.20	
———	modelled	mean = 0.76	std = 0.73	correlation = 0.42



Athari (FI 4)

Concentration of ammonia + ammonium in air

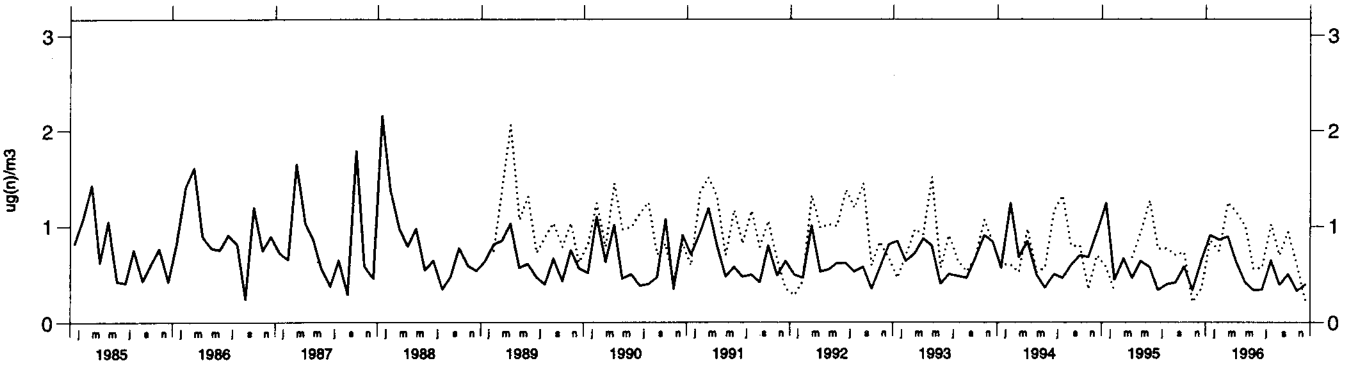
....	observed	mean = 0.52	std = 0.43	
———	modelled	mean = 0.45	std = 0.57	correlation = 0.44



Virolahti_II (FI 17)

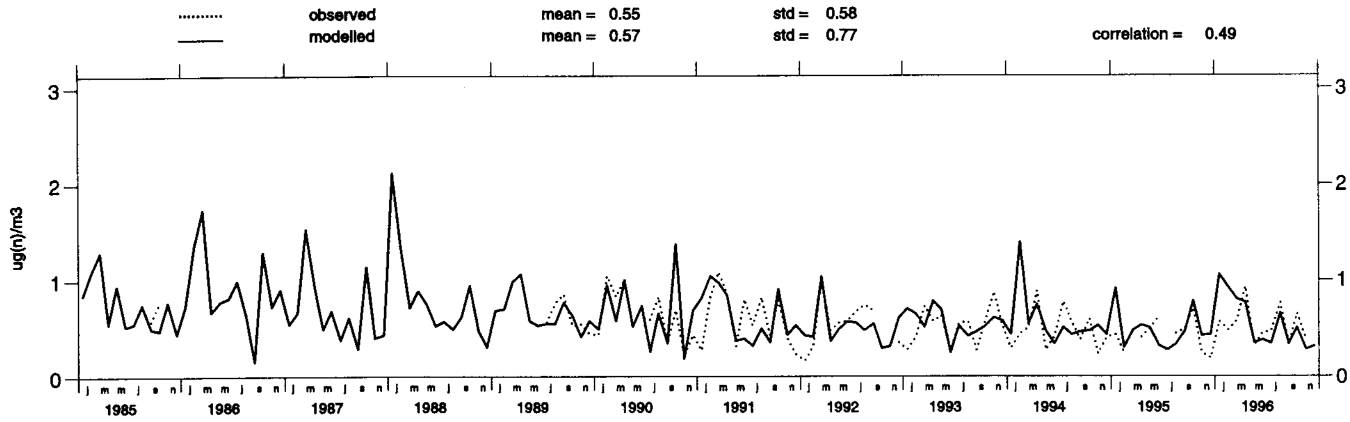
Concentration of ammonia + ammonium in air

....	observed	mean = 0.87	std = 0.67	
———	modelled	mean = 0.63	std = 0.70	correlation = 0.42



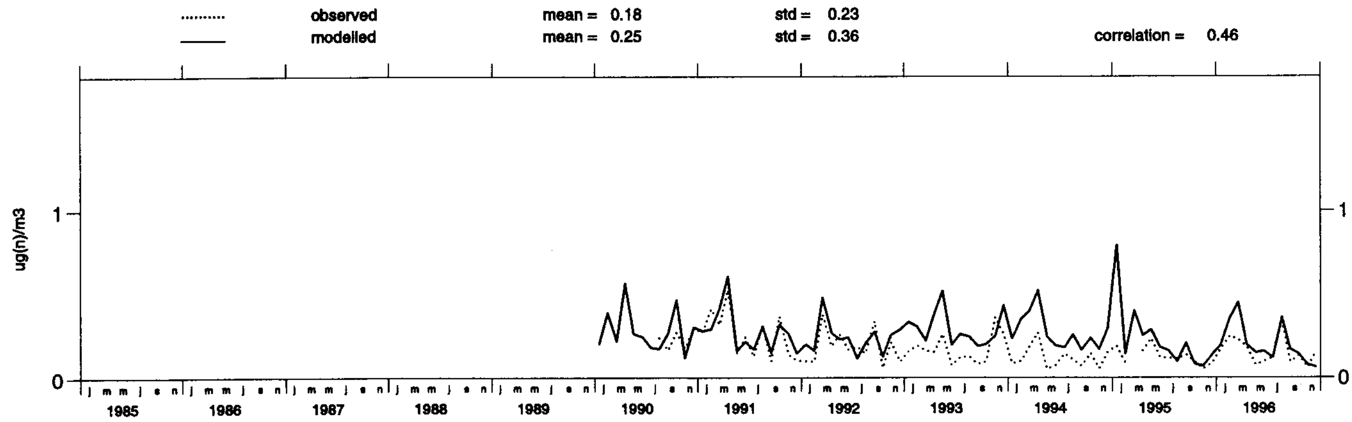
Utoe (FI 9)

Concentration of ammonia + ammonium in air



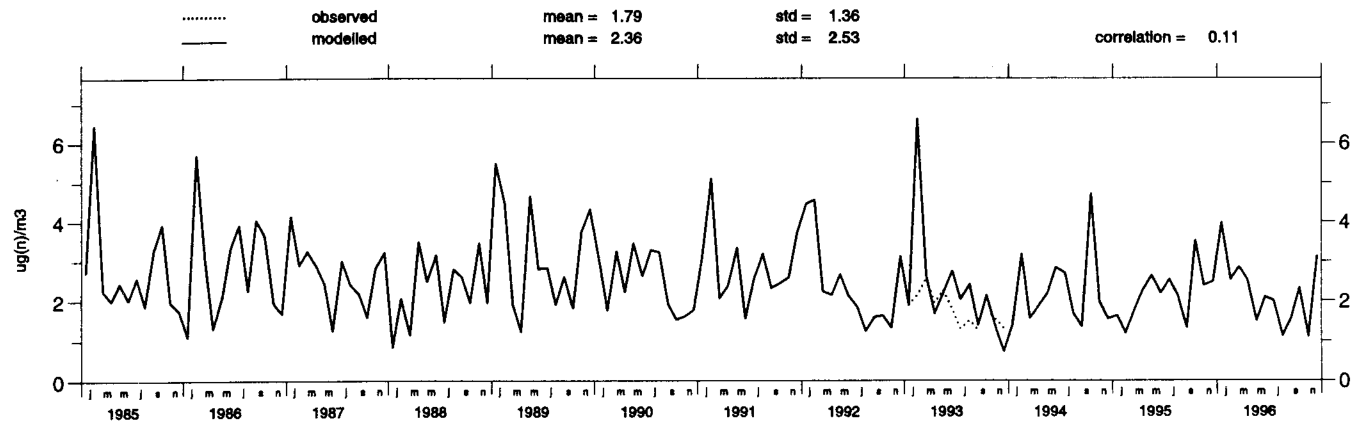
Oulanka (FI 22)

Concentration of ammonia + ammonium in air



Deuselbach (DE 4)

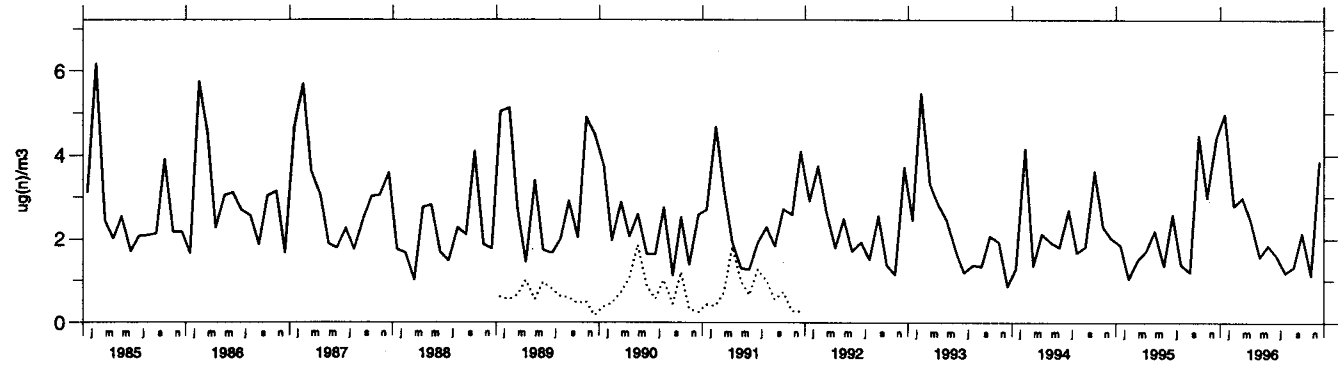
Concentration of ammonia + ammonium in air



Bassum (DE 12)

Concentration of ammonia + ammonium in air

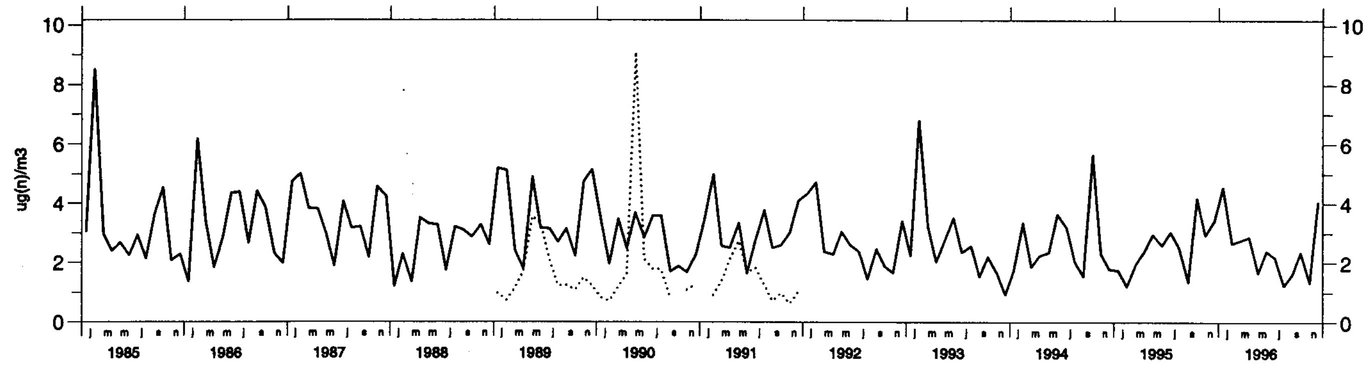
·········· observed mean = 0.72 std = 0.96
——— modelled mean = 2.65 std = 3.25 correlation = 0.18



Meinerzhagen (DE 14)

Concentration of ammonia + ammonium in air

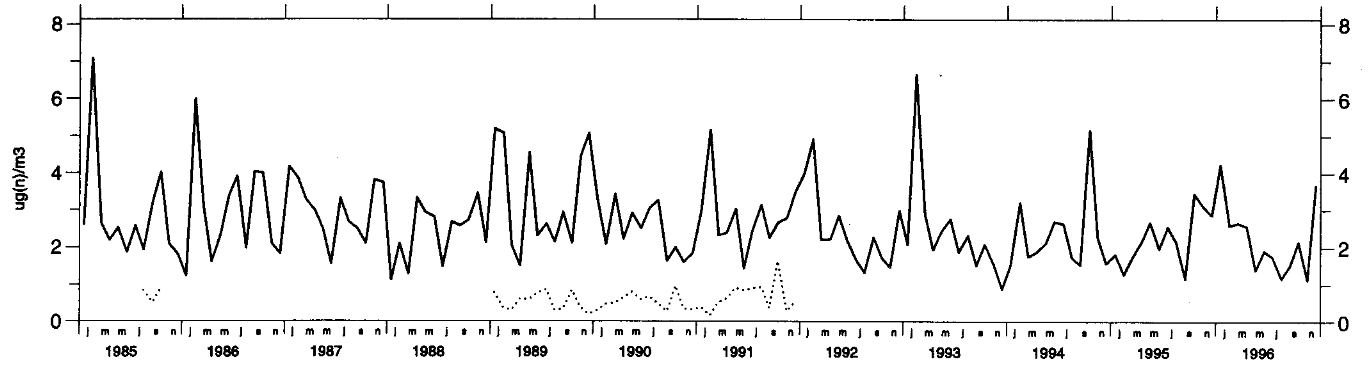
·········· observed mean = 1.70 std = 2.48
——— modelled mean = 3.18 std = 3.12 correlation = 0.03



Usingen (DE 15)

Concentration of ammonia + ammonium in air

·········· observed mean = 0.59 std = 0.78
——— modelled mean = 2.91 std = 2.88 correlation = 0.03

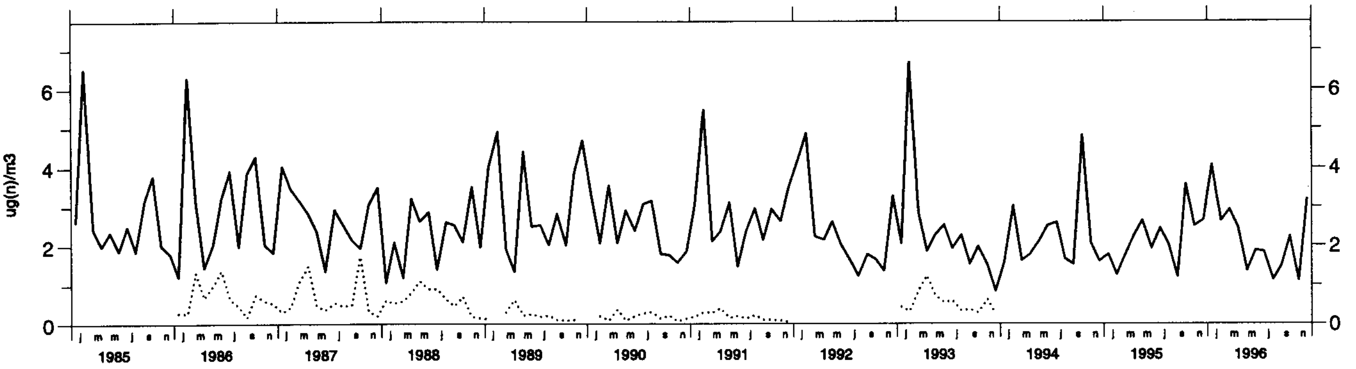


Bad_Kreuznach (DE 16)

Concentration of ammonia + ammonium in air

.... observed mean = 0.45 std = 0.71

——— modelled mean = 2.64 std = 2.56 correlation = -0.03

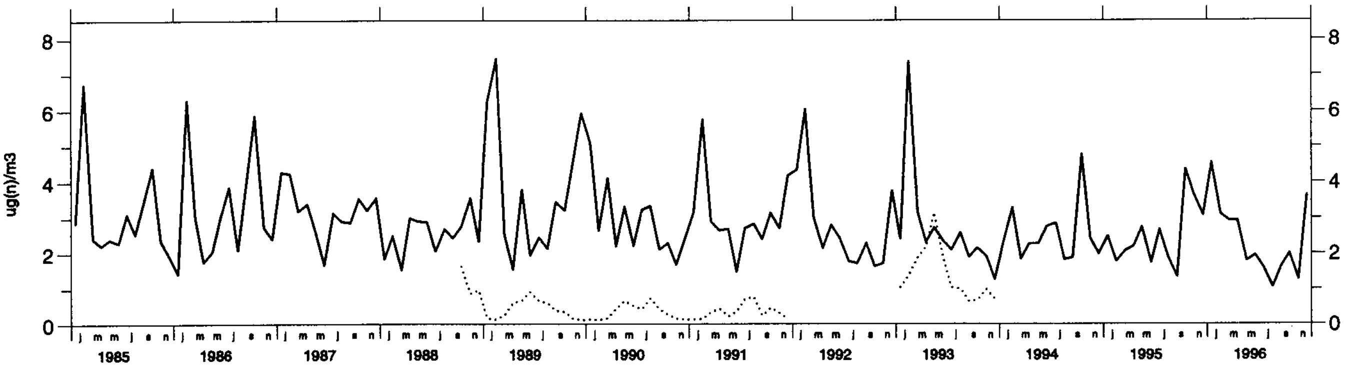


Ansbach (DE 17)

Concentration of ammonia + ammonium in air

.... observed mean = 0.66 std = 0.86

——— modelled mean = 3.08 std = 3.14 correlation = -0.03

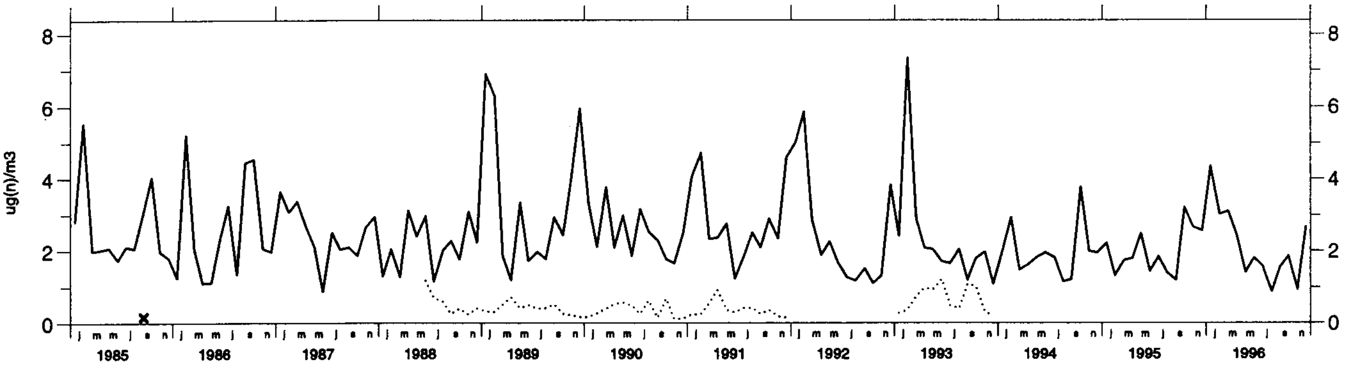


Rottenburg (DE 18)

Concentration of ammonia + ammonium in air

.... observed mean = 0.45 std = 0.62

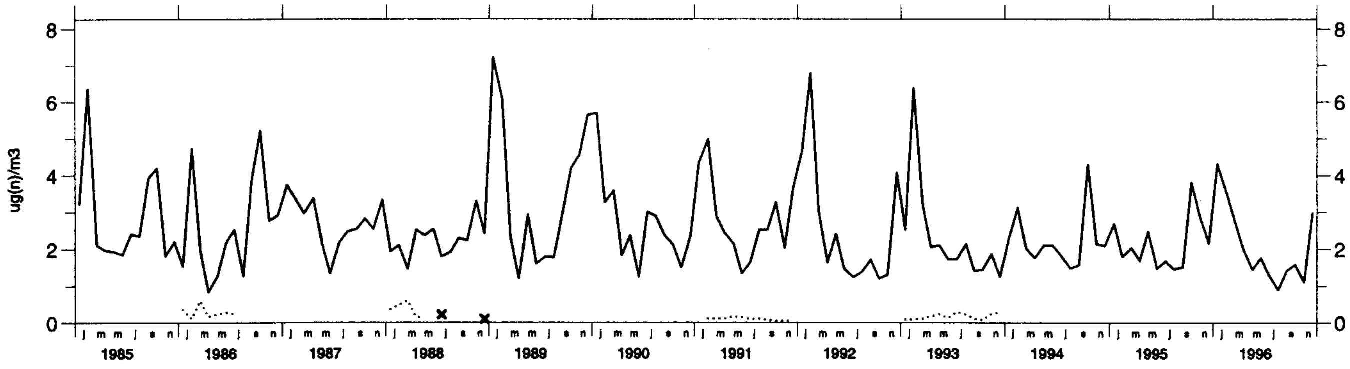
——— modelled mean = 2.68 std = 2.91 correlation = -0.03



Starnberg (DE 19)

Concentration of ammonia + ammonium in air

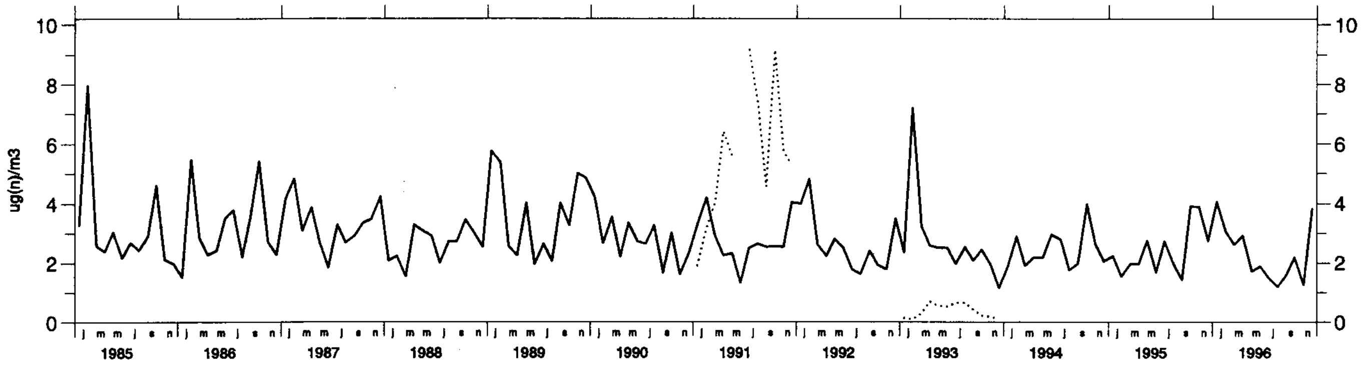
....	observed	mean = 0.19	std = 0.26	
———	modelled	mean = 2.38	std = 2.24	correlation = -0.13



Hof (DE 20)

Concentration of ammonia + ammonium in air

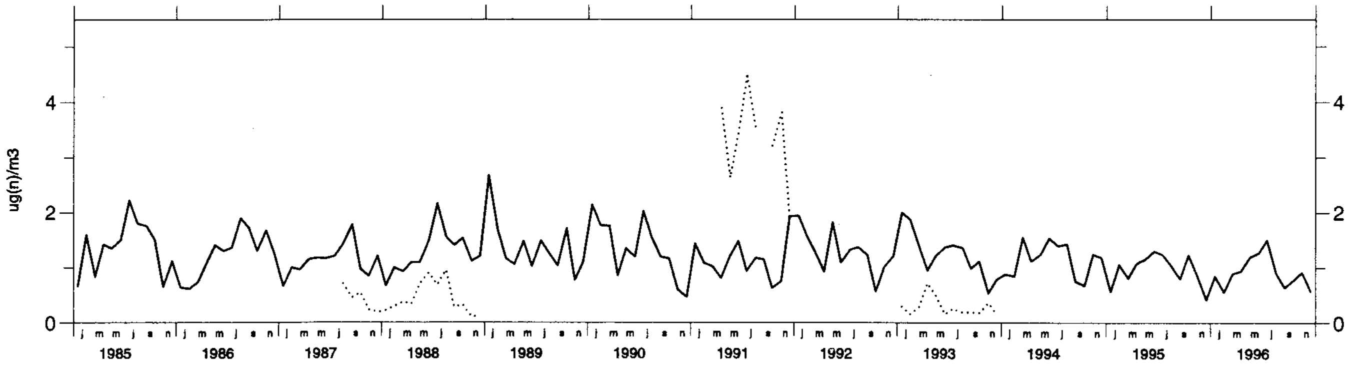
....	observed	mean = 2.92	std = 4.15	
———	modelled	mean = 2.79	std = 2.49	correlation = -0.06



Aliartos (GR 1)

Concentration of ammonia + ammonium in air

....	observed	mean = 1.11	std = 1.64	
———	modelled	mean = 1.23	std = 0.96	correlation = -0.09

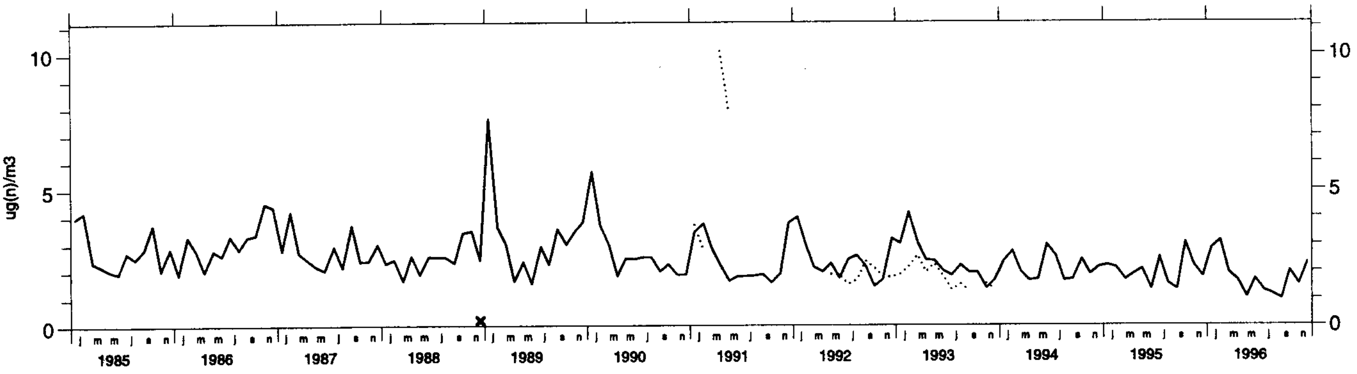


K–puszta (HU 2)

Concentration of ammonia + ammonium in air

.... observed mean = 2.48 std = 2.92

——— modelled mean = 2.38 std = 1.84 correlation = 0.03

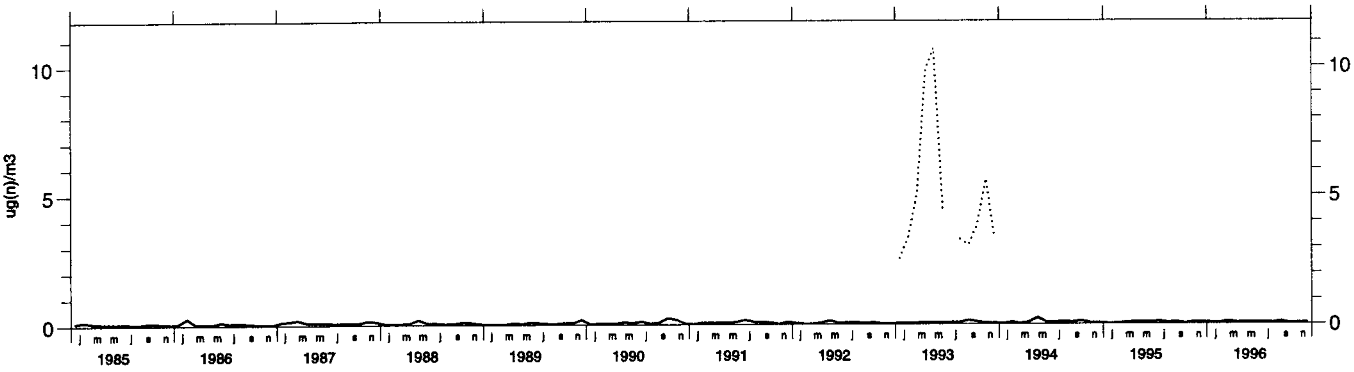


Irafoss (IS 2)

Concentration of ammonia + ammonium in air

.... observed mean = 4.94 std = 3.98

——— modelled mean = 0.08 std = 0.06 correlation = 0.01

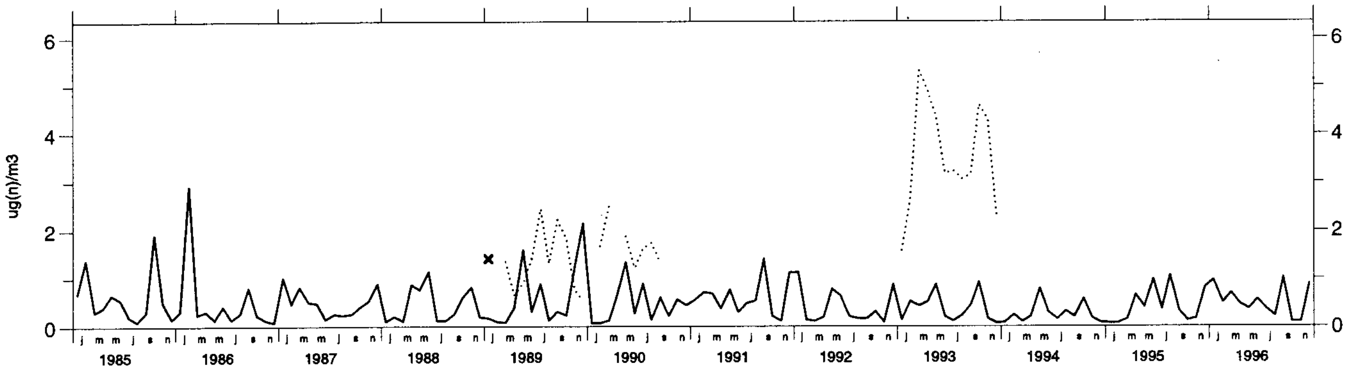


Valentia_Obs. (IE 1)

Concentration of ammonia + ammonium in air

.... observed mean = 2.27 std = 1.91

——— modelled mean = 0.50 std = 1.12 correlation = –0.03

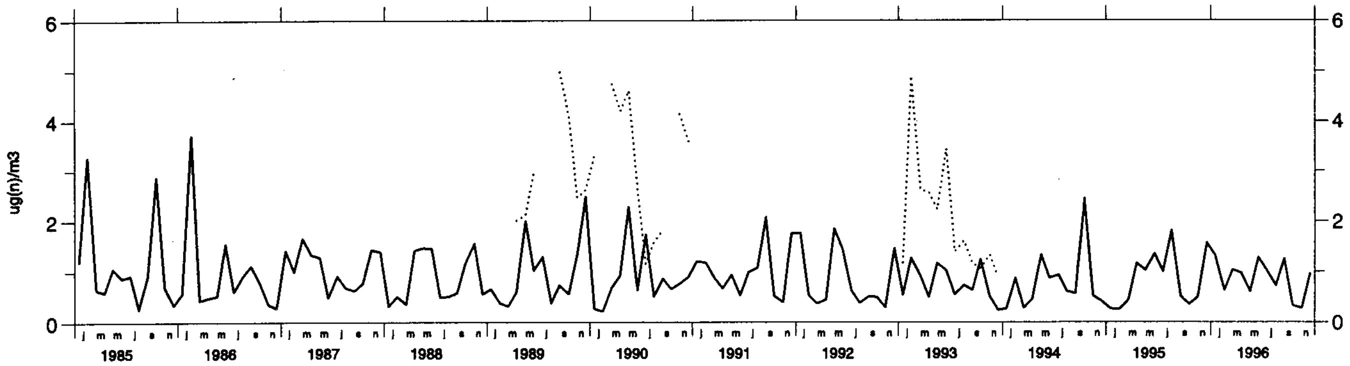


Turlough Hill (IE 2)

Concentration of ammonia + ammonium in air

.... observed mean = 2.76 std = 1.89

——— modelled mean = 0.93 std = 1.37 correlation = 0.04

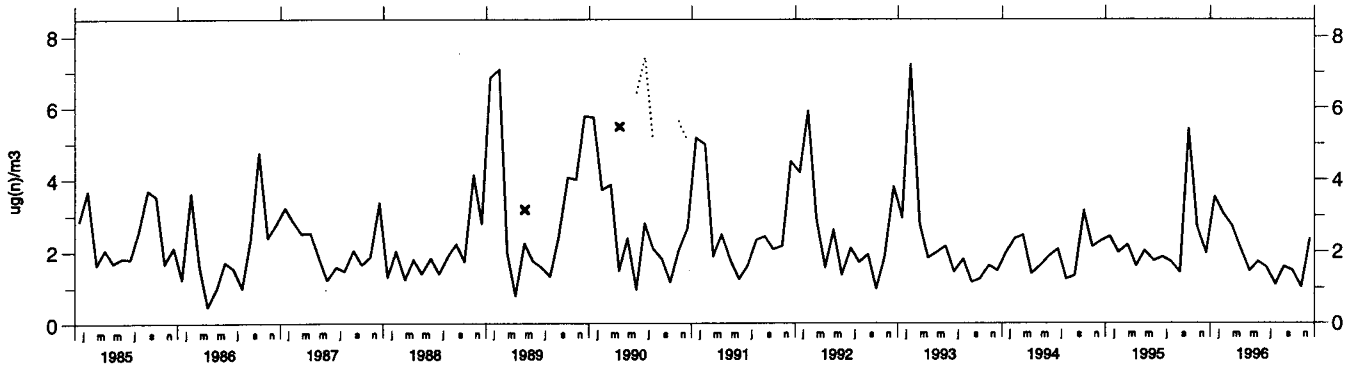


Ispra (IT 4)

Concentration of ammonia + ammonium in air

.... observed mean = 4.52 std = 4.09

——— modelled mean = 1.85 std = 1.90 correlation = 0.33

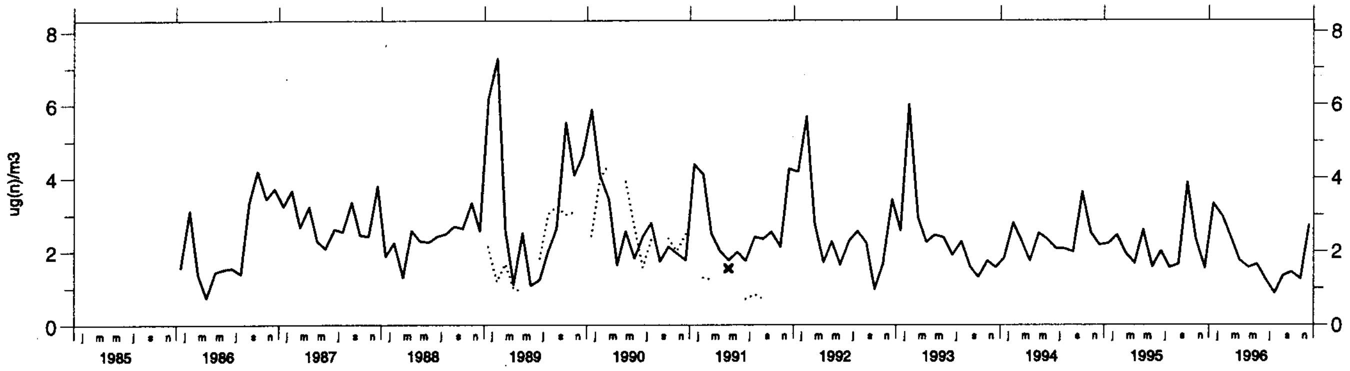


Arabba (IT 5)

Concentration of ammonia + ammonium in air

.... observed mean = 2.05 std = 1.56

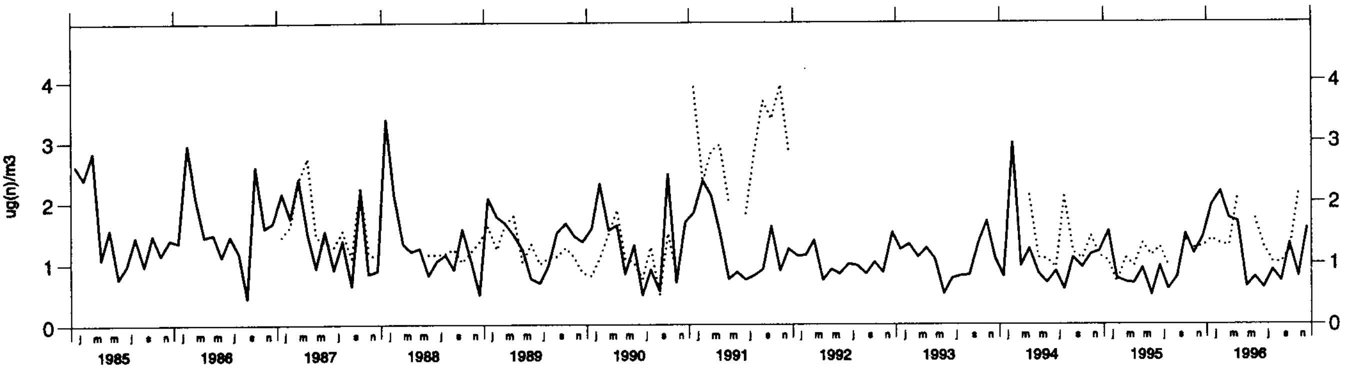
——— modelled mean = 3.00 std = 3.26 correlation = 0.23



Rucava (LV 10)

Concentration of ammonia + ammonium in air

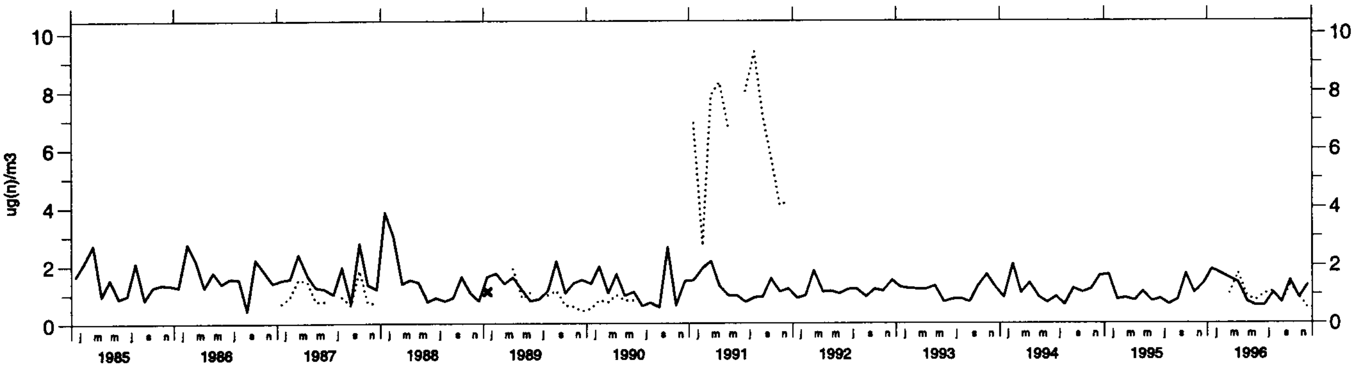
.... observed mean = 1.53 std = 1.32
——— modelled mean = 1.22 std = 1.50 correlation = 0.31



Zoseni (LV 16)

Concentration of ammonia + ammonium in air

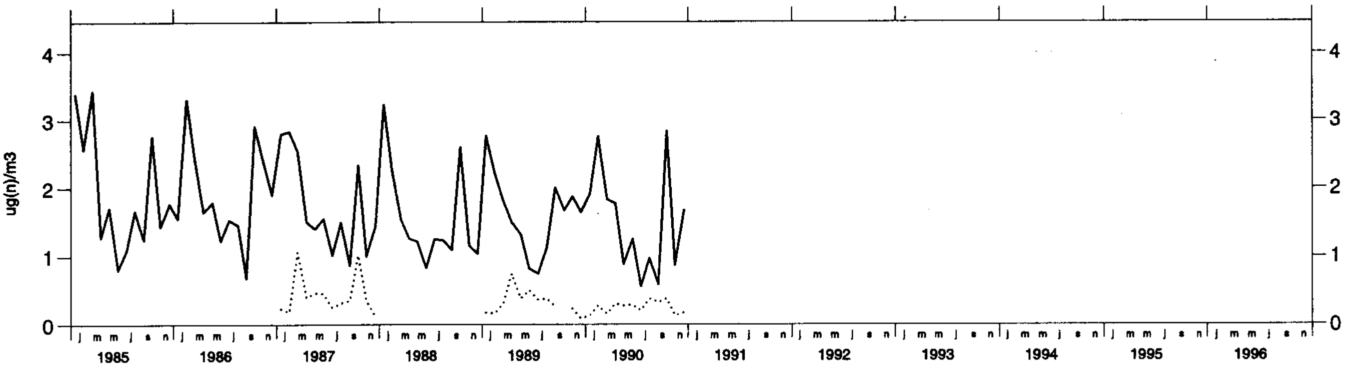
.... observed mean = 2.25 std = 3.04
——— modelled mean = 1.32 std = 1.41 correlation = 0.09



Nida (LT 3)

Concentration of ammonia + ammonium in air

.... observed mean = 0.33 std = 0.44
——— modelled mean = 1.64 std = 2.02 correlation = 0.09

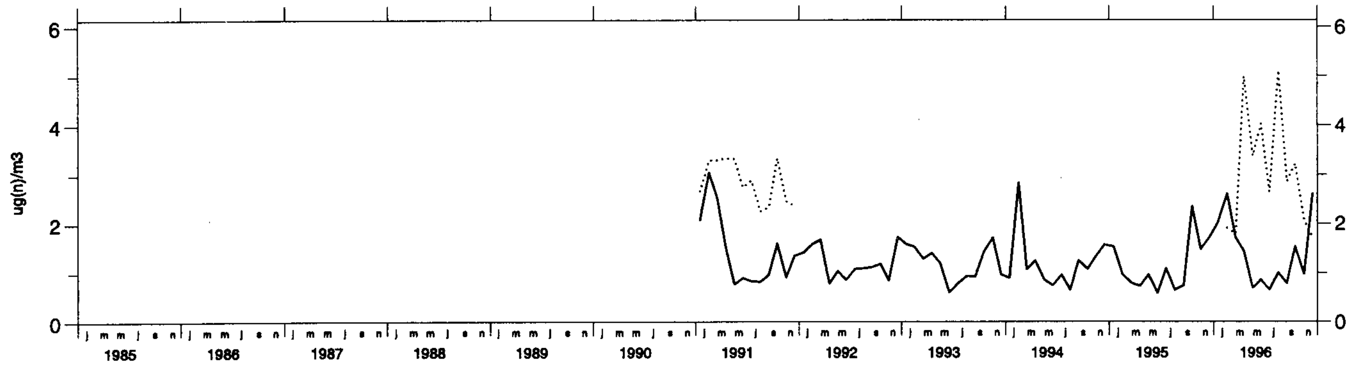


Preila (LT 15)

Concentration of ammonia + ammonium in air

.... observed mean = 3.00 std = 2.09

——— modelled mean = 1.40 std = 1.70 correlation = 0.06

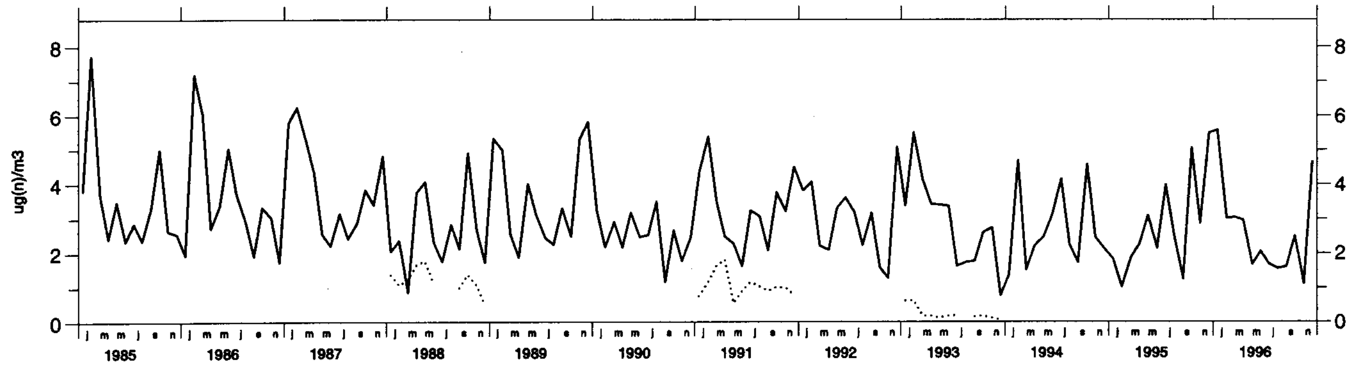


Wittenveen (NL 2)

Concentration of ammonia + ammonium in air

.... observed mean = 0.85 std = 1.03

——— modelled mean = 2.93 std = 3.21 correlation = 0.21

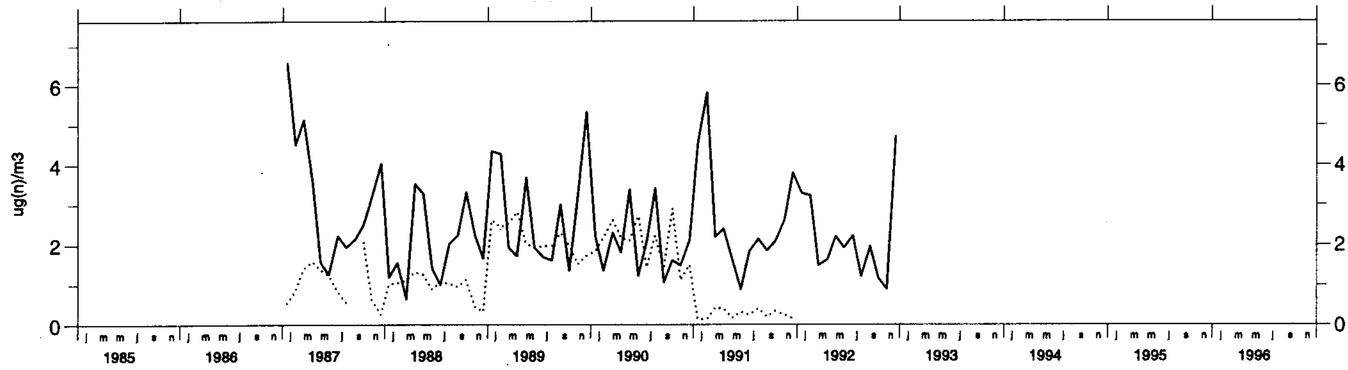


Bilthoven (NL 8)

Concentration of ammonia + ammonium in air

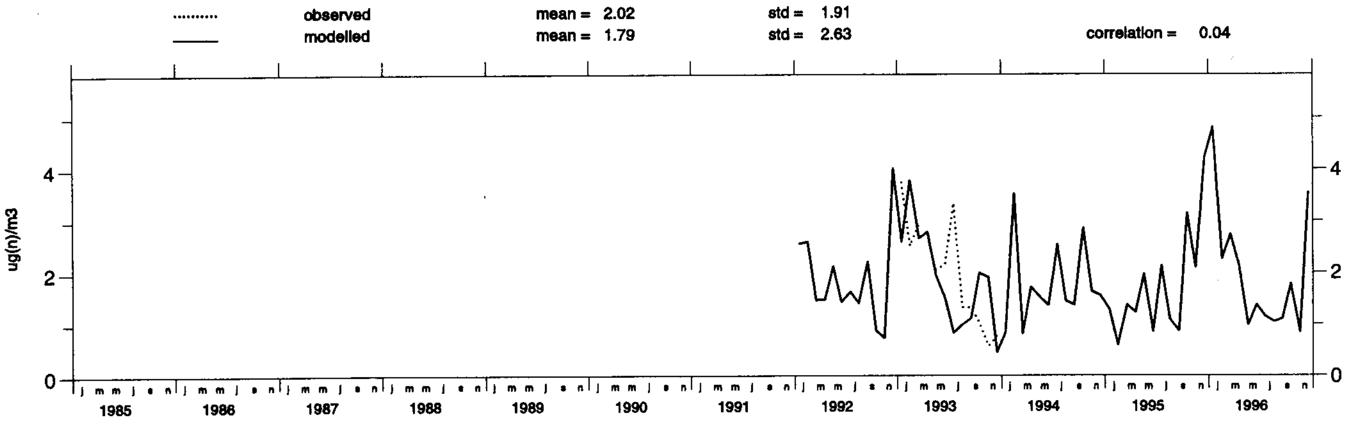
.... observed mean = 1.29 std = 1.46

——— modelled mean = 2.57 std = 3.31 correlation = 0.04



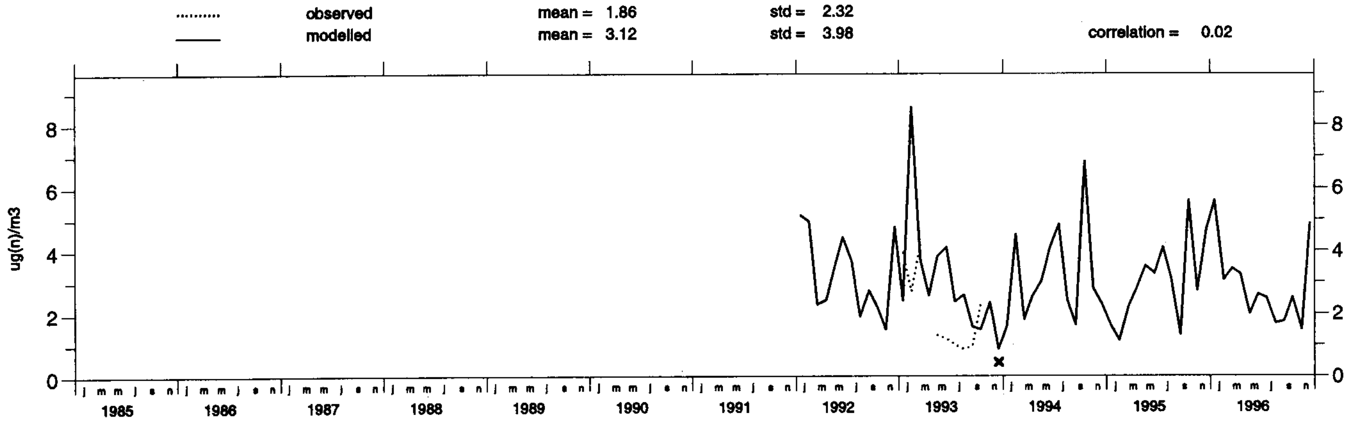
Kollumerwaard (NL 9)

Concentration of ammonia + ammonium in air



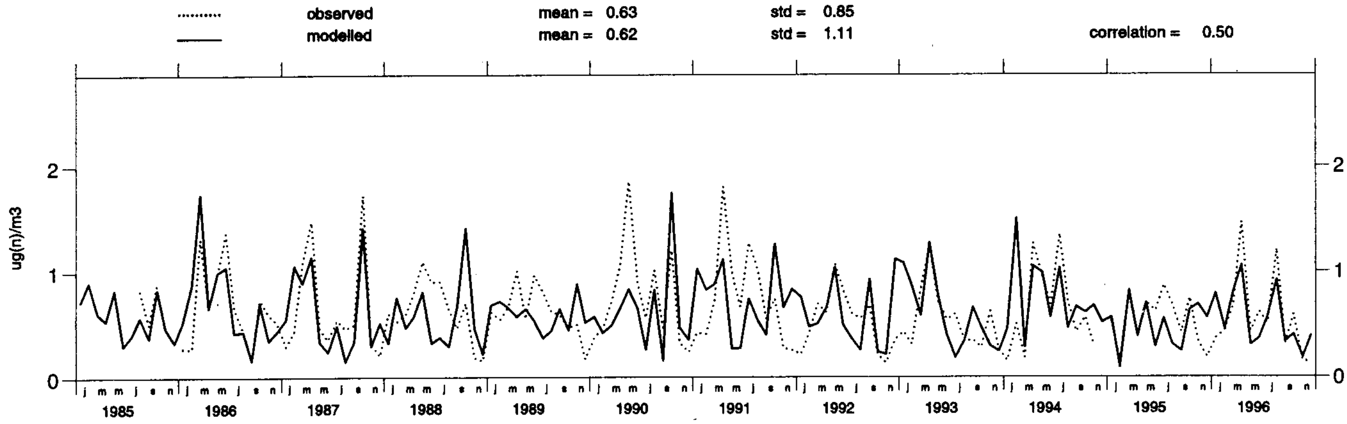
Vreedepeel (NL 10)

Concentration of ammonia + ammonium in air



Birkenes (NO 1)

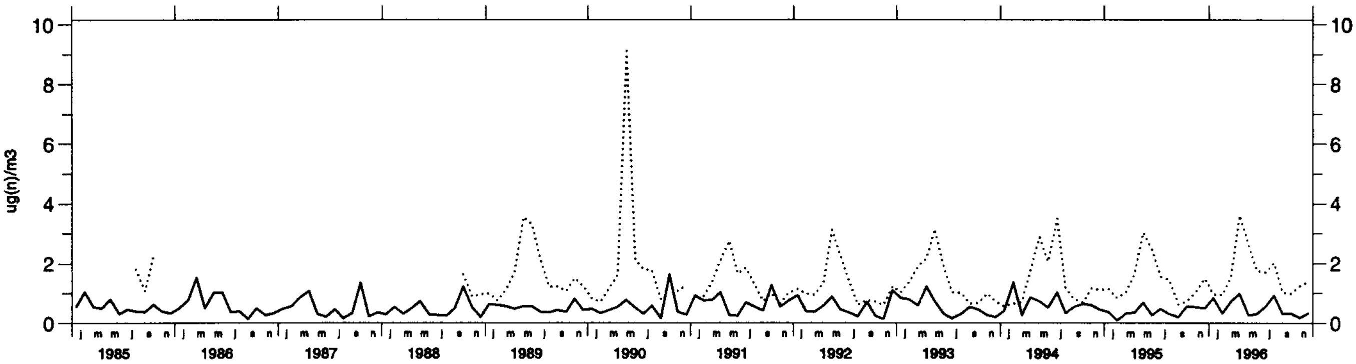
Concentration of ammonia + ammonium in air



Skreaadalen (NO 8)

Concentration of ammonia + ammonium in air

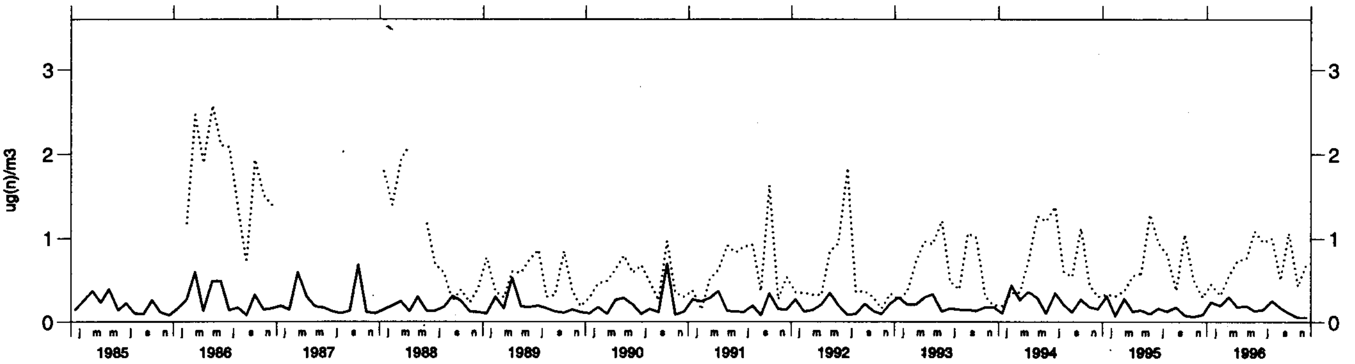
·········· observed	mean = 1.53	std = 1.79		
——— modelled	mean = 0.54	std = 1.01	correlation =	0.23



Tustervatn (NO 15)

Concentration of ammonia + ammonium in air

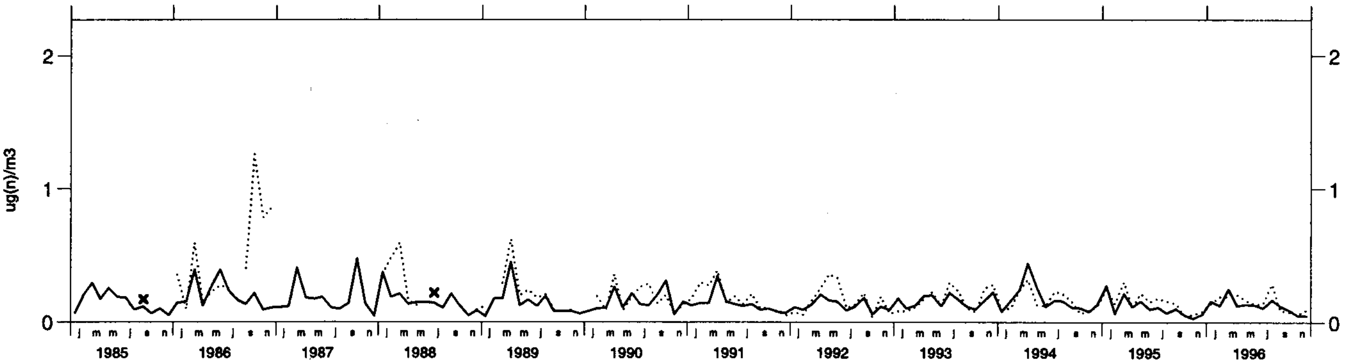
·········· observed	mean = 0.76	std = 0.94		
——— modelled	mean = 0.20	std = 0.35	correlation =	0.17



Jergul (NO 30)

Concentration of ammonia + ammonium in air

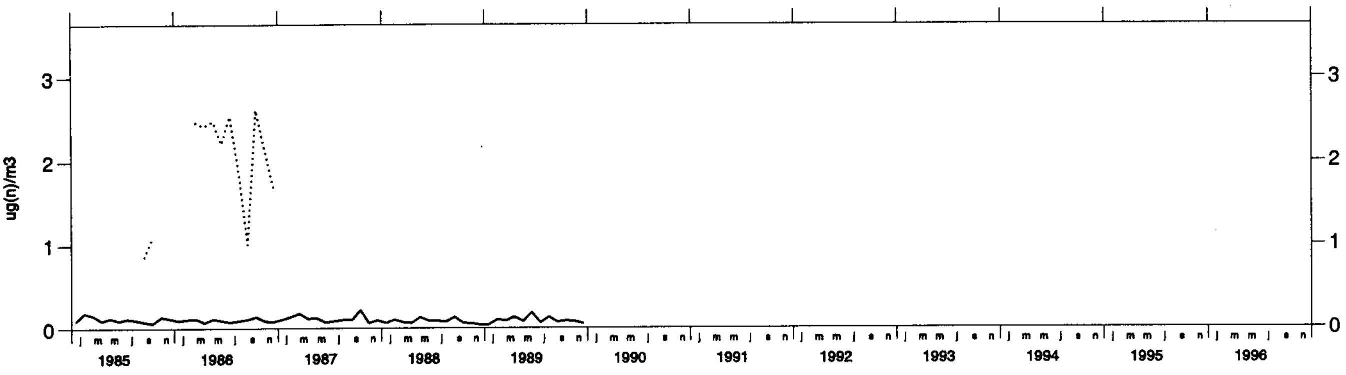
·········· observed	mean = 0.21	std = 0.32		
——— modelled	mean = 0.15	std = 0.24	correlation =	0.38



Bjoernoeya (NO 37)

Concentration of ammonia + ammonium in air

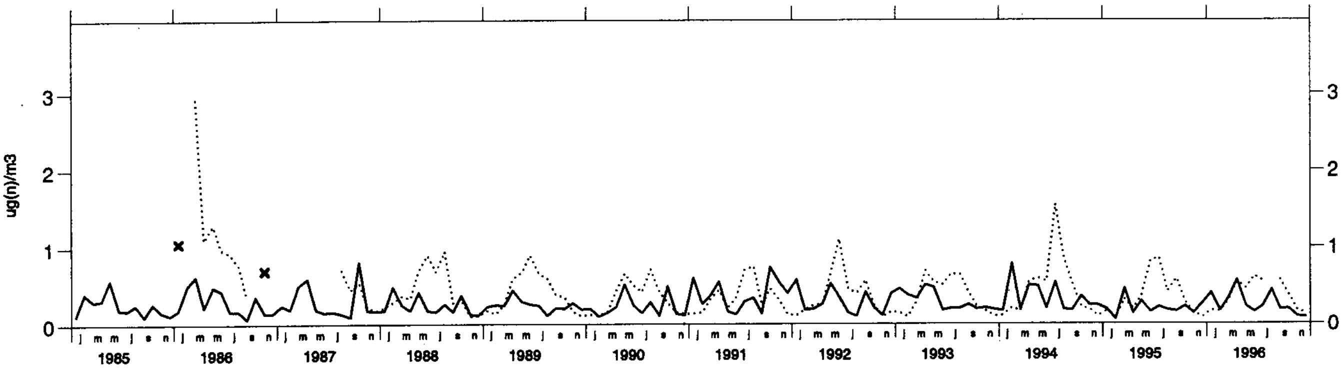
.... observed mean = 1.95 std = 1.43
——— modelled mean = 0.09 std = 0.13 correlation = -0.01



Kaarvatn (NO 39)

Concentration of ammonia + ammonium in air

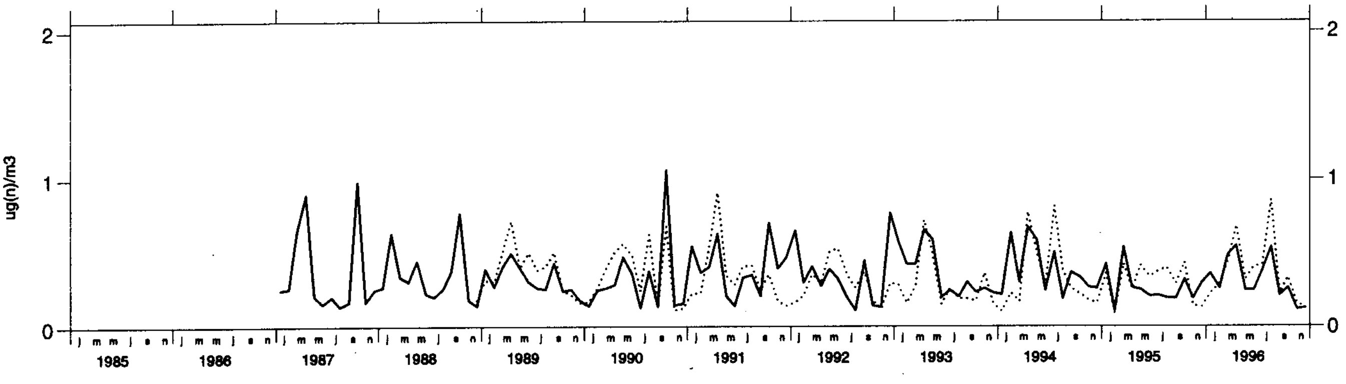
.... observed mean = 0.47 std = 0.62
——— modelled mean = 0.28 std = 0.51 correlation = 0.26



Osen (NO 41)

Concentration of ammonia + ammonium in air

.... observed mean = 0.34 std = 0.47
——— modelled mean = 0.34 std = 0.58 correlation = 0.51

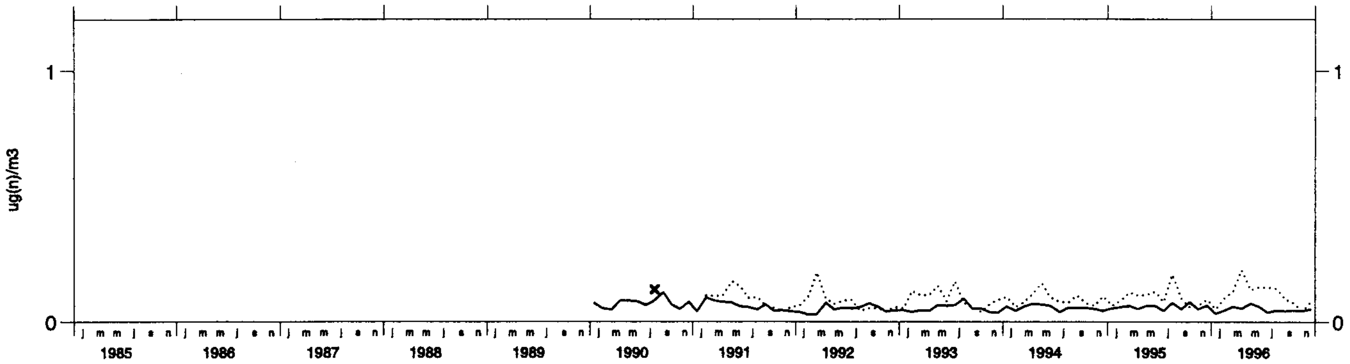


Spitzbergen,Z (NO 42)

Concentration of ammonia + ammonium in air

.... observed mean = 0.09 std = 0.07

———— modelled mean = 0.06 std = 0.05 correlation = 0.14

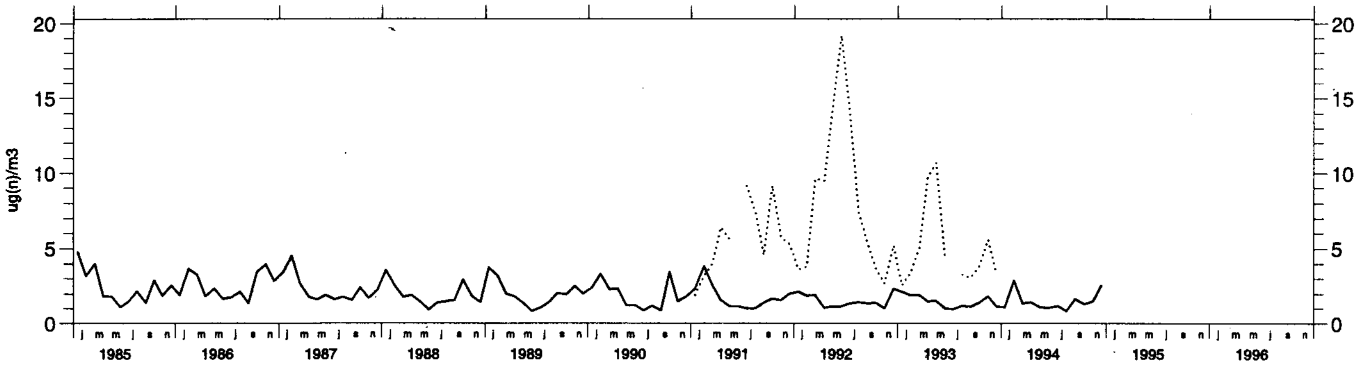


Suwalki (PL 1)

Concentration of ammonia + ammonium in air

.... observed mean = 6.37 std = 5.84

———— modelled mean = 1.60 std = 1.72 correlation = 0.01

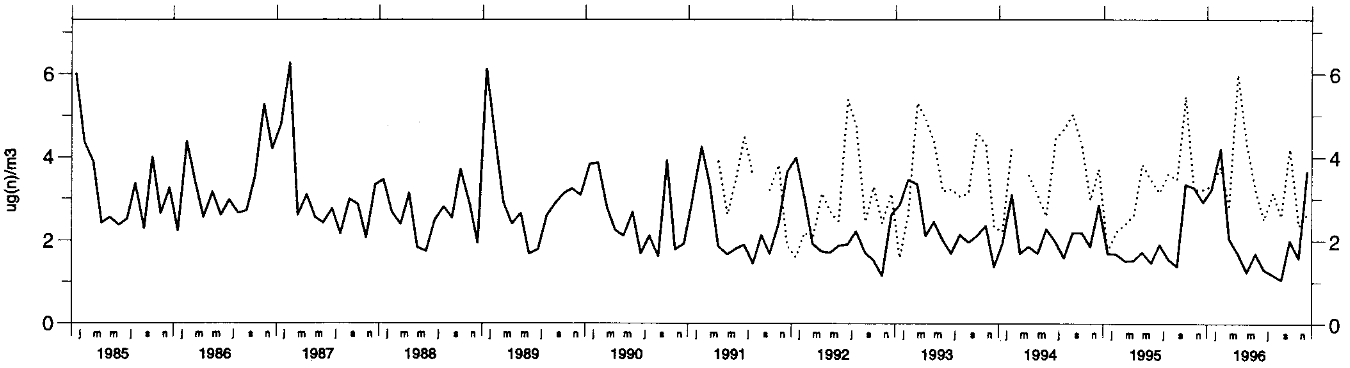


Jarczew (PL 2)

Concentration of ammonia + ammonium in air

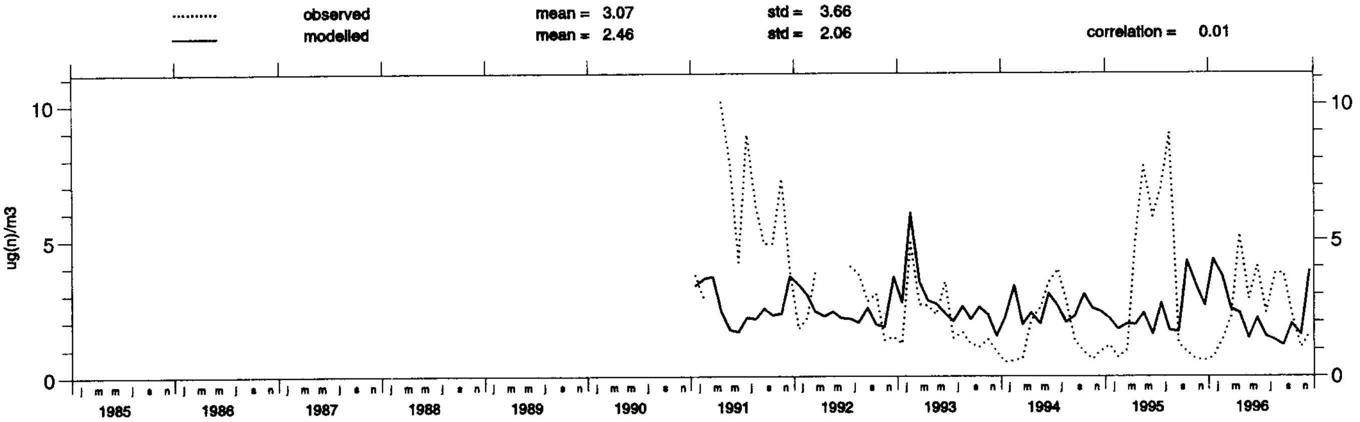
.... observed mean = 3.42 std = 2.13

———— modelled mean = 2.14 std = 1.77 correlation = 0.25



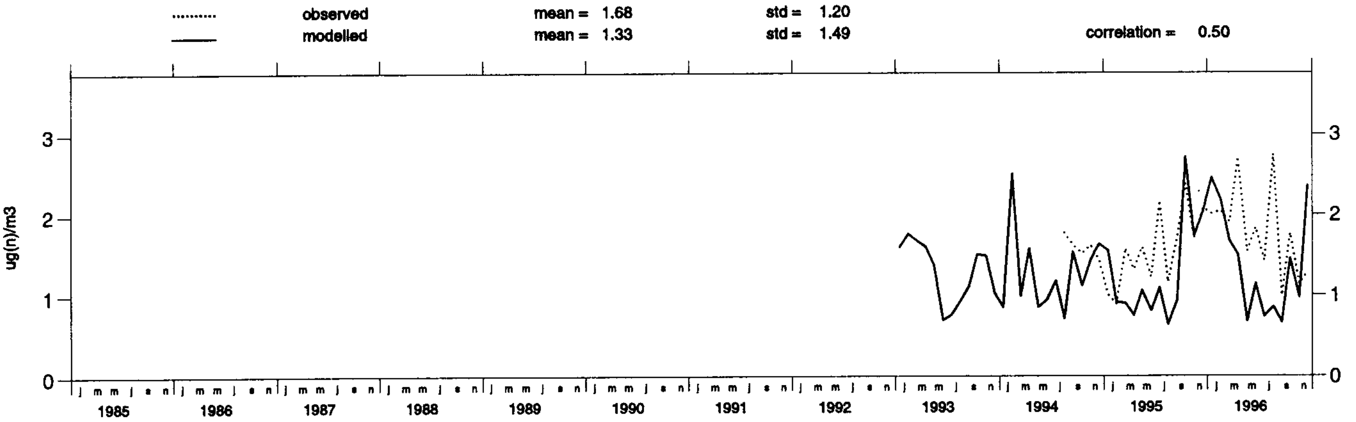
Sniezka (PL 3)

Concentration of ammonia + ammonium in air



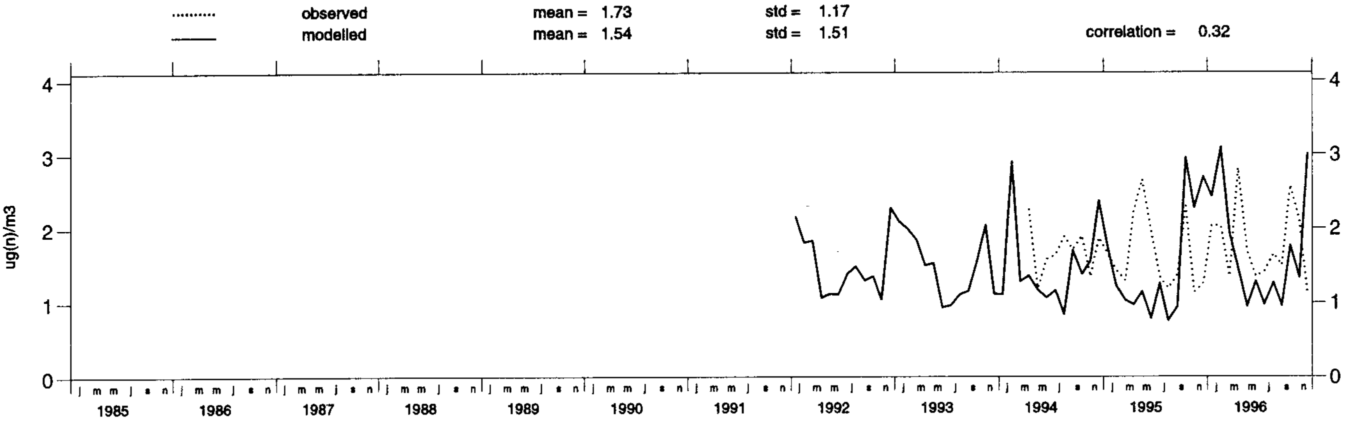
Leba (PL 4)

Concentration of ammonia + ammonium in air



Diabla Gora (PL 5)

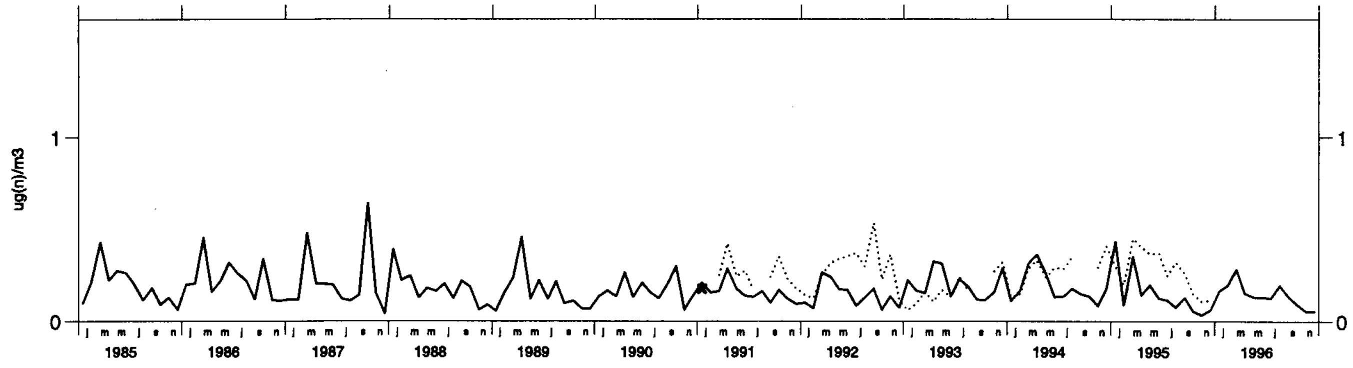
Concentration of ammonia + ammonium in air



Janiskoski (RU 1)

Concentration of ammonia + ammonium in air

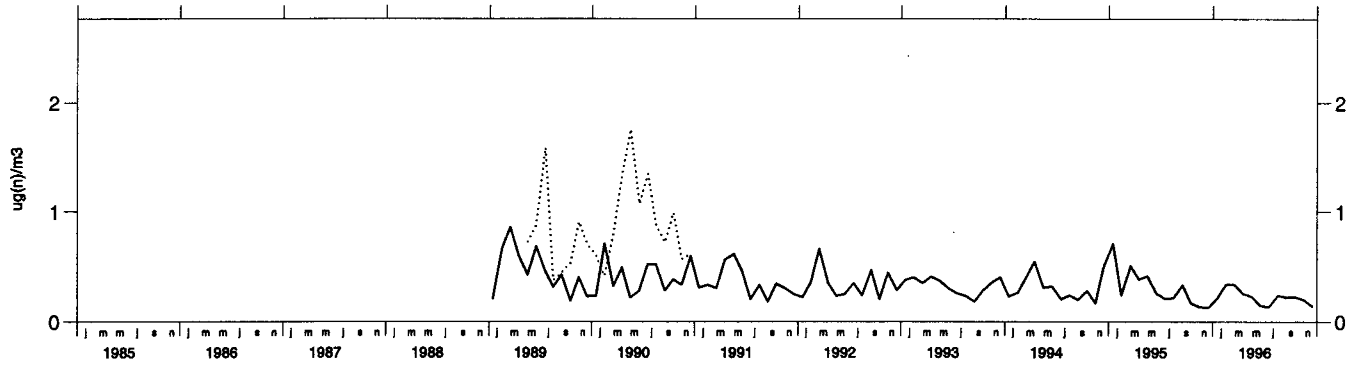
....	observed	mean = 0.26	std = 0.25	
———	modelled	mean = 0.17	std = 0.24	correlation = 0.27



Pinega (RU 13)

Concentration of ammonia + ammonium in air

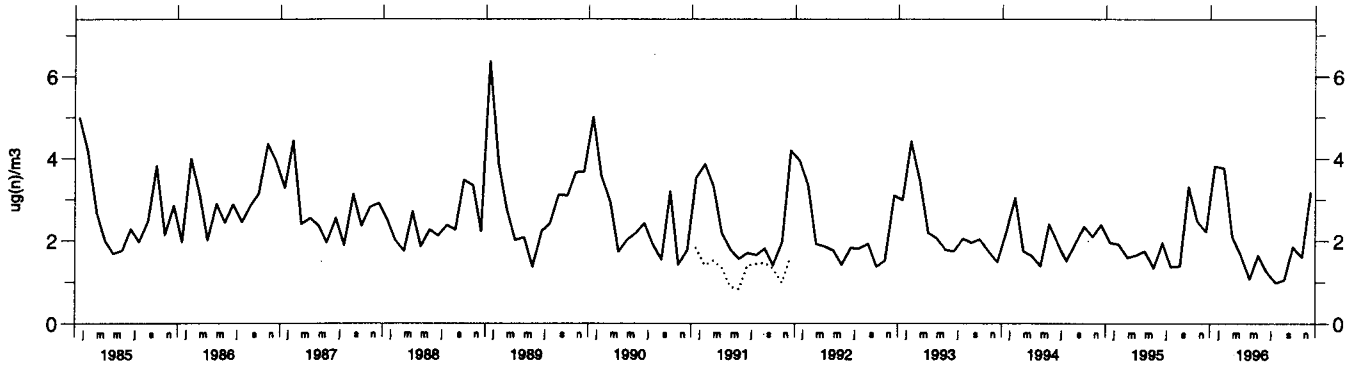
....	observed	mean = 0.87	std = 0.97	
———	modelled	mean = 0.41	std = 0.45	correlation = −0.16



Chopok (SK 2)

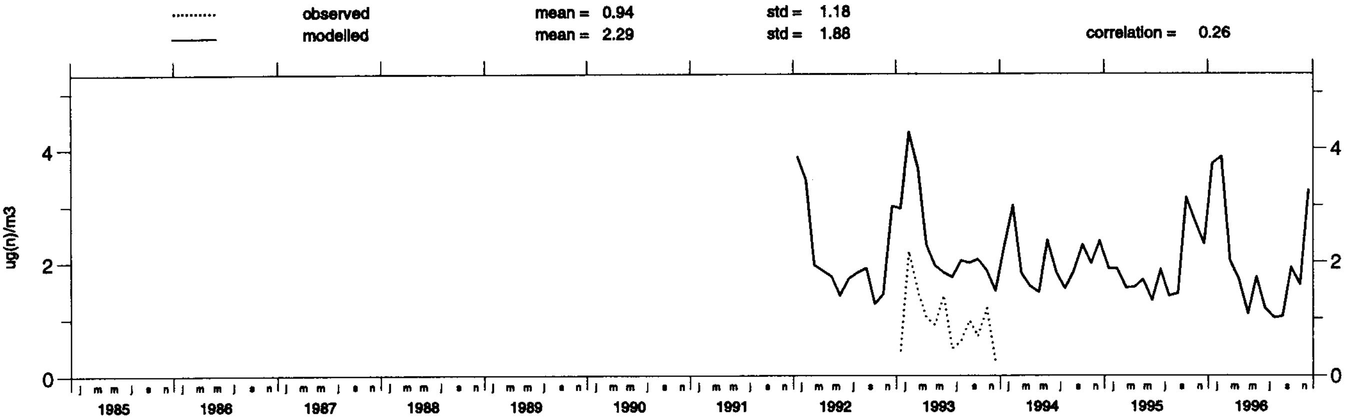
Concentration of ammonia + ammonium in air

....	observed	mean = 1.34	std = 1.34	
———	modelled	mean = 2.40	std = 2.26	correlation = 0.11



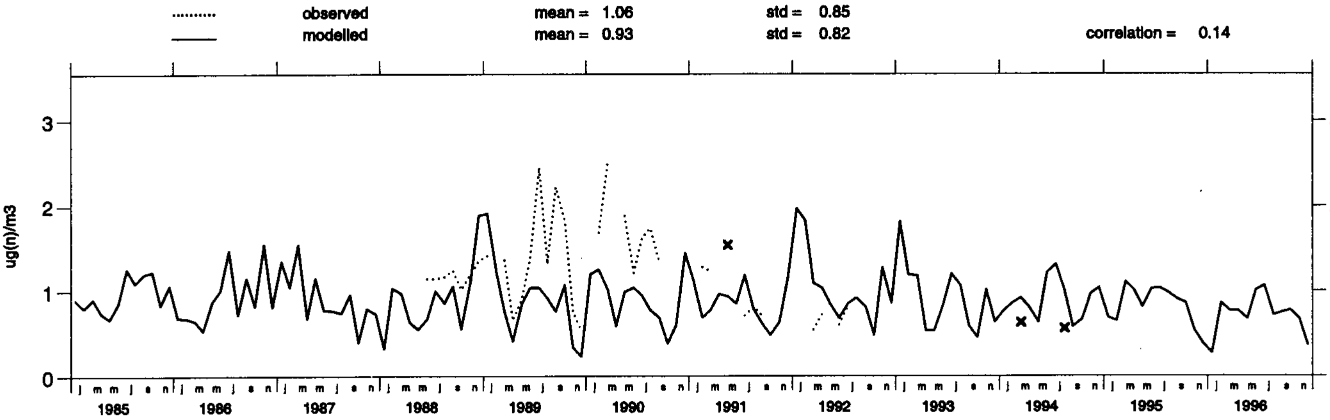
Stara Lesna (SK 4)

Concentration of ammonia + ammonium in air



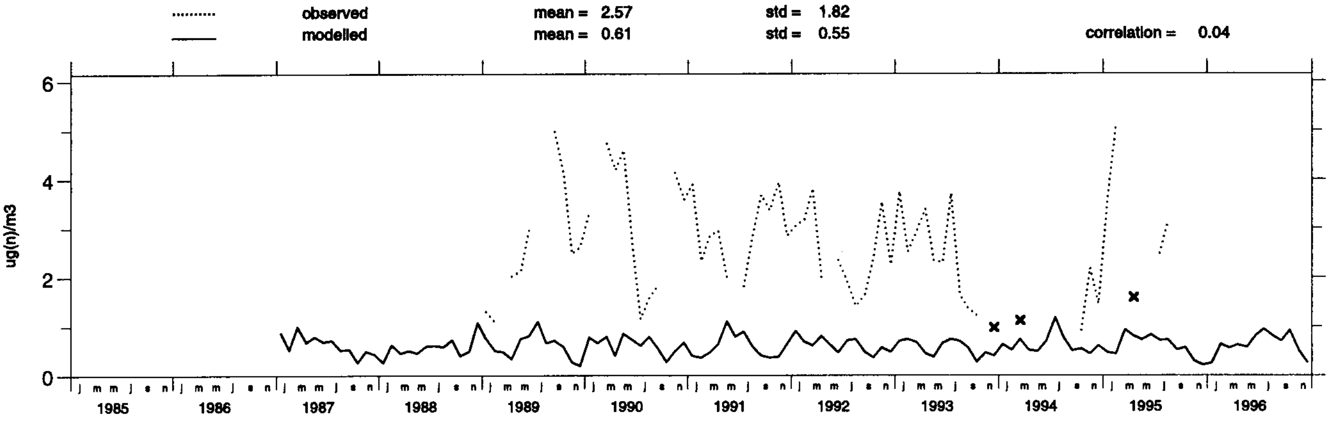
Toledo (ES 1)

Concentration of ammonia + ammonium in air



La_Cartuja (ES 2)

Concentration of ammonia + ammonium in air

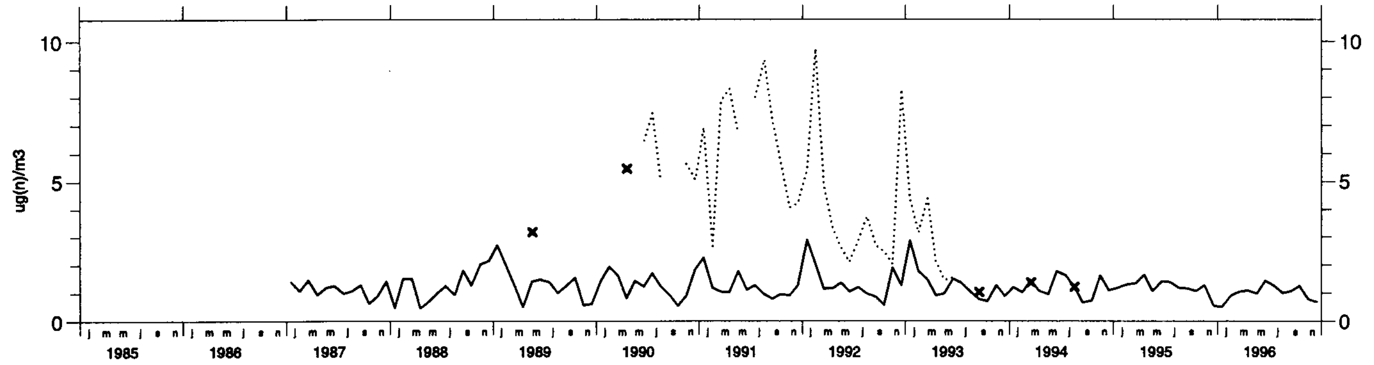


Roquetas (ES 3)

Concentration of ammonia + ammonium in air

.... observed mean = 4.33 std = 4.02

——— modelled mean = 1.29 std = 1.18 correlation = 0.08

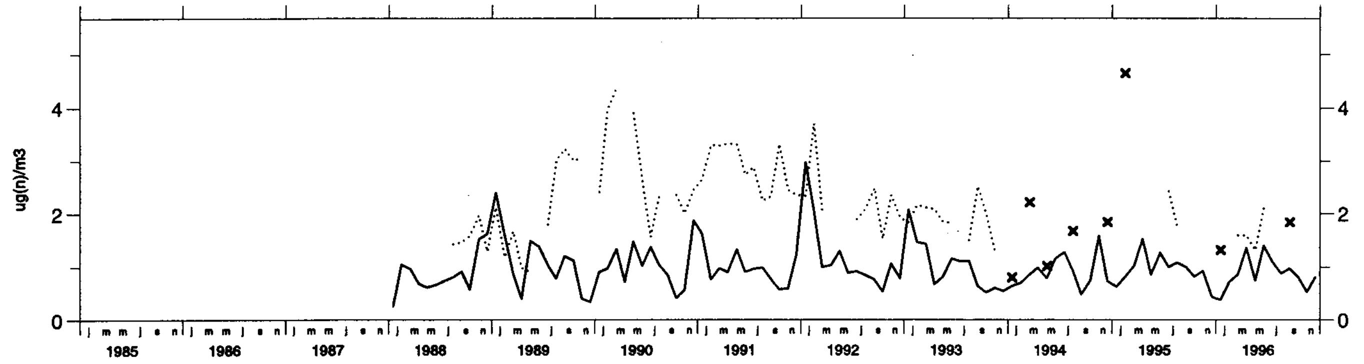


Logrono (ES 4)

Concentration of ammonia + ammonium in air

.... observed mean = 2.27 std = 1.80

——— modelled mean = 1.02 std = 1.06 correlation = 0.09

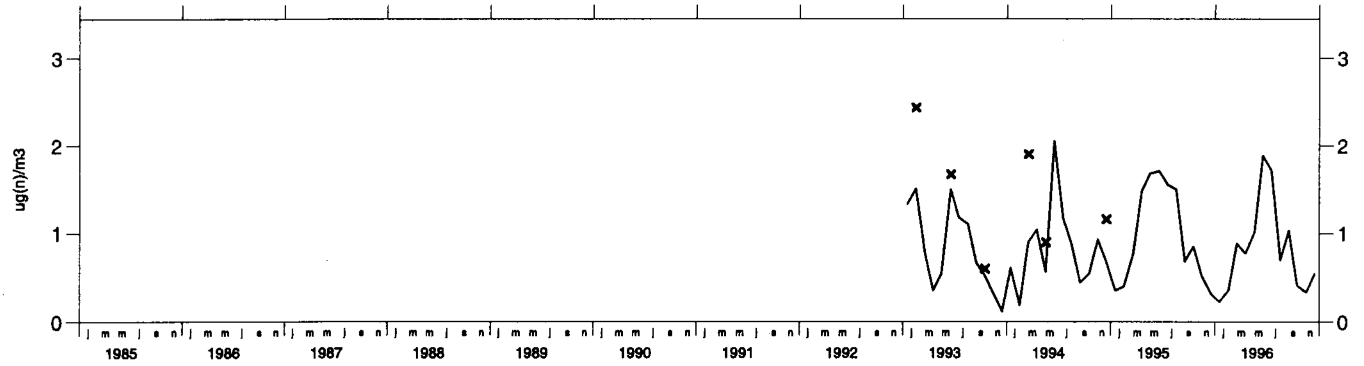


Noio (ES 5)

Concentration of ammonia + ammonium in air

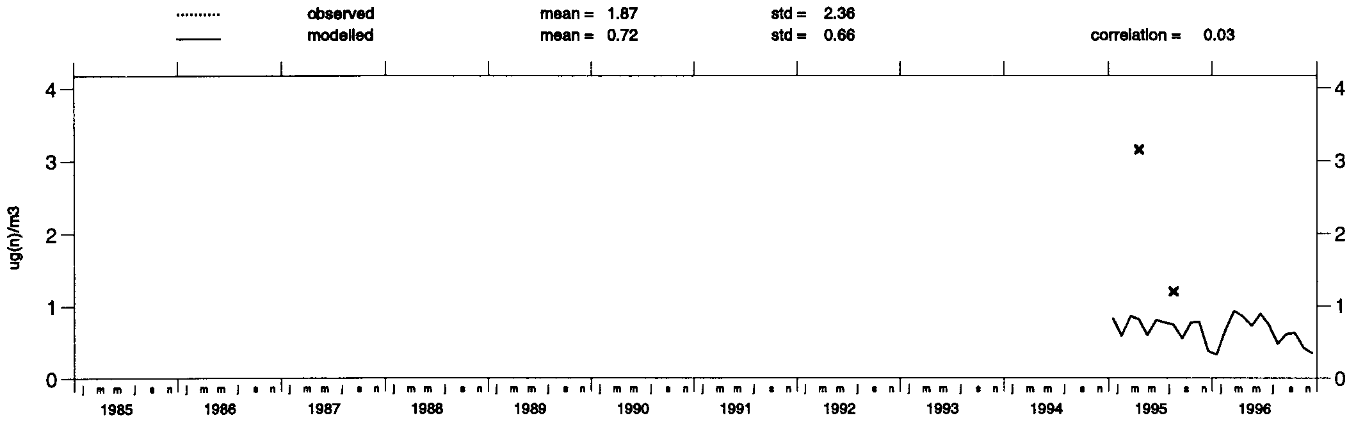
.... observed mean = 1.27 std = 1.25

——— modelled mean = 1.04 std = 1.23 correlation = 0.22



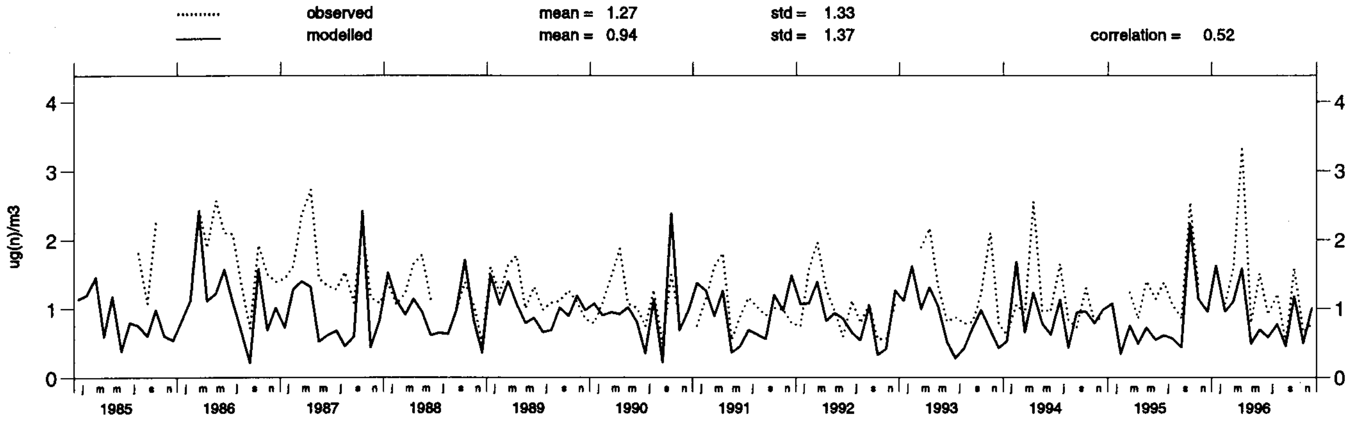
Mahon (ES 6)

Concentration of ammonia + ammonium in air



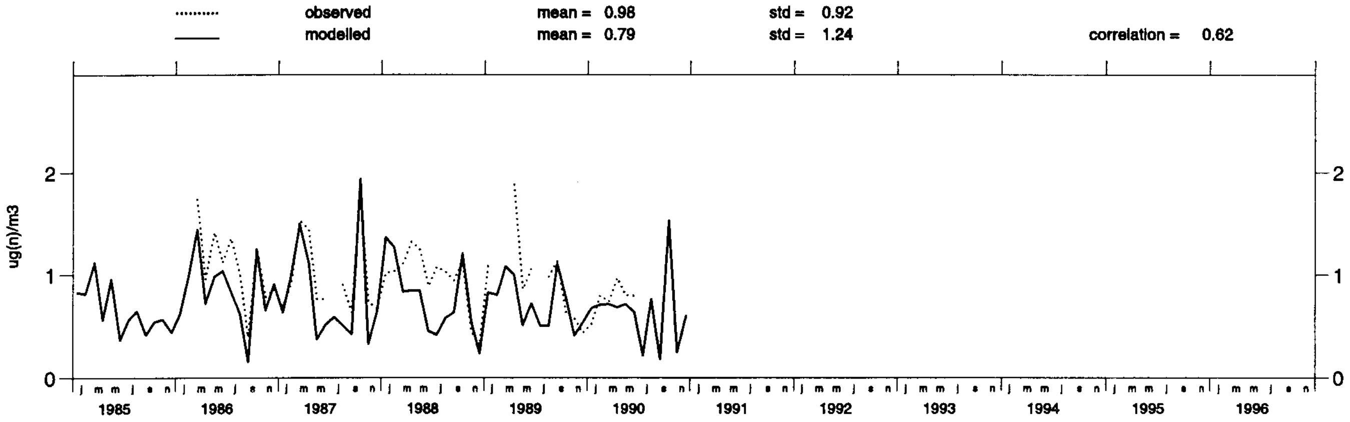
Roervik (SE 2)

Concentration of ammonia + ammonium in air



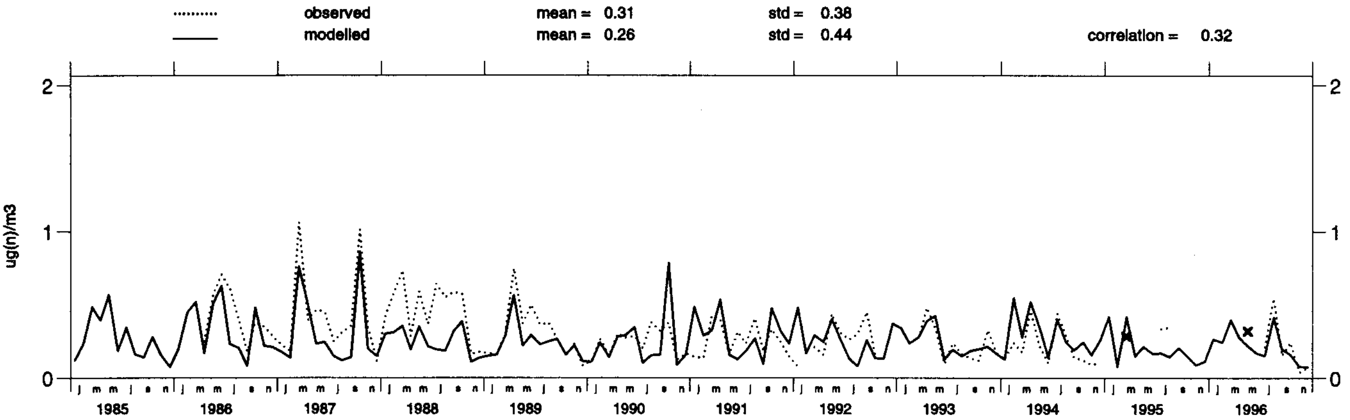
Velen (SE 3)

Concentration of ammonia + ammonium in air



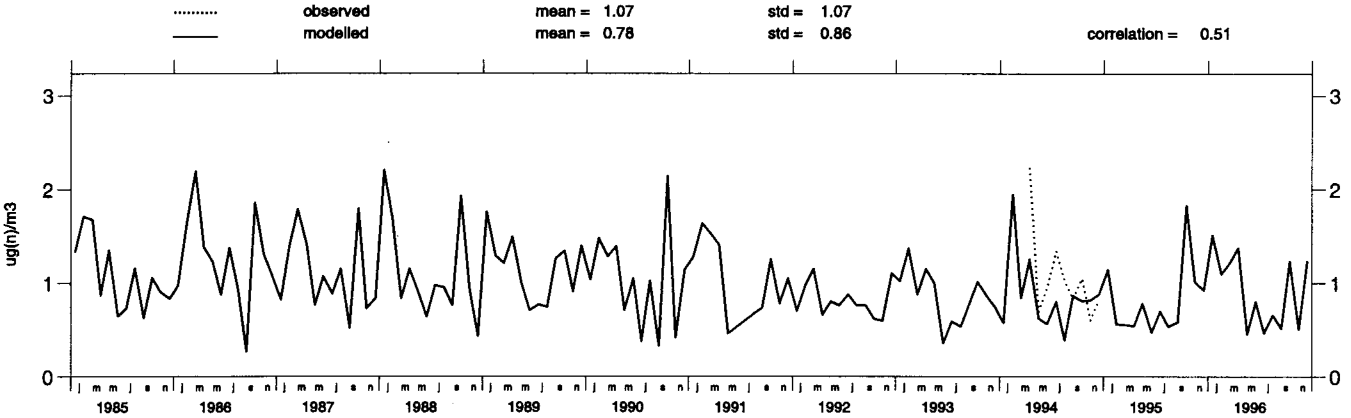
Bredkelen (SE 5)

Concentration of ammonia + ammonium in air



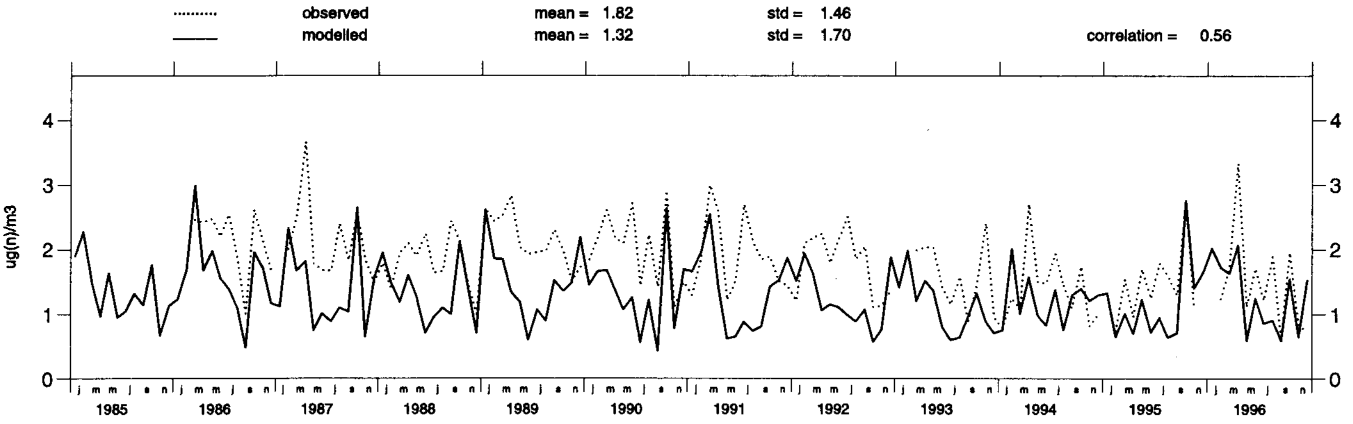
Hoburg (SE 8)

Concentration of ammonia + ammonium in air



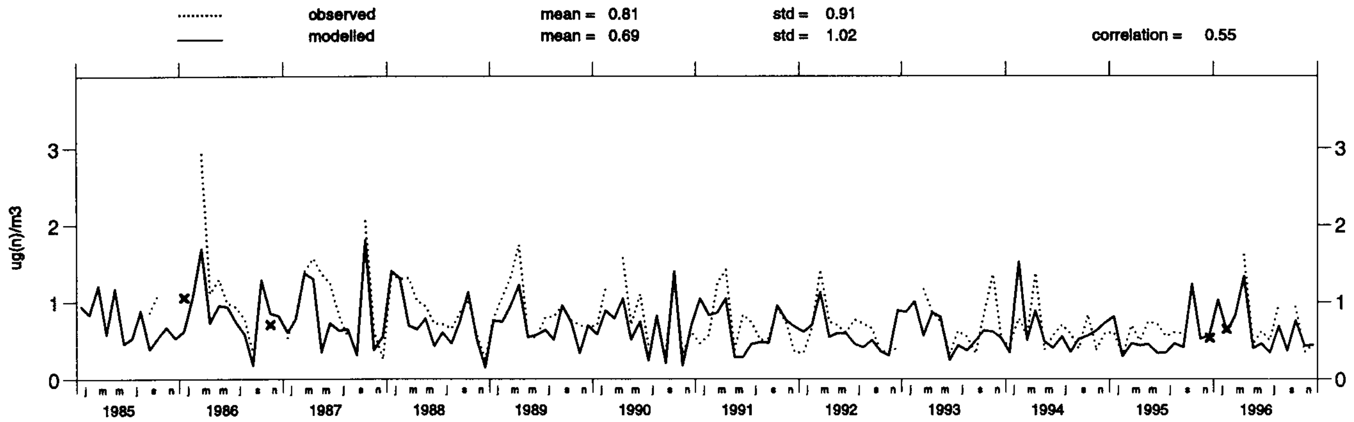
Vavihill (SE 11)

Concentration of ammonia + ammonium in air



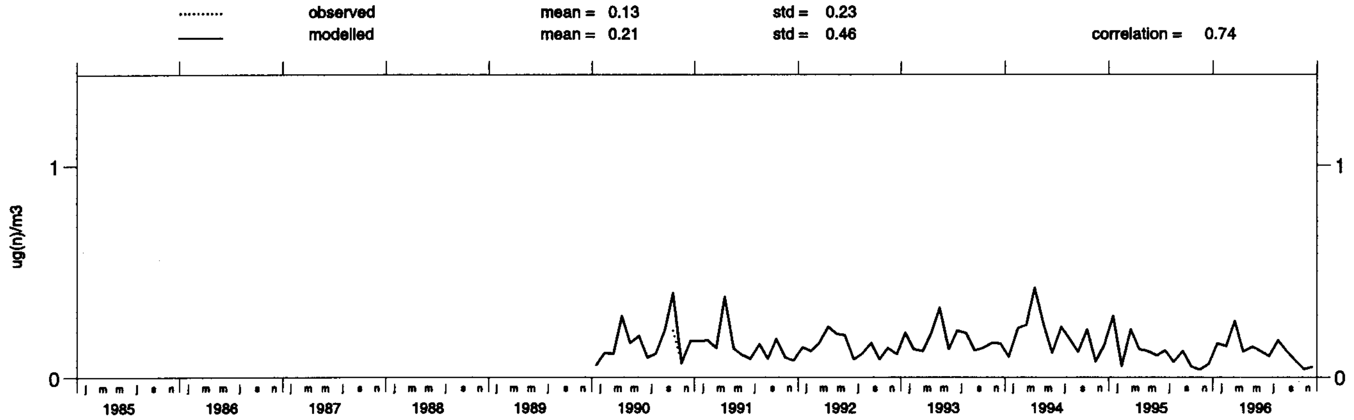
Aspvreten (SE 12)

Concentration of ammonia + ammonium in air



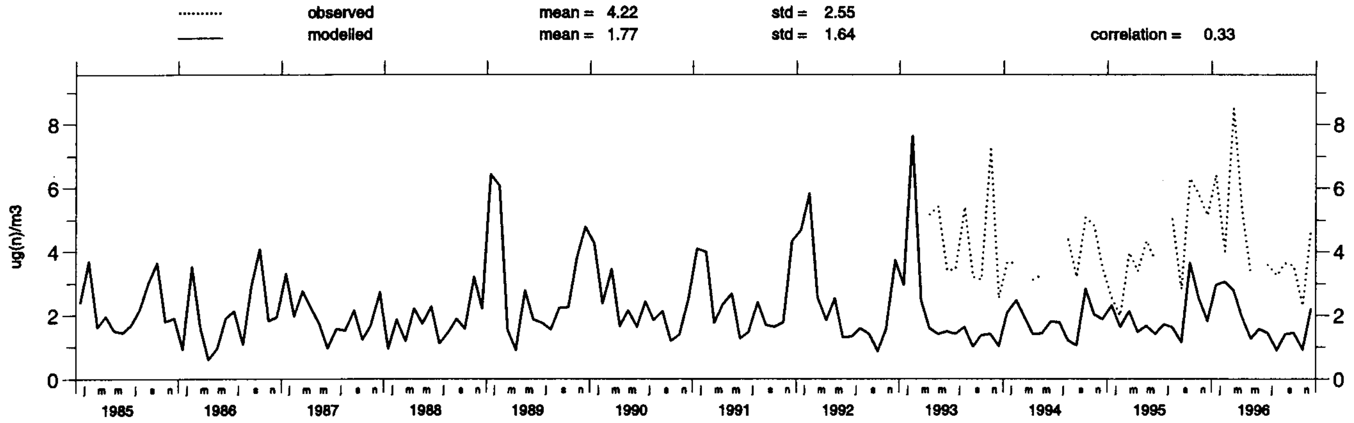
Esrange (SE 13)

Concentration of ammonia + ammonium in air



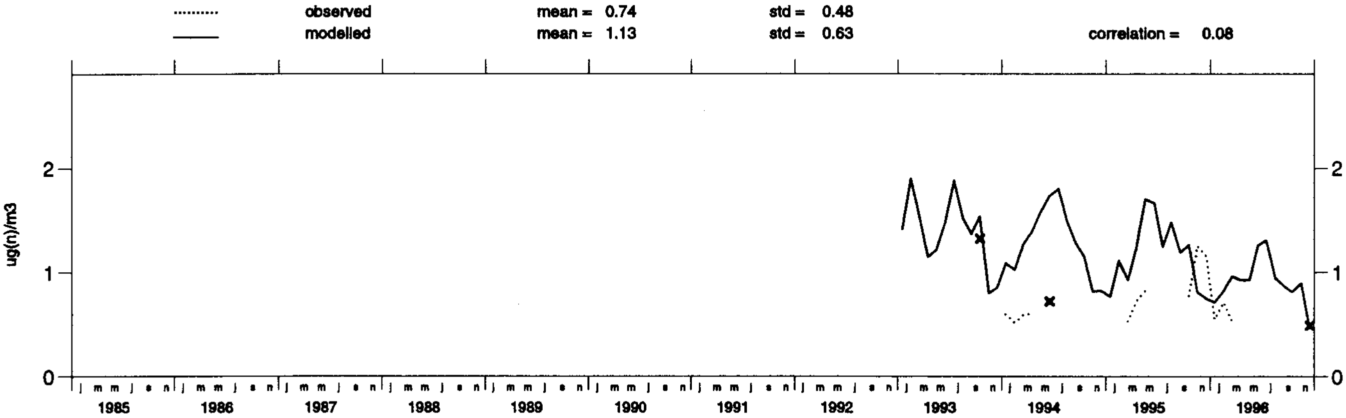
Payerne (CH 2)

Concentration of ammonia + ammonium in air



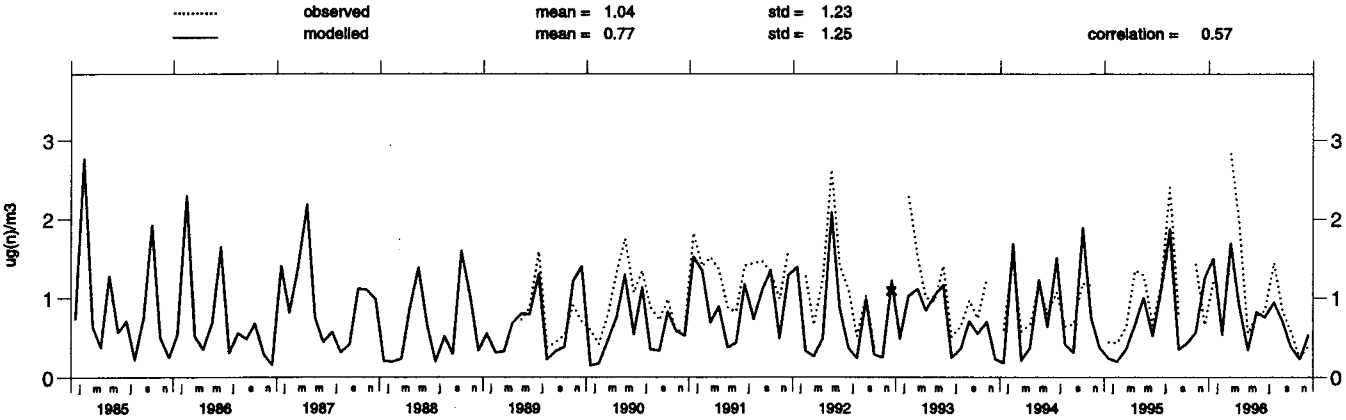
Cubuk11 (TR 1)

Concentration of ammonia + ammonium in air



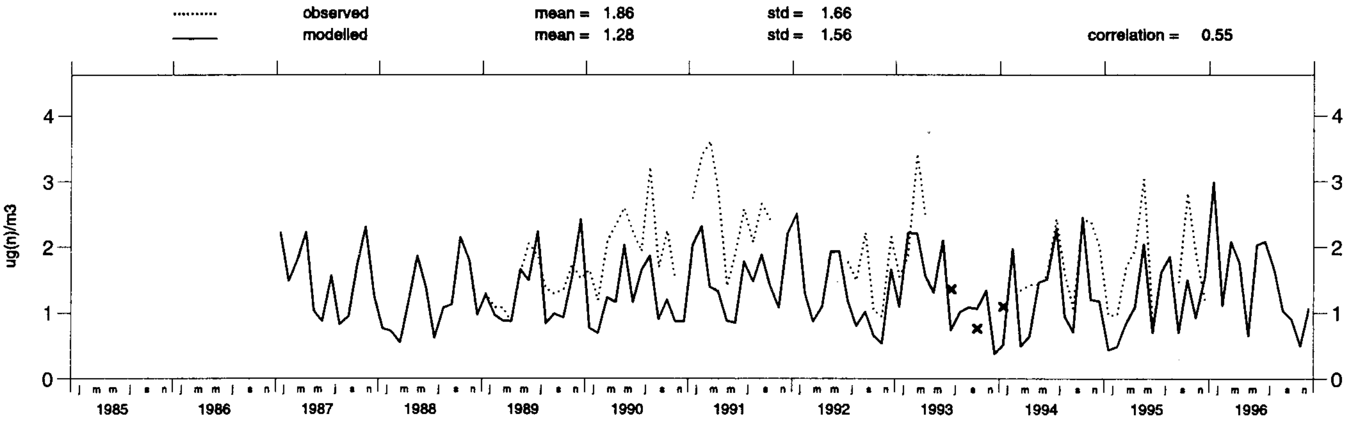
Eskdalemuir (GB 2)

Concentration of ammonia + ammonium in air



High_Muffles (GB 14)

Concentration of ammonia + ammonium in air



Time series for concentration of Sulphate in precipitation

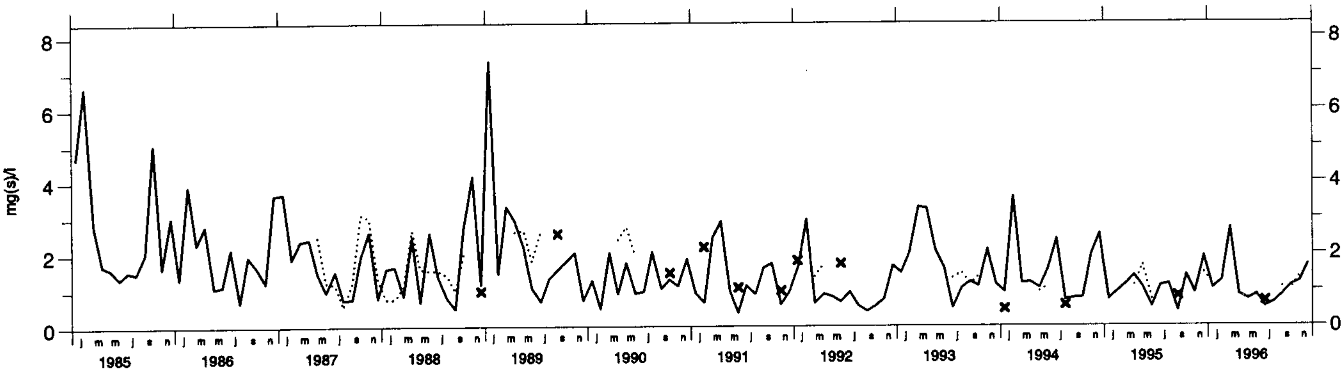
Period: 1985-96

Illmitz (AT 2)

Concentration of sulphate in precipitation

.... observed mean = 1.42 std = 2.10

—— modelled mean = 1.01 std = 1.18 correlation = 0.18

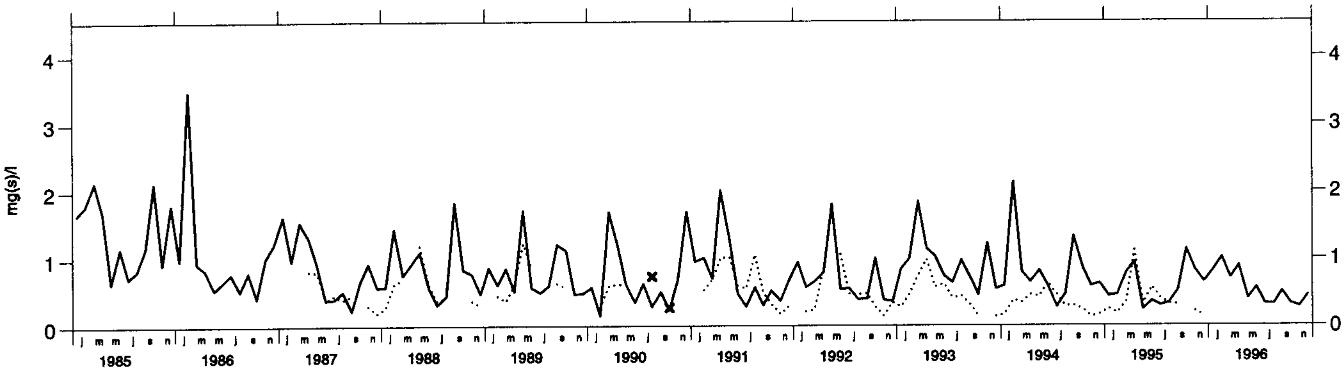


Achenkirch (AT 3)

Concentration of sulphate in precipitation

.... observed mean = 0.51 std = 0.47

—— modelled mean = 0.66 std = 0.82 correlation = 0.15

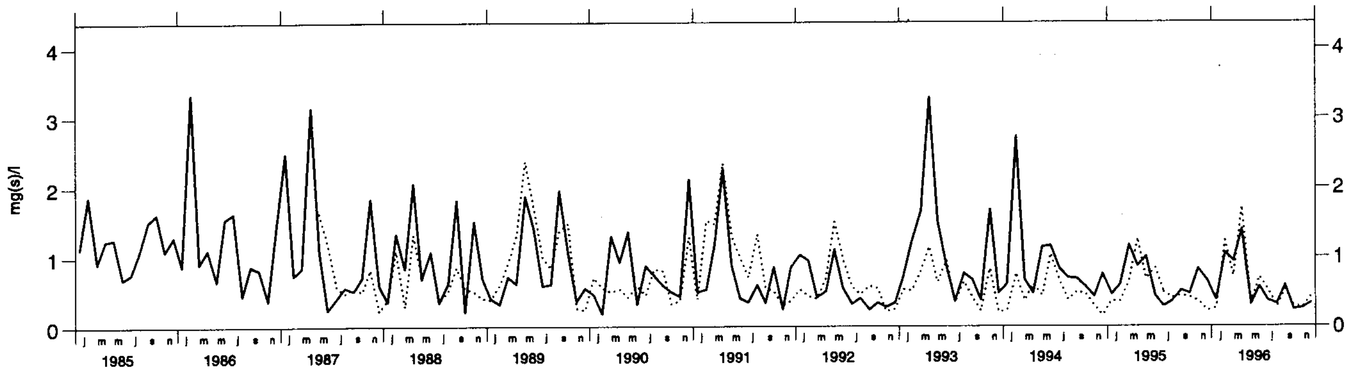


St.Koloman (AT 4)

Concentration of sulphate in precipitation

.... observed mean = 0.68 std = 0.70

—— modelled mean = 0.69 std = 1.16 correlation = 0.33

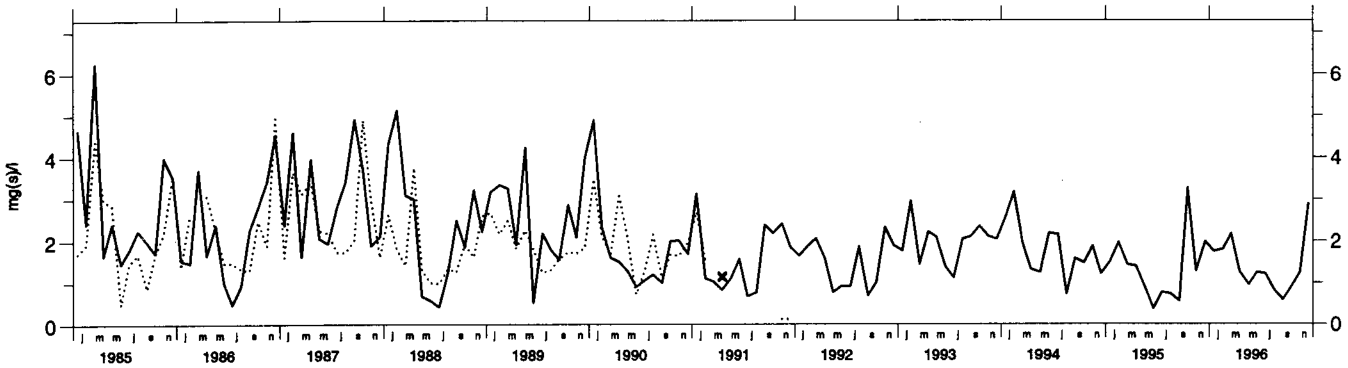


Vysokoe (BY 4)

Concentration of sulphate in precipitation

.... observed mean = 1.71 std = 1.76

______ modelled mean = 2.04 std = 2.43 correlation = 0.22

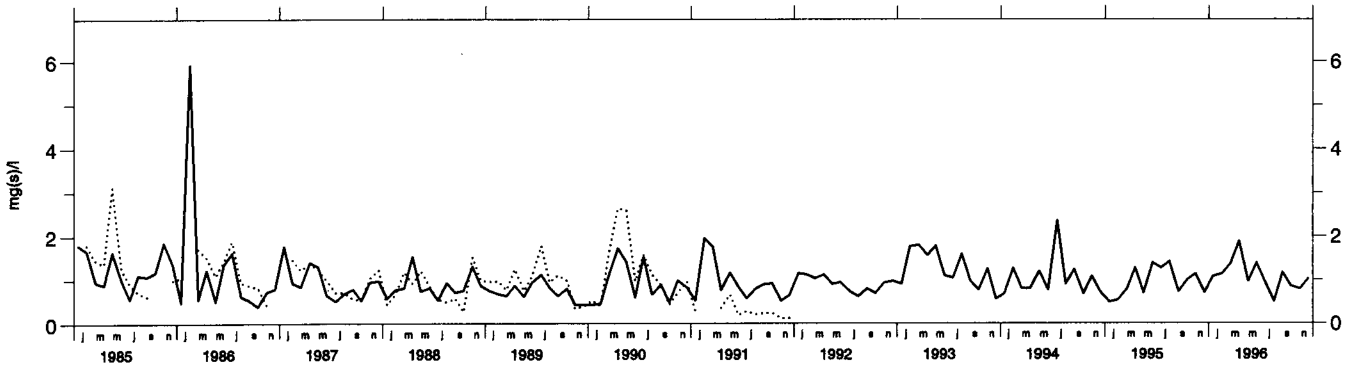


Offagne (BE 1)

Concentration of sulphate in precipitation

.... observed mean = 0.84 std = 0.87

______ modelled mean = 0.77 std = 0.71 correlation = 0.25

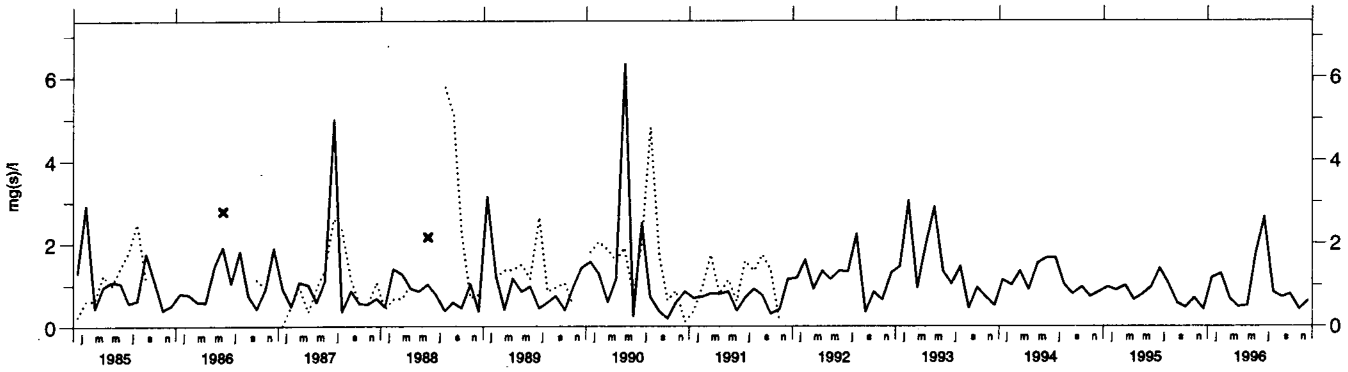


Ivan_Sedlo (BA 6)

Concentration of sulphate in precipitation

.... observed mean = 1.18 std = 1.09

______ modelled mean = 0.77 std = 1.08 correlation = 0.10

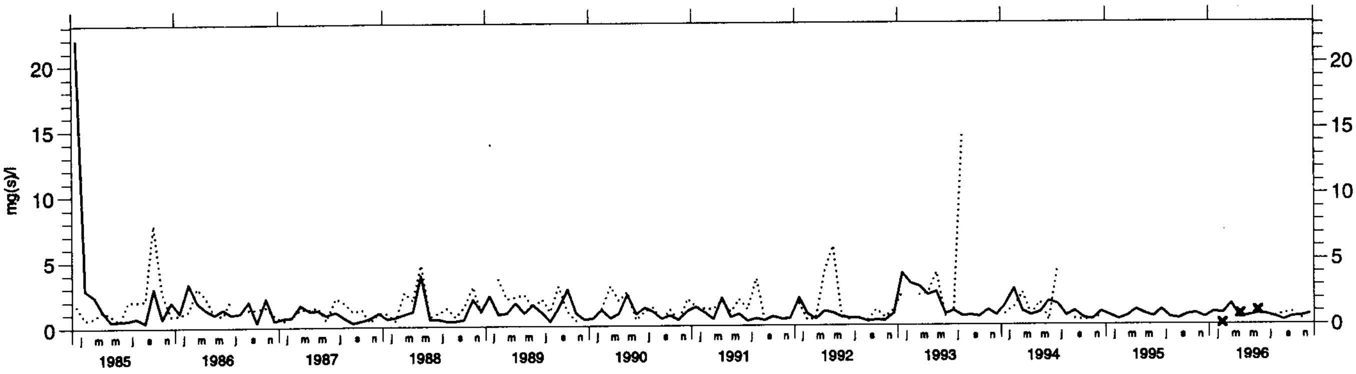


Puntijarka (HR 2)

Concentration of sulphate in precipitation

.... observed mean = 1.38 std = 3.30

——— modelled mean = 0.91 std = 1.85 correlation = 0.03

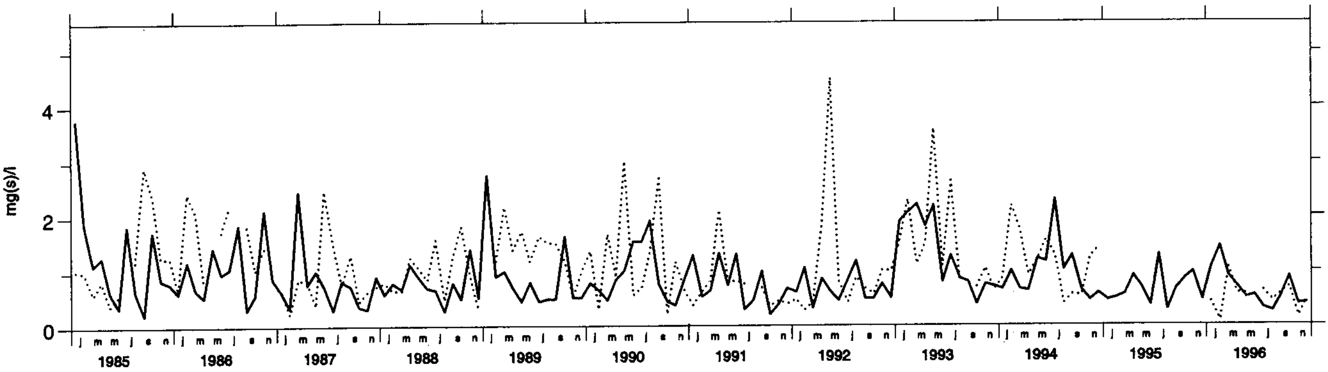


Zavizan (HR 4)

Concentration of sulphate in precipitation

.... observed mean = 0.97 std = 1.09

——— modelled mean = 0.73 std = 0.88 correlation = 0.12

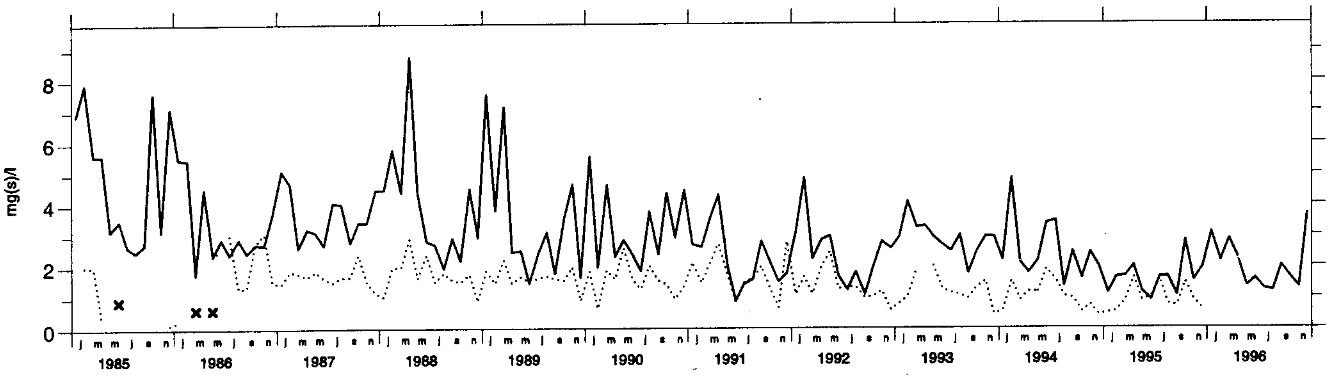


Svratouch (CS 1)

Concentration of sulphate in precipitation

.... observed mean = 1.33 std = 0.99

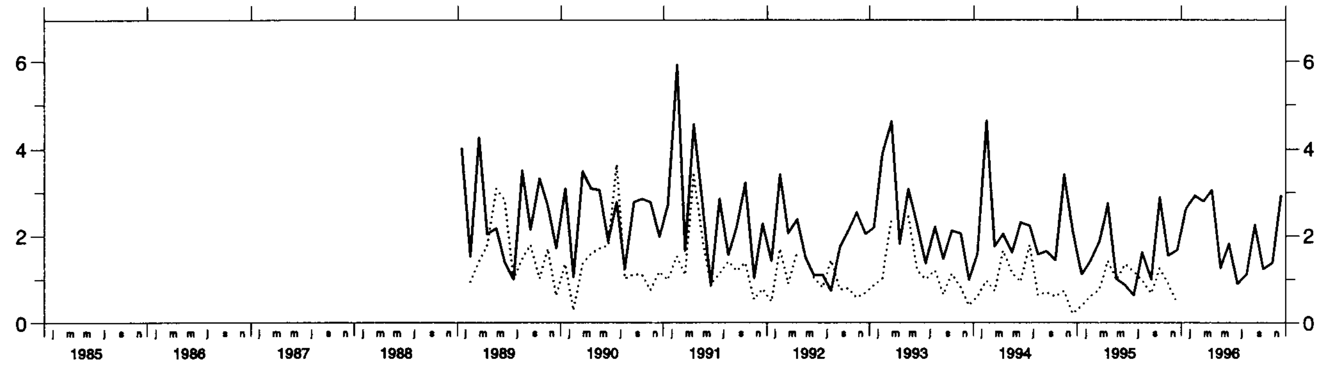
——— modelled mean = 2.68 std = 2.53 correlation = 0.31



Kosetice (CS 3)

Concentration of sulphate in precipitation

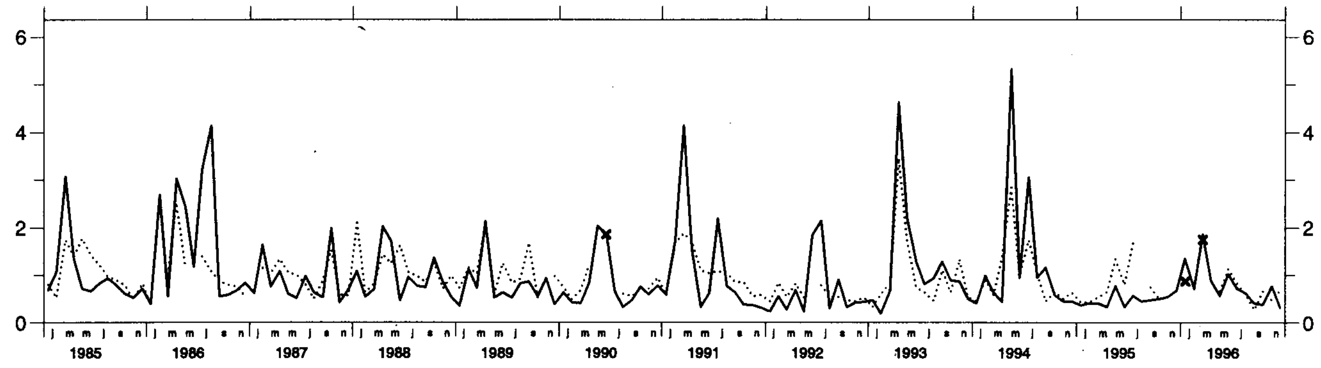
....	observed	mean = 1.11	std = 1.01	
———	modelled	mean = 1.92	std = 1.94	correlation = 0.34



Tange (DK 3)

Concentration of sulphate in precipitation

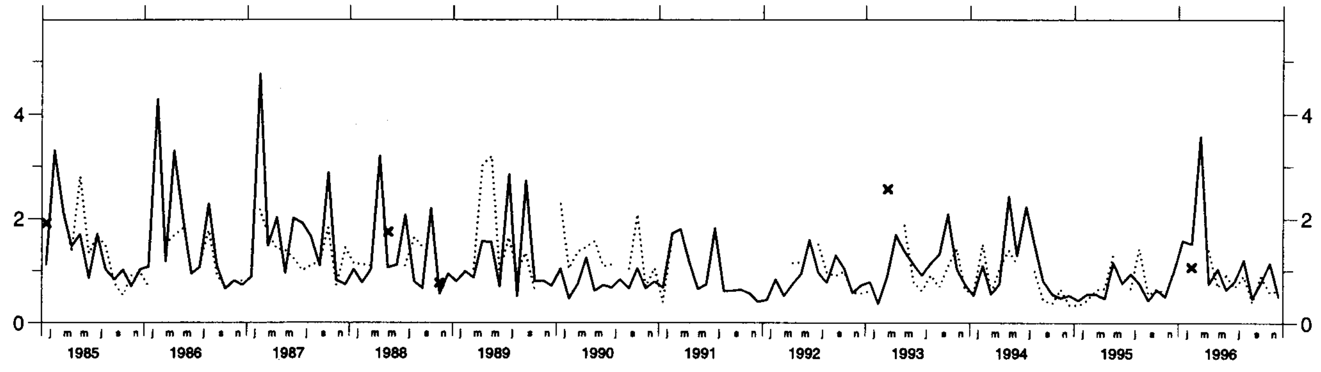
....	observed	mean = 0.84	std = 0.92	
———	modelled	mean = 0.78	std = 1.18	correlation = 0.49



Keldsnor (DK 5)

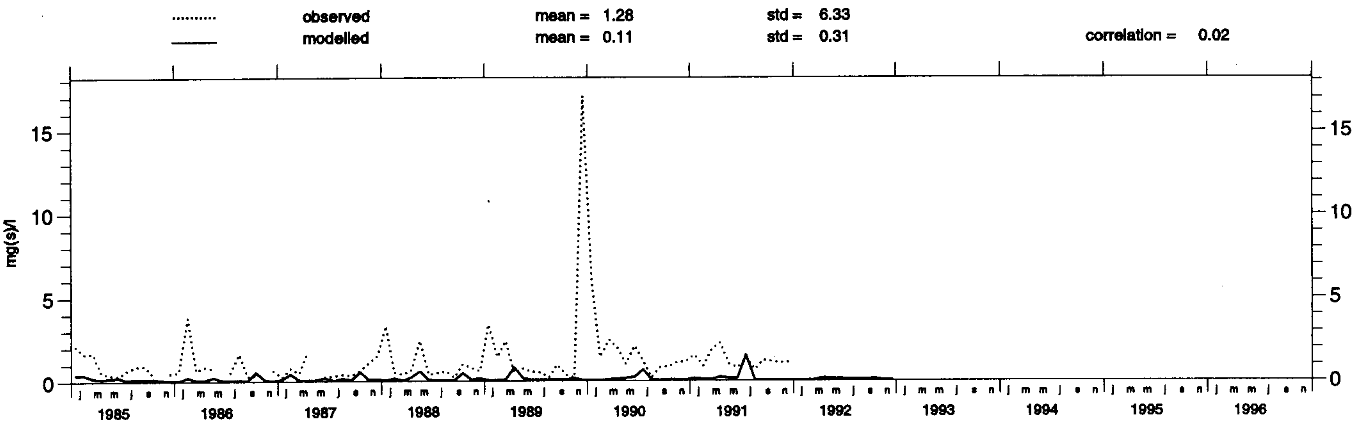
Concentration of sulphate in precipitation

....	observed	mean = 1.04	std = 1.04	
———	modelled	mean = 1.06	std = 1.59	correlation = 0.35



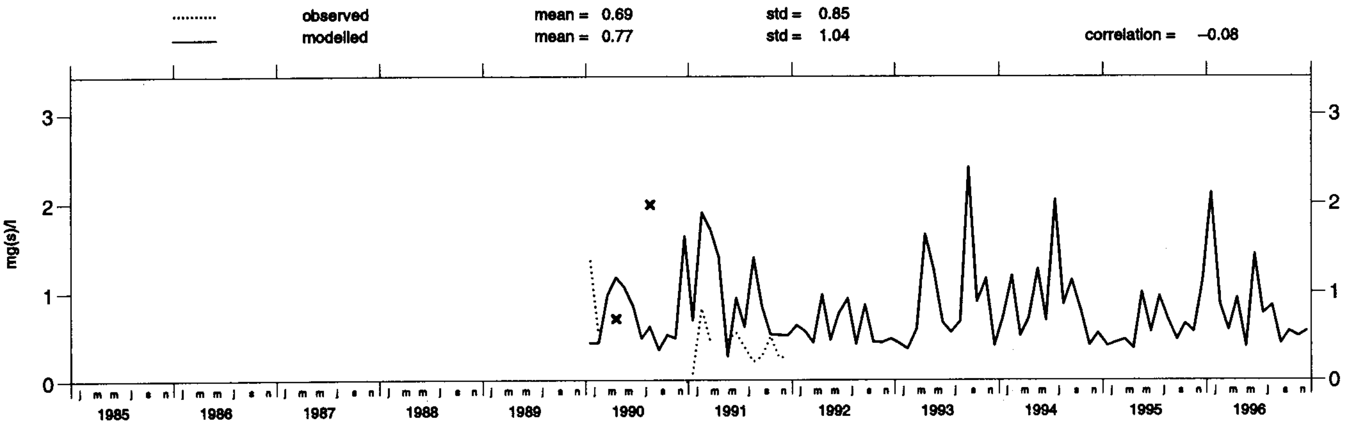
Faer.–Akraberg (DK 7)

Concentration of sulphate in precipitation



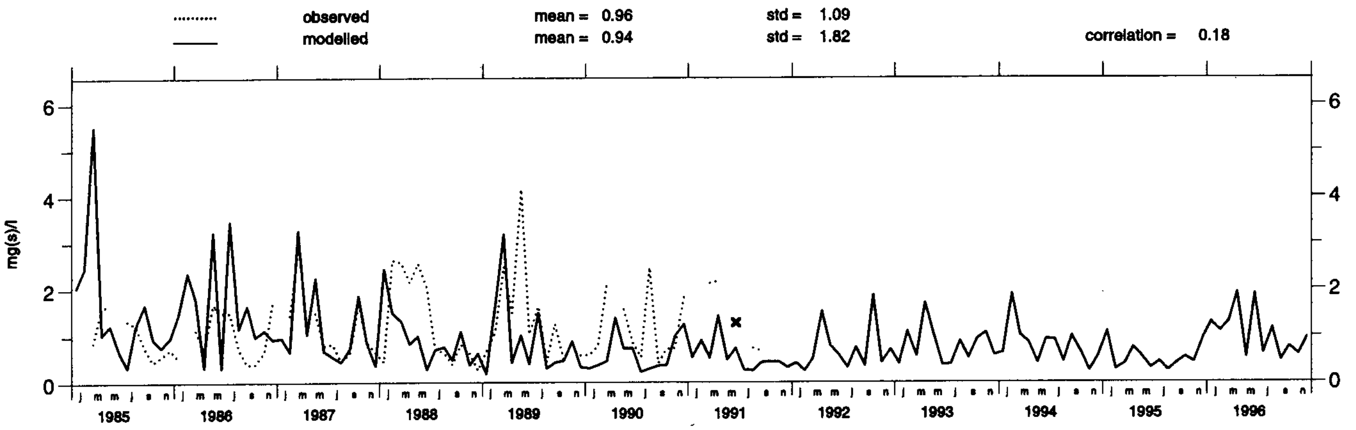
Anholt (DK 8)

Concentration of sulphate in precipitation



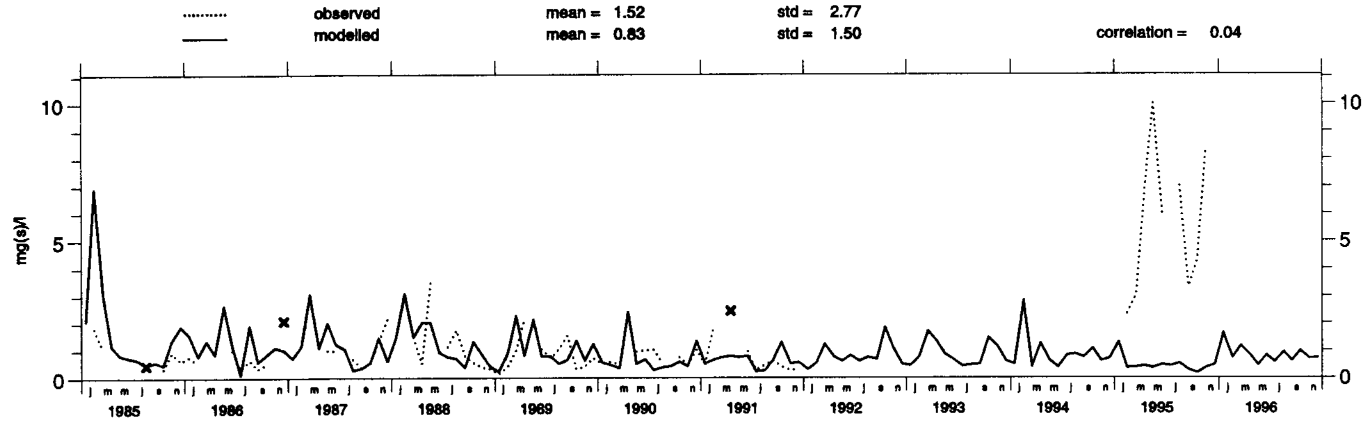
Syrve (EE 2)

Concentration of sulphate in precipitation



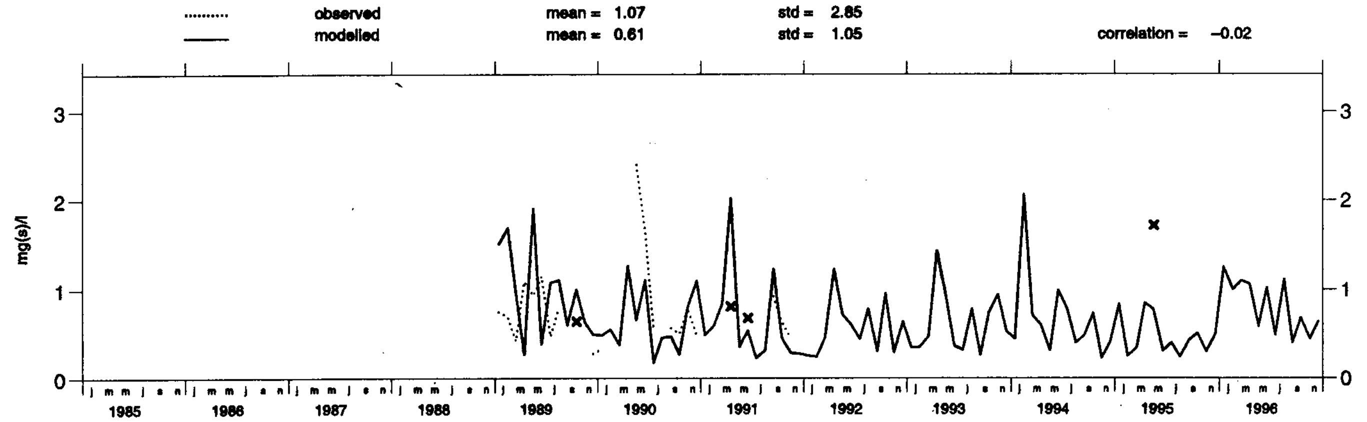
Lahemaa (EE 9)

Concentration of sulphate in precipitation



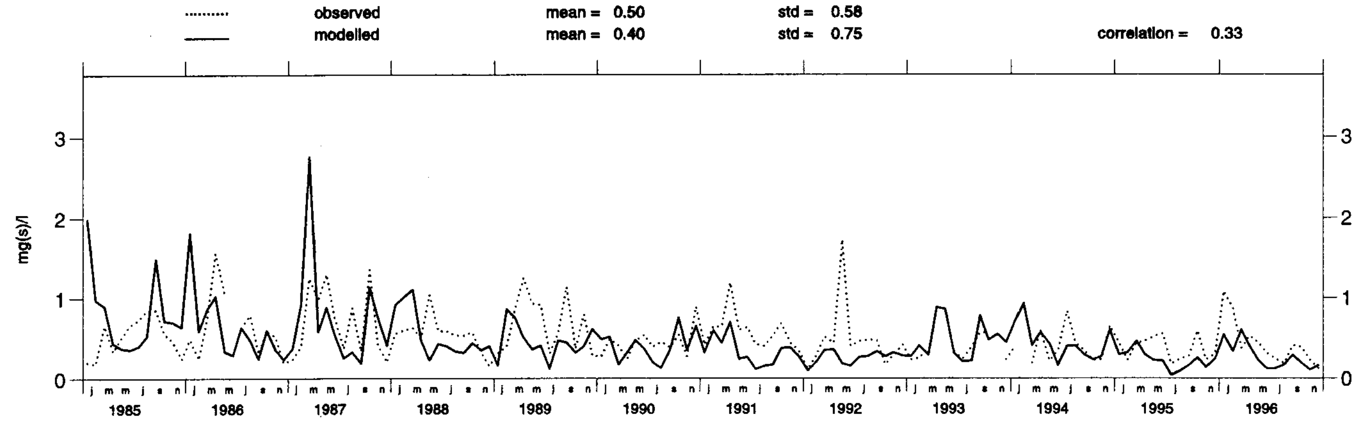
Vilsandy (EE 11)

Concentration of sulphate in precipitation



Athari (FI 4)

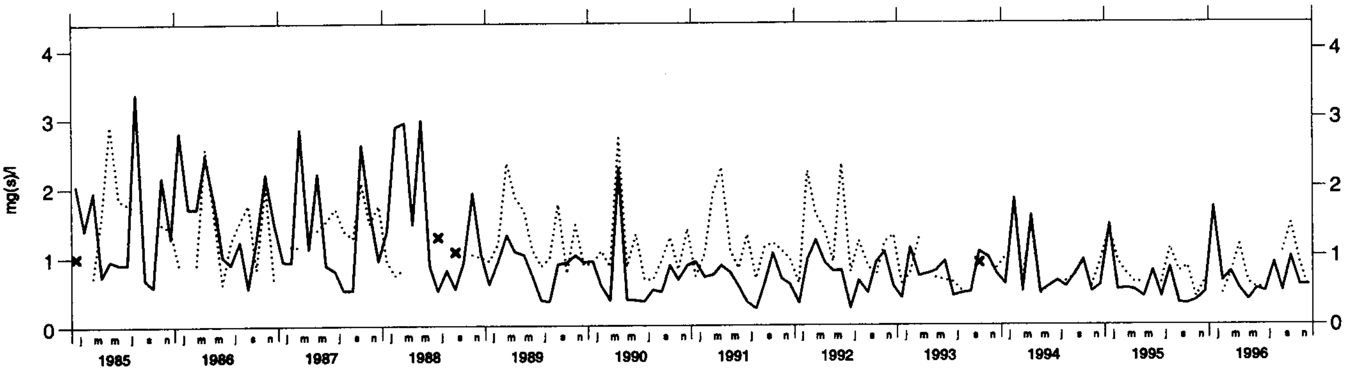
Concentration of sulphate in precipitation



Virolahti_II (FI 17)

Concentration of sulphate in precipitation

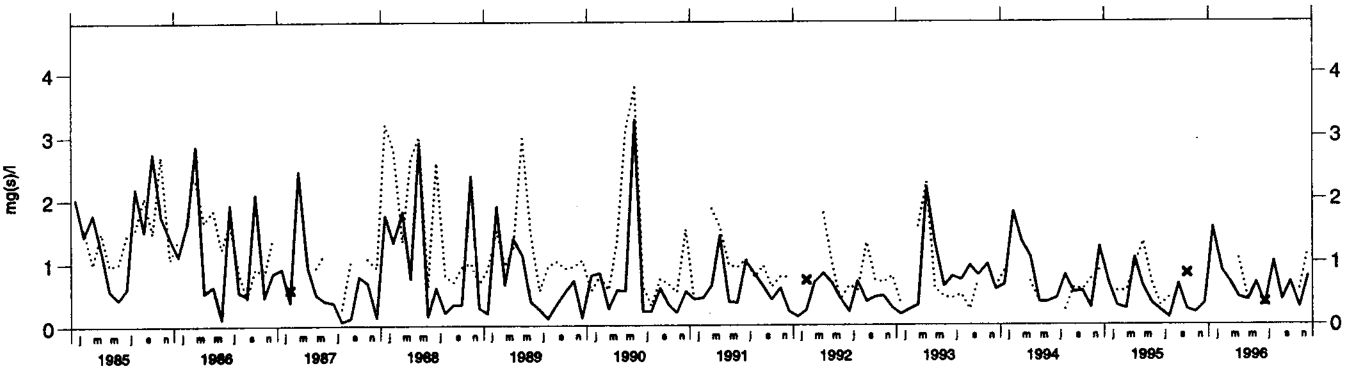
....	observed	mean = 1.03	std = 0.94	
———	modelled	mean = 0.82	std = 1.06	correlation = 0.21



Utoe (FI 9)

Concentration of sulphate in precipitation

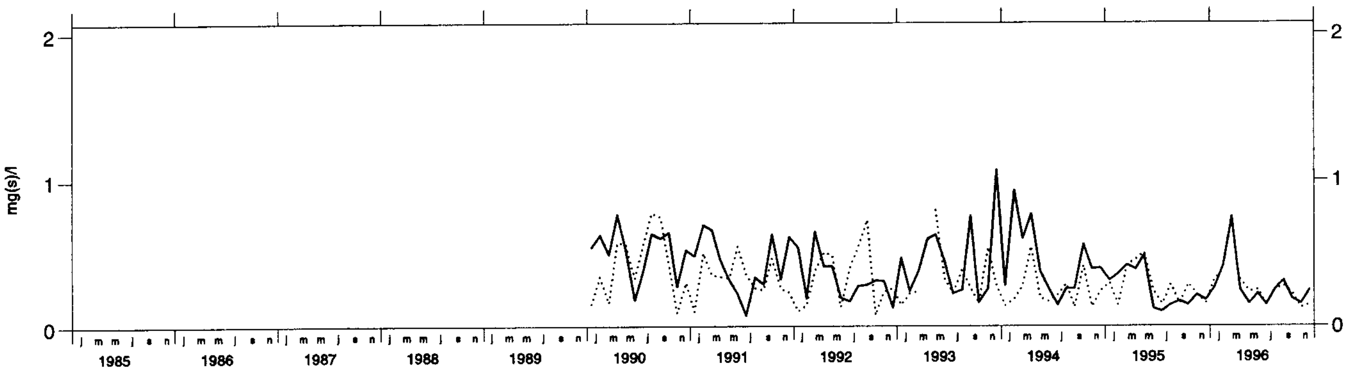
....	observed	mean = 0.93	std = 1.01	
———	modelled	mean = 0.71	std = 1.26	correlation = 0.33



Oulanka (FI 22)

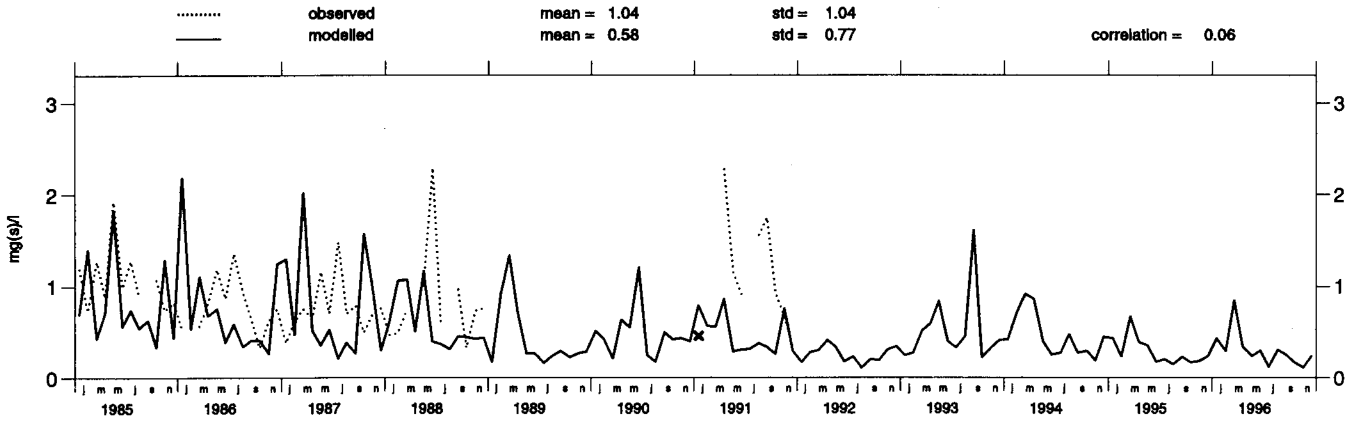
Concentration of sulphate in precipitation

....	observed	mean = 0.31	std = 0.41	
———	modelled	mean = 0.32	std = 0.49	correlation = 0.32



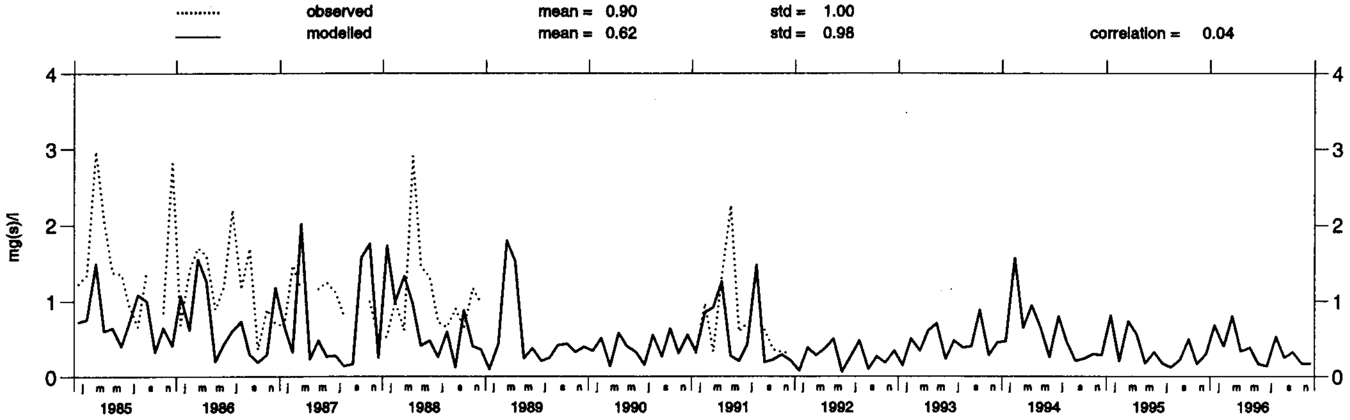
Haiuoto (FI 50)

Concentration of sulphate in precipitation



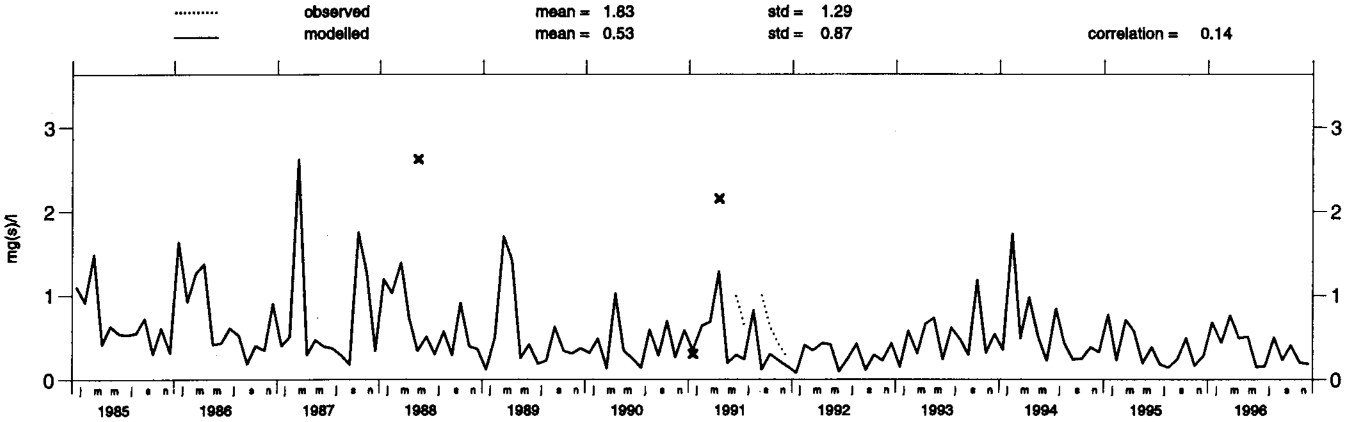
Sulva (FI 52)

Concentration of sulphate in precipitation



Ylimarkku (FI 53)

Concentration of sulphate in precipitation

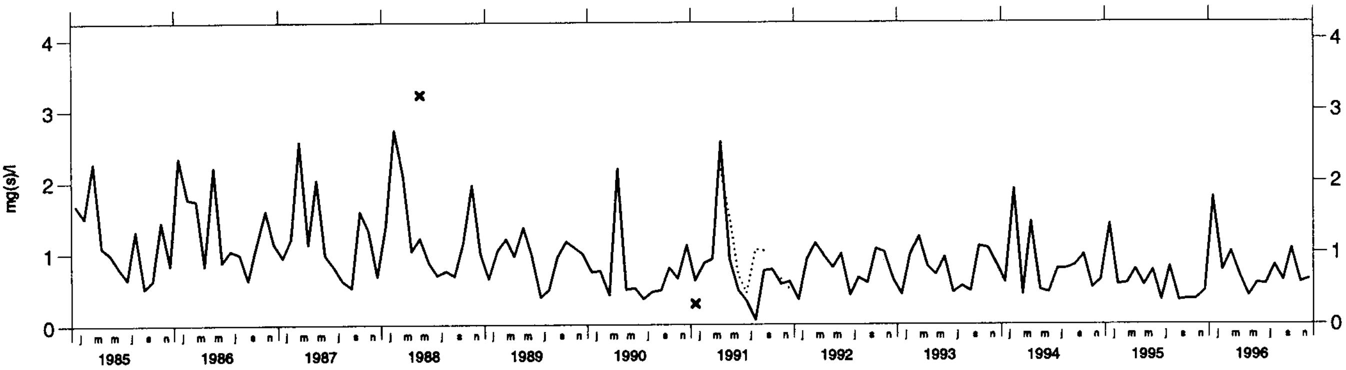


Haapasaari (FI 55)

Concentration of sulphate in precipitation

.... observed mean = 1.73 std = 1.20

———— modelled mean = 0.85 std = 0.95 correlation = 0.10

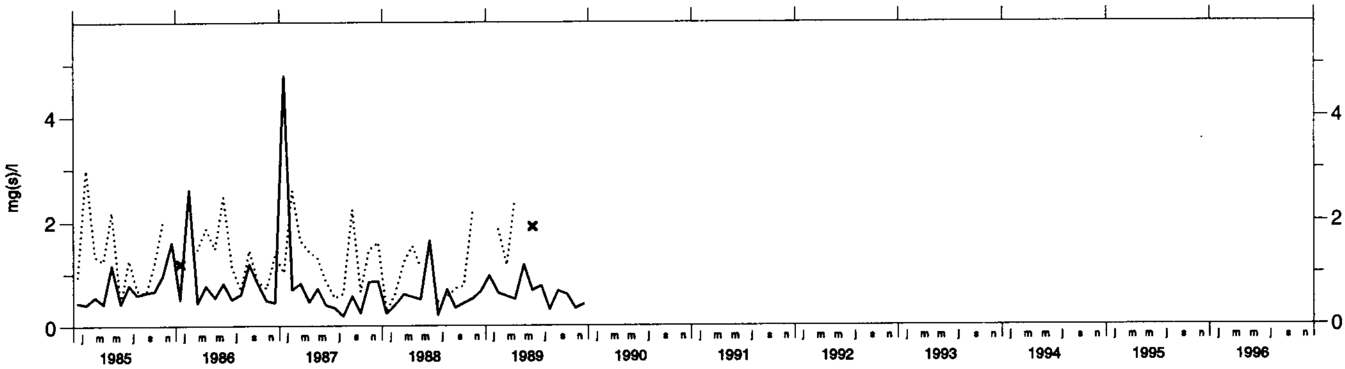


Vert-le-Petit (FR 1)

Concentration of sulphate in precipitation

.... observed mean = 1.22 std = 1.44

———— modelled mean = 0.59 std = 0.85 correlation = 0.27

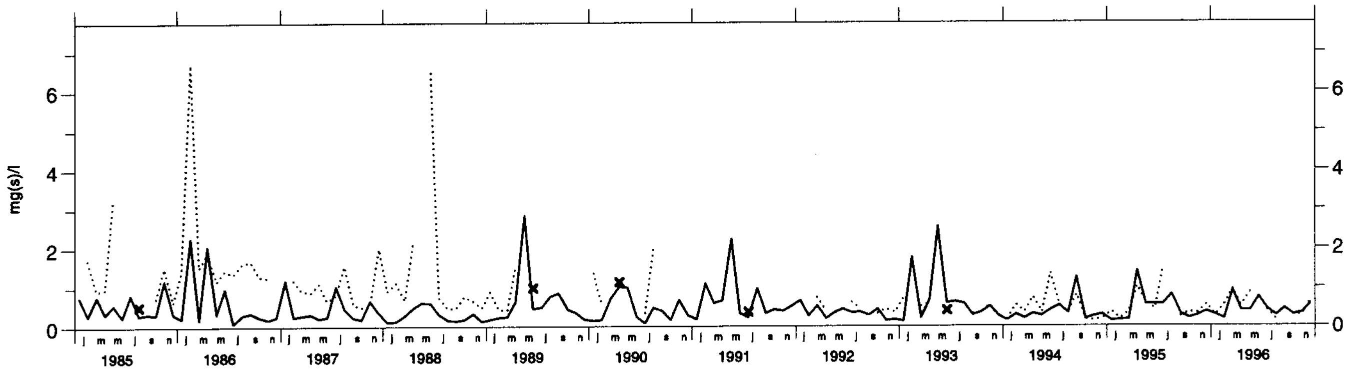


La_Hague (FR 5)

Concentration of sulphate in precipitation

.... observed mean = 0.78 std = 1.31

———— modelled mean = 0.35 std = 0.74 correlation = 0.21

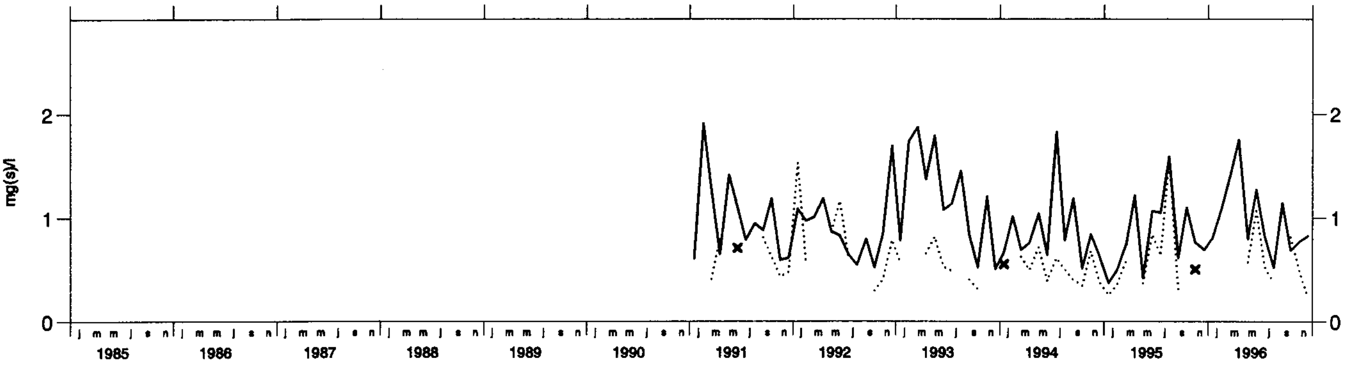


Revin (FR 9)

Concentration of sulphate in precipitation

.... observed mean = 0.54 std = 0.47

——— modelled mean = 0.79 std = 0.63 correlation = 0.28

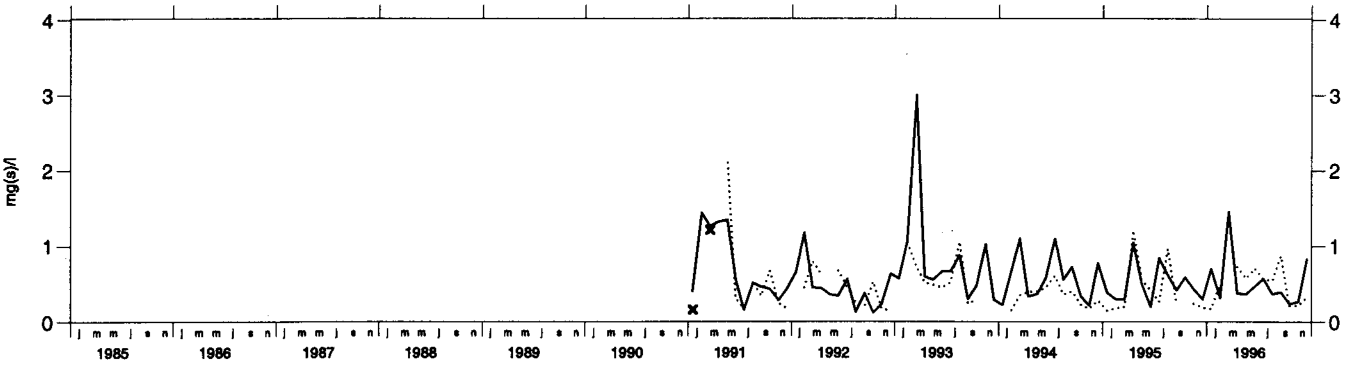


Morvan (FR 10)

Concentration of sulphate in precipitation

.... observed mean = 0.38 std = 0.42

——— modelled mean = 0.46 std = 0.59 correlation = 0.22

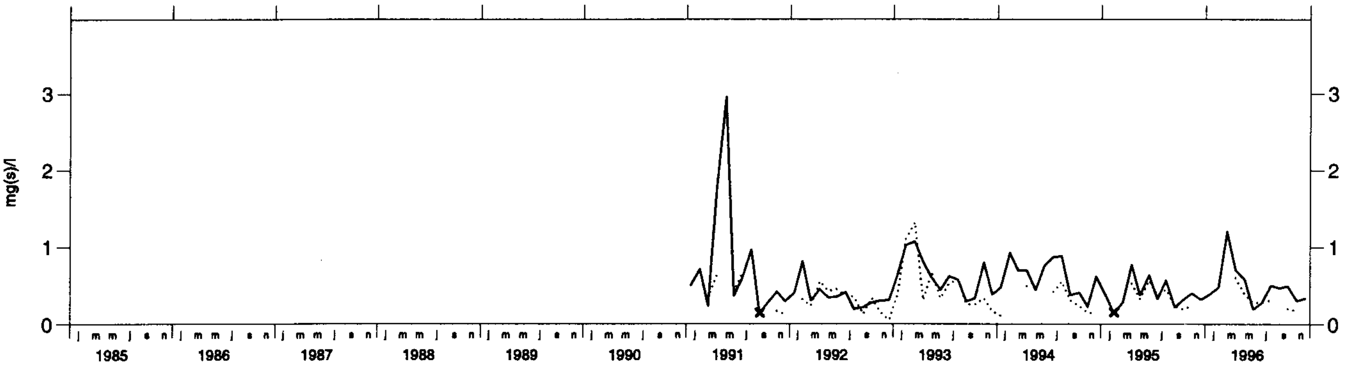


Bonnevaux (FR 11)

Concentration of sulphate in precipitation

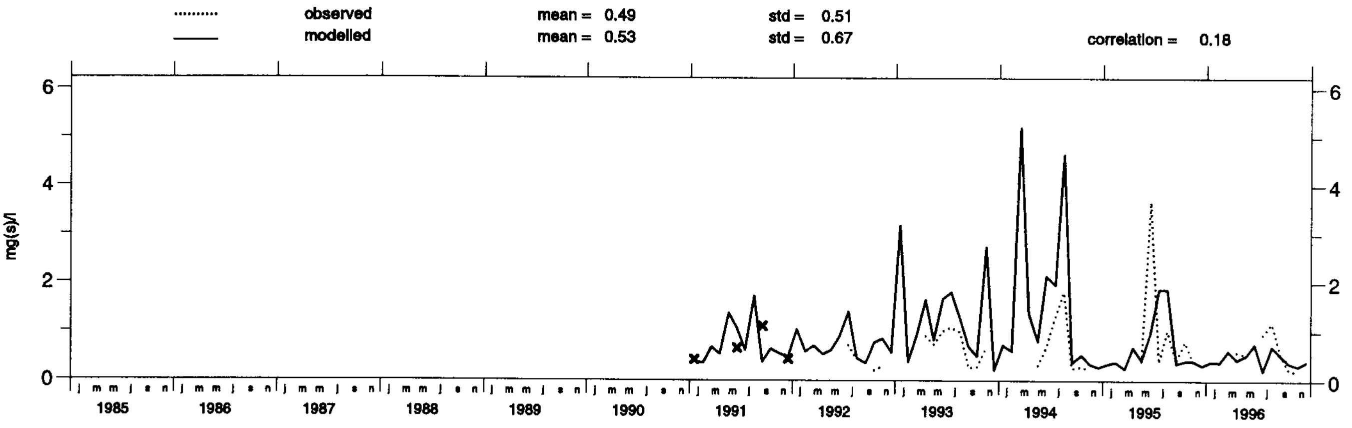
.... observed mean = 0.31 std = 0.34

——— modelled mean = 0.39 std = 0.48 correlation = 0.11



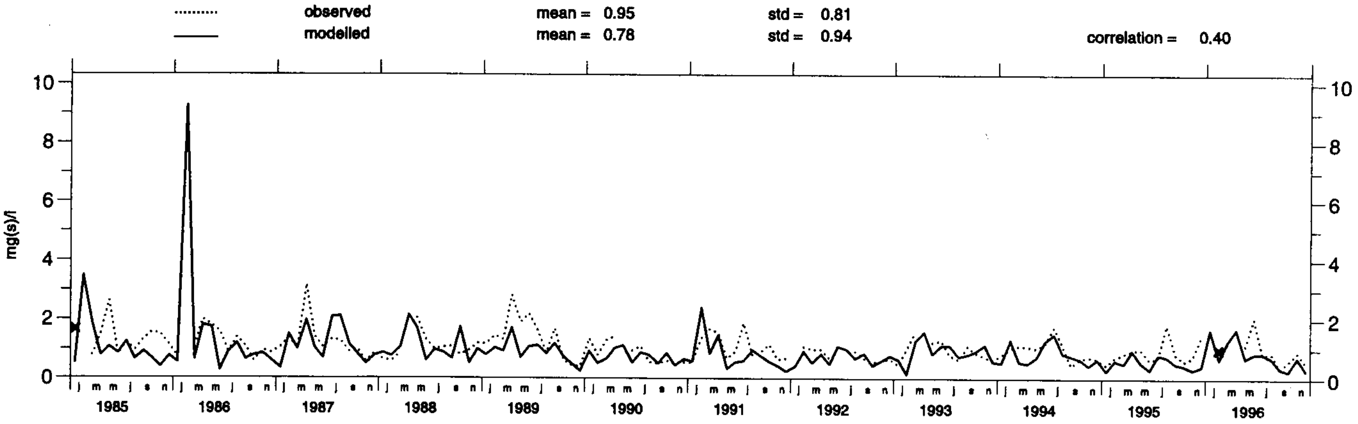
Iraty (FR 12)

Concentration of sulphate in precipitation



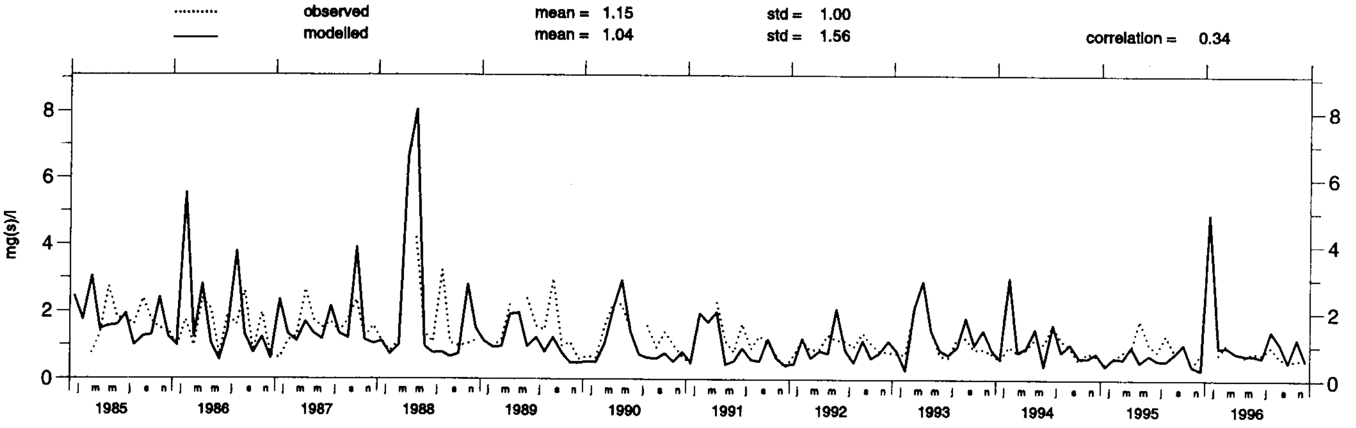
Westerland (DE 1)

Concentration of sulphate in precipitation



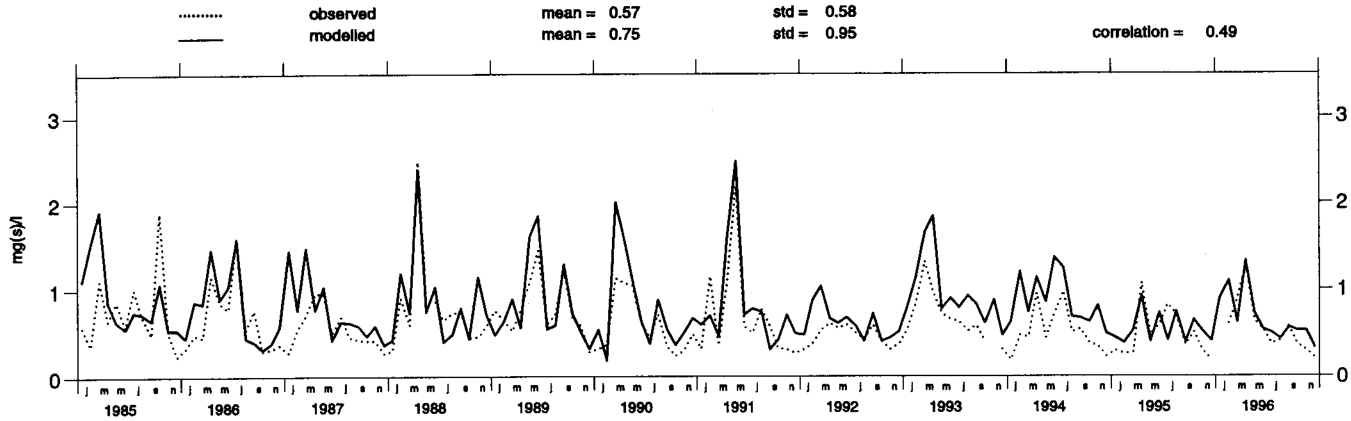
Langenbrugge (DE 2)

Concentration of sulphate in precipitation



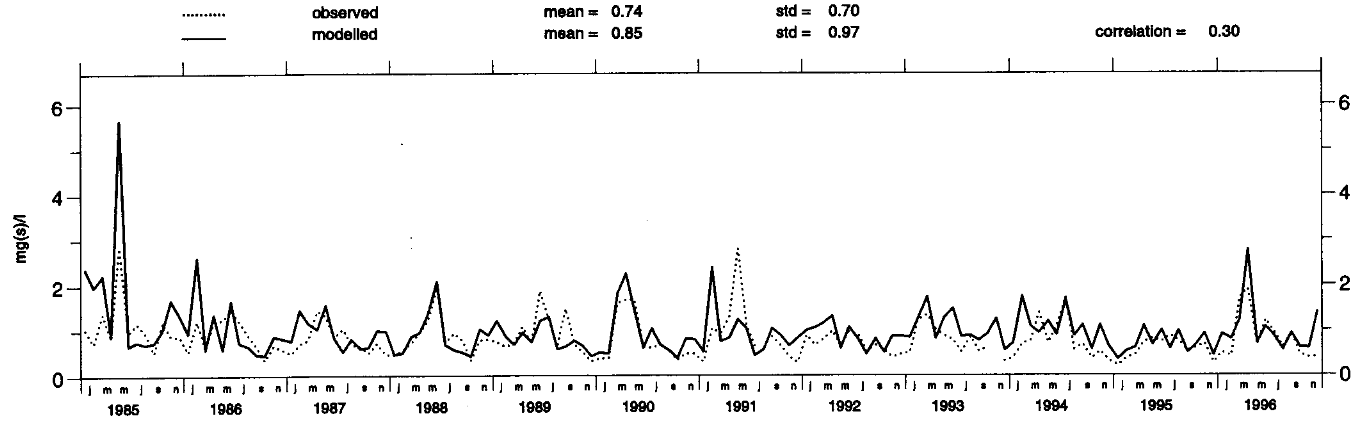
Schauinsland (DE 3)

Concentration of sulphate in precipitation



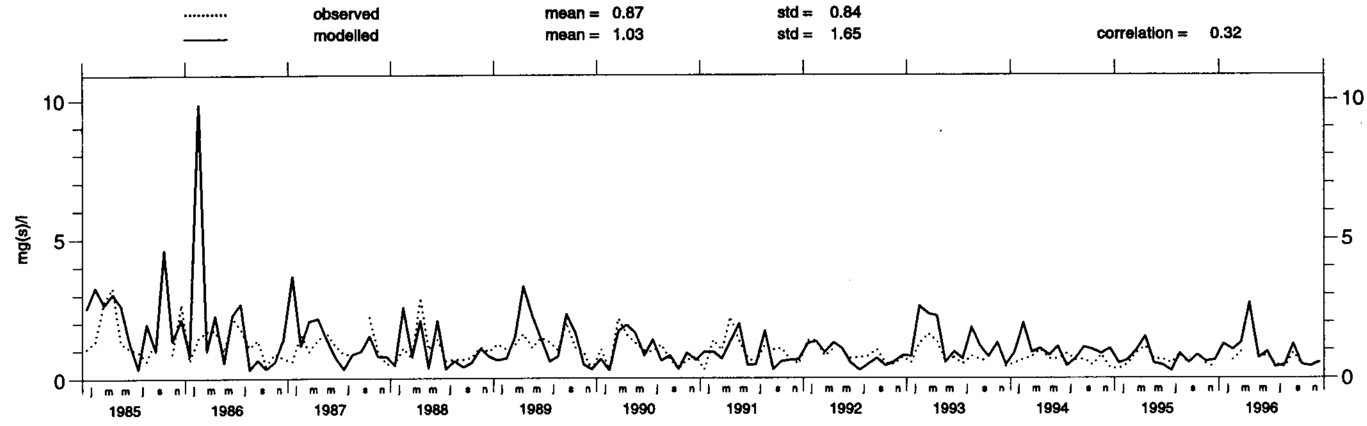
Deuselbach (DE 4)

Concentration of sulphate in precipitation



Brotjacklr. (DE 5)

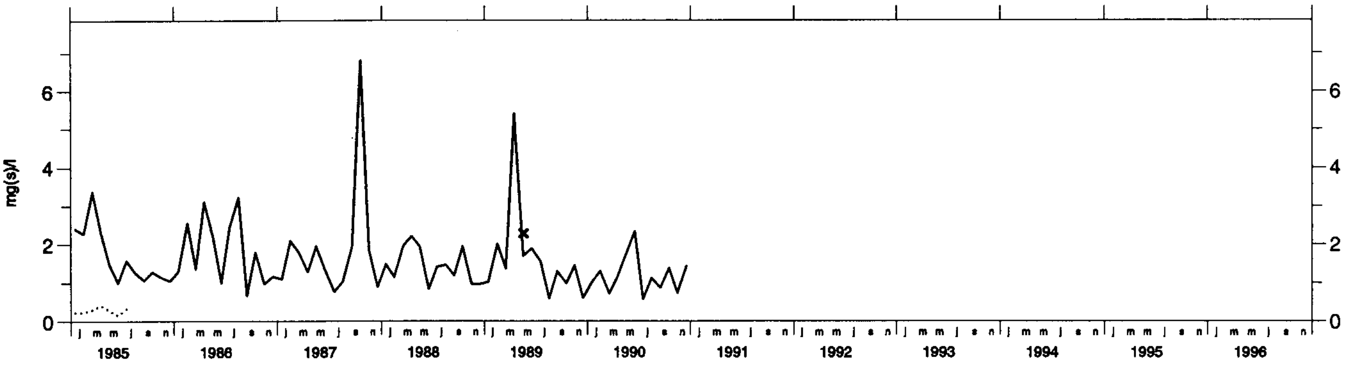
Concentration of sulphate in precipitation



Arkona (DE 6)

Concentration of sulphate in precipitation

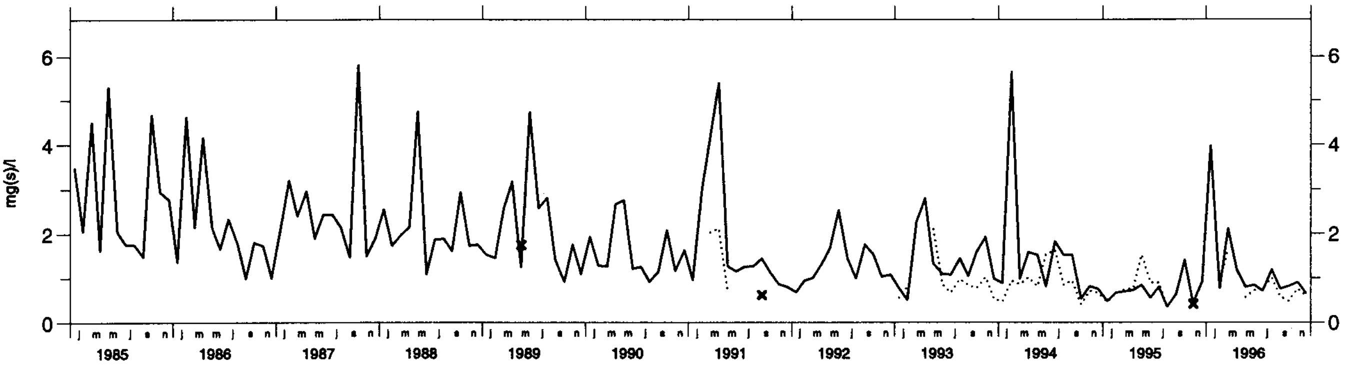
.... observed mean = 1.63 std = 1.23
—— modelled mean = 1.31 std = 2.03 correlation = 0.01



Neuglobsow (DE 7)

Concentration of sulphate in precipitation

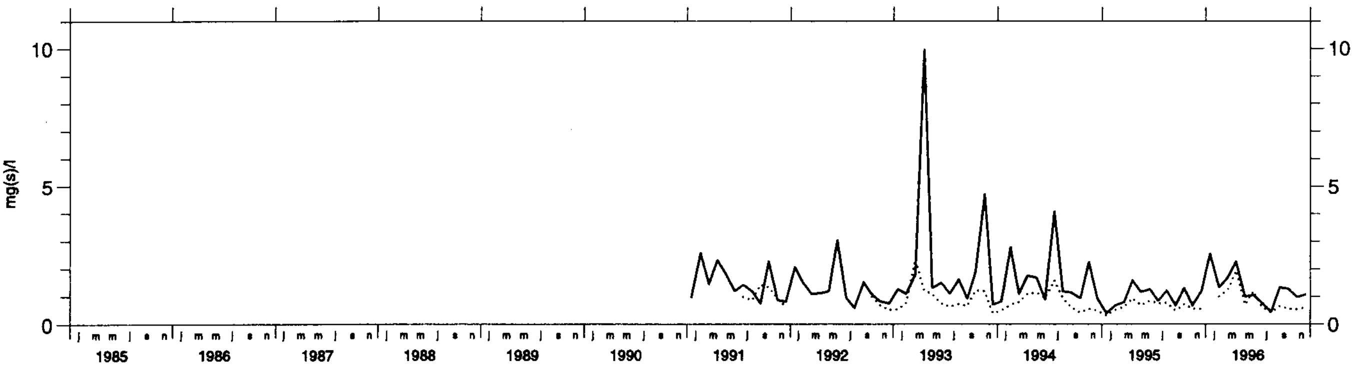
.... observed mean = 1.49 std = 1.18
—— modelled mean = 1.22 std = 1.93 correlation = 0.19



Schmucke (DE 8)

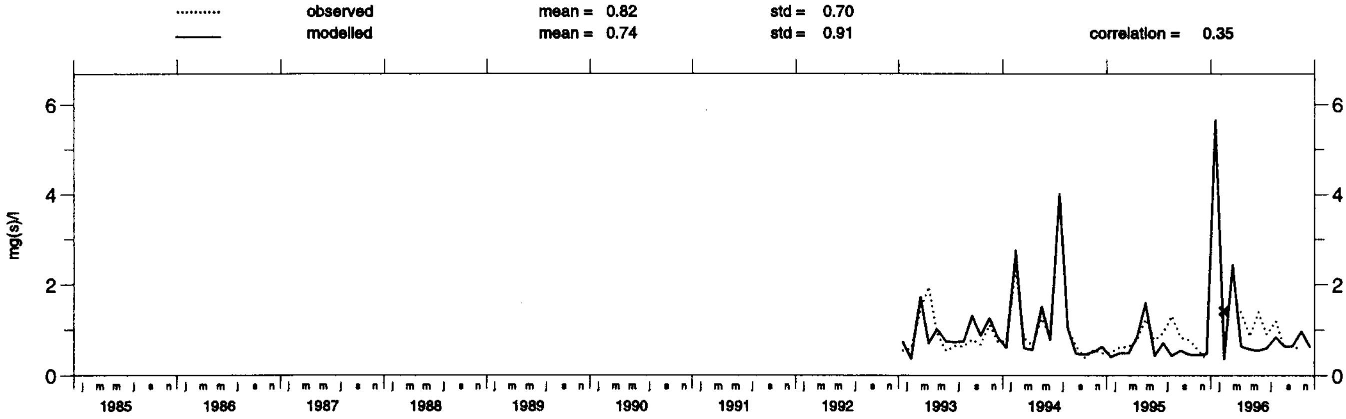
Concentration of sulphate in precipitation

.... observed mean = 0.73 std = 0.70
—— modelled mean = 1.16 std = 1.60 correlation = 0.37



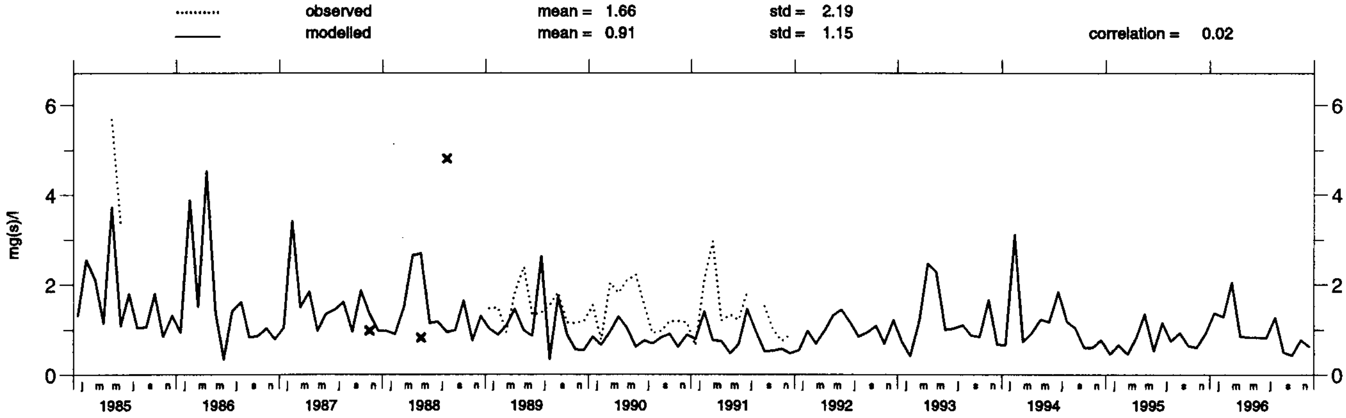
Zingst (DE 9)

Concentration of sulphate in precipitation



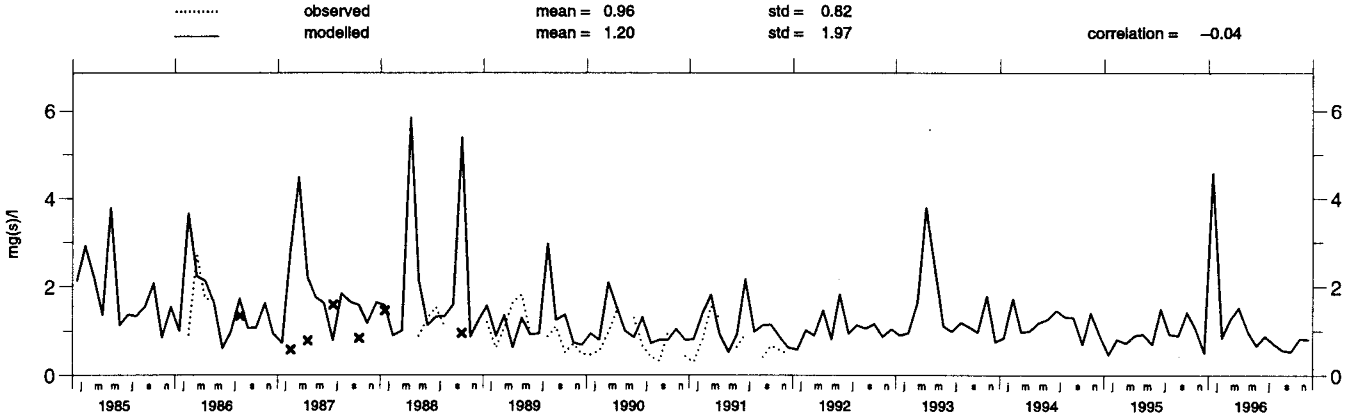
Hohenwestedt (DE 11)

Concentration of sulphate in precipitation



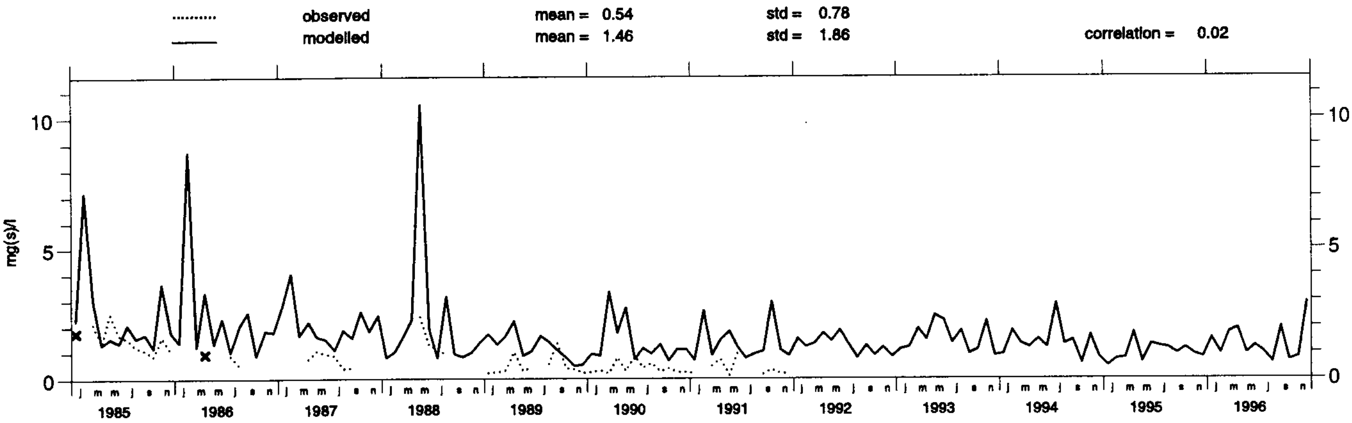
Bassum (DE 12)

Concentration of sulphate in precipitation



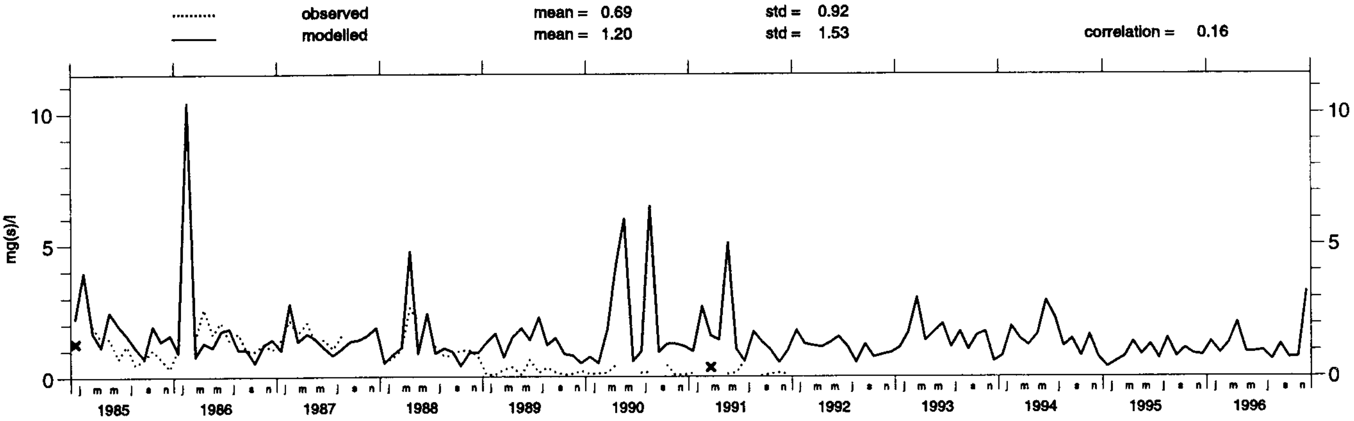
Meinerzhagen (DE 14)

Concentration of sulphate in precipitation



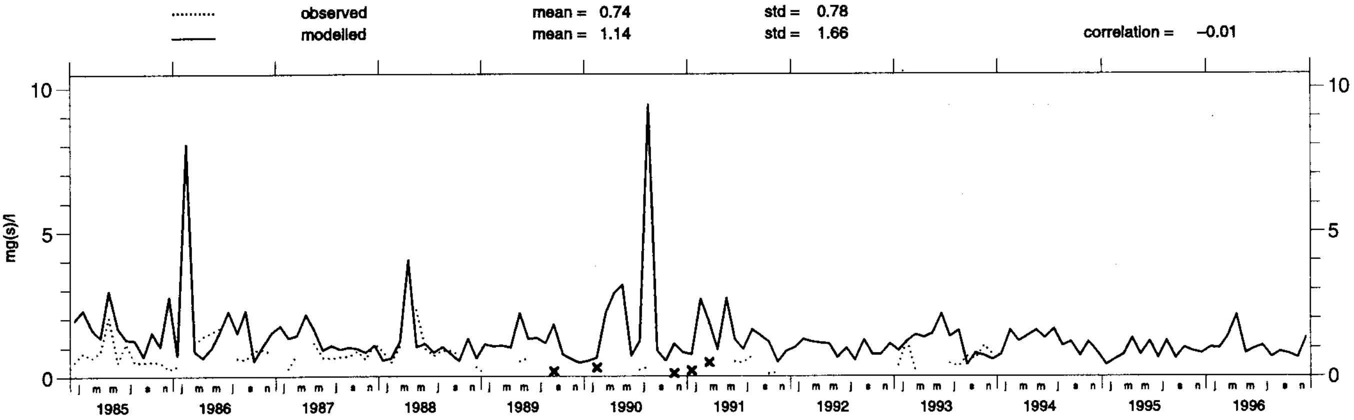
Usingen (DE 15)

Concentration of sulphate in precipitation



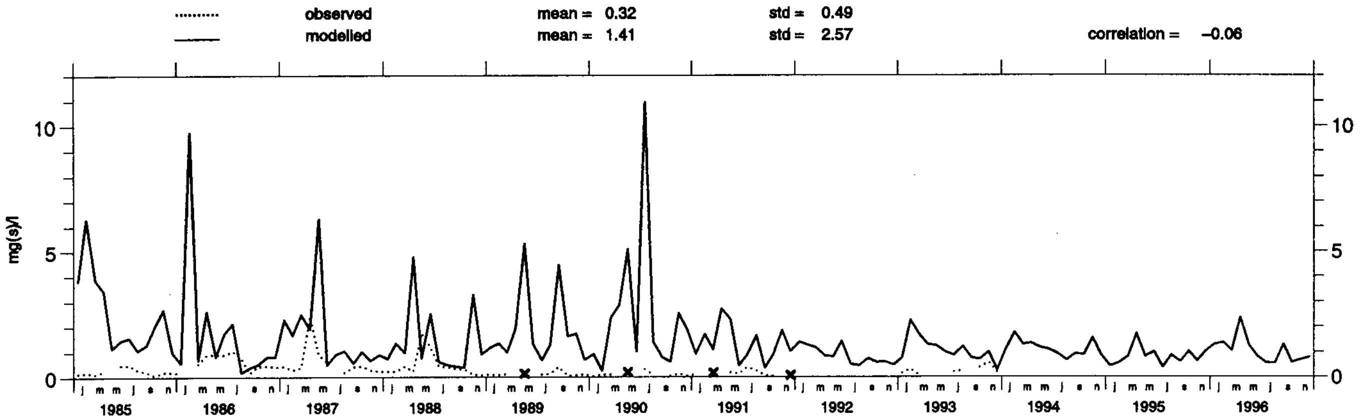
Bad_Kreuznach (DE 16)

Concentration of sulphate in precipitation



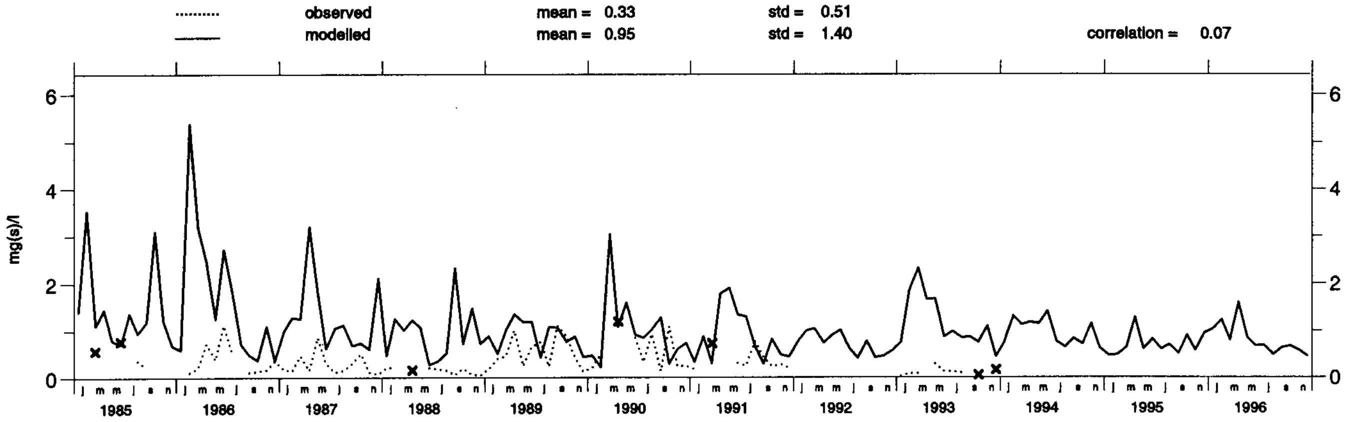
Ansbach (DE 17)

Concentration of sulphate in precipitation



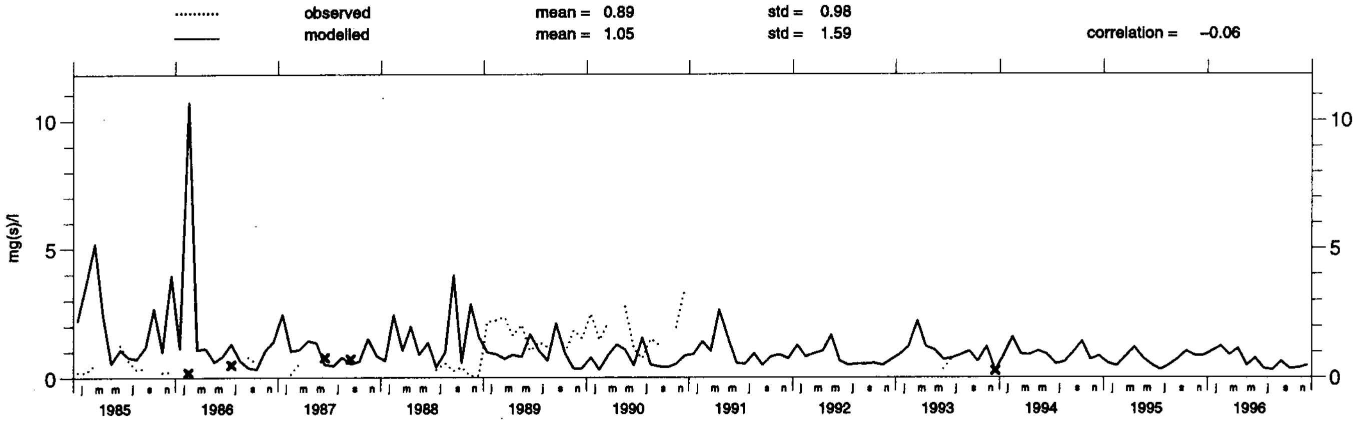
Rottenburg (DE 18)

Concentration of sulphate in precipitation



Starnberg (DE 19)

Concentration of sulphate in precipitation

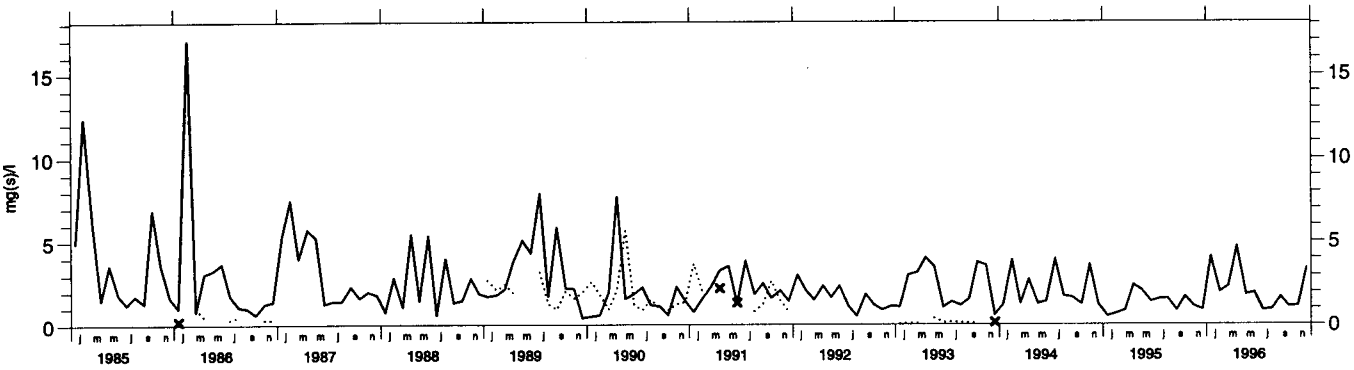


Hof (DE 20)

Concentration of sulphate in precipitation

.... observed mean = 0.80 std = 1.01

——— modelled mean = 1.75 std = 2.87 correlation = 0.13

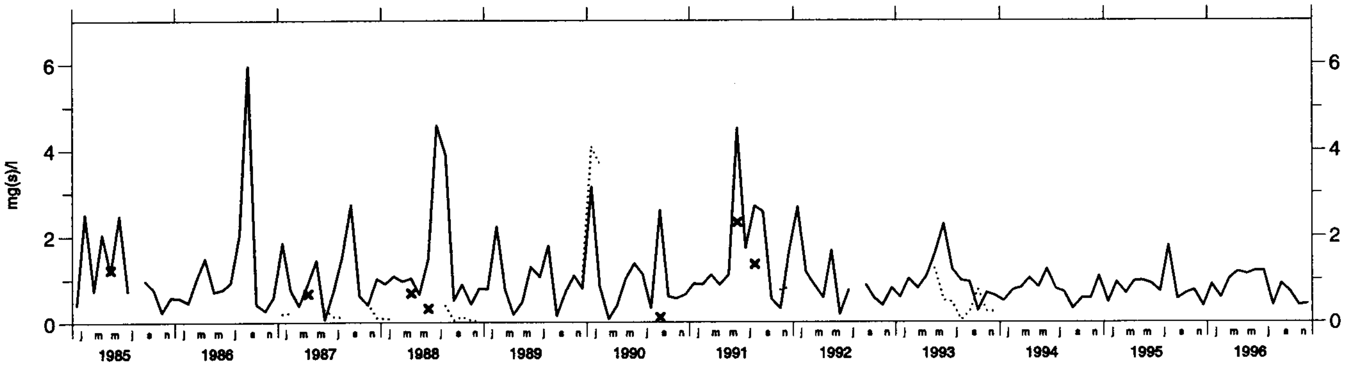


Aliartos (GR 1)

Concentration of sulphate in precipitation

.... observed mean = 0.52 std = 0.75

——— modelled mean = 0.78 std = 0.84 correlation = 0.23

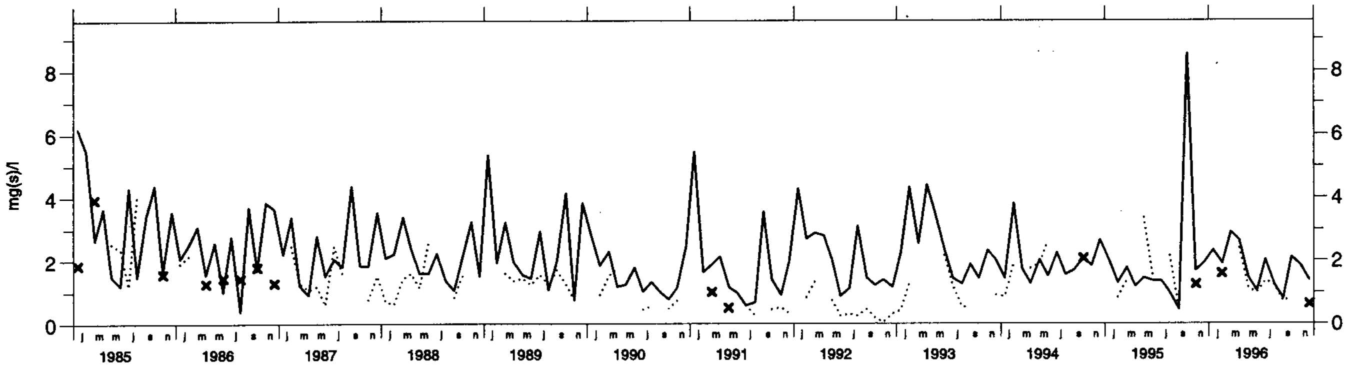


K-puszta (HU 2)

Concentration of sulphate in precipitation

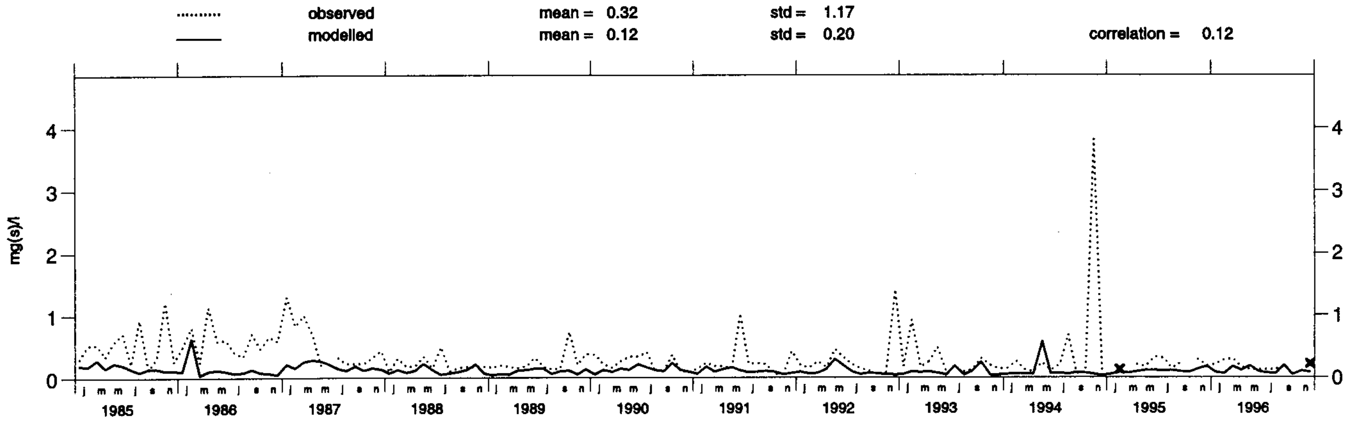
.... observed mean = 1.24 std = 1.17

——— modelled mean = 1.54 std = 1.46 correlation = 0.16



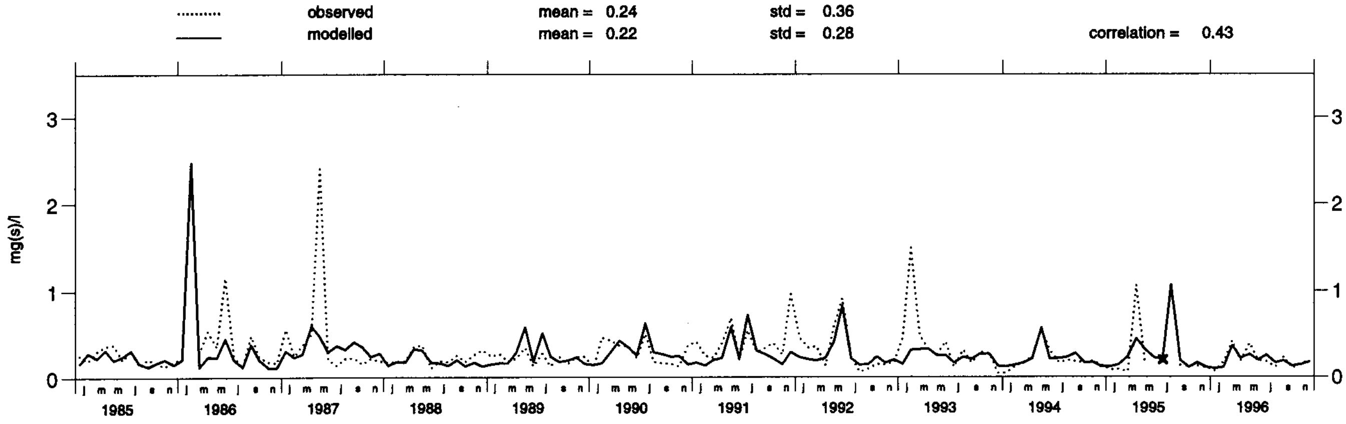
Irafoss (IS 2)

Concentration of sulphate in precipitation



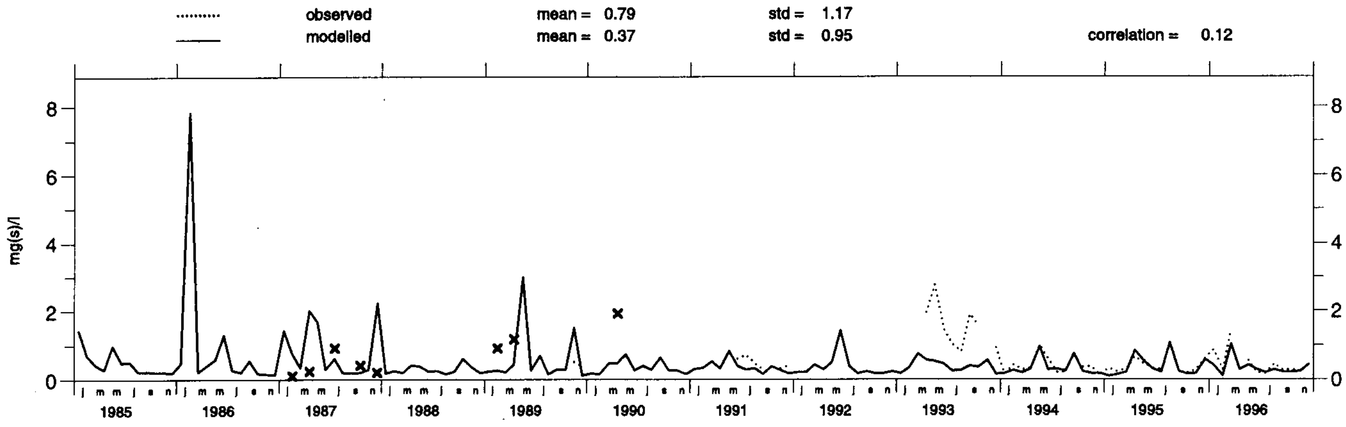
Valentia_Obs. (IE 1)

Concentration of sulphate in precipitation



Turlough Hill (IE 2)

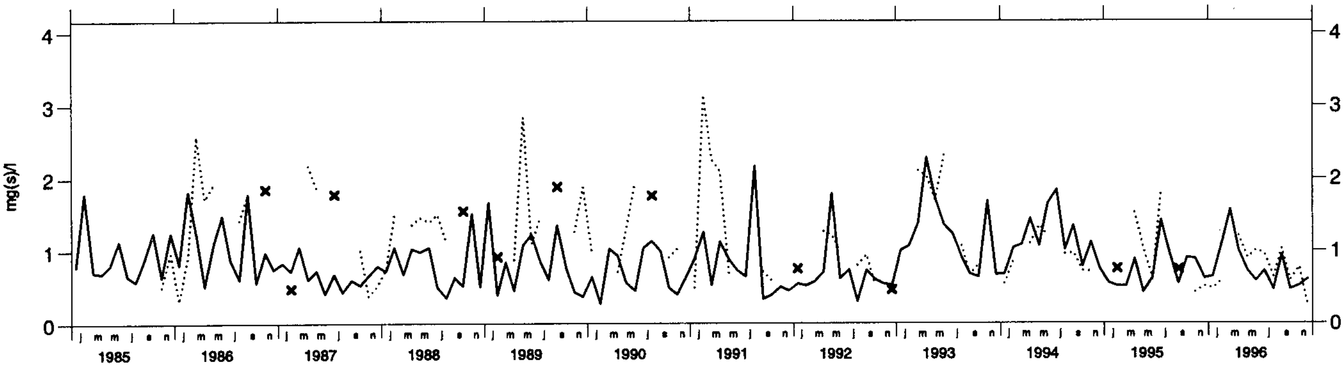
Concentration of sulphate in precipitation



Ispra (IT 4)

Concentration of sulphate in precipitation

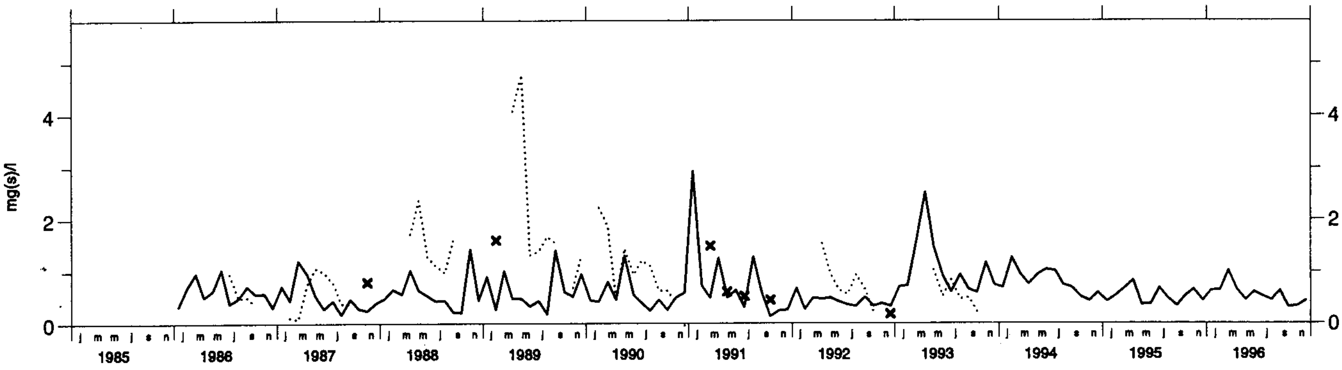
....	observed	mean = 1.10	std = 0.84	
———	modelled	mean = 0.68	std = 0.62	correlation = 0.26



Arabba (IT 5)

Concentration of sulphate in precipitation

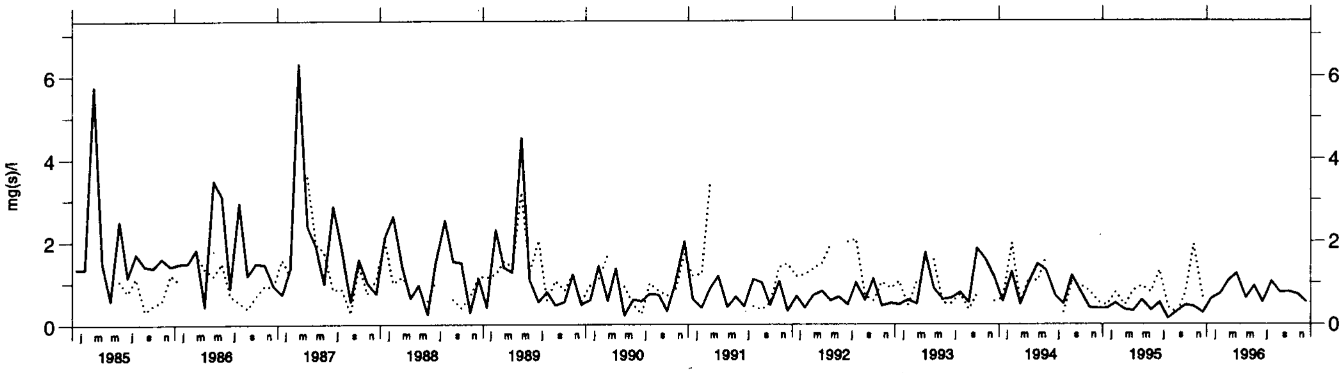
....	observed	mean = 0.90	std = 1.18	
———	modelled	mean = 0.47	std = 0.61	correlation = 0.14



Rucava (LV 10)

Concentration of sulphate in precipitation

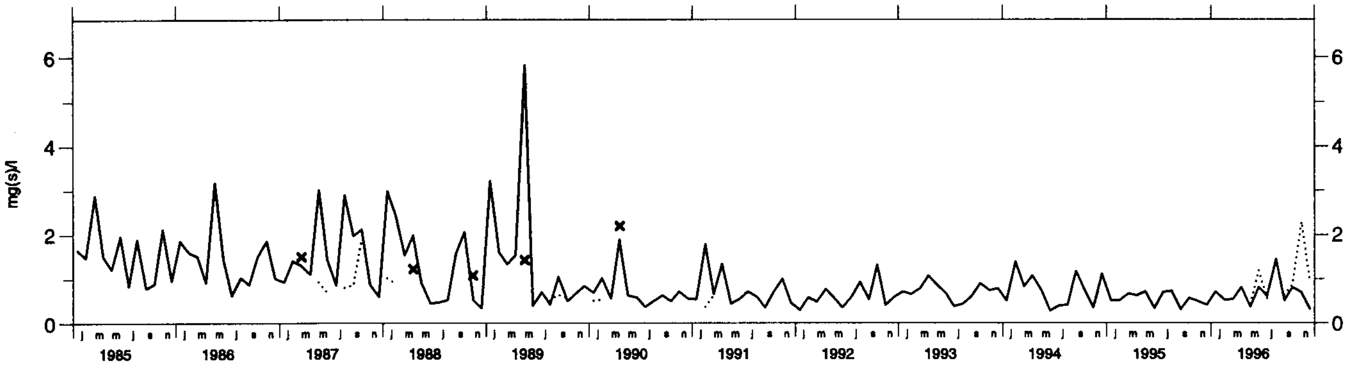
....	observed	mean = 0.92	std = 0.96	
———	modelled	mean = 0.97	std = 1.50	correlation = 0.20



Zoseni (LV 16)

Concentration of sulphate in precipitation

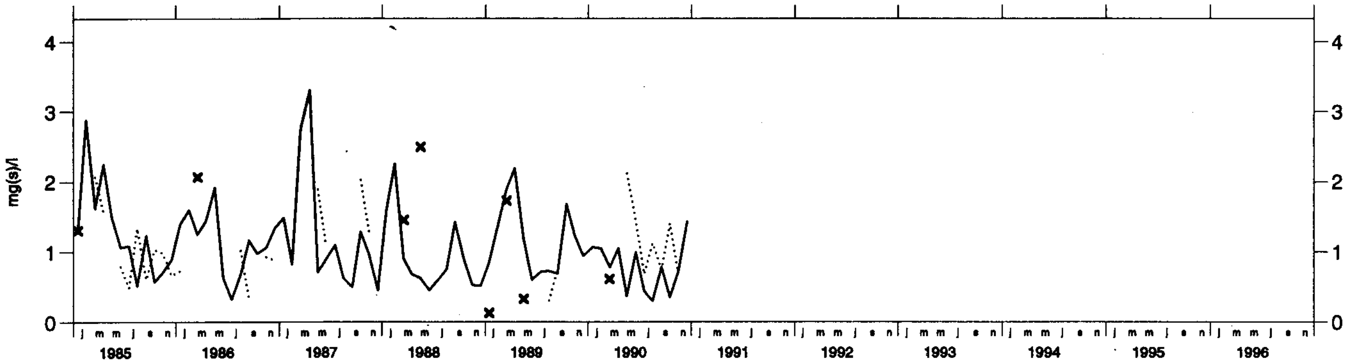
.... observed mean = 1.19 std = 1.17
——— modelled mean = 1.02 std = 1.54 correlation = 0.00



Nida (LT 3)

Concentration of sulphate in precipitation

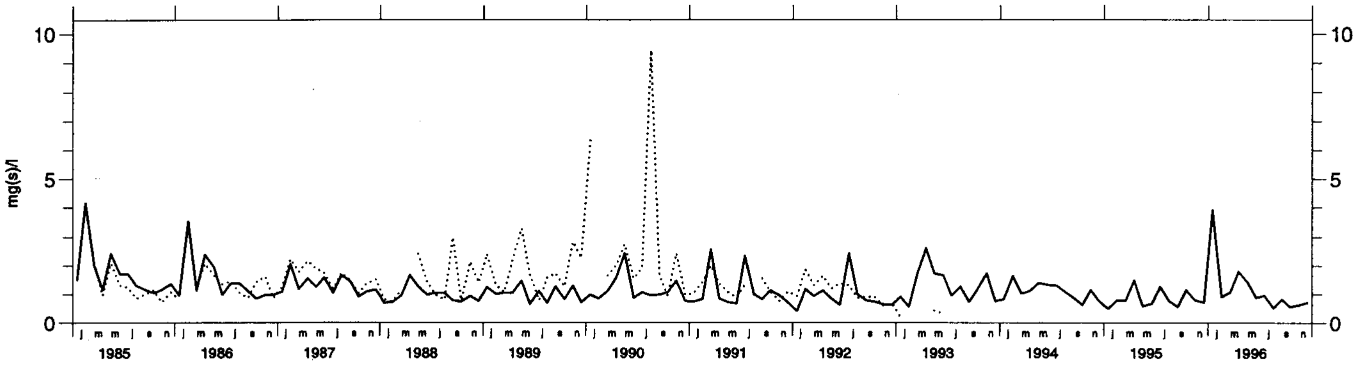
.... observed mean = 1.07 std = 1.01
——— modelled mean = 0.88 std = 1.12 correlation = 0.04



Wittenveen (NL 2)

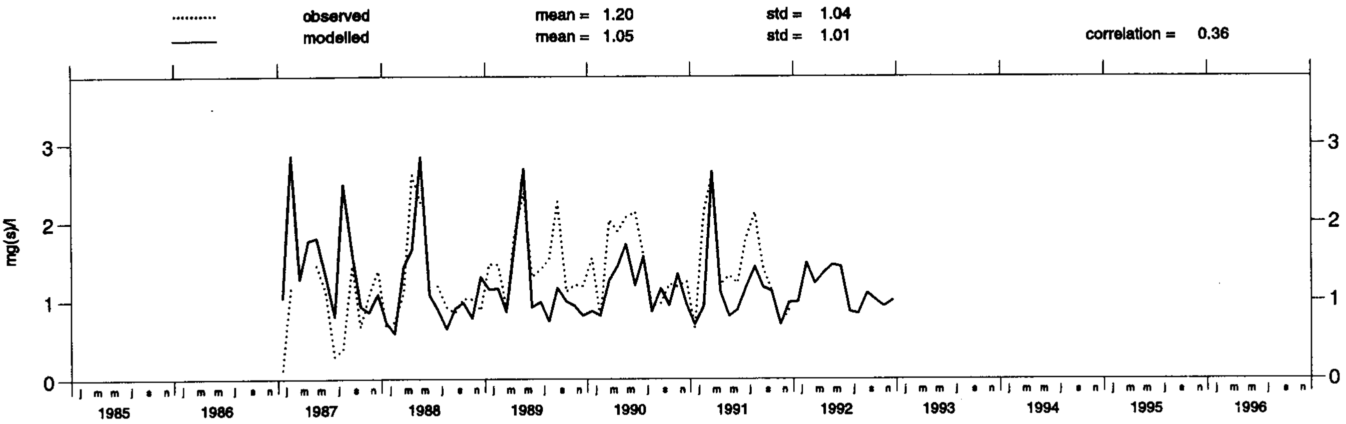
Concentration of sulphate in precipitation

.... observed mean = 1.40 std = 2.81
——— modelled mean = 1.09 std = 0.98 correlation = 0.06



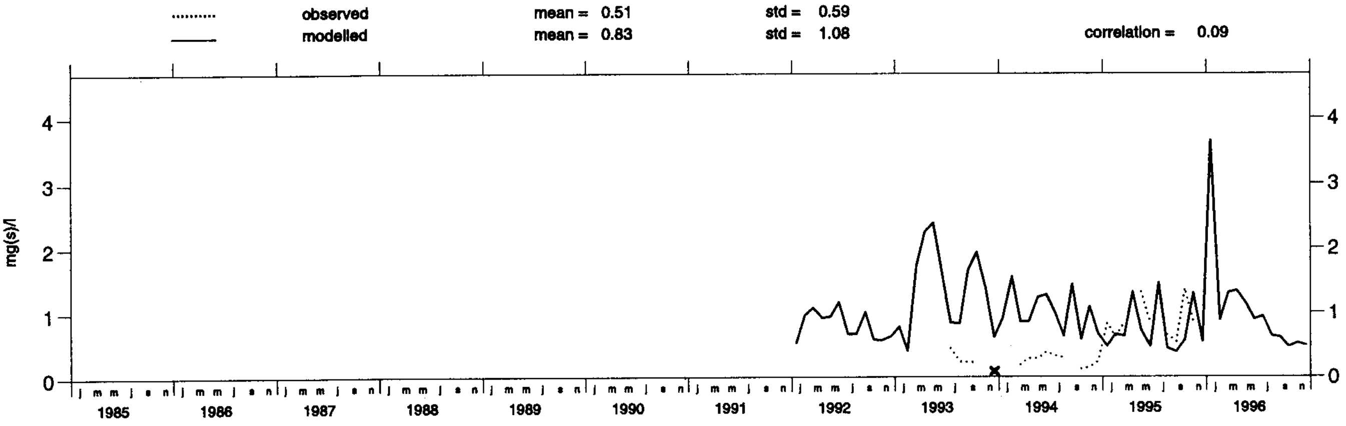
Bilthoven (NL 8)

Concentration of sulphate in precipitation



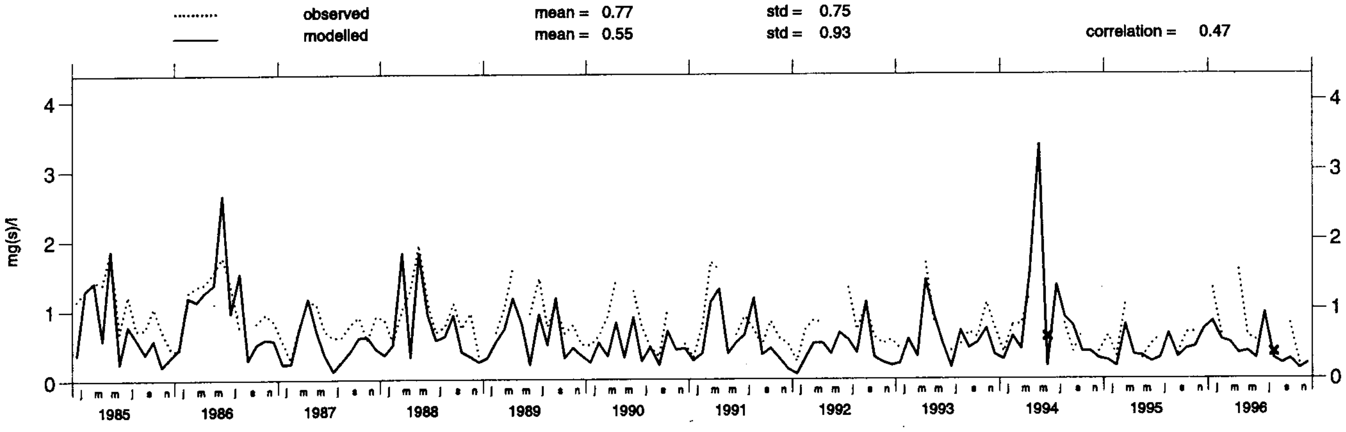
Kollumerwaard (NL 9)

Concentration of sulphate in precipitation



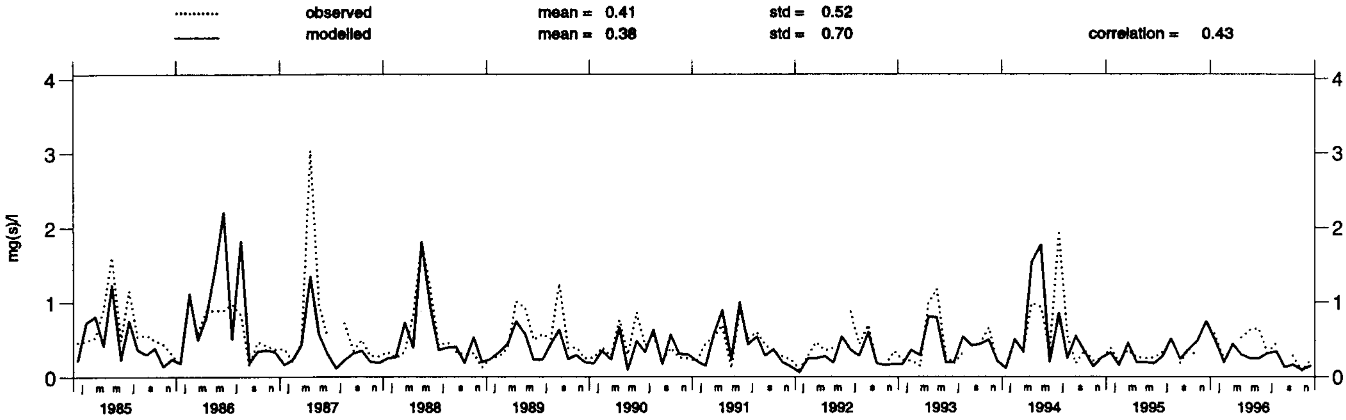
Birkenes (NO 1)

Concentration of sulphate in precipitation



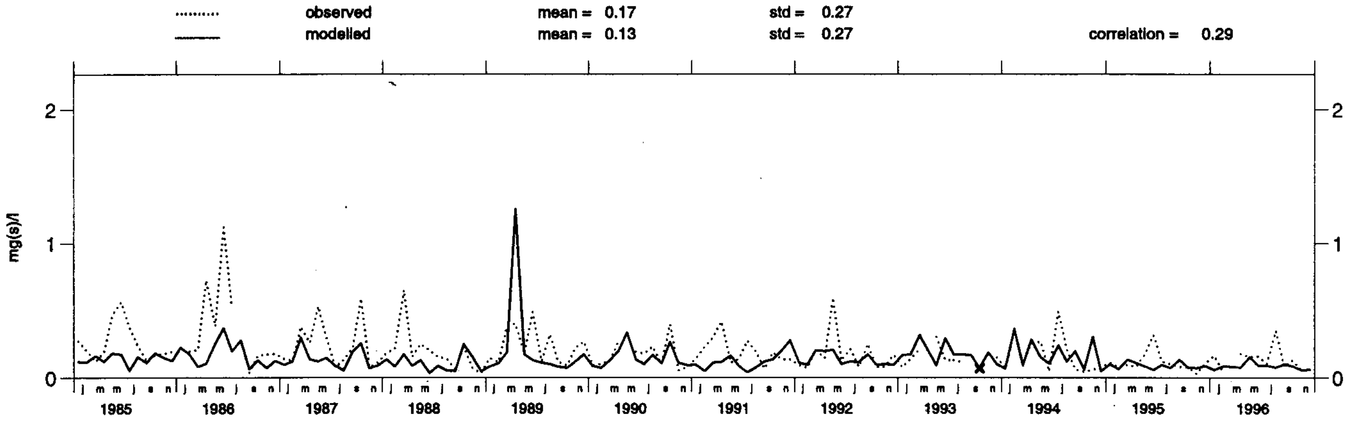
Skreaadalen (NO 8)

Concentration of sulphate in precipitation



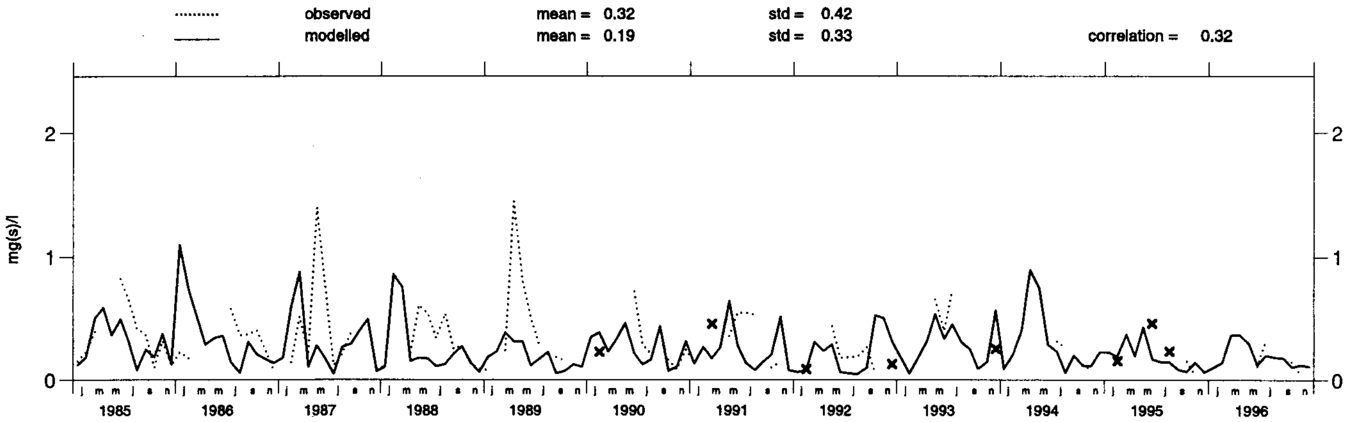
Tustervatn (NO 15)

Concentration of sulphate in precipitation



Jergul (NO 30)

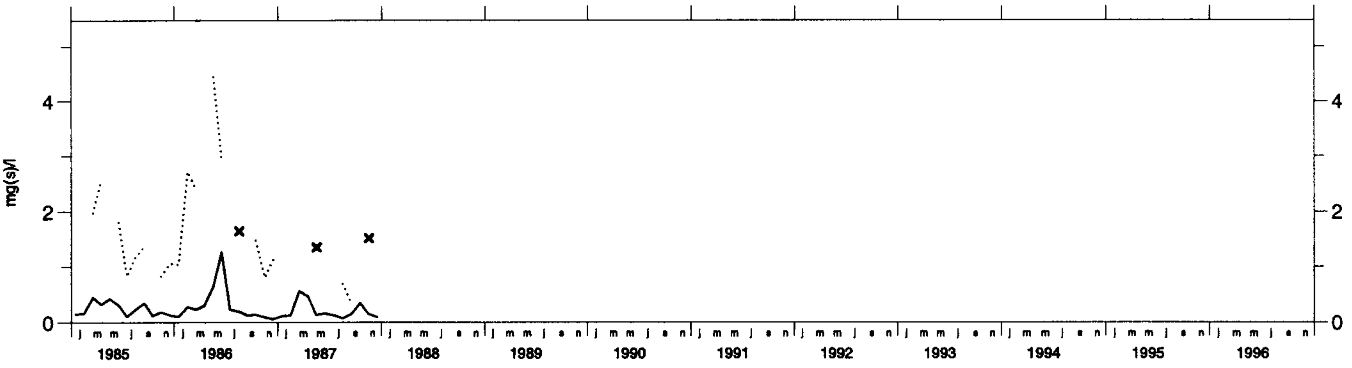
Concentration of sulphate in precipitation



Hummelfjell (NO 36)

Concentration of sulphate in precipitation

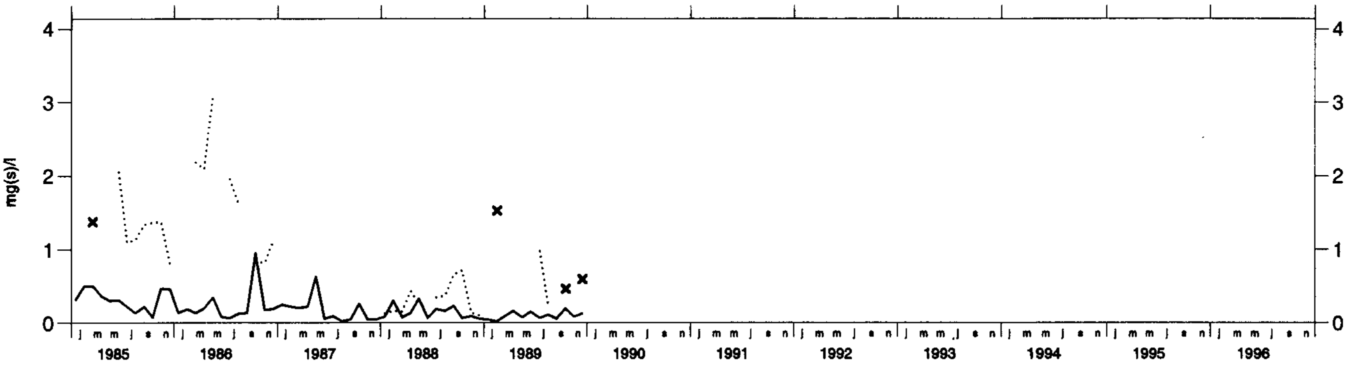
.... observed	mean = 1.32	std = 1.18		
——— modelled	mean = 0.20	std = 0.33	correlation =	0.24



Bjoernoeya (NO 37)

Concentration of sulphate in precipitation

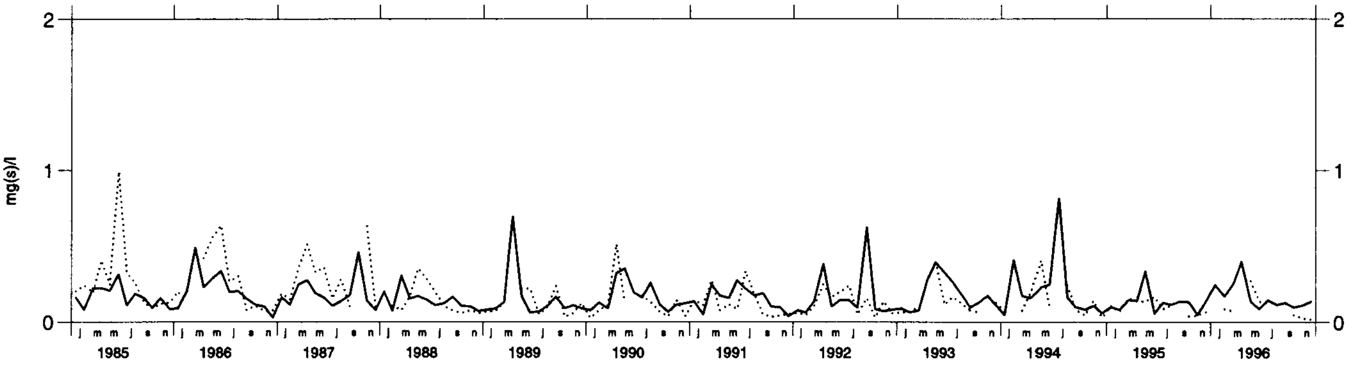
.... observed	mean = 0.82	std = 0.98		
——— modelled	mean = 0.23	std = 0.40	correlation =	–0.01



Kaarvatn (NO 39)

Concentration of sulphate in precipitation

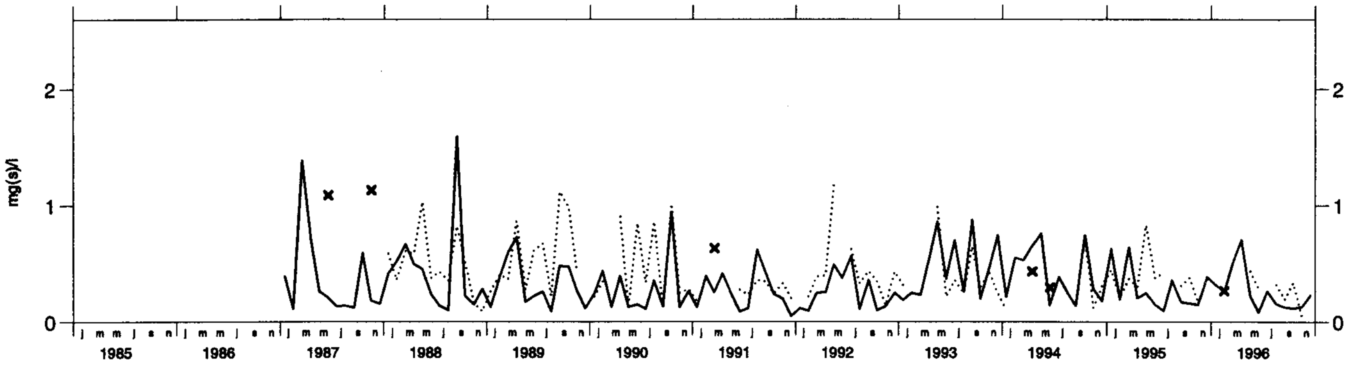
.... observed	mean = 0.13	std = 0.22		
——— modelled	mean = 0.14	std = 0.22	correlation =	0.21



Osen (NO 41)

Concentration of sulphate in precipitation

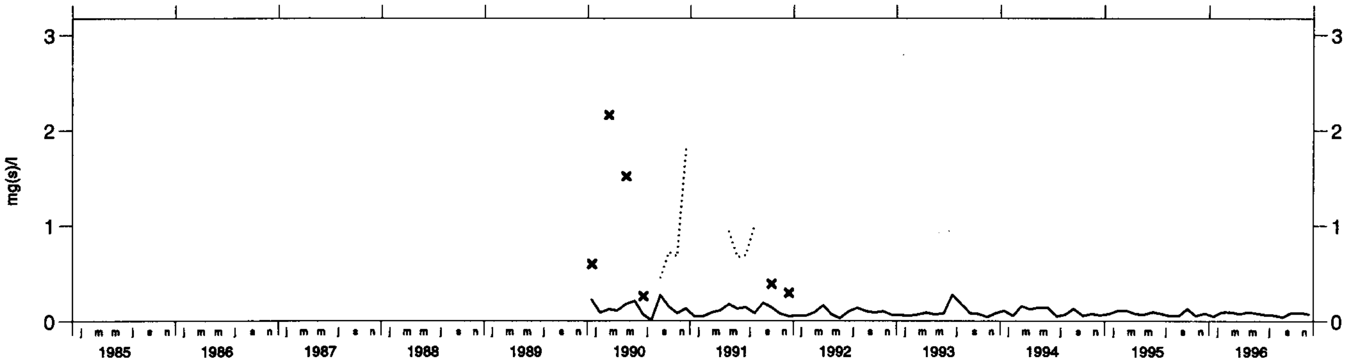
.... observed mean = 0.47 std = 0.59
—— modelled mean = 0.32 std = 0.72 correlation = 0.43



Spitzbergen,Z (NO 42)

Concentration of sulphate in precipitation

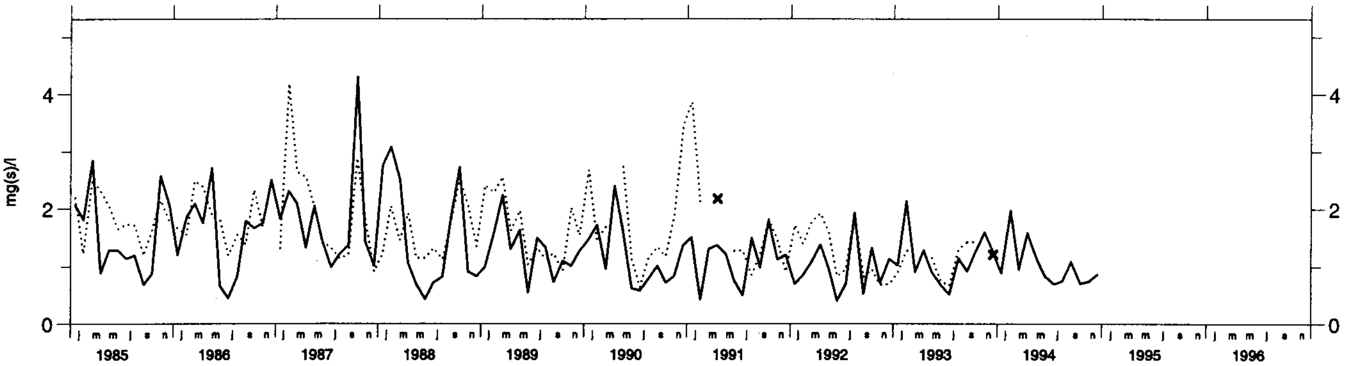
.... observed mean = 0.73 std = 1.03
—— modelled mean = 0.12 std = 0.13 correlation = 0.09



Suwalki (PL 1)

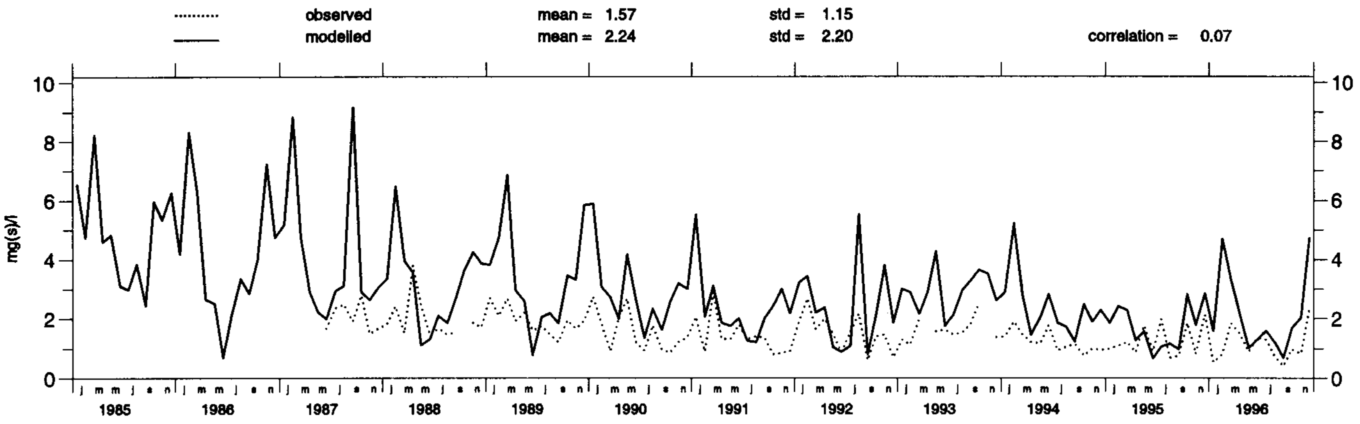
Concentration of sulphate in precipitation

.... observed mean = 1.48 std = 1.06
—— modelled mean = 1.17 std = 1.48 correlation = 0.38



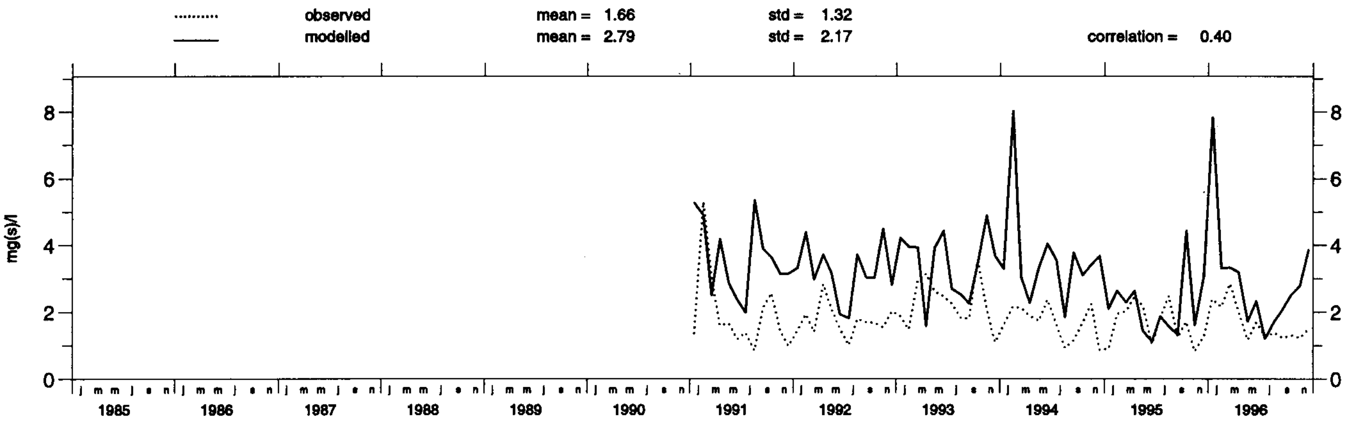
Jarczew (PL 2)

Concentration of sulphate in precipitation



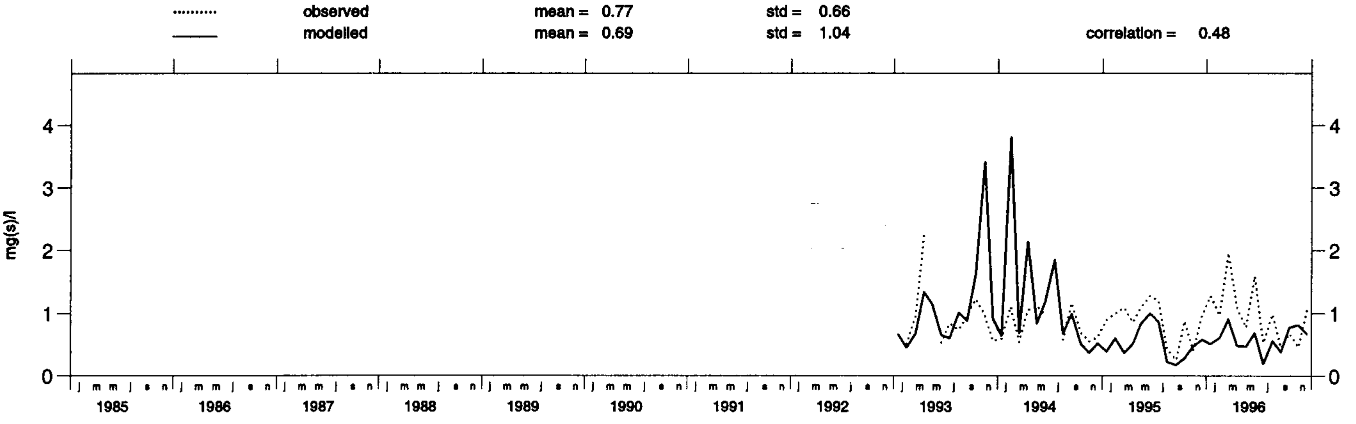
Sniezka (PL 3)

Concentration of sulphate in precipitation



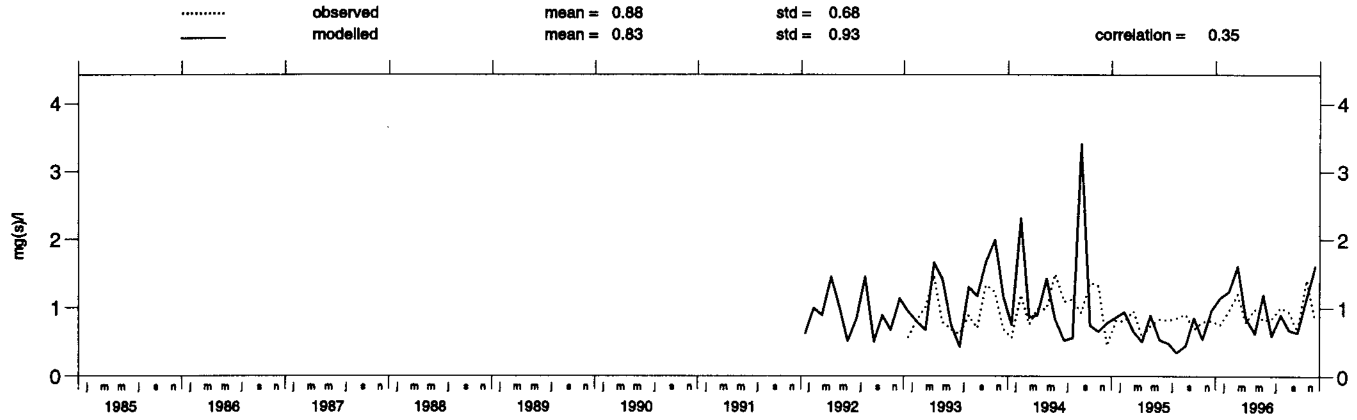
Leba (PL 4)

Concentration of sulphate in precipitation



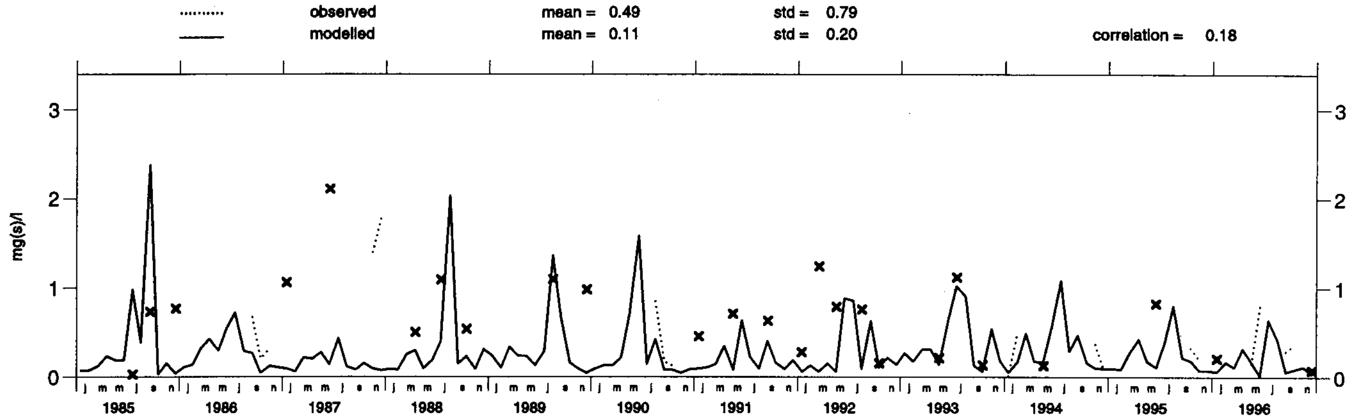
Diabla Gora (PL 5)

Concentration of sulphate in precipitation



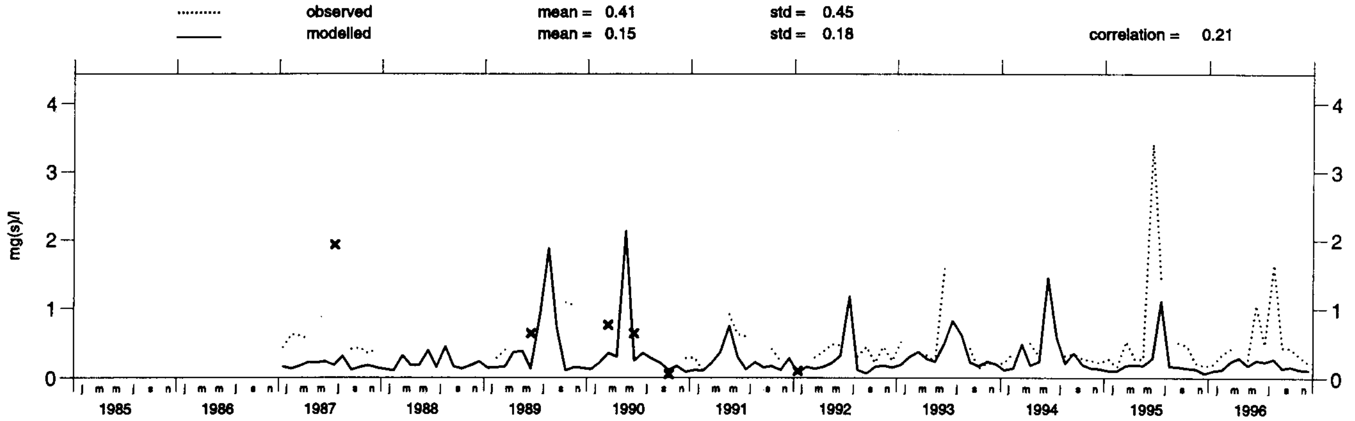
Braganca (PT 1)

Concentration of sulphate in precipitation



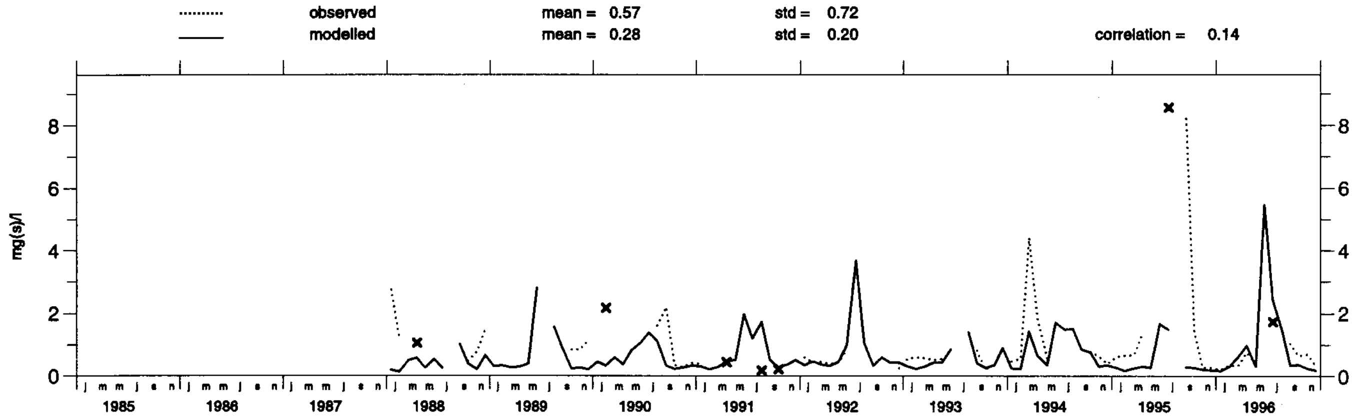
V.d.Castelo (PT 3)

Concentration of sulphate in precipitation



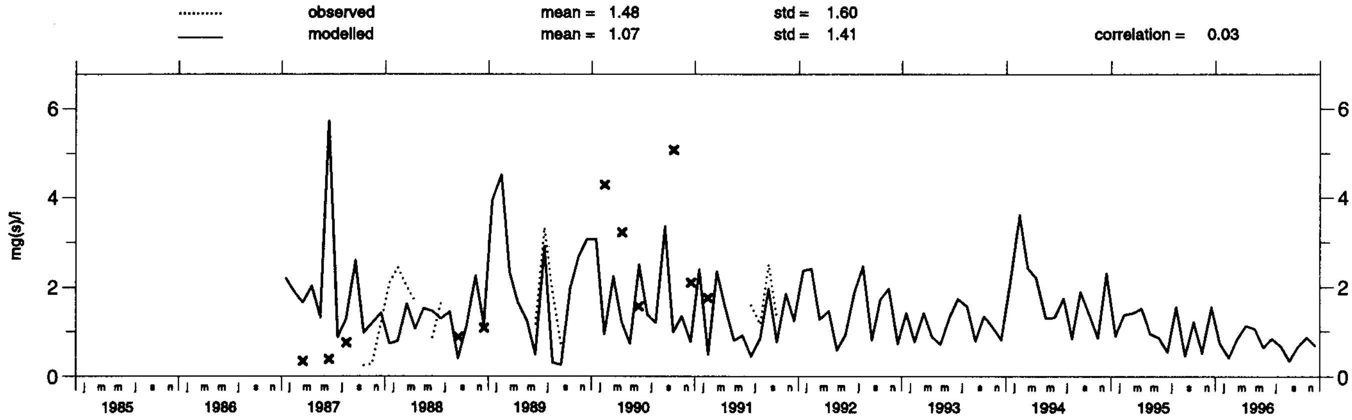
Monte_Velho (PT 4)

Concentration of sulphate in precipitation



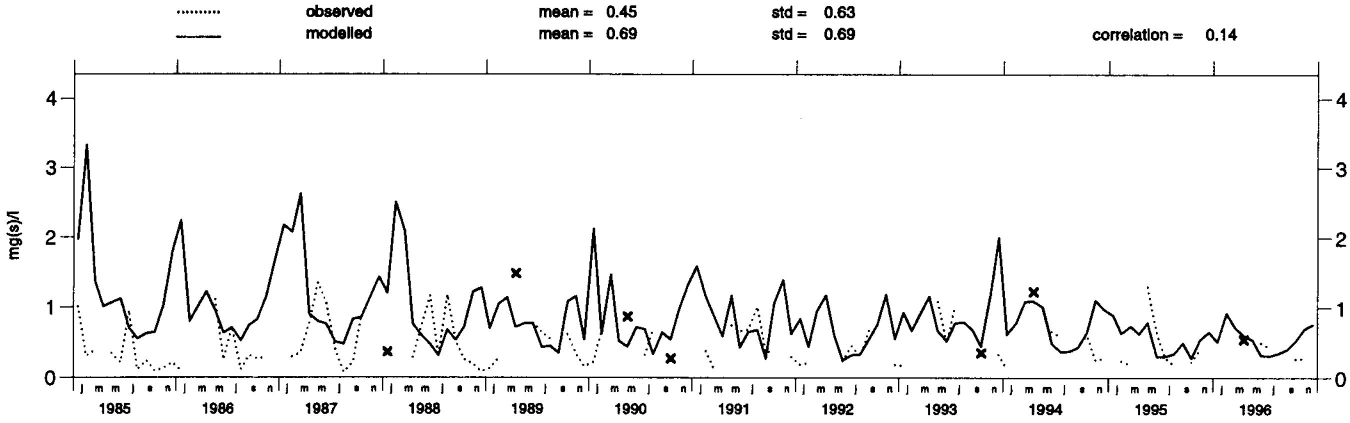
Leovo (MD 12)

Concentration of sulphate in precipitation



Janiskoski (RU 1)

Concentration of sulphate in precipitation

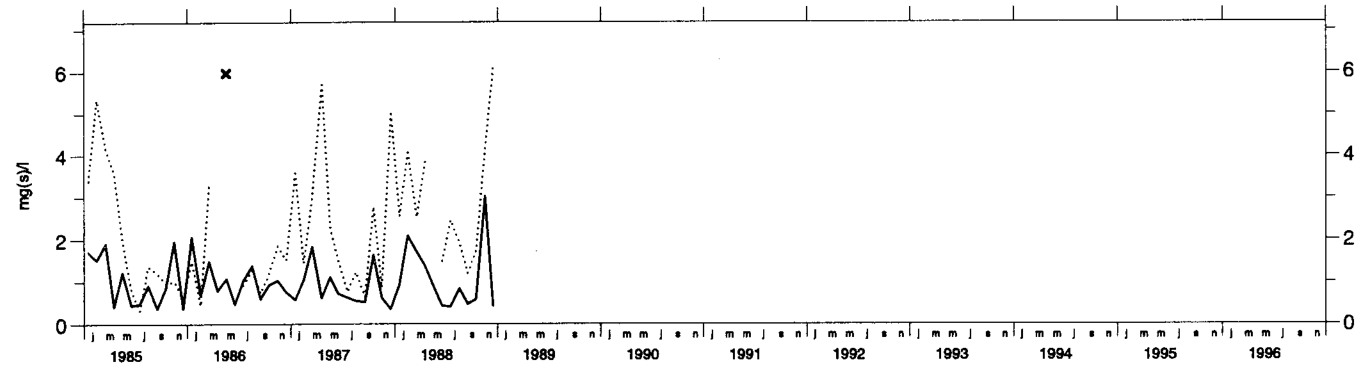


Lesogorsky (RU 8)

Concentration of sulphate in precipitation

.... observed mean = 1.88 std = 3.38

——— modelled mean = 0.86 std = 1.12 correlation = 0.05

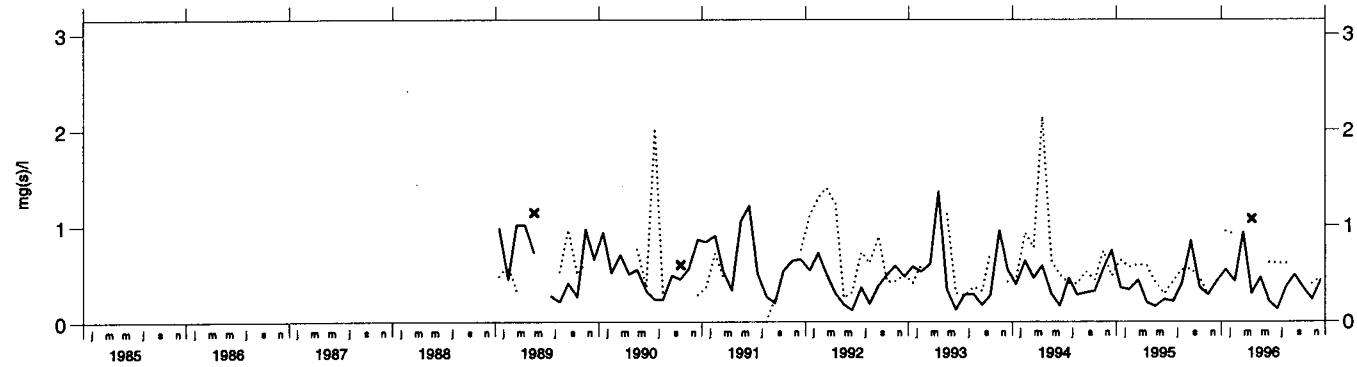


Pinega (RU 13)

Concentration of sulphate in precipitation

.... observed mean = 0.53 std = 0.54

——— modelled mean = 0.35 std = 0.38 correlation = 0.20

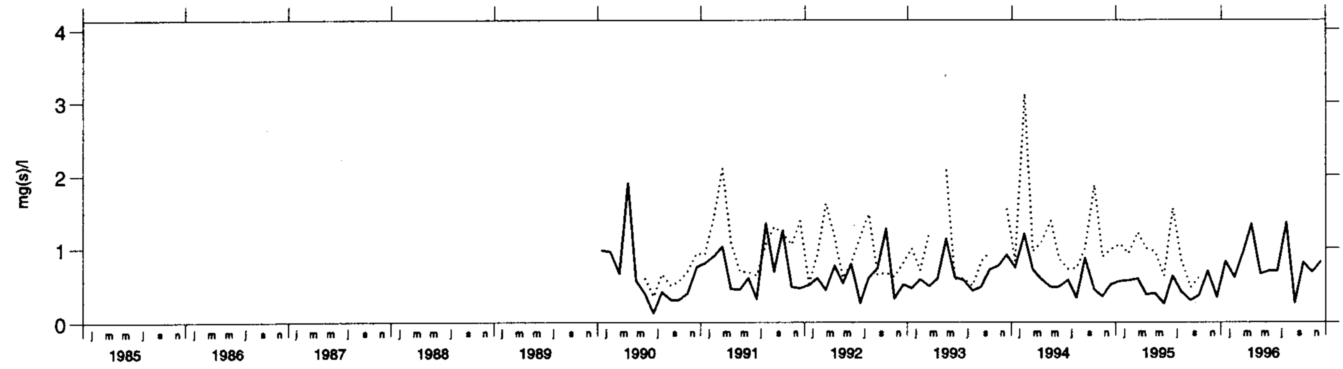


Pushkinsk_Gory (RU 14)

Concentration of sulphate in precipitation

.... observed mean = 0.85 std = 0.75

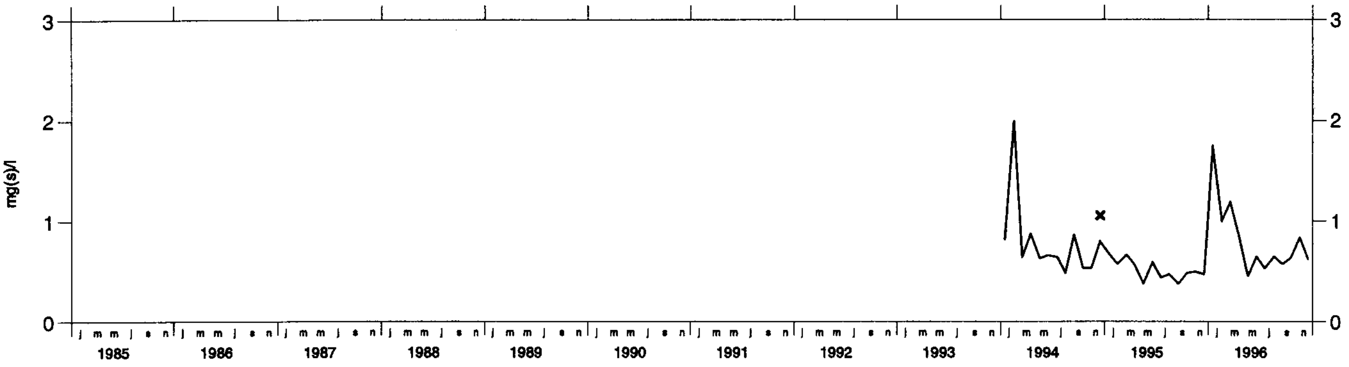
——— modelled mean = 0.50 std = 0.70 correlation = 0.17



Shepeljovo (RU 15)

Concentration of sulphate in precipitation

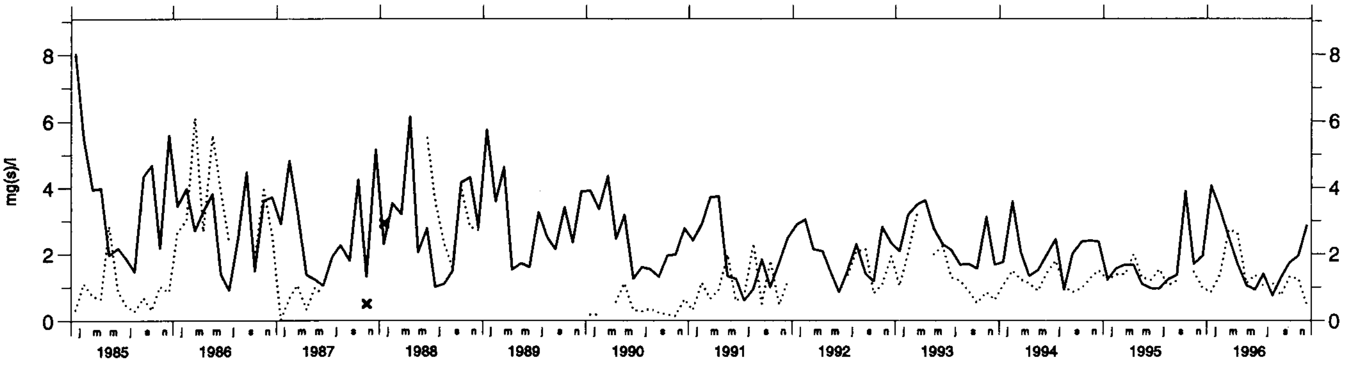
....	observed	mean = 1.07	std = 0.67	
———	modelled	mean = 0.70	std = 0.75	correlation = 0.27



Chopok (SK 2)

Concentration of sulphate in precipitation

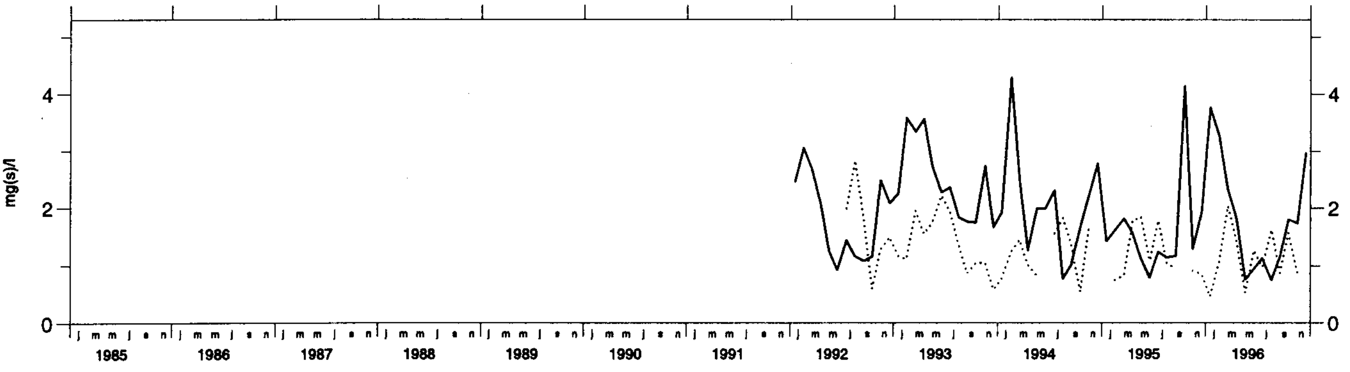
....	observed	mean = 1.41	std = 1.60	
———	modelled	mean = 1.89	std = 1.72	correlation = 0.22



Stara Lesna (SK 4)

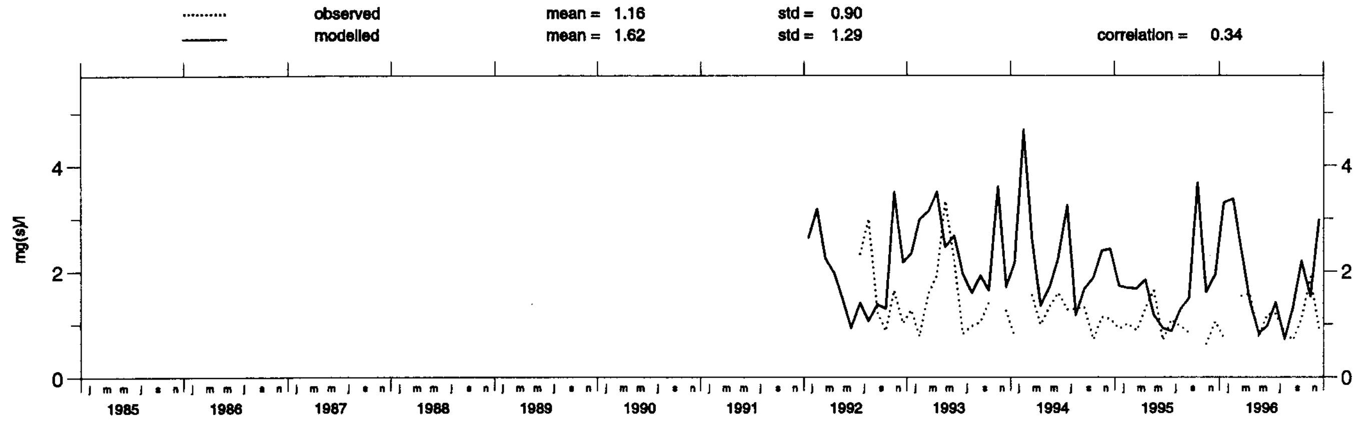
Concentration of sulphate in precipitation

....	observed	mean = 1.25	std = 0.89	
———	modelled	mean = 1.50	std = 1.24	correlation = 0.21



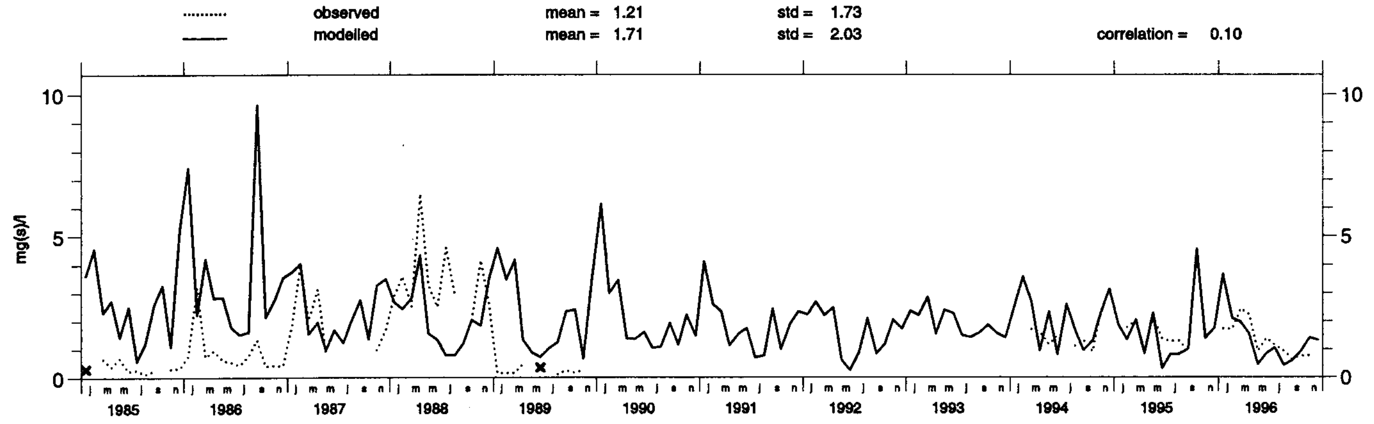
Liesek (SK 5)

Concentration of sulphate in precipitation



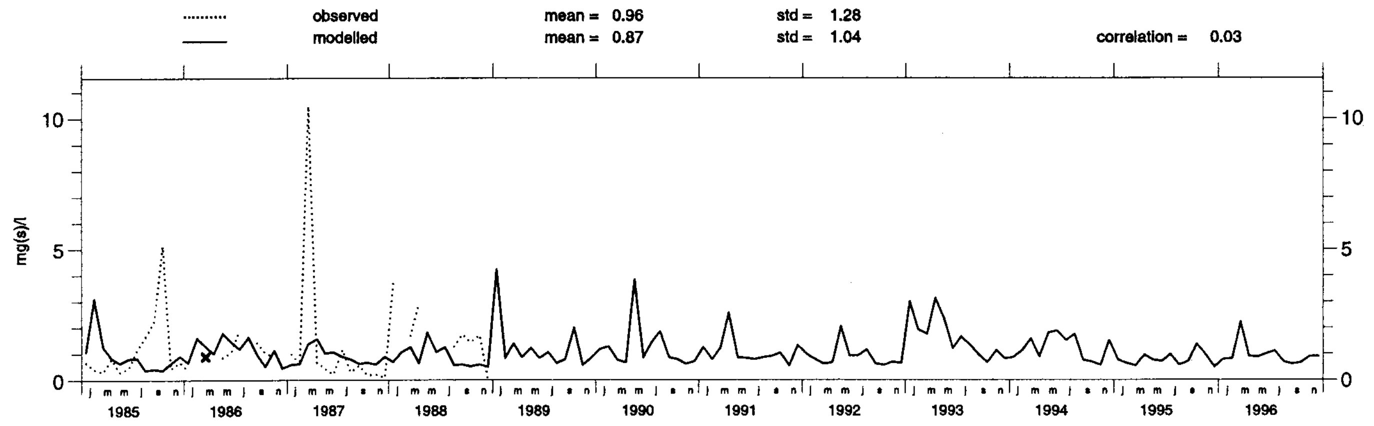
Starina (SK 6)

Concentration of sulphate in precipitation



Masun (SI 1)

Concentration of sulphate in precipitation

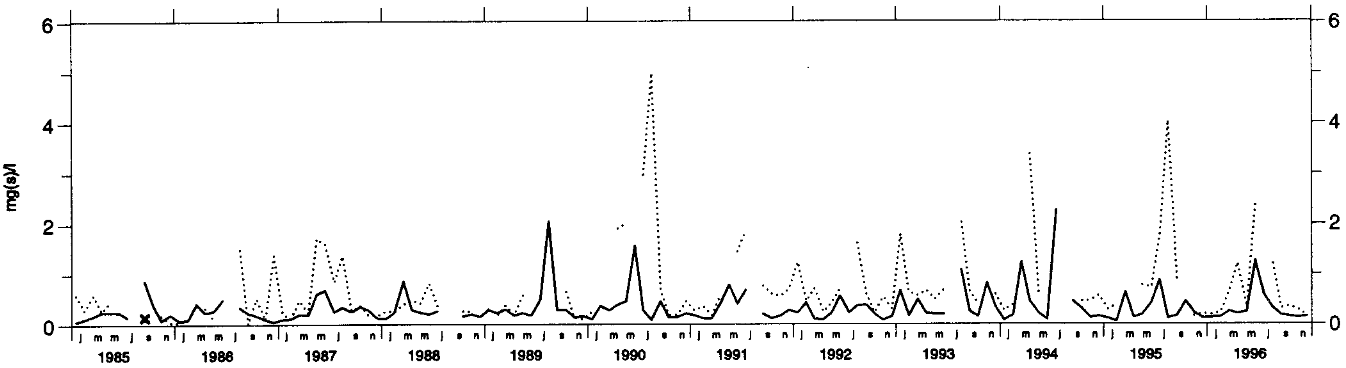


Toledo (ES 1)

Concentration of sulphate in precipitation

.... observed mean = 0.40 std = 0.60

——— modelled mean = 0.19 std = 0.24 correlation = 0.19

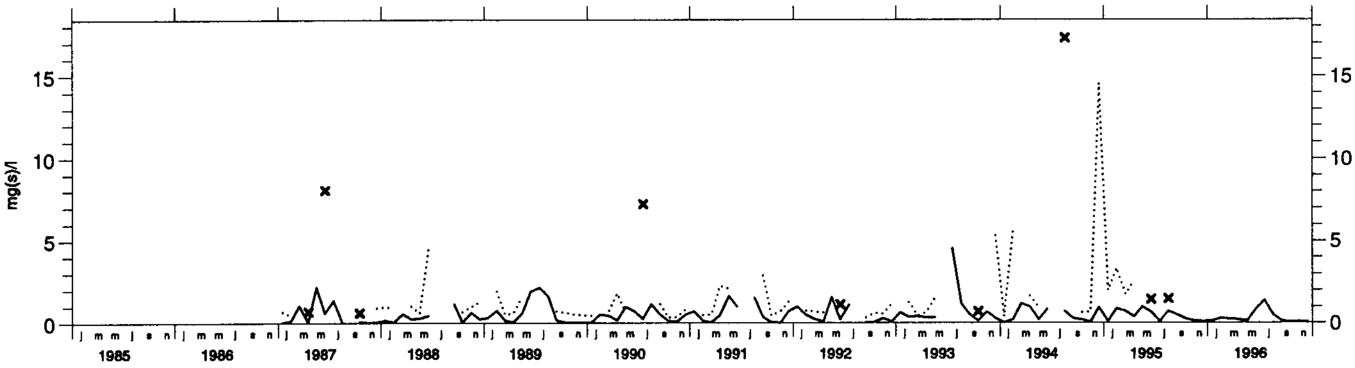


La_Cartuja (ES 2)

Concentration of sulphate in precipitation

.... observed mean = 1.00 std = 1.52

——— modelled mean = 0.15 std = 0.29 correlation = 0.07

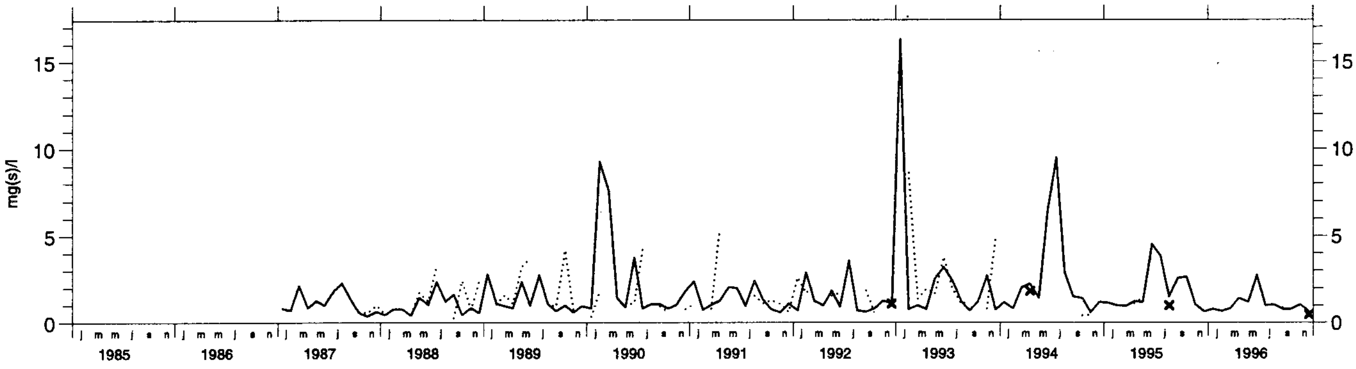


Roquetas (ES 3)

Concentration of sulphate in precipitation

.... observed mean = 1.11 std = 1.50

——— modelled mean = 0.89 std = 0.84 correlation = 0.13

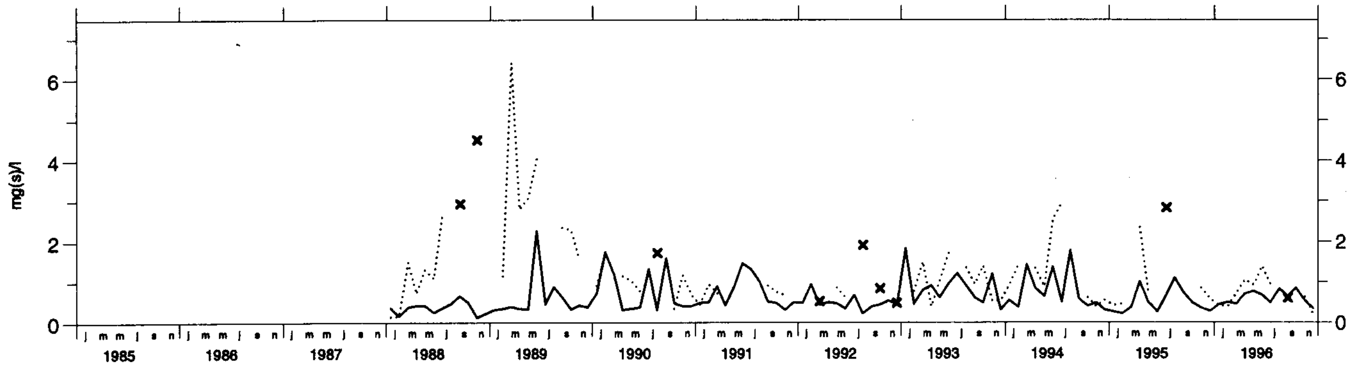


Logrono (ES 4)

Concentration of sulphate in precipitation

.... observed mean = 0.97 std = 1.69

——— modelled mean = 0.44 std = 0.40 correlation = 0.15

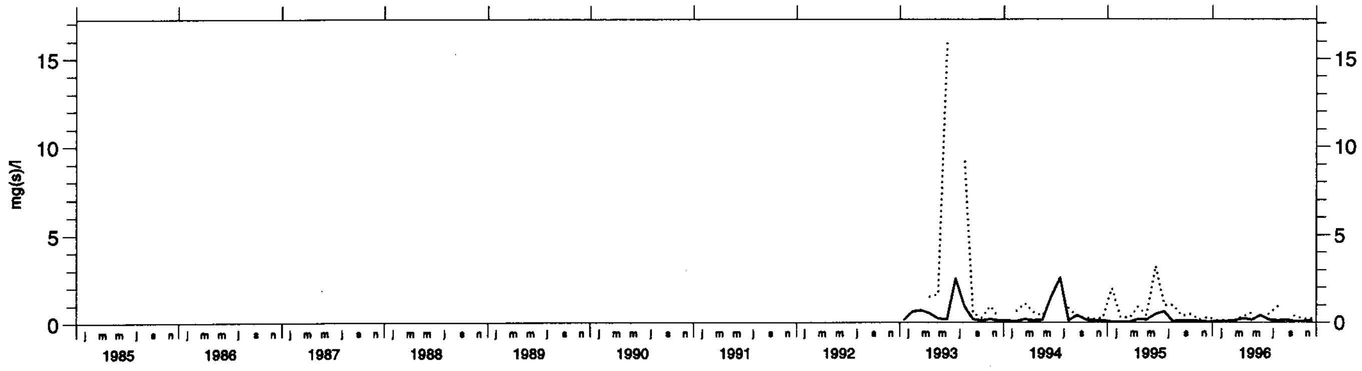


Noio (ES 5)

Concentration of sulphate in precipitation

.... observed mean = 0.60 std = 2.31

——— modelled mean = 0.13 std = 0.44 correlation = 0.04

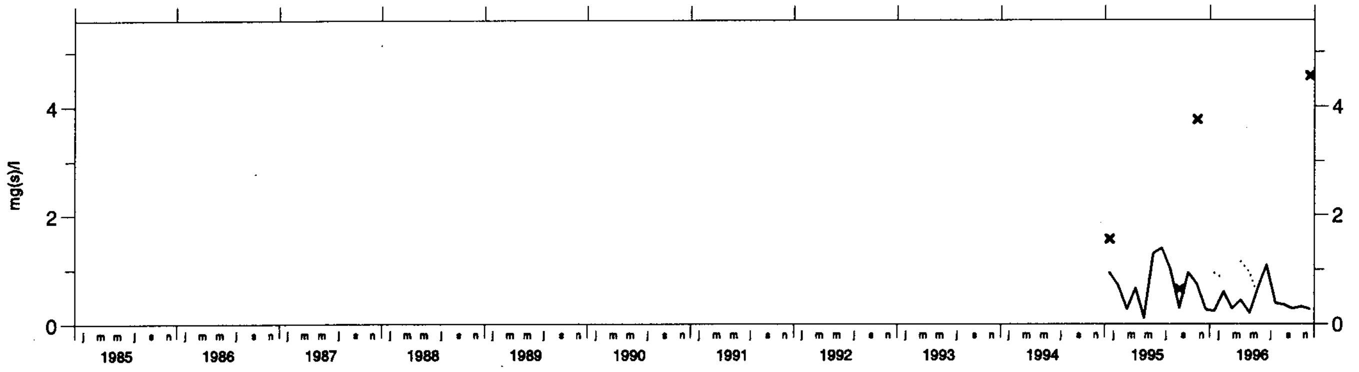


Mahon (ES 6)

Concentration of sulphate in precipitation

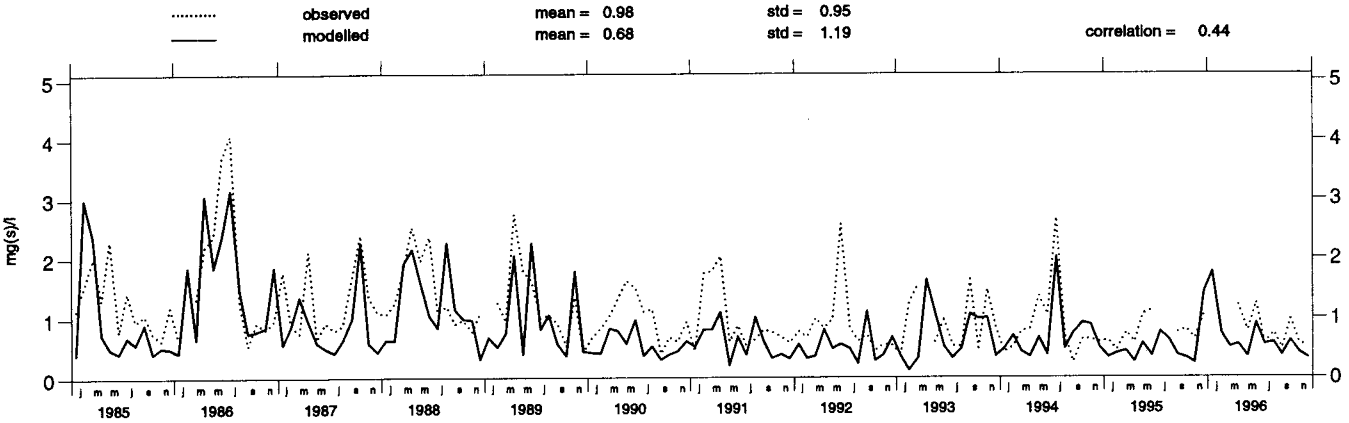
.... observed mean = 2.25 std = 3.46

——— modelled mean = 0.29 std = 0.35 correlation = -0.00



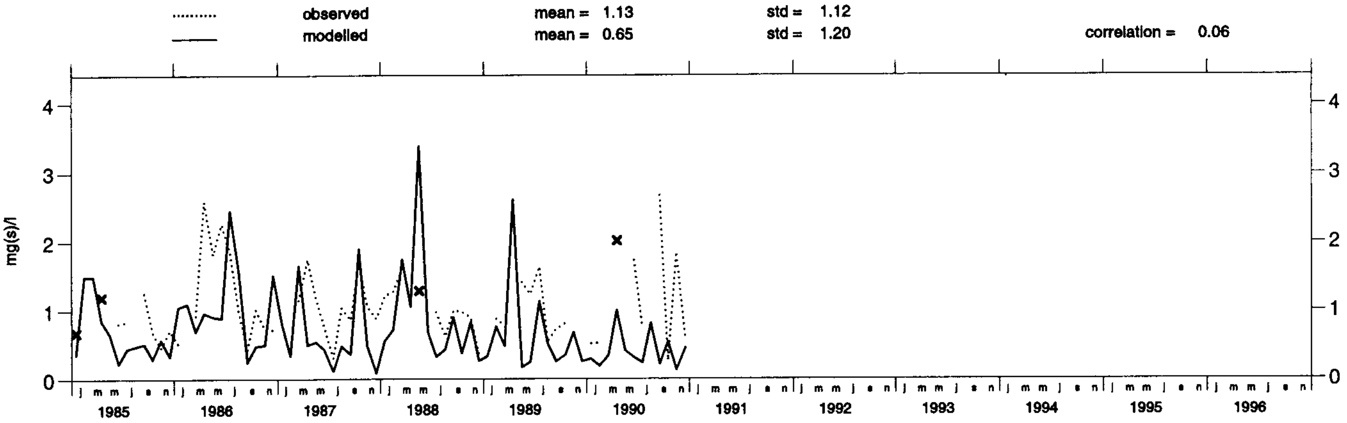
Roervik (SE 2)

Concentration of sulphate in precipitation



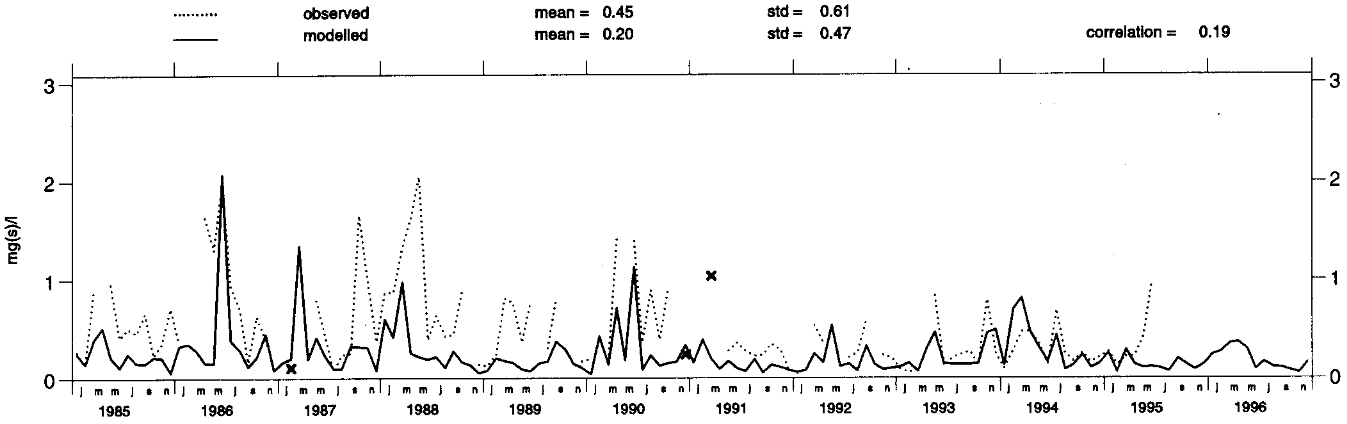
Velen (SE 3)

Concentration of sulphate in precipitation



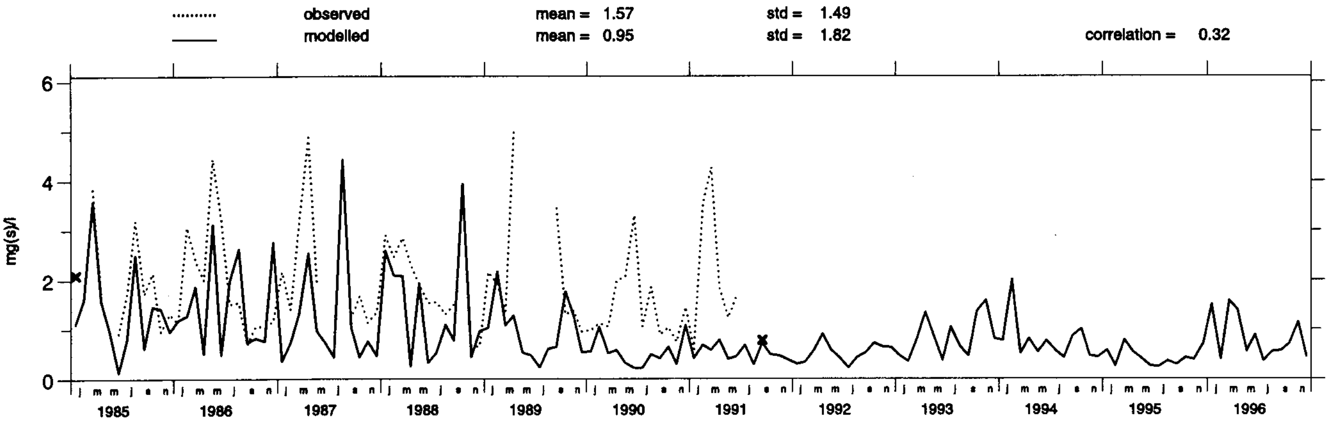
Bredkelen (SE 5)

Concentration of sulphate in precipitation



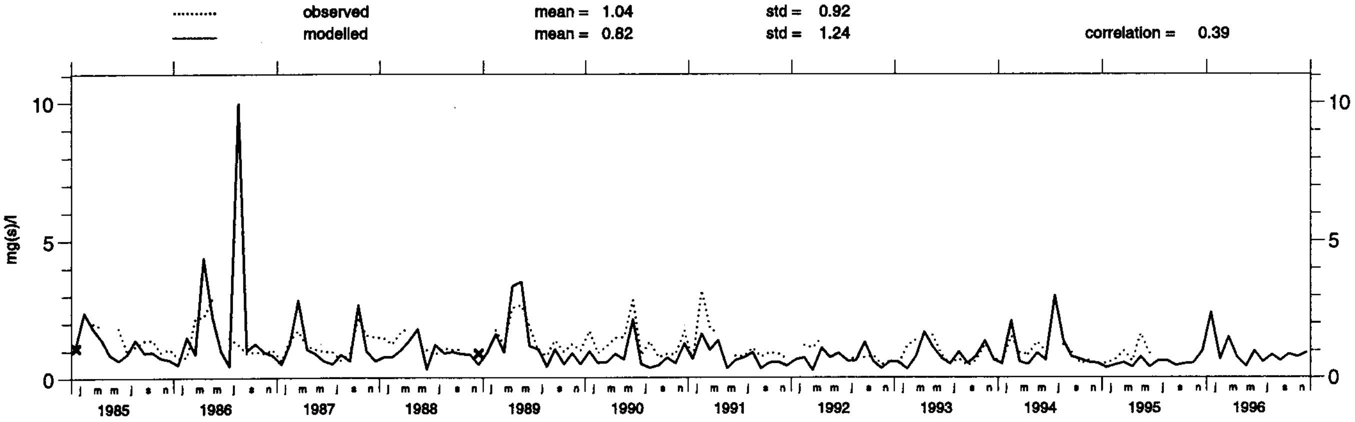
Hoburg (SE 8)

Concentration of sulphate in precipitation



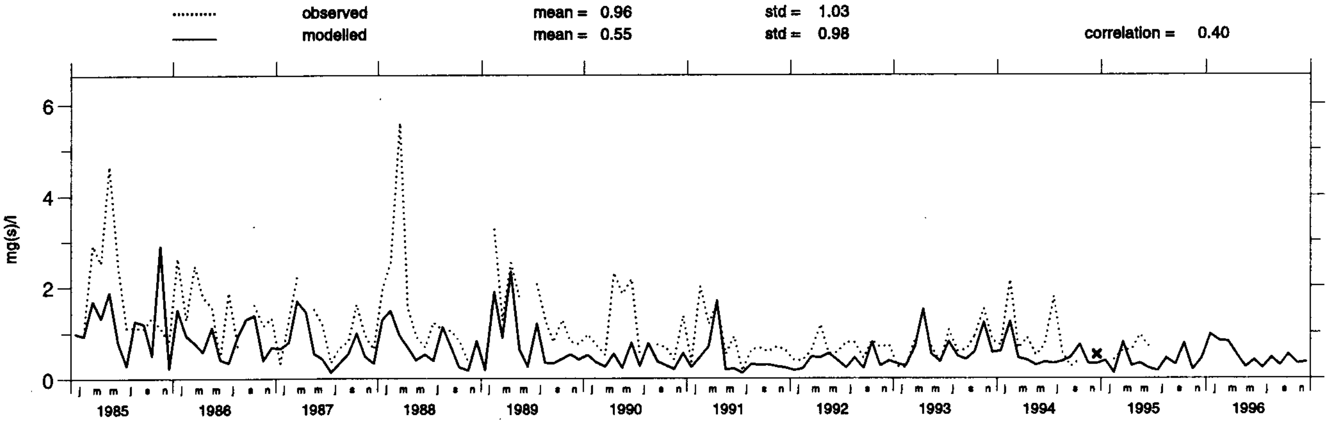
Vavihill (SE 11)

Concentration of sulphate in precipitation



Aspvreten (SE 12)

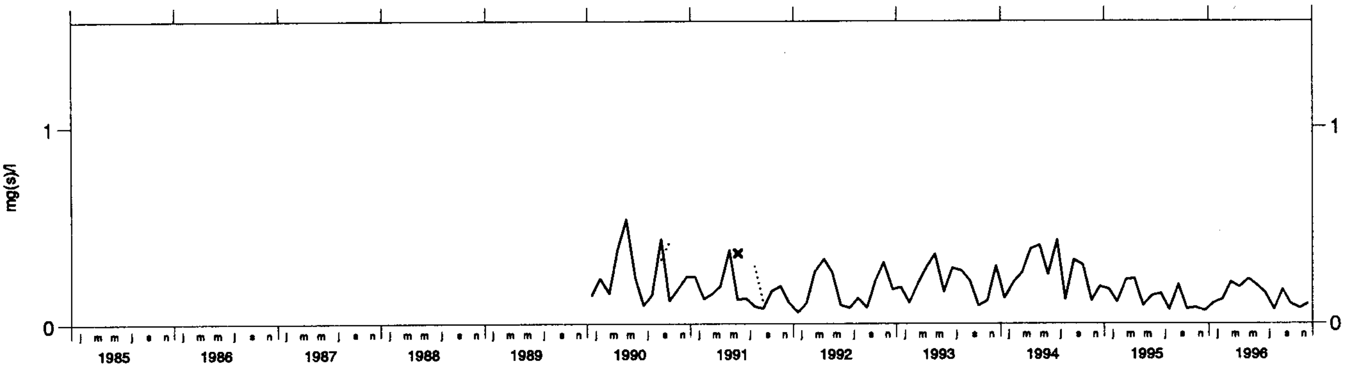
Concentration of sulphate in precipitation



Esrange (SE 13)

Concentration of sulphate in precipitation

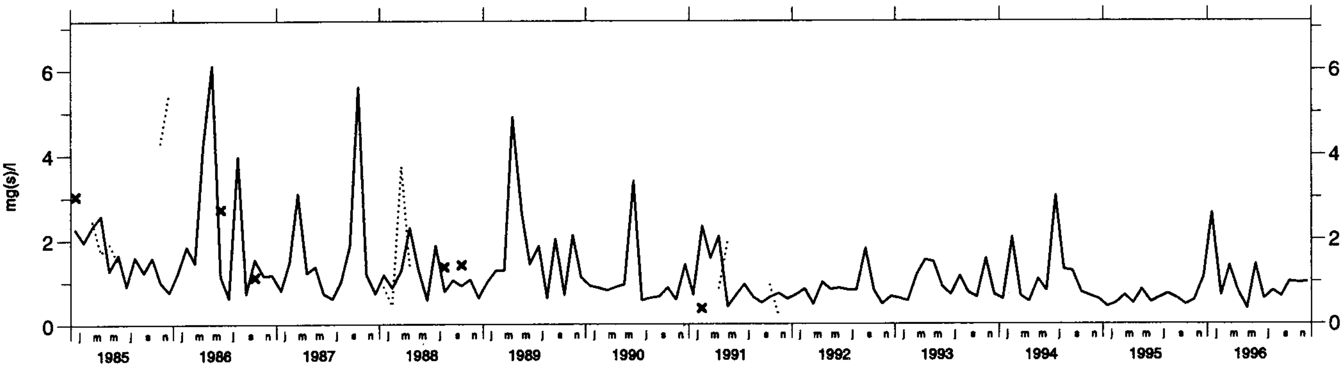
....	observed	mean = 0.29	std = 0.29	
———	modelled	mean = 0.14	std = 0.22	correlation = 0.11



Arup (SE 50)

Concentration of sulphate in precipitation

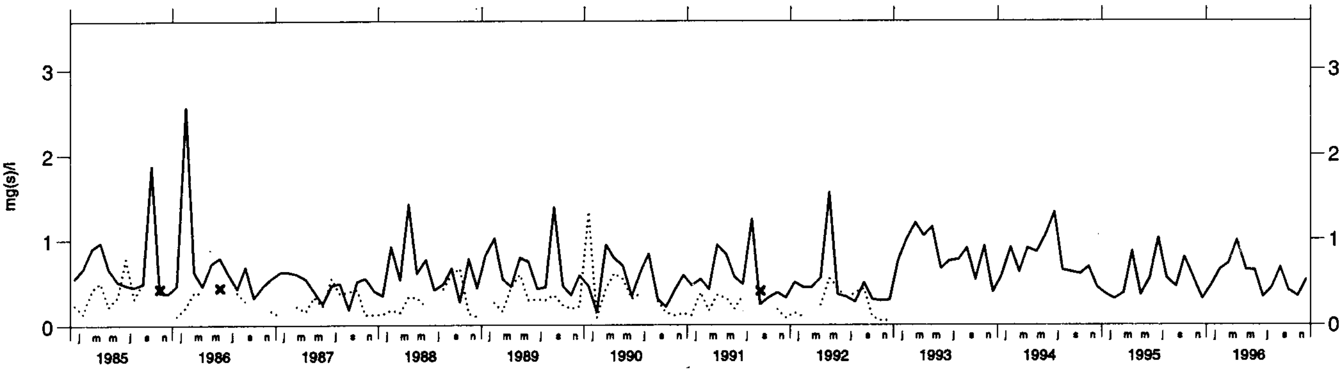
....	observed	mean = 1.53	std = 1.89	
———	modelled	mean = 1.28	std = 1.58	correlation = 0.00



Jungfraujoch (CH 1)

Concentration of sulphate in precipitation

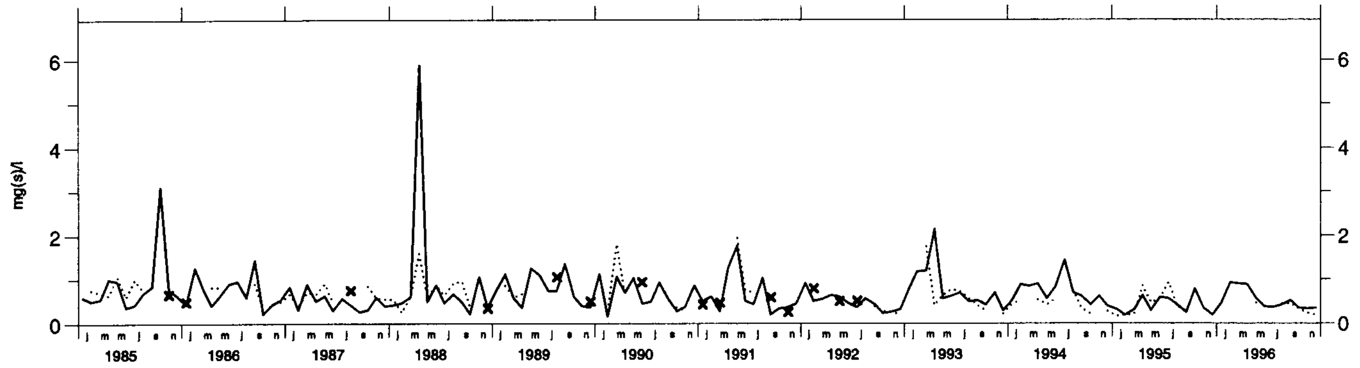
....	observed	mean = 0.29	std = 0.38	
———	modelled	mean = 0.51	std = 0.62	correlation = 0.23



Payerne (CH 2)

Concentration of sulphate in precipitation

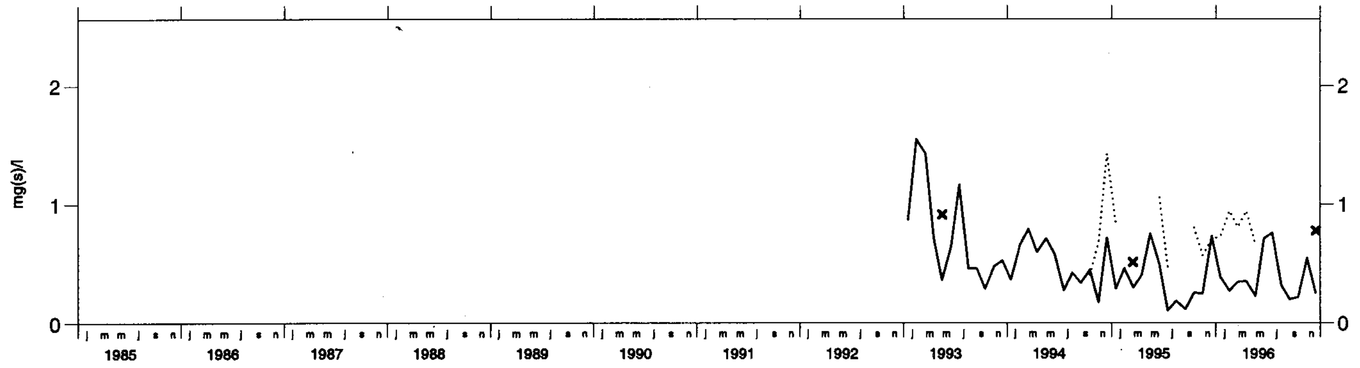
....	observed	mean = 0.58	std = 0.54	
———	modelled	mean = 0.50	std = 0.77	correlation = 0.21



Cubuk11 (TR 1)

Concentration of sulphate in precipitation

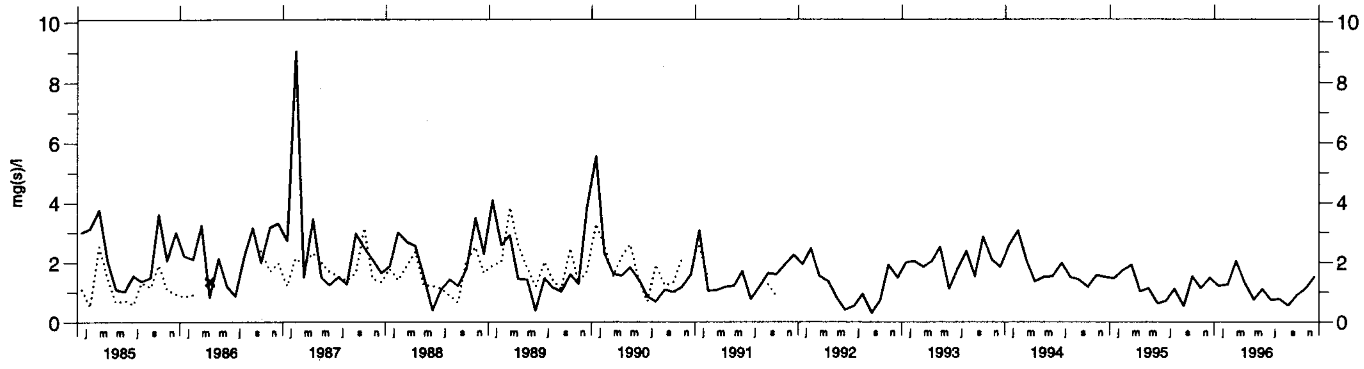
....	observed	mean = 0.79	std = 0.62	
———	modelled	mean = 0.31	std = 0.34	correlation = -0.04



Svityatz (UA 5)

Concentration of sulphate in precipitation

....	observed	mean = 1.51	std = 1.31	
———	modelled	mean = 1.63	std = 2.02	correlation = 0.26

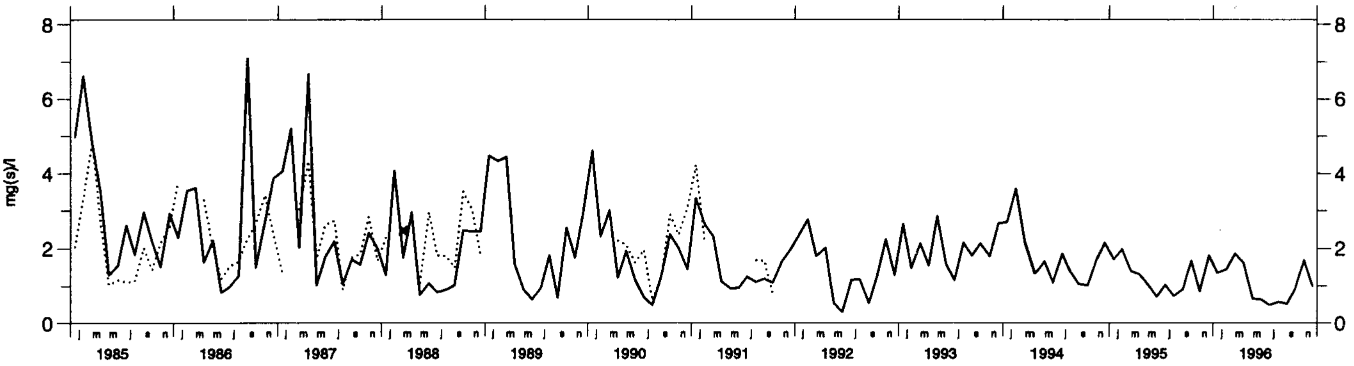


Rava-Russkaya (UA 6)

Concentration of sulphate in precipitation

.... observed mean = 1.94 std = 1.75

——— modelled mean = 1.73 std = 2.15 correlation = 0.13

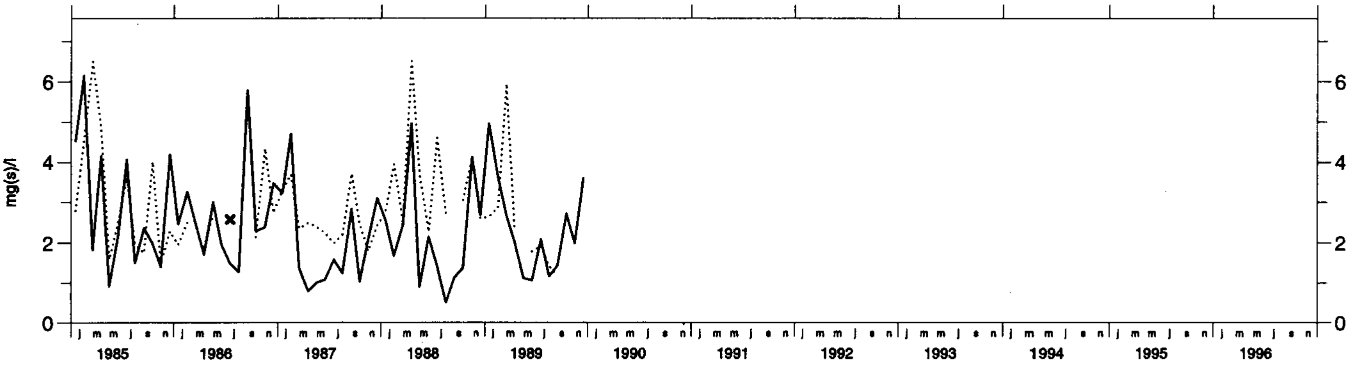


Beregovo (UA 7)

Concentration of sulphate in precipitation

.... observed mean = 2.64 std = 2.35

——— modelled mean = 2.08 std = 2.32 correlation = 0.04

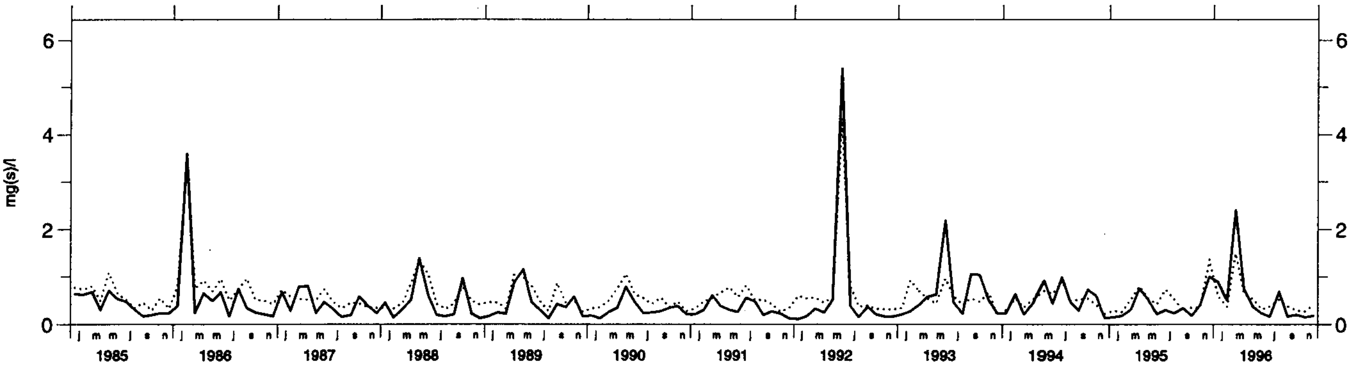


Eskdalemuir (GB 2)

Concentration of sulphate in precipitation

.... observed mean = 0.49 std = 0.52

——— modelled mean = 0.35 std = 0.78 correlation = 0.39

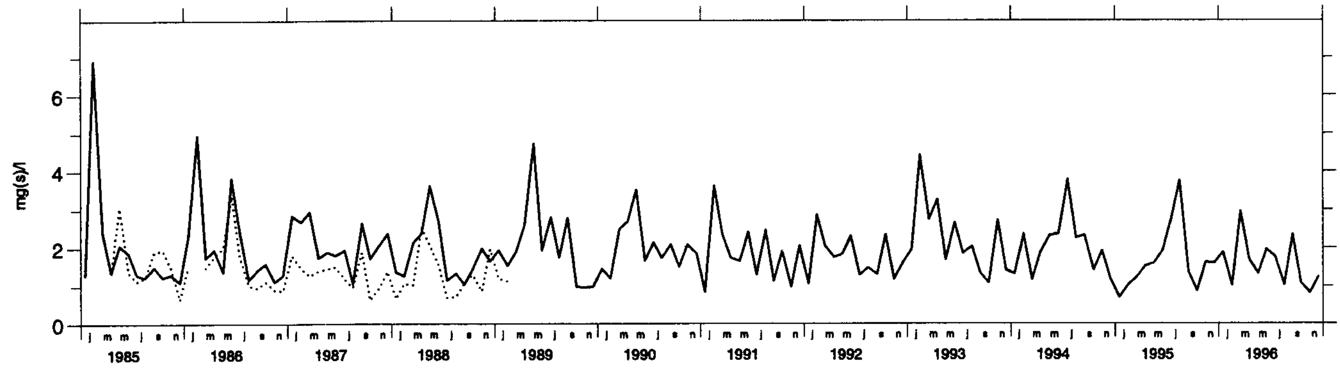


Stoke_Ferry (GB 4)

Concentration of sulphate in precipitation

.... observed mean = 1.29 std = 1.49

——— modelled mean = 1.74 std = 1.67 correlation = 0.35

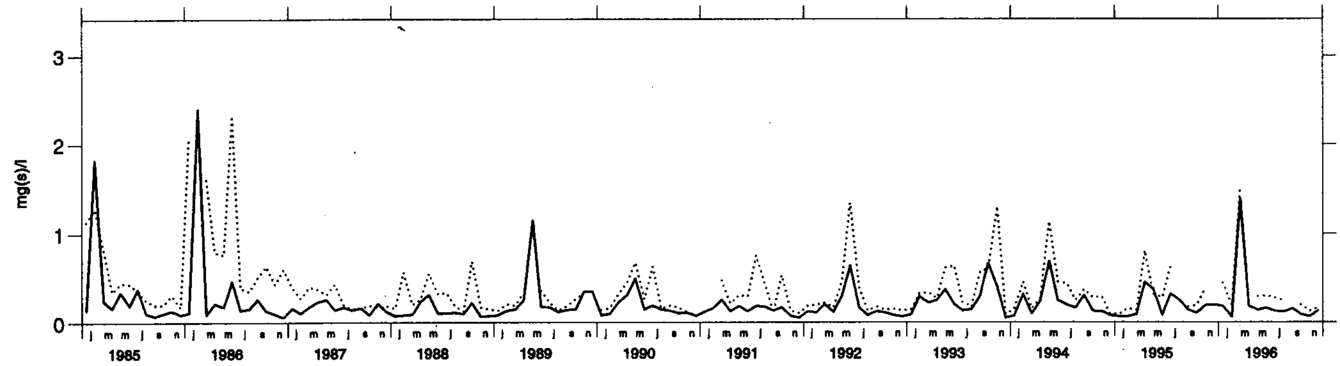


Lough_Navar (GB 6)

Concentration of sulphate in precipitation

.... observed mean = 0.34 std = 0.69

——— modelled mean = 0.16 std = 0.29 correlation = 0.31

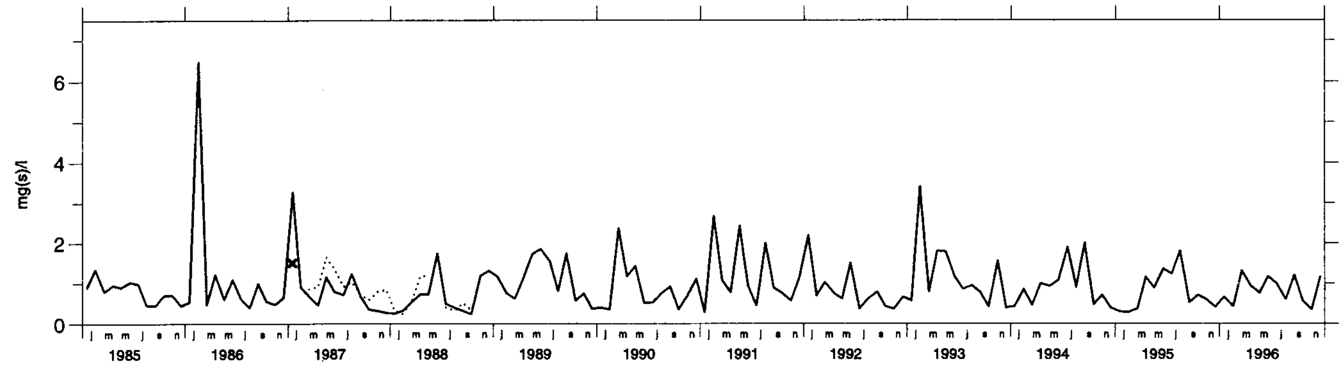


Barcombe_Mills (GB 7)

Concentration of sulphate in precipitation

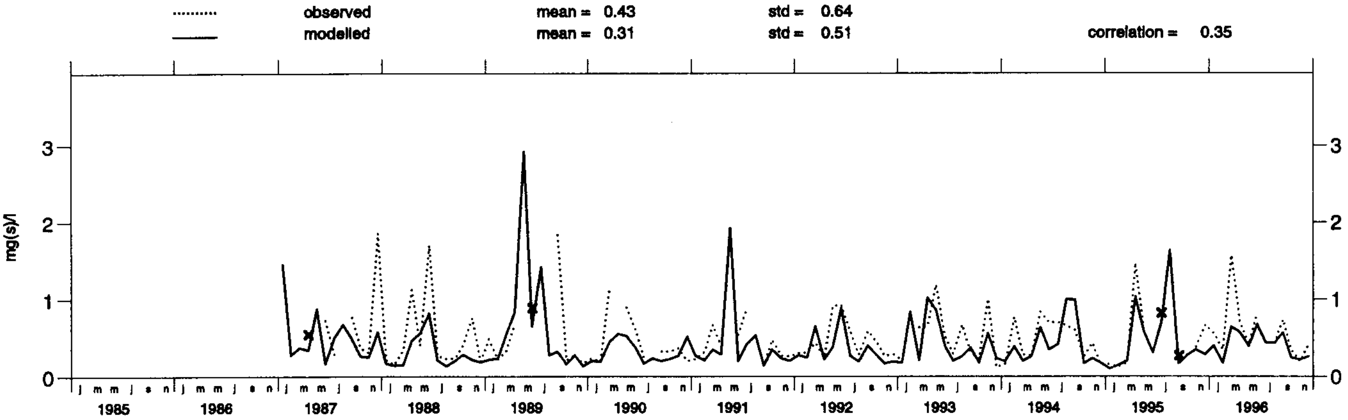
.... observed mean = 0.67 std = 0.73

——— modelled mean = 0.55 std = 0.81 correlation = 0.26



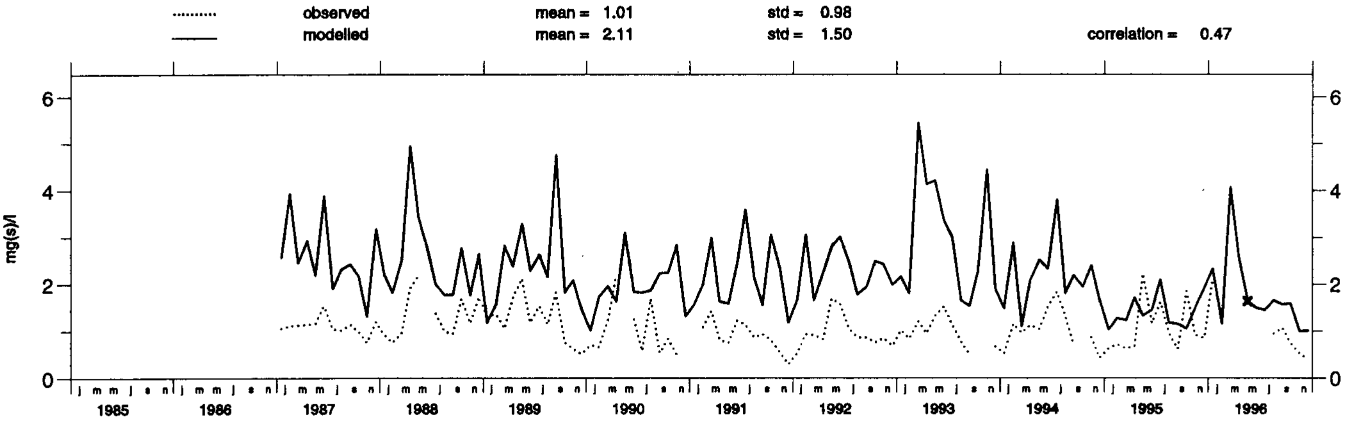
Yarner_Wood (GB 13)

Concentration of sulphate in precipitation



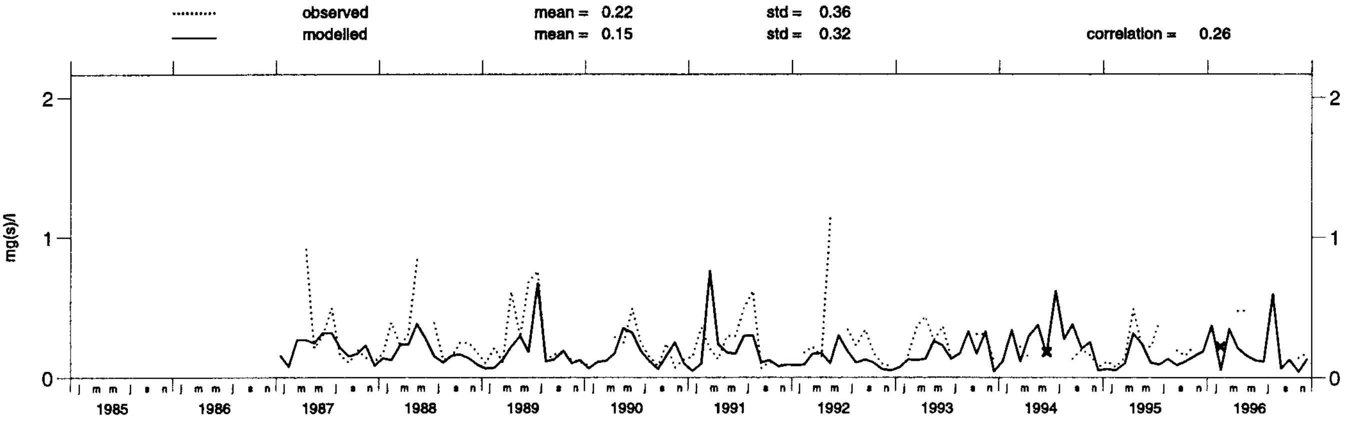
High_Muffles (GB 14)

Concentration of sulphate in precipitation



Strath_Vaich_D. (GB 15)

Concentration of sulphate in precipitation

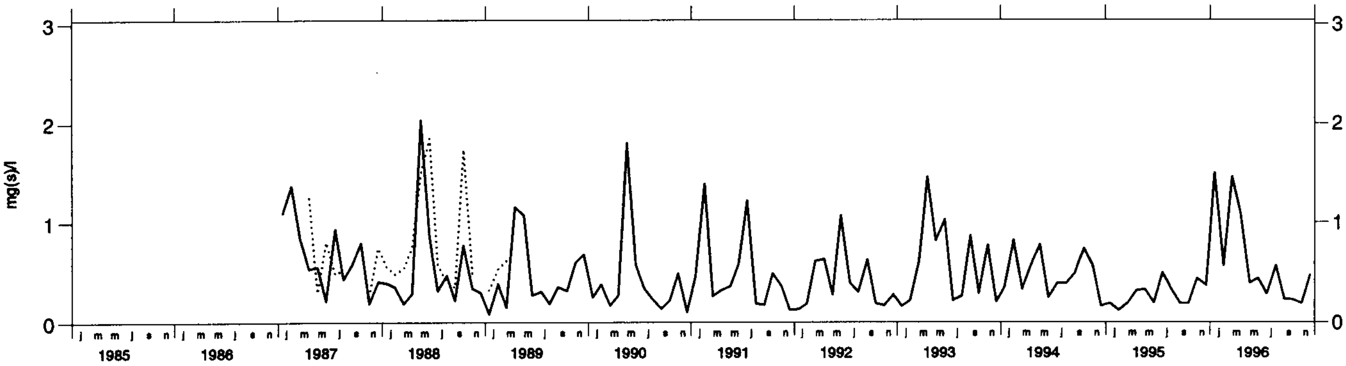


Glen_Dye (GB 16)

Concentration of sulphate in precipitation

.... observed mean = 0.82 std = 0.96

———— modelled mean = 0.39 std = 0.58 correlation = 0.26

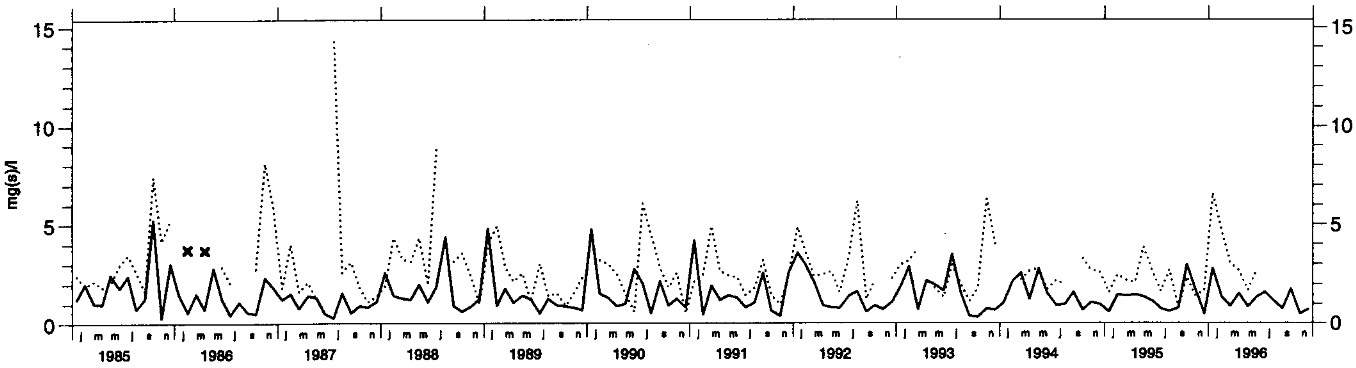


Kamenicki_vis (YU 5)

Concentration of sulphate in precipitation

.... observed mean = 2.40 std = 2.16

———— modelled mean = 1.16 std = 1.30 correlation = 0.08

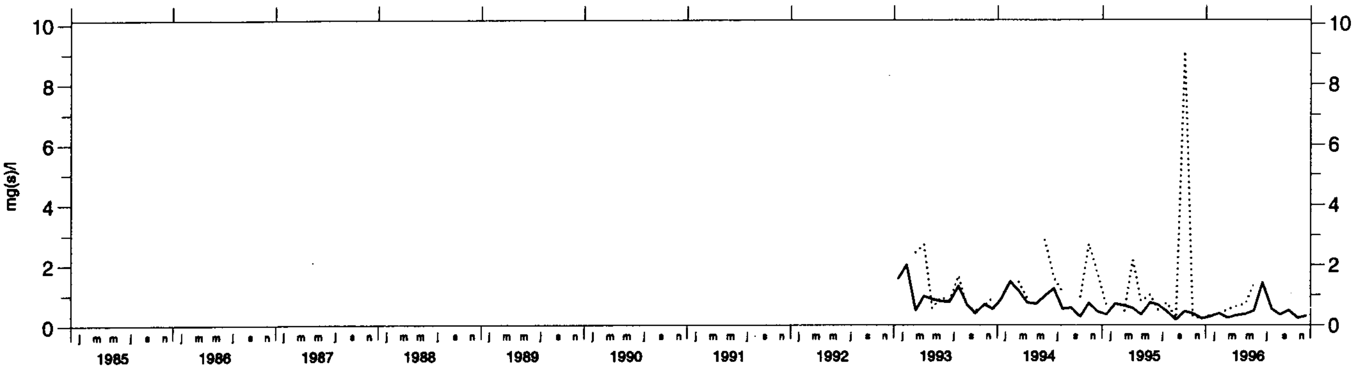


Zabljak (YU 8)

Concentration of sulphate in precipitation

.... observed mean = 0.85 std = 1.07

———— modelled mean = 0.44 std = 0.55 correlation = 0.27

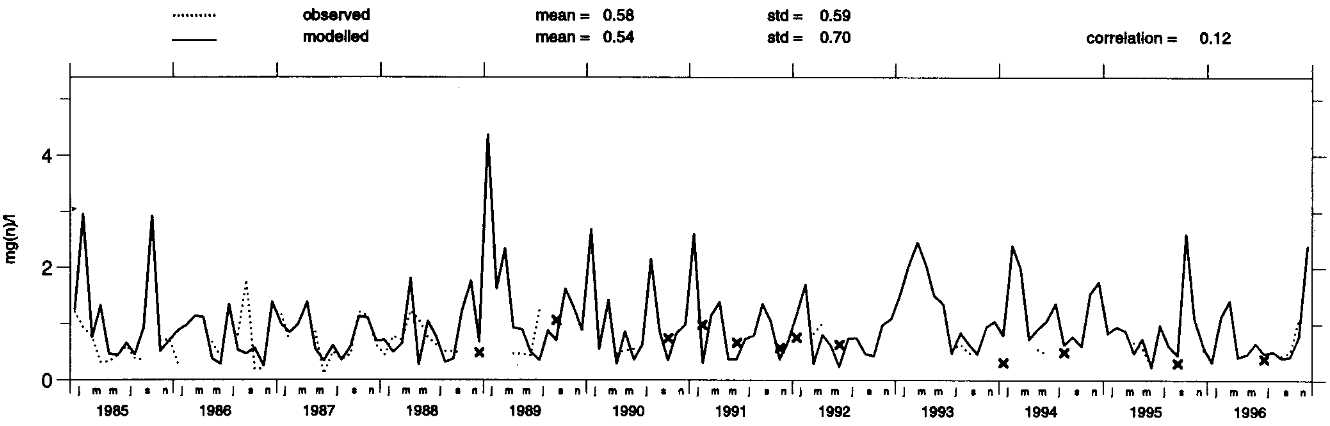


Time series for concentration of Nitrate in precipitation

Period: 1985-96

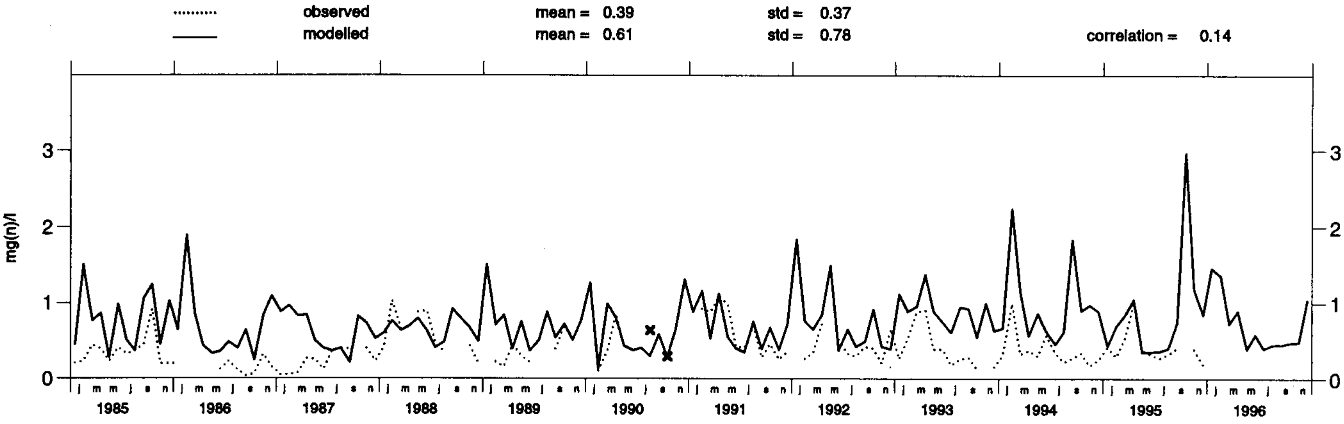
Illmitz (AT 2)

Concentration of nitrate in precipitation



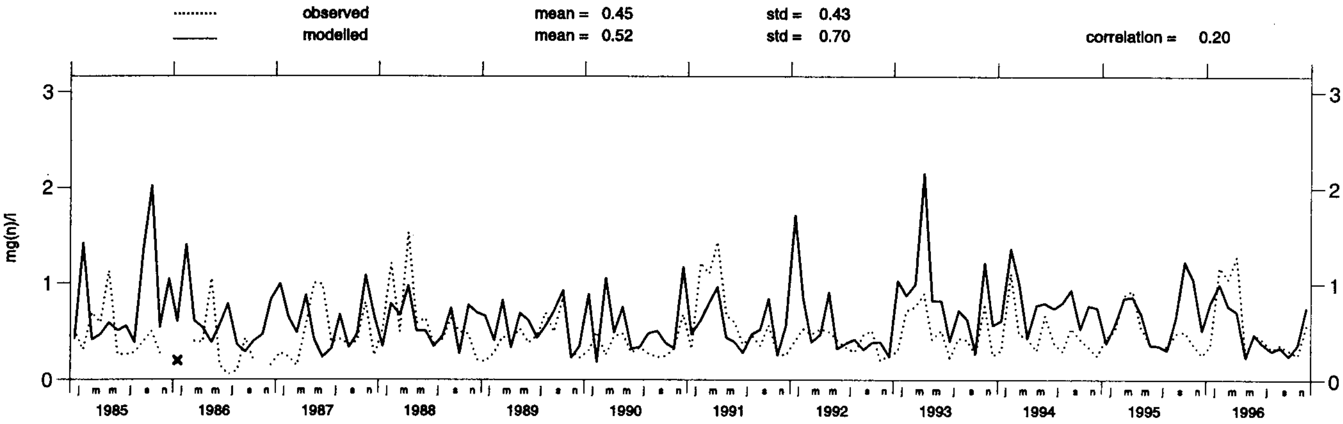
Achenkirch (AT 3)

Concentration of nitrate in precipitation



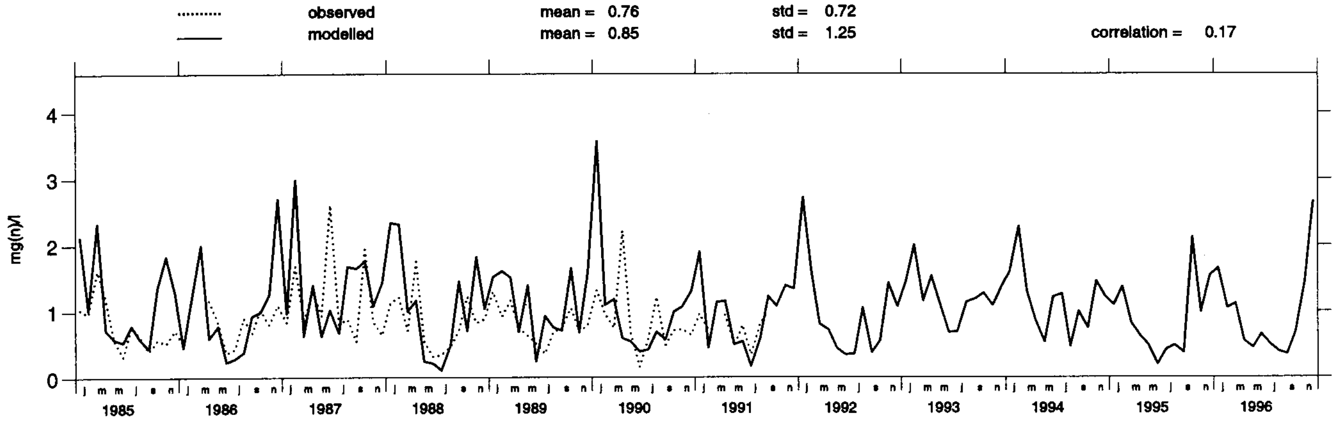
St.Koloman (AT 4)

Concentration of nitrate in precipitation



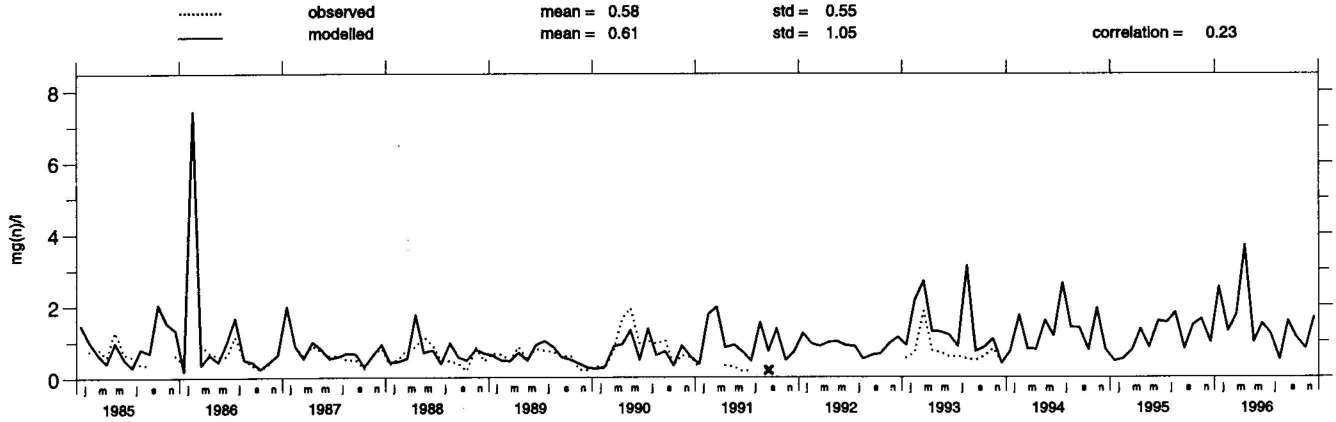
Vysokoe (BY 4)

Concentration of nitrate in precipitation



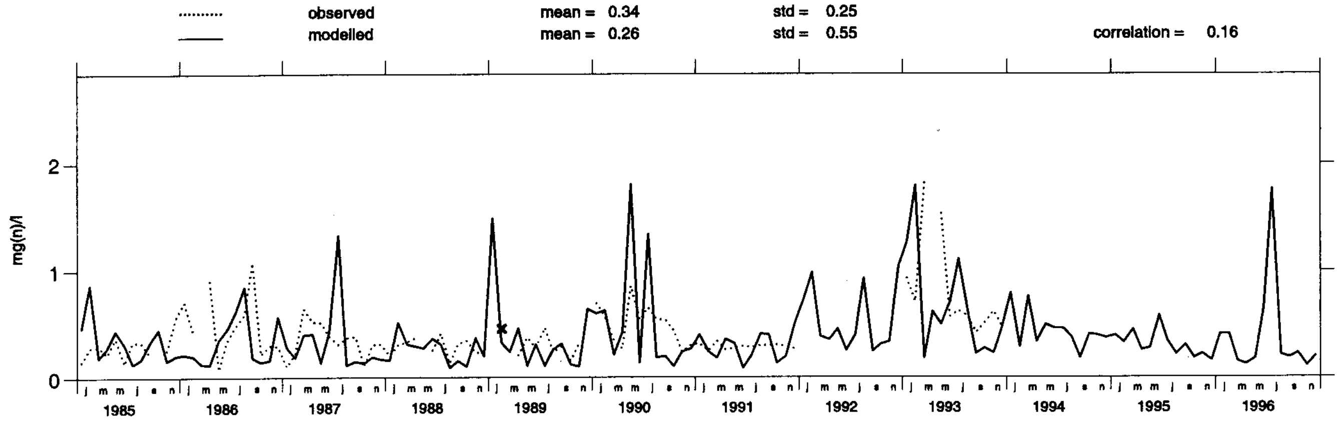
Offagne (BE 1)

Concentration of nitrate in precipitation



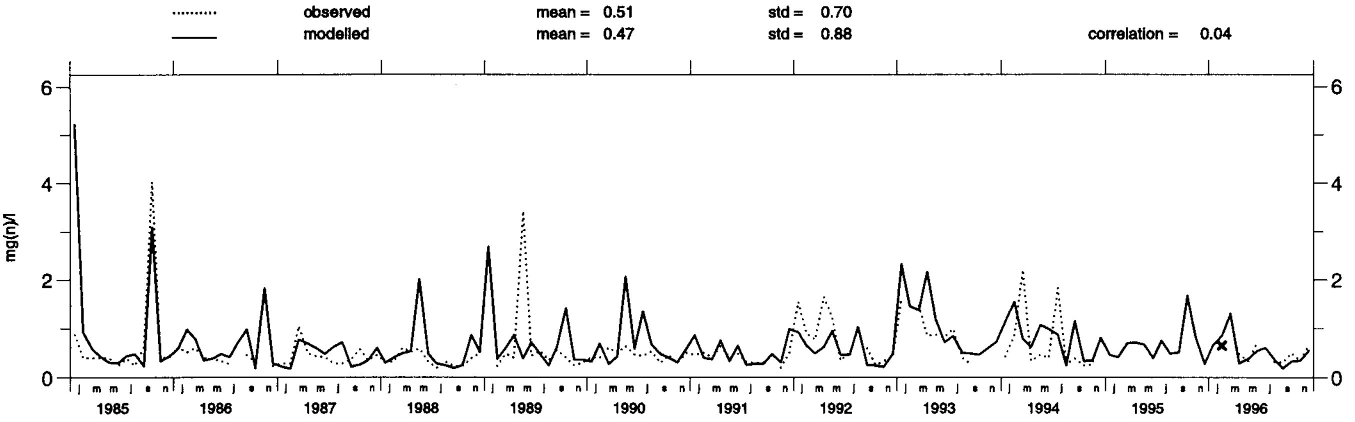
Ivan_Sedlo (BA 6)

Concentration of nitrate in precipitation



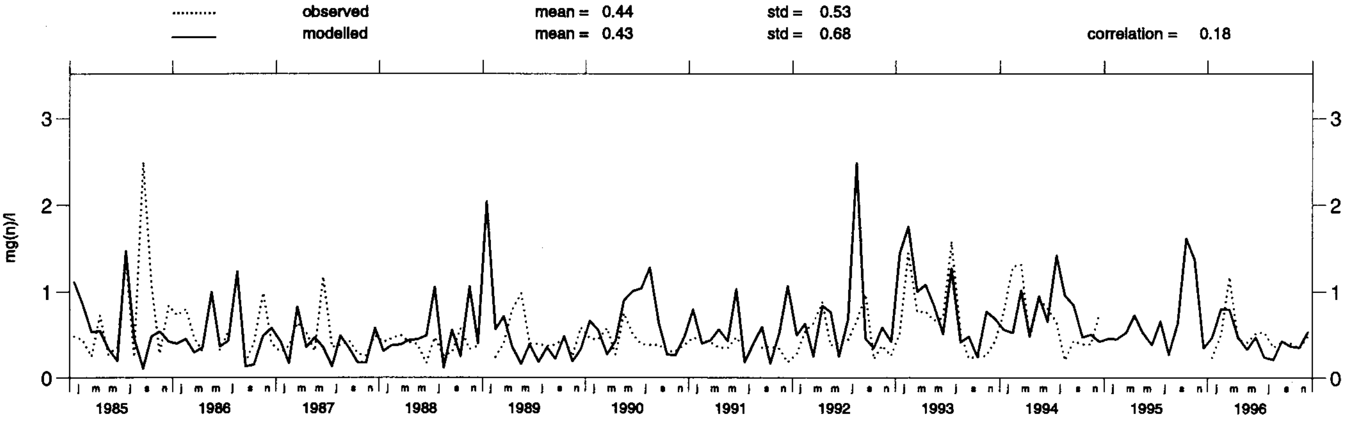
Puntijarka (HR 2)

Concentration of nitrate in precipitation



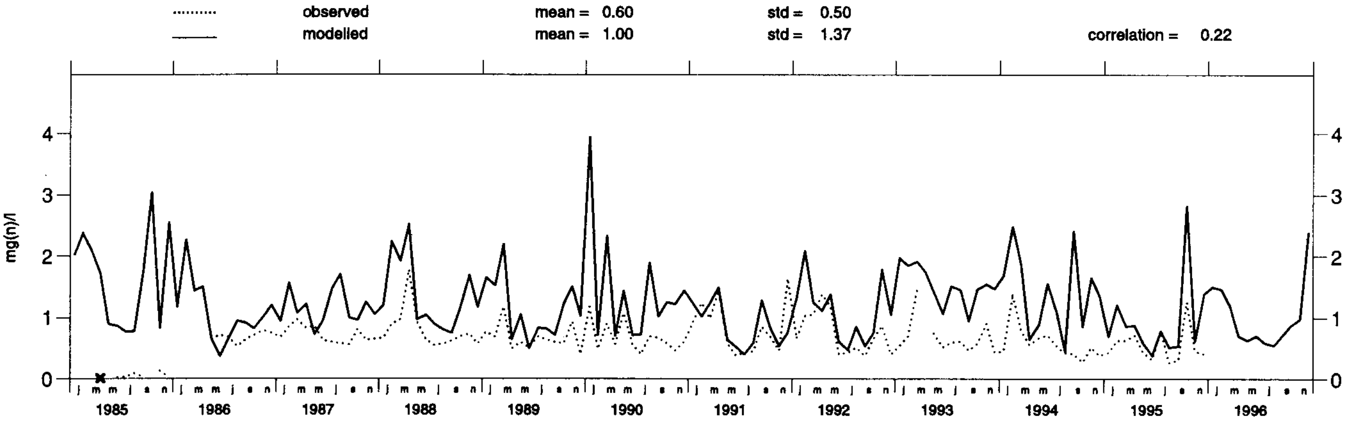
Zavizan (HR 4)

Concentration of nitrate in precipitation



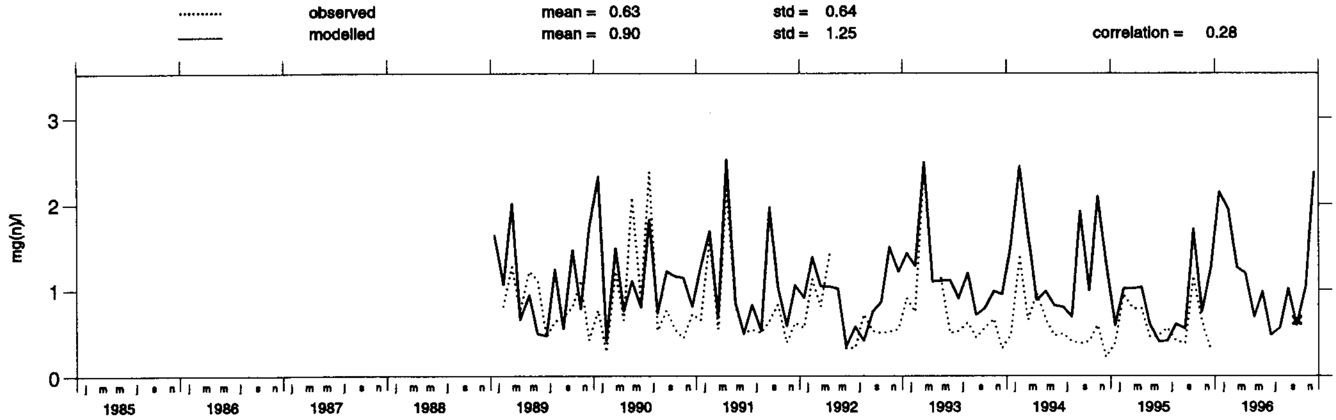
Svratouch (CS 1)

Concentration of nitrate in precipitation



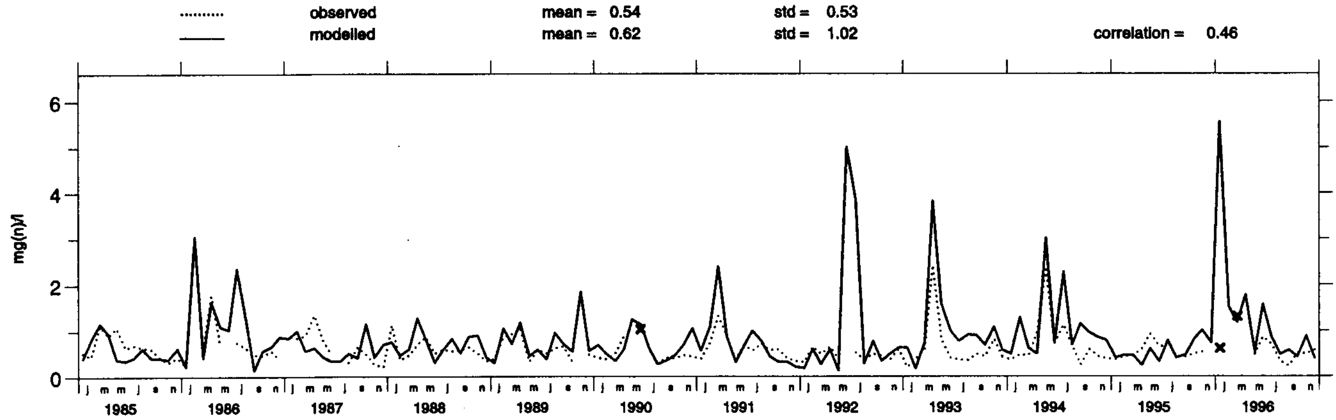
Kosetice (CS 3)

Concentration of nitrate in precipitation



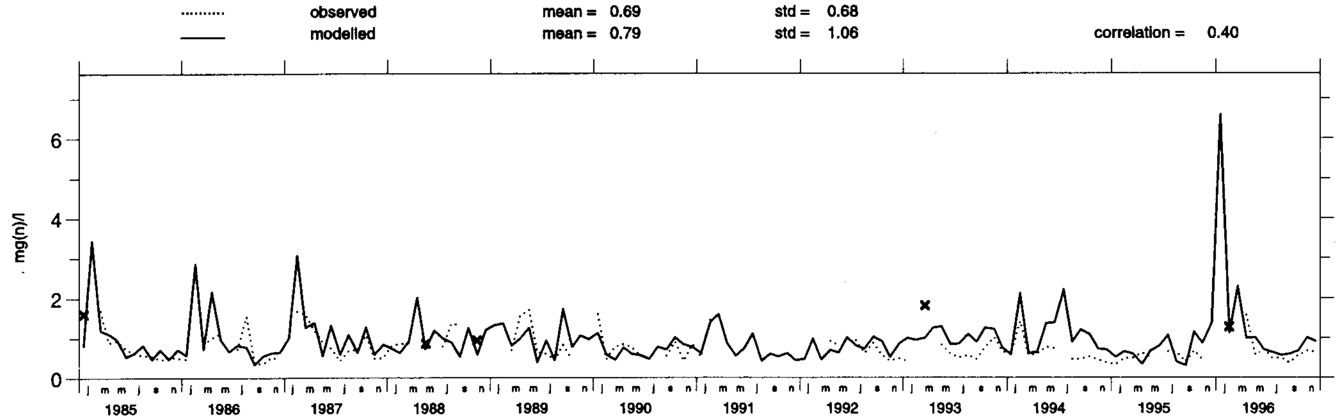
Tange (DK 3)

Concentration of nitrate in precipitation



Keldsnor (DK 5)

Concentration of nitrate in precipitation

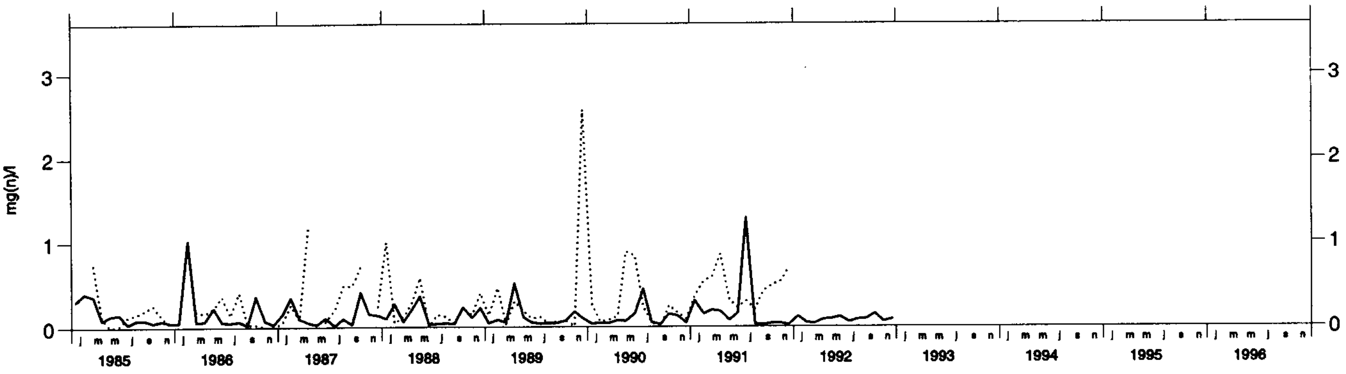


Faer.-Akraberg (DK 7)

Concentration of nitrate in precipitation

.... observed mean = 0.25 std = 1.03

—— modelled mean = 0.10 std = 0.44 correlation = 0.11

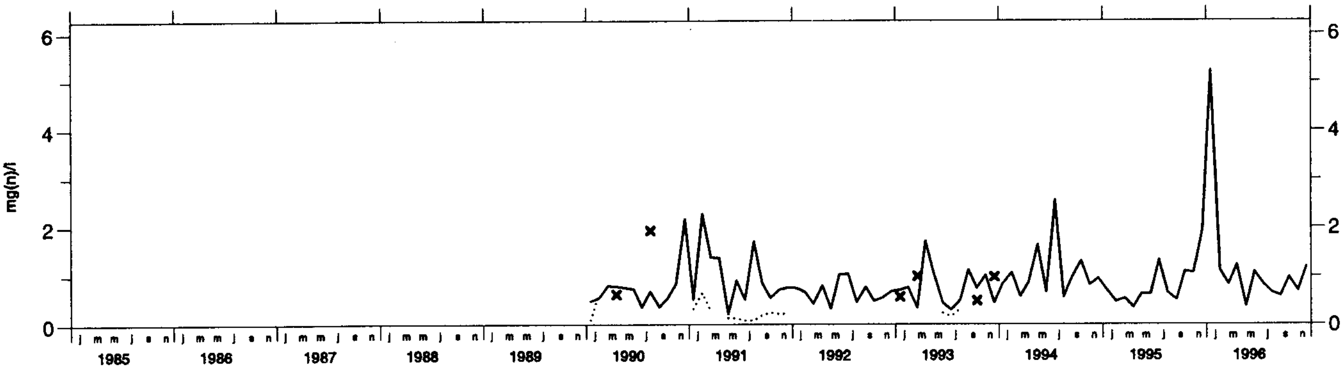


Anholt (DK 8)

Concentration of nitrate in precipitation

.... observed mean = 0.51 std = 0.68

—— modelled mean = 0.76 std = 1.81 correlation = -0.05

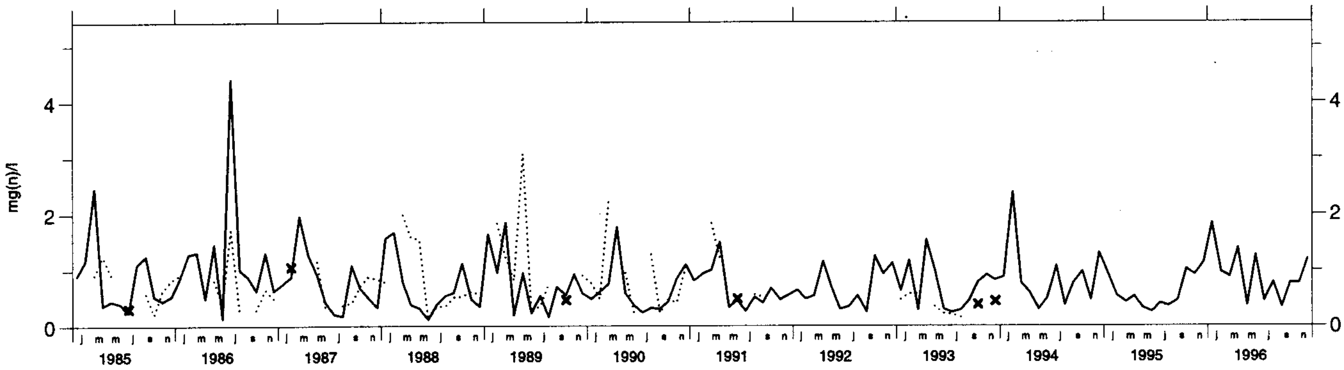


Syrve (EE 2)

Concentration of nitrate in precipitation

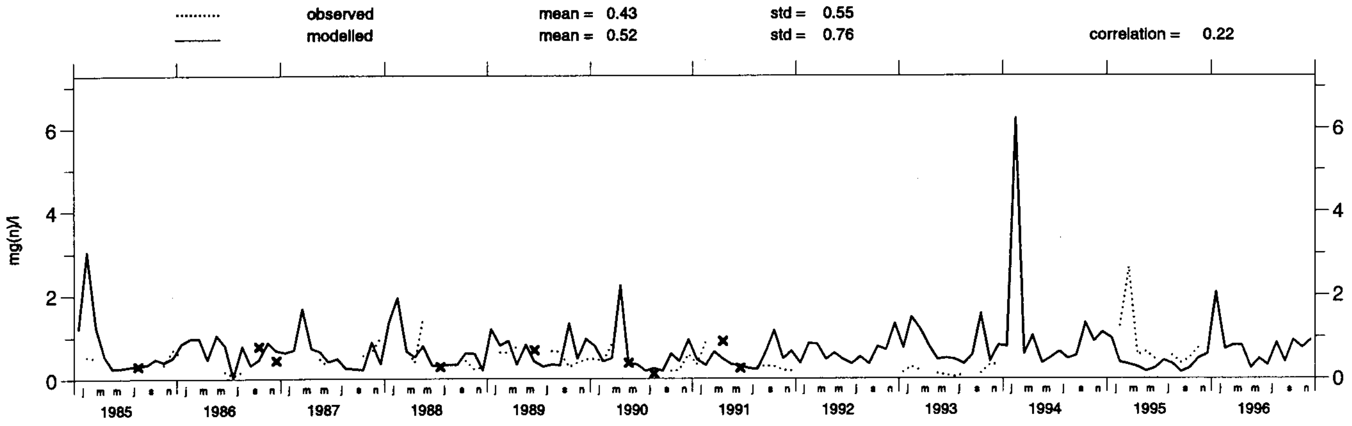
.... observed mean = 0.67 std = 0.85

—— modelled mean = 0.66 std = 0.99 correlation = 0.11



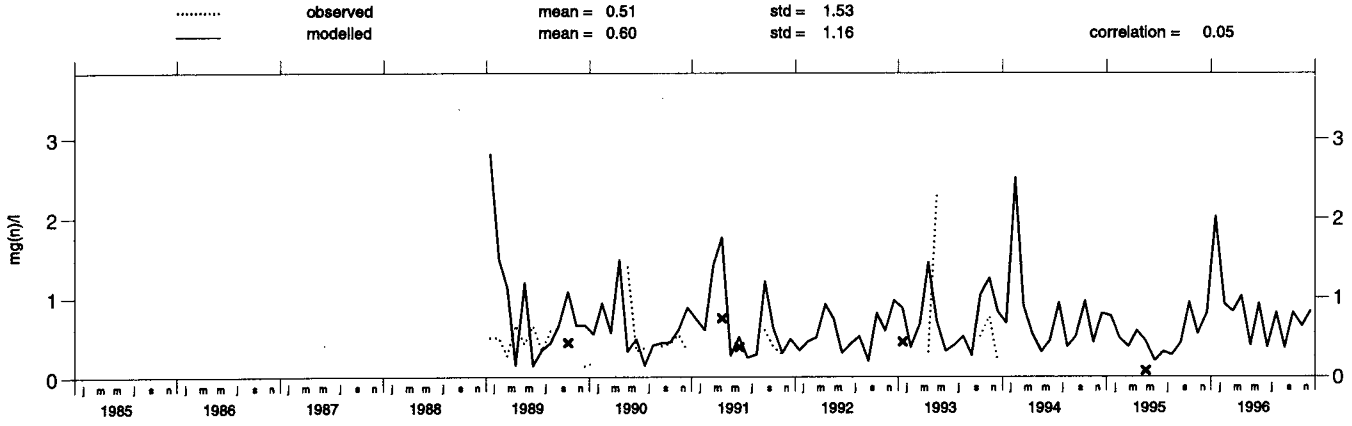
Lahemaa (EE 9)

Concentration of nitrate in precipitation



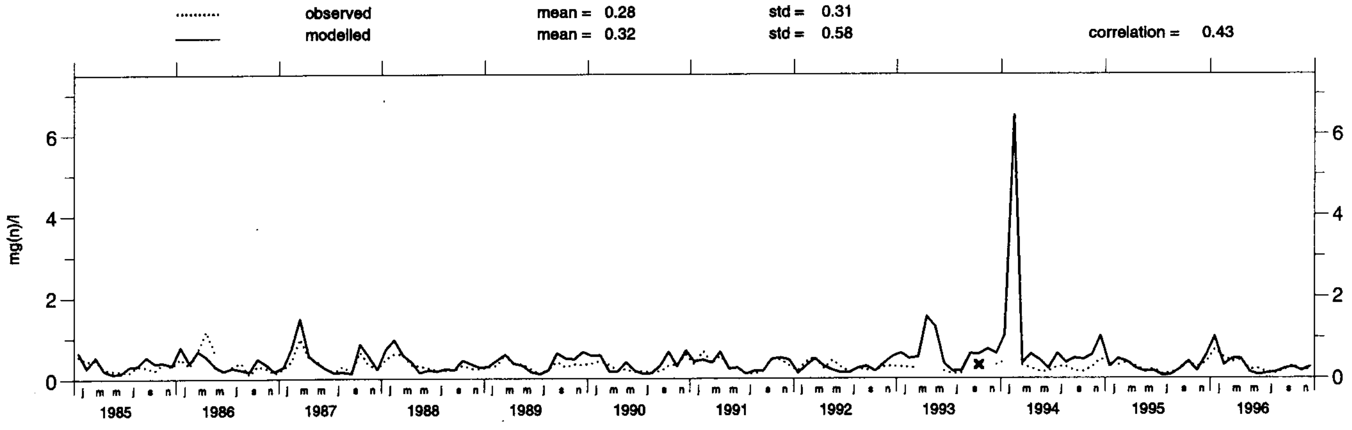
Vilsandy (EE 11)

Concentration of nitrate in precipitation



Athari (FI 4)

Concentration of nitrate in precipitation

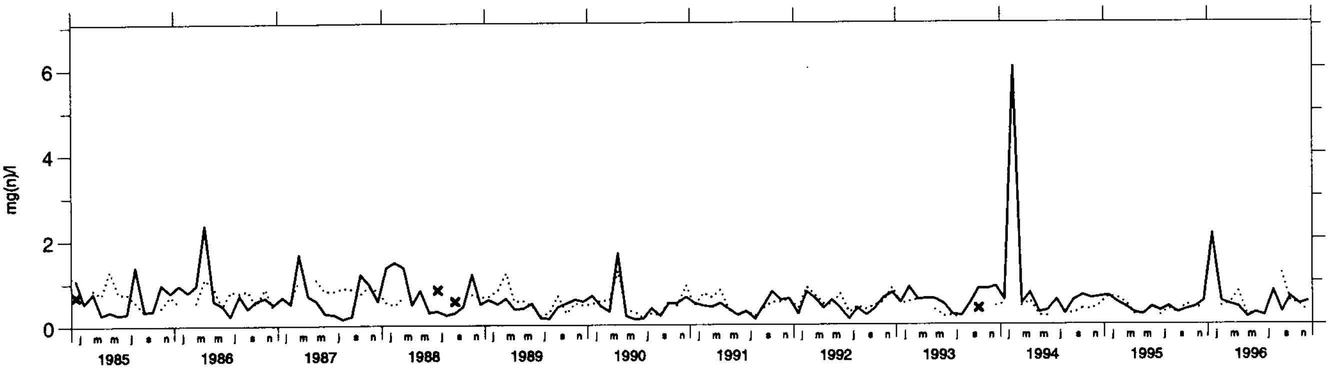


Virolahti_II (FI 17)

Concentration of nitrate in precipitation

.... observed mean = 0.49 std = 0.45

——— modelled mean = 0.46 std = 0.63 correlation = 0.25

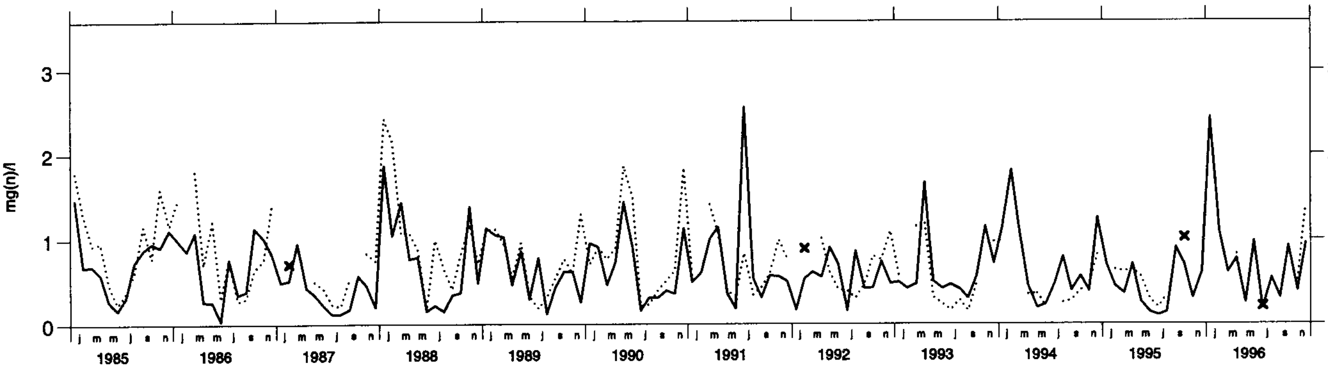


Utoe (FI 9)

Concentration of nitrate in precipitation

.... observed mean = 0.69 std = 0.75

——— modelled mean = 0.52 std = 0.83 correlation = 0.31

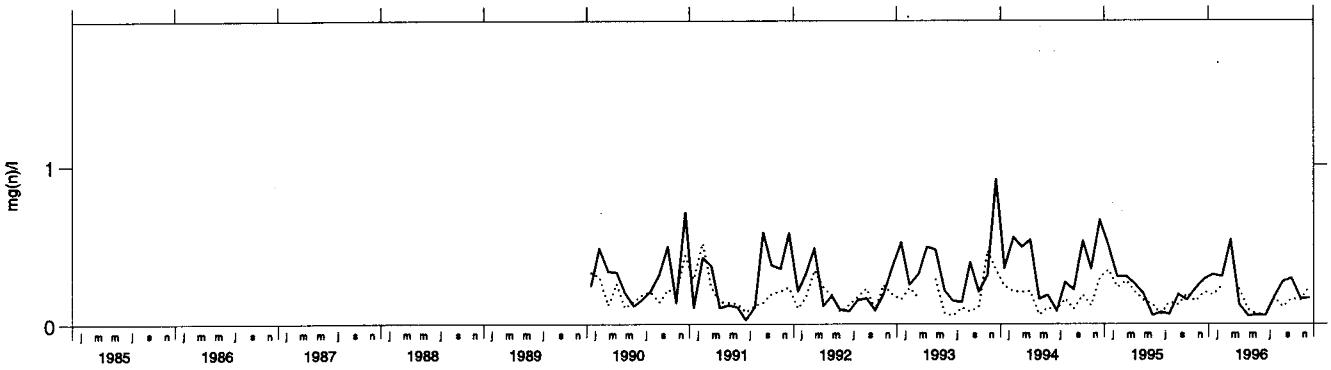


Oulanka (FI 22)

Concentration of nitrate in precipitation

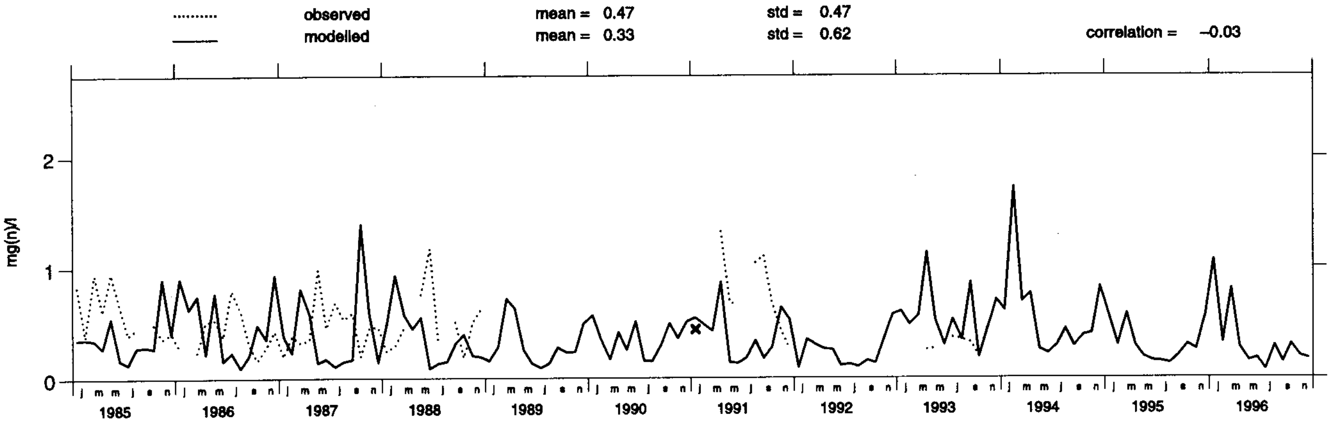
.... observed mean = 0.17 std = 0.17

——— modelled mean = 0.22 std = 0.44 correlation = 0.46



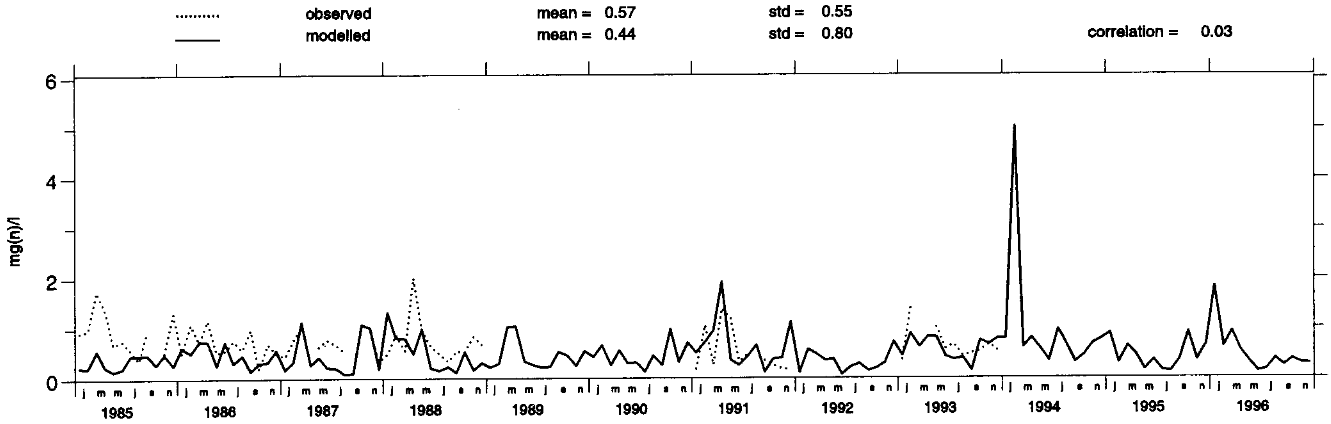
Haiuoto (FI 50)

Concentration of nitrate in precipitation



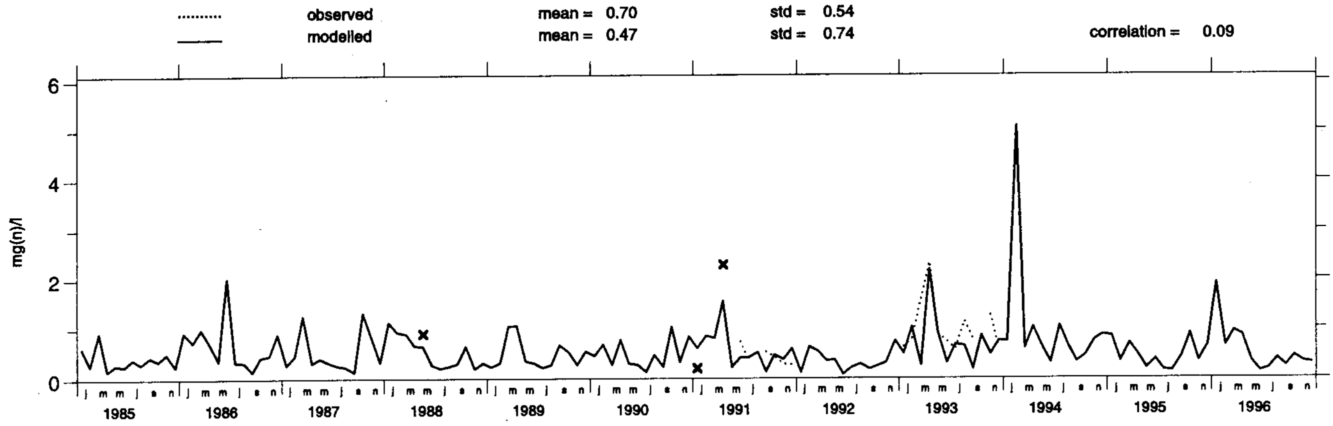
Sulva (FI 52)

Concentration of nitrate in precipitation



Ylimarkku (FI 53)

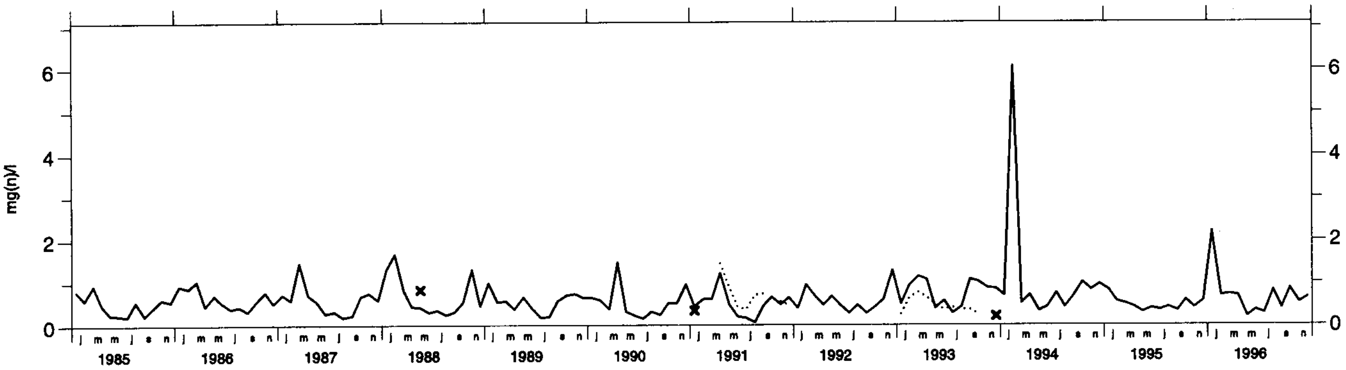
Concentration of nitrate in precipitation



Haapasaari (FI 55)

Concentration of nitrate in precipitation

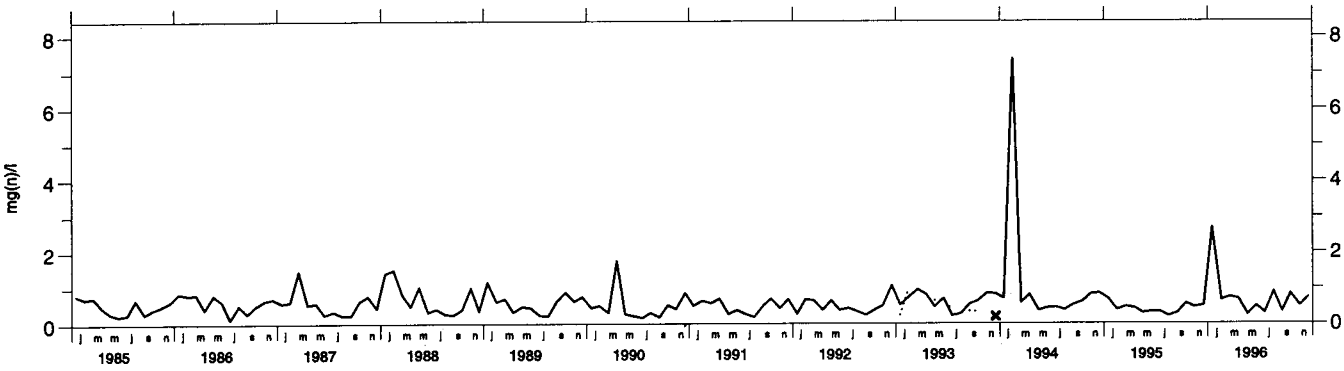
....	observed	mean = 0.55	std = 0.42	
———	modelled	mean = 0.50	std = 0.90	correlation = 0.05



Sipo (FI 56)

Concentration of nitrate in precipitation

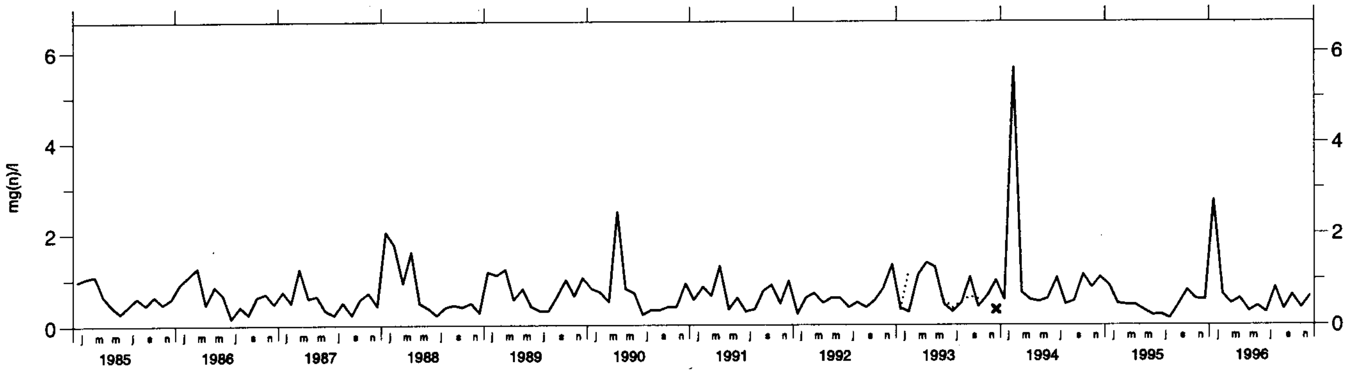
....	observed	mean = 0.35	std = 0.37	
———	modelled	mean = 0.61	std = 1.06	correlation = –0.17



Tvarminne (FI 57)

Concentration of nitrate in precipitation

....	observed	mean = 0.47	std = 0.43	
———	modelled	mean = 0.59	std = 1.00	correlation = –0.05

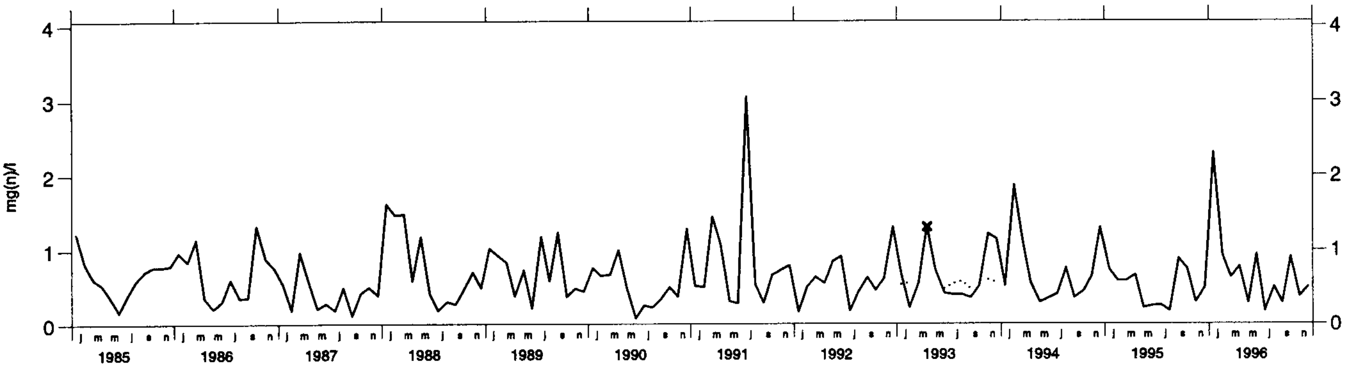


Korpoo (FI 58)

Concentration of nitrate in precipitation

.... observed mean = 0.57 std = 0.36

——— modelled mean = 0.62 std = 1.10 correlation = –0.11

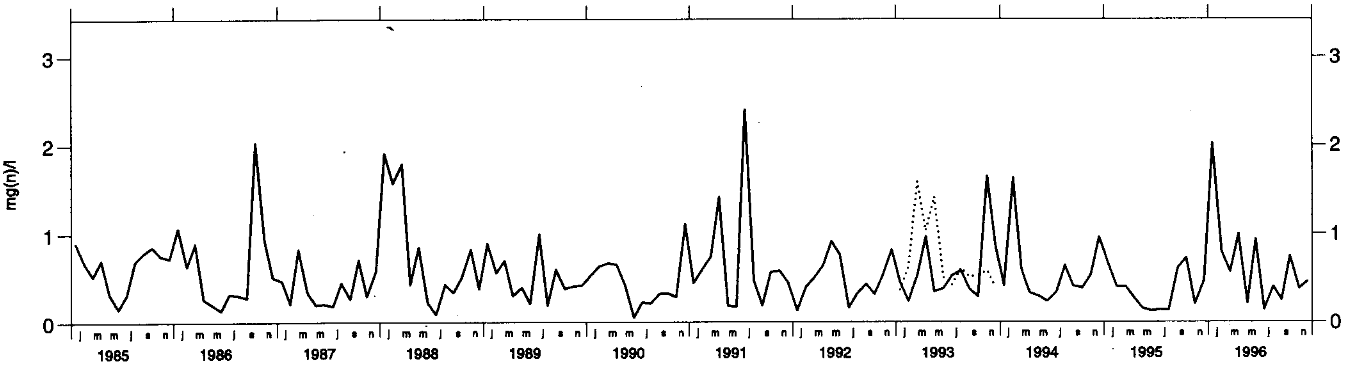


Jomala (FI 59)

Concentration of nitrate in precipitation

.... observed mean = 0.50 std = 0.42

——— modelled mean = 0.60 std = 0.75 correlation = 0.05

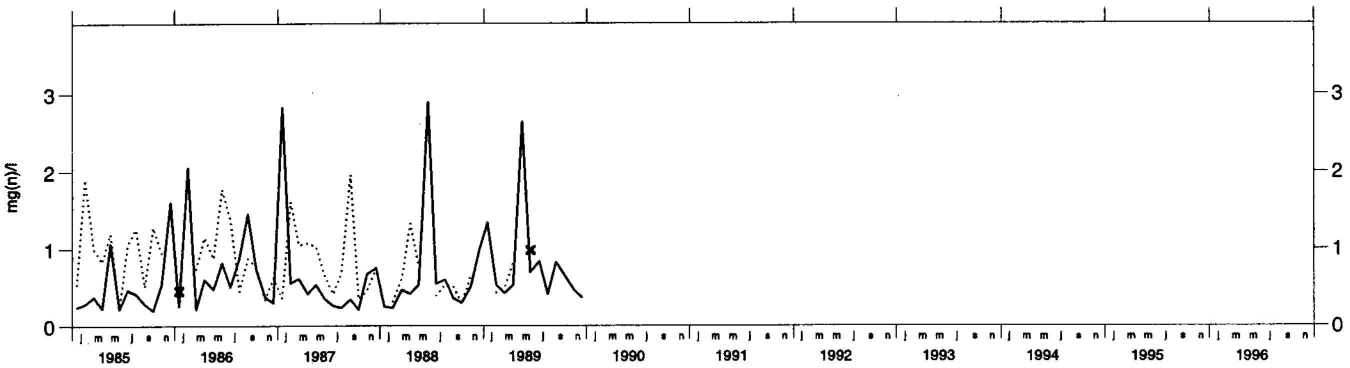


Vert-le-Petit (FR 1)

Concentration of nitrate in precipitation

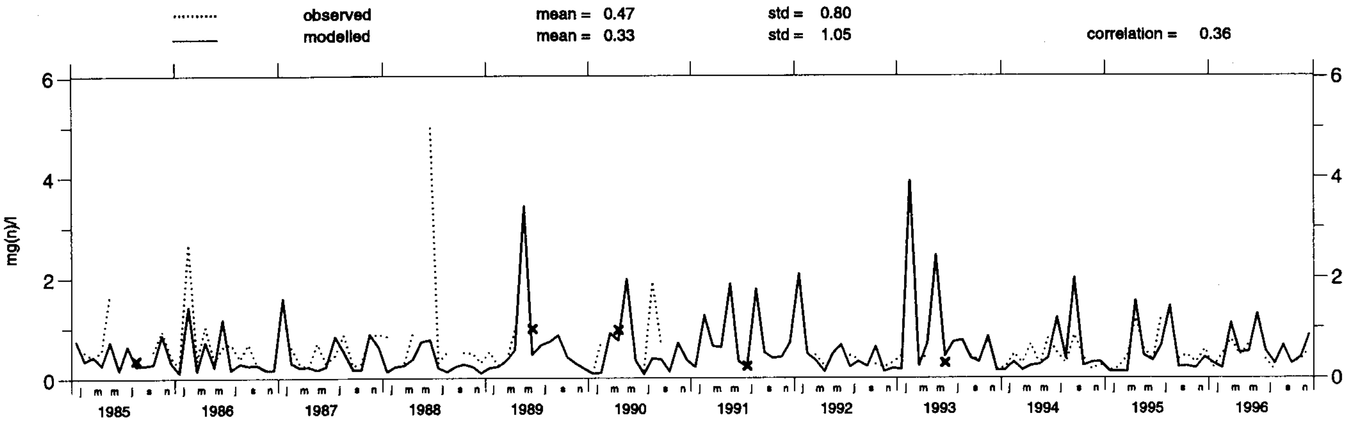
.... observed mean = 0.73 std = 1.00

——— modelled mean = 0.49 std = 1.09 correlation = 0.28



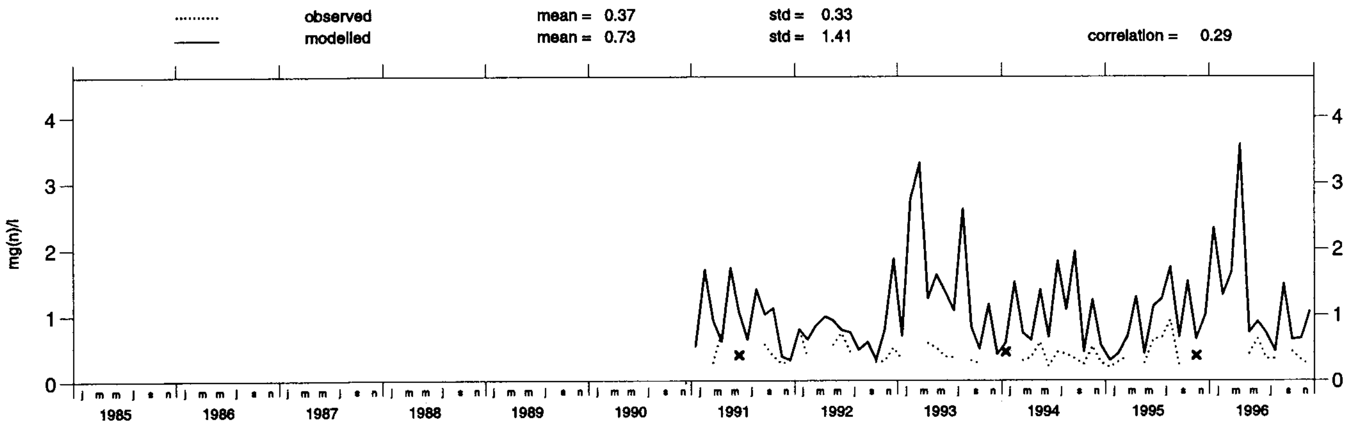
La_Hague (FR 5)

Concentration of nitrate in precipitation



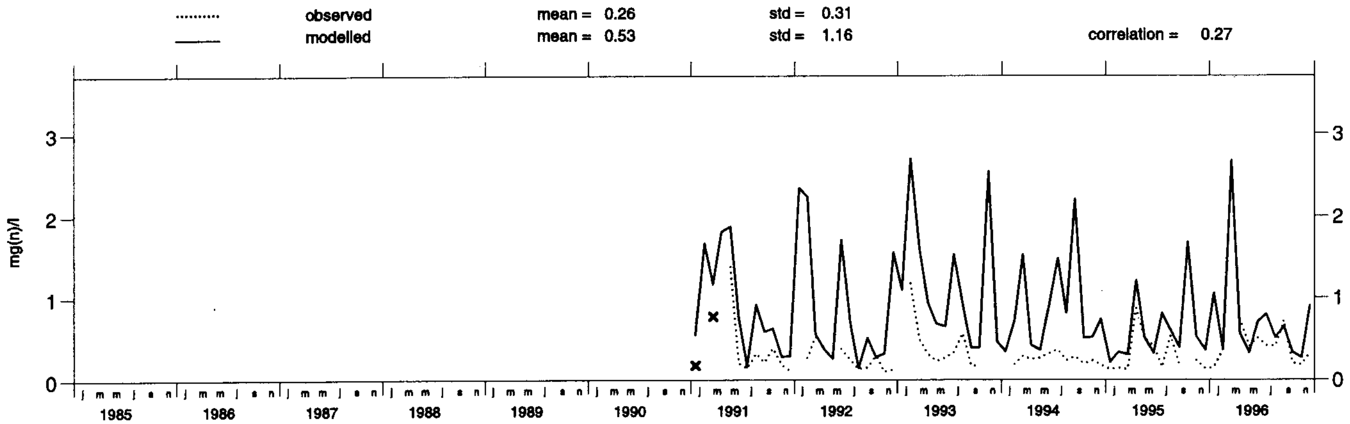
Revin (FR 9)

Concentration of nitrate in precipitation



Morvan (FR 10)

Concentration of nitrate in precipitation

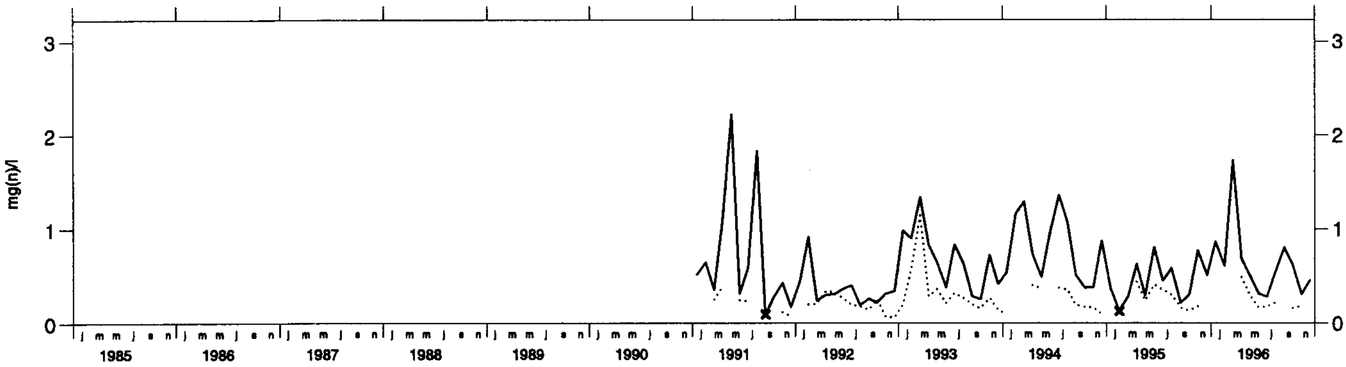


Bonnevaux (FR 11)

Concentration of nitrate in precipitation

.... observed mean = 0.22 std = 0.24

——— modelled mean = 0.38 std = 0.76 correlation = 0.18

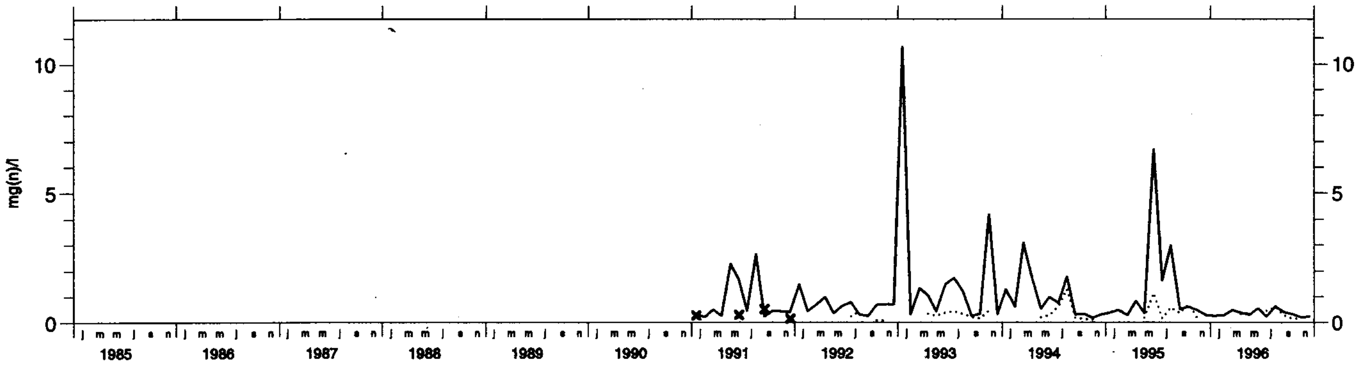


Iraty (FR 12)

Concentration of nitrate in precipitation

.... observed mean = 0.27 std = 0.29

——— modelled mean = 0.39 std = 0.89 correlation = 0.10

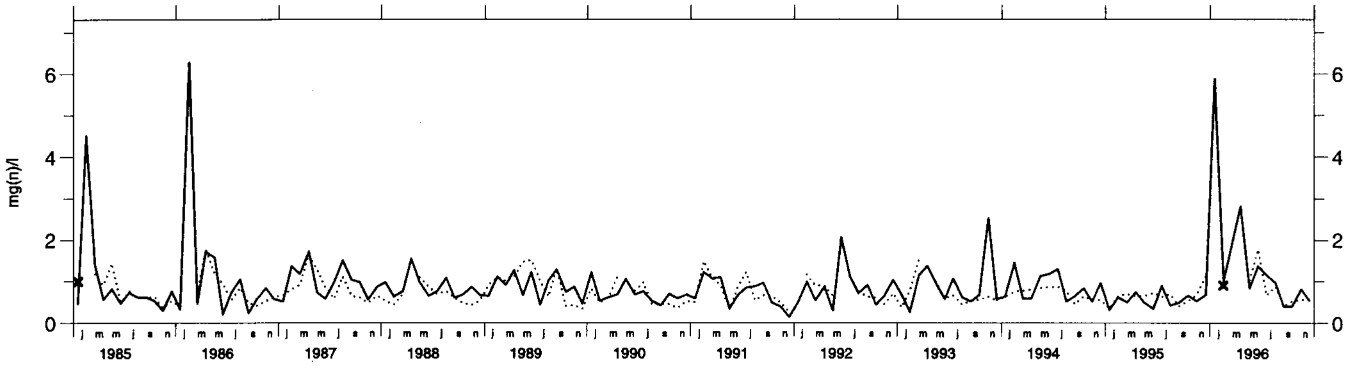


Westerland (DE 1)

Concentration of nitrate in precipitation

.... observed mean = 0.66 std = 0.57

——— modelled mean = 0.72 std = 0.99 correlation = 0.42

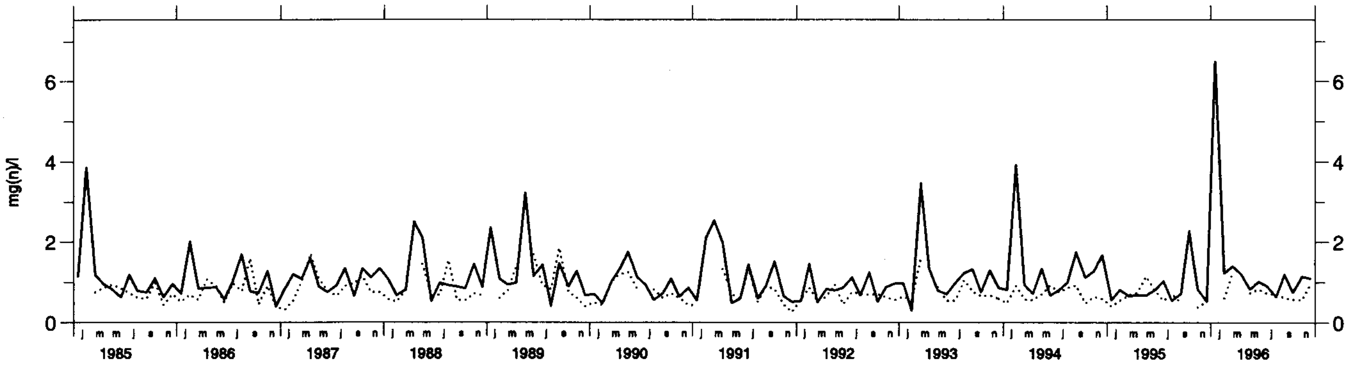


Langenbrugge (DE 2)

Concentration of nitrate in precipitation

.... observed mean = 0.71 std = 0.58

——— modelled mean = 0.88 std = 1.12 correlation = 0.35

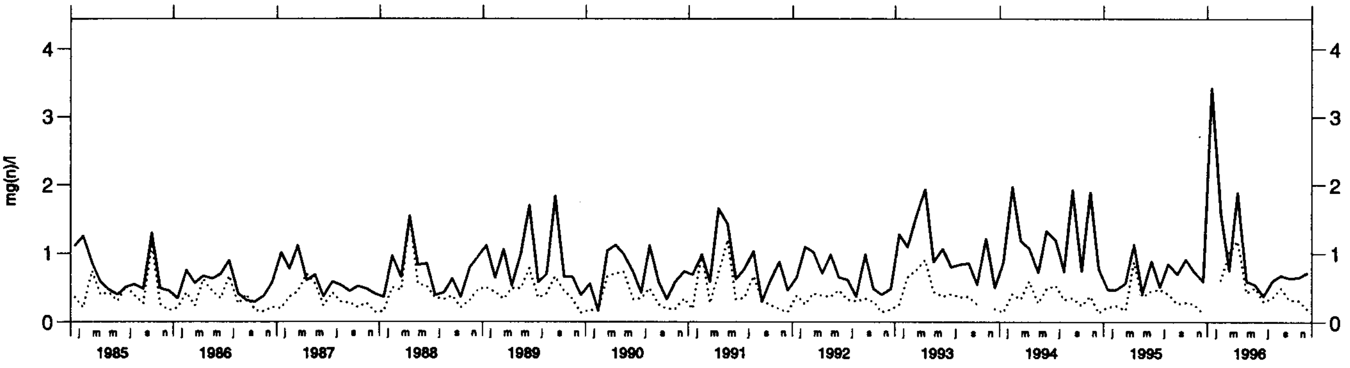


Schauinsland (DE 3)

Concentration of nitrate in precipitation

.... observed mean = 0.36 std = 0.37

——— modelled mean = 0.70 std = 0.93 correlation = 0.39

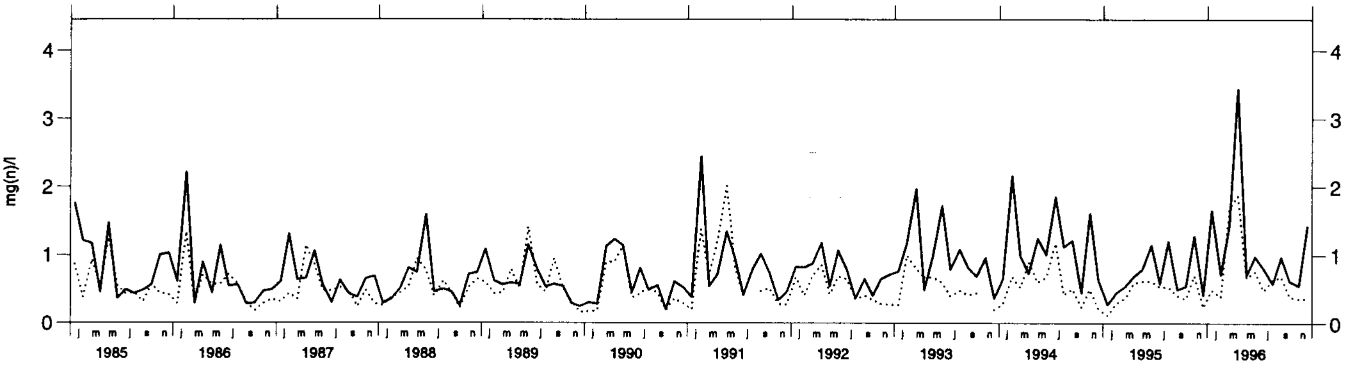


Deuselbach (DE 4)

Concentration of nitrate in precipitation

.... observed mean = 0.48 std = 0.52

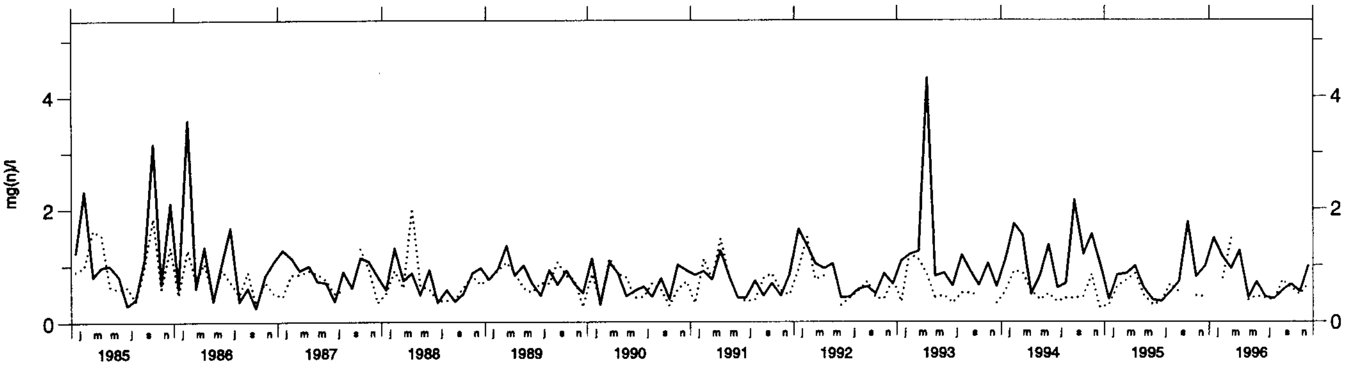
——— modelled mean = 0.64 std = 1.04 correlation = 0.36



Brotjacklr. (DE 5)

Concentration of nitrate in precipitation

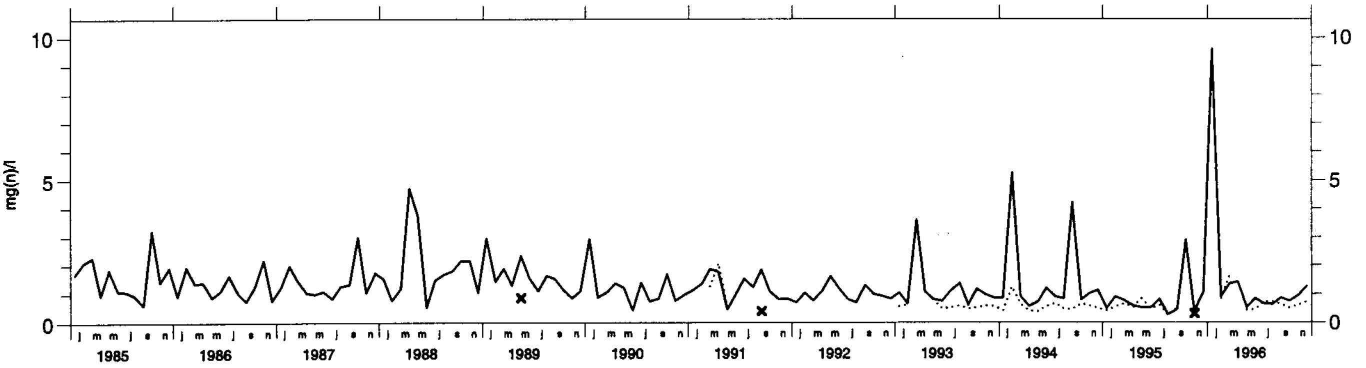
.... observed	mean = 0.58	std = 0.51		
——— modelled	mean = 0.73	std = 0.95	correlation =	0.39



Neuglobsow (DE 7)

Concentration of nitrate in precipitation

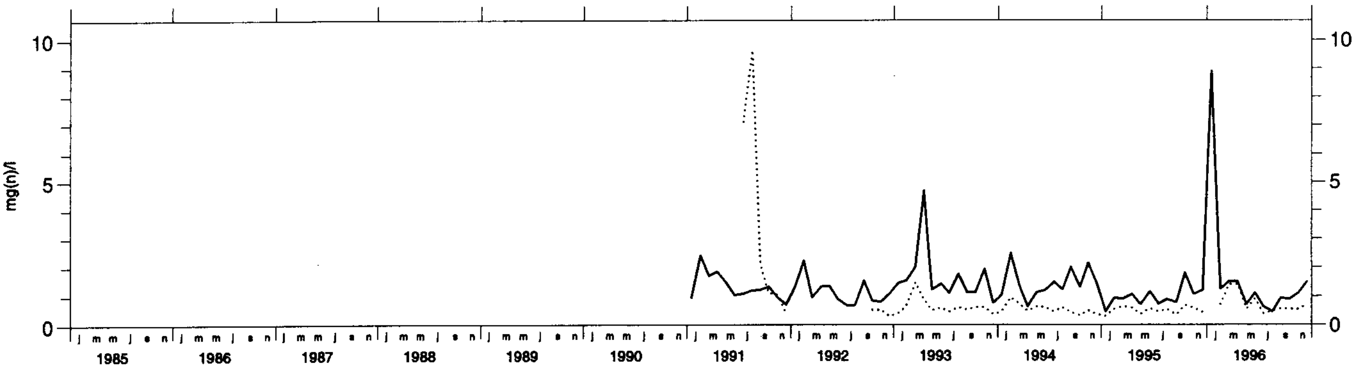
.... observed	mean = 0.73	std = 0.67		
——— modelled	mean = 0.90	std = 1.57	correlation =	0.10



Schmucke (DE 8)

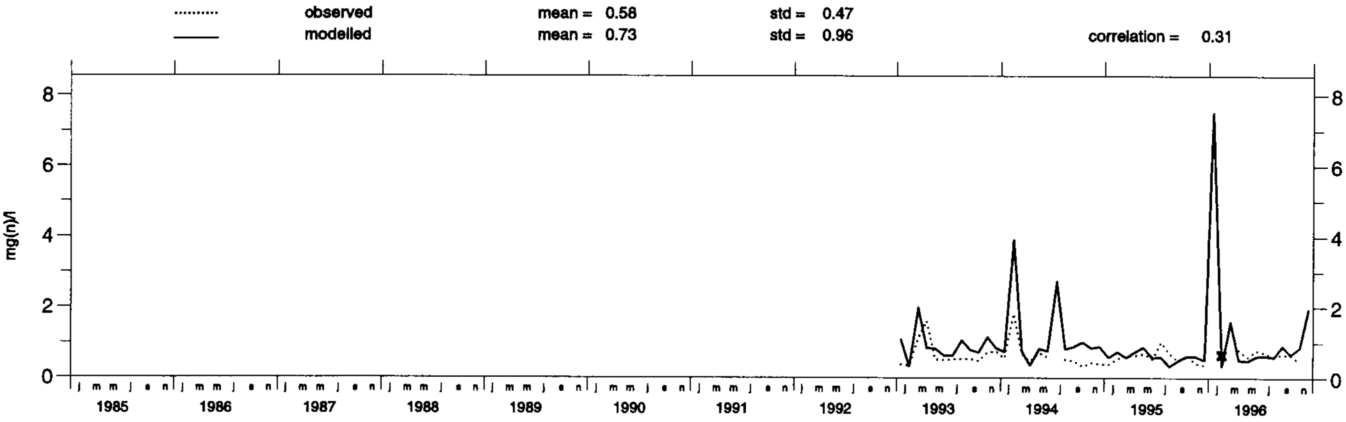
Concentration of nitrate in precipitation

.... observed	mean = 0.68	std = 2.50		
——— modelled	mean = 1.04	std = 1.47	correlation =	0.06



Zingst (DE 9)

Concentration of nitrate in precipitation

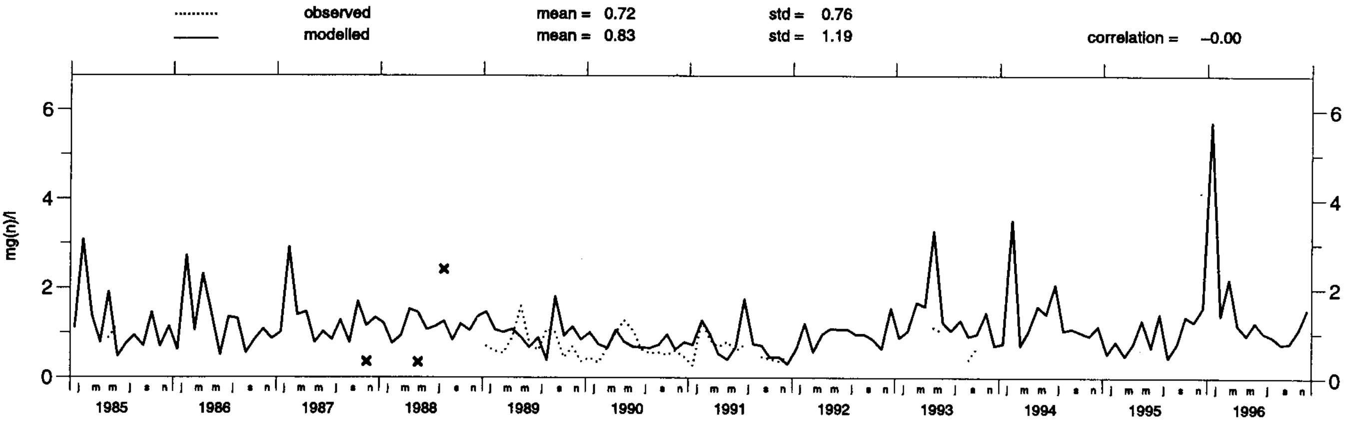

observed mean = 0.58 std = 0.47

modelled mean = 0.73 std = 0.96

correlation = 0.31

Hohenwestedt (DE 11)

Concentration of nitrate in precipitation

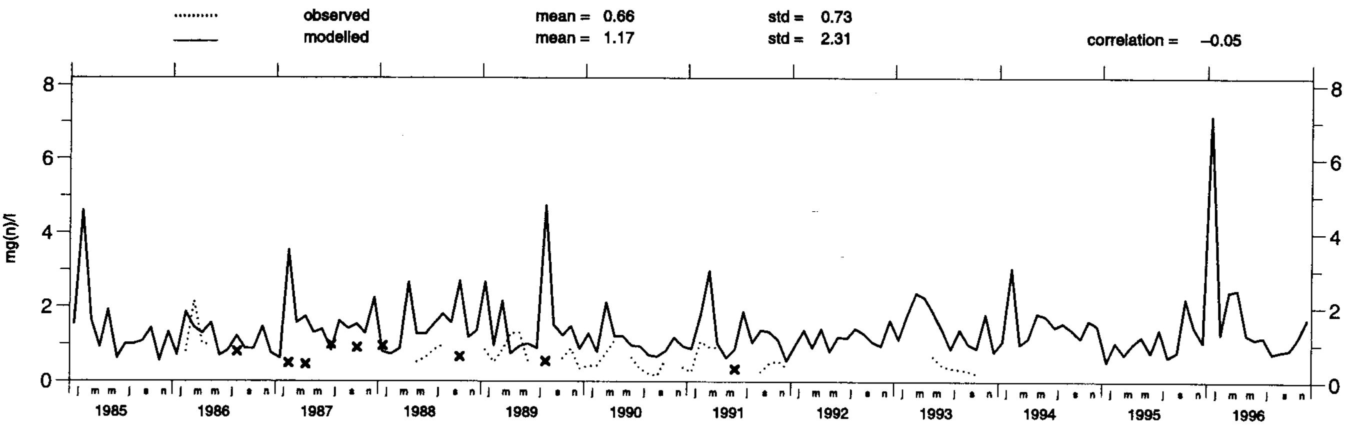

observed mean = 0.72 std = 0.76

modelled mean = 0.83 std = 1.19

correlation = -0.00

Bassum (DE 12)

Concentration of nitrate in precipitation


observed mean = 0.66 std = 0.73

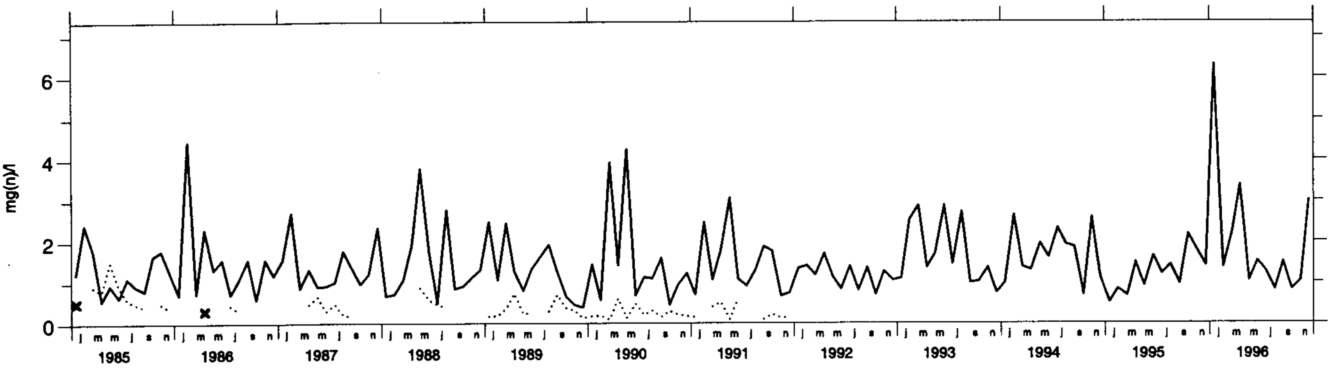
modelled mean = 1.17 std = 2.31

correlation = -0.05

Meinerzhagen (DE 14)

Concentration of nitrate in precipitation

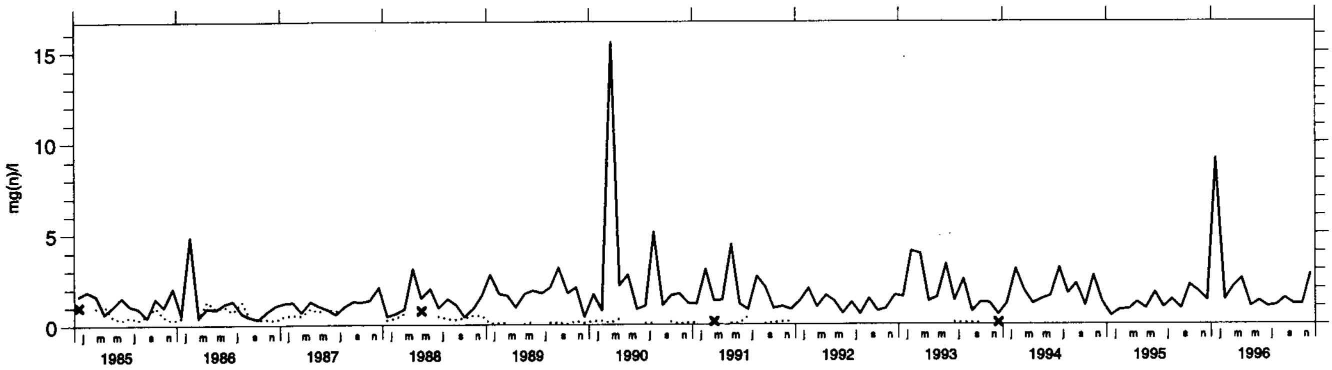
.... observed	mean = 0.31	std = 0.40		
——— modelled	mean = 1.07	std = 2.46	correlation =	0.02



Usingen (DE 15)

Concentration of nitrate in precipitation

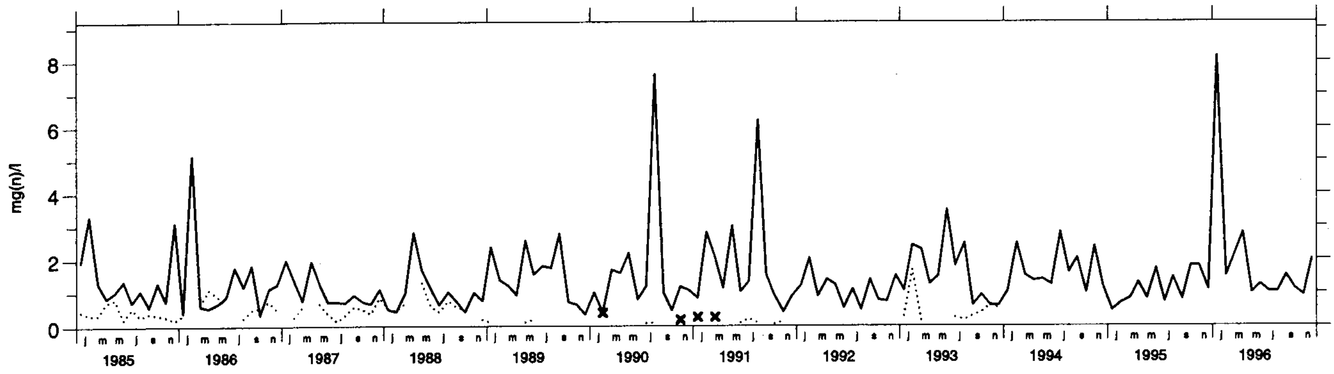
.... observed	mean = 0.38	std = 0.48		
——— modelled	mean = 1.02	std = 2.28	correlation =	0.06



Bad_Kreuznach (DE 16)

Concentration of nitrate in precipitation

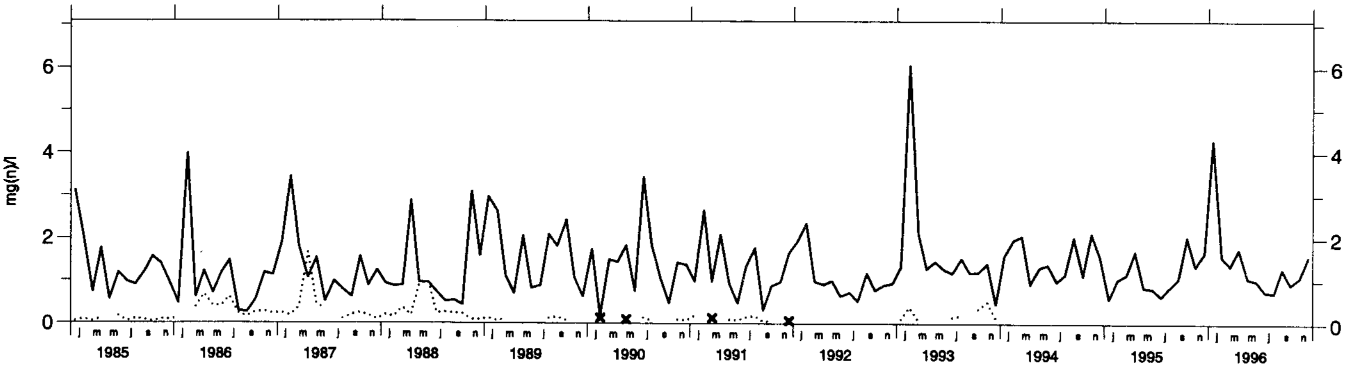
.... observed	mean = 0.47	std = 0.52		
——— modelled	mean = 1.00	std = 2.52	correlation =	−0.06



Ansbach (DE 17)

Concentration of nitrate in precipitation

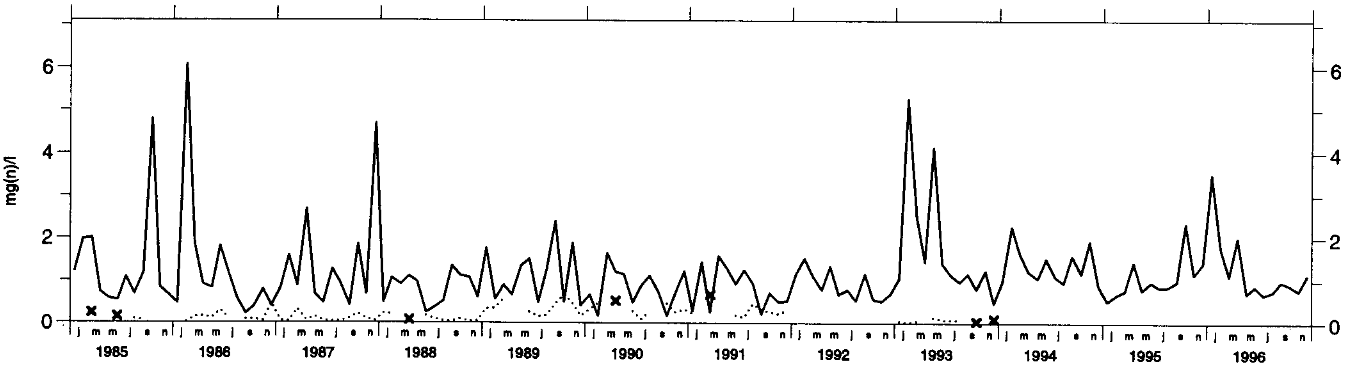
··········	observed	mean = 0.21	std = 0.31	
———	modelled	mean = 1.02	std = 2.49	correlation = –0.07



Rottenburg (DE 18)

Concentration of nitrate in precipitation

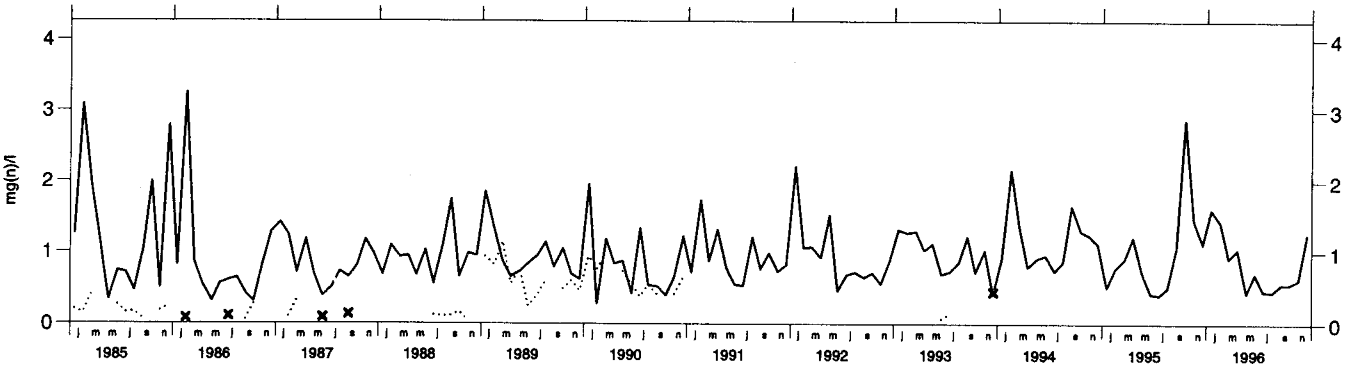
··········	observed	mean = 0.17	std = 0.23	
———	modelled	mean = 0.80	std = 1.78	correlation = –0.01



Starnberg (DE 19)

Concentration of nitrate in precipitation

··········	observed	mean = 0.33	std = 0.33	
———	modelled	mean = 0.81	std = 1.74	correlation = –0.04

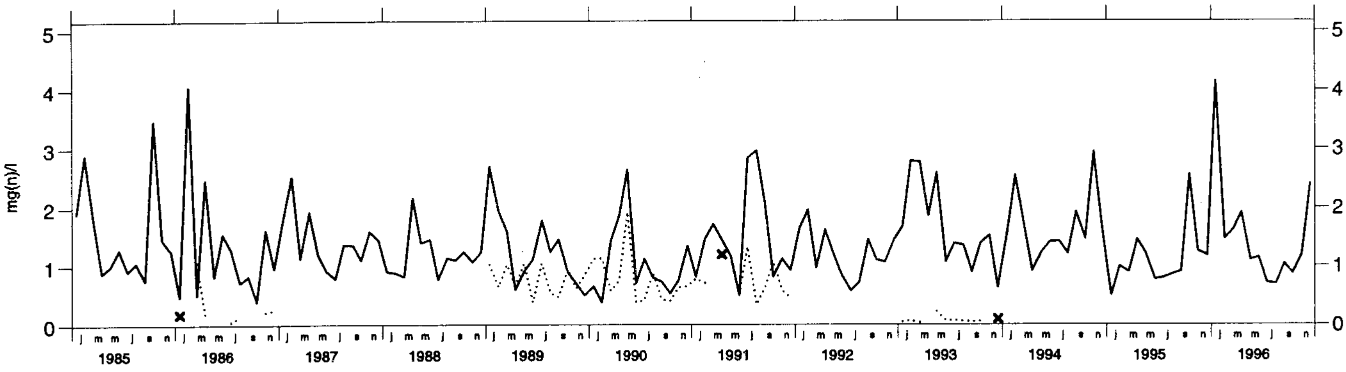


Hof (DE 20)

Concentration of nitrate in precipitation

.... observed mean = 0.35 std = 0.43

______ modelled mean = 0.98 std = 2.22 correlation = 0.11

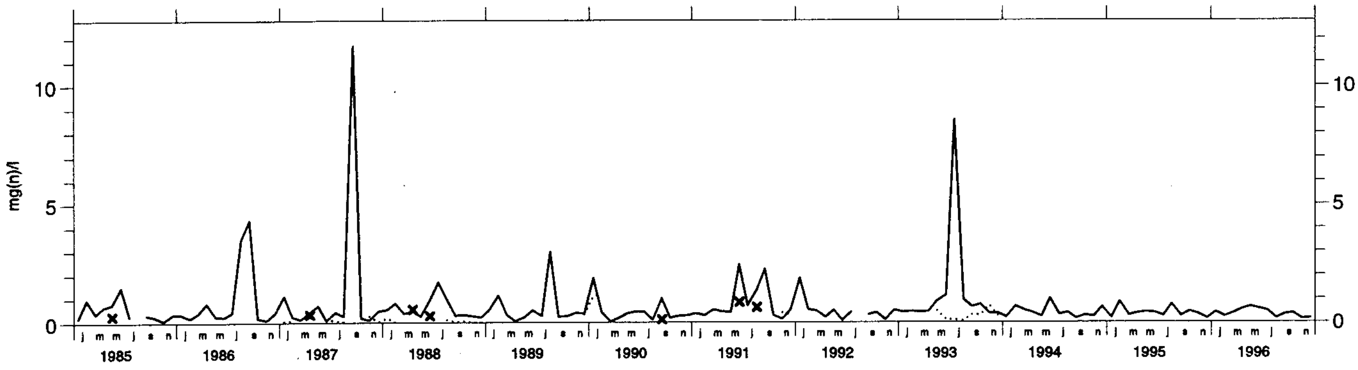


Aliartos (GR 1)

Concentration of nitrate in precipitation

.... observed mean = 0.22 std = 0.29

______ modelled mean = 0.36 std = 0.77 correlation = 0.23

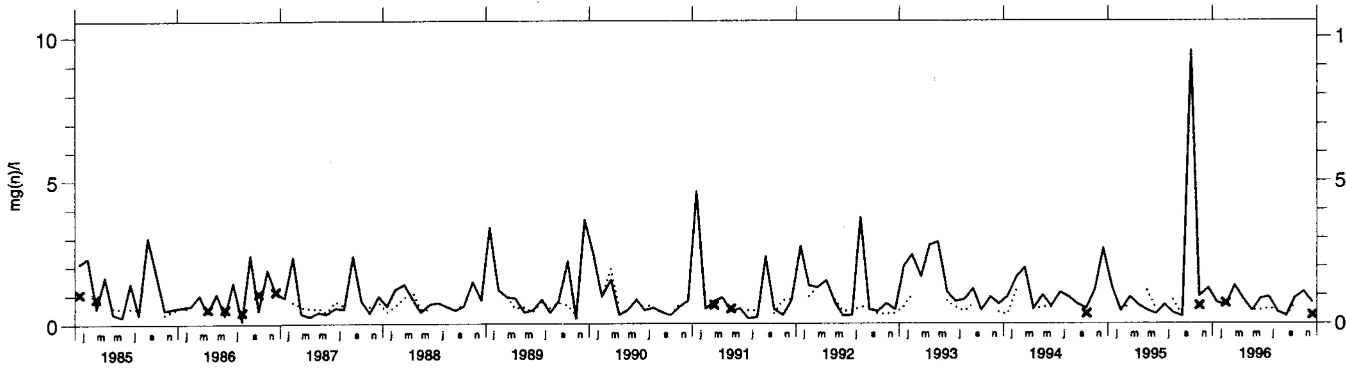


K-puszta (HU 2)

Concentration of nitrate in precipitation

.... observed mean = 0.57 std = 0.59

______ modelled mean = 0.54 std = 0.75 correlation = 0.15

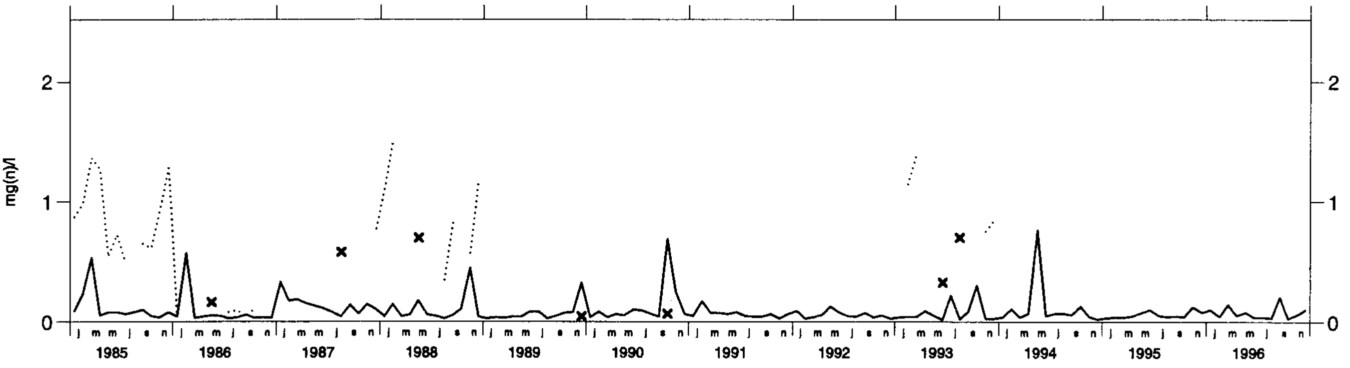


Irafoss (IS 2)

Concentration of nitrate in precipitation

.... observed mean = 0.68 std = 0.52

——— modelled mean = 0.10 std = 0.28 correlation = 0.09

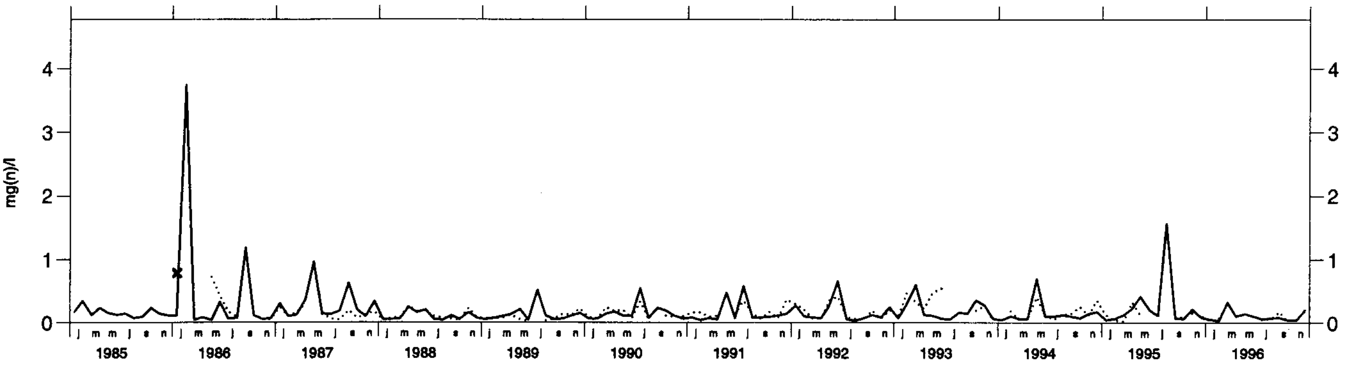


Valentia_Obs. (IE 1)

Concentration of nitrate in precipitation

.... observed mean = 0.16 std = 0.31

——— modelled mean = 0.13 std = 0.44 correlation = 0.32

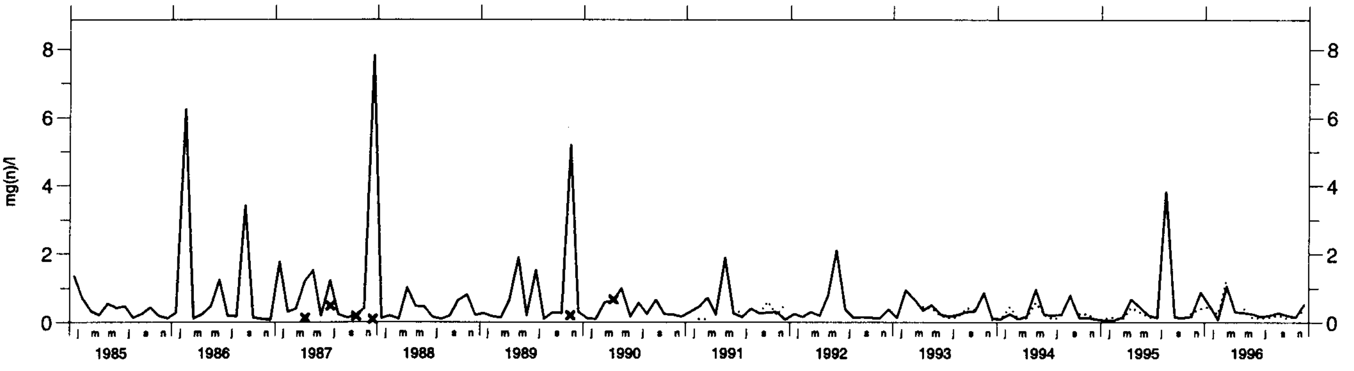


Turlough Hill (IE 2)

Concentration of nitrate in precipitation

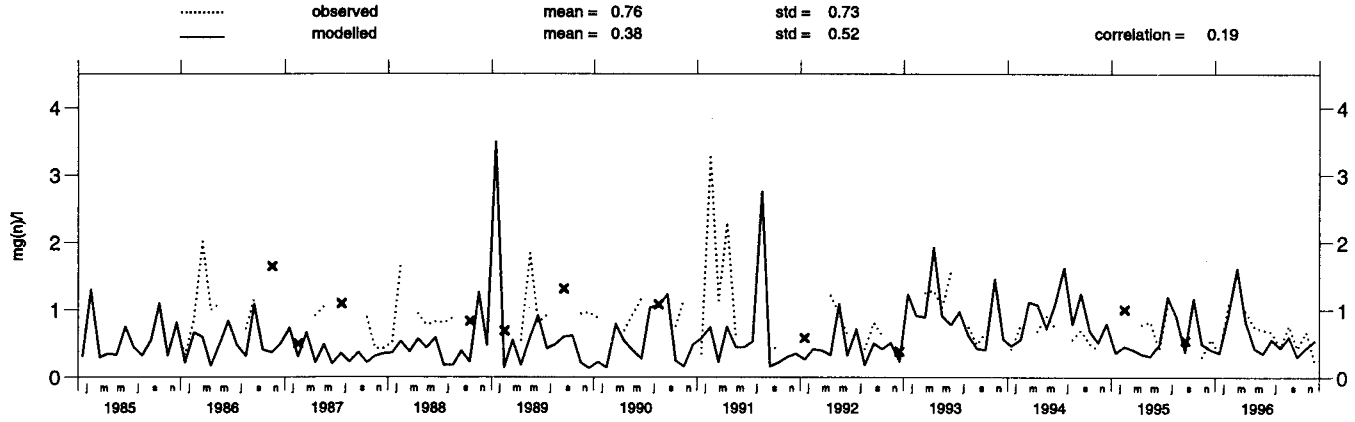
.... observed mean = 0.27 std = 0.39

——— modelled mean = 0.32 std = 1.84 correlation = 0.26



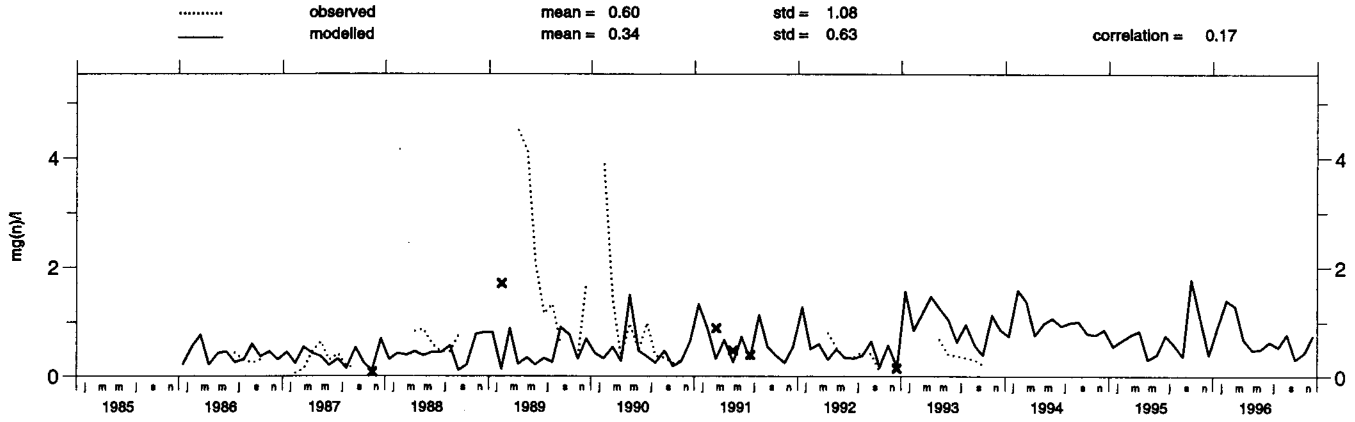
Ispra (IT 4)

Concentration of nitrate in precipitation



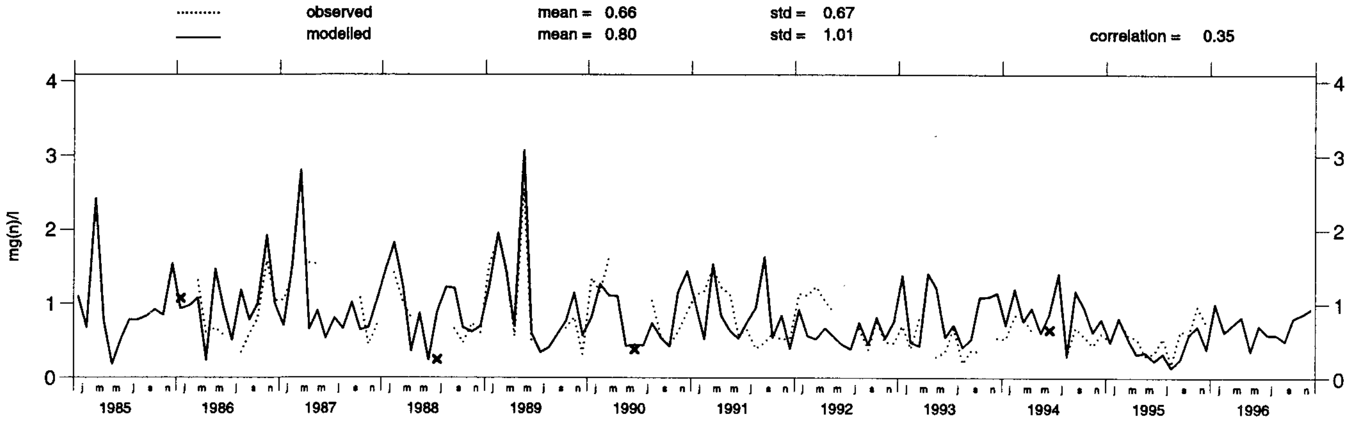
Arabba (IT 5)

Concentration of nitrate in precipitation



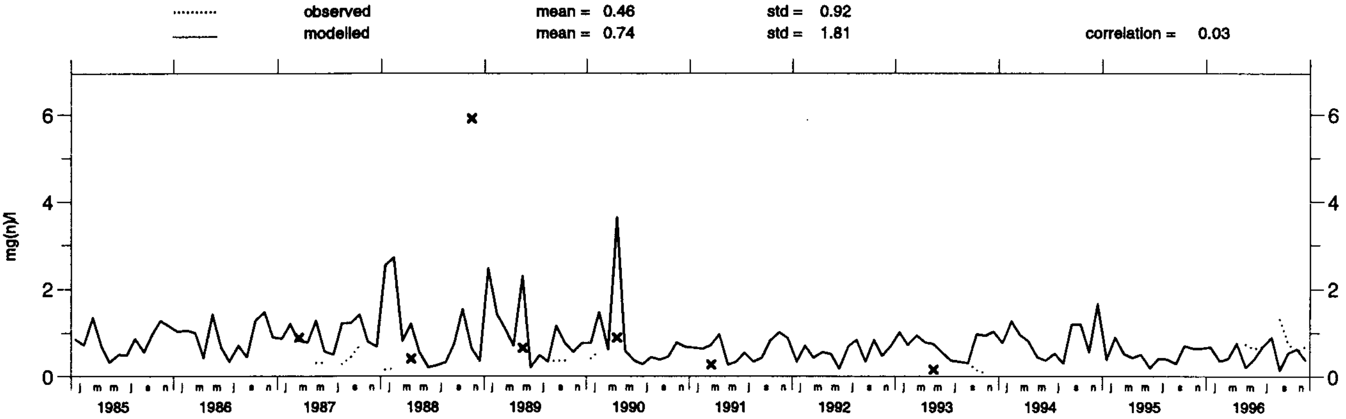
Rucava (LV 10)

Concentration of nitrate in precipitation



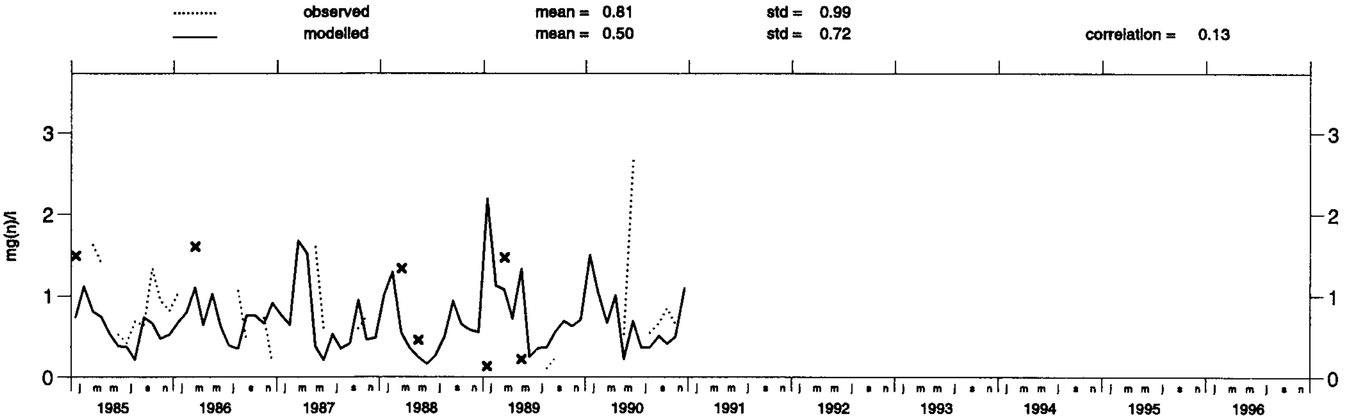
Zoseni (LV 16)

Concentration of nitrate in precipitation



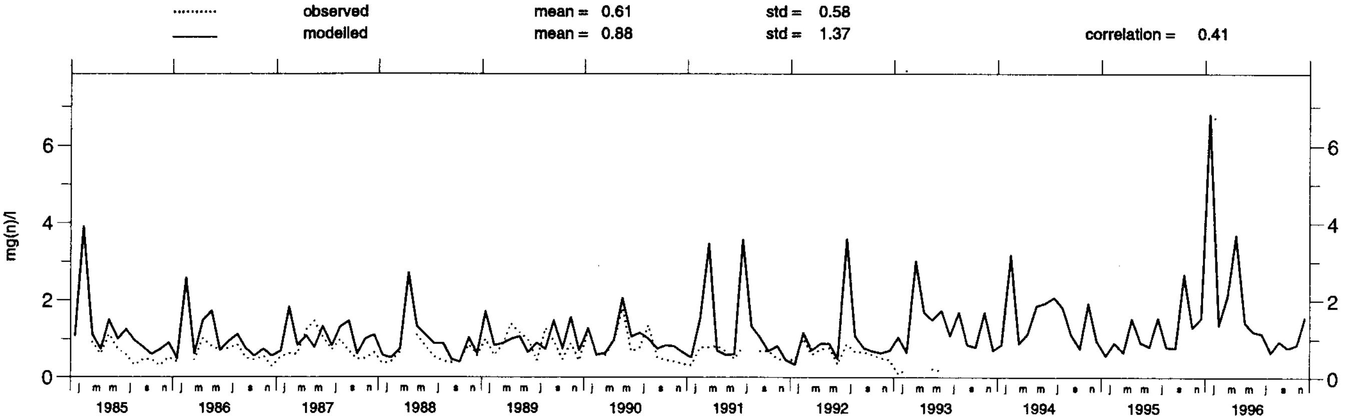
Nida (LT 3)

Concentration of nitrate in precipitation



Wittenveen (NL 2)

Concentration of nitrate in precipitation

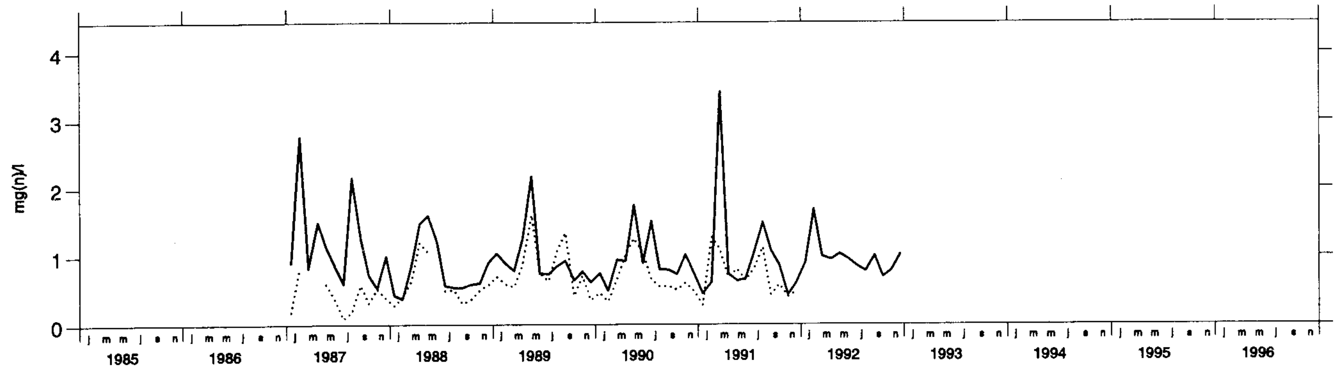


Bilthoven (NL 8)

Concentration of nitrate in precipitation

.... observed mean = 0.57 std = 0.56

——— modelled mean = 0.78 std = 1.41 correlation = 0.45

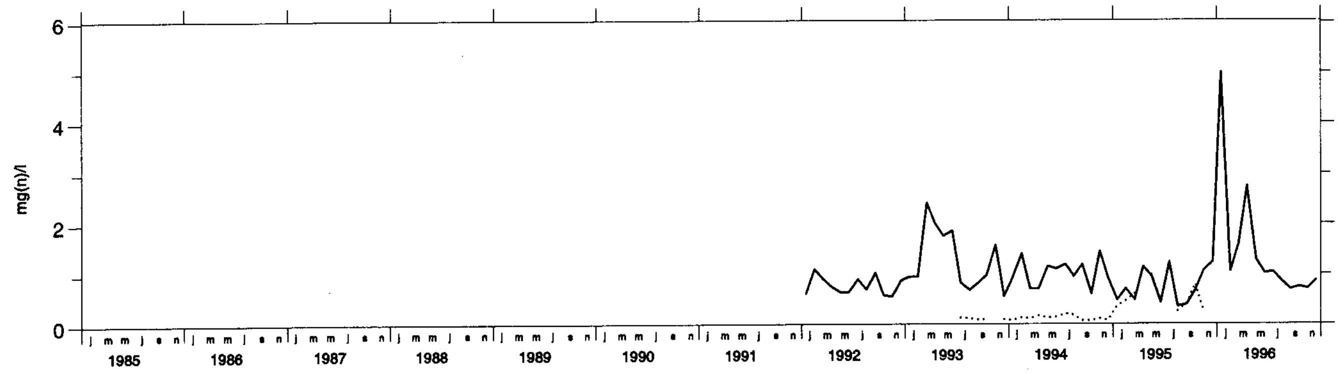


Kollumerwaard (NL 9)

Concentration of nitrate in precipitation

.... observed mean = 0.26 std = 0.34

——— modelled mean = 0.76 std = 0.92 correlation = 0.12

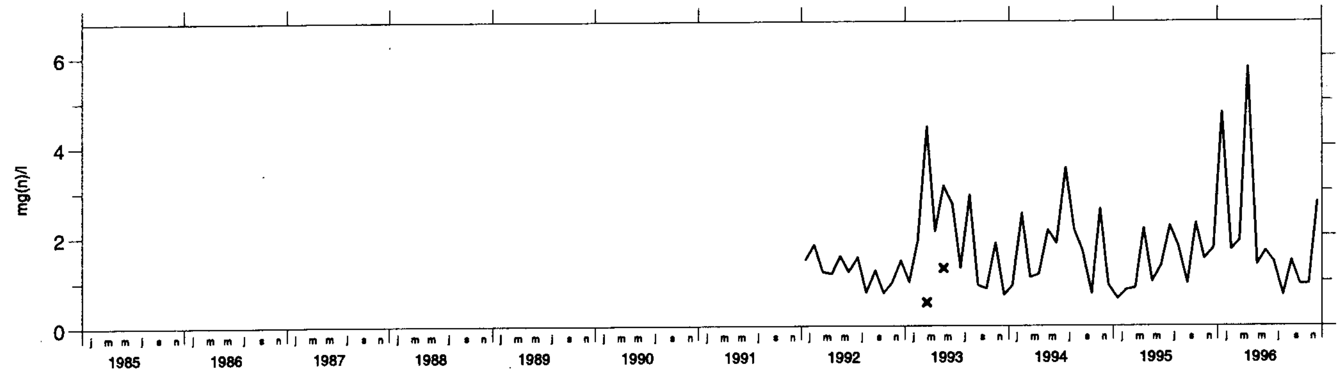


Vreedepeel (NL 10)

Concentration of nitrate in precipitation

.... observed mean = 1.85 std = 3.44

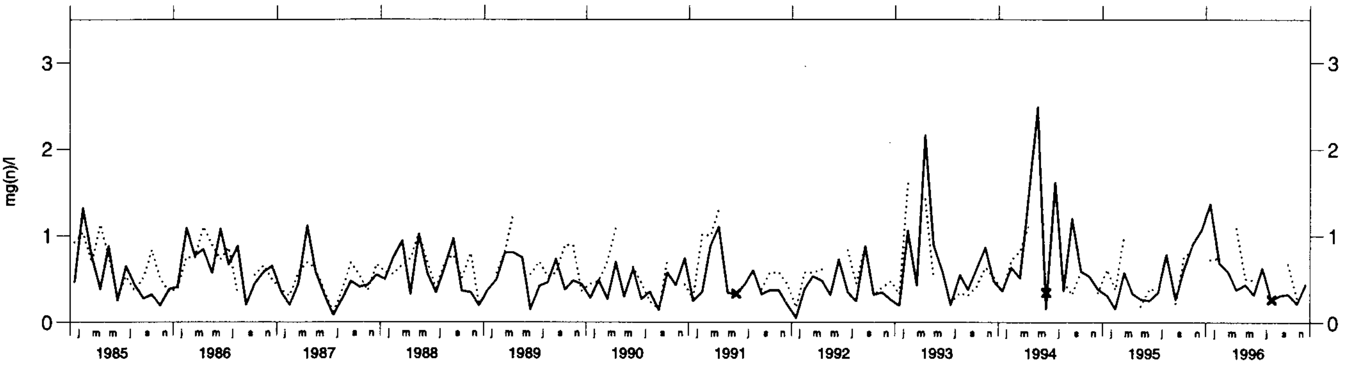
——— modelled mean = 3.53 std = 5.63 correlation = –0.06



Birkenes (NO 1)

Concentration of nitrate in precipitation

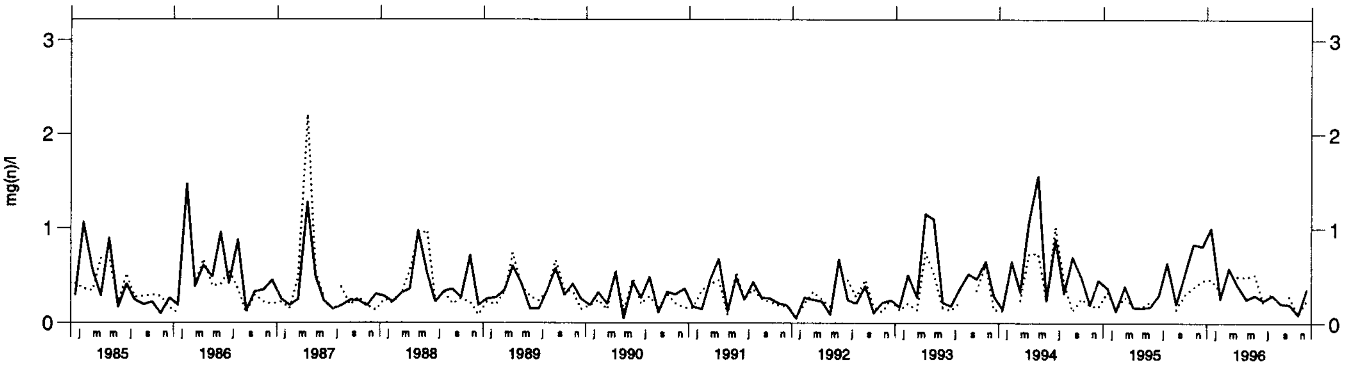
....	observed	mean = 0.56	std = 0.58	
———	modelled	mean = 0.48	std = 0.80	correlation = 0.54



Skreaadalen (NO 8)

Concentration of nitrate in precipitation

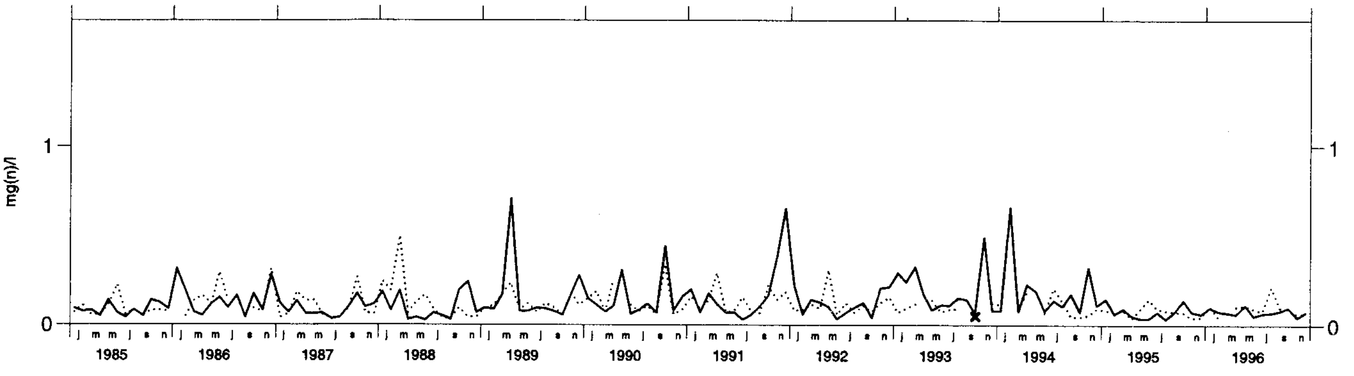
....	observed	mean = 0.27	std = 0.37	
———	modelled	mean = 0.32	std = 0.70	correlation = 0.50



Tustervatn (NO 15)

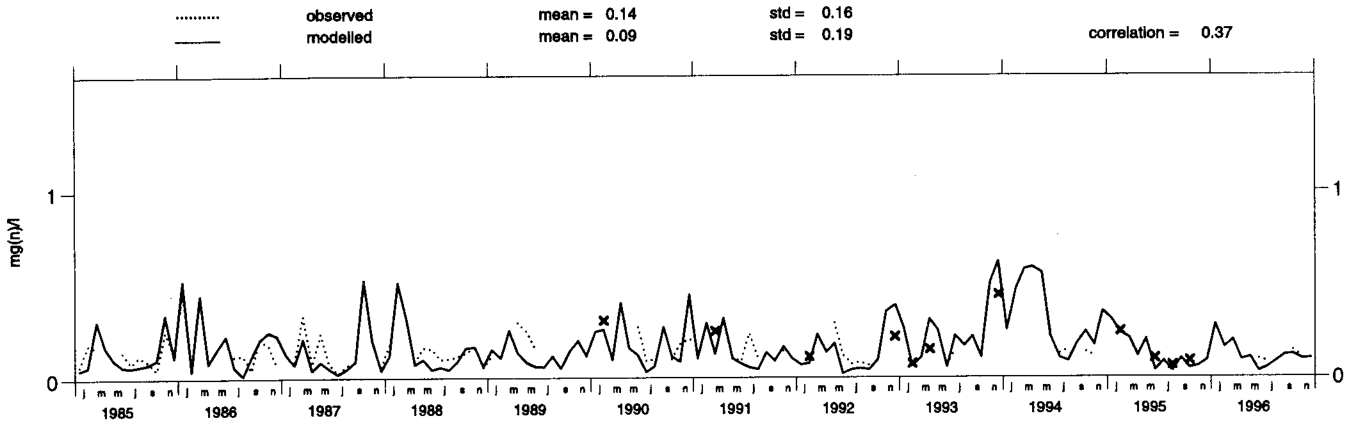
Concentration of nitrate in precipitation

....	observed	mean = 0.10	std = 0.15	
———	modelled	mean = 0.12	std = 0.34	correlation = 0.39



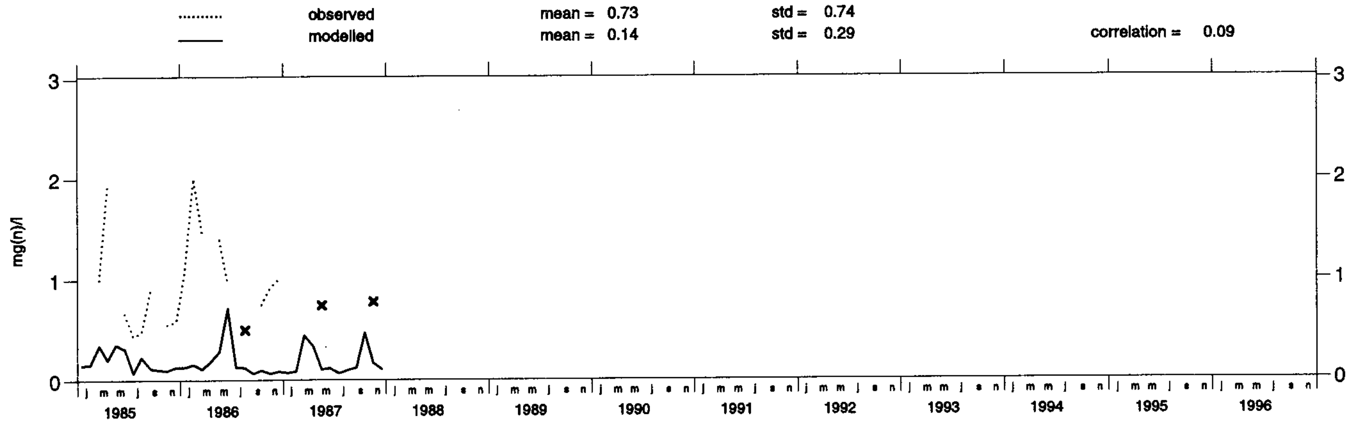
Jergul (NO 30)

Concentration of nitrate in precipitation



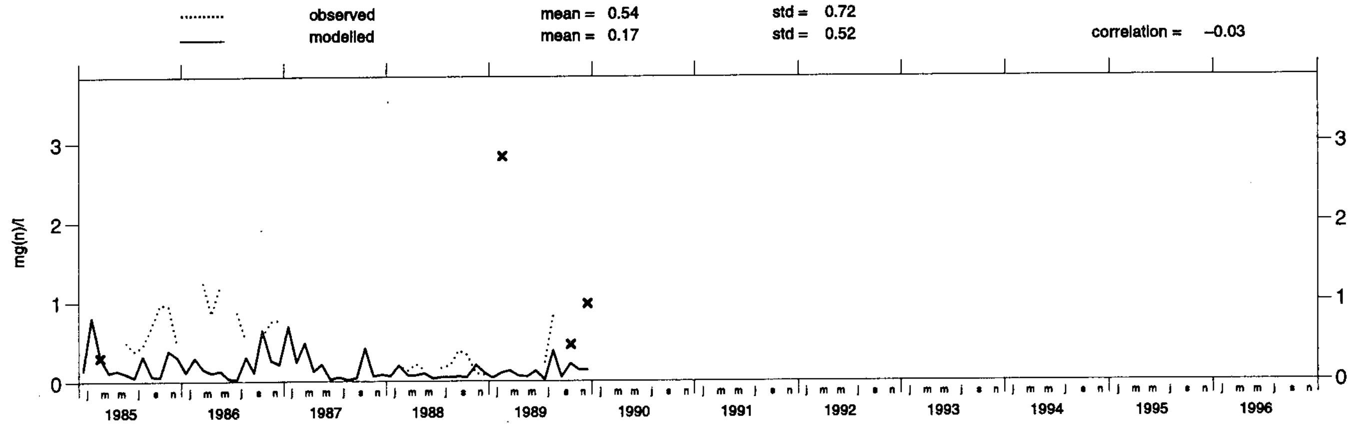
Hummelfjell (NO 36)

Concentration of nitrate in precipitation



Bjoernoeya (NO 37)

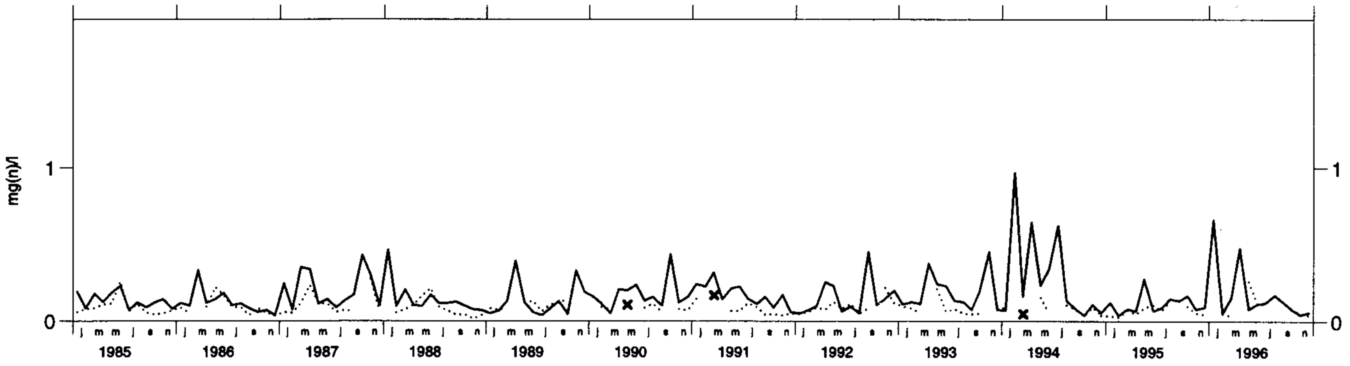
Concentration of nitrate in precipitation



Kaarvatn (NO 39)

Concentration of nitrate in precipitation

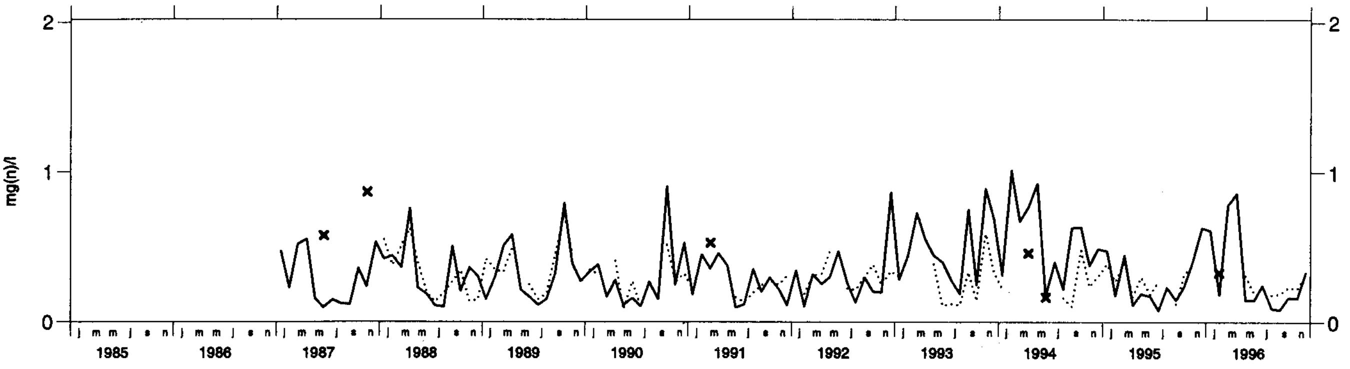
....	observed	mean = 0.08	std = 0.11	
———	modelled	mean = 0.12	std = 0.29	correlation = 0.23



Osen (NO 41)

Concentration of nitrate in precipitation

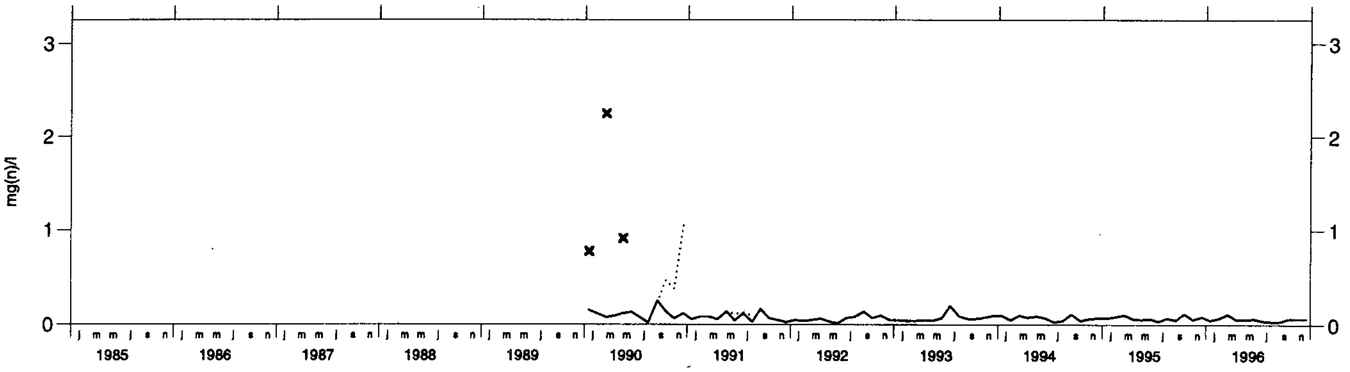
....	observed	mean = 0.31	std = 0.32	
———	modelled	mean = 0.28	std = 0.44	correlation = 0.40



Spitzbergen,Z (NO 42)

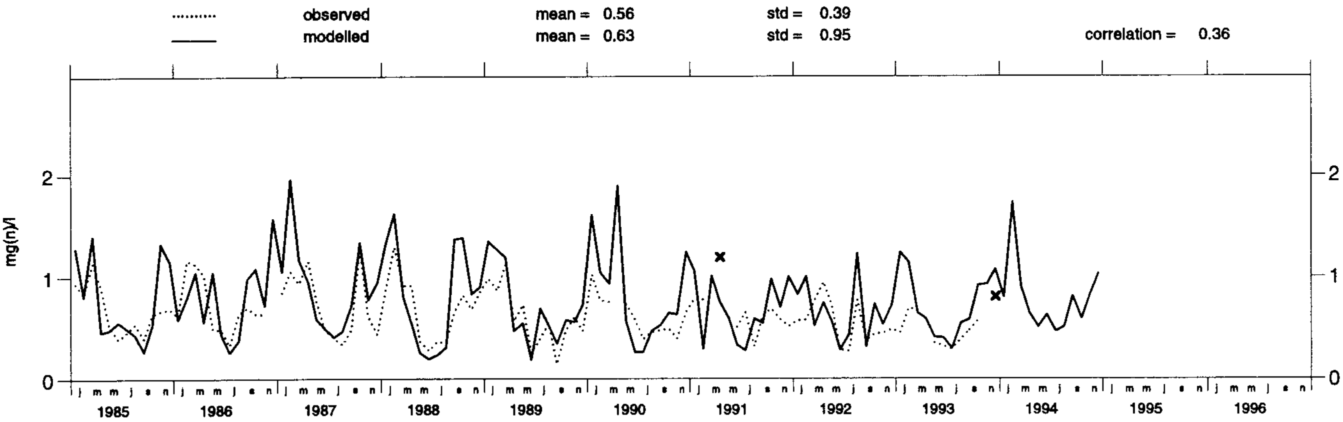
Concentration of nitrate in precipitation

....	observed	mean = 0.58	std = 1.03	
———	modelled	mean = 0.09	std = 0.10	correlation = 0.05



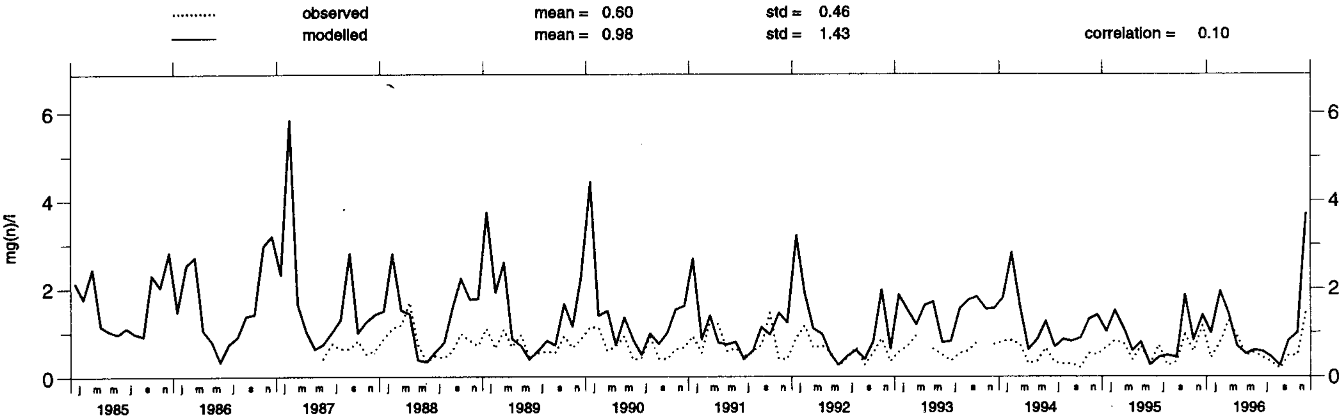
Suwalki (PL 1)

Concentration of nitrate in precipitation



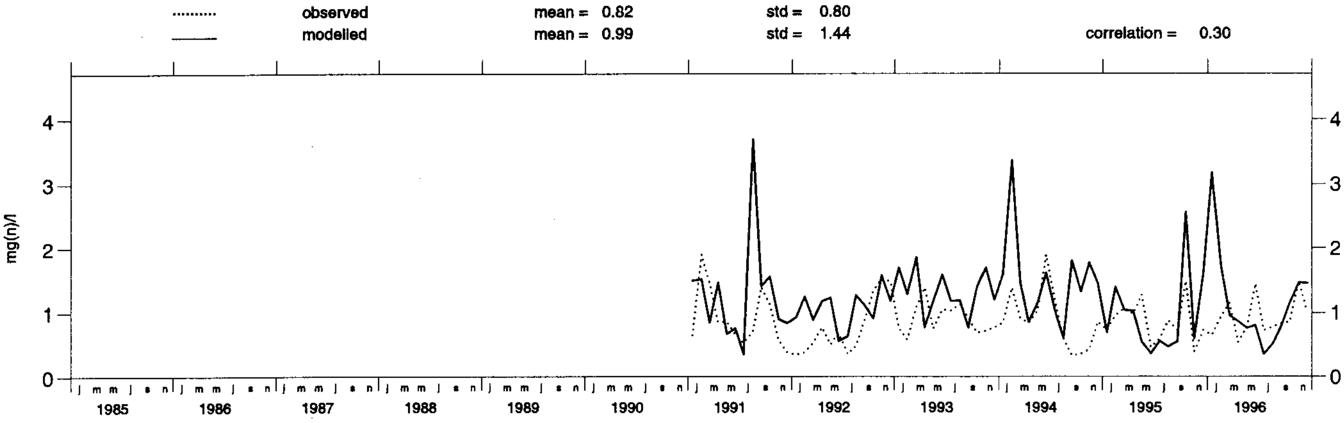
Jarczew (PL 2)

Concentration of nitrate in precipitation



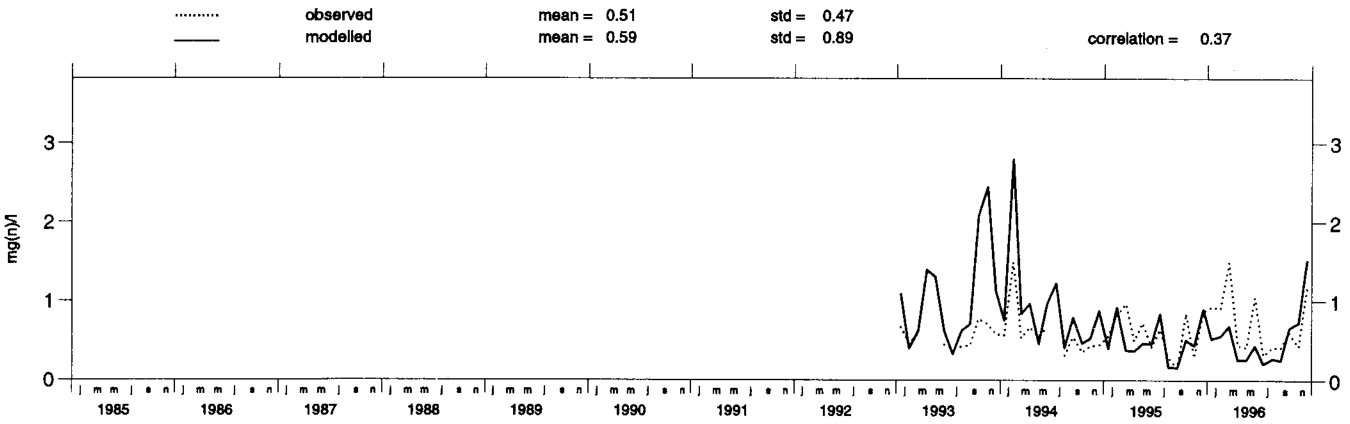
Sniezka (PL 3)

Concentration of nitrate in precipitation



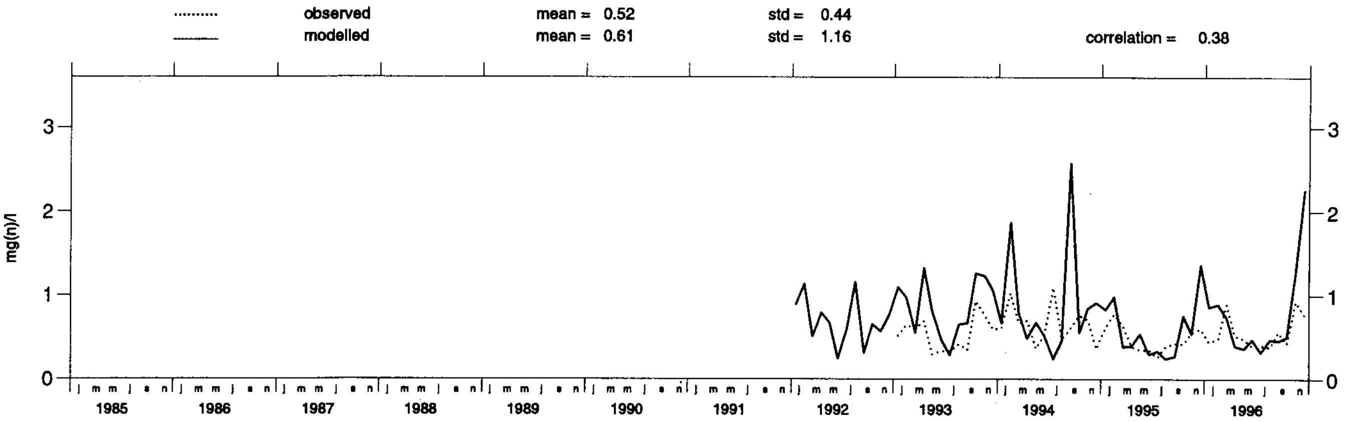
Leba (PL 4)

Concentration of nitrate in precipitation



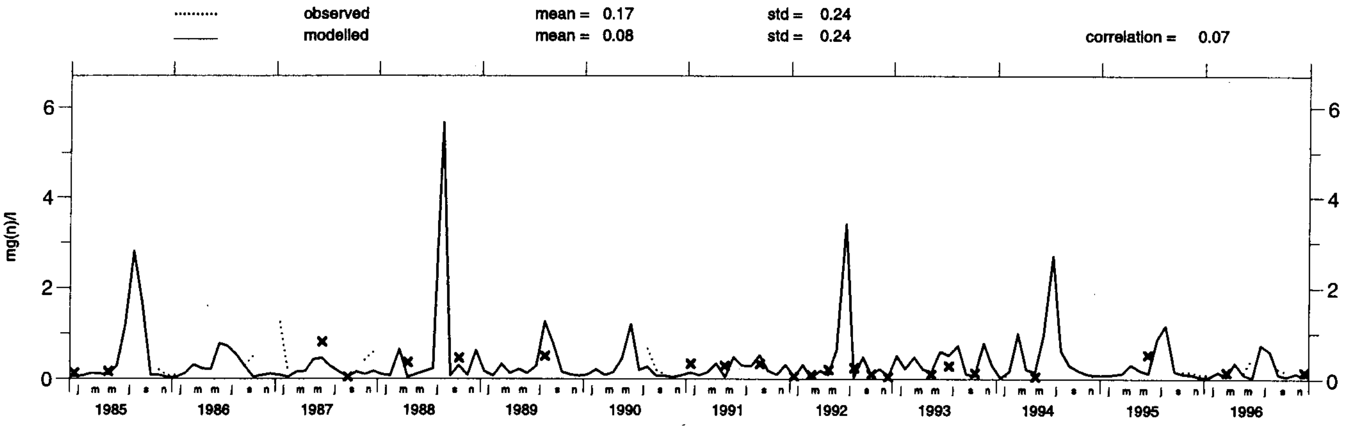
Diabla Gora (PL 5)

Concentration of nitrate in precipitation



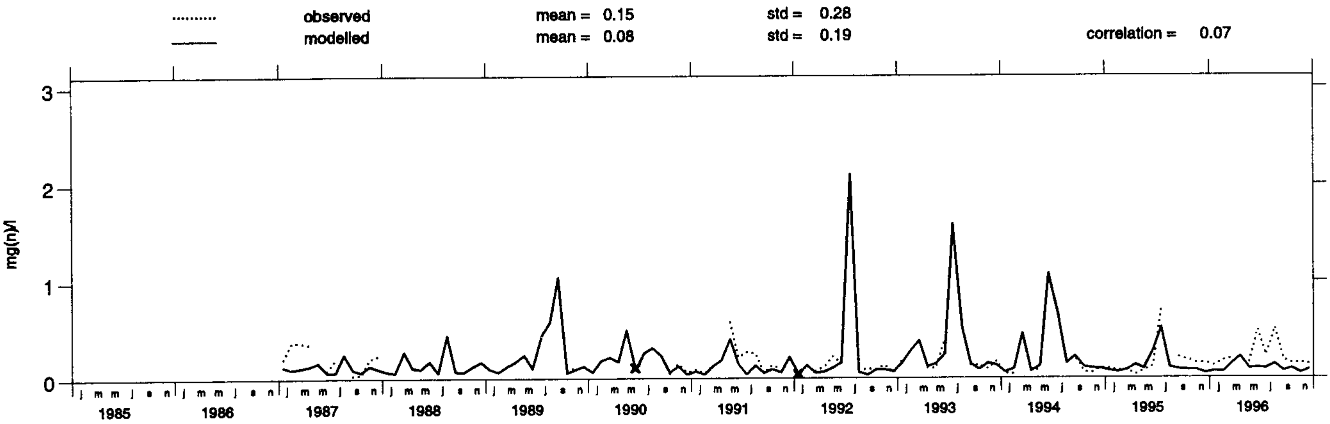
Braganca (PT 1)

Concentration of nitrate in precipitation



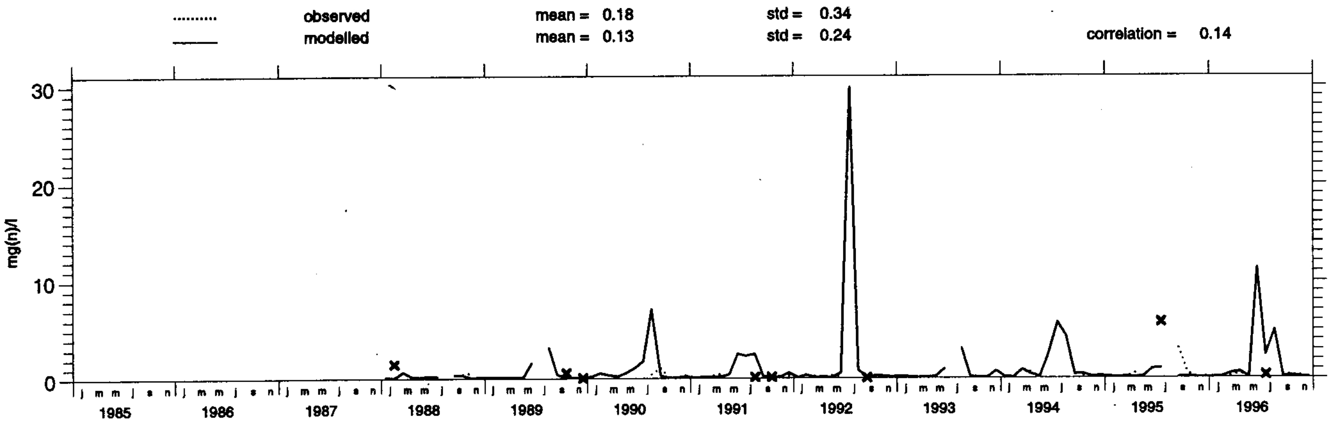
V.d.Castelo (PT 3)

Concentration of nitrate in precipitation



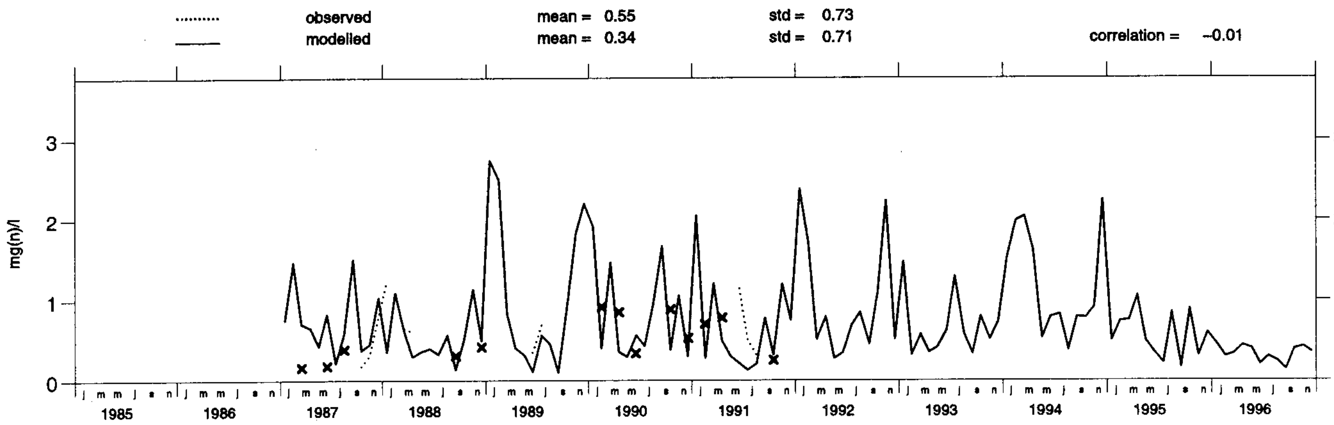
Monte_Velho (PT 4)

Concentration of nitrate in precipitation



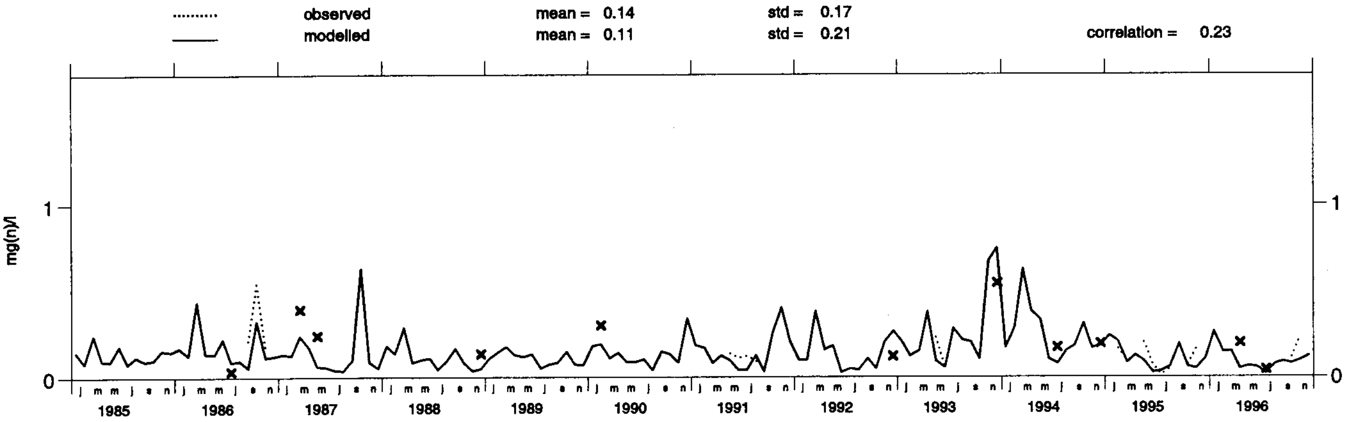
Leovo (MD 12)

Concentration of nitrate in precipitation



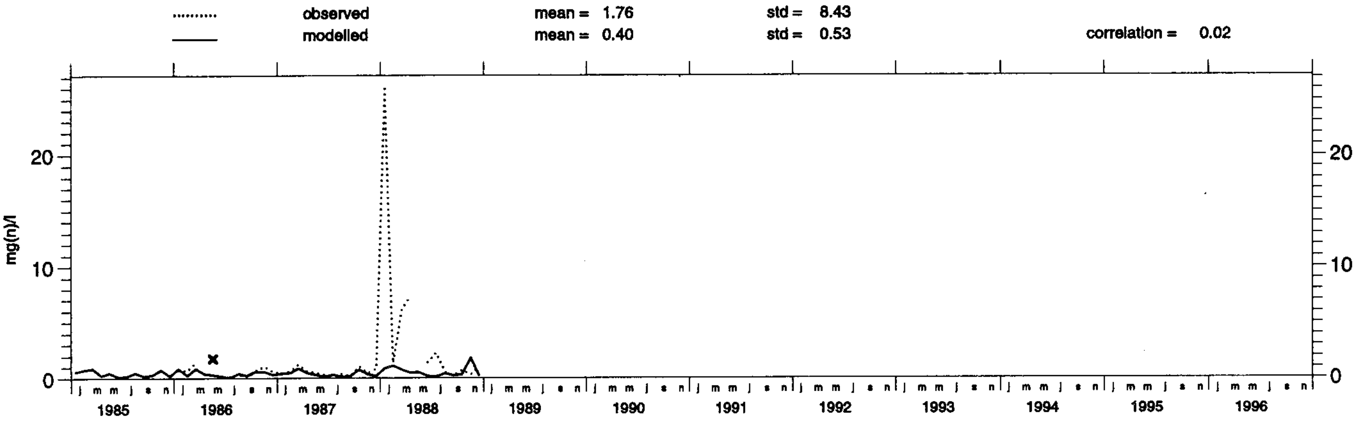
Janiskoski (RU 1)

Concentration of nitrate in precipitation



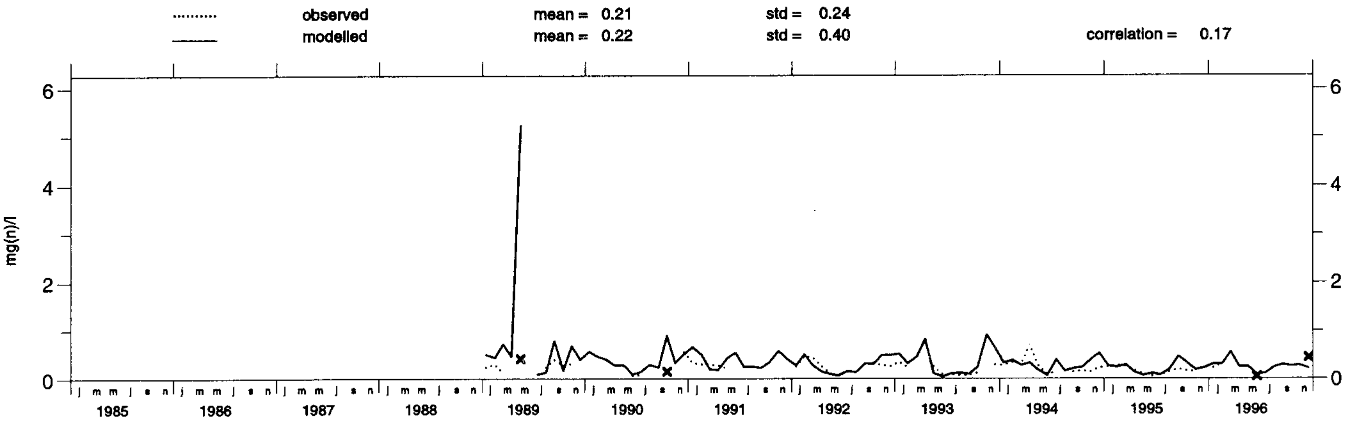
Lesogorsky (RU 8)

Concentration of nitrate in precipitation



Pinega (RU 13)

Concentration of nitrate in precipitation

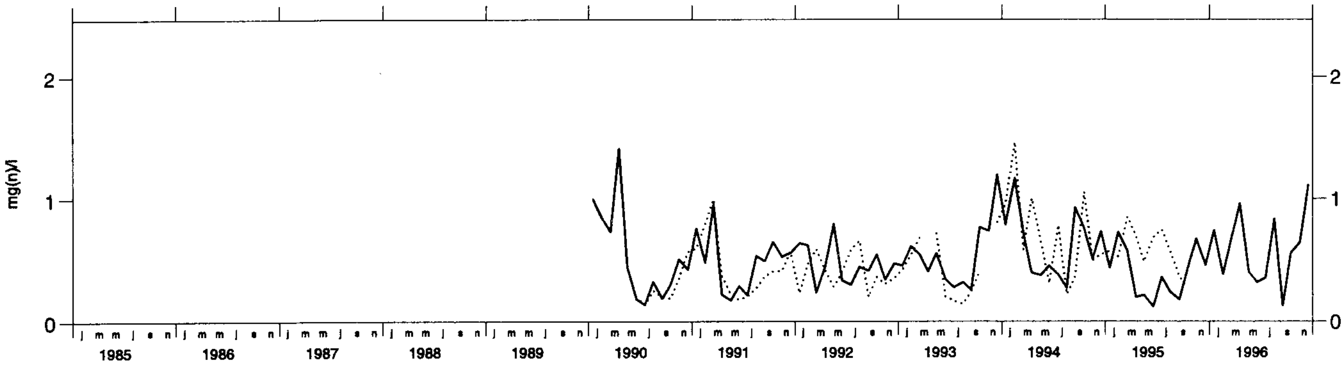


Pushkinsk_Gory (RU 14)

Concentration of nitrate in precipitation

.... observed mean = 0.43 std = 0.70

——— modelled mean = 0.39 std = 0.65 correlation = 0.08

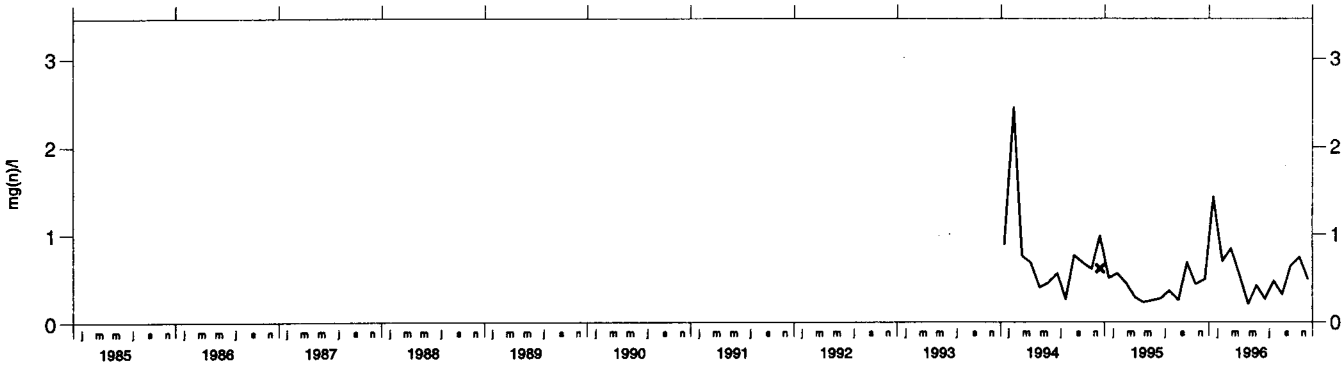


Shepeljovo (RU 15)

Concentration of nitrate in precipitation

.... observed mean = 0.64 std = 0.45

——— modelled mean = 0.87 std = 1.23 correlation = 0.67

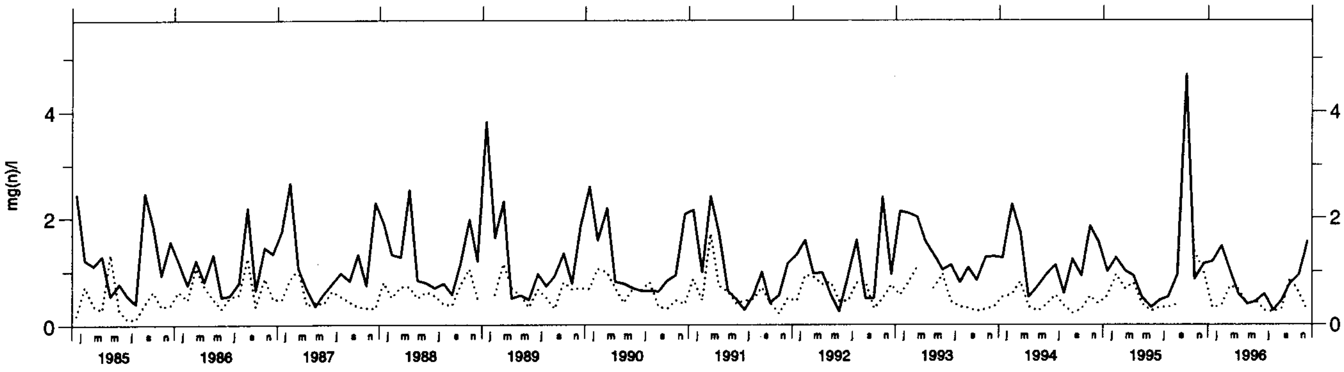


Chopok (SK 2)

Concentration of nitrate in precipitation

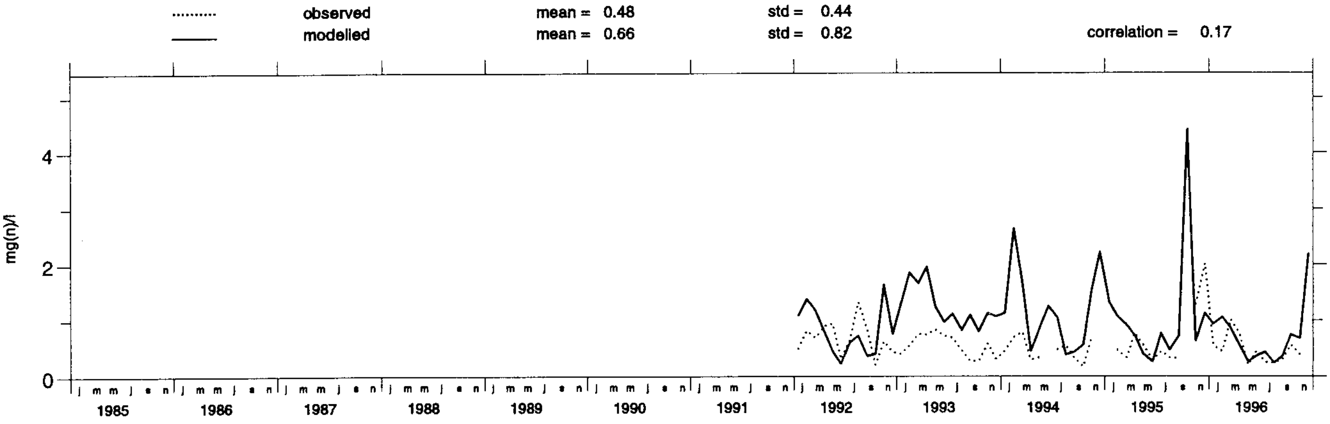
.... observed mean = 0.51 std = 0.51

——— modelled mean = 0.85 std = 1.31 correlation = 0.12



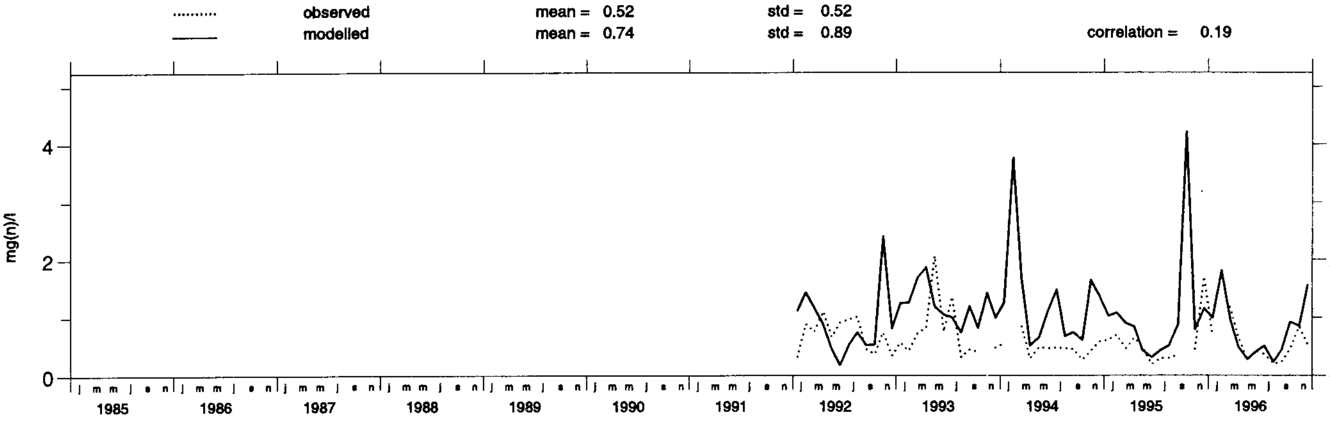
Stara Lesna (SK 4)

Concentration of nitrate in precipitation



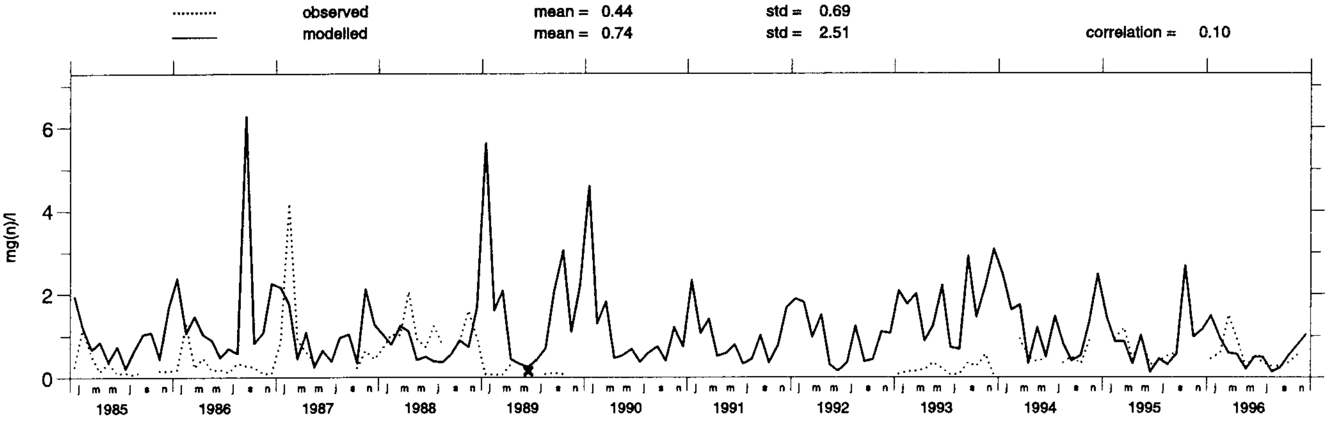
Liesek (SK 5)

Concentration of nitrate in precipitation



Starina (SK 6)

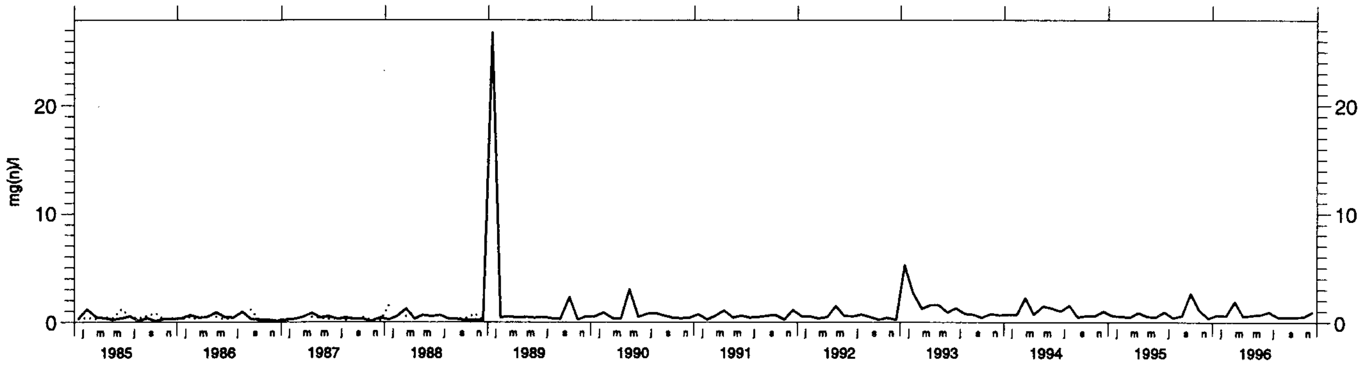
Concentration of nitrate in precipitation



Masun (SI 1)

Concentration of nitrate in precipitation

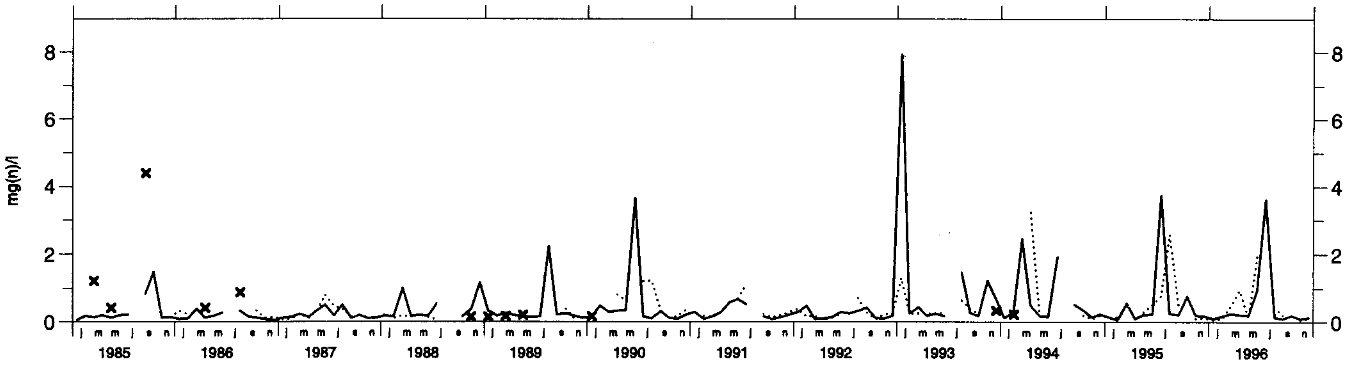
....	observed	mean = 0.35	std = 0.60	
———	modelled	mean = 0.35	std = 0.75	correlation = 0.24



Toledo (ES 1)

Concentration of nitrate in precipitation

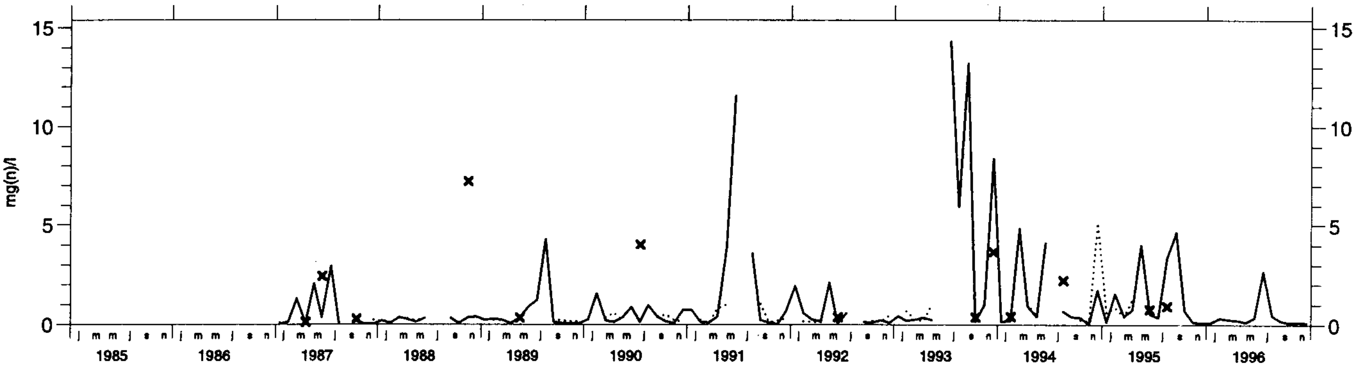
....	observed	mean = 0.22	std = 0.33	
———	modelled	mean = 0.17	std = 0.25	correlation = 0.10



La_Cartuja (ES 2)

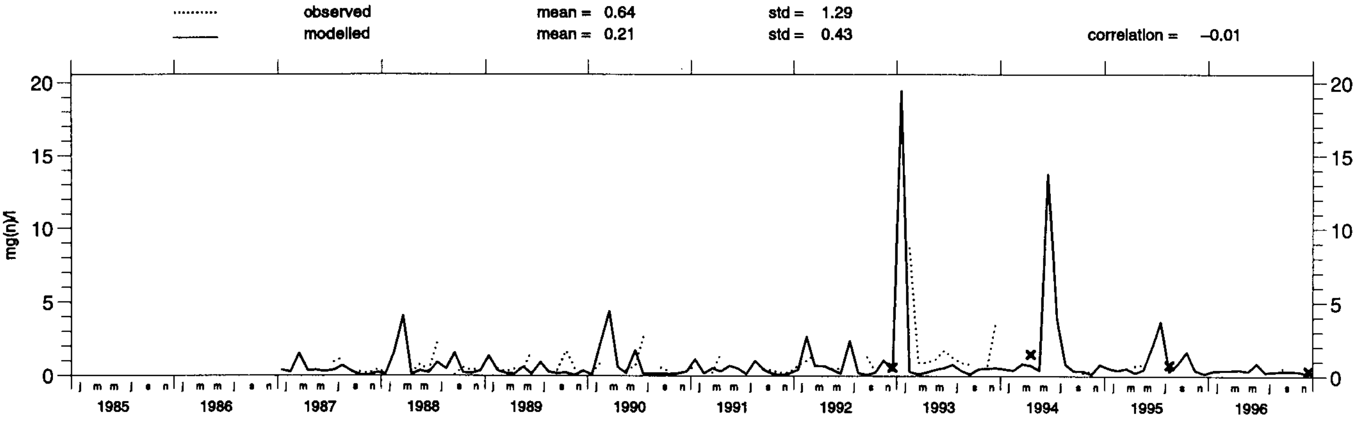
Concentration of nitrate in precipitation

....	observed	mean = 0.42	std = 1.22	
———	modelled	mean = 0.16	std = 0.37	correlation = 0.04



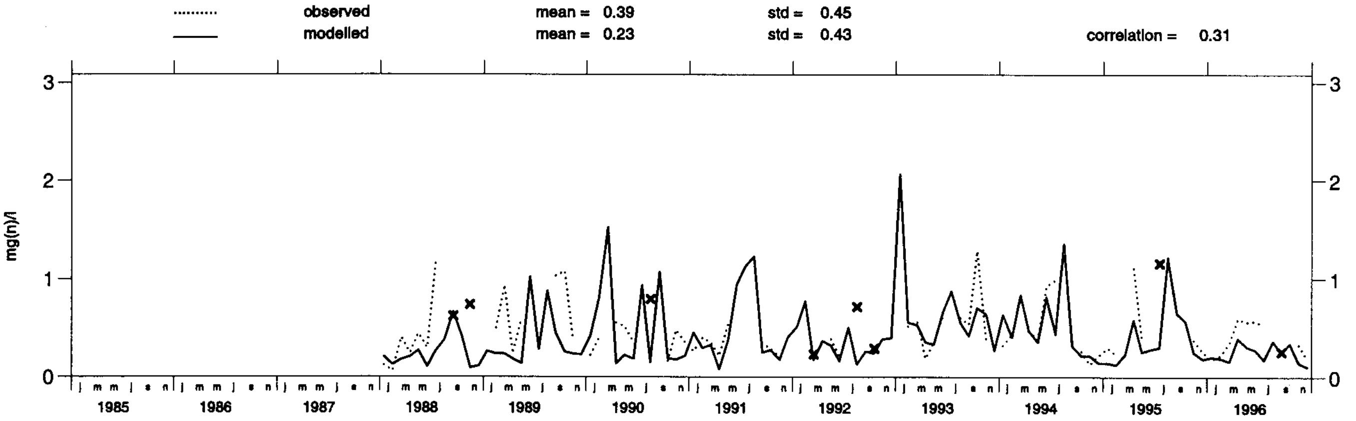
Roquetas (ES 3)

Concentration of nitrate in precipitation



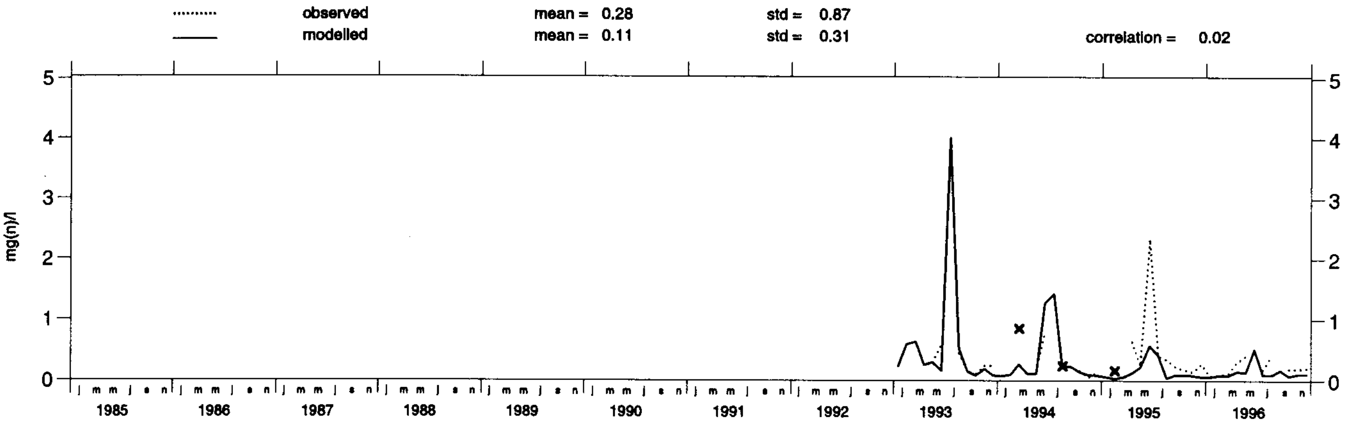
Logrono (ES 4)

Concentration of nitrate in precipitation



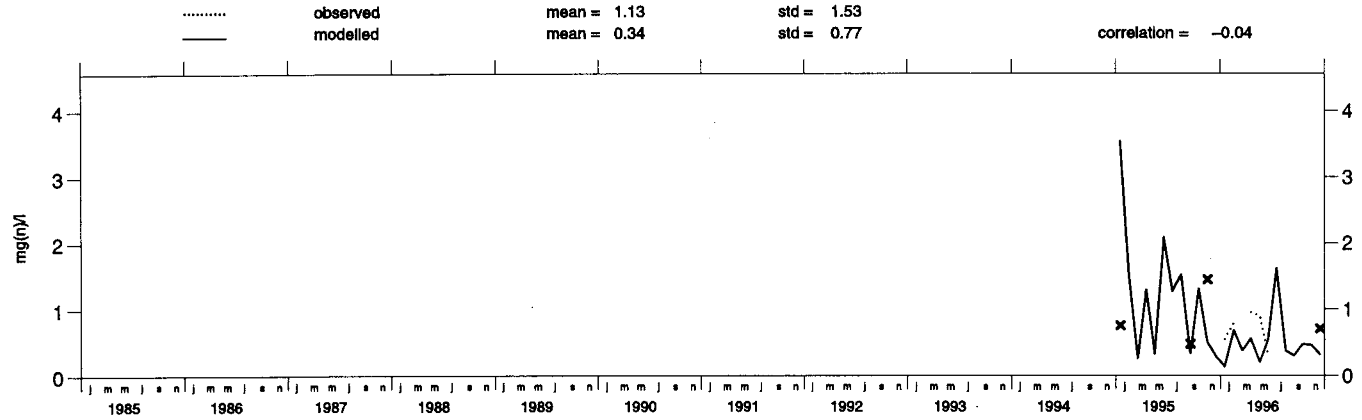
Noio (ES 5)

Concentration of nitrate in precipitation



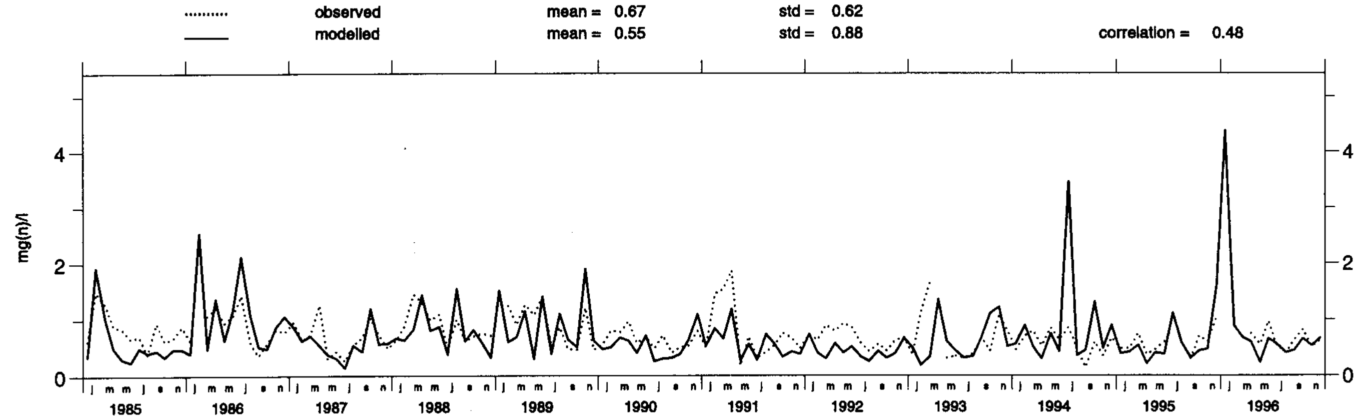
Mahon (ES 6)

Concentration of nitrate in precipitation



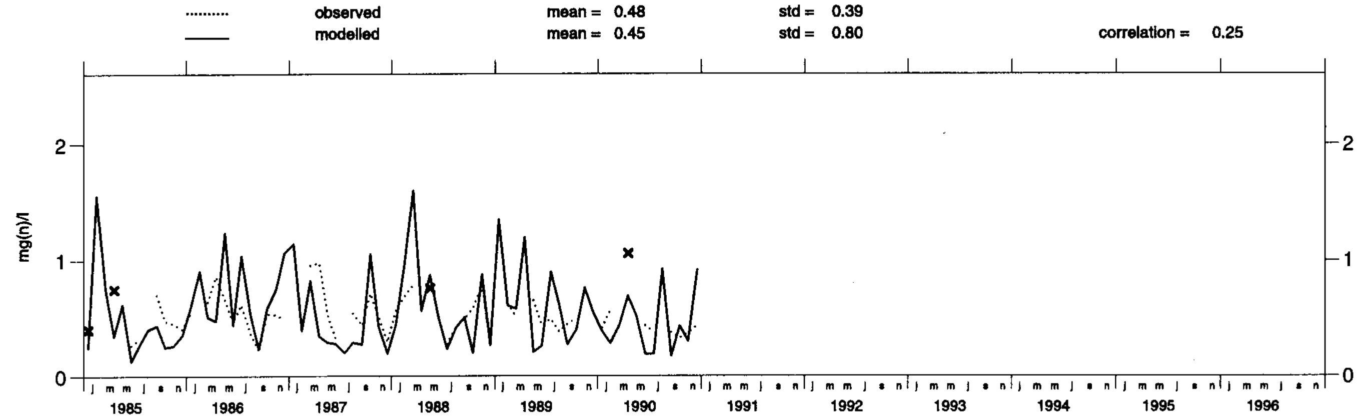
Roervik (SE 2)

Concentration of nitrate in precipitation



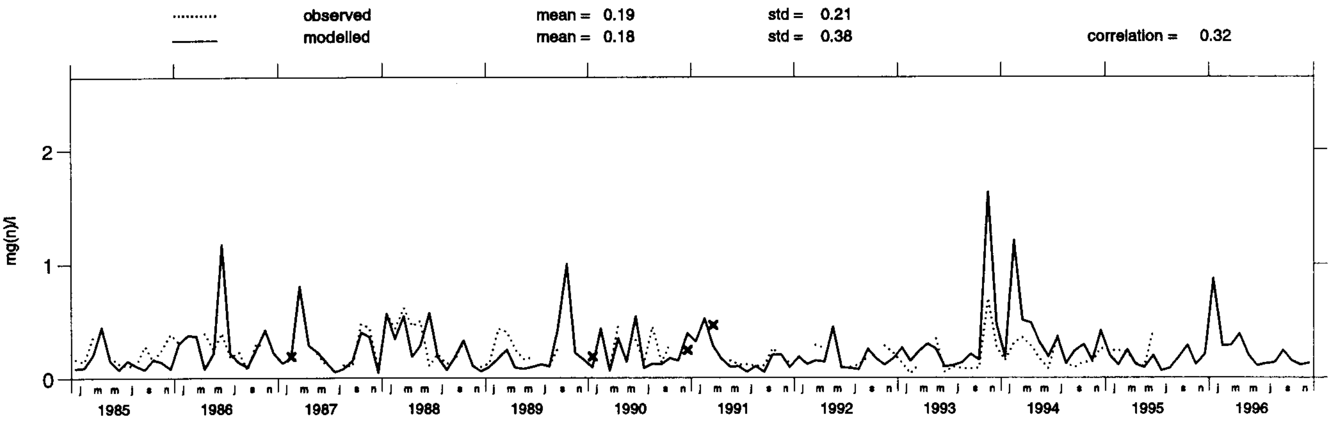
Velen (SE 3)

Concentration of nitrate in precipitation



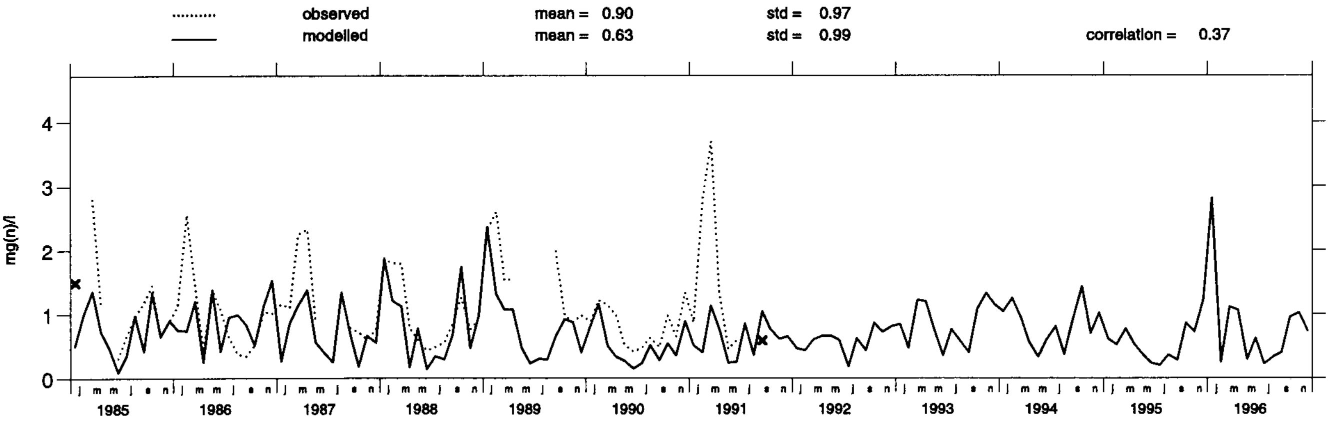
Bredkelen (SE 5)

Concentration of nitrate in precipitation



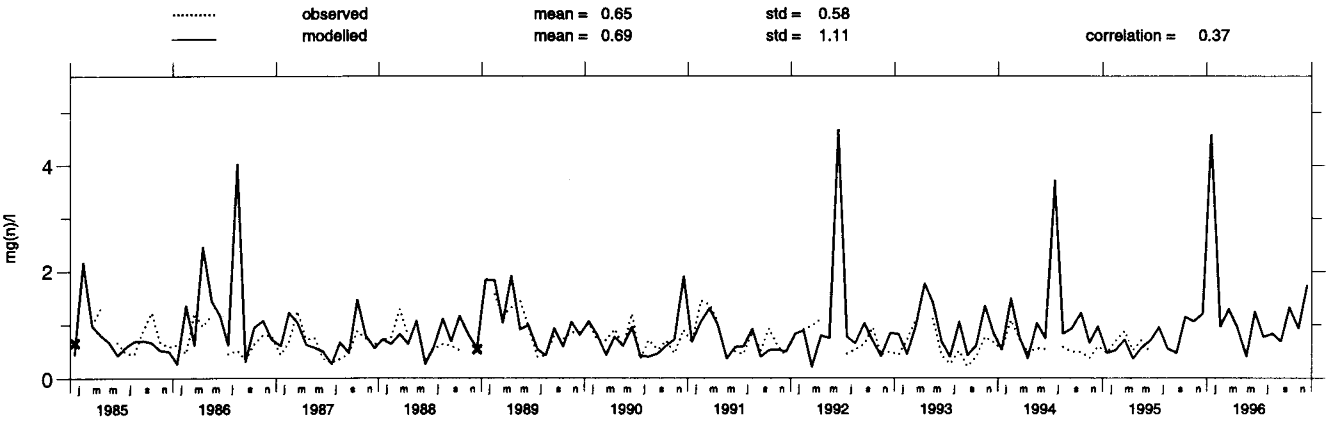
Hoburg (SE 8)

Concentration of nitrate in precipitation



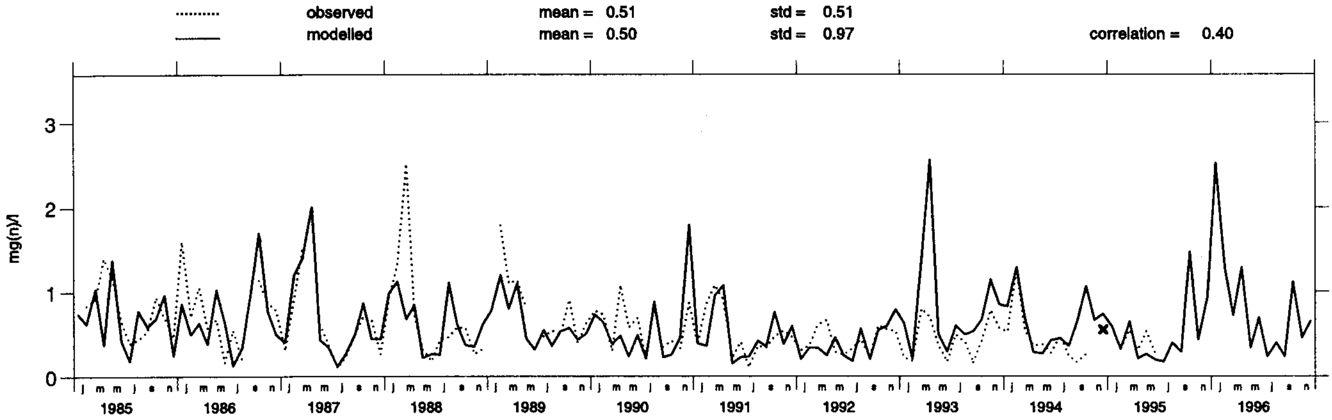
Vavihill (SE 11)

Concentration of nitrate in precipitation



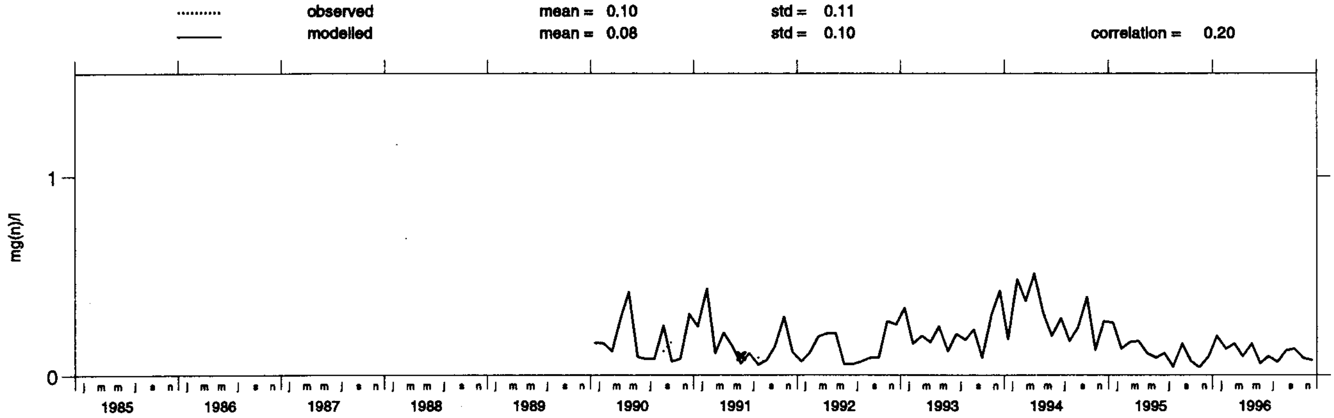
Aspvreten (SE 12)

Concentration of nitrate in precipitation



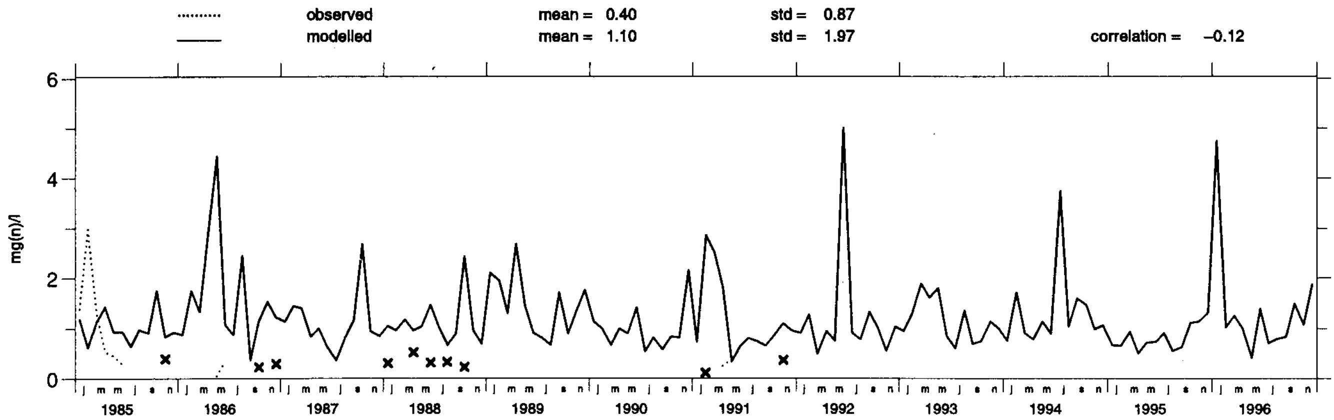
Esrange (SE 13)

Concentration of nitrate in precipitation



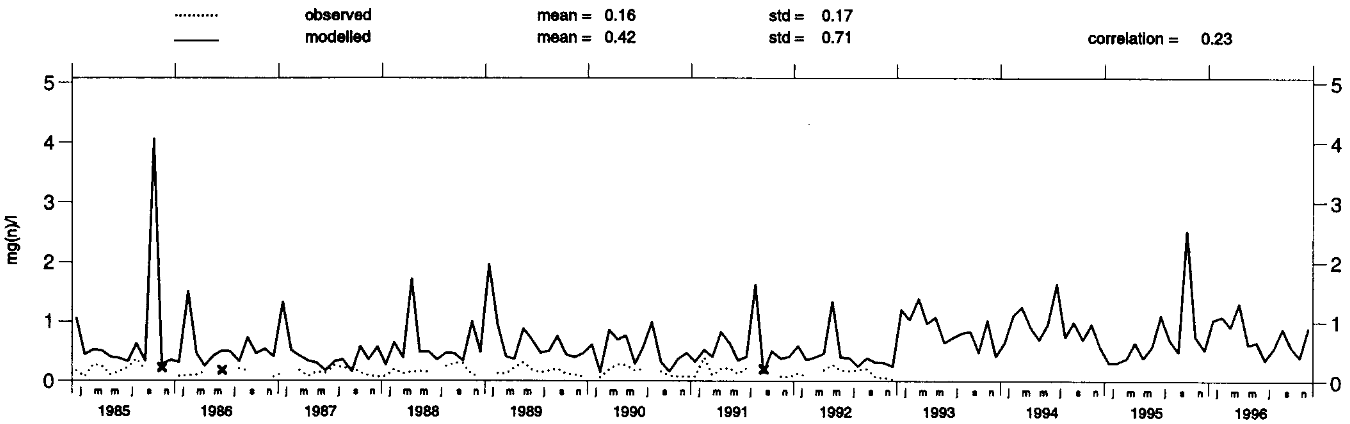
Arup (SE 50)

Concentration of nitrate in precipitation



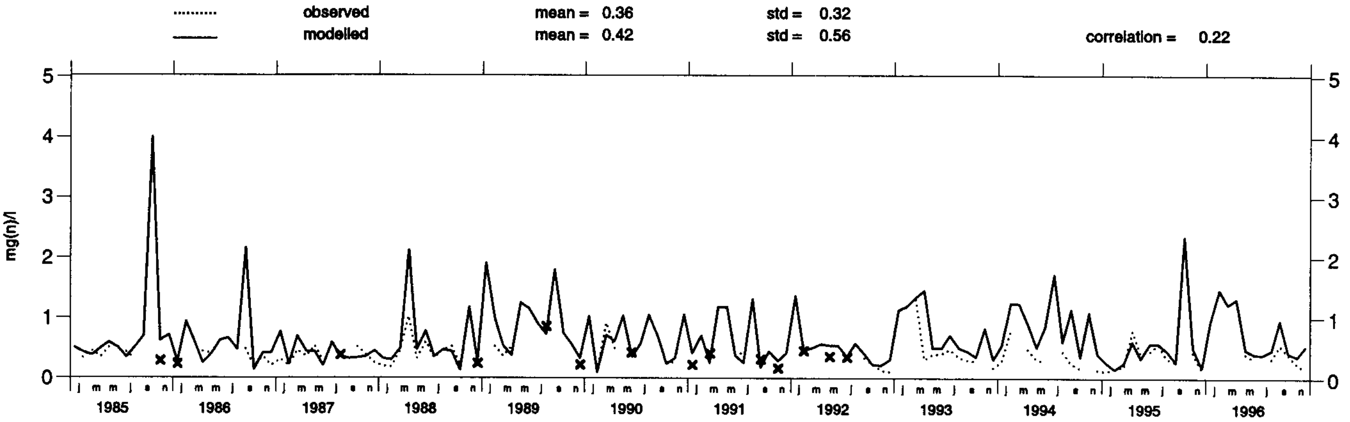
Jungfraujoch (CH 1)

Concentration of nitrate in precipitation



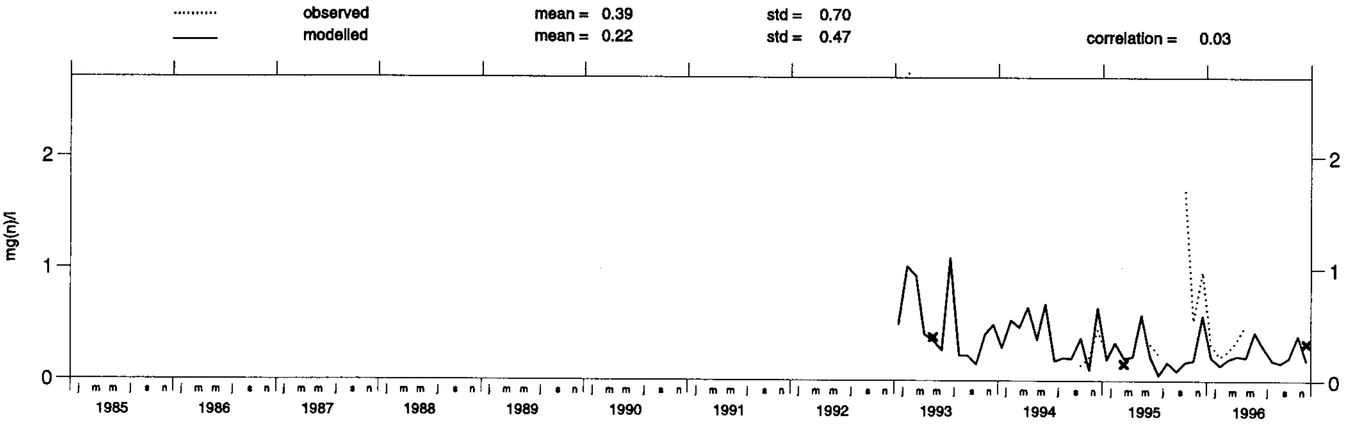
Payerne (CH 2)

Concentration of nitrate in precipitation



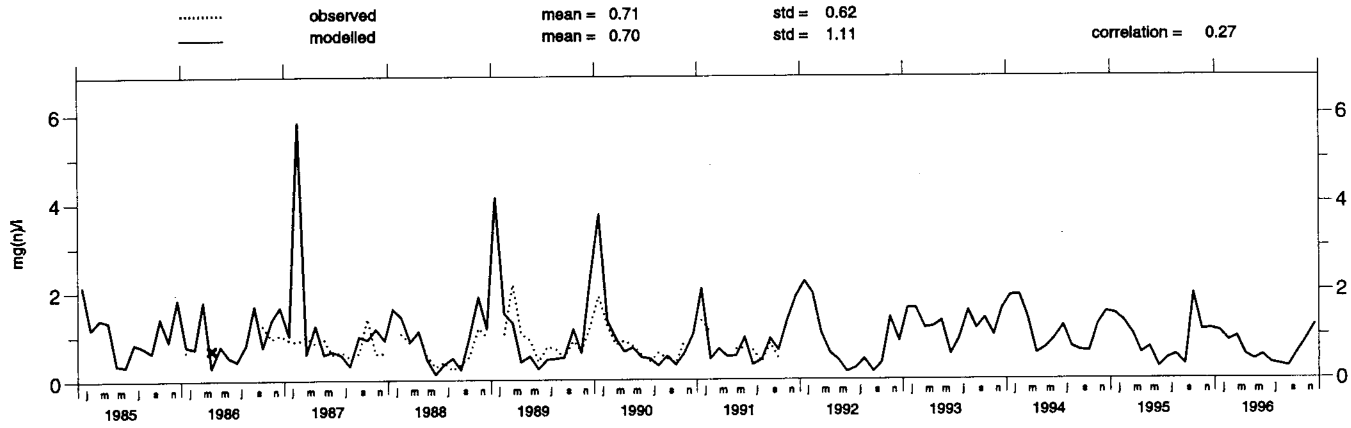
Cubuk11 (TR 1)

Concentration of nitrate in precipitation



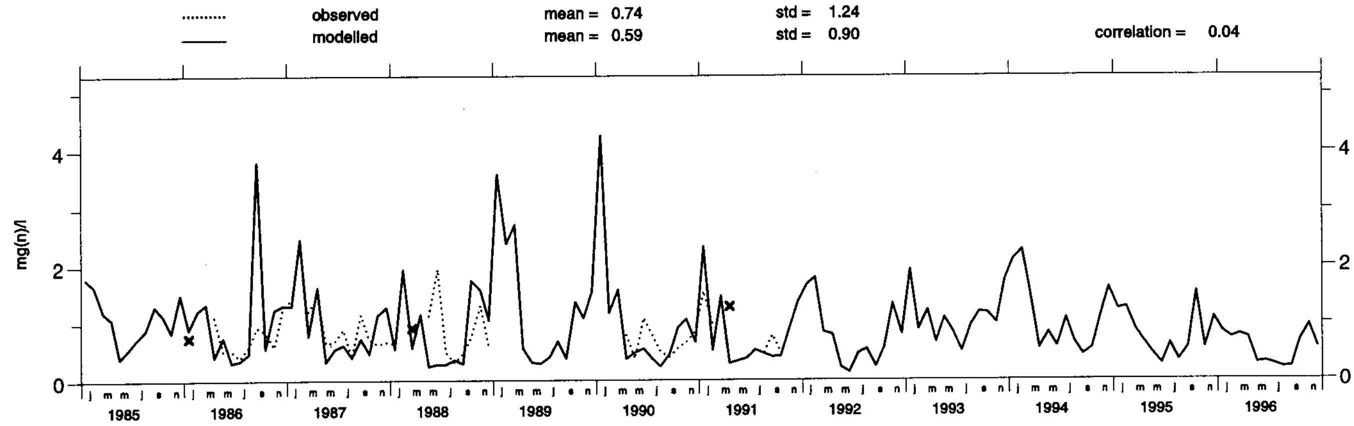
Svityatz (UA 5)

Concentration of nitrate in precipitation



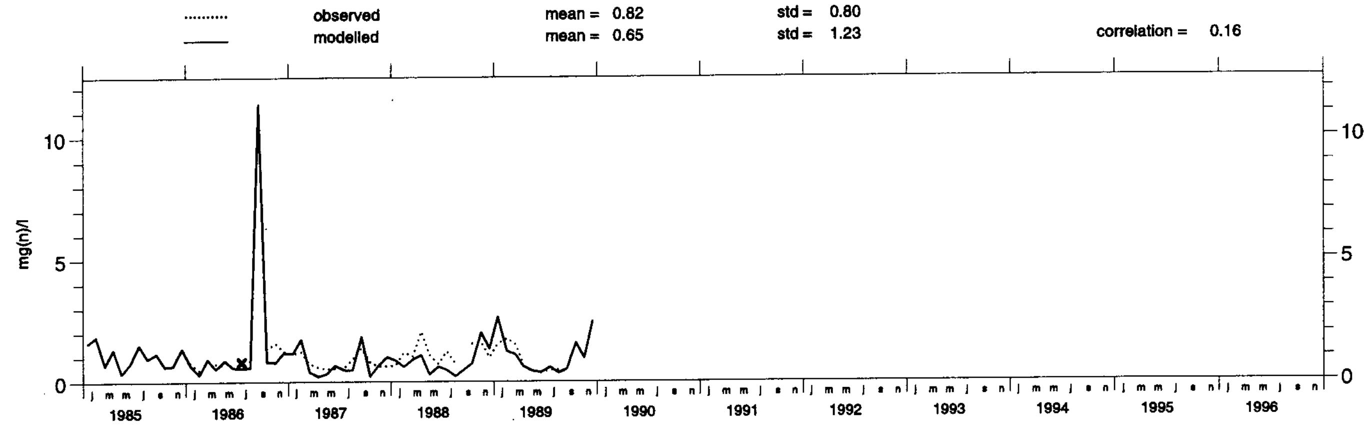
Rava-Russkaya (UA 6)

Concentration of nitrate in precipitation



Beregovo (UA 7)

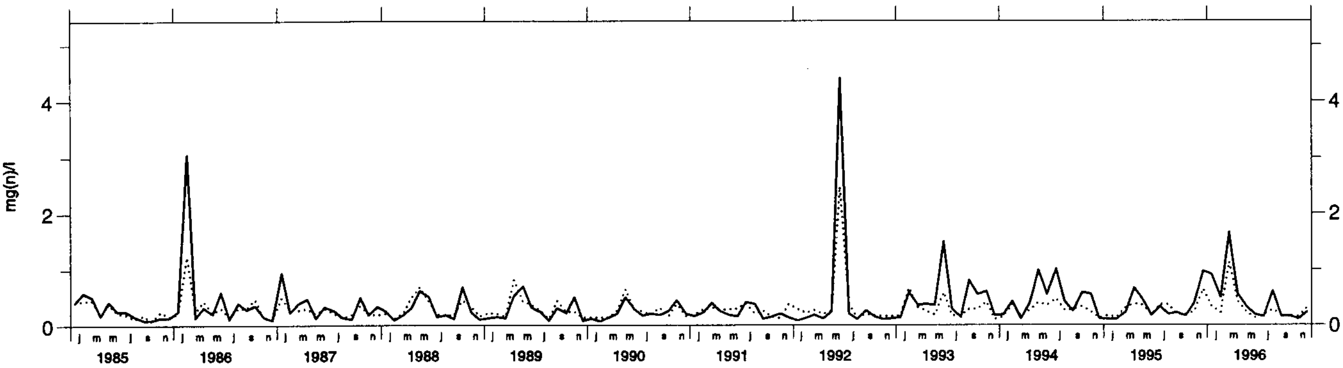
Concentration of nitrate in precipitation



Eskdalemuir (GB 2)

Concentration of nitrate in precipitation

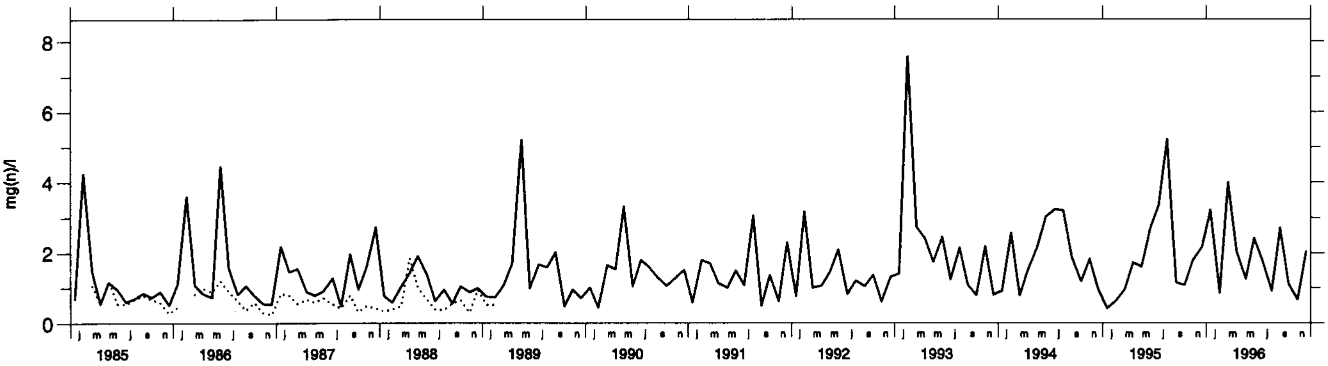
.... observed mean = 0.23 std = 0.32
——— modelled mean = 0.25 std = 0.68 correlation = 0.48



Stoke_Ferry (GB 4)

Concentration of nitrate in precipitation

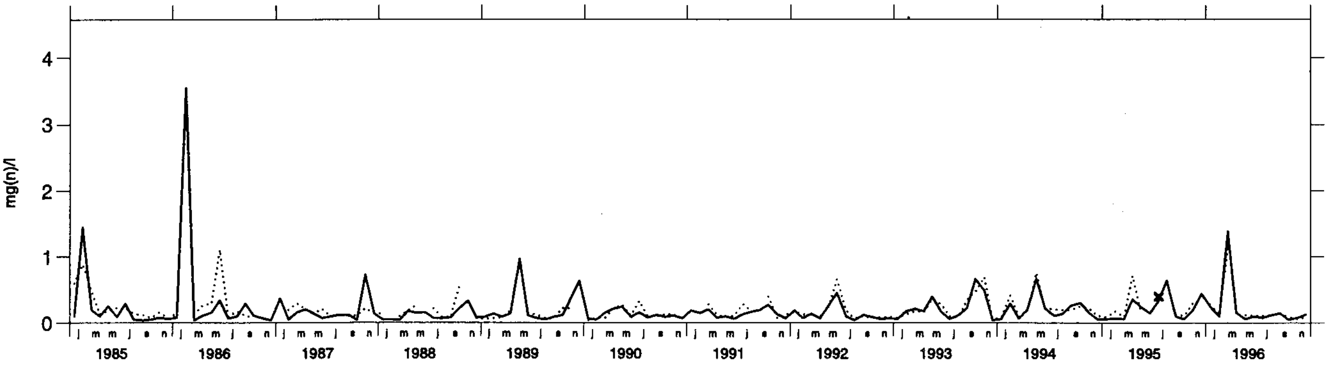
.... observed mean = 0.59 std = 0.72
——— modelled mean = 0.97 std = 1.97 correlation = 0.46



Lough_Navar (GB 6)

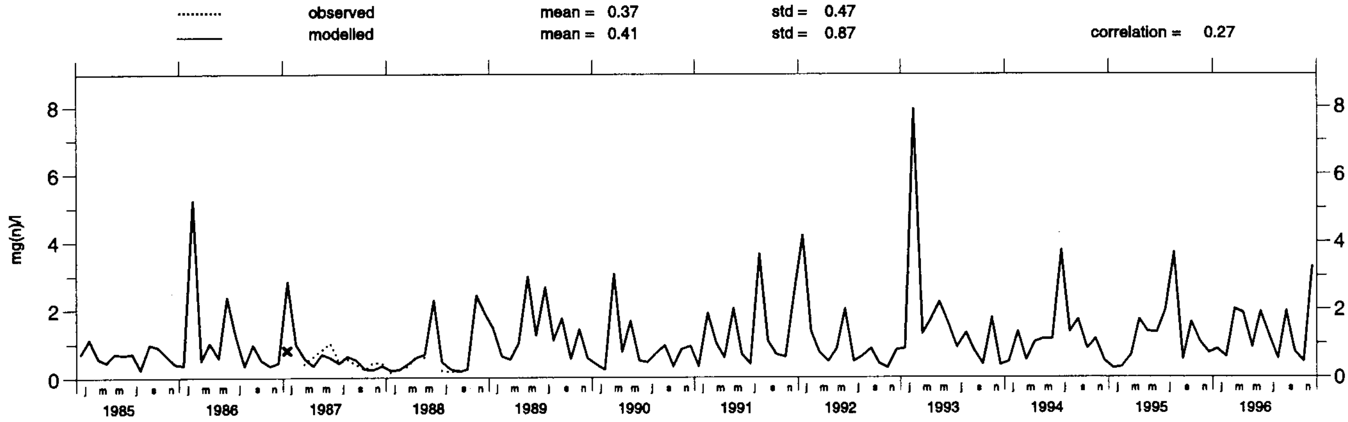
Concentration of nitrate in precipitation

.... observed mean = 0.18 std = 0.36
——— modelled mean = 0.13 std = 0.46 correlation = 0.52



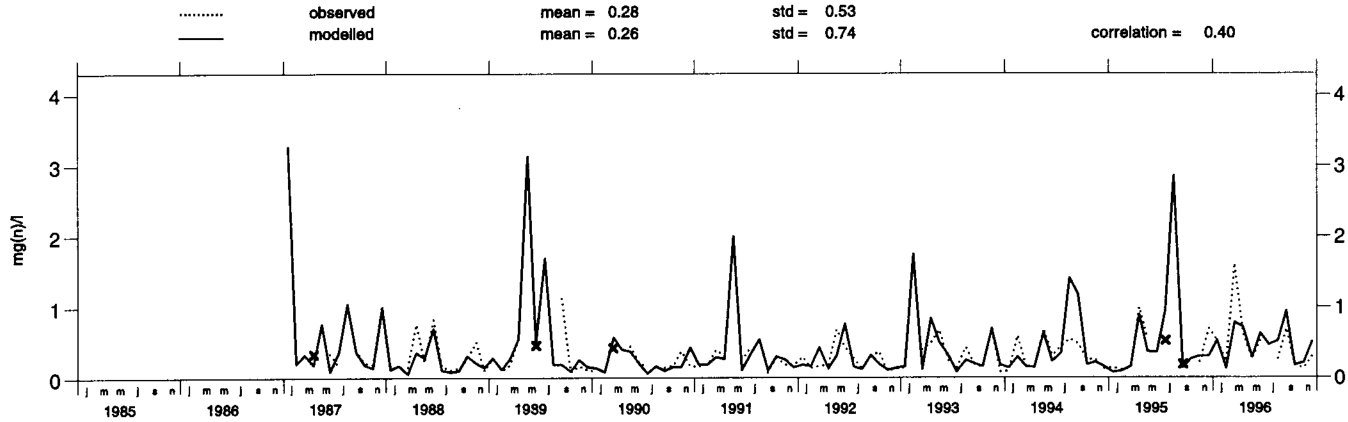
Barcombe_Mills (GB 7)

Concentration of nitrate in precipitation



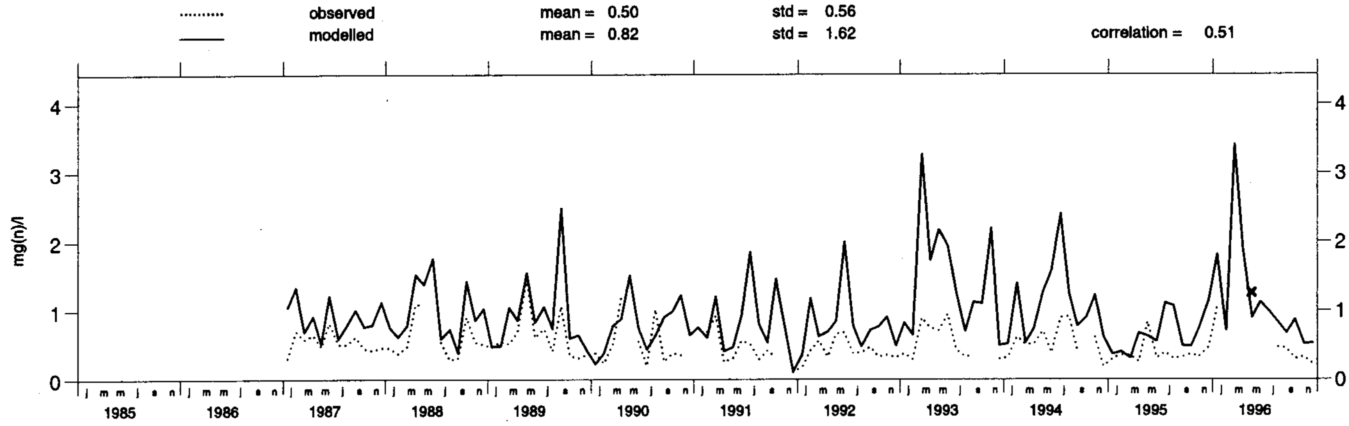
Yarner_Wood (GB 13)

Concentration of nitrate in precipitation



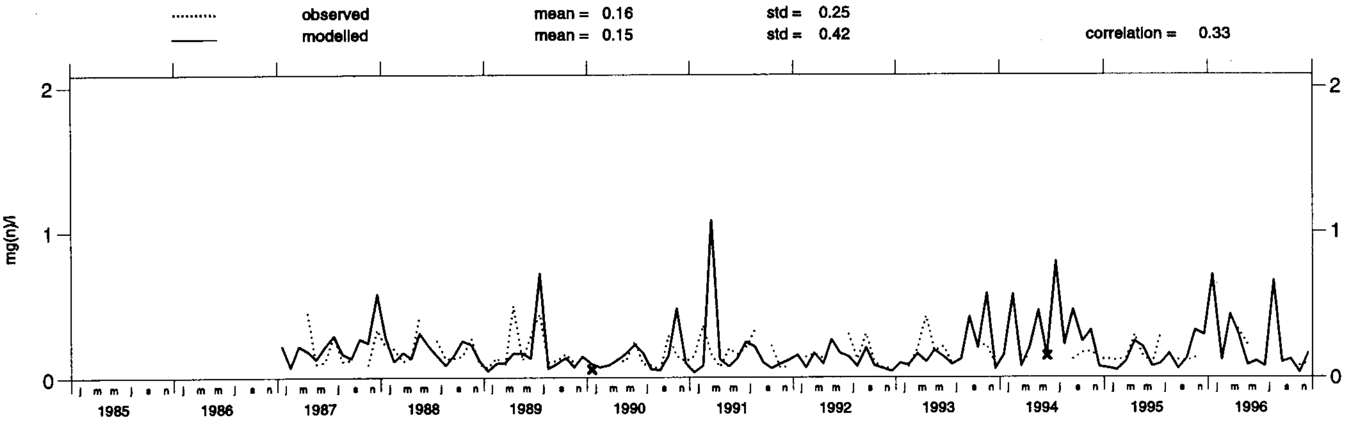
High_Muffles (GB 14)

Concentration of nitrate in precipitation



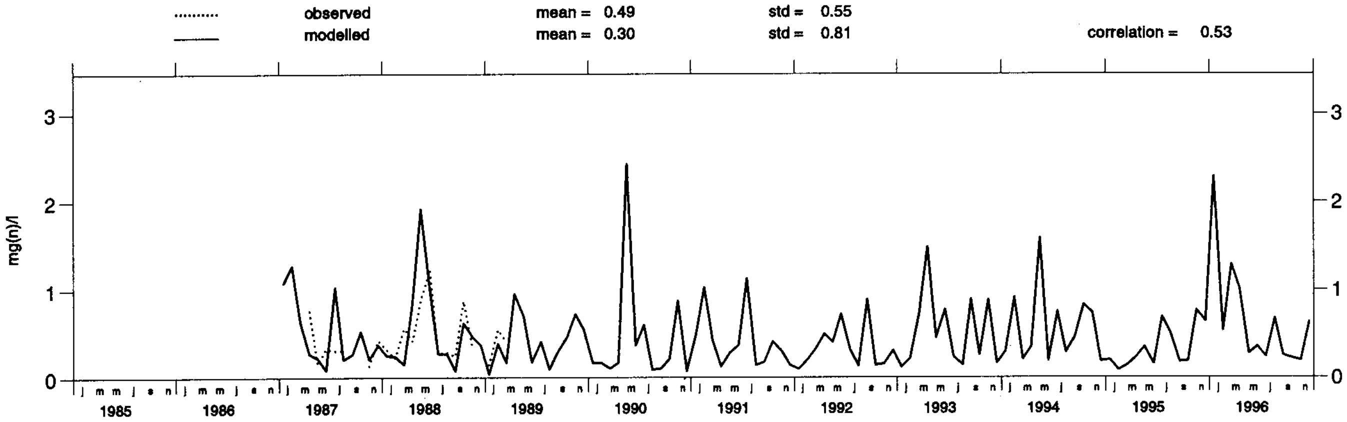
Strath_Vaich_D. (GB 15)

Concentration of nitrate in precipitation



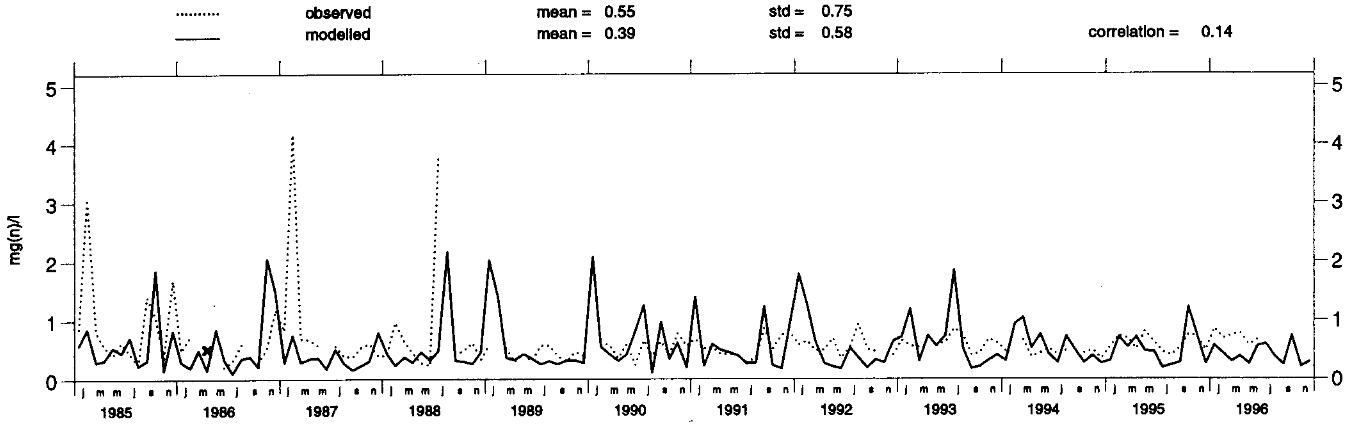
Glen_Dye (GB 16)

Concentration of nitrate in precipitation



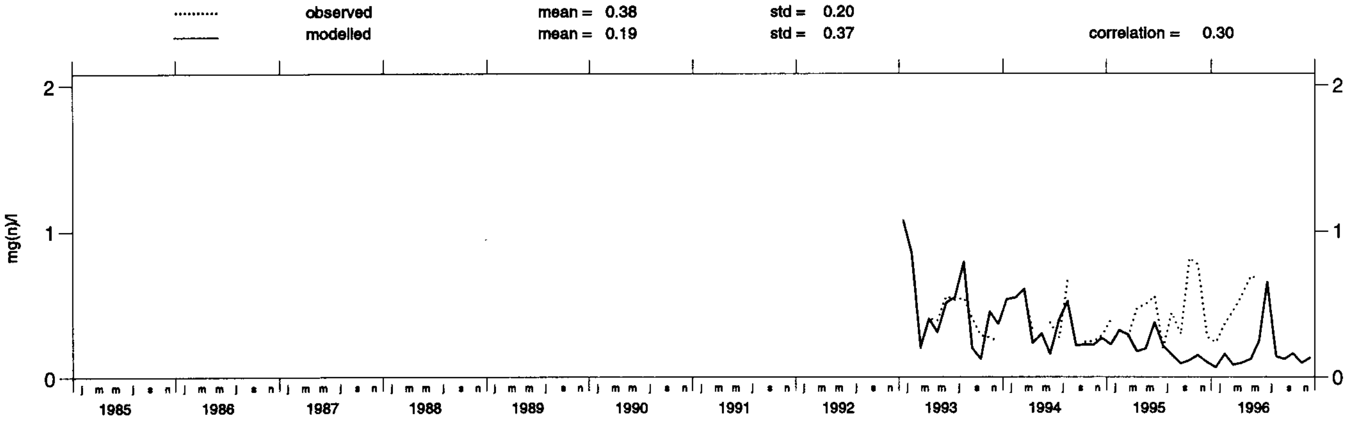
Kamenicki_vis (YU 5)

Concentration of nitrate in precipitation



Zabljak (YU 8)

Concentration of nitrate in precipitation

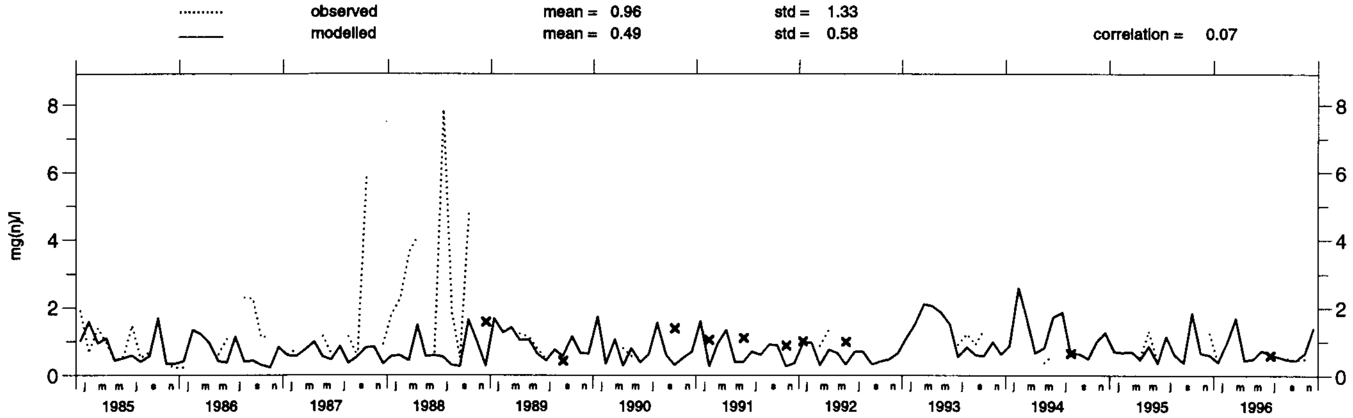


Time series for concentration of Ammonium in precipitation

Period: 1985-96

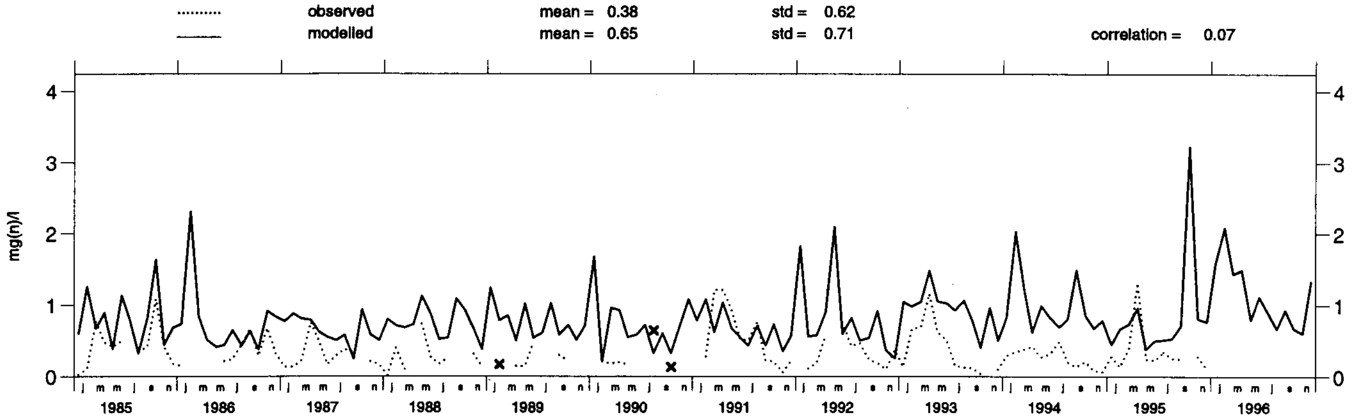
Illmitz (AT 2)

Concentration of ammonium in precipitation



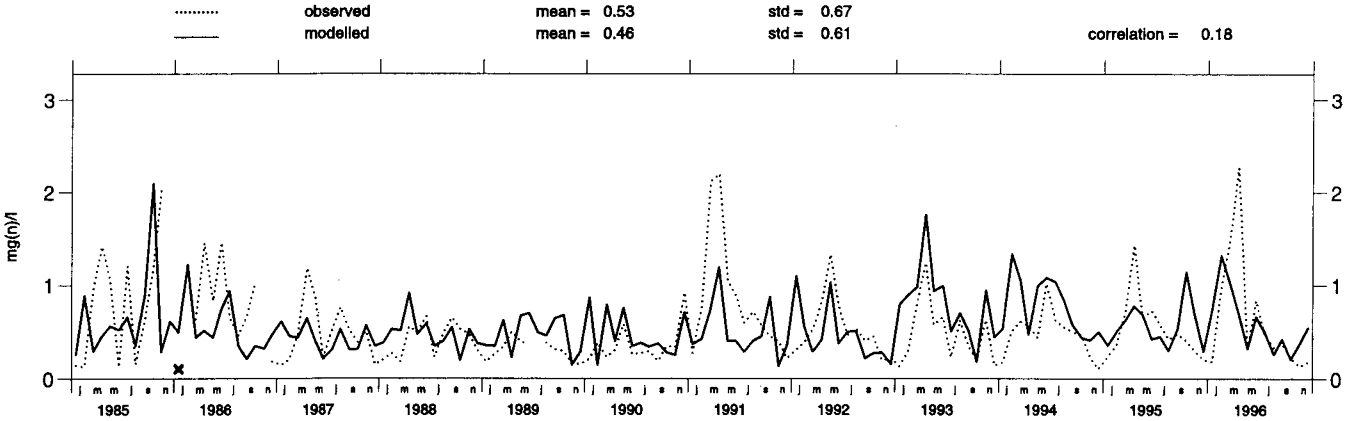
Achenkirch (AT 3)

Concentration of ammonium in precipitation



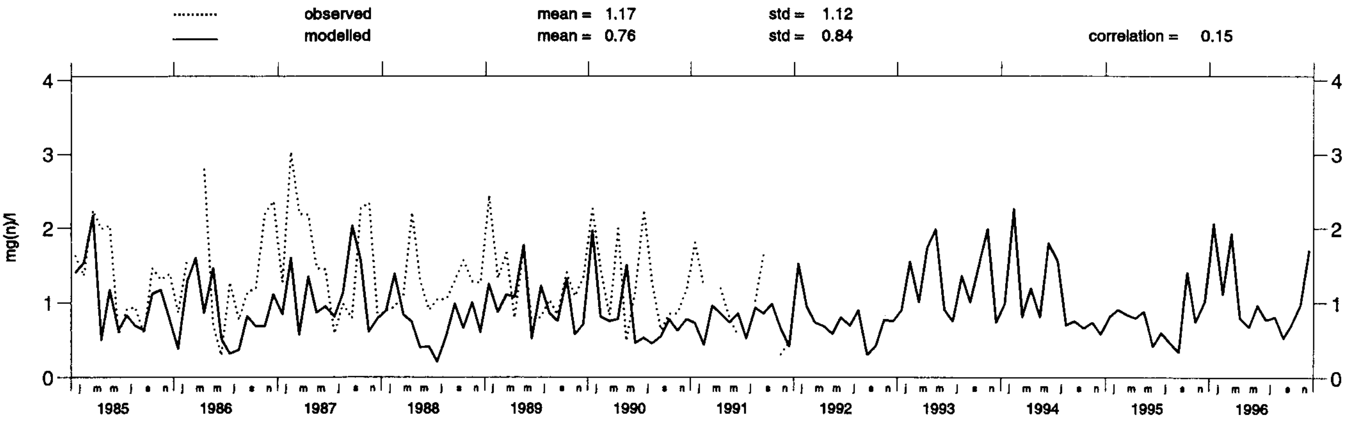
St.Koloman (AT 4)

Concentration of ammonium in precipitation



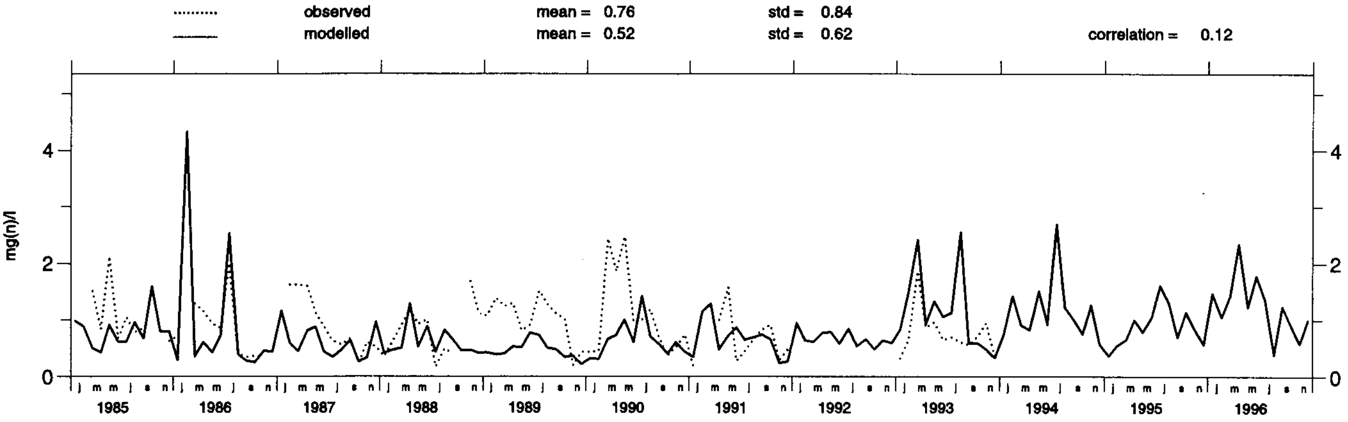
Vysokoe (BY 4)

Concentration of ammonium in precipitation



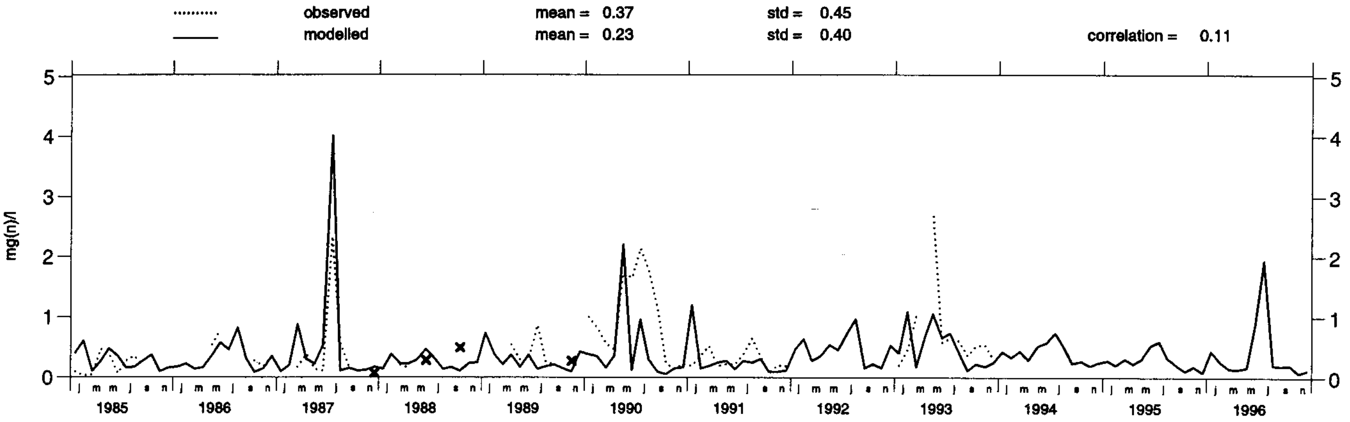
Offagne (BE 1)

Concentration of ammonium in precipitation



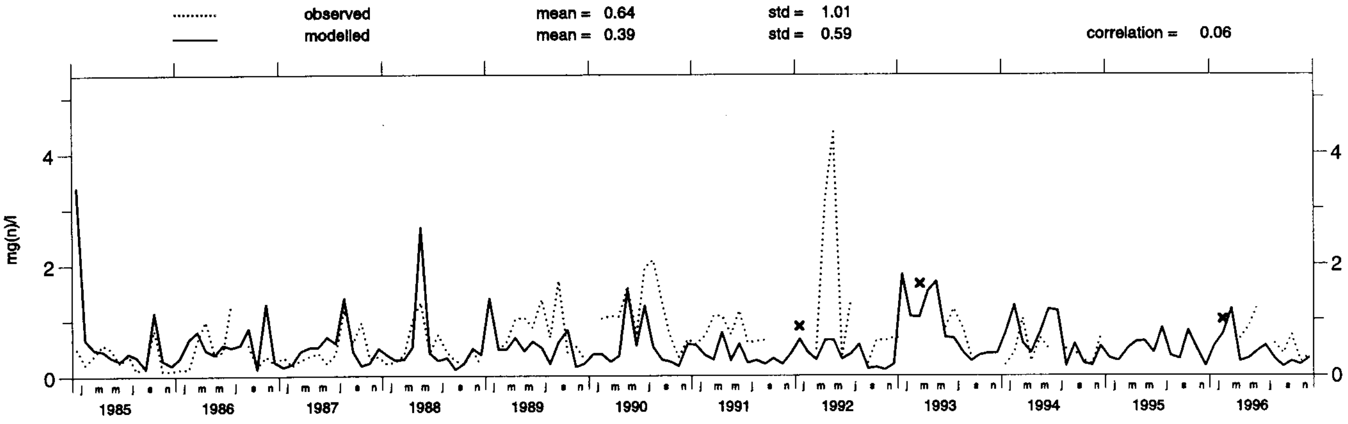
Ivan_Sedlo (BA 6)

Concentration of ammonium in precipitation



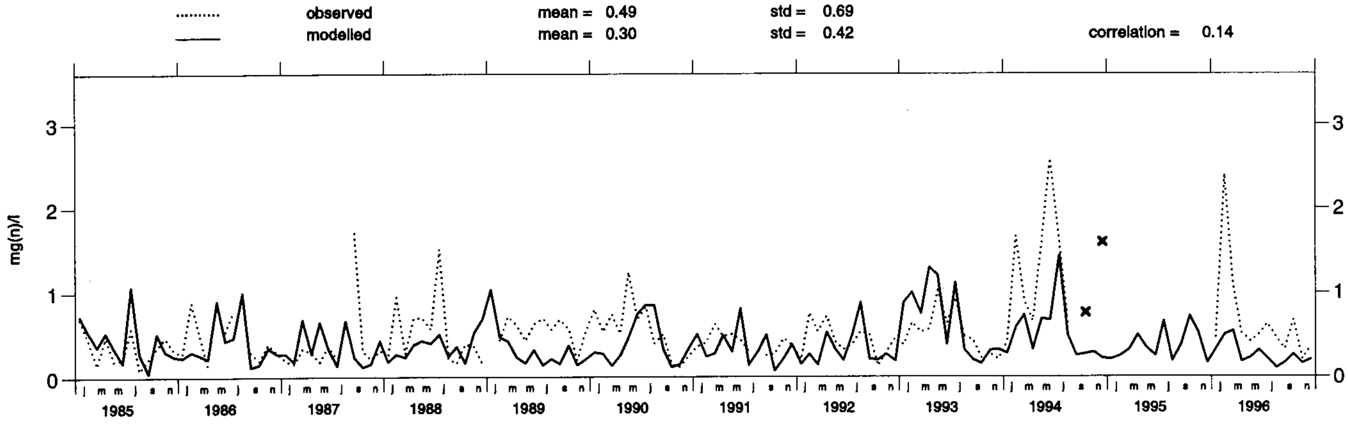
Puntijarka (HR 2)

Concentration of ammonium in precipitation



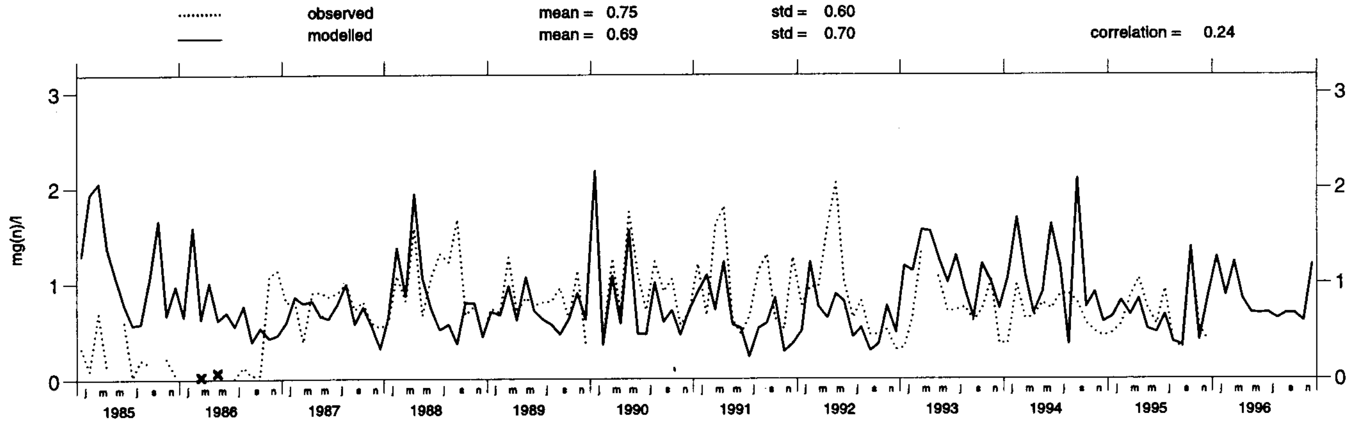
Zavizan (HR 4)

Concentration of ammonium in precipitation



Svratouch (CS 1)

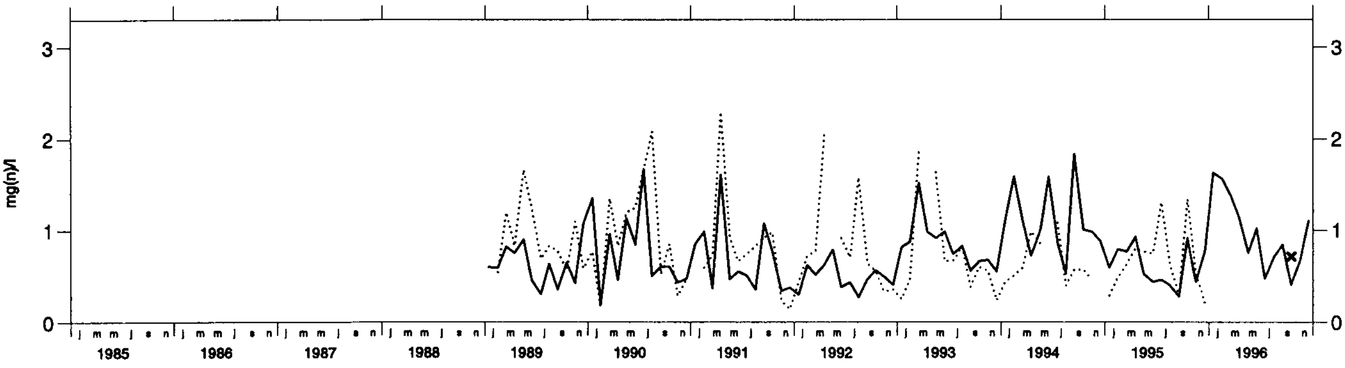
Concentration of ammonium in precipitation



Kosetice (CS 3)

Concentration of ammonium in precipitation

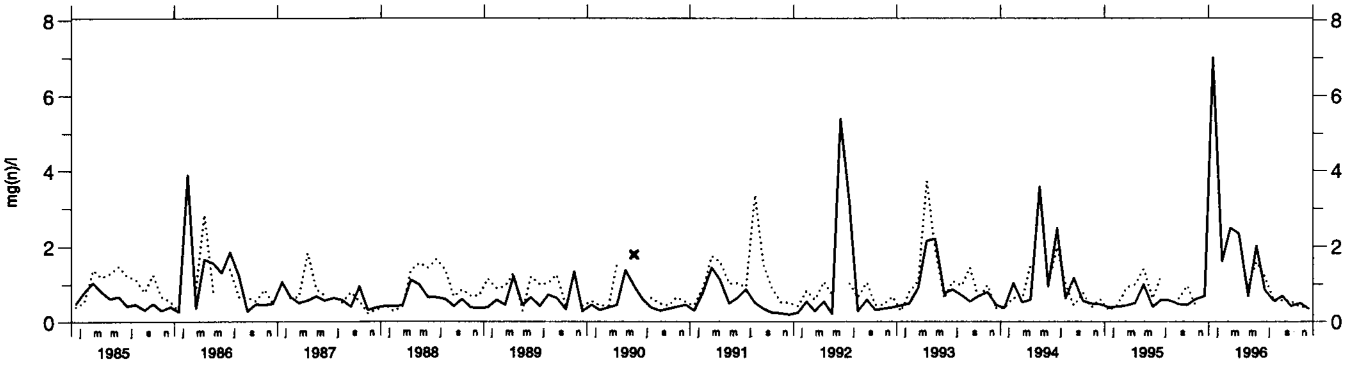
·········· observed	mean = 0.74	std = 0.77	
———— modelled	mean = 0.61	std = 0.68	correlation = 0.30



Tange (DK 3)

Concentration of ammonium in precipitation

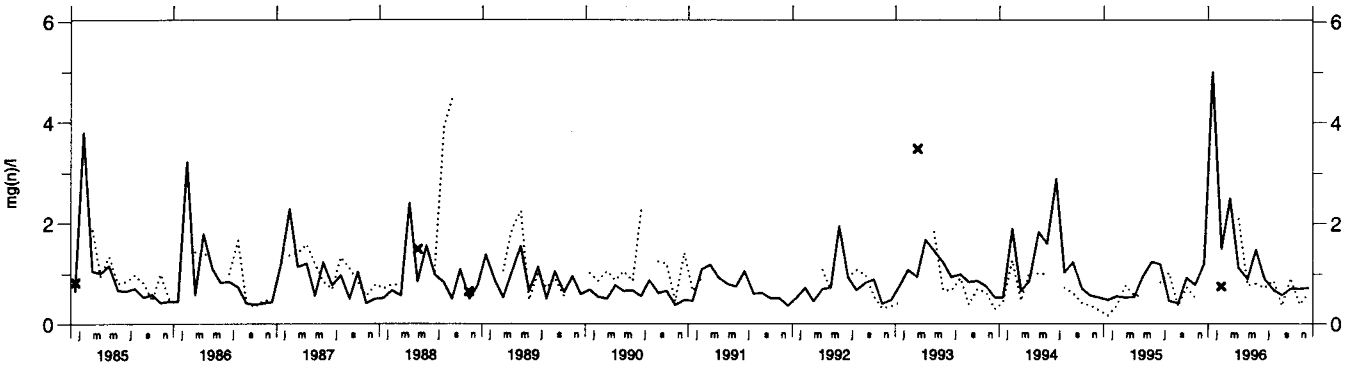
·········· observed	mean = 0.80	std = 1.05	
———— modelled	mean = 0.52	std = 0.65	correlation = 0.33



Keldsnor (DK 5)

Concentration of ammonium in precipitation

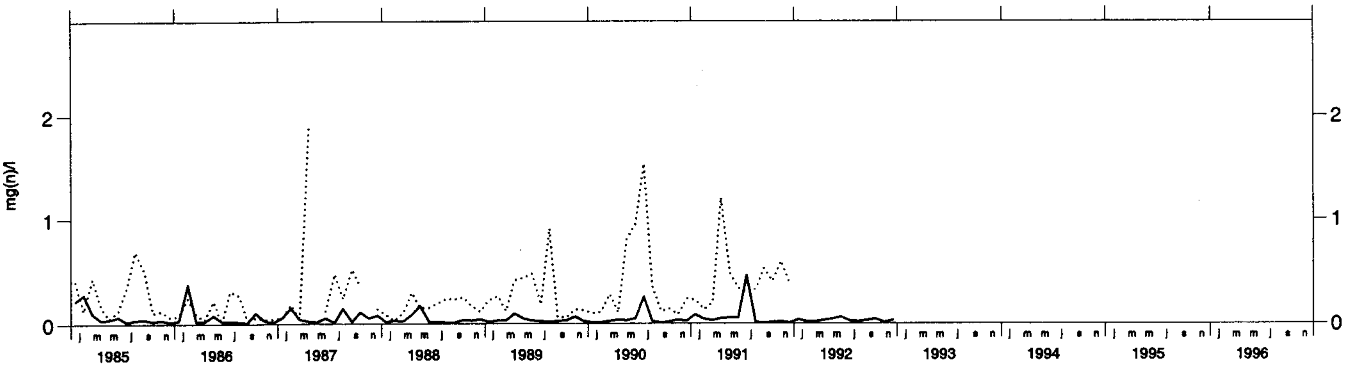
·········· observed	mean = 0.85	std = 0.98	
———— modelled	mean = 0.71	std = 0.79	correlation = 0.31



Faer.-Akraberg (DK 7)

Concentration of ammonium in precipitation

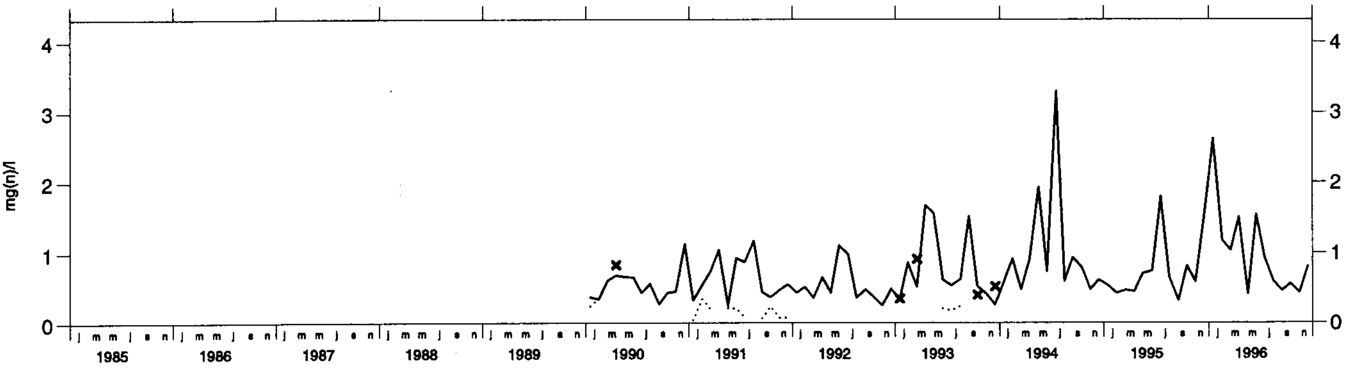
.... observed	mean = 0.26	std = 0.76		
——— modelled	mean = 0.04	std = 0.12	correlation =	0.05



Anholt (DK 8)

Concentration of ammonium in precipitation

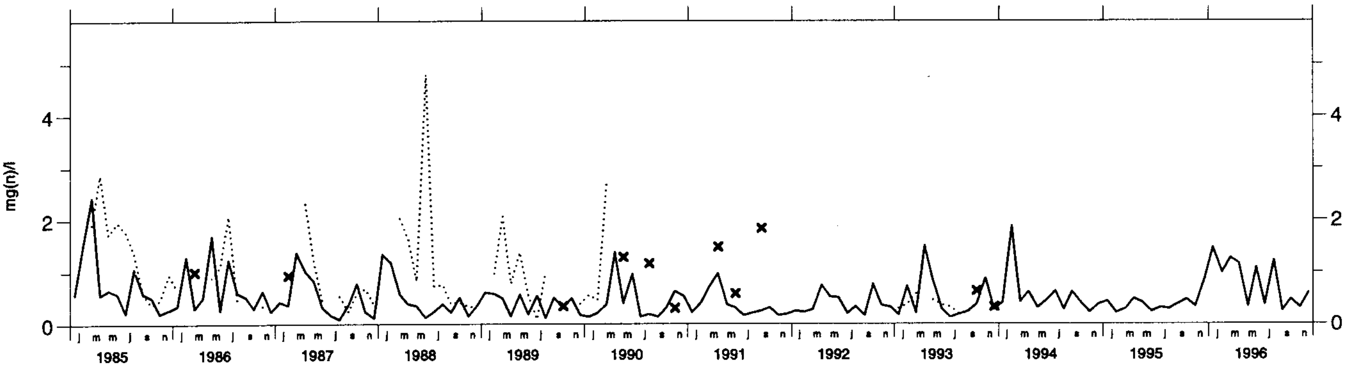
.... observed	mean = 0.38	std = 0.56		
——— modelled	mean = 0.52	std = 0.93	correlation =	−0.00



Syrve (EE 2)

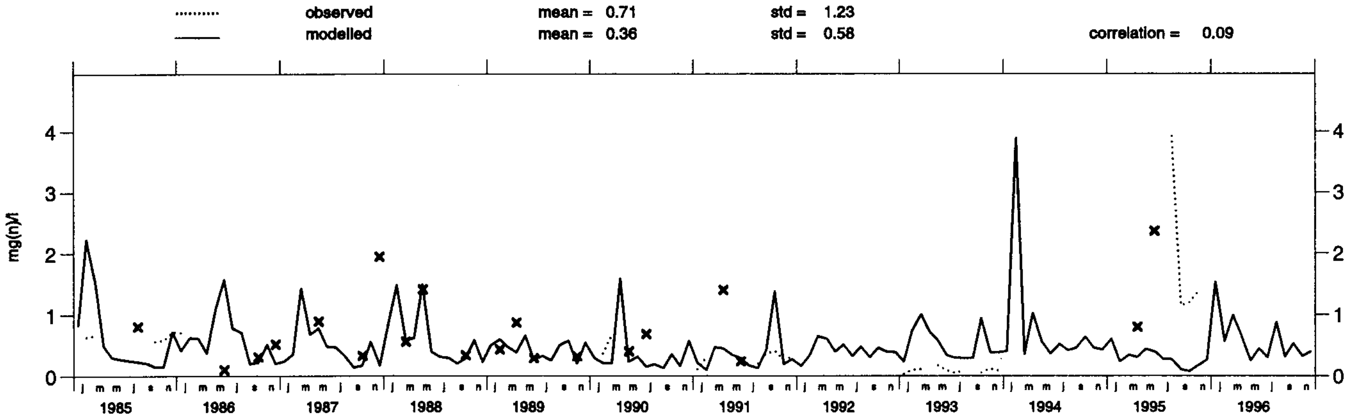
Concentration of ammonium in precipitation

.... observed	mean = 0.77	std = 1.21		
——— modelled	mean = 0.41	std = 0.78	correlation =	0.07



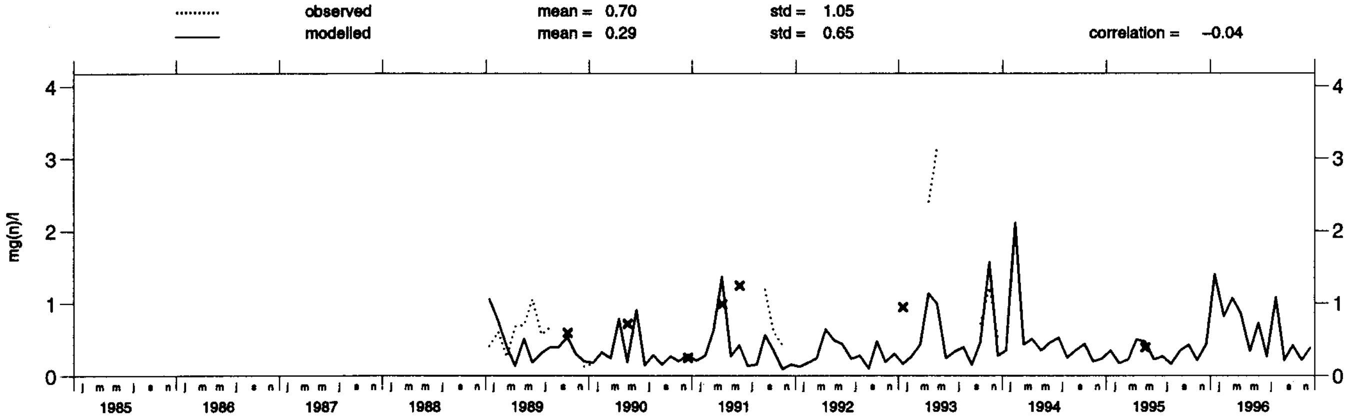
Lahemaa (EE 9)

Concentration of ammonium in precipitation



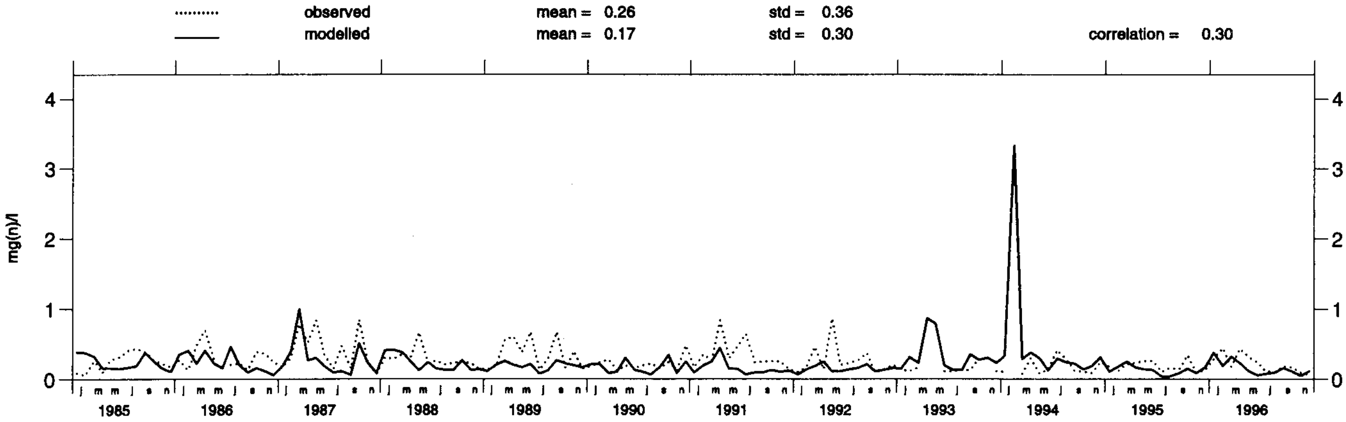
Vilsandy (EE 11)

Concentration of ammonium in precipitation



Athari (FI 4)

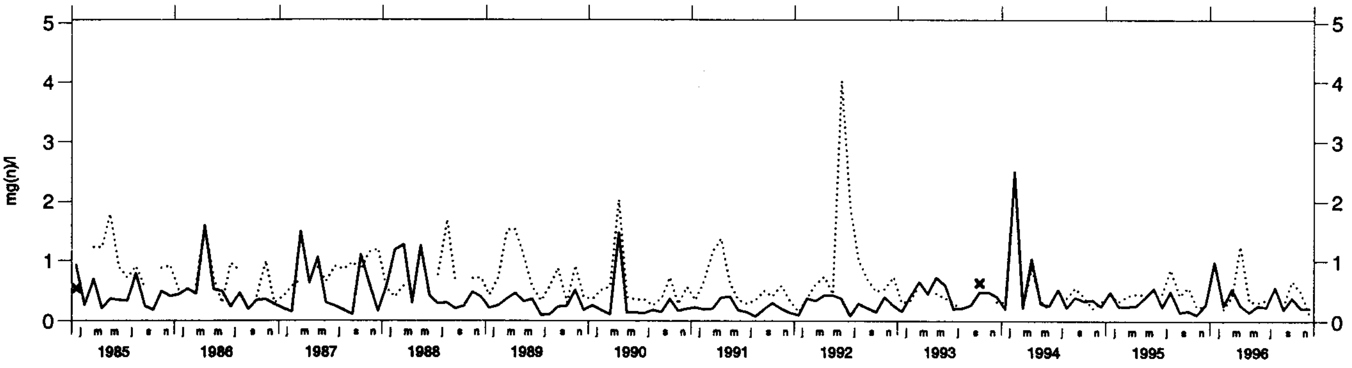
Concentration of ammonium in precipitation



Virolahti_II (FI 17)

Concentration of ammonium in precipitation

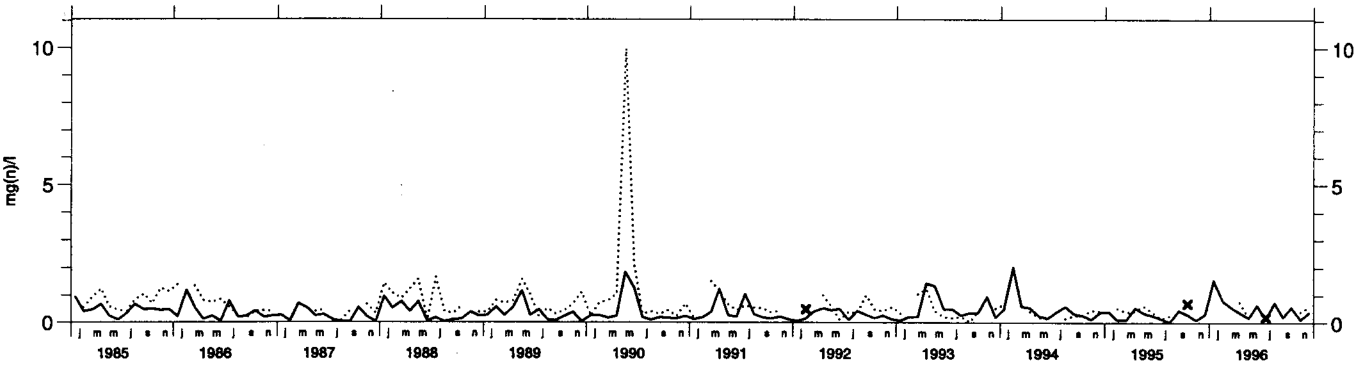
.... observed mean = 0.56 std = 0.60
—— modelled mean = 0.29 std = 0.48 correlation = 0.20



Utoe (FI 9)

Concentration of ammonium in precipitation

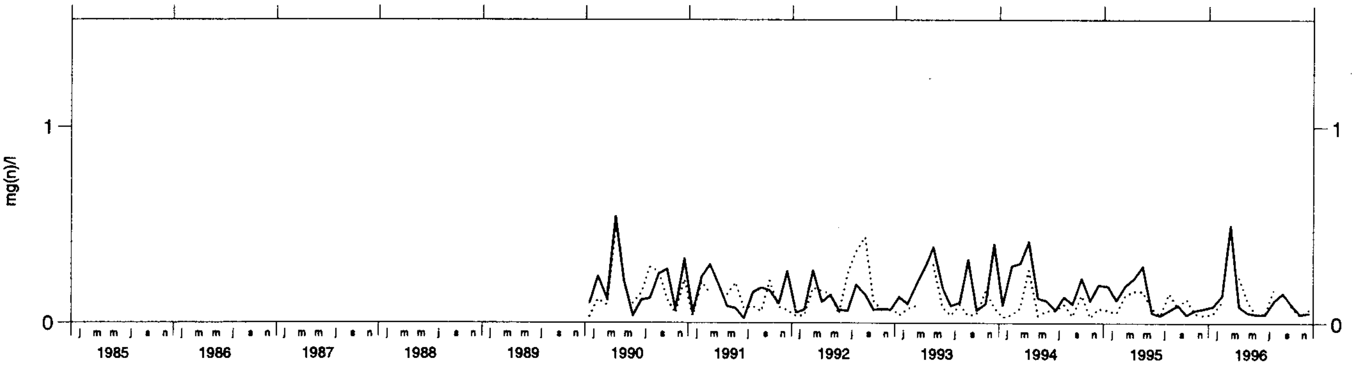
.... observed mean = 0.54 std = 0.66
—— modelled mean = 0.29 std = 0.51 correlation = 0.23



Oulanka (FI 22)

Concentration of ammonium in precipitation

.... observed mean = 0.12 std = 0.24
—— modelled mean = 0.12 std = 0.25 correlation = 0.42

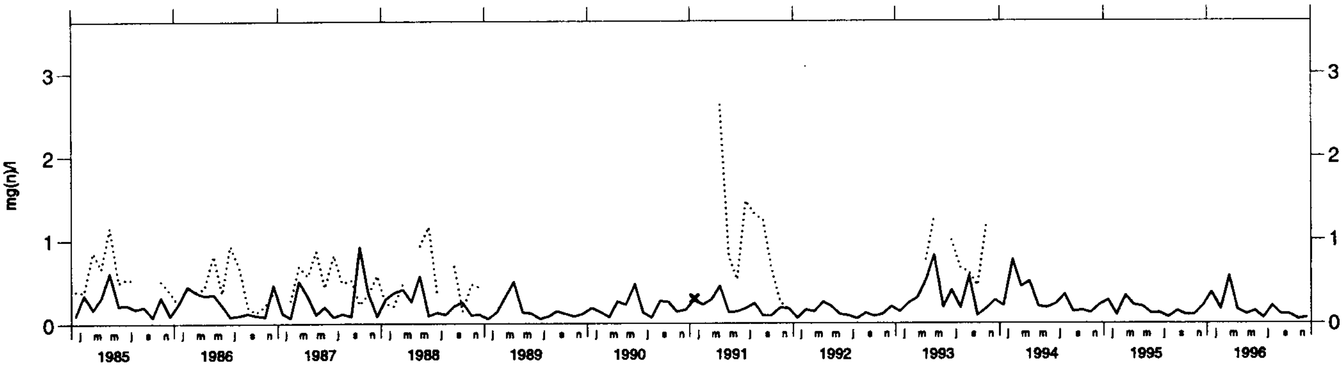


Haiuoto (FI 50)

Concentration of ammonium in precipitation

.... observed mean = 0.67 std = 0.62

——— modelled mean = 0.20 std = 0.36 correlation = -0.01

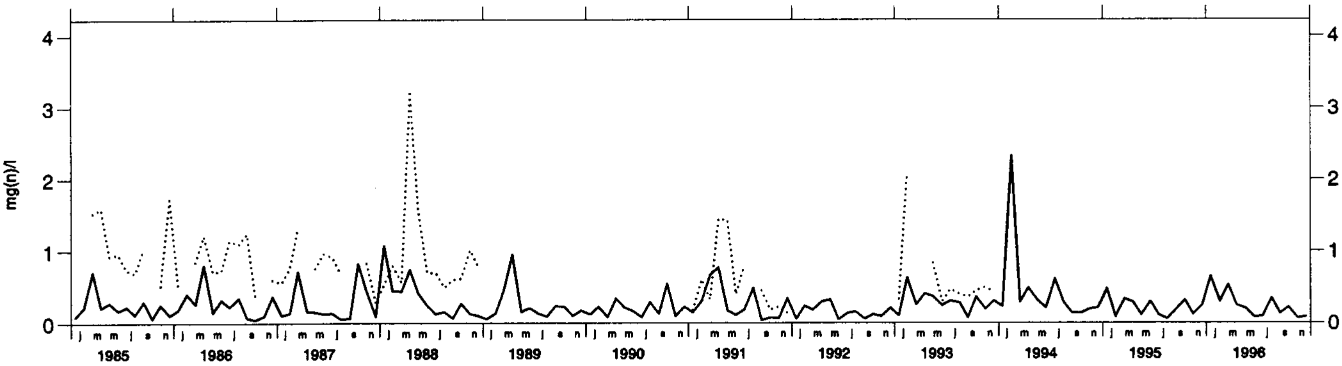


Sulva (FI 52)

Concentration of ammonium in precipitation

.... observed mean = 0.66 std = 0.68

——— modelled mean = 0.24 std = 0.48 correlation = 0.07

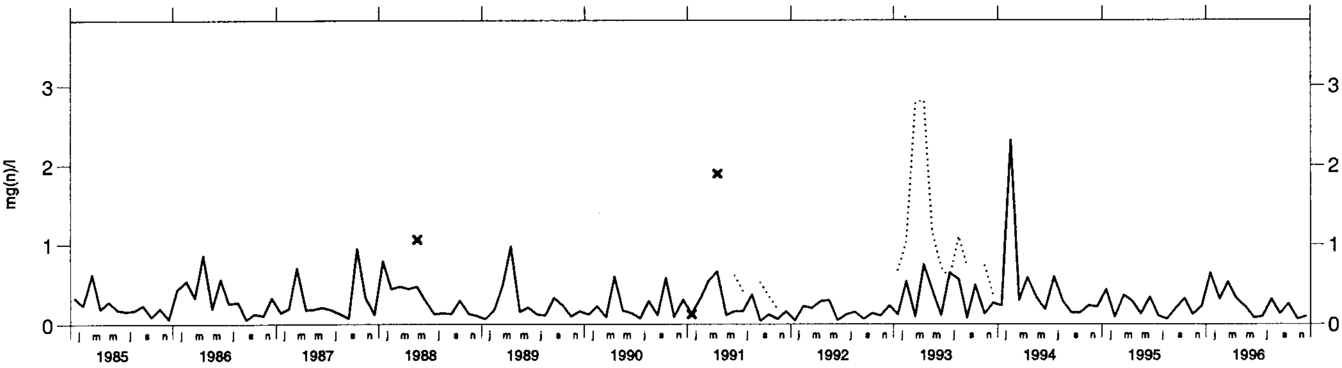


Ylimarkku (FI 53)

Concentration of ammonium in precipitation

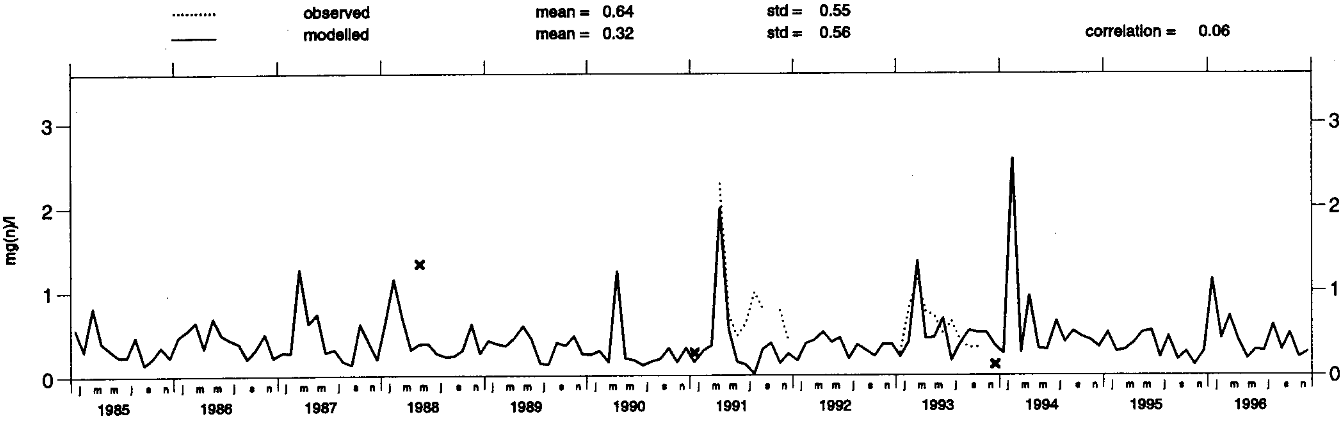
.... observed mean = 0.80 std = 0.86

——— modelled mean = 0.22 std = 0.46 correlation = 0.10



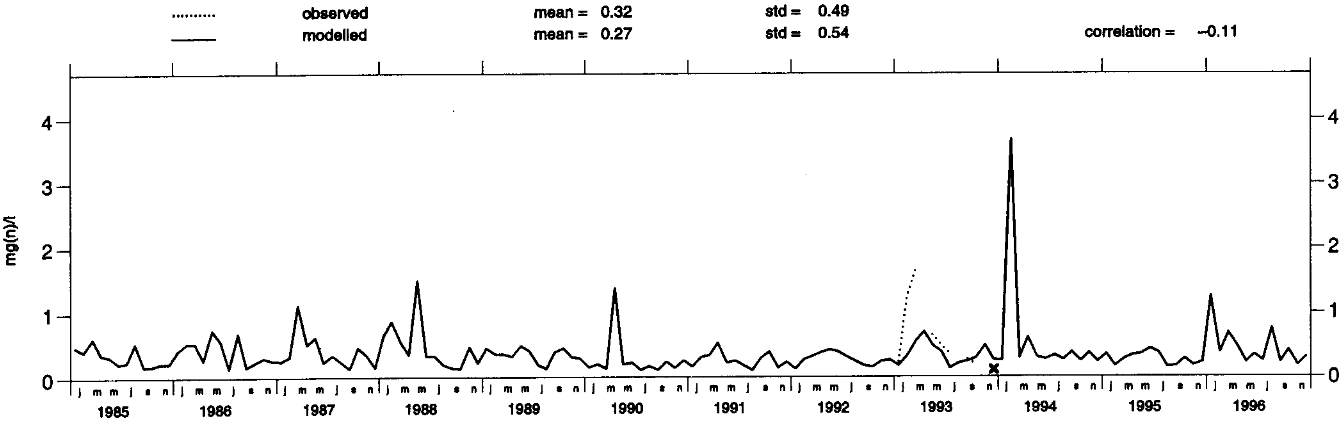
Haapasaari (FI 55)

Concentration of ammonium in precipitation



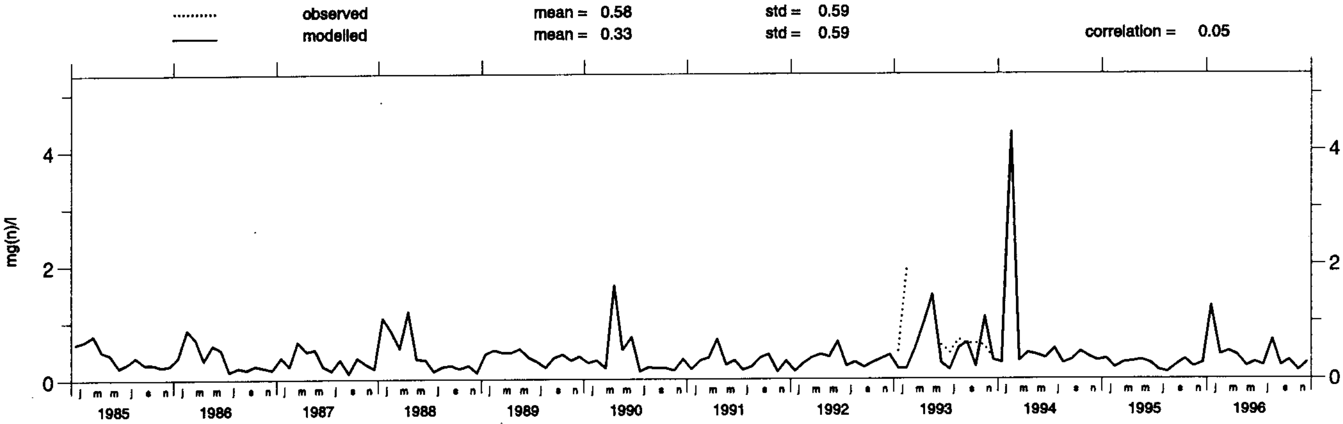
Sipo (FI 56)

Concentration of ammonium in precipitation



Tvarminne (FI 57)

Concentration of ammonium in precipitation



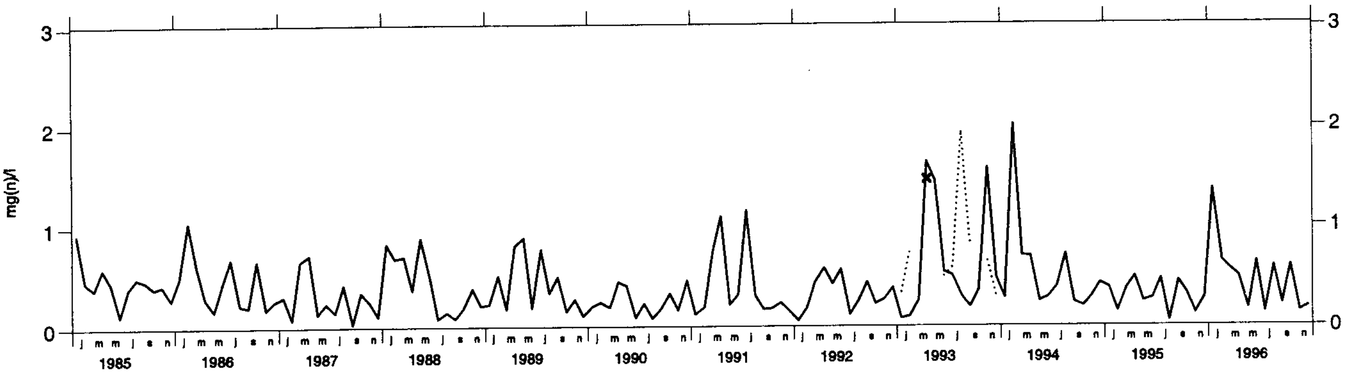
Korpoo (FI 58)

Concentration of ammonium in precipitation

.... observed mean = 0.77 std = 0.91

—— modelled mean = 0.41 std = 0.85

correlation = 0.16



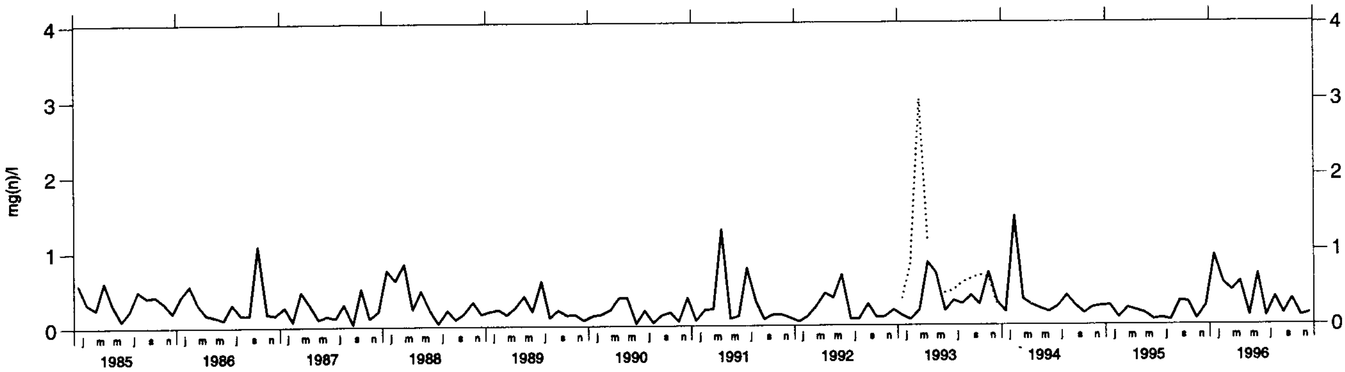
Jomala (FI 59)

Concentration of ammonium in precipitation

.... observed mean = 0.53 std = 0.63

—— modelled mean = 0.30 std = 0.63

correlation = –0.01



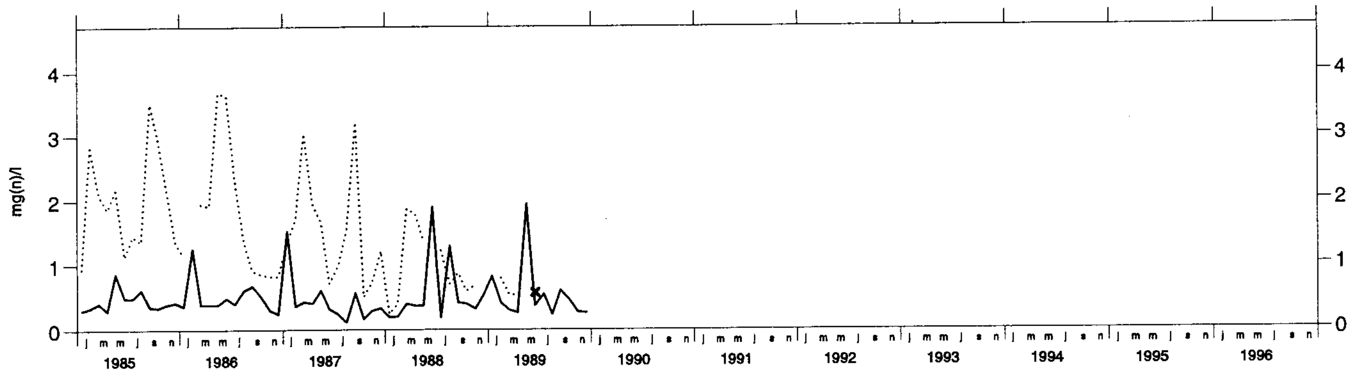
Vert-le-Petit (FR 1)

Concentration of ammonium in precipitation

.... observed mean = 1.33 std = 1.49

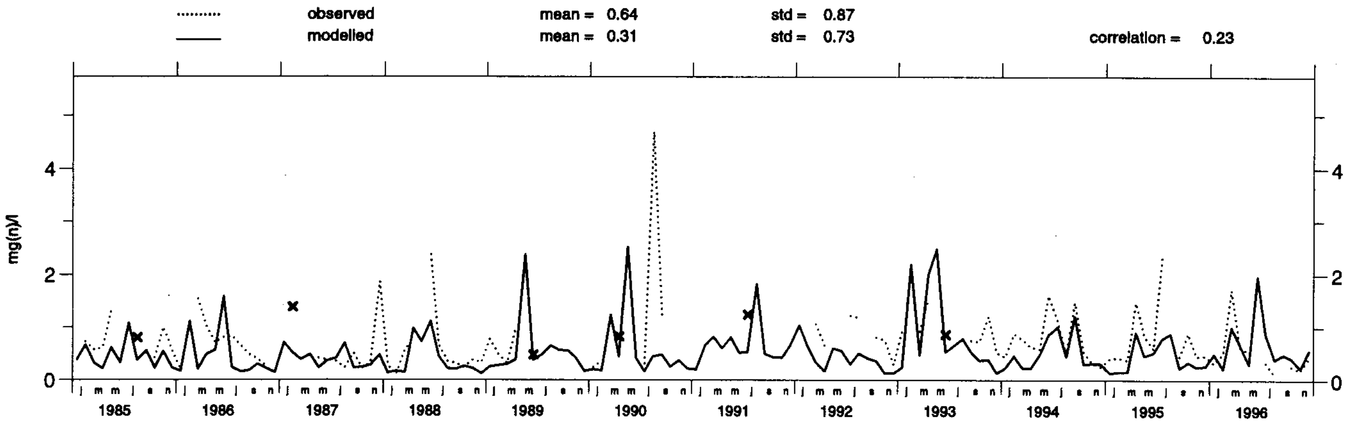
—— modelled mean = 0.38 std = 0.58

correlation = 0.09



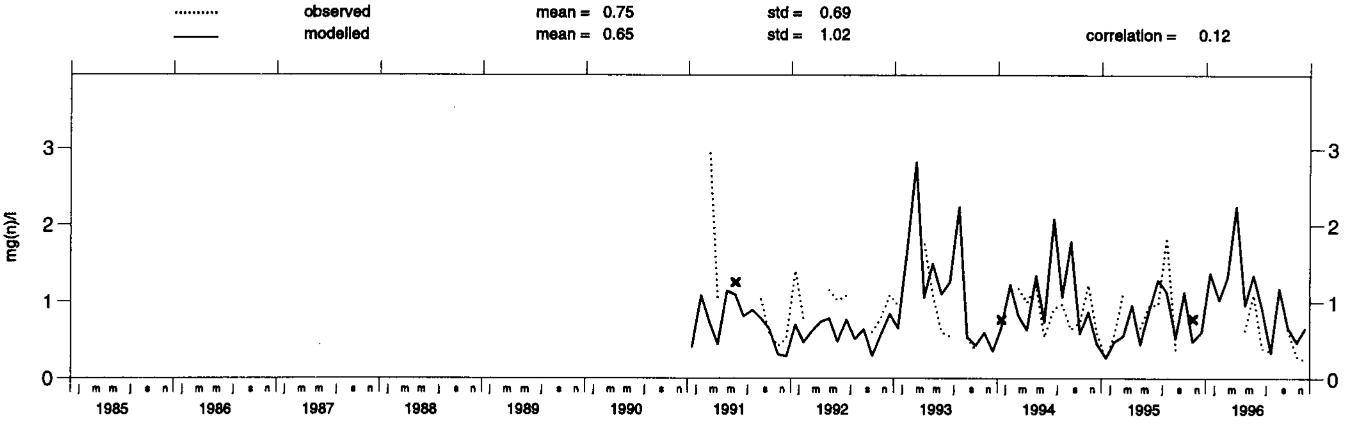
La_Hague (FR 5)

Concentration of ammonium in precipitation



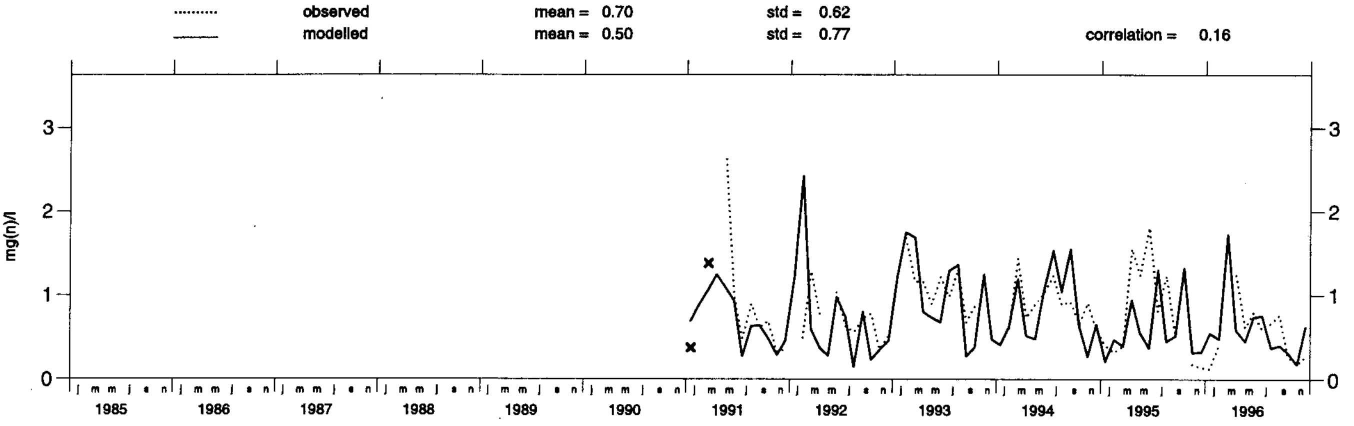
Revin (FR 9)

Concentration of ammonium in precipitation



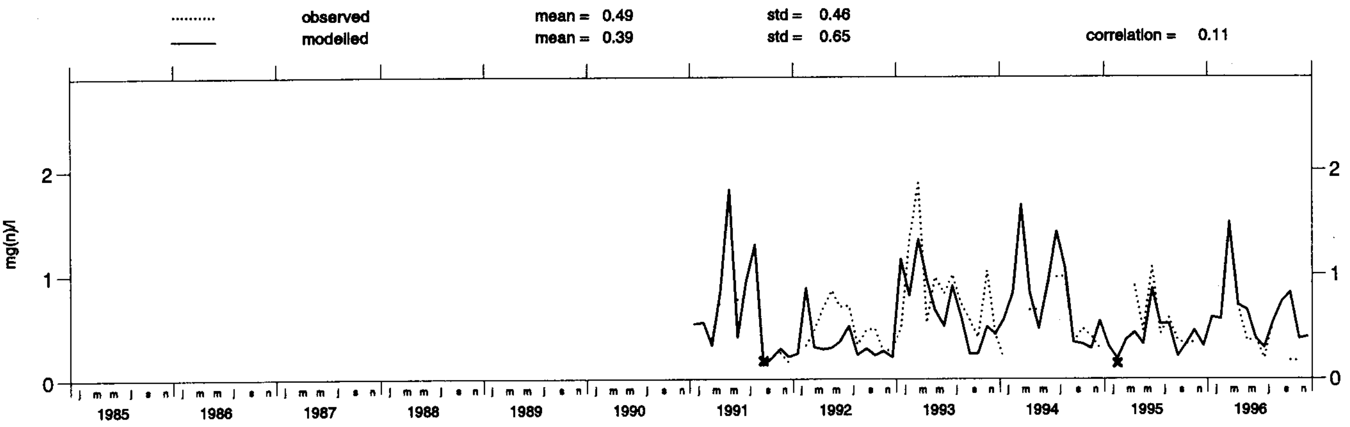
Morvan (FR 10)

Concentration of ammonium in precipitation



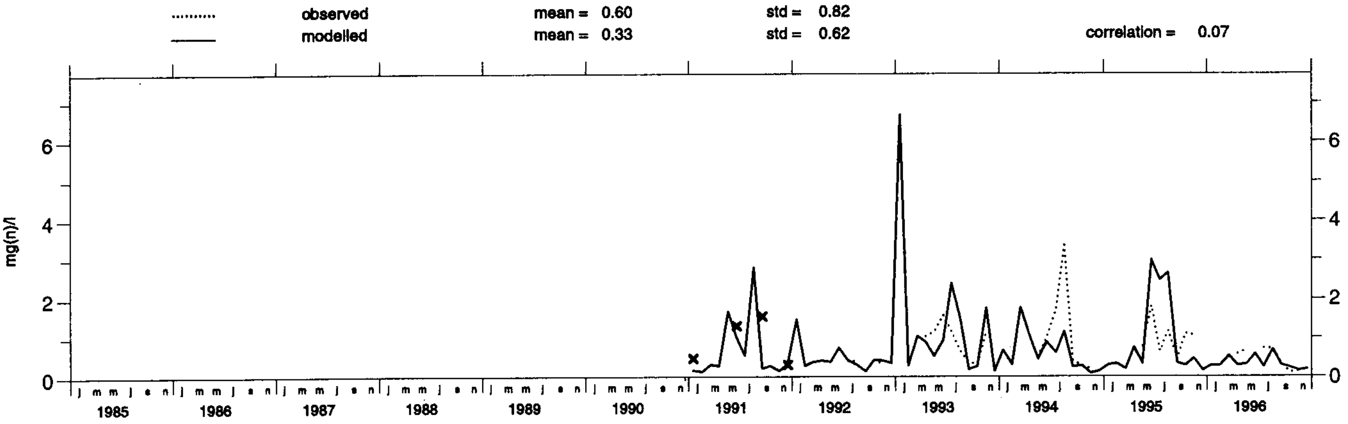
Bonnevaux (FR 11)

Concentration of ammonium in precipitation



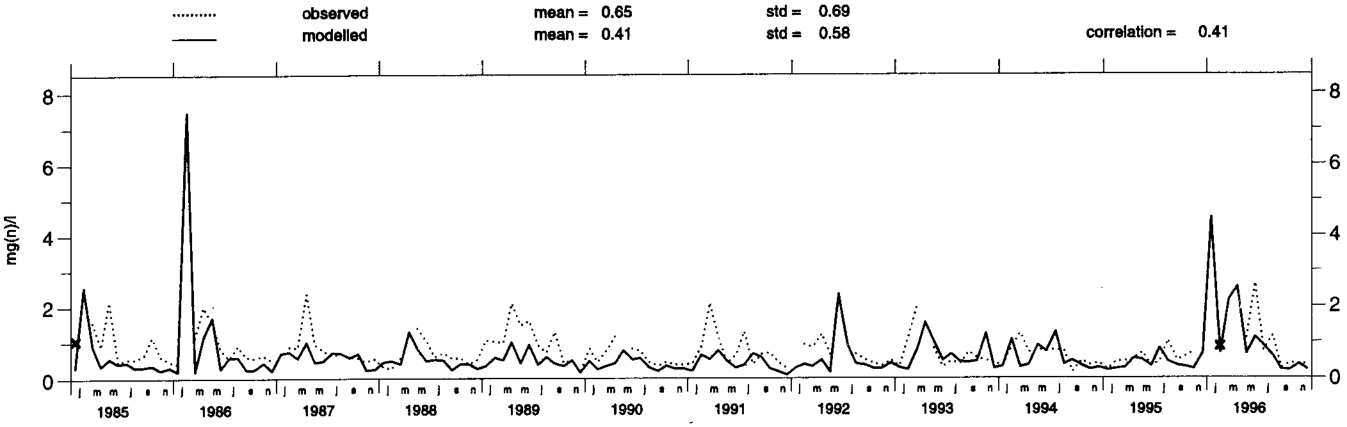
Iraty (FR 12)

Concentration of ammonium in precipitation



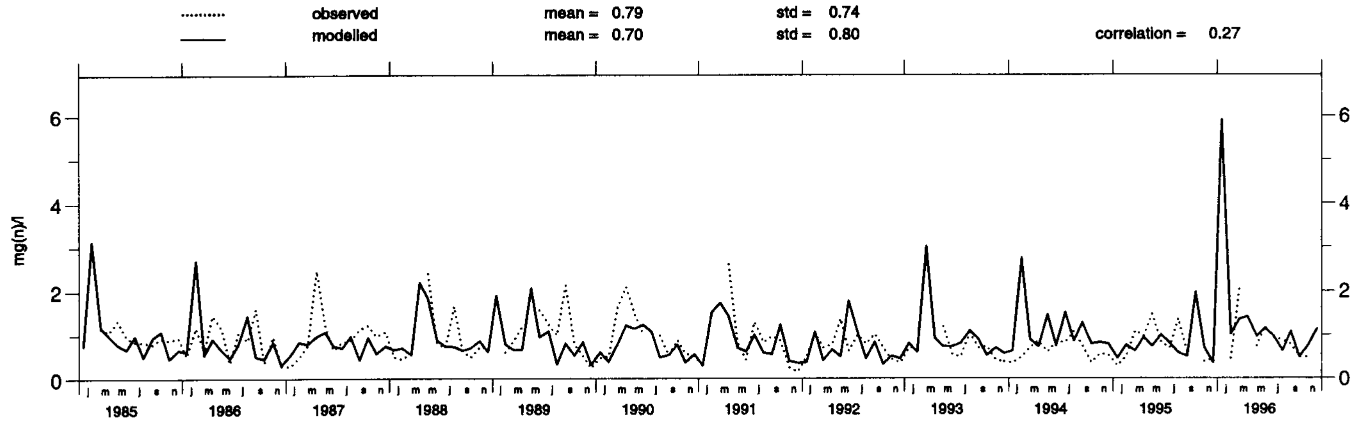
Westerland (DE 1)

Concentration of ammonium in precipitation



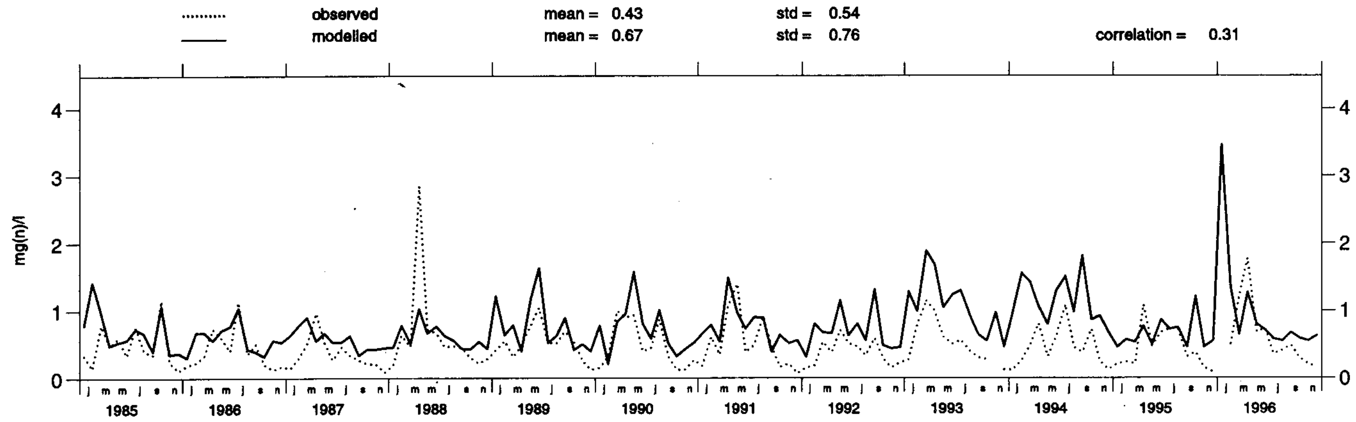
Langenbrugge (DE 2)

Concentration of ammonium in precipitation



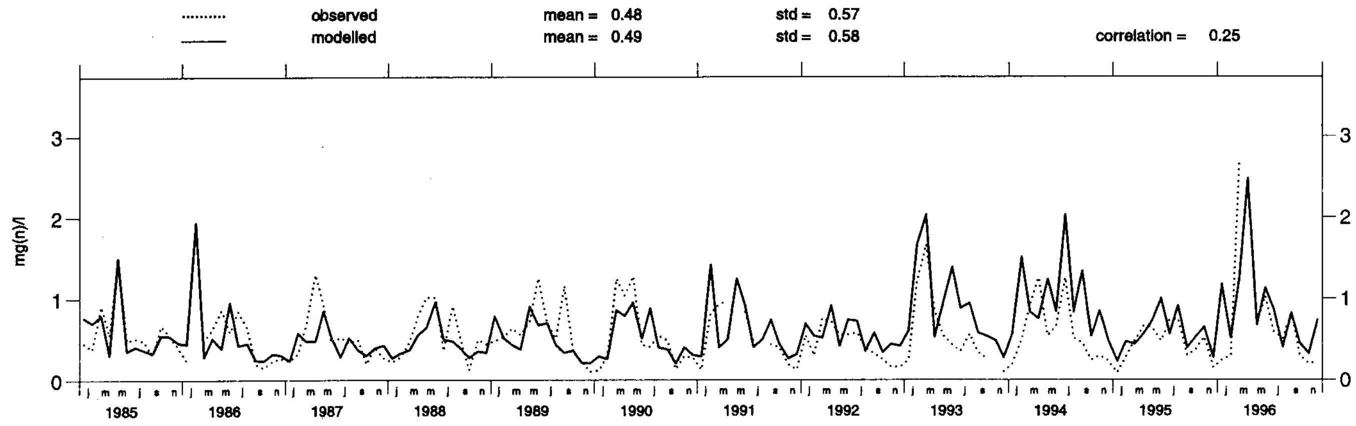
Schauinsland (DE 3)

Concentration of ammonium in precipitation



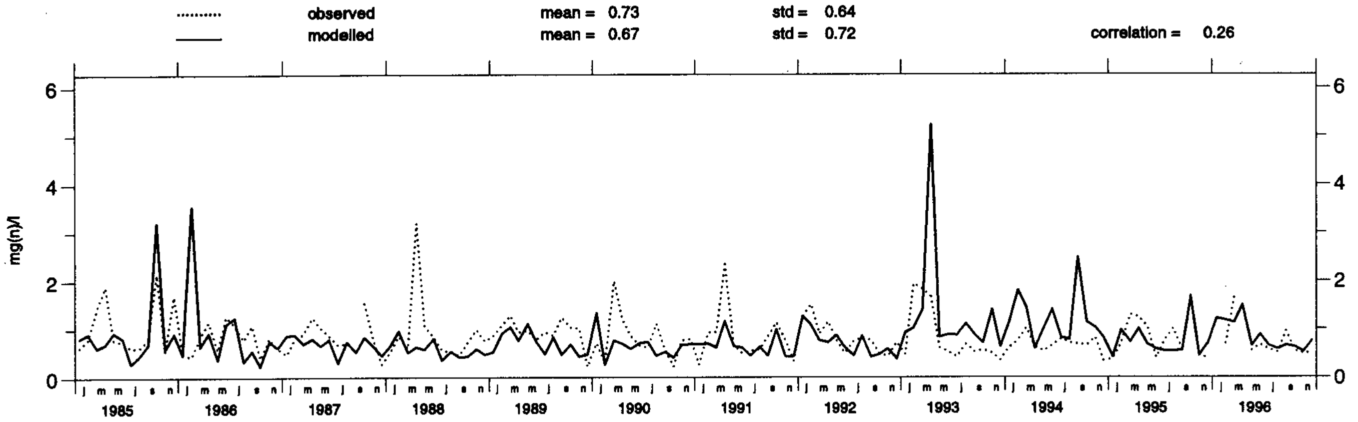
Deuselbach (DE 4)

Concentration of ammonium in precipitation



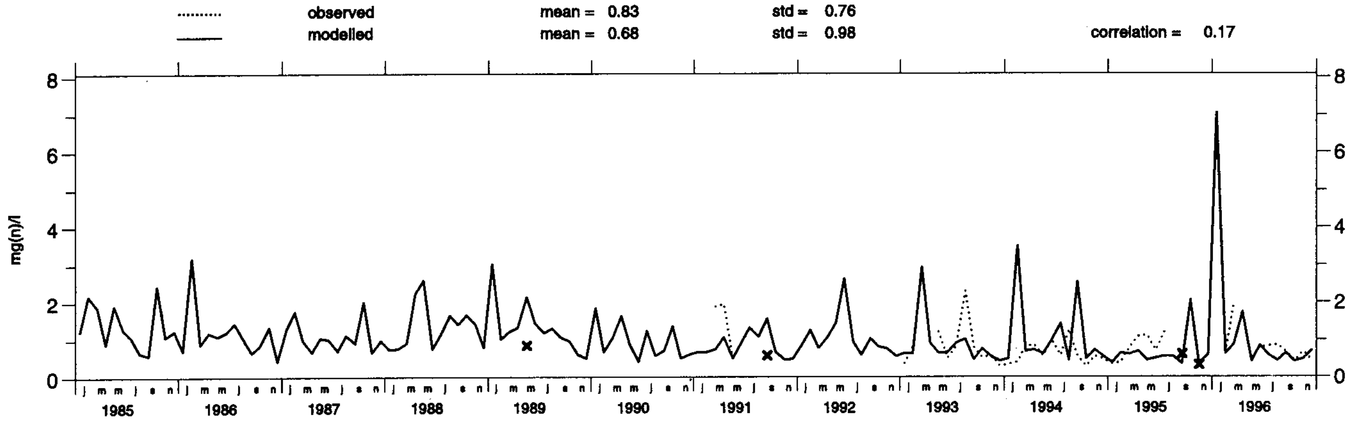
Brotjacklr. (DE 5)

Concentration of ammonium in precipitation



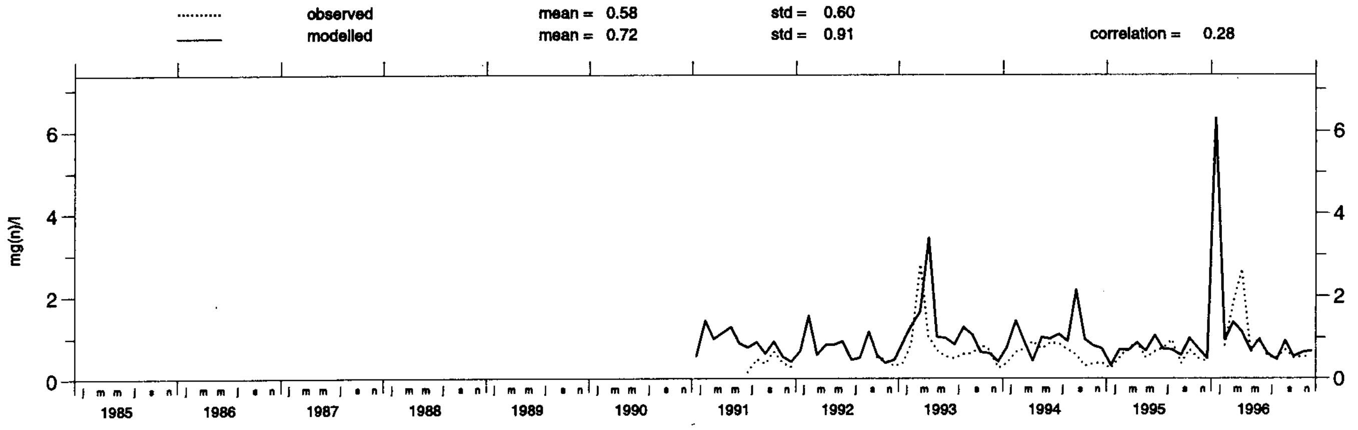
Neuglobsow (DE 7)

Concentration of ammonium in precipitation



Schmucke (DE 8)

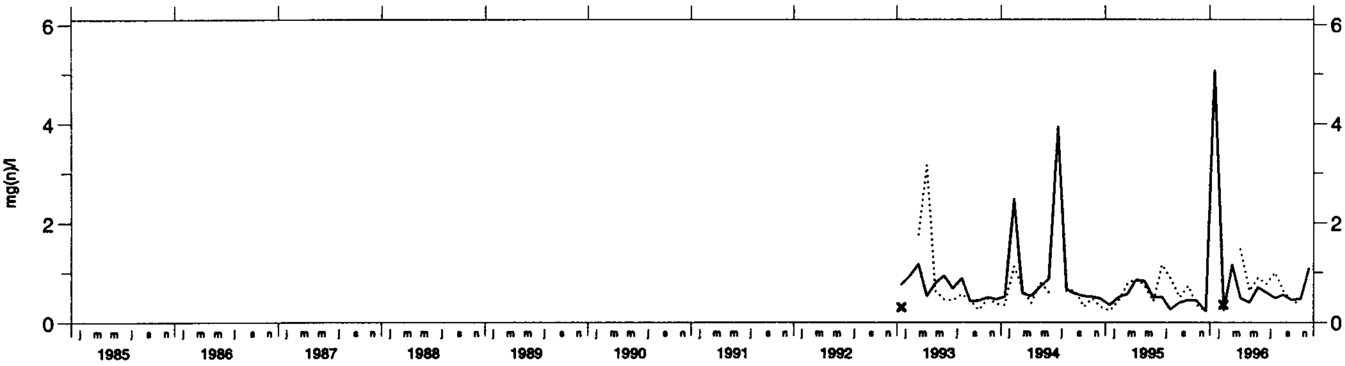
Concentration of ammonium in precipitation



Zingst (DE 9)

Concentration of ammonium in precipitation

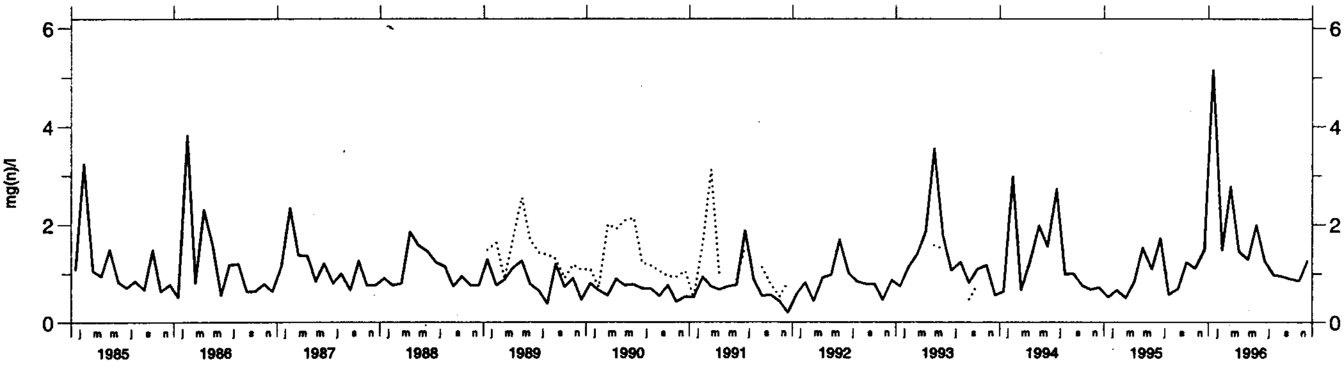
·········· observed	mean = 0.58	std = 0.60		
——— modelled	mean = 0.55	std = 0.60	correlation =	0.22



Hohenwestedt (DE 11)

Concentration of ammonium in precipitation

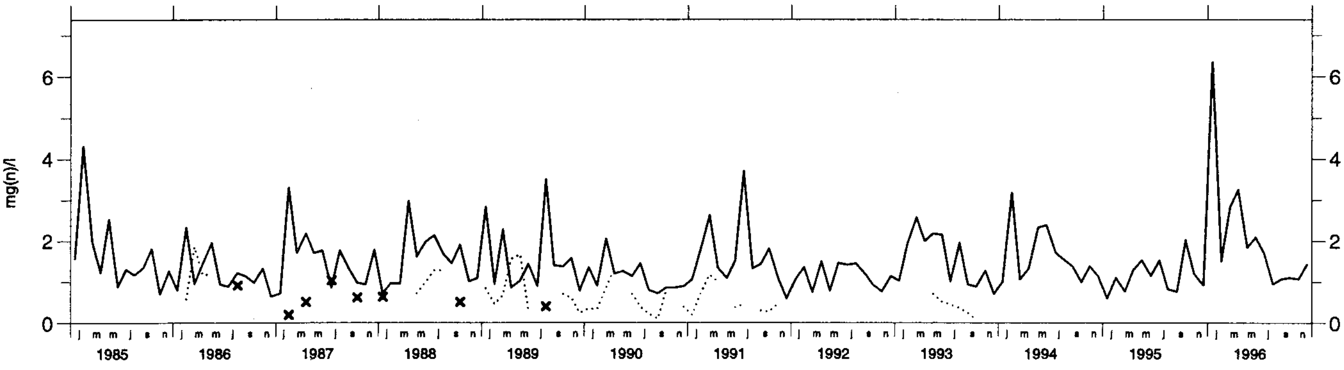
·········· observed	mean = 1.02	std = 1.01		
——— modelled	mean = 0.71	std = 0.99	correlation =	0.09



Bassum (DE 12)

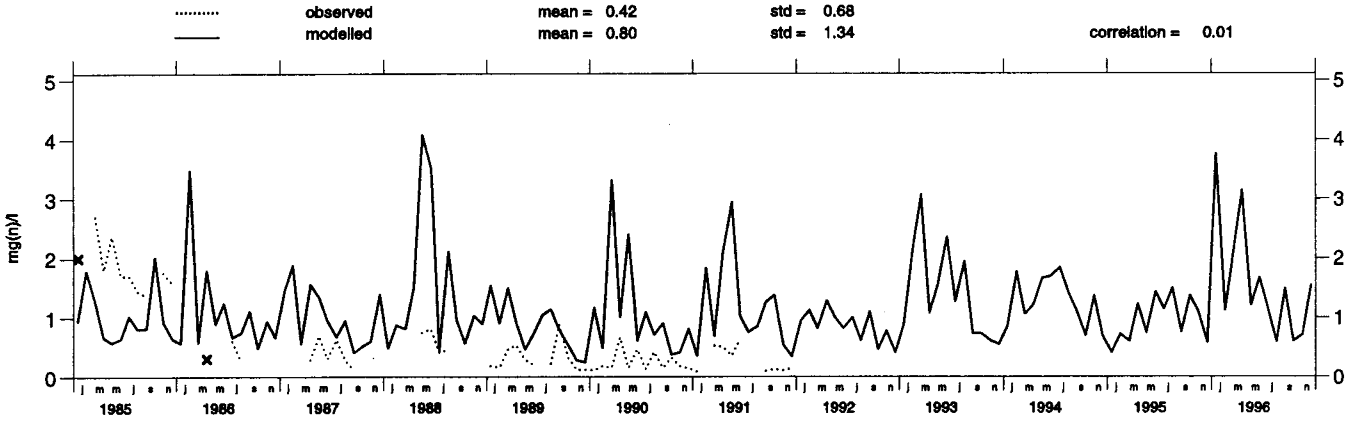
Concentration of ammonium in precipitation

·········· observed	mean = 0.64	std = 0.67		
——— modelled	mean = 1.26	std = 1.70	correlation =	−0.09



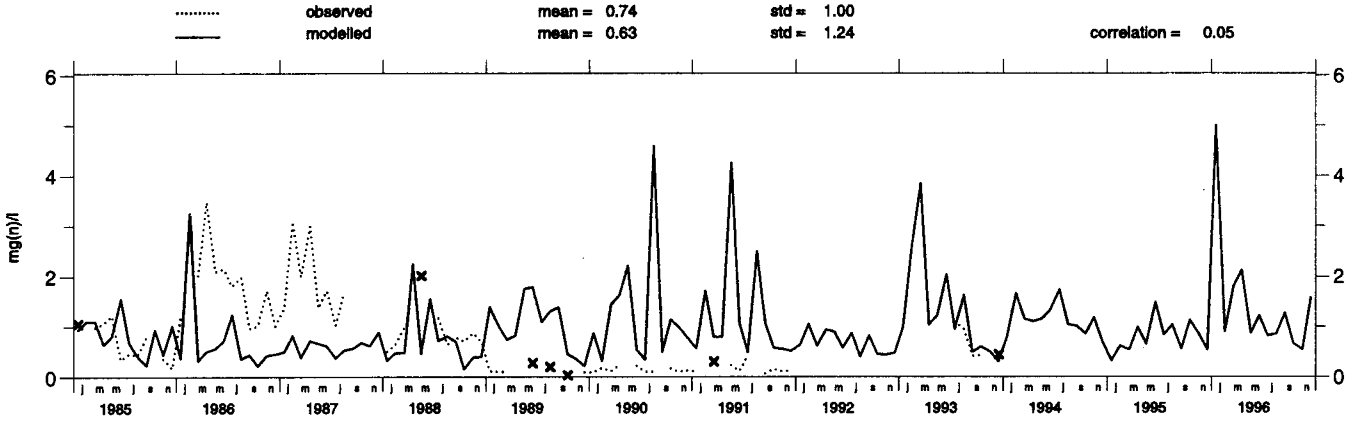
Meinerzhagen (DE 14)

Concentration of ammonium in precipitation



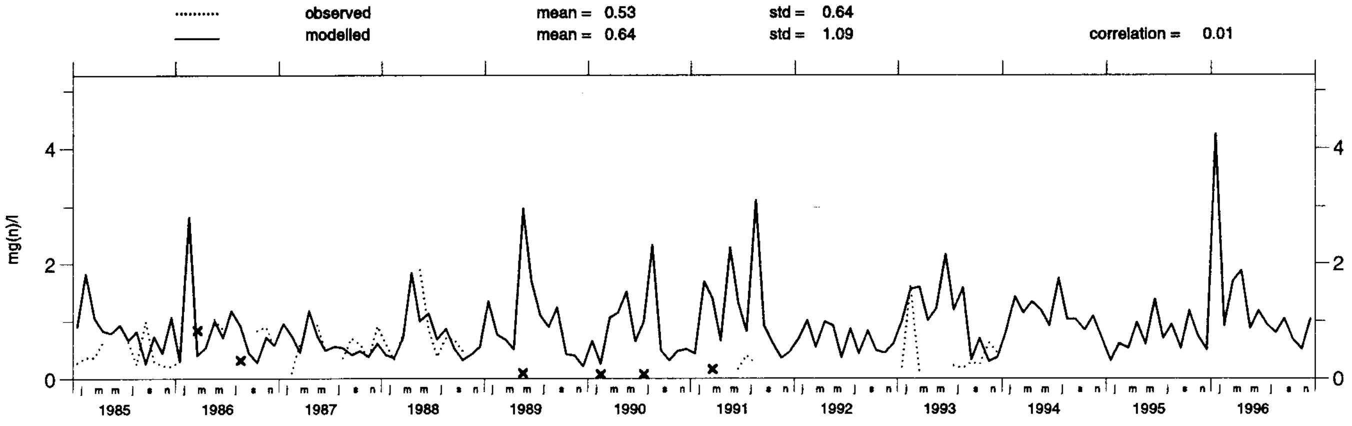
Usingen (DE 15)

Concentration of ammonium in precipitation



Bad_Kreuznach (DE 16)

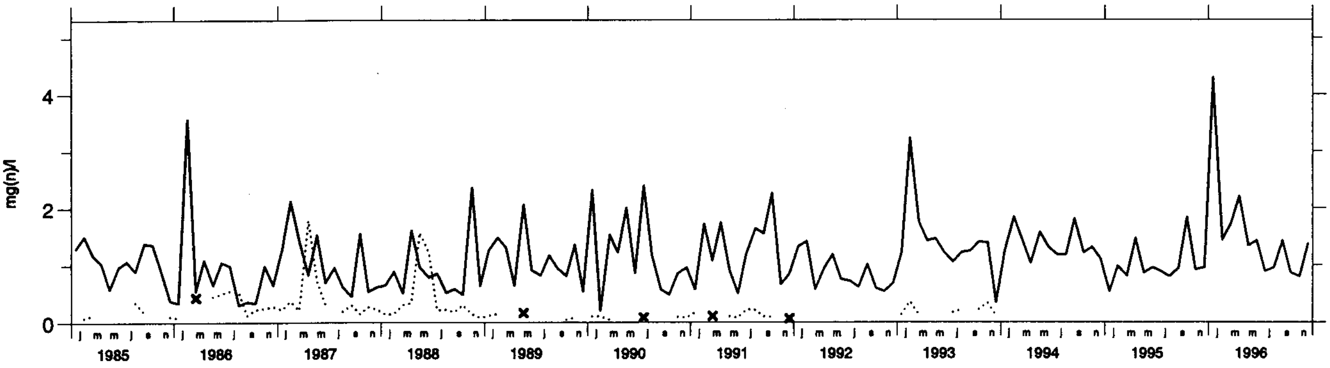
Concentration of ammonium in precipitation



Ansbach (DE 17)

Concentration of ammonium in precipitation

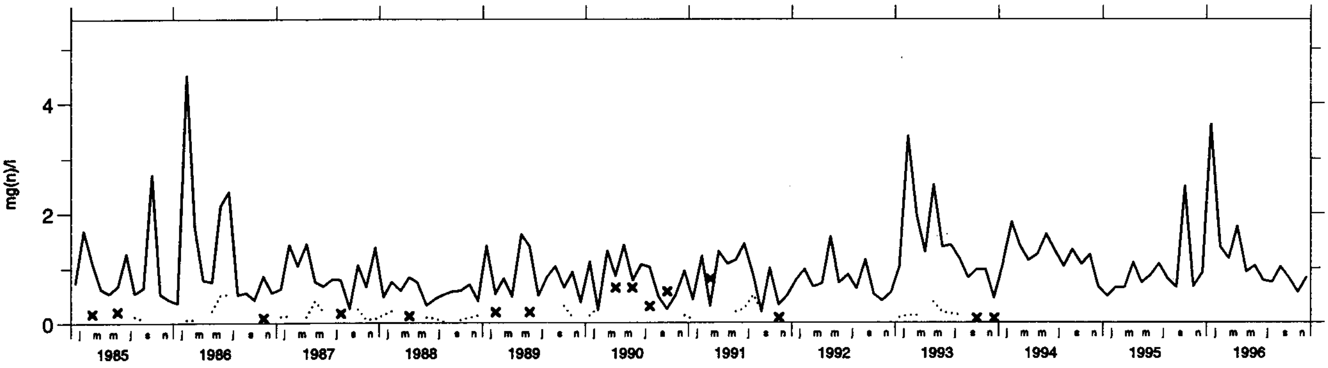
.... observed	mean = 0.24	std = 0.39		
——— modelled	mean = 0.83	std = 1.47	correlation =	0.00



Rottenburg (DE 18)

Concentration of ammonium in precipitation

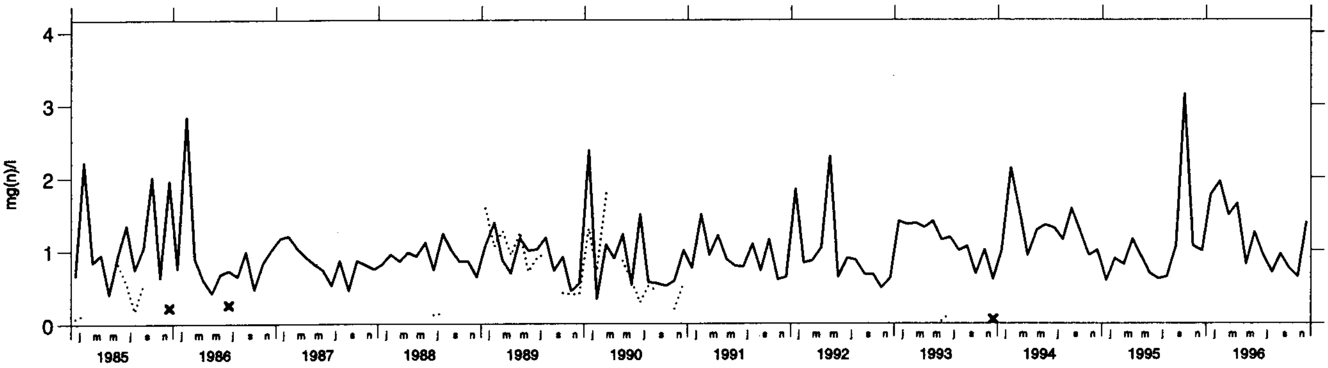
.... observed	mean = 0.21	std = 0.38		
——— modelled	mean = 0.75	std = 1.19	correlation =	0.09



Starnberg (DE 19)

Concentration of ammonium in precipitation

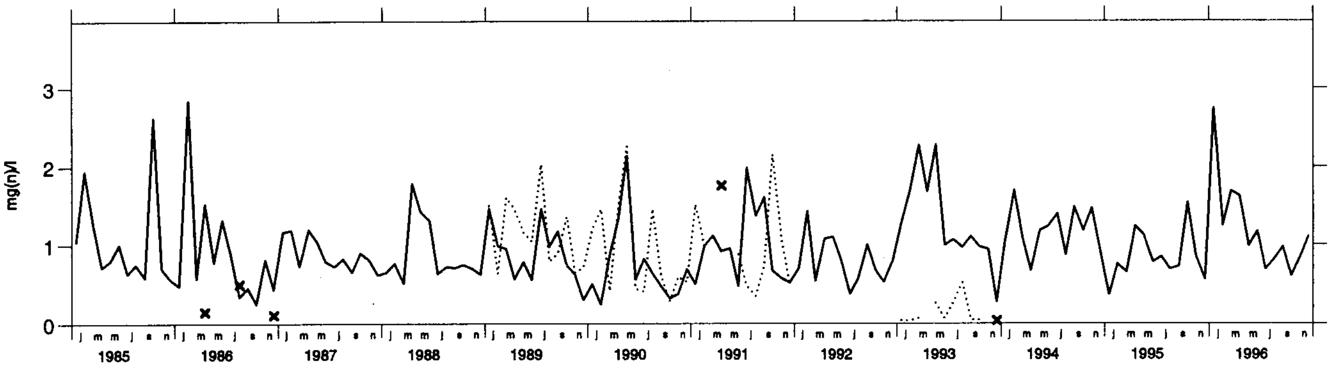
.... observed	mean = 0.49	std = 0.61		
——— modelled	mean = 0.85	std = 1.30	correlation =	0.04



Hof (DE 20)

Concentration of ammonium in precipitation

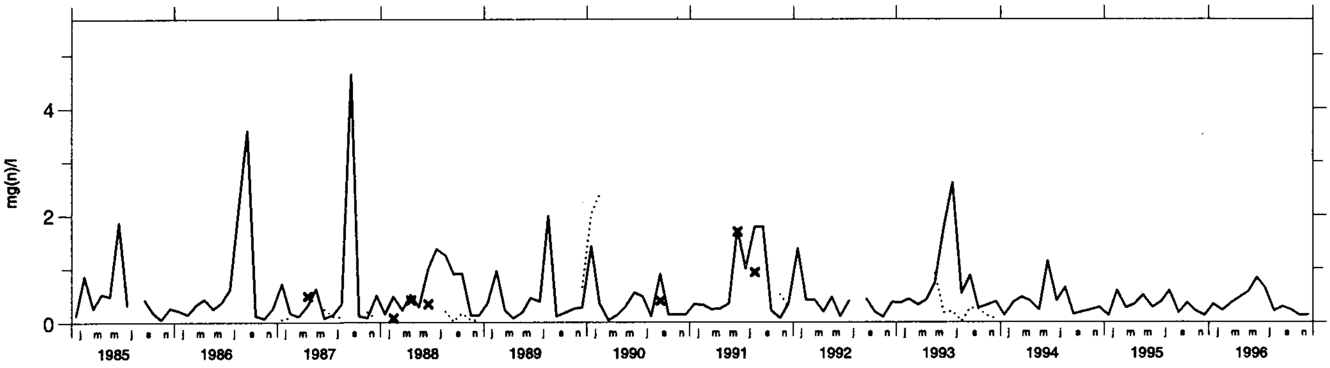
………. observed	mean = 0.52	std = 0.71	
——— modelled	mean = 0.67	std = 1.05	correlation = 0.19



Aliartos (GR 1)

Concentration of ammonium in precipitation

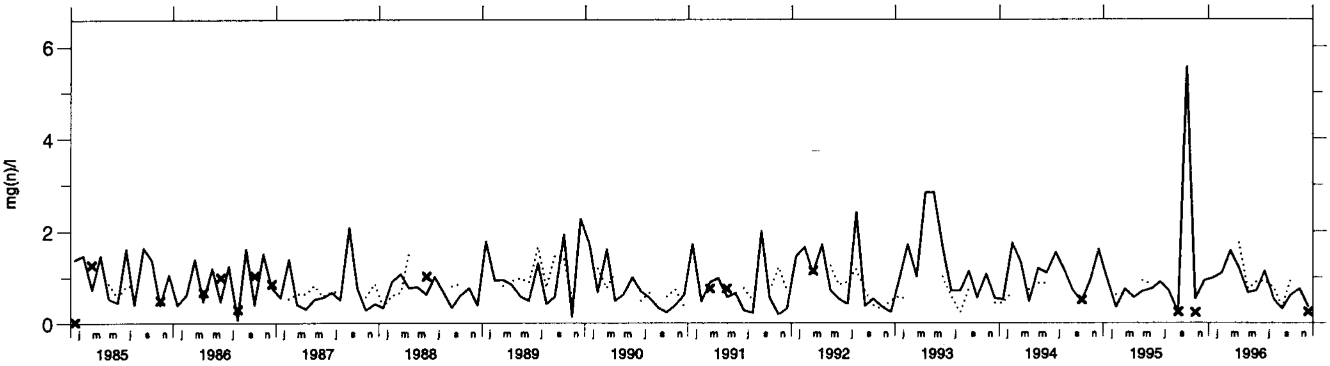
………. observed	mean = 0.29	std = 0.45	
——— modelled	mean = 0.28	std = 0.45	correlation = 0.18



K-puszta (HU 2)

Concentration of ammonium in precipitation

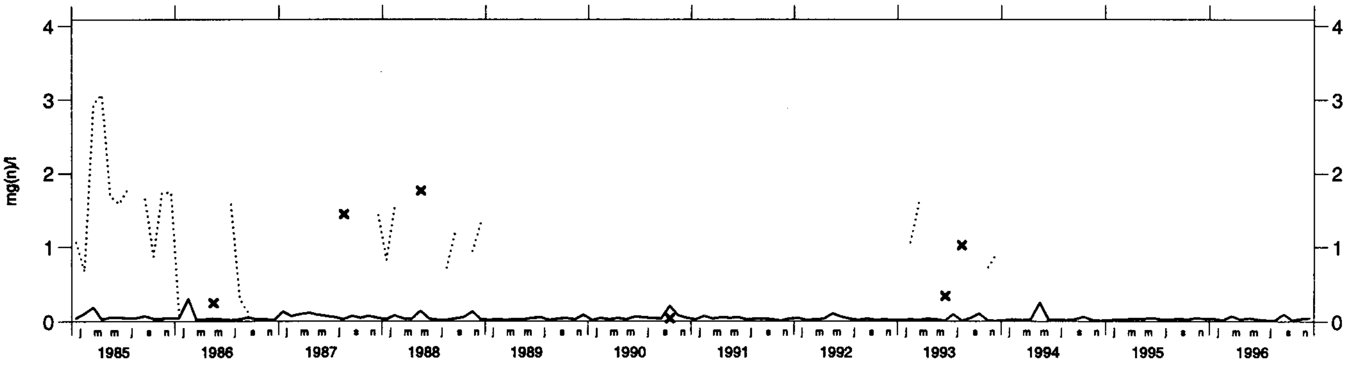
………. observed	mean = 0.73	std = 0.55	
——— modelled	mean = 0.54	std = 0.63	correlation = 0.20



Irafoss (IS 2)

Concentration of ammonium in precipitation

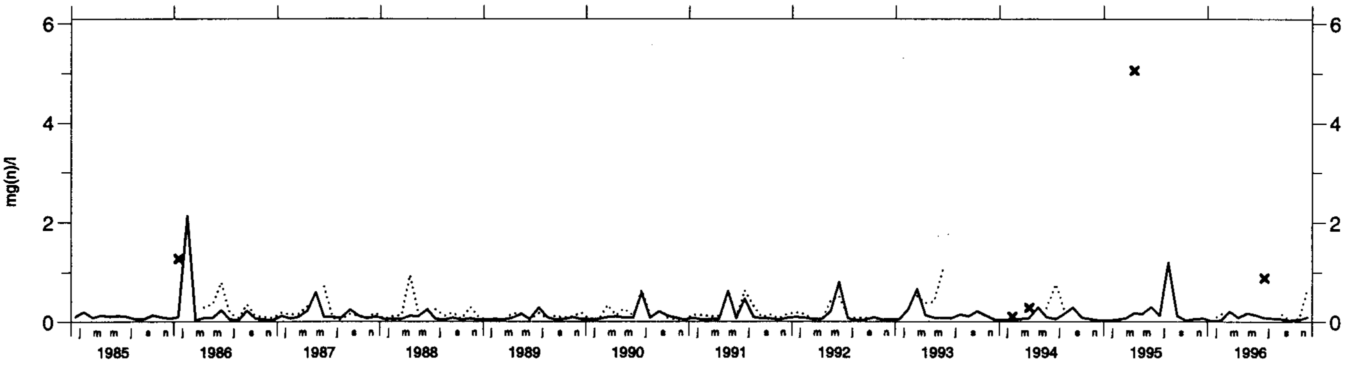
....	observed	mean = 1.18	std = 0.99	
———	modelled	mean = 0.05	std = 0.10	correlation = 0.08



Valentia_Obs. (IE 1)

Concentration of ammonium in precipitation

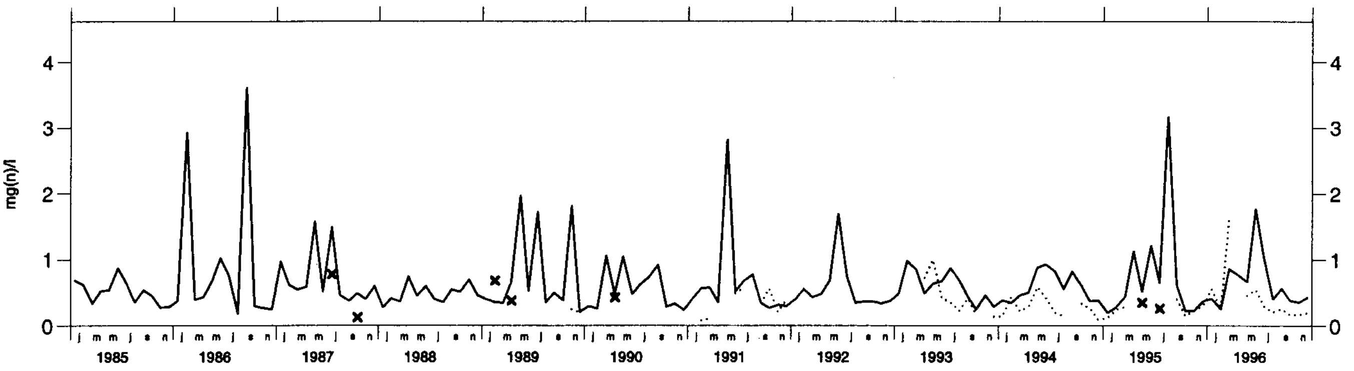
....	observed	mean = 0.26	std = 1.07	
———	modelled	mean = 0.09	std = 0.24	correlation = 0.16



Turlough Hill (IE 2)

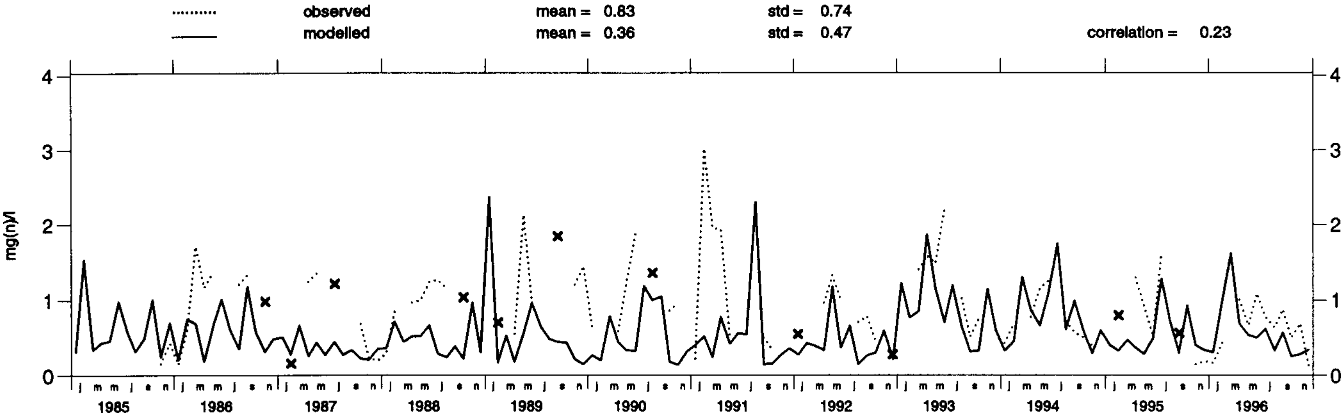
Concentration of ammonium in precipitation

....	observed	mean = 0.42	std = 0.58	
———	modelled	mean = 0.47	std = 0.76	correlation = 0.19



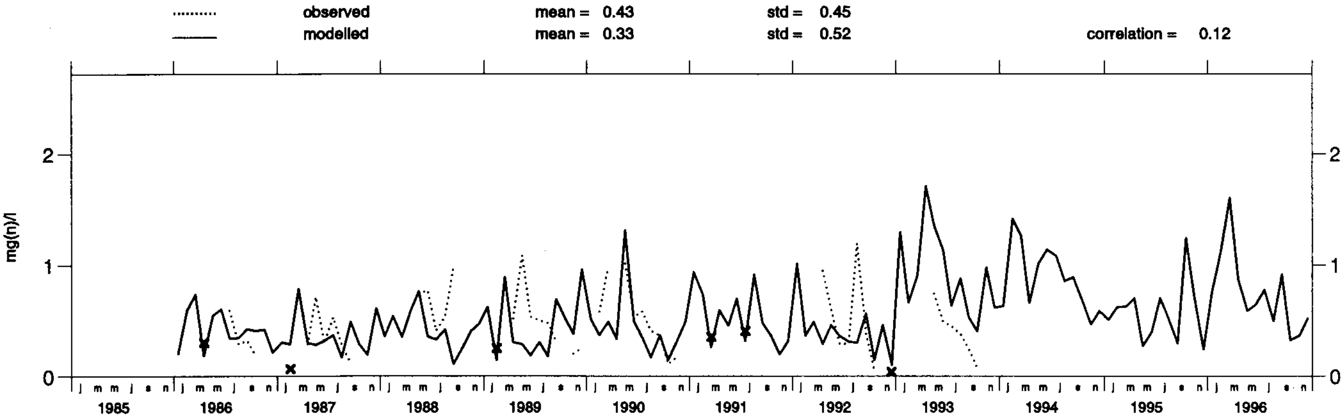
Ispra (IT 4)

Concentration of ammonium in precipitation



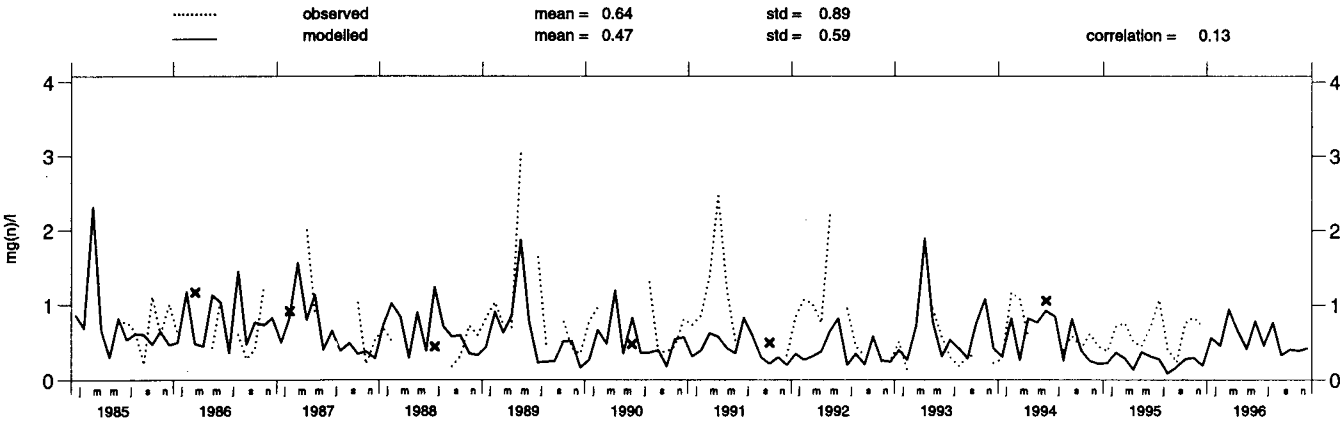
Arabba (IT 5)

Concentration of ammonium in precipitation



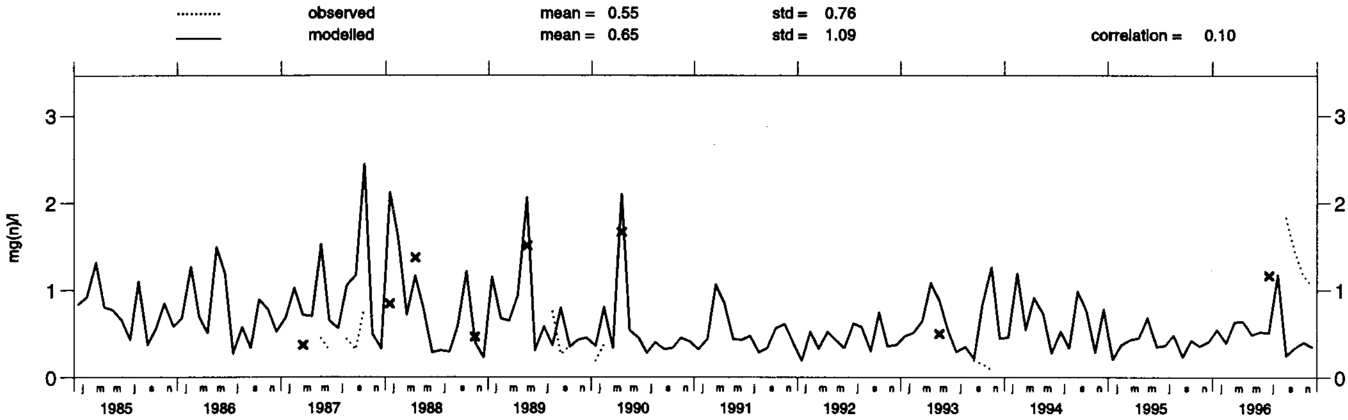
Rucava (LV 10)

Concentration of ammonium in precipitation



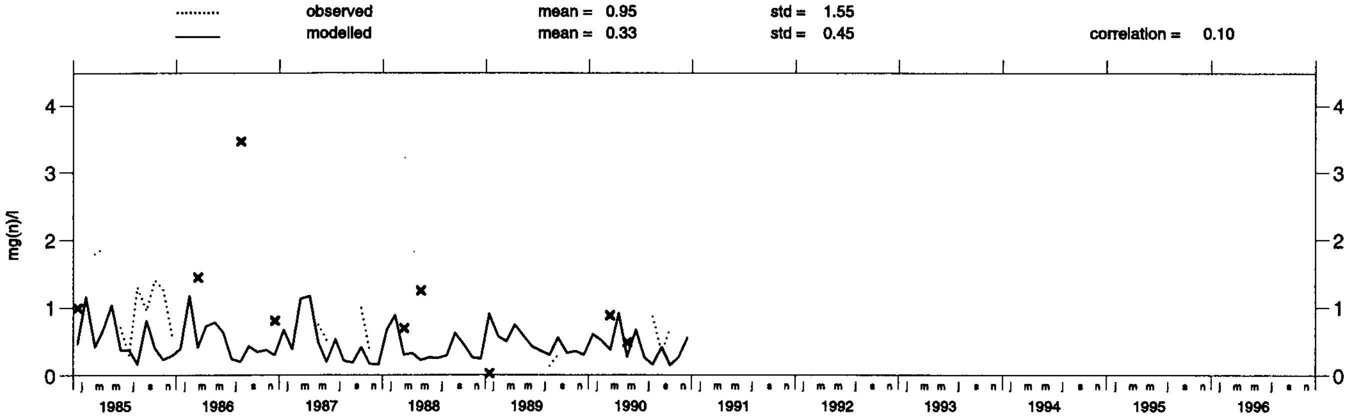
Zoseni (LV 16)

Concentration of ammonium in precipitation



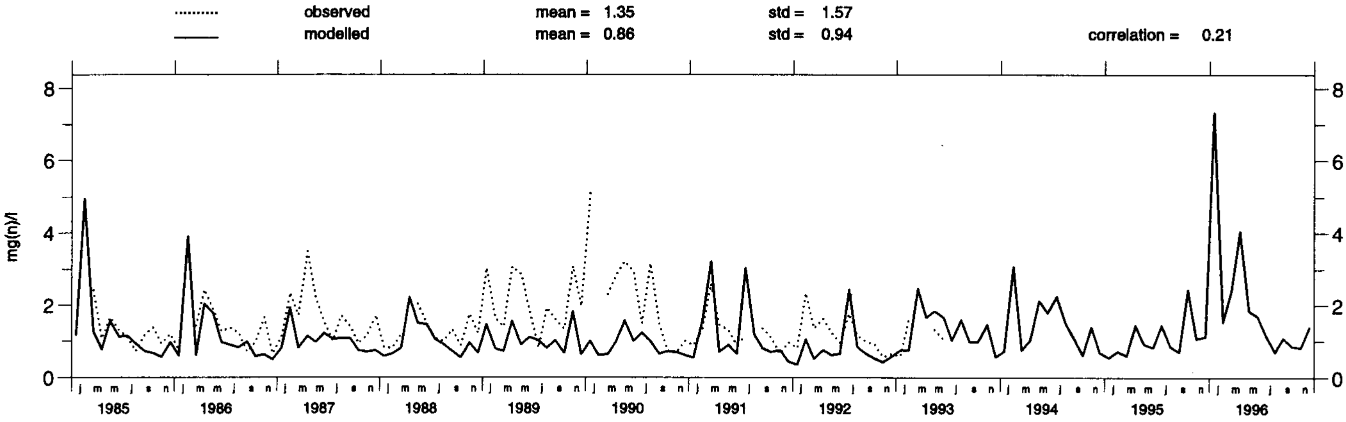
Nida (LT 3)

Concentration of ammonium in precipitation



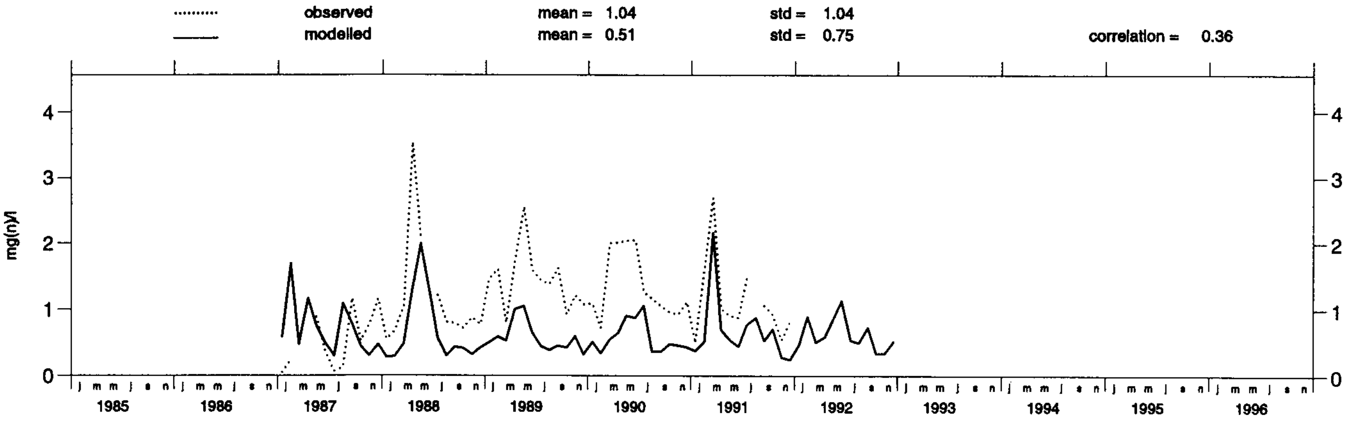
Wittenveen (NL 2)

Concentration of ammonium in precipitation



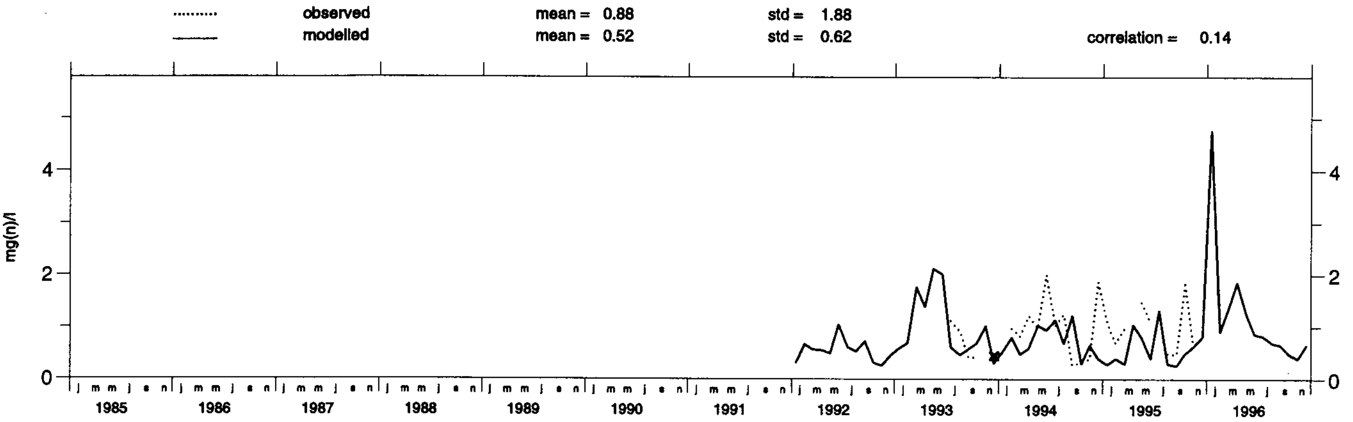
Bilthoven (NL 8)

Concentration of ammonium in precipitation



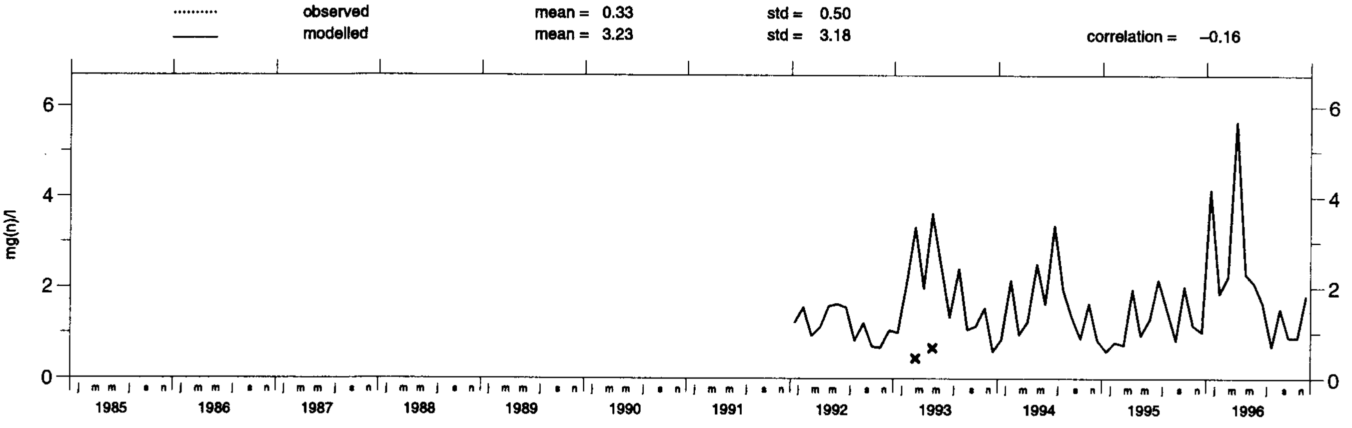
Kollumerwaard (NL 9)

Concentration of ammonium in precipitation



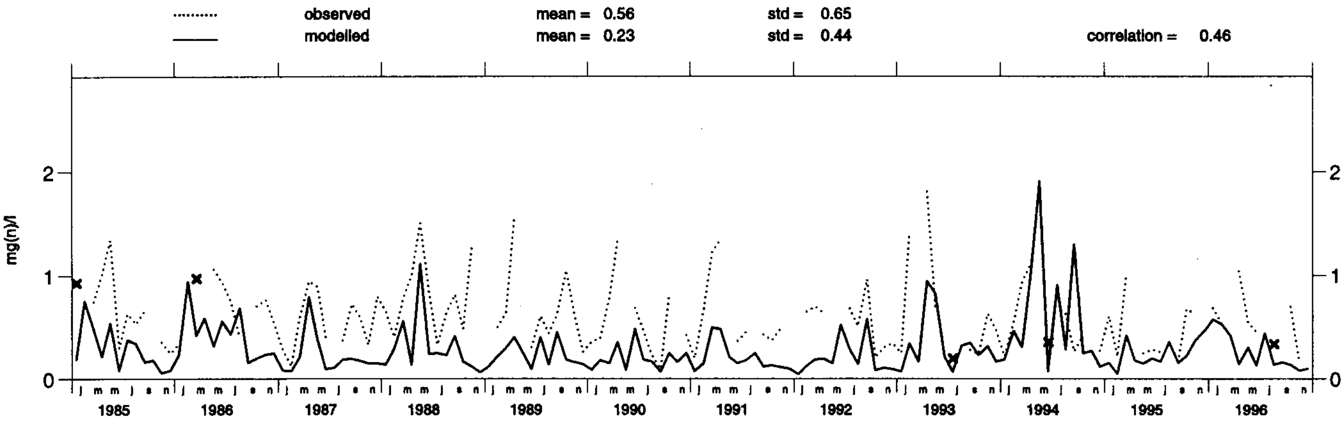
Vreedepeel (NL 10)

Concentration of ammonium in precipitation



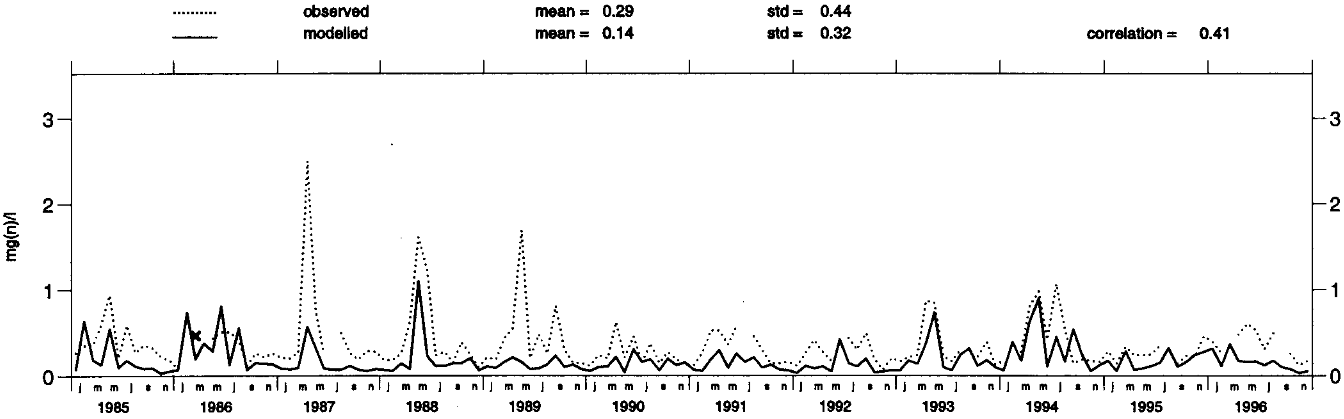
Birkenes (NO 1)

Concentration of ammonium in precipitation



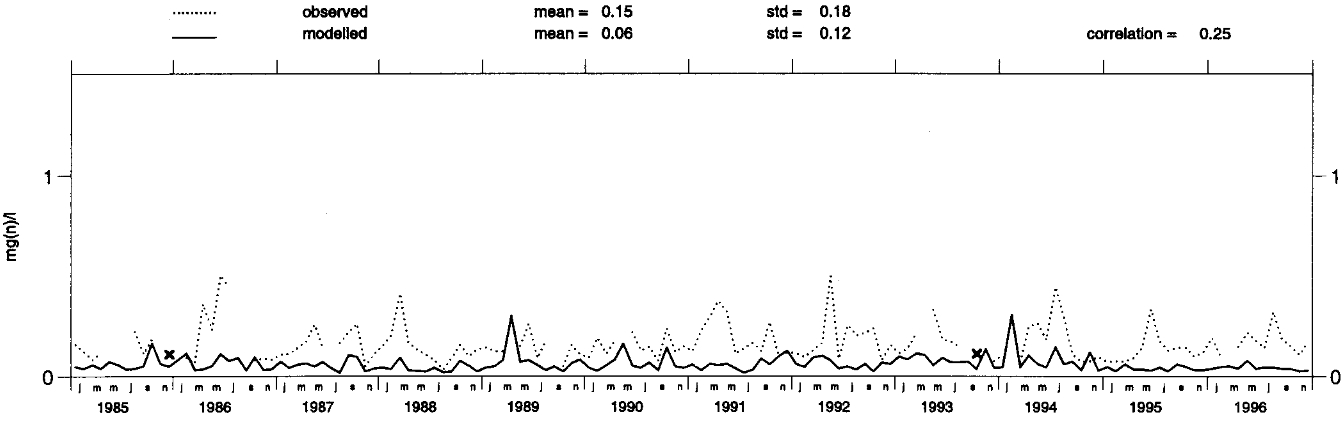
Skreaadalen (NO 8)

Concentration of ammonium in precipitation



Tustervatn (NO 15)

Concentration of ammonium in precipitation

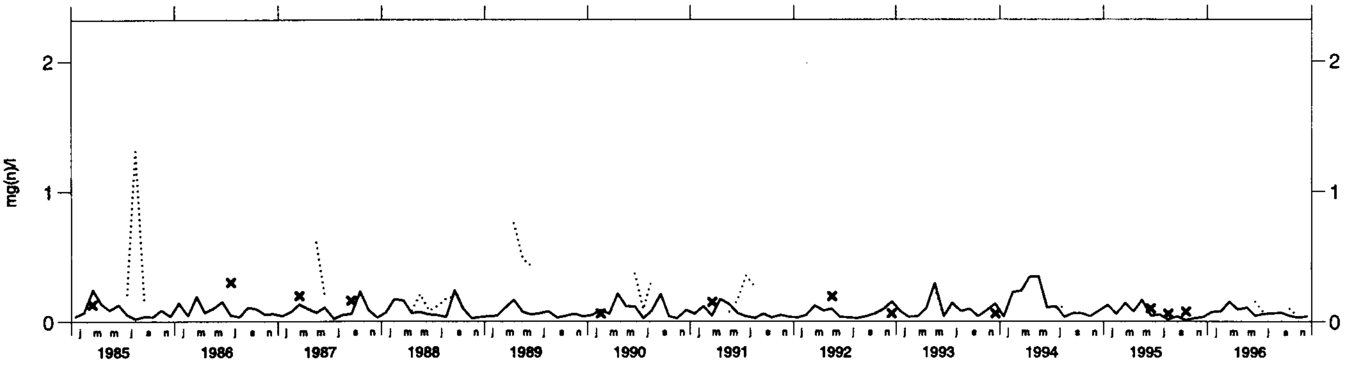


Jergul (NO 30)

Concentration of ammonium in precipitation

.... observed mean = 0.18 std = 0.37

——— modelled mean = 0.06 std = 0.12 correlation = 0.10

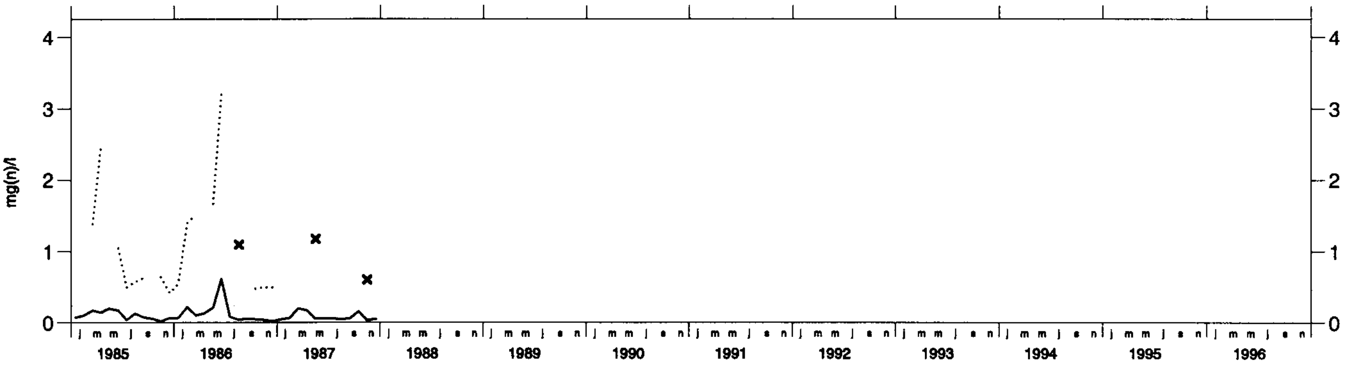


Hummelfjell (NO 36)

Concentration of ammonium in precipitation

.... observed mean = 0.85 std = 1.07

——— modelled mean = 0.08 std = 0.15 correlation = 0.19

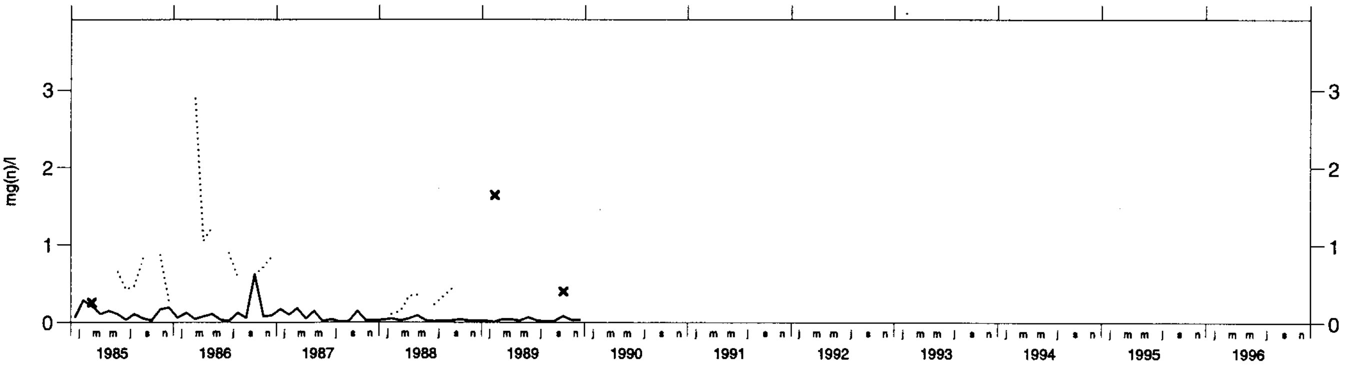


Bjoernoeya (NO 37)

Concentration of ammonium in precipitation

.... observed mean = 0.64 std = 0.88

——— modelled mean = 0.10 std = 0.25 correlation = −0.04

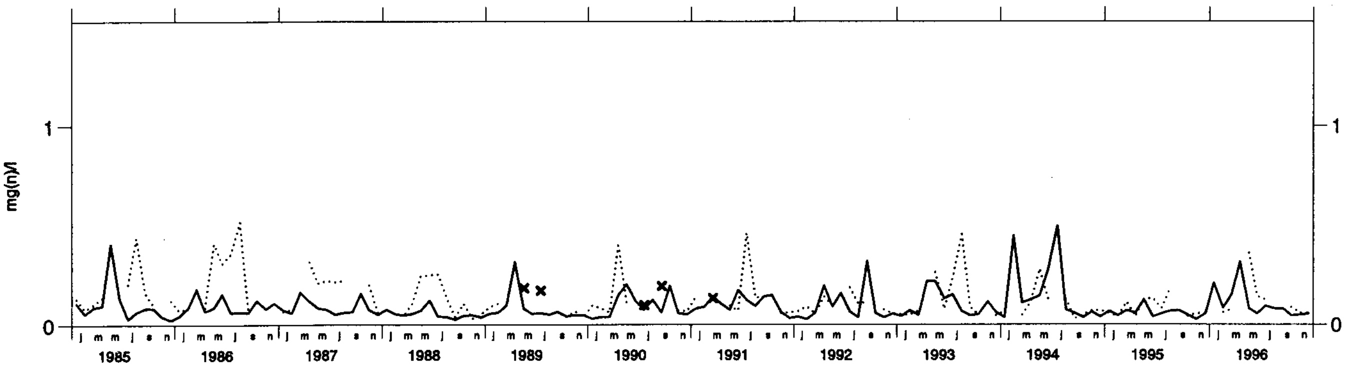


Kaarvatn (NO 39)

Concentration of ammonium in precipitation

.... observed mean = 0.12 std = 0.23

——— modelled mean = 0.07 std = 0.13 correlation = 0.13

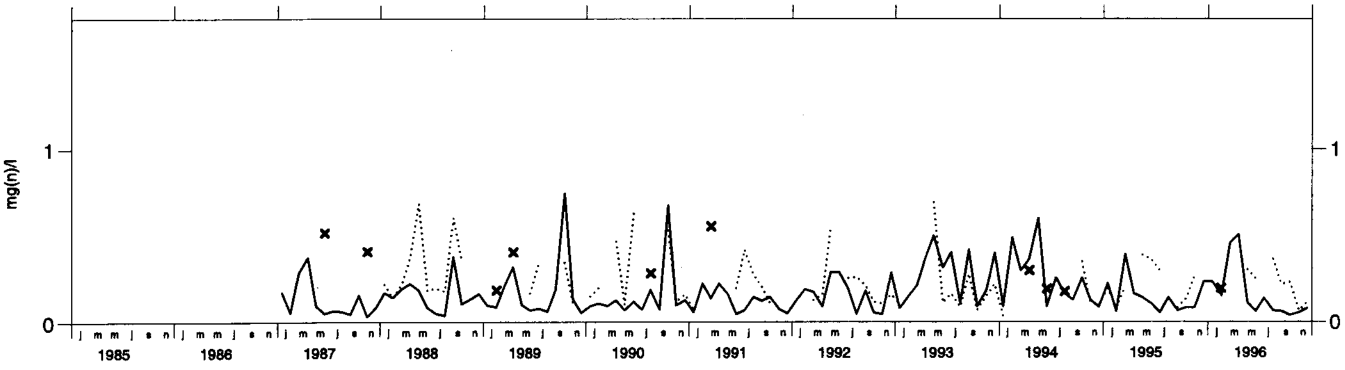


Osen (NO 41)

Concentration of ammonium in precipitation

.... observed mean = 0.27 std = 0.41

——— modelled mean = 0.15 std = 0.27 correlation = 0.39

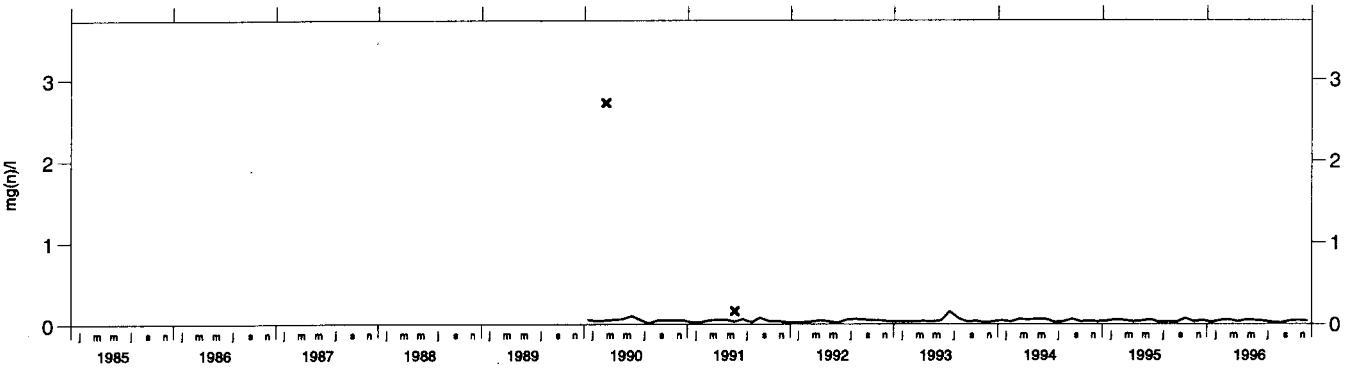


Spitzbergen,Z (NO 42)

Concentration of ammonium in precipitation

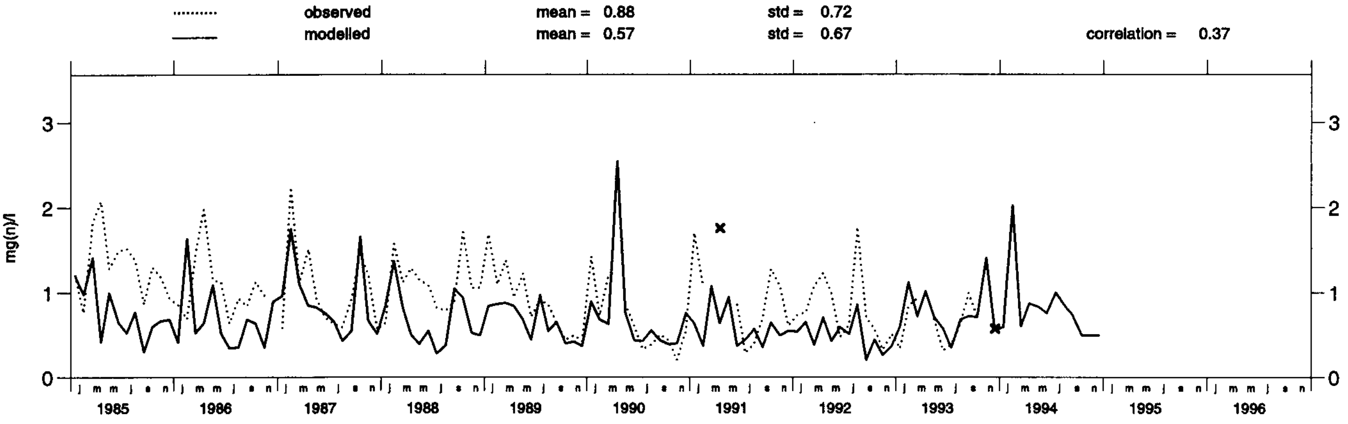
.... observed mean = 0.88 std = 3.58

——— modelled mean = 0.05 std = 0.04 correlation = 0.03



Suwalki (PL 1)

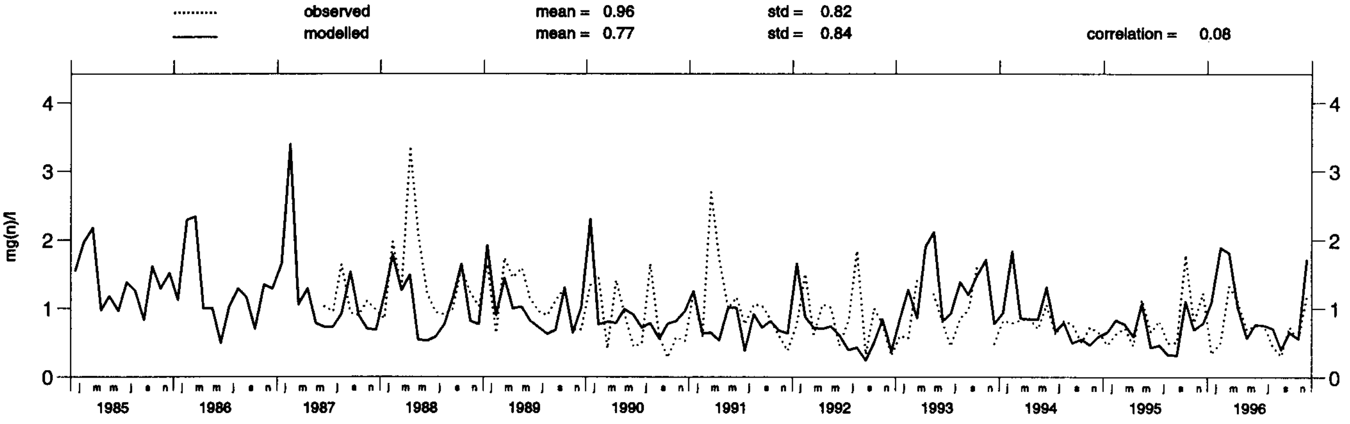
Concentration of ammonium in precipitation



observed mean = 0.88 std = 0.72
modelled mean = 0.57 std = 0.67 correlation = 0.37

Jarczew (PL 2)

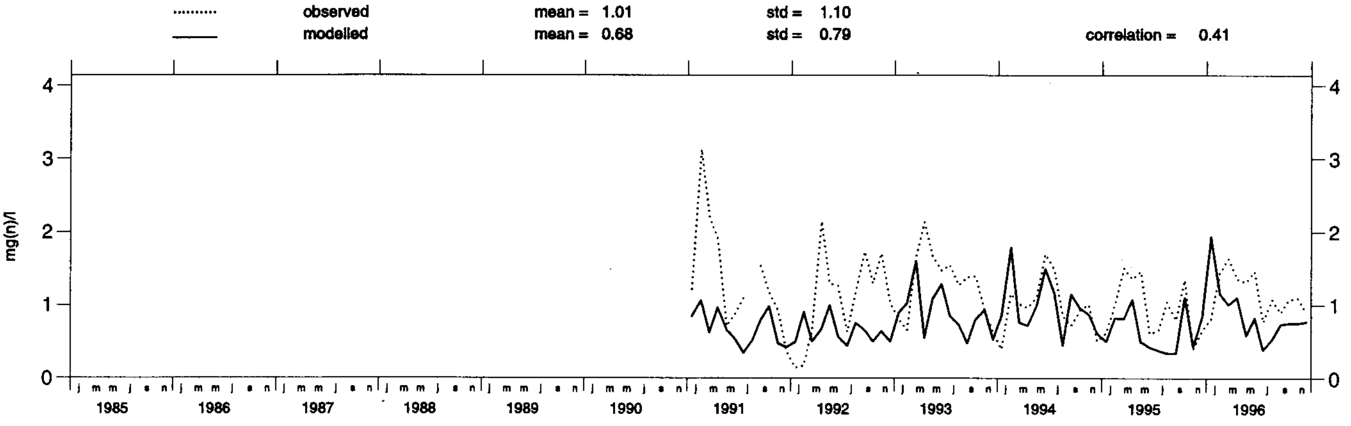
Concentration of ammonium in precipitation



observed mean = 0.96 std = 0.82
modelled mean = 0.77 std = 0.84 correlation = 0.08

Sniezka (PL 3)

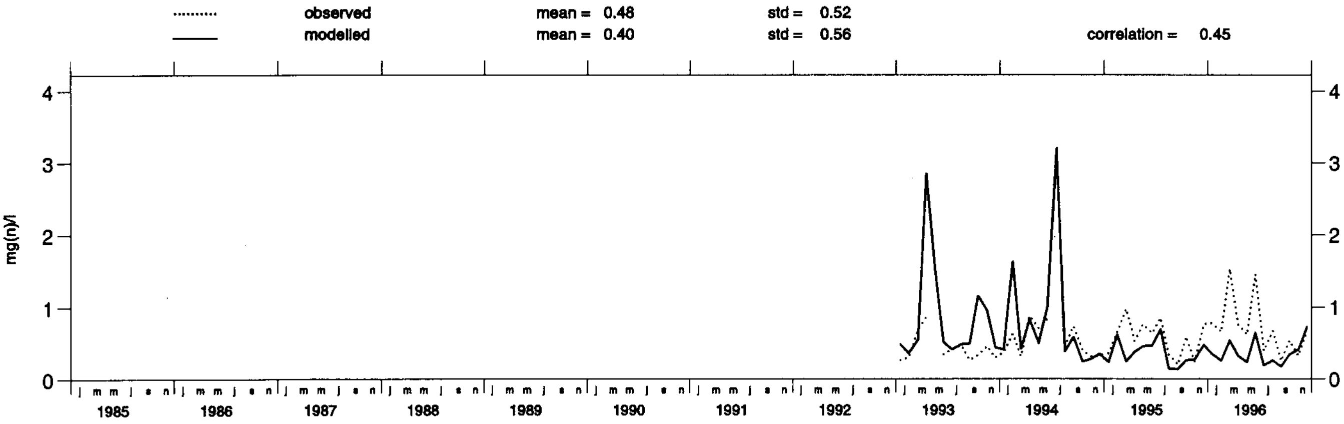
Concentration of ammonium in precipitation



observed mean = 1.01 std = 1.10
modelled mean = 0.68 std = 0.79 correlation = 0.41

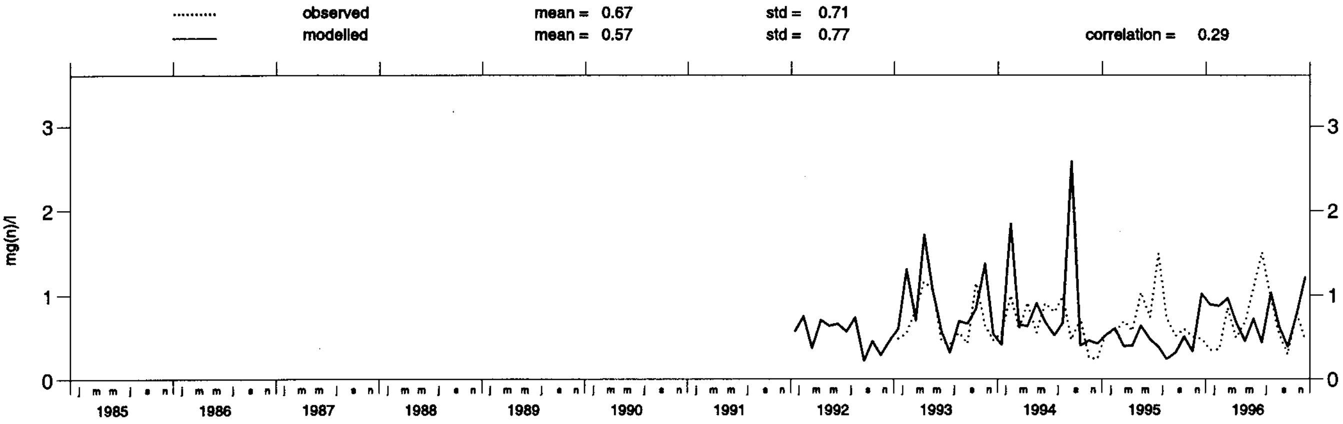
Leba (PL 4)

Concentration of ammonium in precipitation



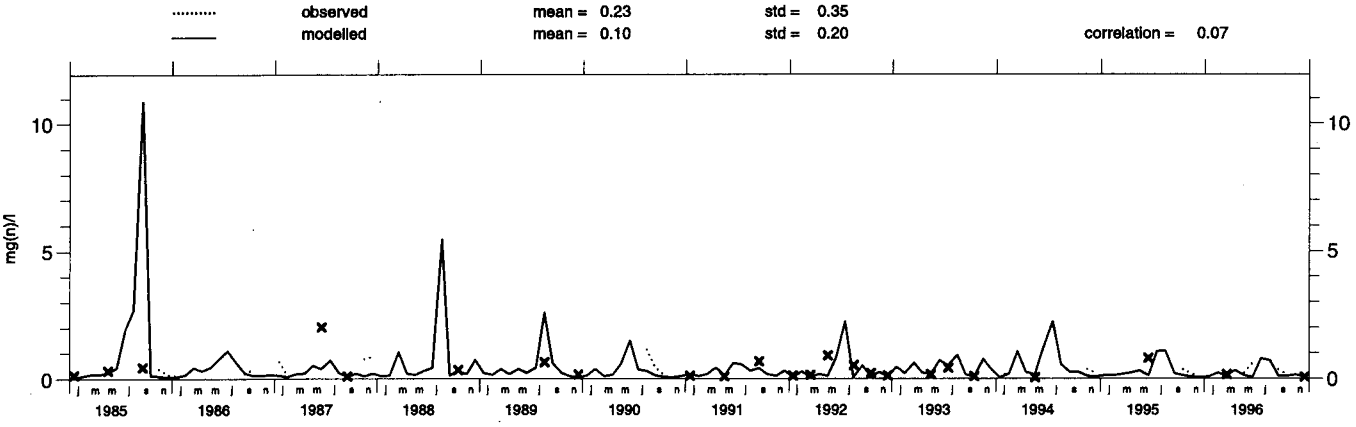
Diabla Gora (PL 5)

Concentration of ammonium in precipitation



Braganca (PT 1)

Concentration of ammonium in precipitation

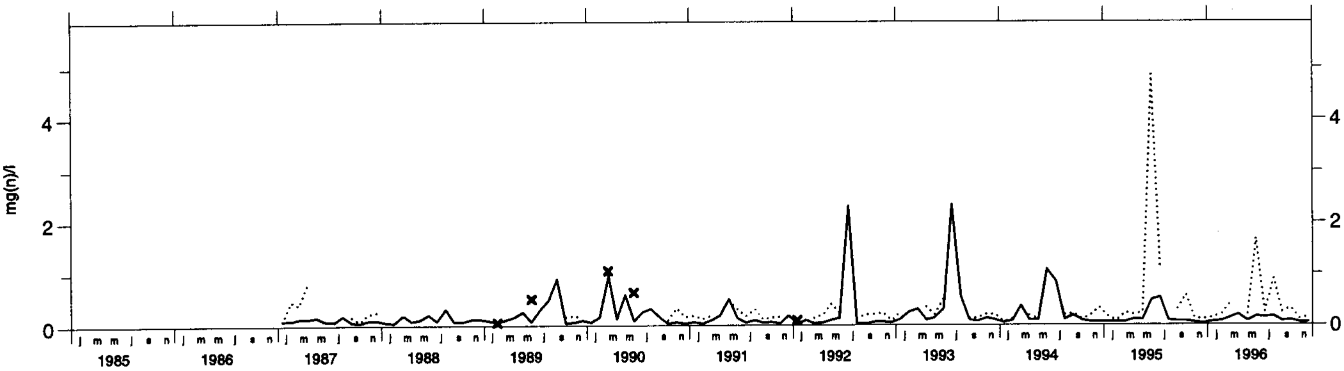


V.d.Castelo (PT 3)

Concentration of ammonium in precipitation

.... observed mean = 0.22 std = 0.36

——— modelled mean = 0.07 std = 0.17 correlation = 0.06

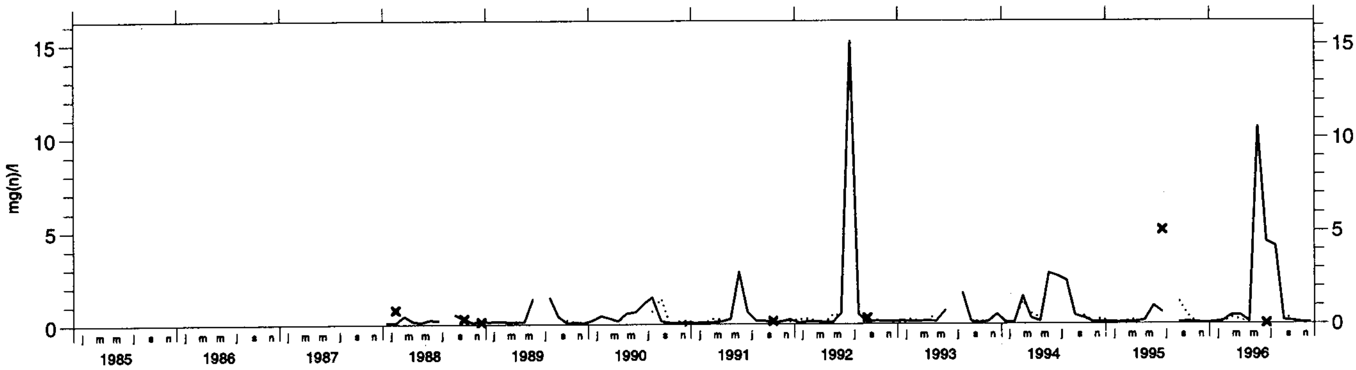


Monte_Velho (PT 4)

Concentration of ammonium in precipitation

.... observed mean = 0.18 std = 0.37

——— modelled mean = 0.12 std = 0.20 correlation = 0.03

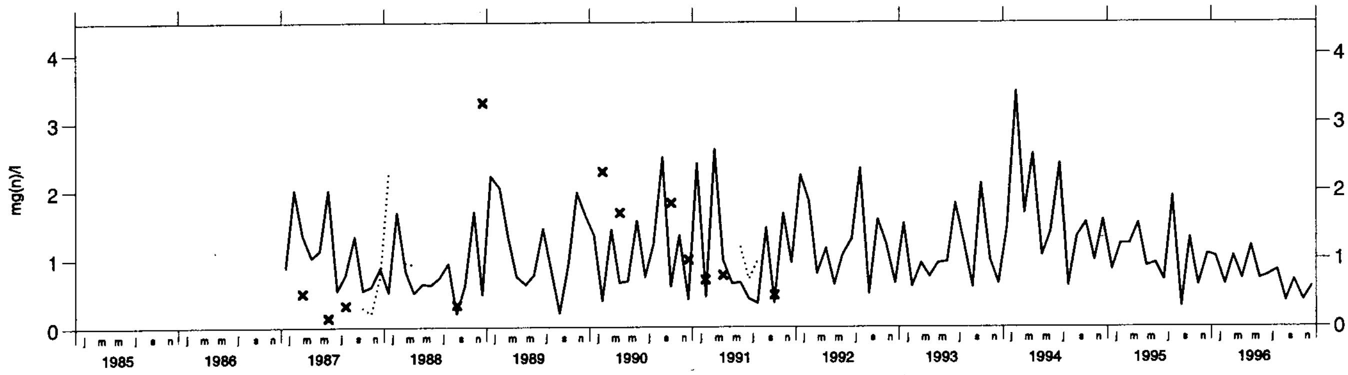


Leovo (MD 12)

Concentration of ammonium in precipitation

.... observed mean = 0.92 std = 1.35

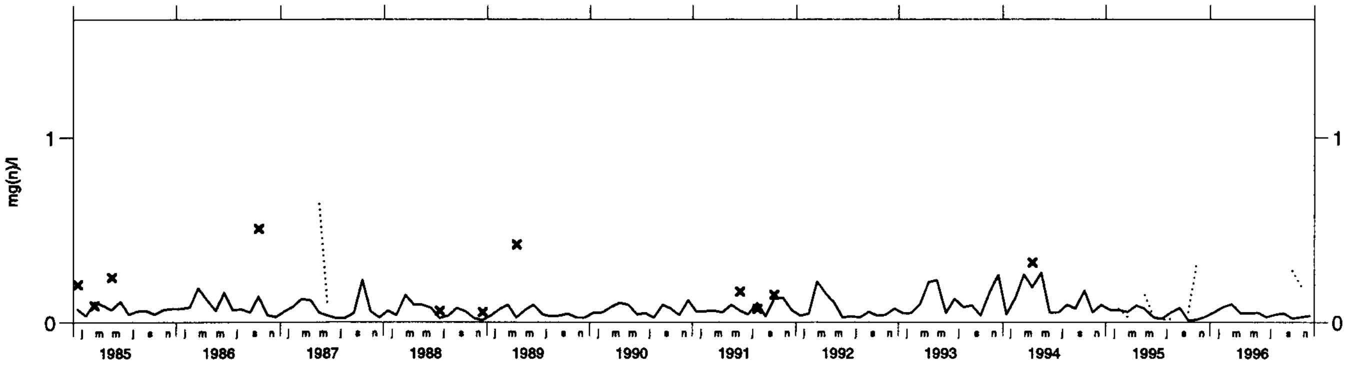
——— modelled mean = 0.59 std = 0.89 correlation = -0.05



Janiskoski (RU 1)

Concentration of ammonium in precipitation

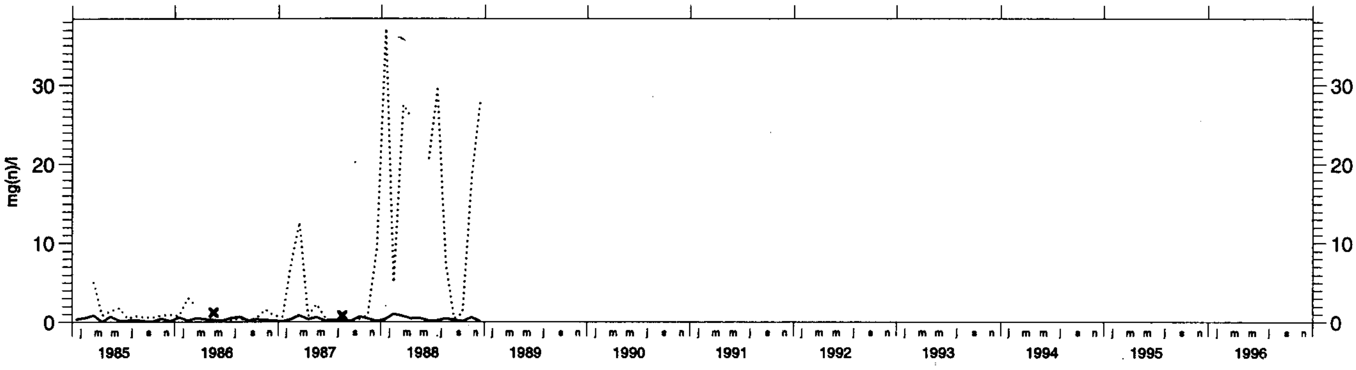
observed	mean = 0.19	std = 0.37		
modelled	mean = 0.06	std = 0.11	correlation =	0.17



Lesogorsky (RU 8)

Concentration of ammonium in precipitation

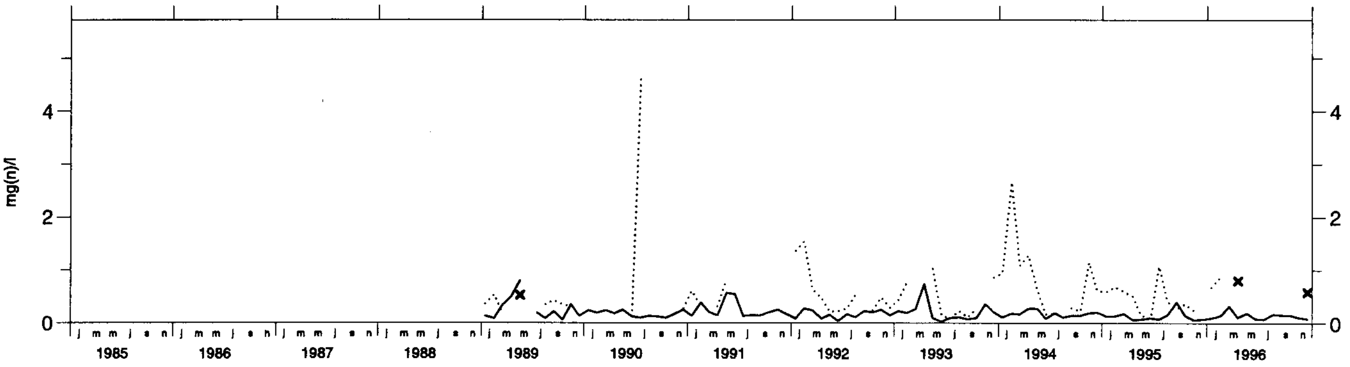
observed	mean = 5.46	std = 14.32		
modelled	mean = 0.31	std = 0.45	correlation =	-0.05



Pinega (RU 13)

Concentration of ammonium in precipitation

observed	mean = 0.44	std = 0.70		
modelled	mean = 0.14	std = 0.23	correlation =	0.06

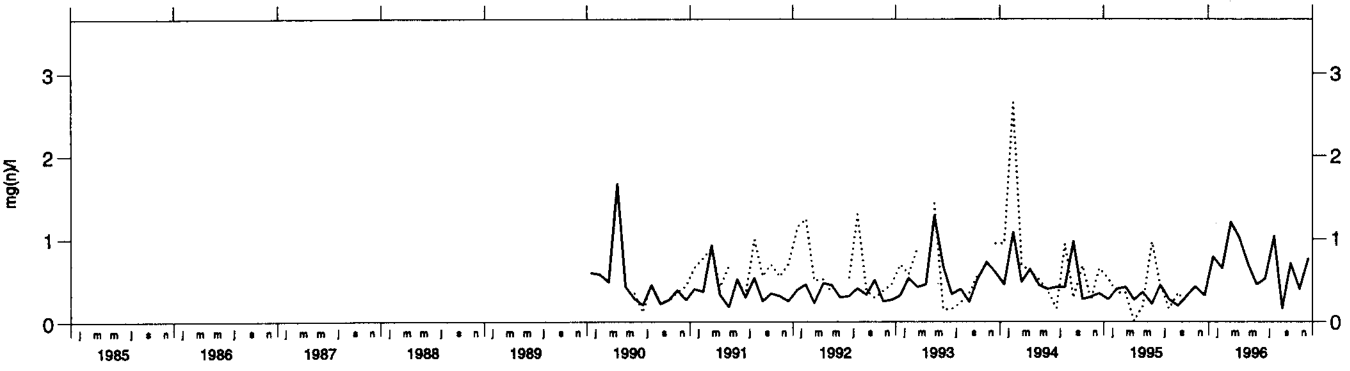


Pushkinsk_Gory (RU 14)

Concentration of ammonium in precipitation

.... observed mean = 0.53 std = 0.87

——— modelled mean = 0.34 std = 0.46 correlation = 0.09

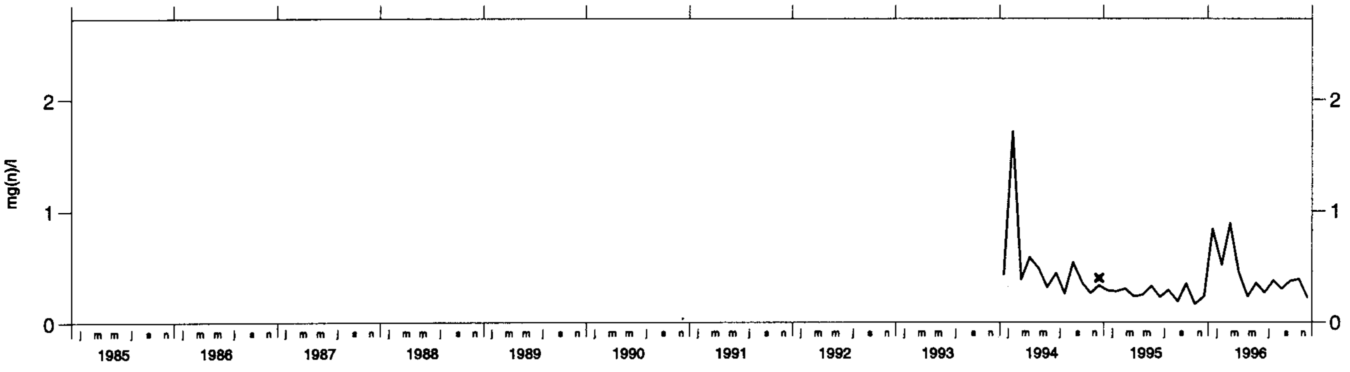


Shepeljovo (RU 15)

Concentration of ammonium in precipitation

.... observed mean = 0.43 std = 0.45

——— modelled mean = 0.29 std = 0.46 correlation = 0.58

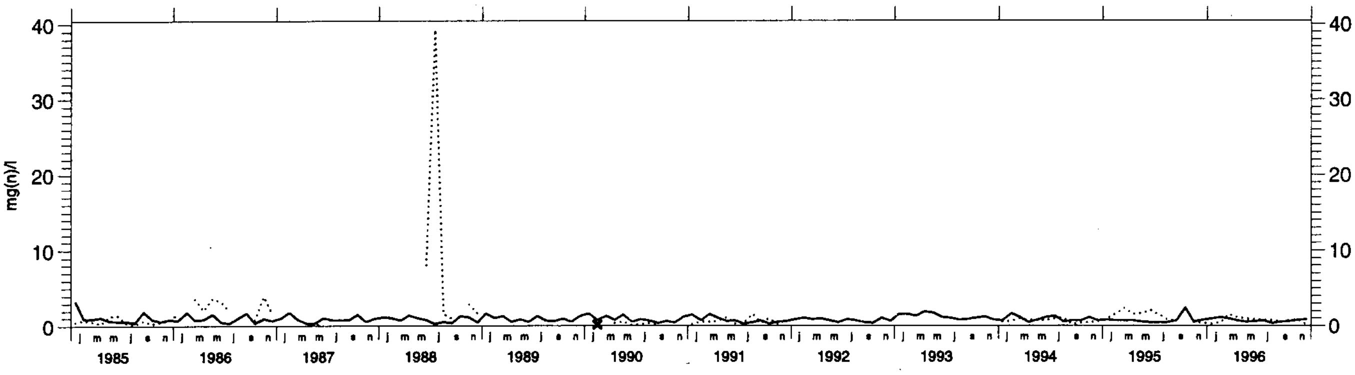


Chopok (SK 2)

Concentration of ammonium in precipitation

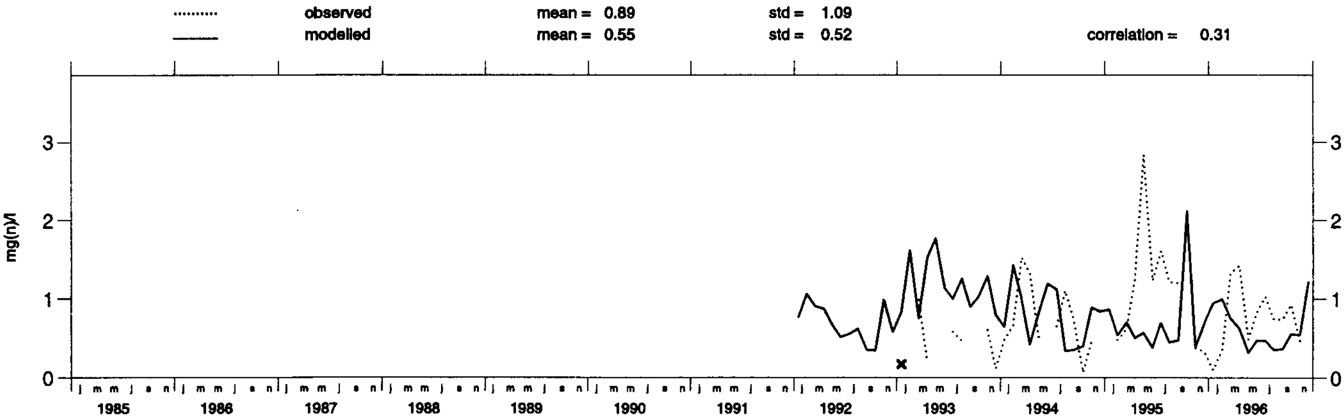
.... observed mean = 1.26 std = 4.17

——— modelled mean = 0.62 std = 0.70 correlation = 0.08



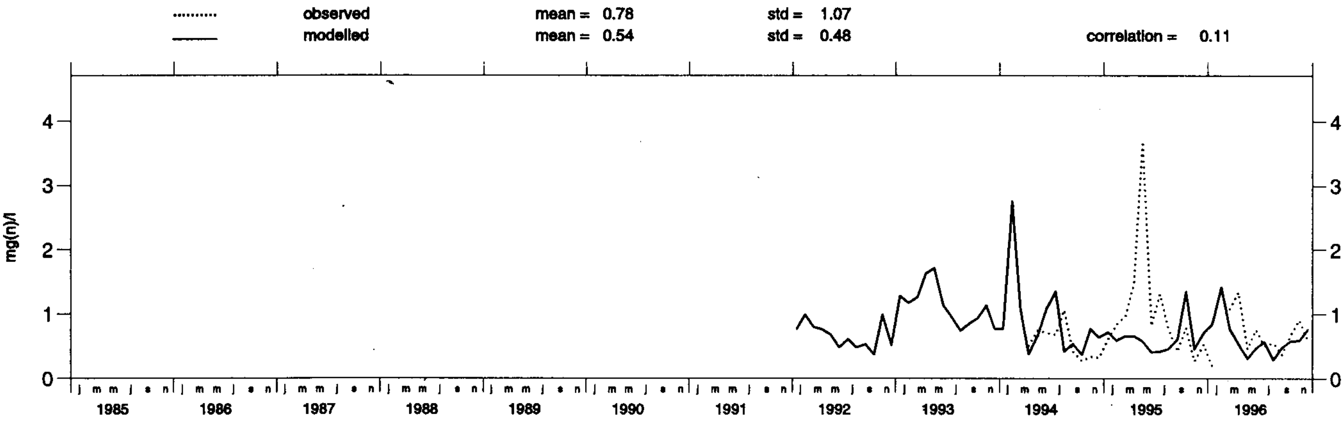
Stara Lesna (SK 4)

Concentration of ammonium in precipitation



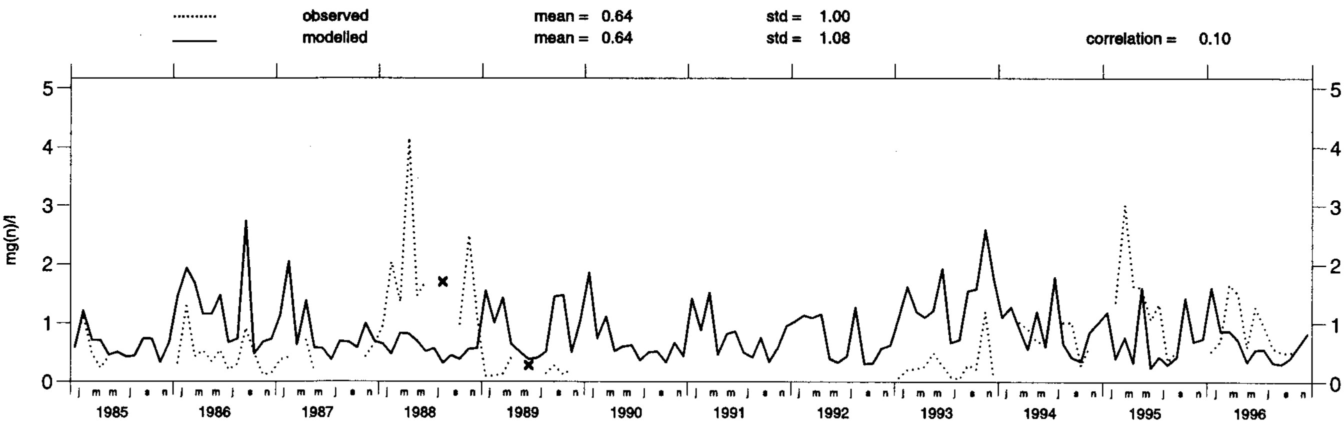
Liesek (SK 5)

Concentration of ammonium in precipitation



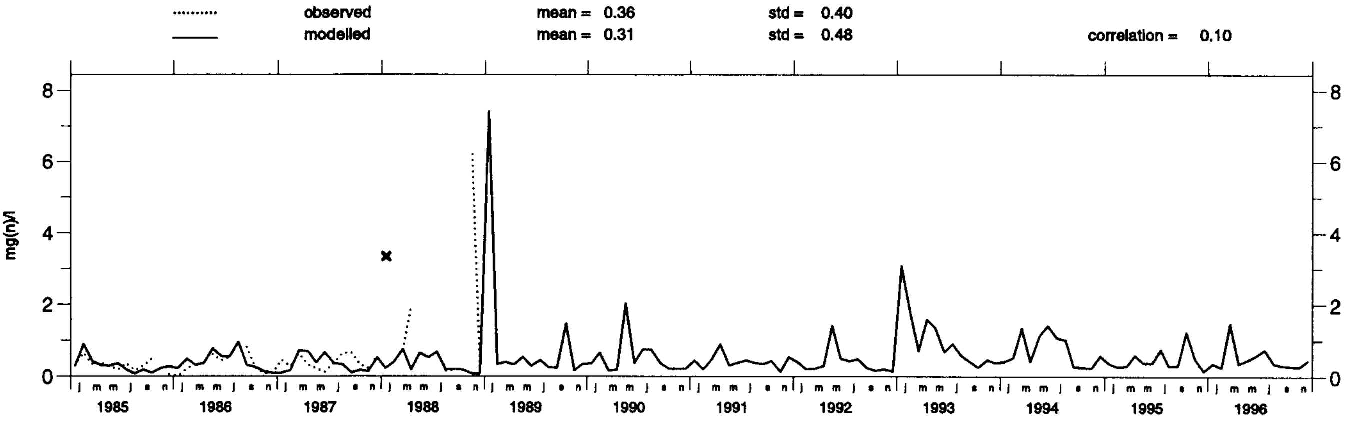
Starina (SK 6)

Concentration of ammonium in precipitation



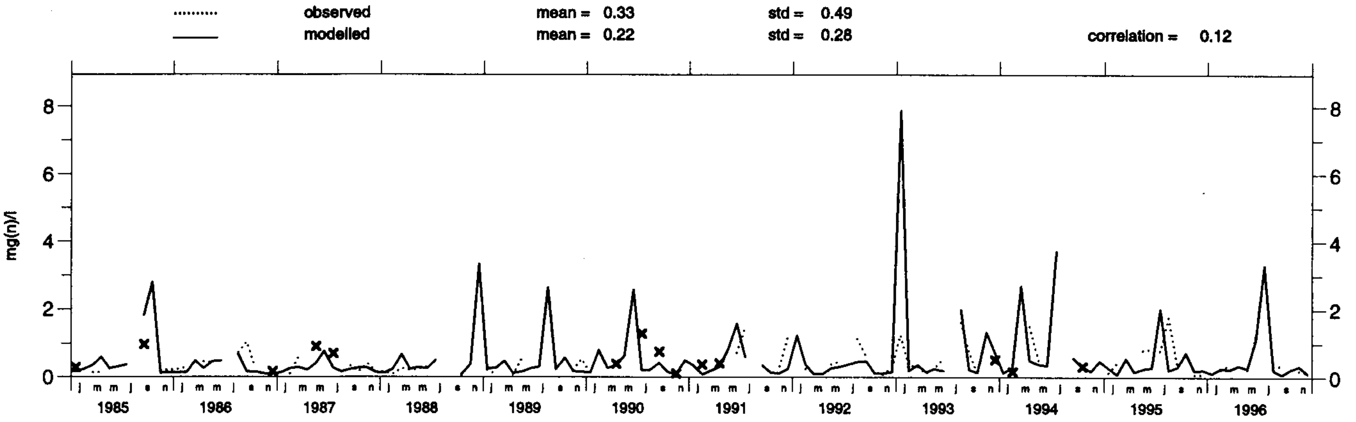
Masun (SI 1)

Concentration of ammonium in precipitation



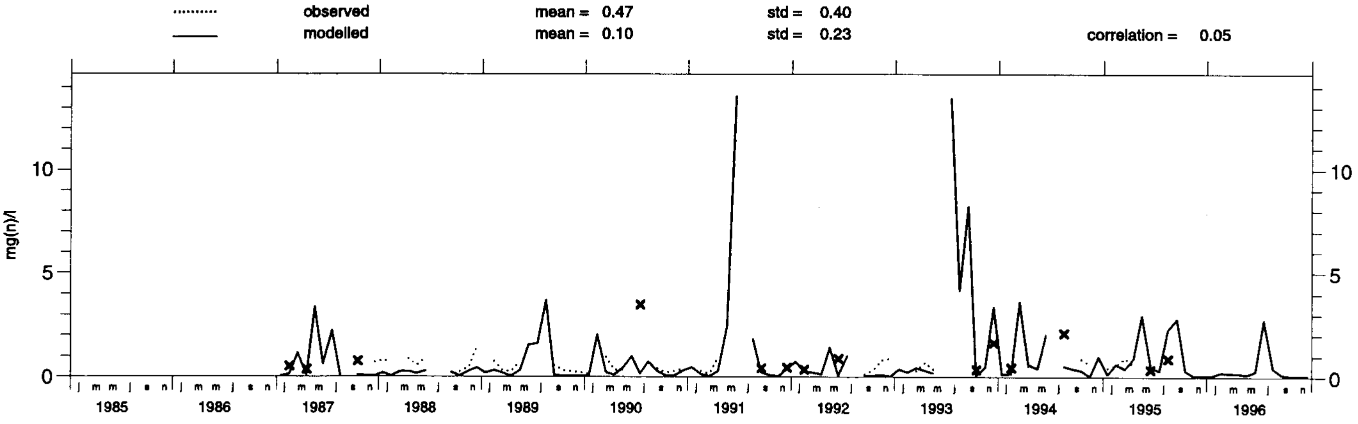
Toledo (ES 1)

Concentration of ammonium in precipitation



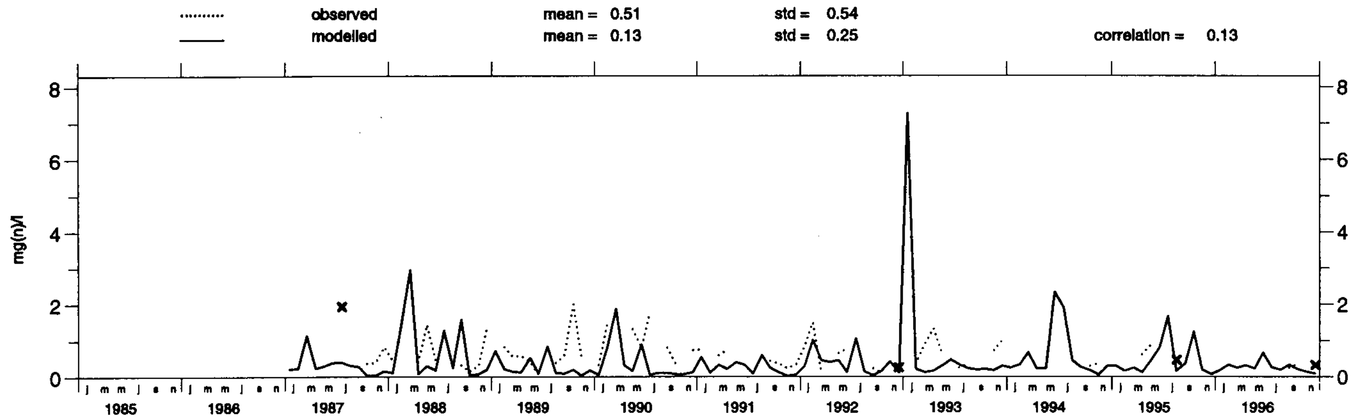
La_Cartuja (ES 2)

Concentration of ammonium in precipitation



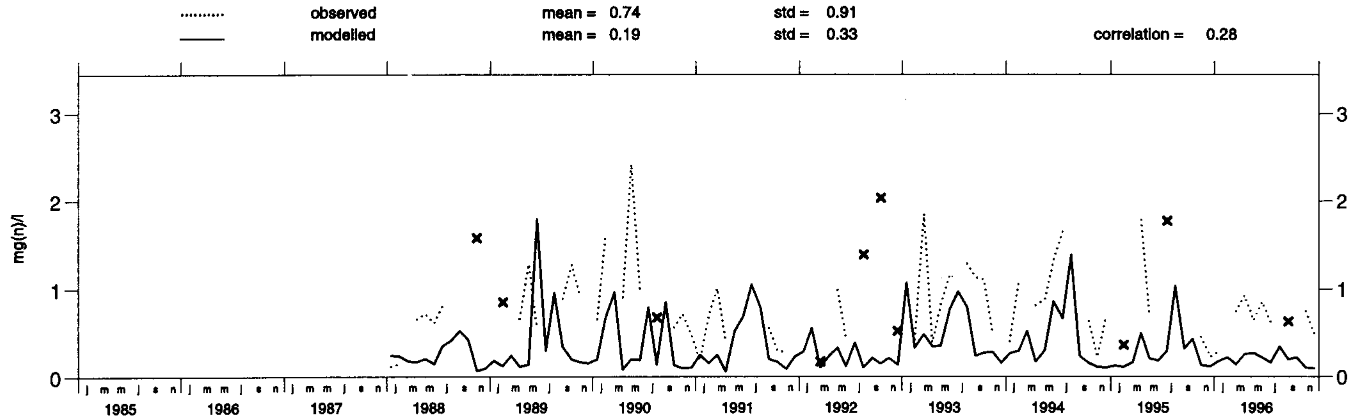
Roquetas (ES 3)

Concentration of ammonium in precipitation



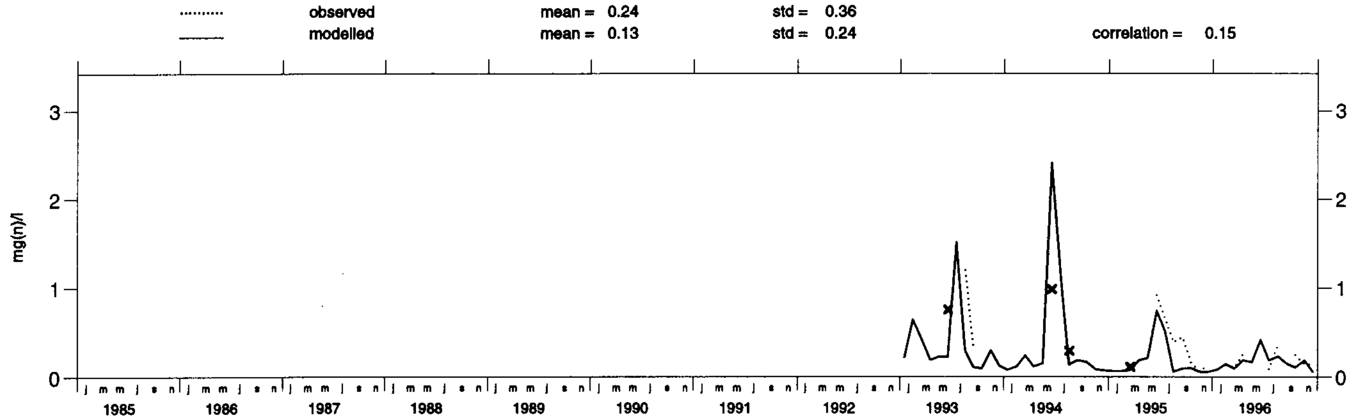
Logrono (ES 4)

Concentration of ammonium in precipitation



Noio (ES 5)

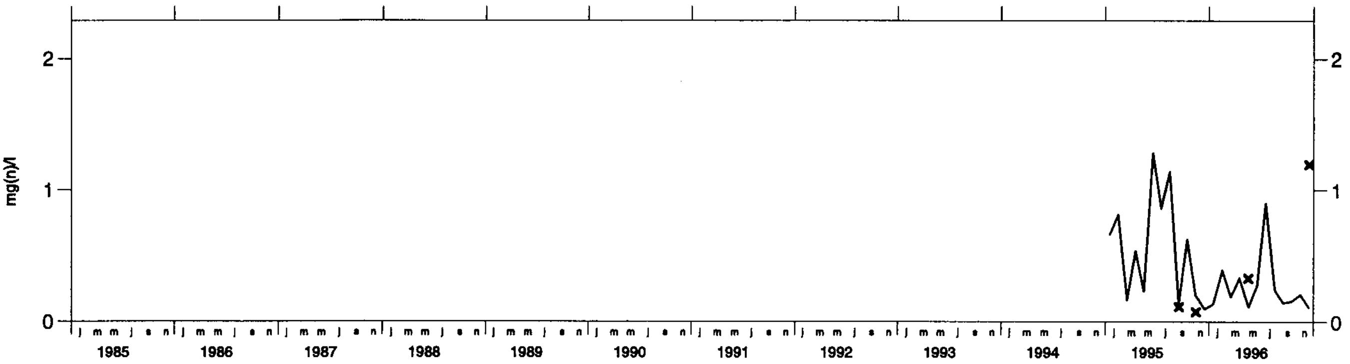
Concentration of ammonium in precipitation



Mahon (ES 6)

Concentration of ammonium in precipitation

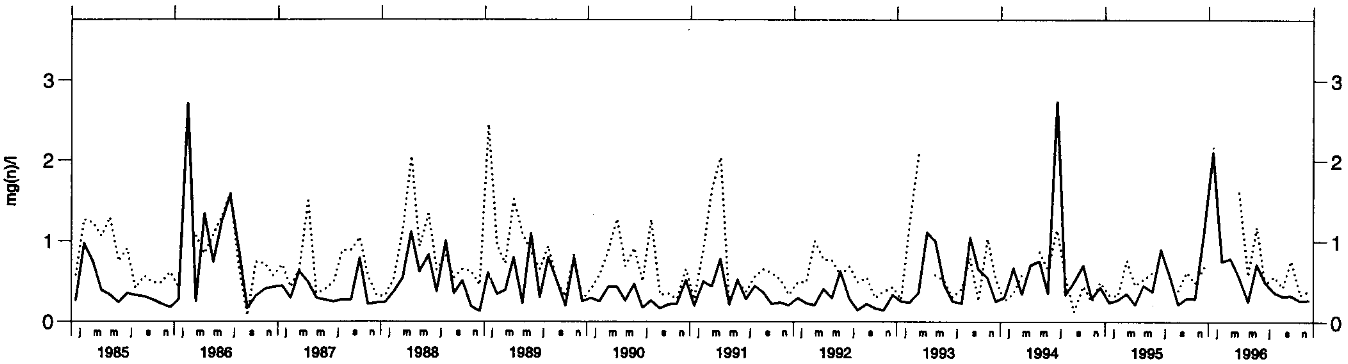
··········	observed	mean = 0.78	std = 1.36	
———	modelled	mean = 0.13	std = 0.38	correlation = -0.06



Roervik (SE 2)

Concentration of ammonium in precipitation

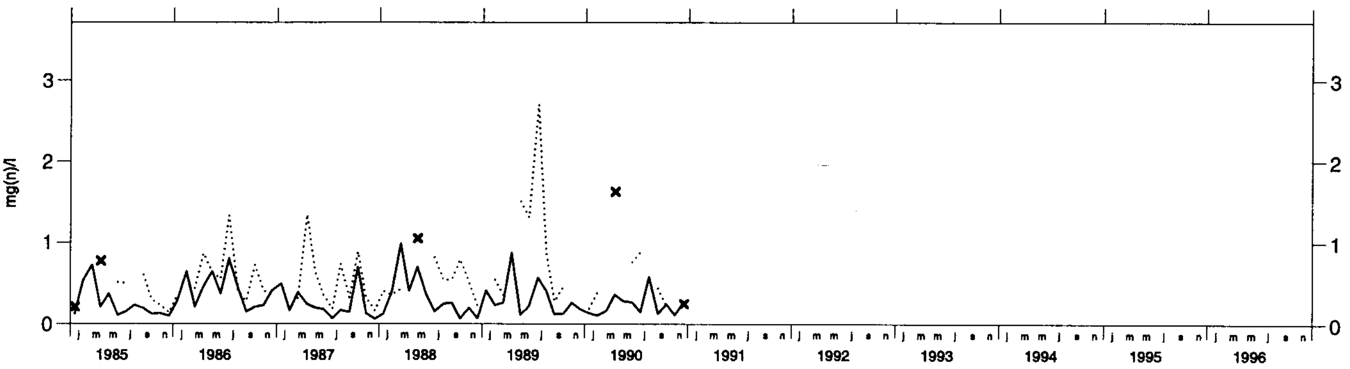
··········	observed	mean = 0.63	std = 0.69	
———	modelled	mean = 0.36	std = 0.57	correlation = 0.41



Velen (SE 3)

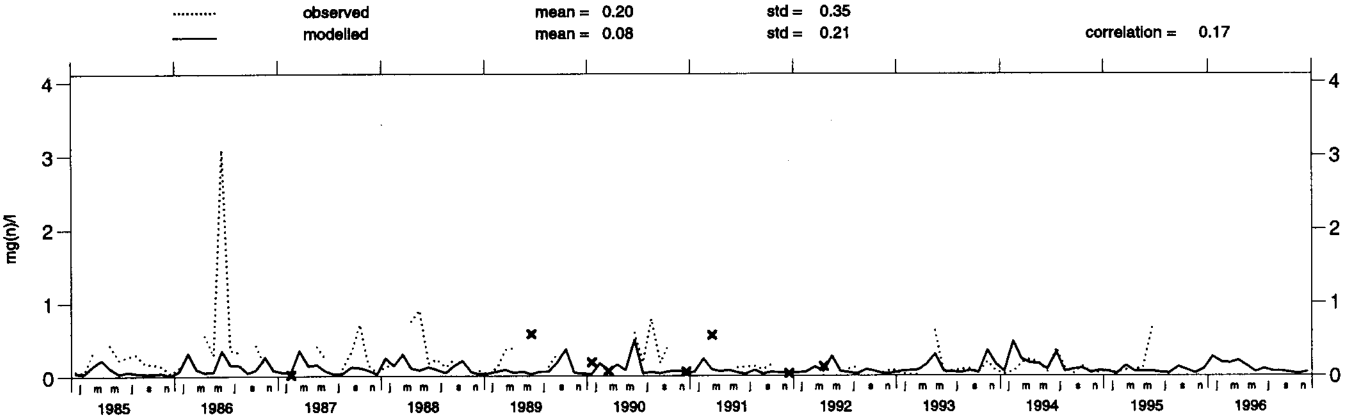
Concentration of ammonium in precipitation

··········	observed	mean = 0.56	std = 0.65	
———	modelled	mean = 0.24	std = 0.44	correlation = 0.24



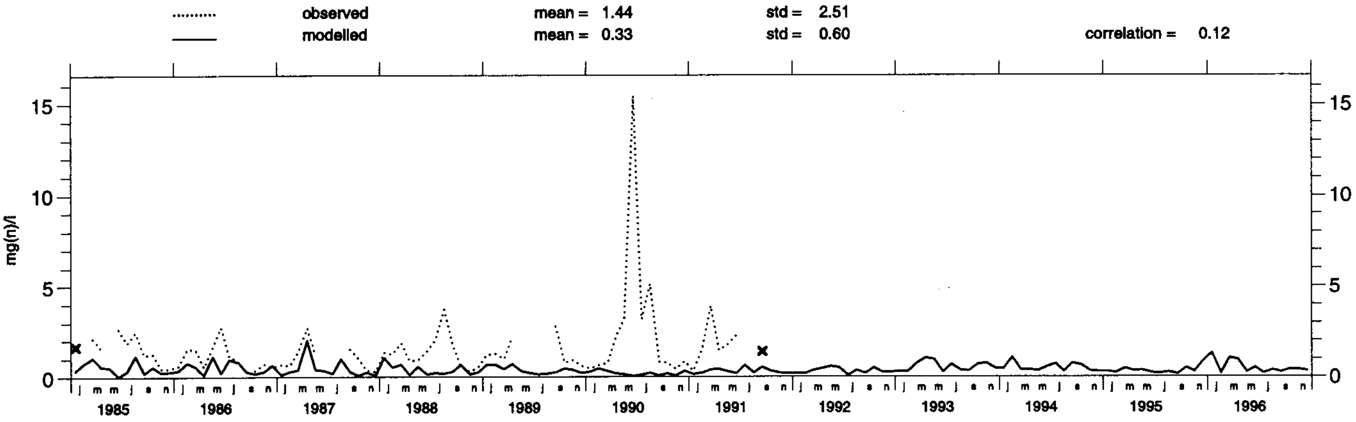
Bredkelen (SE 5)

Concentration of ammonium in precipitation



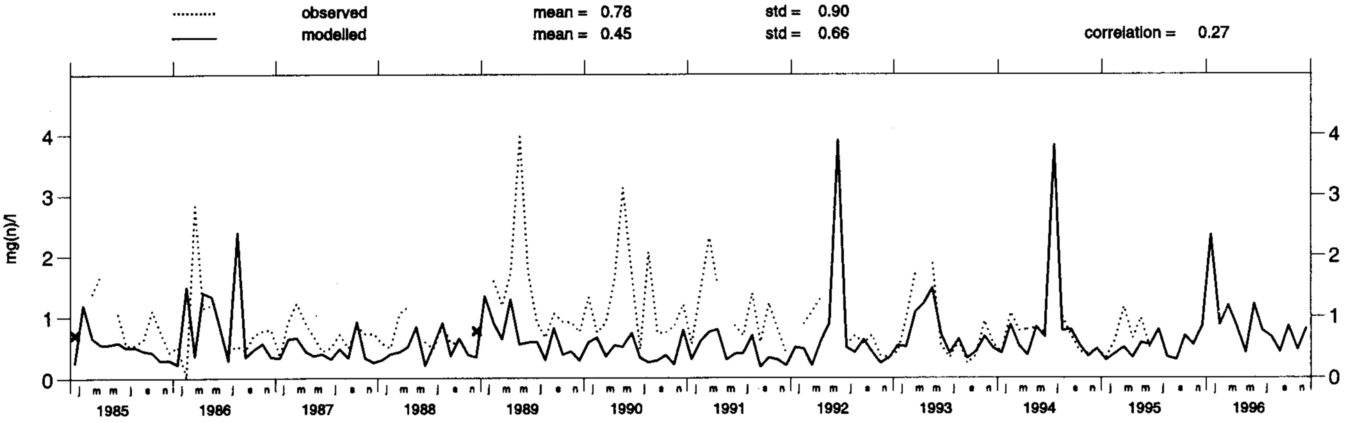
Hoburg (SE 8)

Concentration of ammonium in precipitation



Vavihill (SE 11)

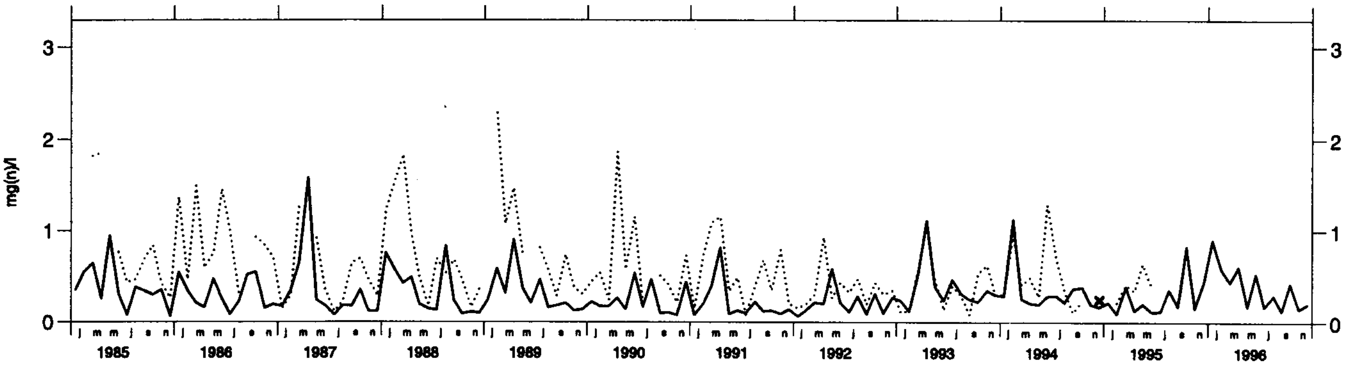
Concentration of ammonium in precipitation



Aspvreten (SE 12)

Concentration of ammonium in precipitation

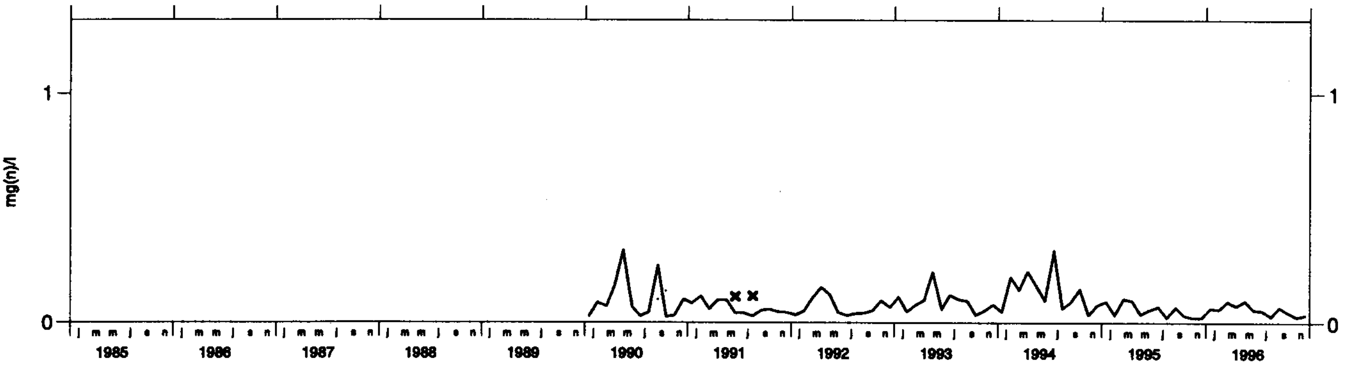
………… observed	mean = 0.54	std = 0.71	
——— modelled	mean = 0.23	std = 0.52	correlation = 0.29



Esrange (SE 13)

Concentration of ammonium in precipitation

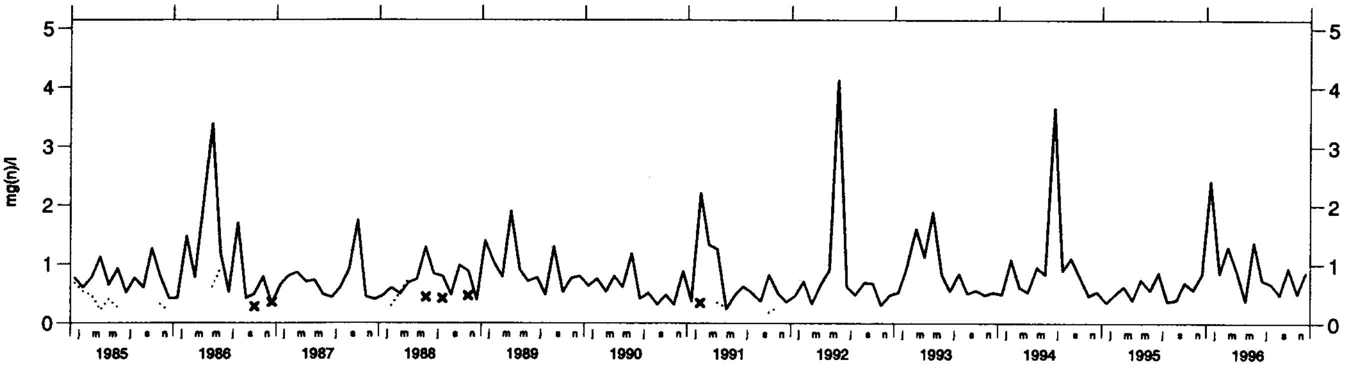
………… observed	mean = 0.10	std = 0.10	
——— modelled	mean = 0.04	std = 0.08	correlation = 0.07



Arup (SE 50)

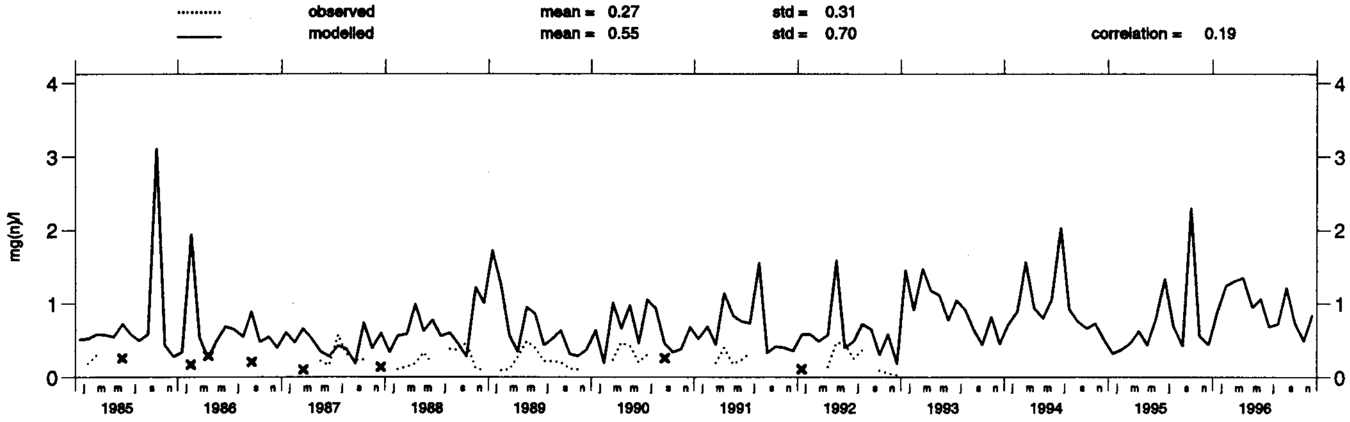
Concentration of ammonium in precipitation

………… observed	mean = 0.40	std = 0.38	
——— modelled	mean = 0.72	std = 1.08	correlation = 0.16



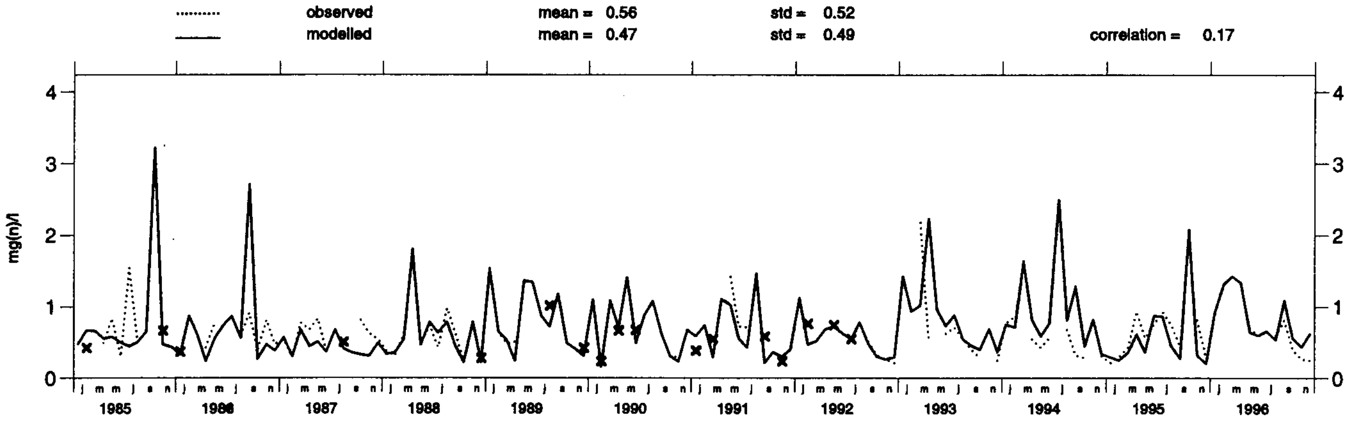
Jungfraujoch (CH 1)

Concentration of ammonium in precipitation



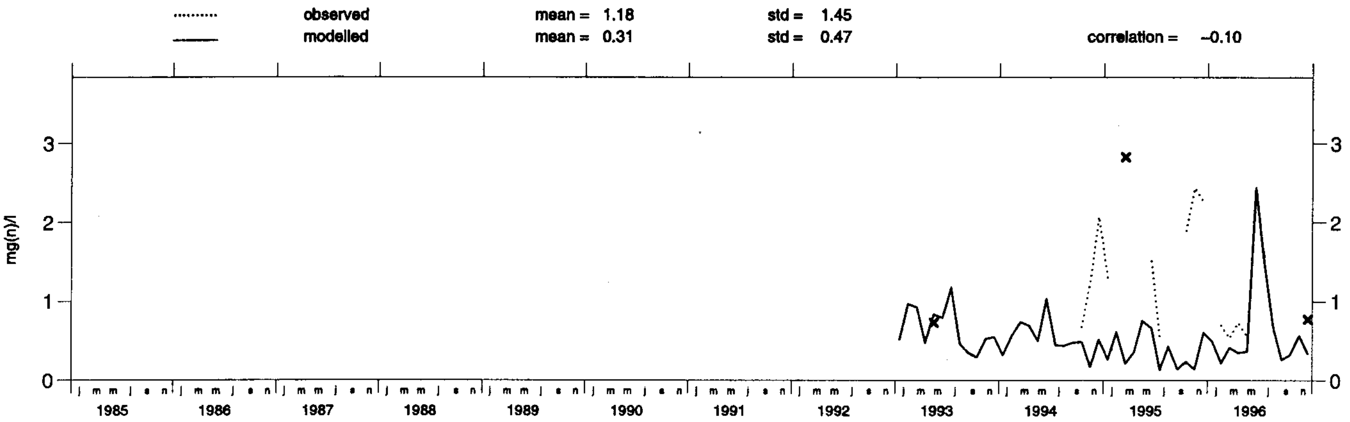
Payerne (CH 2)

Concentration of ammonium in precipitation



Cubuk11 (TR 1)

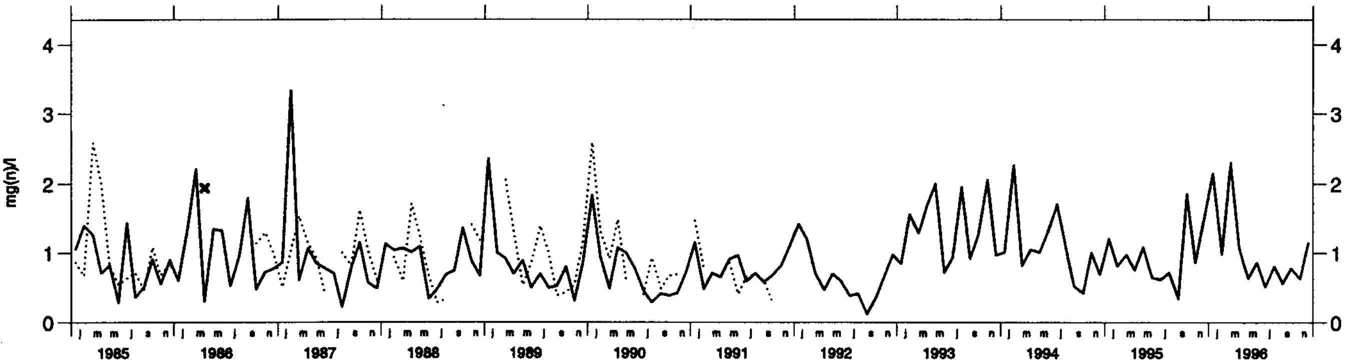
Concentration of ammonium in precipitation



Svityatz (UA 5)

Concentration of ammonium in precipitation

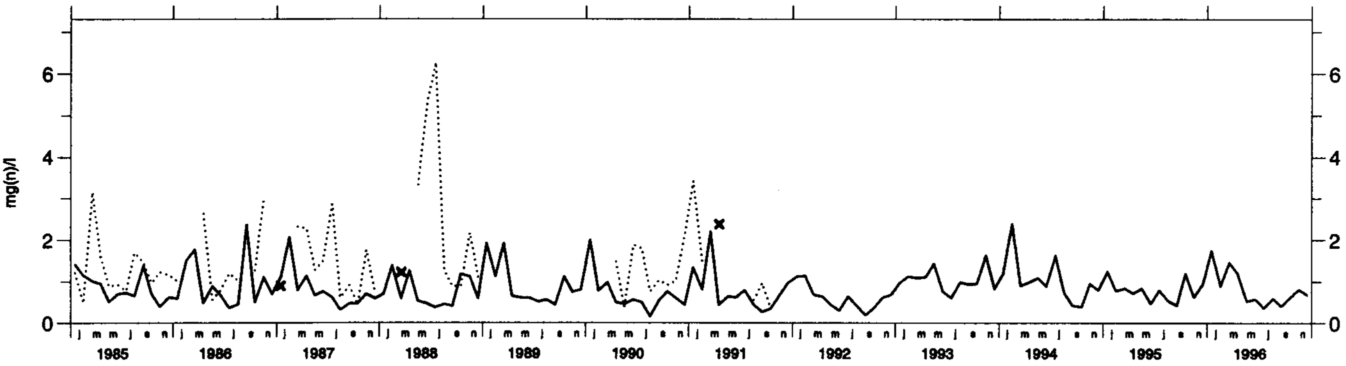
....	observed	mean = 0.87	std = 0.93	
——	modelled	mean = 0.65	std = 0.72	correlation = 0.22



Rava-Russkaya (UA 6)

Concentration of ammonium in precipitation

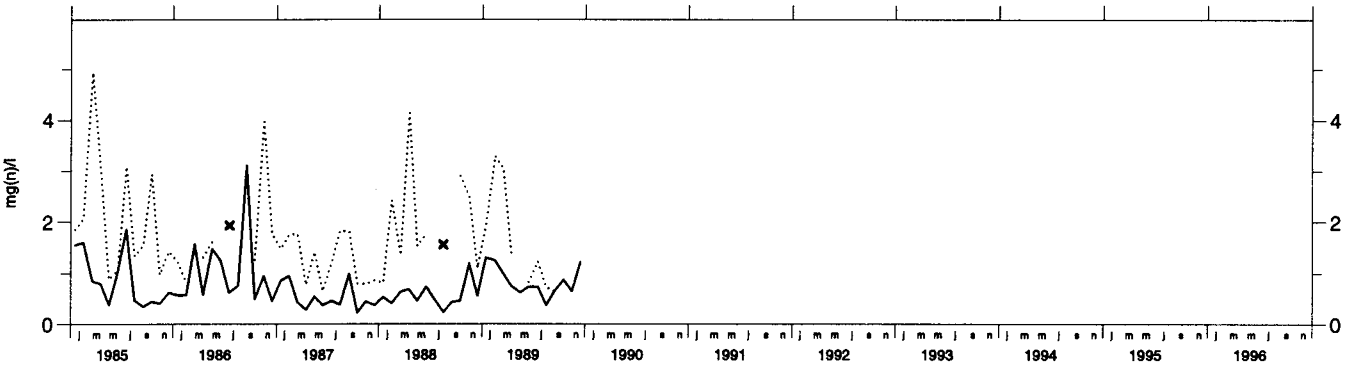
....	observed	mean = 1.40	std = 3.35	
——	modelled	mean = 0.59	std = 0.64	correlation = 0.09



Beregovo (UA 7)

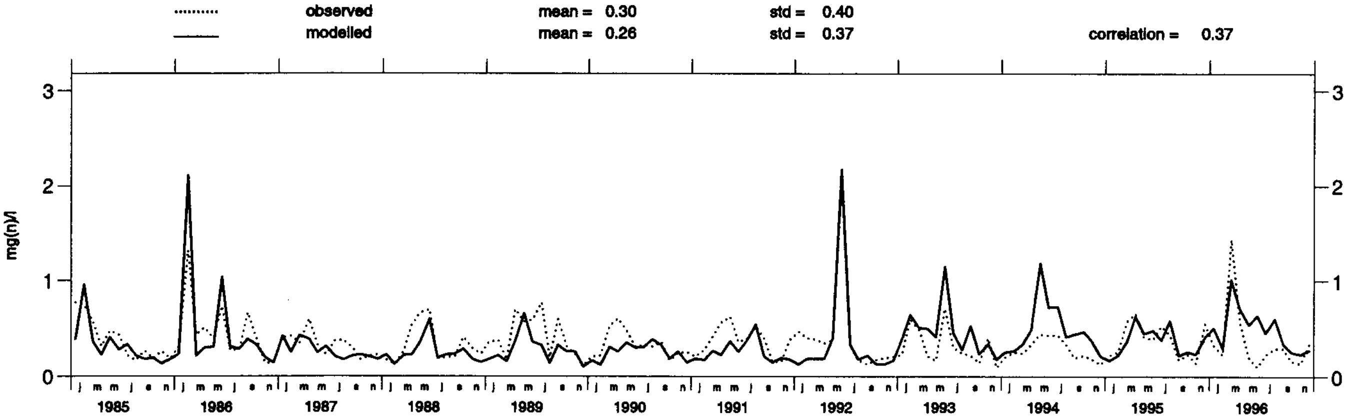
Concentration of ammonium in precipitation

....	observed	mean = 1.58	std = 1.71	
——	modelled	mean = 0.62	std = 0.76	correlation = 0.14



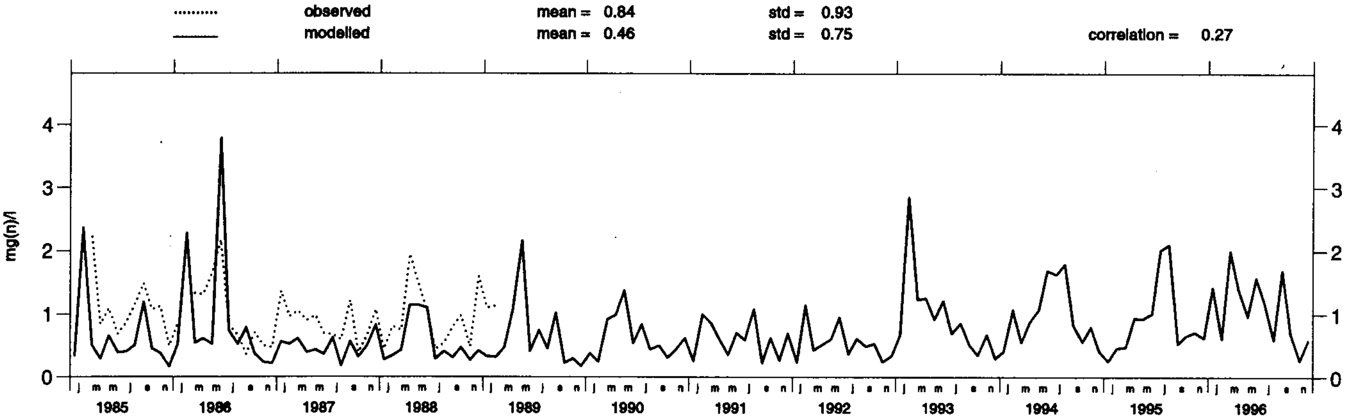
Eskdalemuir (GB 2)

Concentration of ammonium in precipitation



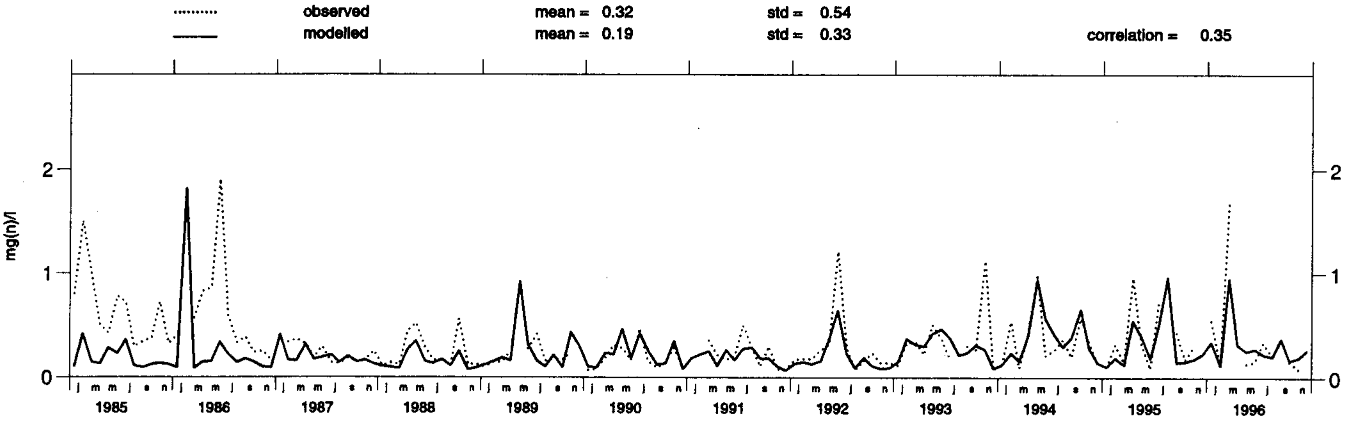
Stoke_Ferry (GB 4)

Concentration of ammonium in precipitation



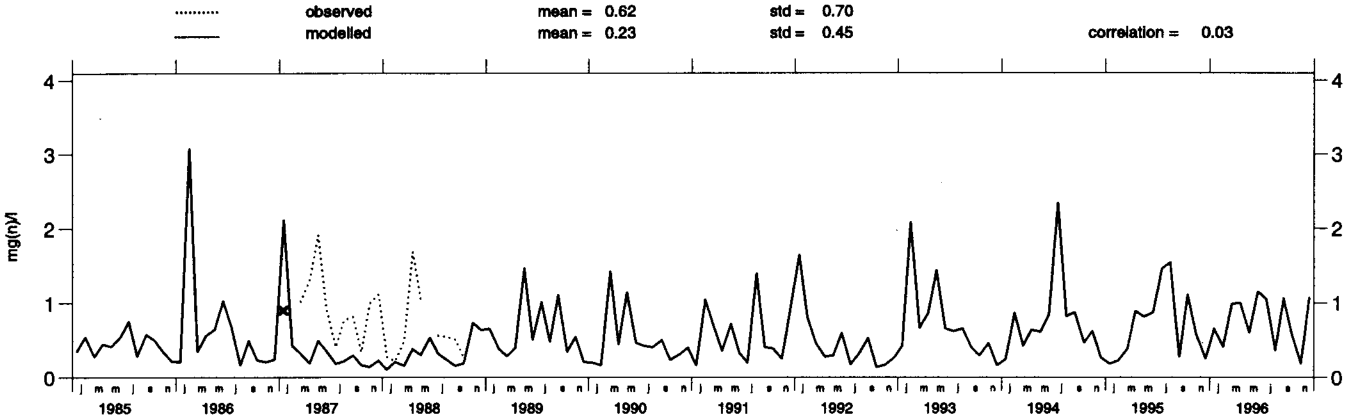
Lough_Navar (GB 6)

Concentration of ammonium in precipitation



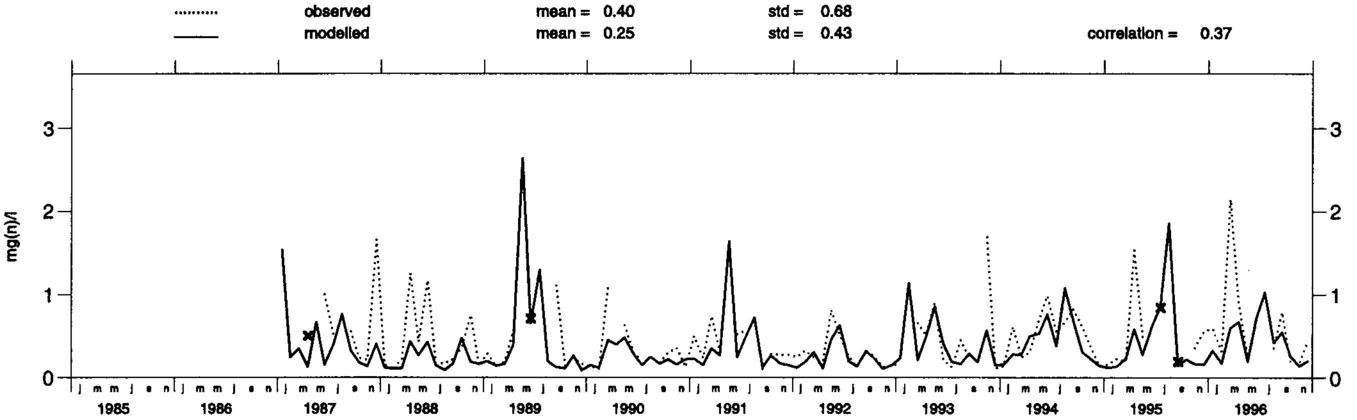
Barcombe_Mills (GB 7)

Concentration of ammonium in precipitation



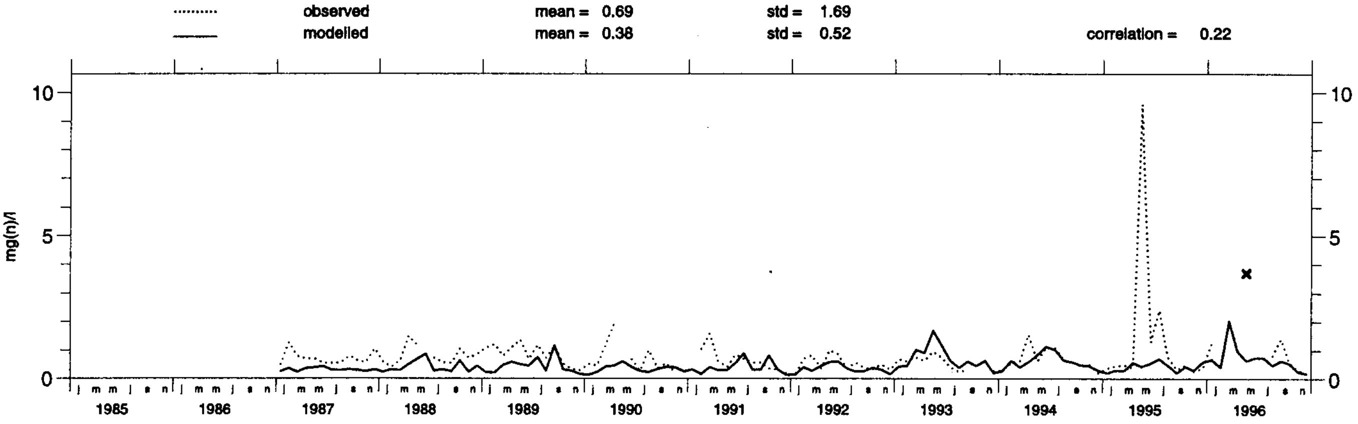
Yarner_Wood (GB 13)

Concentration of ammonium in precipitation



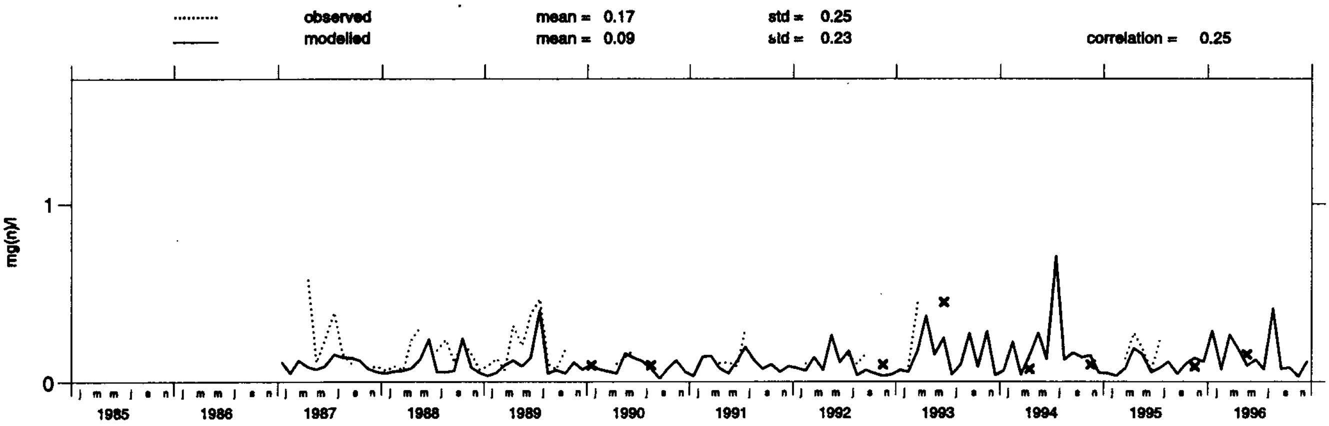
High_Muffles (GB 14)

Concentration of ammonium in precipitation



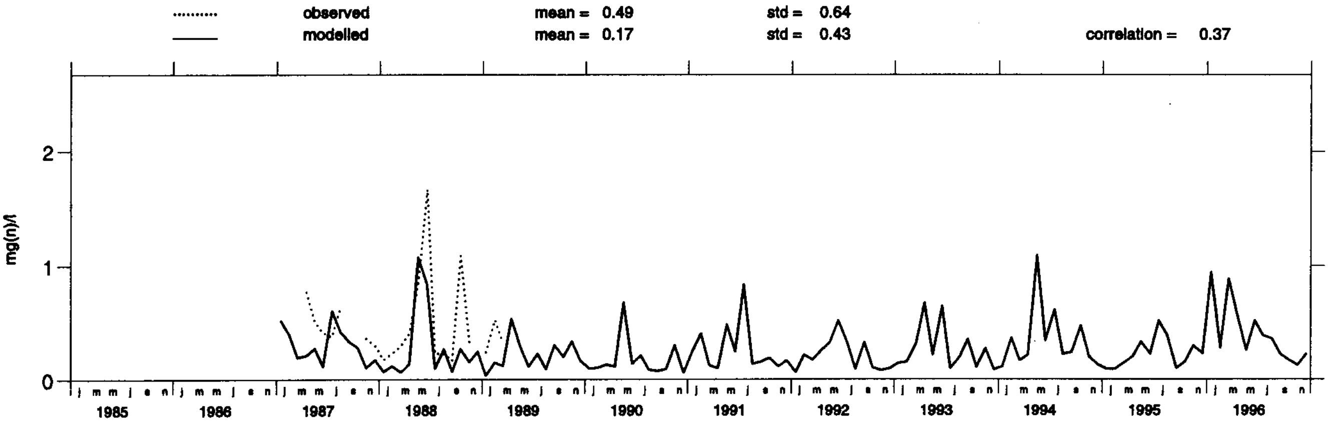
Strath_Vaich_D. (GB 15)

Concentration of ammonium in precipitation



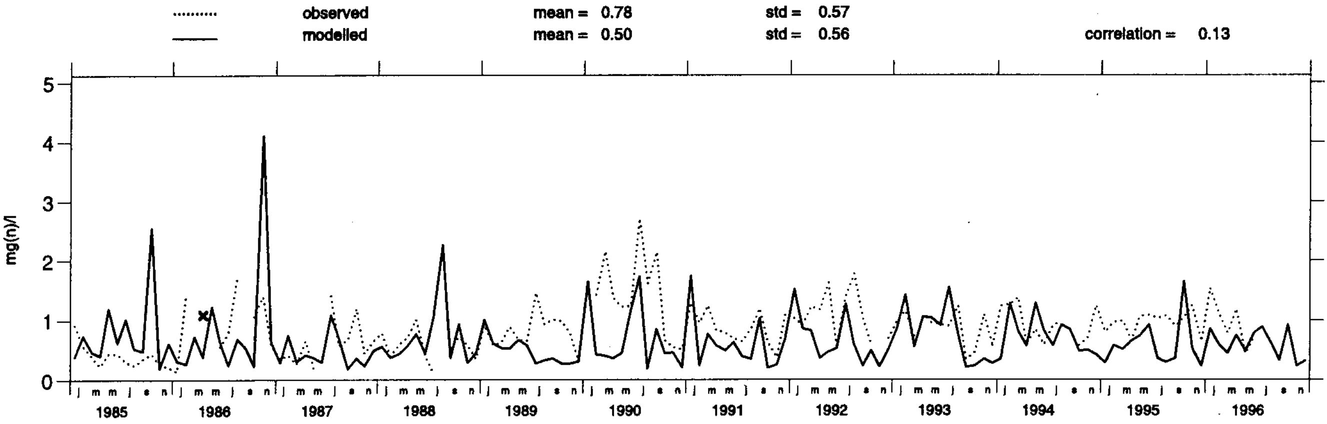
Glen_Dye (GB 16)

Concentration of ammonium in precipitation



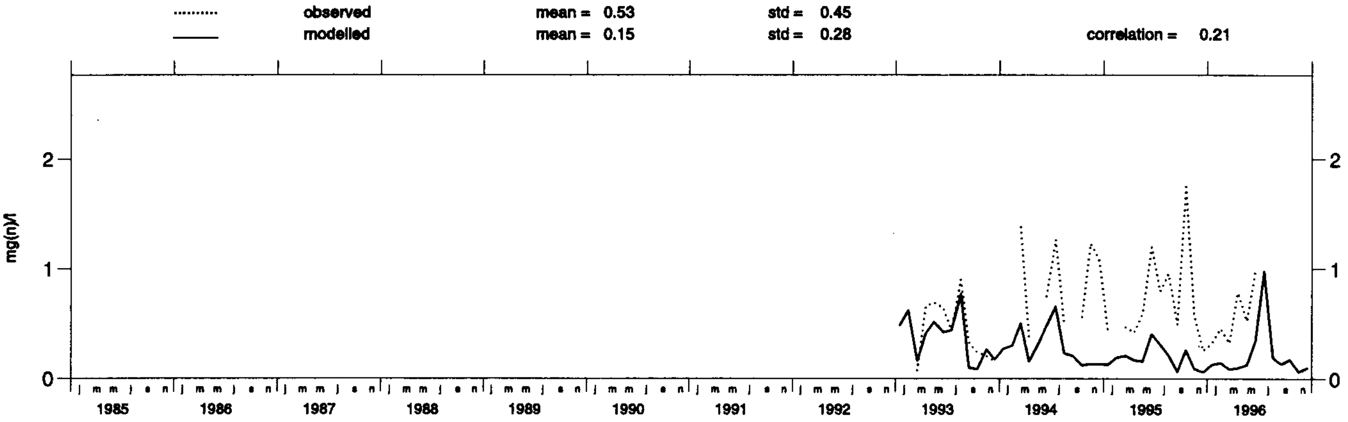
Kamenicki_vis (YU 5)

Concentration of ammonium in precipitation



Zabljak (YU 8)

Concentration of ammonium in precipitation



APPENDIX C:

MAPS OF ANNUALLY AVERAGED AIR CONCENTRATIONS FOR 1996

This Appendix contains the modelled concentration fields of species in air. Estimated fields average for 1996 are presented, the latest year for which official emission data has been received from Governments (for more details of the emission data see Status Report 98/1 Part I, Section 2).

Appendix C presents the following air concentration fields:

Compounds of Oxidised Sulphur:

Sulphur Dioxide
Particulate Sulphate (excluding ammonium sulphate)
Ammonium Sulphate (sulphate part)
Total Particulate Sulphate

Compounds of Oxidised Nitrogen:

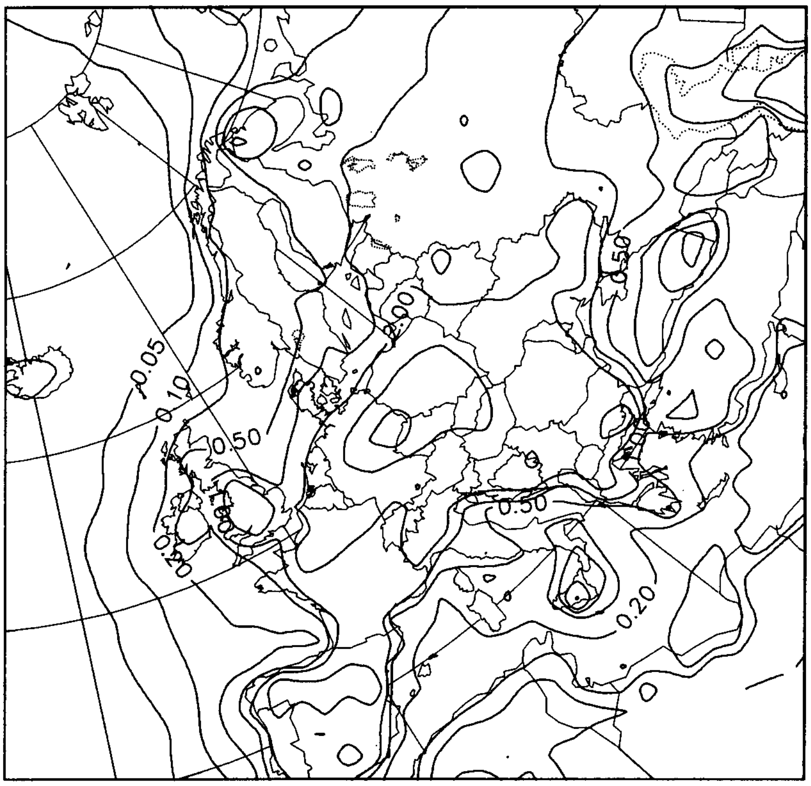
Nitrogen Monoxide
Nitrogen Dioxide
Sum of Nitrogen Oxidies
Peroxyacetyl nitrate (PAN)
Nitric Acid
Particulate Nitrate (excluding ammonium nitrate)
Ammonium Nitrate (nitrate part)
Total Nitrate (gaseous + particulate)
Oxidising Products of Nitrogen (HNO_3+NO_3+PAN)

Compounds of Reduced Nitrogen:

Ammonia
Total Particulate Ammonium

Prepared by Svetlana Tsyro

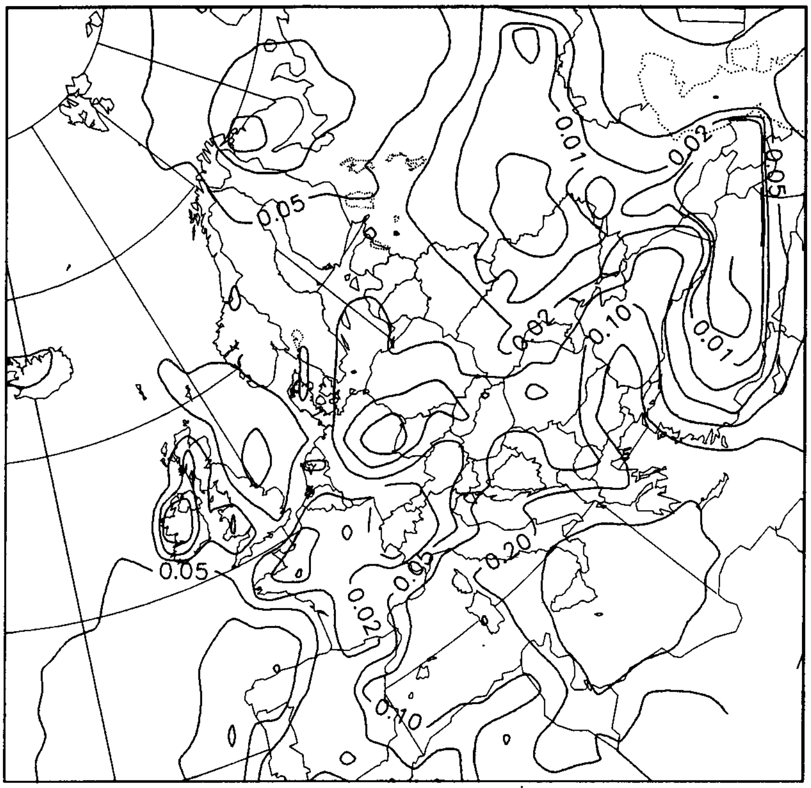
Mean Concentration of Sulphur Dioxide



Year: 1996

Isolines (ug(S)/m3):
0.05
0.1
0.2
0.5
1
2
5
10

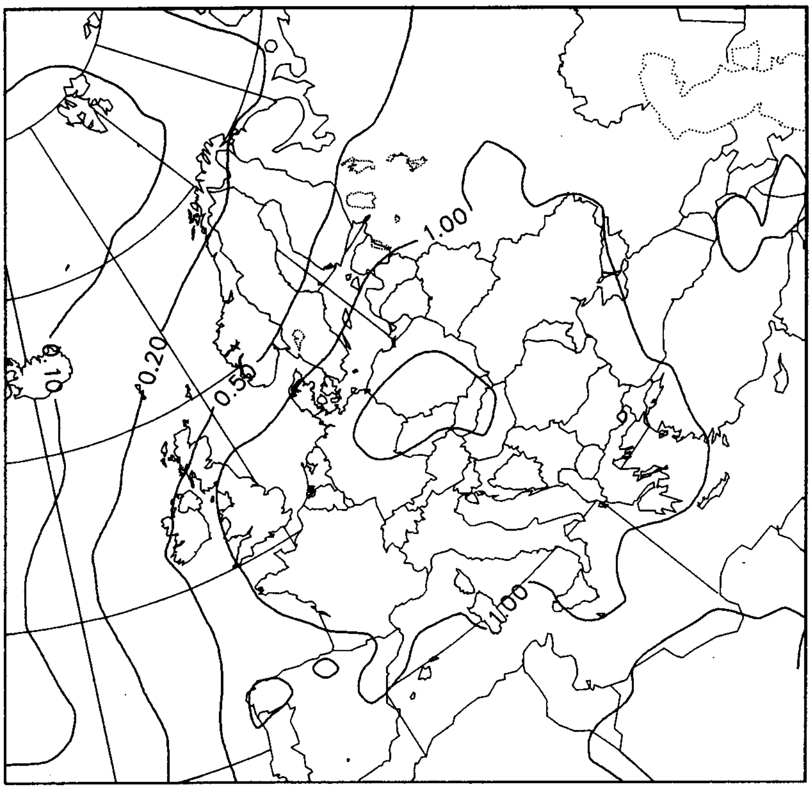
Mean Concentration of Particulate Sulphate (excluding ammonium sulphate)



Year: 1996

Isolines (ug(S)/m3):
0.005
0.01
0.02
0.05
0.1
0.2
0.5

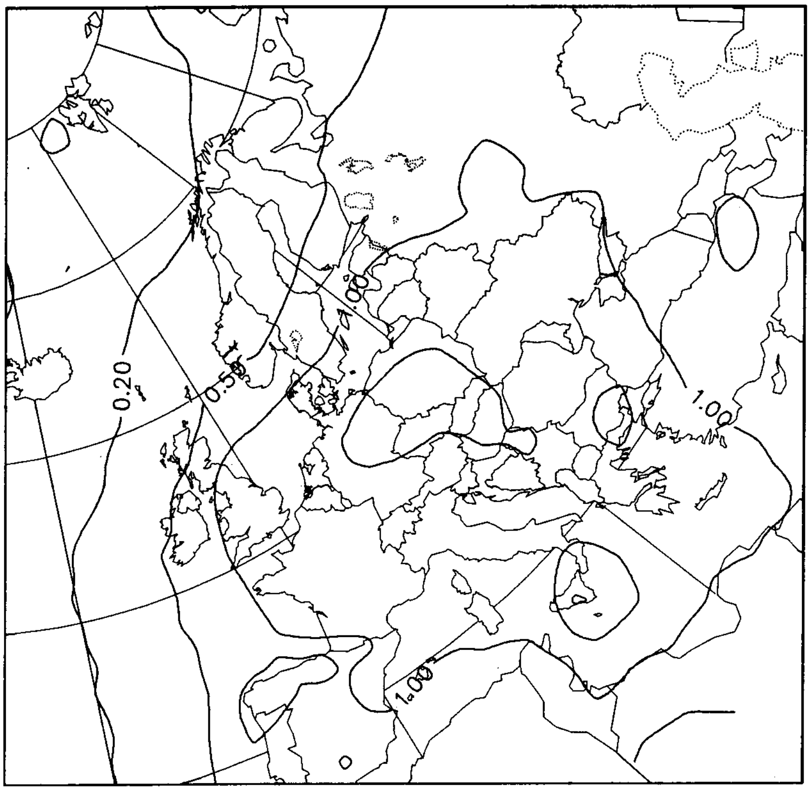
Mean concentration of Ammononium Sulphate (sulphate part)



Year: 1996

Isolines (ug(S)/m3):
0.05
0.1
0.2
0.5
1
2
5

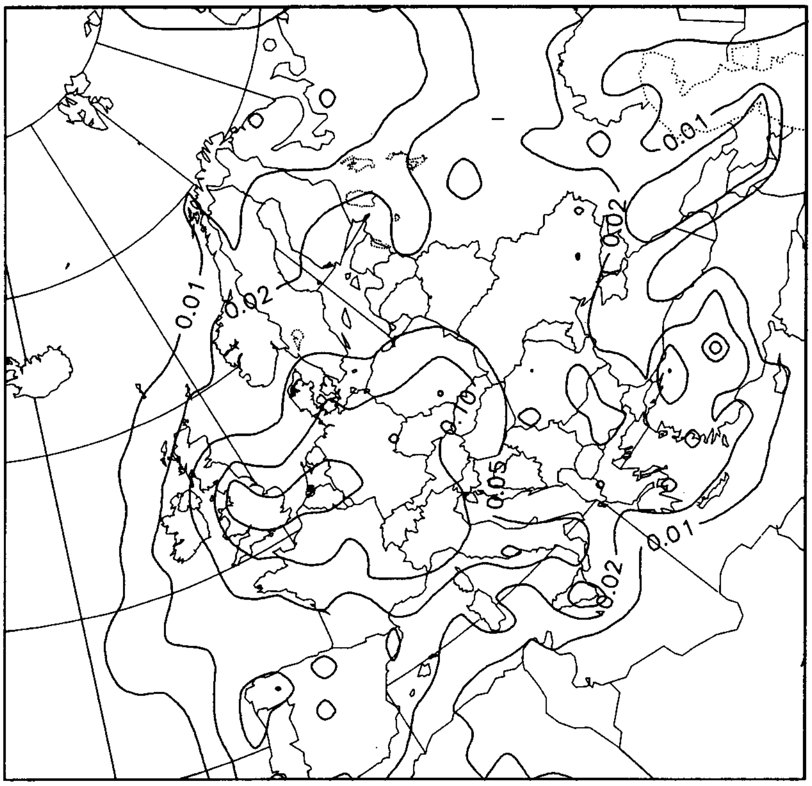
Mean Concentration of Total Particulate Sulphate



Year: 1996

Isolines (ug(S)/m3):
0.1
0.2
0.5
1
2
5

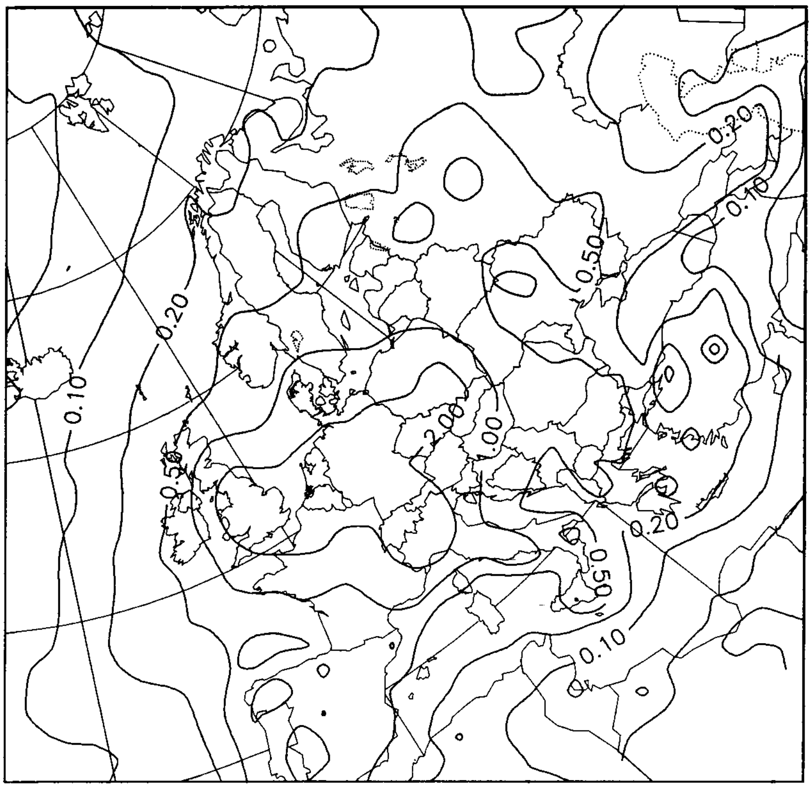
Mean Concentration of Nitrogen Monoxide



Year: 1996

Isolines (ug(N)/m3):
0.01
0.02
0.05
0.1
0.2
0.5

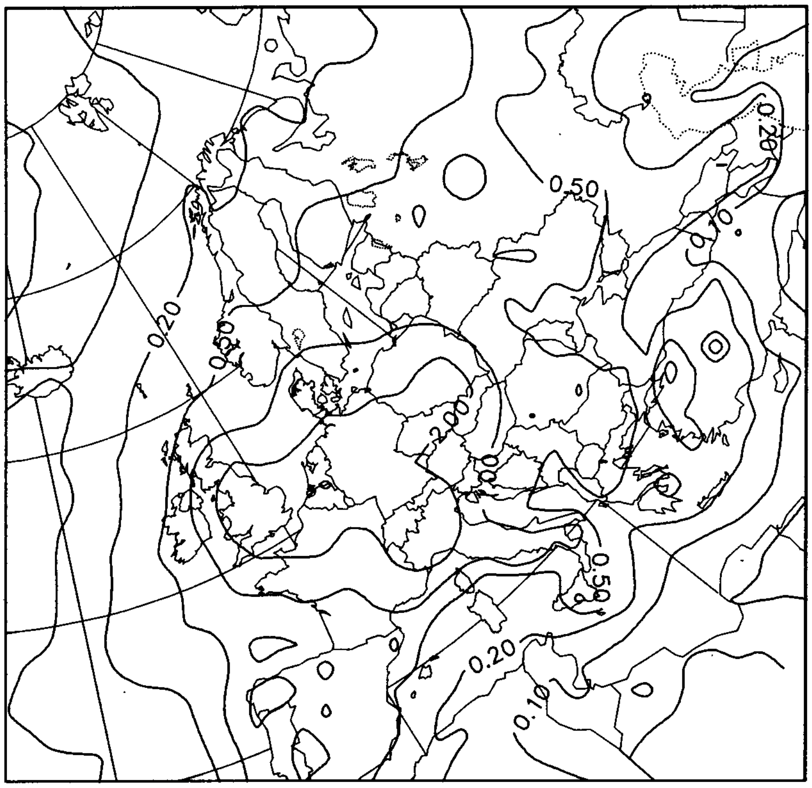
Mean Concentration of Nitrogen Dioxide



Year: 1996

Isolines (ug(N)/m3):
0.05
0.1
0.2
0.5
1
2
5

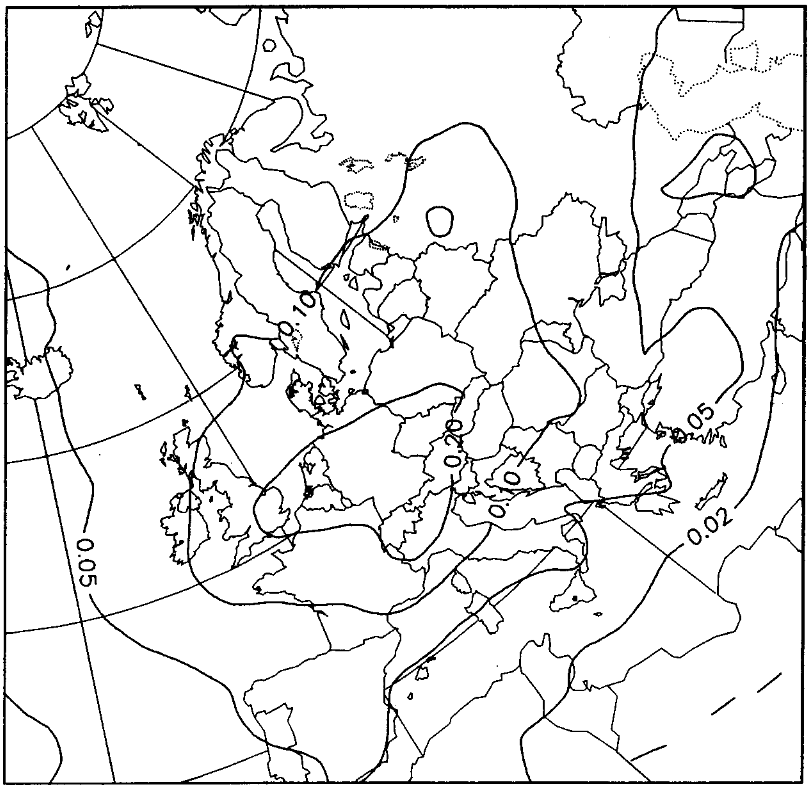
Mean Concentration of Nitrogen Oxides



Year: 1996

Isolines (ug(N)/m3):
0.05
0.1
0.2
0.5
1
2
5

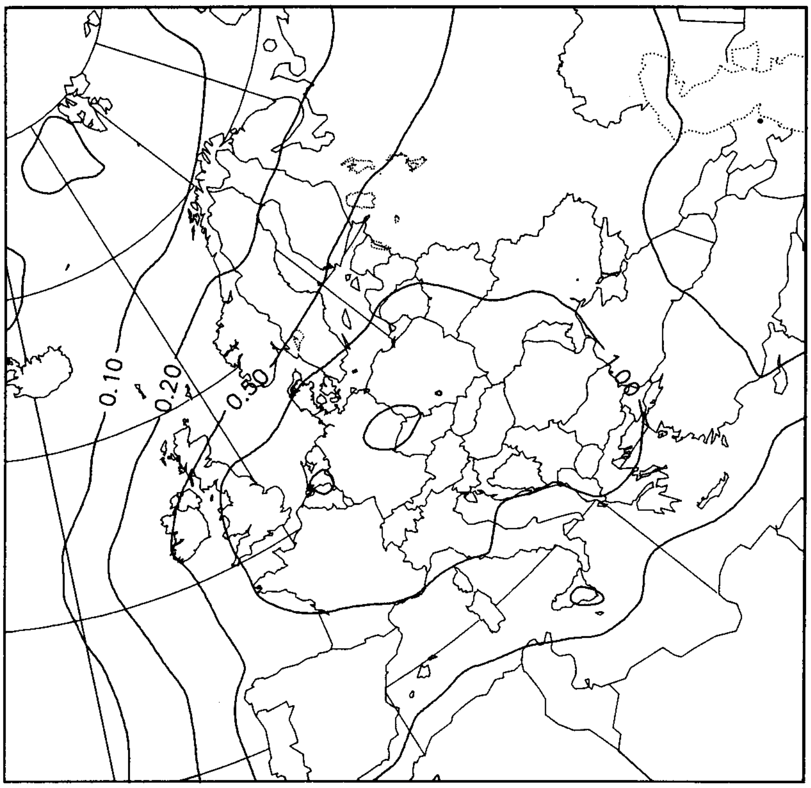
Mean Concentration of Pan



Year: 1996

Isolines (ug(N)/m3):
0.005
0.01
0.02
0.05
0.1
0.2
0.5

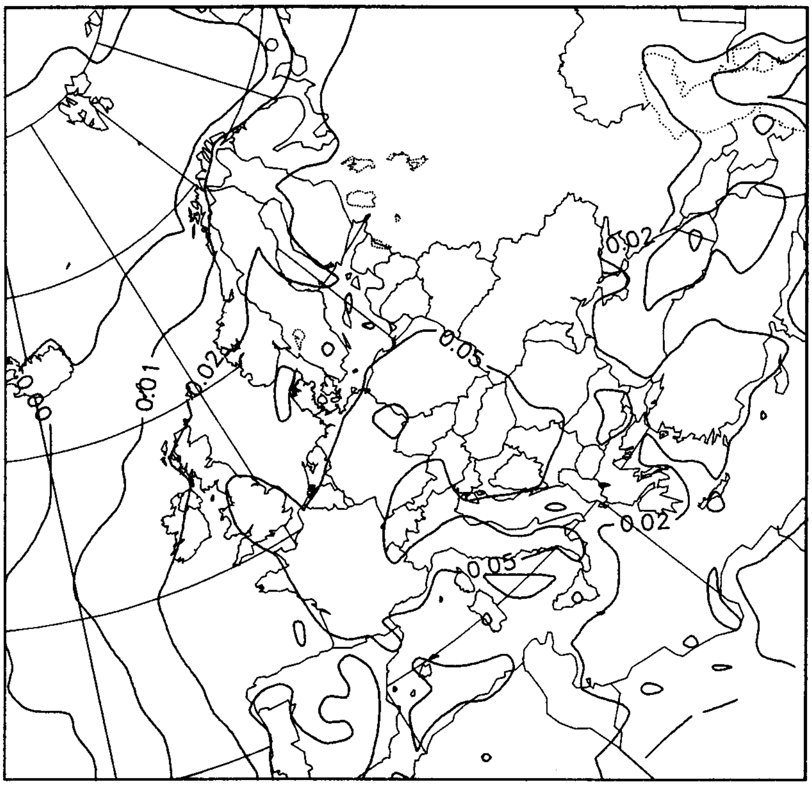
Mean Concentration of Total Particulate Ammonium



Year: 1996

Isolines (ug(N)/m3):
0.05
0.1
0.2
0.5
1
2
5

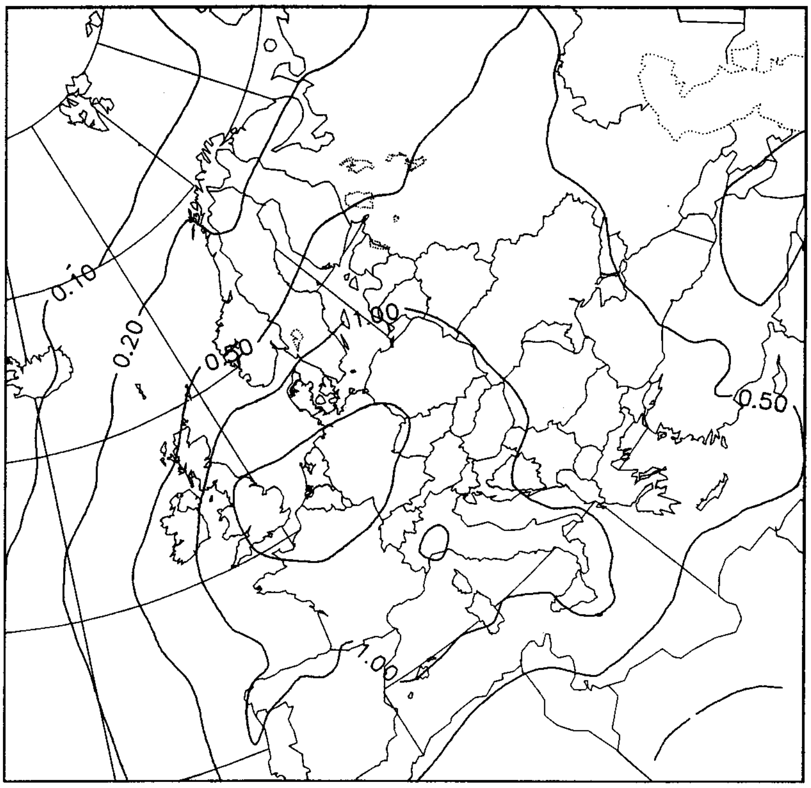
Mean Concentration of Gaseous Nitric Acid



Year: 1996

Isolines (ug(N)/m3):
0.005
0.01
0.02
0.05
0.1
0.2
0.5

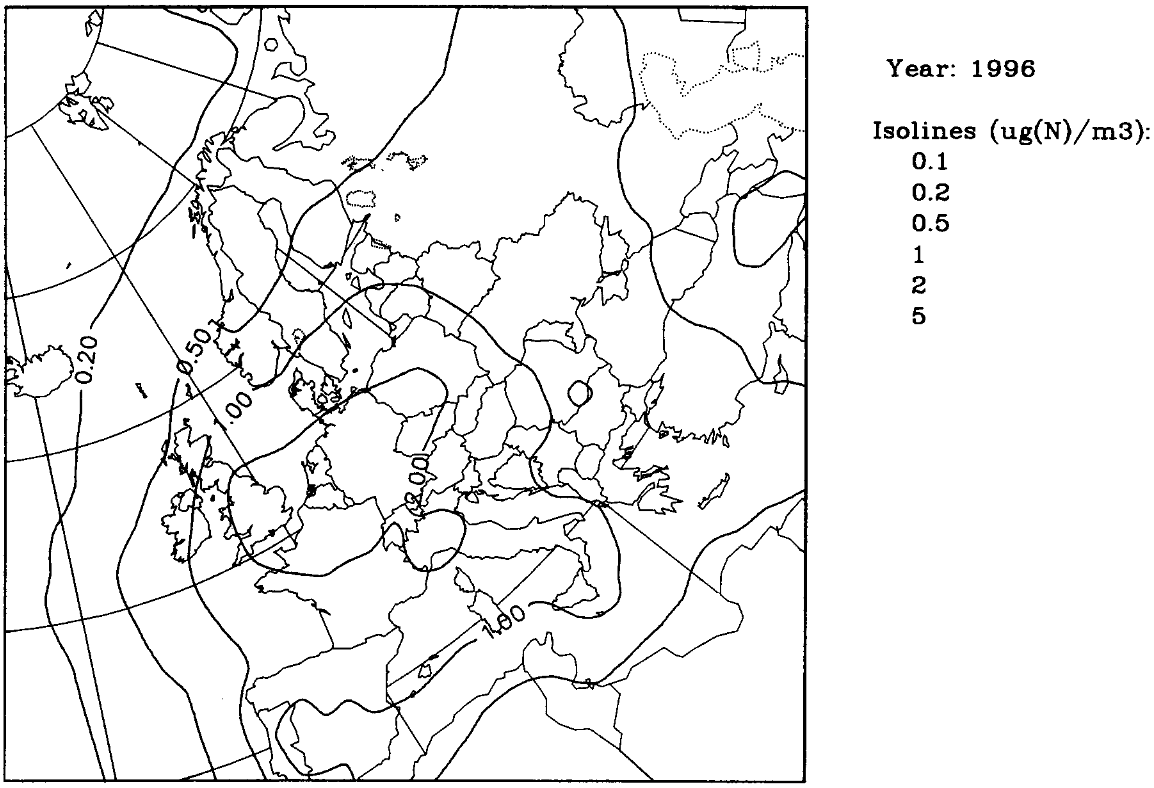
Mean Concentration of Particulate Nitrate (excluding ammonium nitrate)



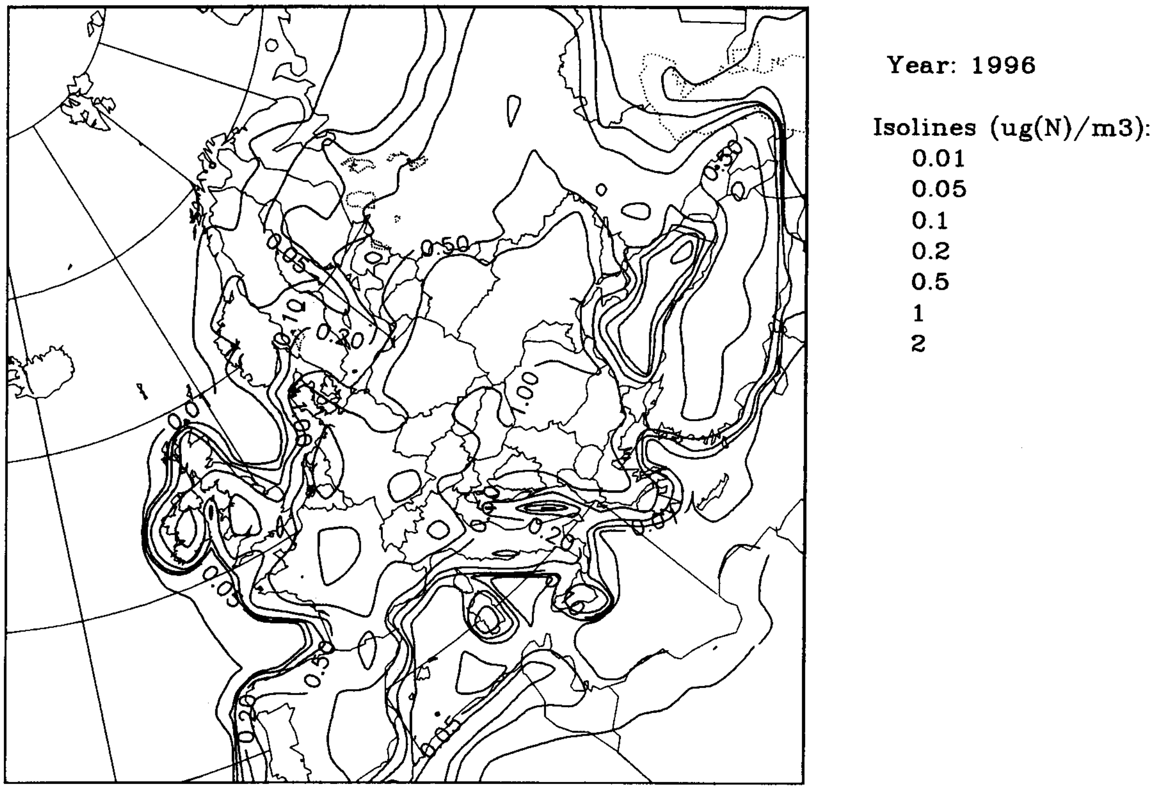
Year: 1996

Isolines (ug(N)/m3):
0.1
0.2
0.5
1
2
5

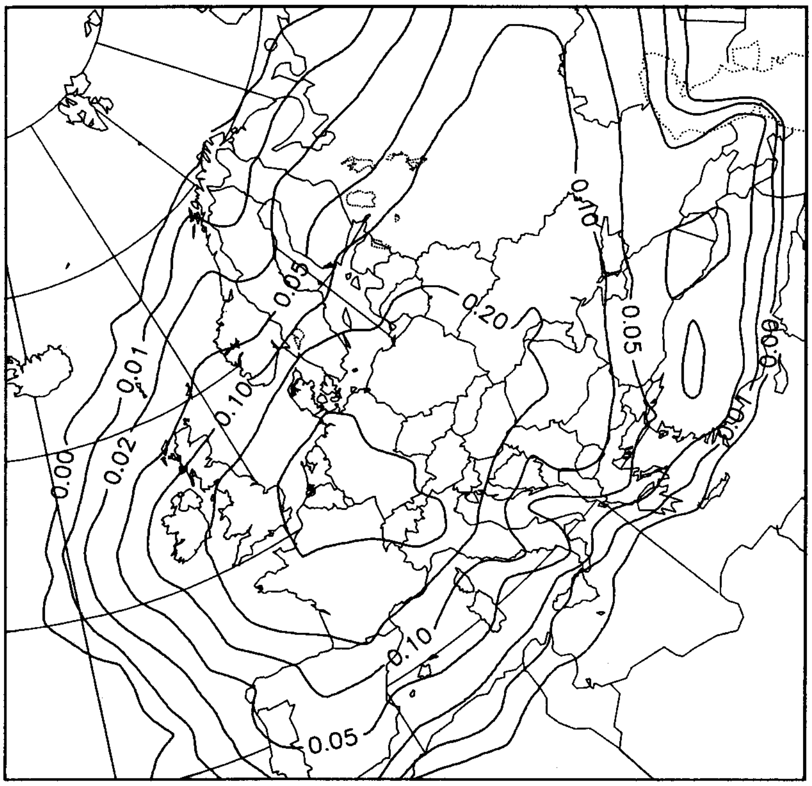
Mean Concentration of Oxidising Products of NOx
(NO3 + HNO3 + PAN)



Mean Concentration of Ammonia



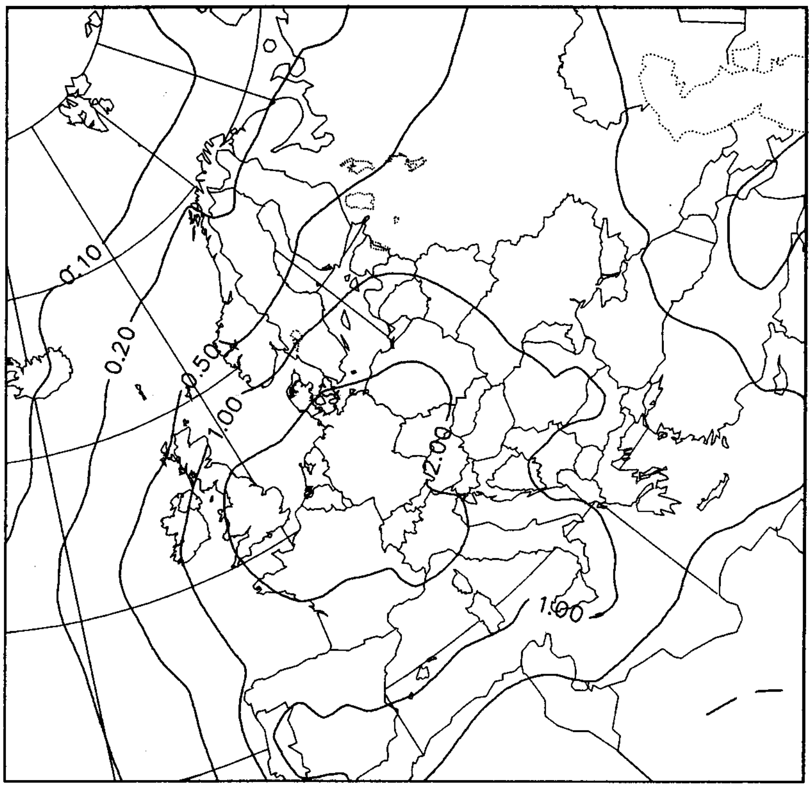
Mean Concentration of Ammonium Nitrate (nitrate part)



Year: 1996

Isolines (ug(N)/m3):
0.005
0.01
0.02
0.05
0.1
0.2
0.5

Mean Concentration of Total Nitrate (gaseous & particulate)



Year: 1996

Isolines (ug(N)/m3):
0.1
0.2
0.5
1
2
5

APPENDIX D:

GRID SQUARE DEPOSITIONS: COUNTRY ALLOCATED AND TOTALS AVERAGED FOR THE PERIOD 1985-1996

D1. 12 years averaged depositions

Country allocated grid square depositions of Oxidised Sulphur (average 1985-96)
Total grid square deposition of Oxidised Sulphur (average 1985-96)

Country allocated grid square depositions of Oxidised Nitrogen (average 1985-96)
Total grid square deposition of Oxidised Nitrogen (average 1985-96)

Country allocated grid square depositions of Reduced Nitrogen (average 1985-96)
Total grid square deposition of Reduced Nitrogen (average 1985-96)

D2. Deposition from Cyprus in 1996

Grid square deposition of Oxidised Sulphur from Cyprus (1996)
Grid square deposition of Oxidised Nitrogen from Cyprus (1996)

The emitting regions and their codes are displayed in the following:

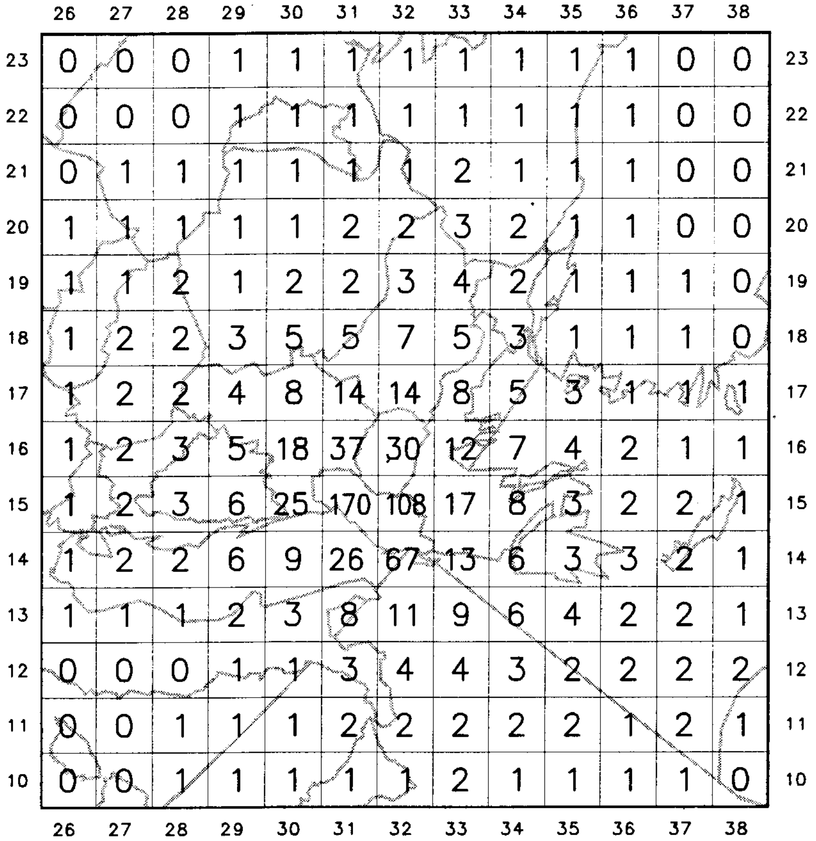
Albania	AL	Netherlands	NL
Austria	AT	Norway	NO
Belarus	BY	Poland	PL
Belgium	BE	Portugal	PT
Bosnia and Herzegovina	BA	Romania	RO
Bulgaria	BG	Russian Federation (European Part)	RU
Croatia	HR	Slovakia	SK
Czech Republic	CS*	Slovenia	SI
former Czechoslovakia	CS	Spain	ES
Cyprus	CY	Sweden	SE
Denmark	DK	Switzerland	CH
Estonia	EE	Turkey	TR
Finland	FI	Ukraine	UA
France	FR	United Kingdom	GB
Germany	DD	former USSR (European part)	SU
Greece	GR	Yugoslavia	YU
Hungary	HU	remaining Land Areas&volcanoes	REM
Iceland	IS	Baltic Sea	BAS
Ireland	IE	Black Sea	BLS
Italy	IT	Mediterranean Sea	MED
Latvia	LV	North Sea	NS
Lithuania	LT	NE Atlantic Ocean	ATL
Luxembourg	LU	Natural marine sources	NAT
Former Republic of Macedonia	FYM	Total inattributable sources	IND
Republic of Moldova	MD	Total attributable sources	SUM

Prepared by Egil Støren and Svetlana Tsyro

Grid square deposition of Oxidised Sulphur:

country allocated and total

Total Deposition of Oxidized Sulphur
Contribution from Albania

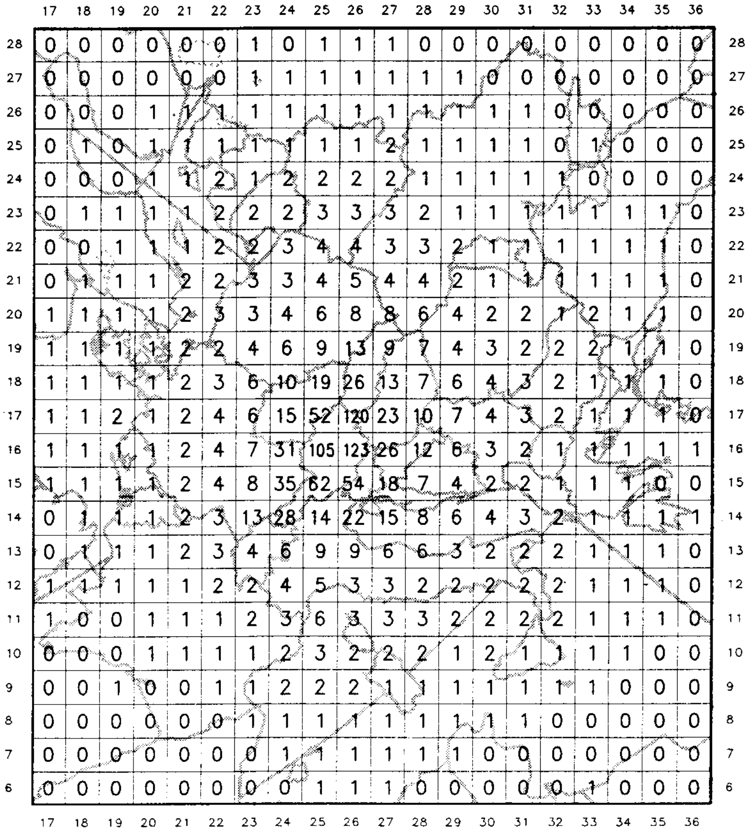


	26	27	28	29	30	31	32	33	34	35	36	37	38	
23	0	0	0	1	1	1	1	1	1	1	1	0	0	23
22	0	0	0	1	1	1	1	1	1	1	1	0	0	22
21	0	1	1	1	1	1	1	2	1	1	1	0	0	21
20	1	1	1	1	1	2	2	3	2	1	1	0	0	20
19	1	1	2	1	2	2	3	4	2	1	1	1	0	19
18	1	2	2	3	5	5	7	5	3	1	1	1	0	18
17	1	2	2	4	8	14	14	8	5	3	1	1	1	17
16	1	2	3	5	18	37	30	12	7	4	2	1	1	16
15	1	2	3	6	25	170	108	17	8	3	2	2	1	15
14	1	2	2	6	9	26	67	13	6	3	3	2	1	14
13	1	1	1	2	3	8	11	9	6	4	2	2	1	13
12	0	0	0	1	1	3	4	4	3	2	2	2	2	12
11	0	0	1	1	1	2	2	2	2	2	1	2	1	11
10	0	0	1	1	1	1	1	2	1	1	1	1	0	10
	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Austria

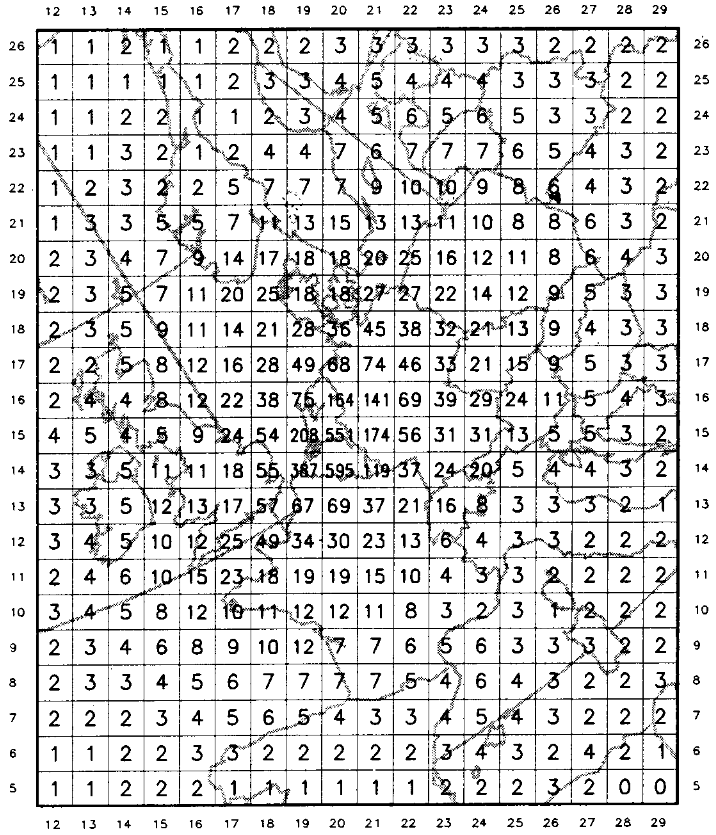


	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
28	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	28
27	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	27
26	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	26
25	0	1	0	1	1	1	1	1	1	1	2	1	1	1	1	0	1	0	0	0	25
24	0	0	0	1	1	2	1	2	2	2	2	1	1	1	1	1	0	0	0	0	24
23	0	1	1	1	1	2	2	2	3	3	3	2	1	1	1	1	1	1	1	0	23
22	0	0	1	1	1	2	2	3	4	4	3	3	2	1	1	1	1	1	1	0	22
21	0	1	1	1	2	2	3	3	4	5	4	4	2	1	1	1	1	1	1	0	21
20	1	1	1	1	2	3	3	4	6	8	8	6	4	2	2	1	2	1	1	0	20
19	1	1	1	1	2	2	4	6	9	13	9	7	4	3	2	2	2	1	1	0	19
18	1	1	1	1	2	3	6	10	19	26	13	7	6	4	3	2	1	1	1	0	18
17	1	1	2	1	2	4	6	15	52	120	23	10	7	4	3	2	1	1	1	0	17
16	1	1	1	1	2	4	7	31	105	123	26	12	6	3	2	1	1	1	1	1	16
15	1	1	1	1	2	4	8	35	62	54	18	7	4	2	2	1	1	1	0	0	15
14	0	1	1	1	2	3	13	28	14	22	15	8	6	4	3	2	1	1	1	1	14
13	0	1	1	1	2	3	4	6	9	9	6	6	3	2	2	2	1	1	1	0	13
12	1	1	1	1	1	2	2	4	5	3	3	2	2	2	2	2	1	1	1	0	12
11	1	0	0	1	1	1	2	3	6	3	3	3	2	2	2	2	1	1	1	0	11
10	0	0	0	1	1	1	1	2	3	2	2	2	1	2	1	1	1	1	0	0	10
9	0	0	1	0	0	1	1	2	2	2	1	1	1	1	1	1	1	0	0	0	9
8	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	8
7	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	7
6	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	6
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Belgium



	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
26	1	1	2	1	1	2	2	2	3	3	3	3	3	3	2	2	2	2	26
25	1	1	1	1	1	2	3	3	4	5	4	4	4	3	3	3	2	2	25
24	1	1	2	2	1	1	2	3	4	5	6	5	6	5	3	3	2	2	24
23	1	1	3	2	1	2	4	4	7	6	7	7	7	6	5	4	3	2	23
22	1	2	3	2	2	5	7	7	7	9	10	10	9	8	6	4	3	2	22
21	1	3	3	5	5	7	11	13	15	13	13	11	10	8	8	6	3	2	21
20	2	3	4	7	9	14	17	18	18	20	25	16	12	11	8	6	4	3	20
19	2	3	5	7	11	20	25	18	18	27	27	22	14	12	9	5	3	3	19
18	2	3	5	9	11	14	21	28	36	45	38	32	21	13	9	4	3	3	18
17	2	2	5	8	12	16	28	49	68	74	46	33	21	15	9	5	3	3	17
16	2	4	4	8	12	22	38	75	164	141	69	39	29	24	11	5	4	3	16
15	4	5	4	5	9	24	54	208	551	174	56	31	31	13	5	5	3	2	15
14	3	3	5	11	11	18	55	387	595	119	37	24	20	5	4	4	3	2	14
13	3	3	5	12	13	17	57	67	69	37	21	16	8	3	3	3	2	1	13
12	3	4	5	10	12	25	49	34	30	23	13	6	4	3	3	2	2	2	12
11	2	4	6	10	15	23	18	19	19	15	10	4	3	3	2	2	2	2	11
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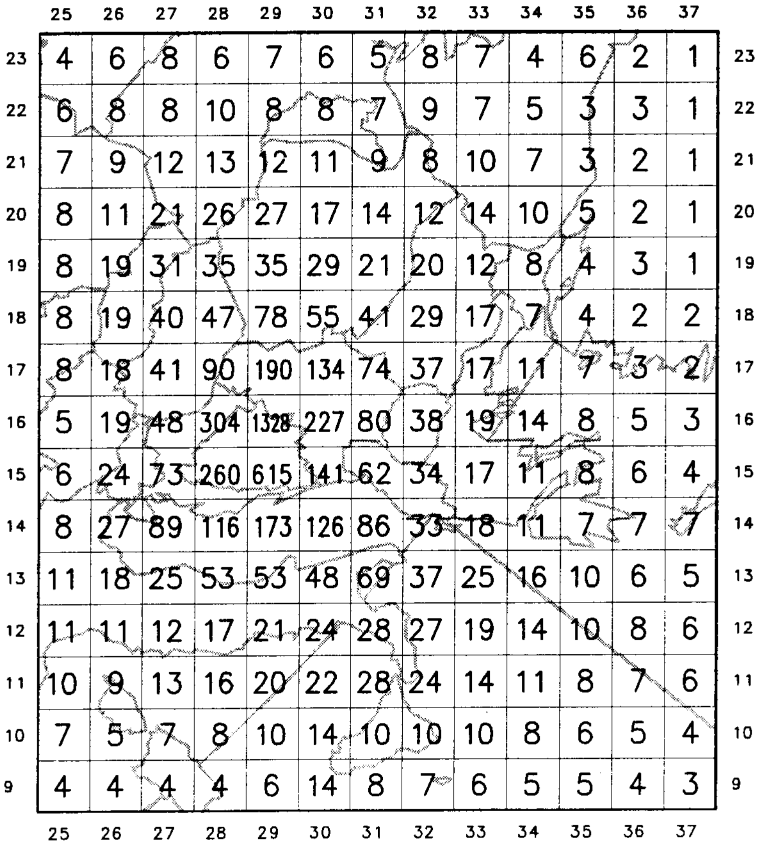
6	1	1	2	2	3	3	2	2	2	2	2	3	4	3	2	4	2	1	6
5	1	1	2	2	2	1	1	1	1	1	1	2	2	2	3	2	0	0	5
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Bosnia & Hercegovina



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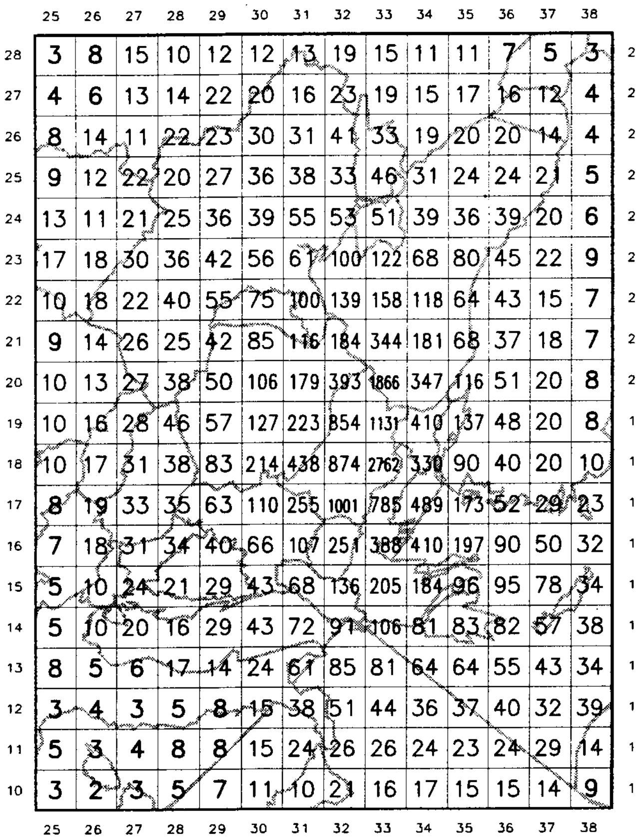
22	6	8	8	10	8	8	7	9	7	5	3	3	1	22
21	7	9	12	13	12	11	9	8	10	7	3	2	1	21
20	8	11	21	26	27	17	14	12	14	10	5	2	1	20
19	8	19	31	35	35	29	21	20	12	8	4	3	1	19
18	8	19	40	47	78	55	41	29	17	7	4	2	2	18
17	8	18	41	90	190	134	74	37	17	11	7	3	2	17
16	5	19	48	304	1328	227	80	38	19	14	8	5	3	16
15	6	24	73	260	615	141	62	34	17	11	8	6	4	15
14	8	27	89	116	173	126	86	33	18	11	7	7	7	14
13	11	18	25	53	53	48	69	37	25	16	10	6	5	13
12	11	11	12	17	21	24	28	27	19	14	10	8	6	12
11	10	9	13	16	20	22	28	24	14	11	8	7	6	11
10	7	5	7	8	10	14	10	10	10	8	6	5	4	10
9	4	4	4	4	6	14	8	7	6	5	5	4	3	9
	25	26	27	28	29	30	31	32	33	34	35	36	37	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Bulgaria



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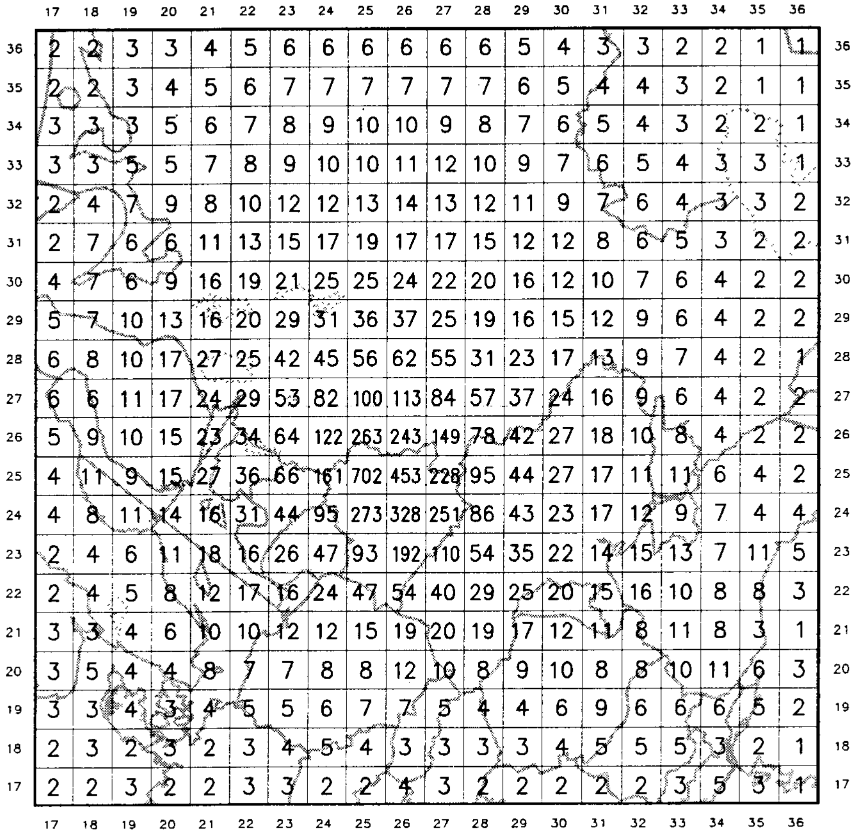
27	4	6	13	14	22	20	16	23	19	15	17	16	12	4
26	8	14	11	22	23	30	31	41	33	19	20	20	14	4
25	9	12	22	20	27	36	38	33	46	31	24	24	21	5
24	13	11	21	25	36	39	55	53	51	39	36	39	20	6
23	17	18	30	36	42	56	61	100	122	68	80	45	22	9
22	10	18	22	40	55	75	100	139	158	118	64	43	15	7
21	9	14	26	25	42	85	116	184	344	181	68	37	18	7
20	10	13	27	38	50	106	179	393	1866	347	116	51	20	8
19	10	16	28	46	57	127	223	854	1131	410	137	48	20	8
18	10	17	31	38	83	214	438	874	2762	330	90	40	20	10
17	8	19	33	35	63	110	255	1001	785	489	173	52	29	23
16	7	18	31	34	40	66	107	251	388	410	197	90	50	32
15	5	10	24	21	29	43	68	136	205	184	96	95	78	34
14	5	10	20	16	29	43	72	91	106	81	83	82	57	38
13	8	5	6	17	14	24	61	85	81	64	64	55	43	34
12	3	4	3	5	8	15	38	51	44	36	37	40	32	39
11	5	3	4	8	8	15	24	26	26	24	23	24	29	14
10	3	2	3	5	7	11	10	21	16	17	15	15	14	9

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Byelorussia



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33	3	3	5	5	7	8	9	10	10	11	12	10	9	7	6	5	4	3	3	1
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29	5	7	10	13	16	20	29	31	36	37	25	19	16	15	12	9	6	4	2	2
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26	5	9	10	15	23	34	64	122	263	243	149	78	42	27	18	10	8	4	2	2
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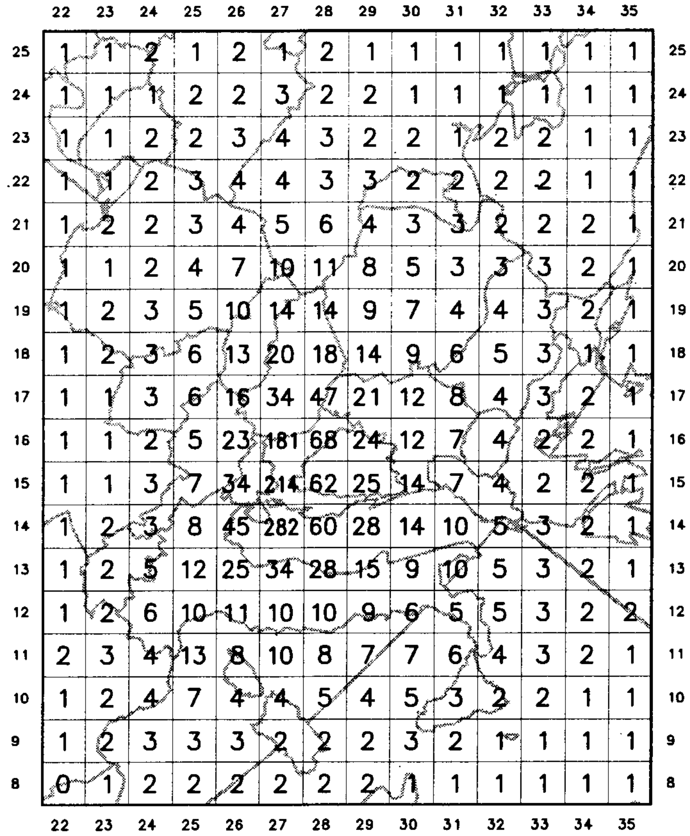
23	2	4	6	11	18	16	26	47	93	192	110	54	35	22	14	15	13	7	11	5
22	2	4	5	8	12	17	16	24	47	54	40	29	25	20	15	16	10	8	8	3
21	3	3	4	6	10	10	12	12	15	19	20	19	17	12	11	8	11	8	3	1
20	3	5	4	4	8	7	7	8	8	12	10	8	9	10	8	8	10	11	6	3
19	3	3	4	3	4	5	5	6	7	7	5	4	4	6	9	6	6	6	5	2
18	2	3	2	3	2	3	4	5	4	3	3	3	3	4	5	5	5	3	2	1
17	2	2	3	2	2	3	3	2	2	4	3	2	2	2	2	2	3	5	3	1

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Croatia



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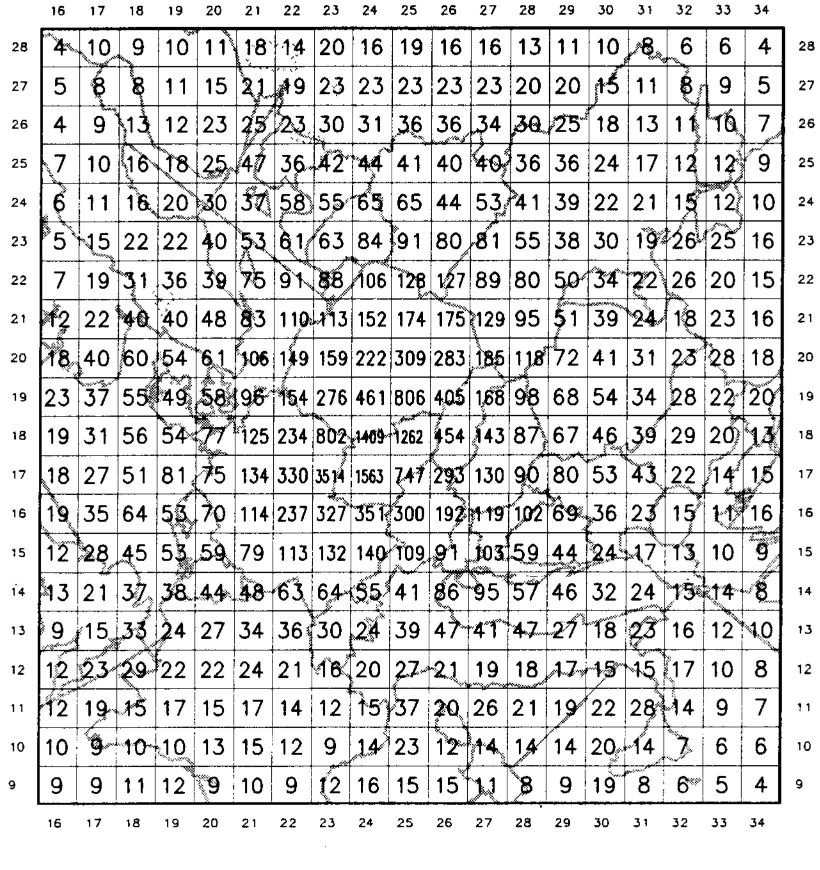
24	1	1	1	2	2	3	2	2	1	1	1	1	1	1	24
23	1	1	2	2	3	4	3	2	2	1	2	2	1	1	23
22	1	1	2	3	4	4	3	3	2	2	2	2	1	1	22
21	1	2	2	3	4	5	6	4	3	3	2	2	2	1	21
20	1	1	2	4	7	10	11	8	5	3	3	3	2	1	20
19	1	2	3	5	10	14	14	9	7	4	4	3	2	1	19
18	1	2	3	6	13	20	18	14	9	6	5	3	1	1	18
17	1	1	3	6	16	34	47	21	12	8	4	3	2	1	17
16	1	1	2	5	23	181	68	24	12	7	4	2	2	1	16
15	1	1	3	7	34	214	62	25	14	7	4	2	2	1	15
14	1	2	3	8	45	282	60	28	14	10	5	3	2	1	14
13	1	2	5	12	25	34	28	15	9	10	5	3	2	1	13
12	1	2	6	10	11	10	10	9	6	5	5	3	2	2	12
11	2	3	4	13	8	10	8	7	7	6	4	3	2	1	11
10	1	2	4	7	4	4	5	4	5	3	2	2	1	1	10
9	1	2	3	3	3	2	2	2	3	2	1	1	1	1	9
8	0	1	2	2	2	2	2	2	1	1	1	1	1	1	8
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Czech Republic



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26	4	9	13	12	23	25	23	30	31	36	36	34	30	25	18	13	11	10	7	26
25	7	10	16	18	25	47	36	42	44	41	40	40	36	36	24	17	12	12	9	25
24	6	11	16	20	30	37	58	55	65	65	44	53	41	39	22	21	15	12	10	24
23	5	15	22	22	40	53	61	63	84	91	80	81	55	38	30	19	26	25	16	23
22	7	19	31	36	39	75	91	88	106	128	127	89	80	50	34	22	26	20	15	22
21	12	22	40	40	48	83	110	113	152	174	175	129	95	51	39	24	18	23	16	21
20	18	40	60	54	61	106	149	159	222	309	283	185	118	72	41	31	23	28	18	20
19	23	37	55	49	58	96	154	276	461	806	405	168	98	68	54	34	28	22	20	19
18	19	31	56	54	77	125	234	802	1409	1262	454	143	87	67	46	39	29	20	13	18
17	18	27	51	81	75	134	330	3514	1563	747	293	130	90	80	53	43	22	14	15	17
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14	13	21	37	38	44	48	63	64	55	41	86	95	57	46	32	24	15	14	8	14
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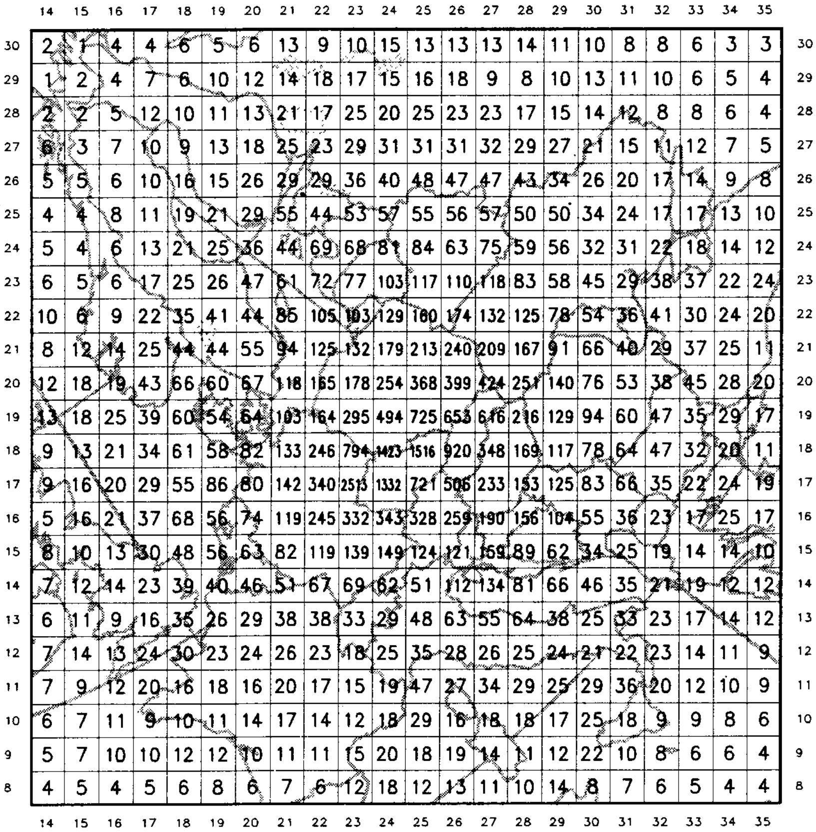
9	9	9	11	12	9	10	9	12	16	15	15	11	8	9	19	8	6	5	4	9
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Czechoslovakia



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29	1	2	4	7	6	10	12	14	18	17	15	16	18	9	8	10	13	11	10	6	5	4	29
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27	6	3	7	10	9	13	18	25	23	29	31	31	31	32	29	27	21	15	11	12	7	5	27
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25	4	4	8	11	19	21	29	55	44	53	57	55	56	57	50	50	34	24	17	17	13	10	25
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23	6	5	6	17	25	26	47	61	72	77	103	117	110	118	83	58	45	29	38	37	22	24	23
22	10	6	9	22	35	41	44	85	105	103	129	160	174	132	125	78	54	36	41	30	24	20	22
21	8	12	14	25	44	44	55	94	125	132	179	213	240	209	167	91	66	40	29	37	25	11	21
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19	13	18	25	39	60	54	64	103	164	295	494	725	653	646	216	129	94	60	47	35	29	17	19
18	9	13	21	34	61	58	82	133	246	794	1423	1516	920	348	169	117	78	64	47	32	20	11	18
17	9	16	20	29	55	86	80	142	340	2513	1332	721	506	233	153	125	83	66	35	22	24	19	17
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15	8	10	13	30	48	56	63	82	119	139	149	124	121	159	89	62	34	25	19	14	14	10	15
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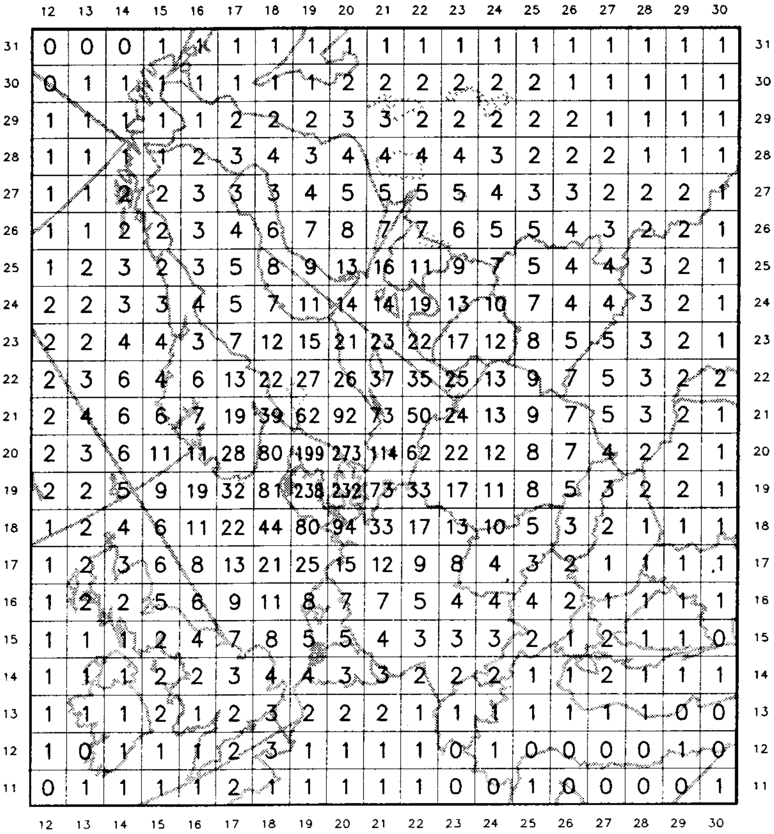
9	5	7	10	10	12	12	10	11	11	15	20	18	19	14	11	12	22	10	8	6	6	4	9
8	4	5	4	5	6	8	6	7	6	12	18	12	13	11	10	14	8	7	6	5	4	4	8
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Denmark



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30	0	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	30
29	1	1	1	1	1	2	2	2	3	3	2	2	2	2	2	1	1	1	1	29
28	1	1	1	1	2	3	4	3	4	4	4	4	3	2	2	2	1	1	1	28
27	1	1	2	2	3	3	3	4	5	5	5	5	4	3	3	2	2	2	1	27
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15	1	1	1	2	4	7	8	5	5	4	3	3	3	2	1	2	1	1	0	15
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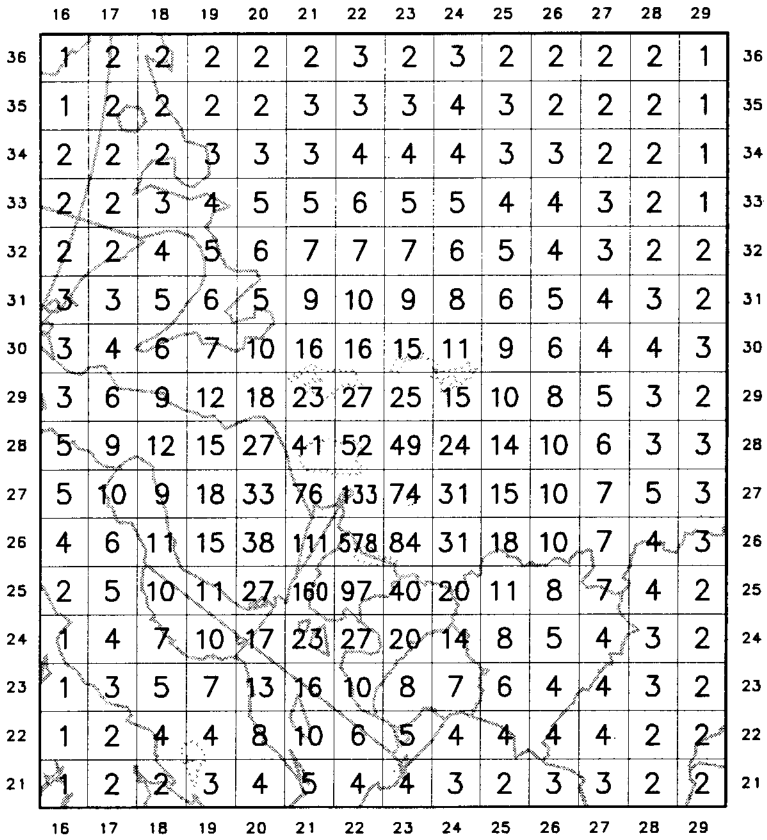
12	1	0	1	1	1	2	3	1	1	1	1	0	1	0	0	0	0	1	0	12
11	0	1	1	1	1	2	1	1	1	1	1	0	0	1	0	0	0	0	1	11
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Estonia



Annual average between 1985 and 1996

Units: mg(S)/m2

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
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35	1	2	2	2	2	3	3	3	4	3	2	2	2	1	35
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32	2	2	4	5	6	7	7	7	6	5	4	3	2	2	32
31	3	3	5	6	5	9	10	9	8	6	5	4	3	2	31
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29	3	6	9	12	18	23	27	25	15	10	8	5	3	2	29
28	5	9	12	15	27	41	52	49	24	14	10	6	3	3	28
27	5	10	9	18	33	76	133	74	31	15	10	7	5	3	27
26	4	6	11	15	38	111	578	84	31	18	10	7	4	3	26
25	2	5	10	11	27	160	97	40	20	11	8	7	4	2	25
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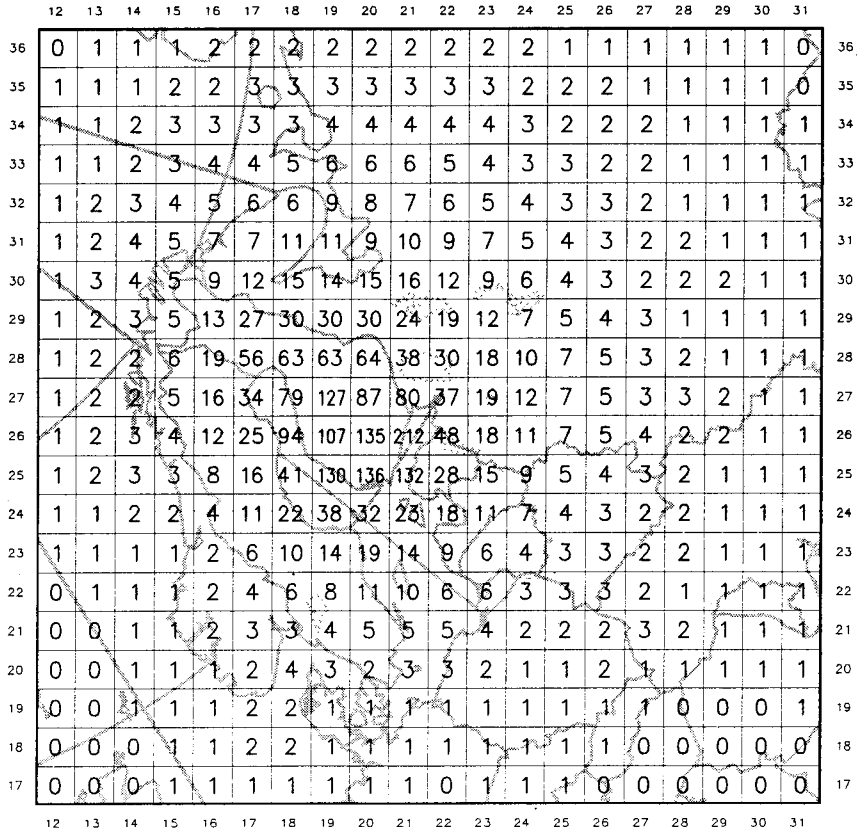
23	1	3	5	7	13	16	10	8	7	6	4	4	3	2	23
22	1	2	4	4	8	10	6	5	4	4	4	4	2	2	22
21	1	2	2	3	4	5	4	4	3	2	3	3	2	2	21
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

Total Deposition of Oxidized Sulphur Contribution from Finland



Annual average between 1985 and 1996

Units: mg(S)/m2

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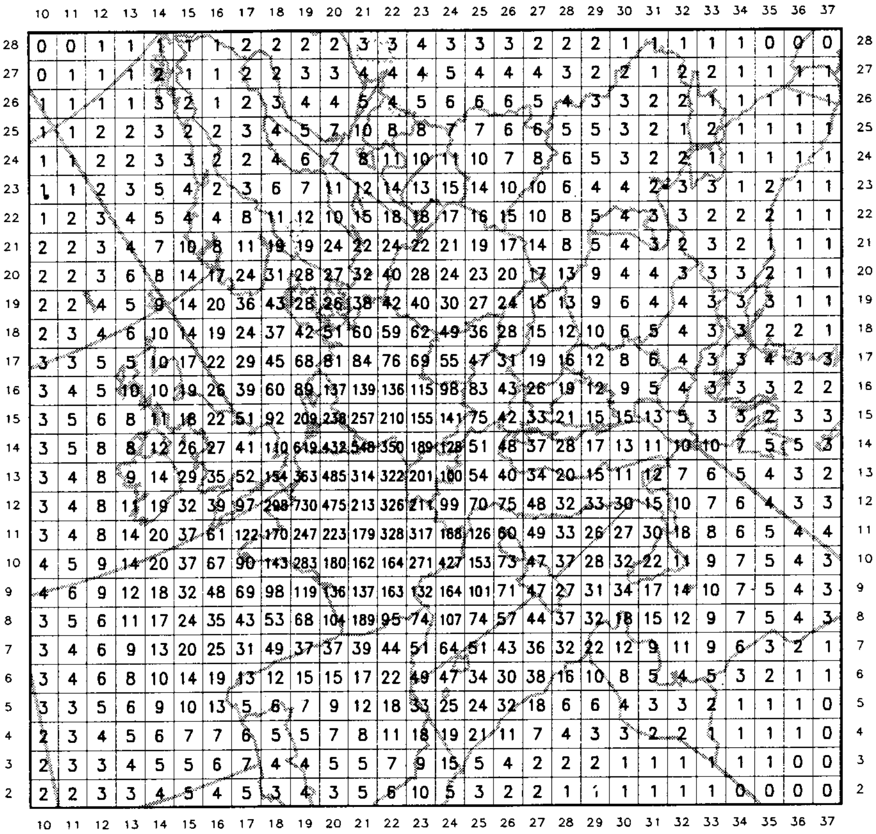
Total Deposition of Oxidized Sulphur
Contribution from France



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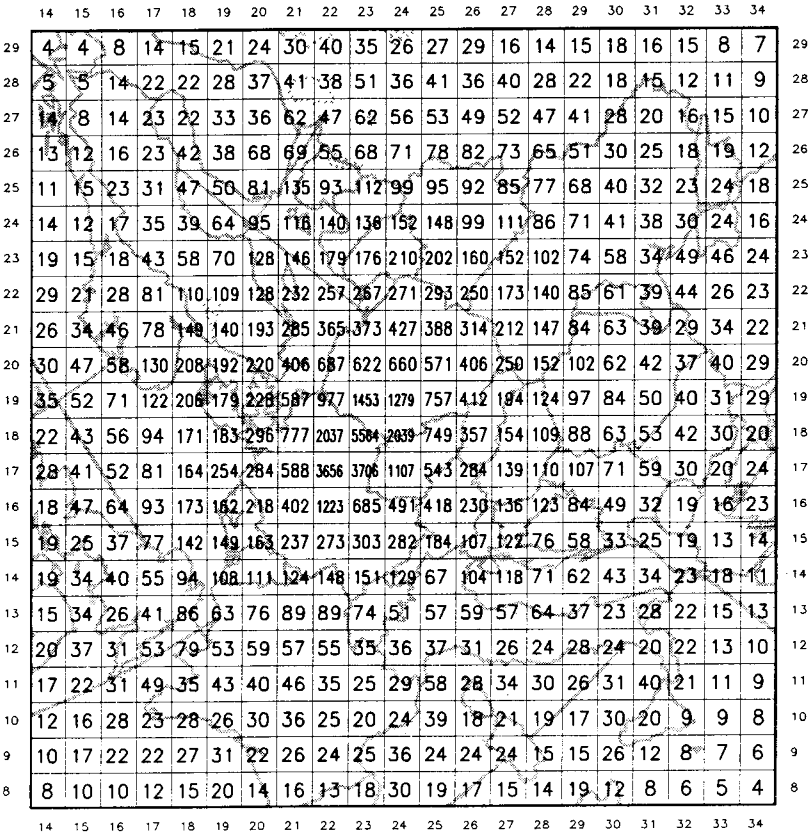
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from German Democratic Republic



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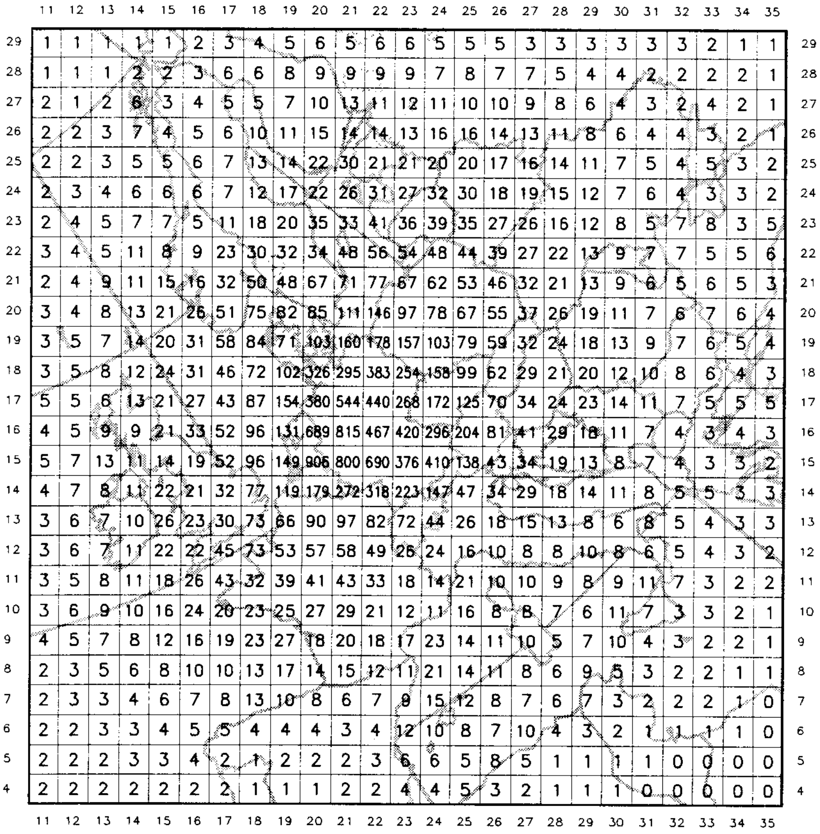
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Federal Republic of Germany



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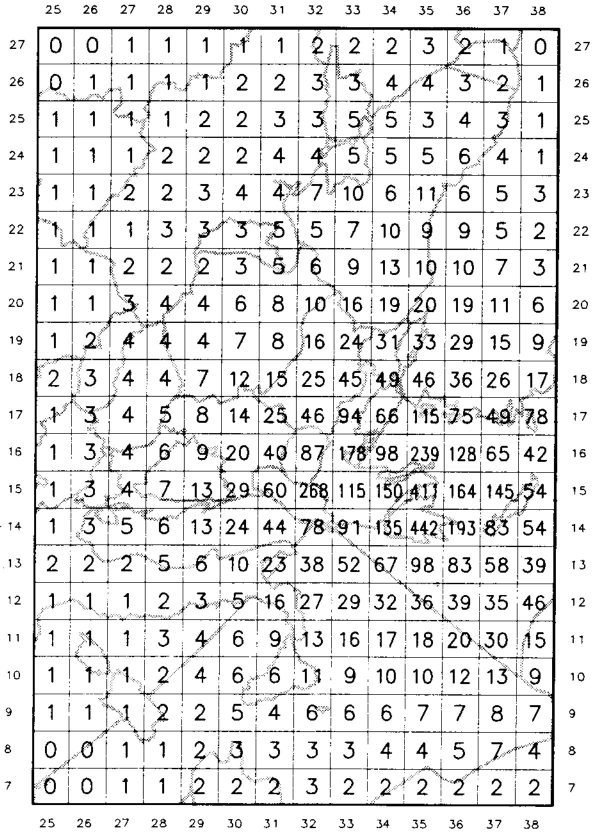
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Greece



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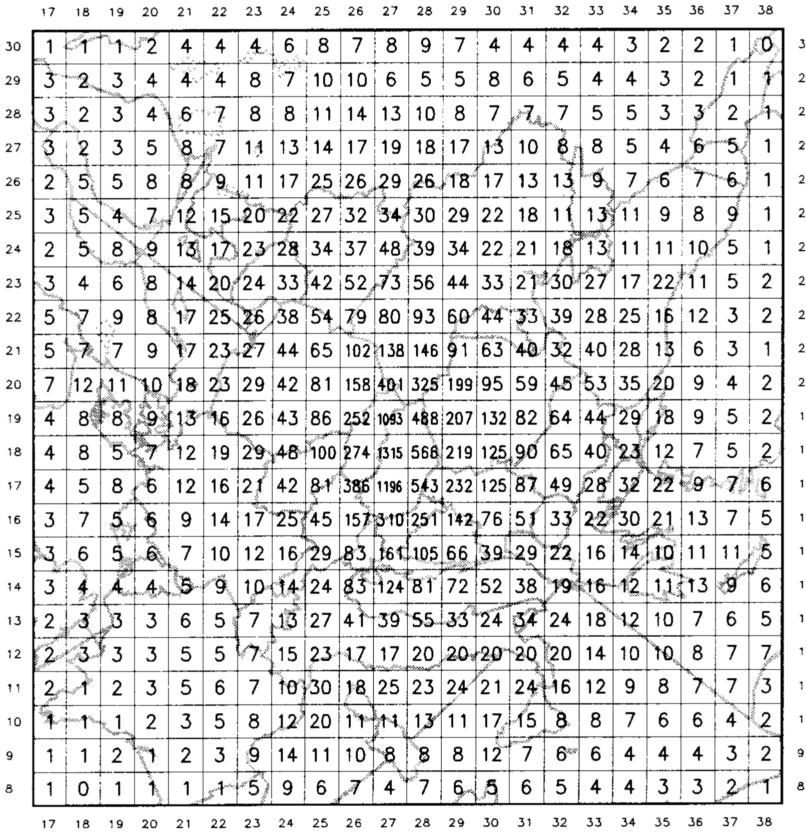
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Hungary



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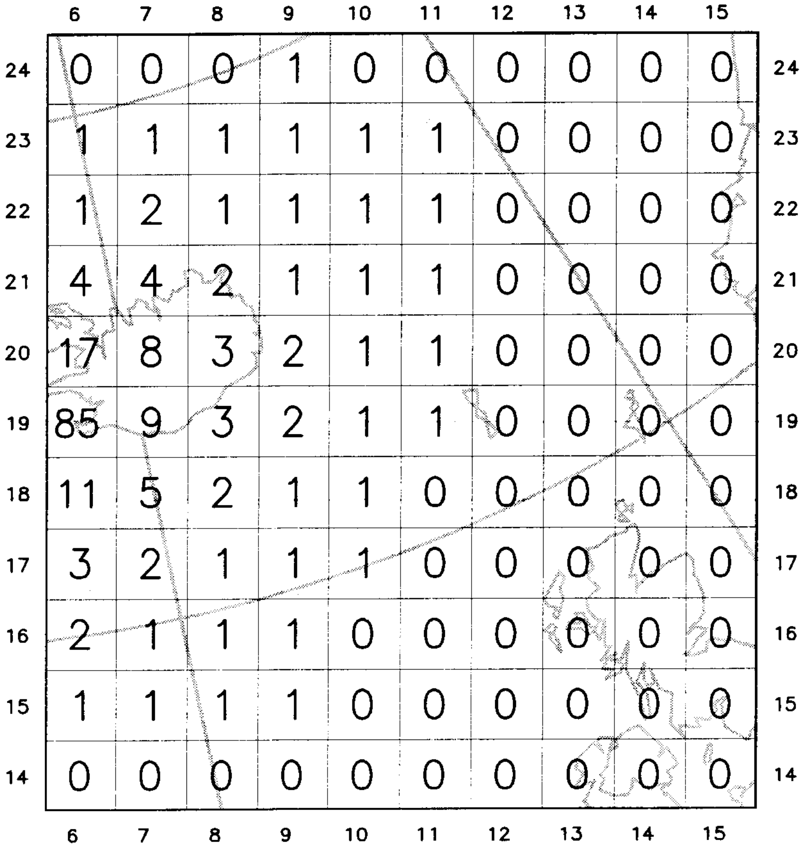
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Iceland



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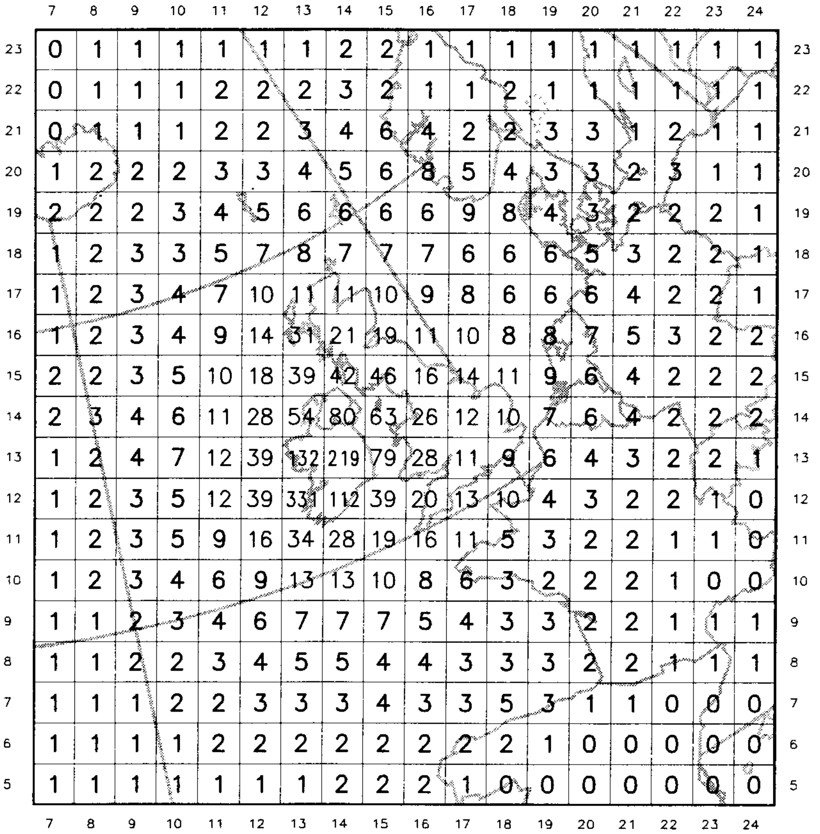
22	1	2	1	1	1	1	0	0	0	0	22
21	4	4	2	1	1	1	0	0	0	0	21
20	17	8	3	2	1	1	0	0	0	0	20
19	85	9	3	2	1	1	0	0	0	0	19
18	11	5	2	1	1	0	0	0	0	0	18
17	3	2	1	1	1	0	0	0	0	0	17
16	2	1	1	1	0	0	0	0	0	0	16
15	1	1	1	1	0	0	0	0	0	0	15
14	0	0	0	0	0	0	0	0	0	0	14
	6	7	8	9	10	11	12	13	14	15	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from the Republic of Ireland

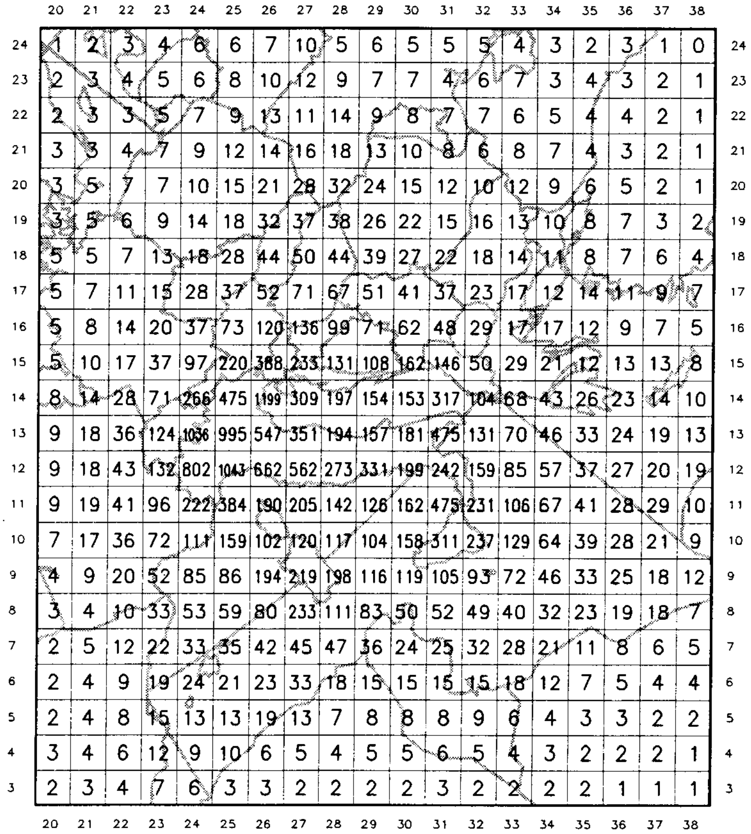


	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
23	0	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1
22	0	1	1	1	2	2	2	3	2	1	1	2	1	1	1	1	1	1
21	0	1	1	1	2	2	3	4	6	4	2	2	3	3	1	2	1	1
20	1	2	2	2	3	3	4	5	6	8	5	4	3	3	2	3	1	1
19	2	2	2	3	4	5	6	6	6	6	9	8	4	3	2	2	2	1
18	1	2	3	3	5	7	8	7	7	7	6	6	6	5	3	2	2	1
17	1	2	3	4	7	10	11	11	10	9	8	6	6	6	4	2	2	1
16	1	2	3	4	9	14	31	21	19	11	10	8	8	7	5	3	2	2
15	2	2	3	5	10	18	39	42	46	16	14	11	9	6	4	2	2	2
14	2	3	4	6	11	28	54	80	63	26	12	10	7	6	4	2	2	2
13	1	2	4	7	12	39	132	219	79	28	11	9	6	4	3	2	2	1
12	1	2	3	5	12	39	331	112	39	20	13	10	4	3	2	2	1	0
11	1	2	3	5	9	16	34	28	19	16	11	5	3	2	2	1	1	0
10	1	2	3	4	6	9	13	13	10	8	6	3	2	2	2	1	0	0
9	1	1	2	3	4	6	7	7	7	5	4	3	3	2	2	1	1	1
8	1	1	2	2	3	4	5	5	4	4	3	3	3	2	2	1	1	1
7	1	1	1	2	2	3	3	3	4	3	3	5	3	1	1	0	0	0
6	1	1	1	1	2	2	2	2	2	2	2	2	1	0	0	0	0	0
5	1	1	1	1	1	1	1	2	2	2	1	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Italy



	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
24	1	2	3	4	6	6	7	10	5	6	5	5	5	4	3	2	3	1	0
23	2	3	4	5	6	8	10	12	9	7	7	4	6	7	3	4	3	2	1
22	2	3	3	5	7	9	13	11	14	9	8	7	7	6	5	4	4	2	1
21	3	3	4	7	9	12	14	16	18	13	10	8	6	8	7	4	3	2	1
20	3	5	7	7	10	15	21	28	32	24	15	12	10	12	9	6	5	2	1
19	3	5	6	9	14	18	32	37	38	26	22	15	16	13	10	8	7	3	2
18	5	5	7	13	18	28	44	50	44	39	27	22	18	14	11	8	7	6	4
17	5	7	11	15	28	37	52	71	67	51	41	37	23	17	12	14	11	9	7
16	5	8	14	20	37	73	120	136	99	71	62	48	29	17	17	12	9	7	5
15	5	10	17	37	97	220	368	233	131	108	162	146	50	29	21	12	13	13	8
14	8	14	28	71	266	475	1199	309	197	154	153	317	104	68	43	26	23	14	10
13	9	18	36	124	1036	995	547	351	194	157	181	475	131	70	46	33	24	19	13
12	9	18	43	132	802	1043	662	562	273	331	199	242	159	85	57	37	27	20	19
11	9	19	41	96	222	384	190	205	142	126	162	475	231	106	67	41	28	29	10
10	7	17	36	72	111	159	102	120	117	104	158	311	237	129	64	39	28	21	9
9	4	9	20	52	85	86	194	219	198	116	119	105	93	72	46	33	25	18	12
8	3	4	10	33	53	59	80	233	111	83	50	52	49	40	32	23	19	18	7
7	2	5	12	22	33	35	42	45	47	36	24	25	32	28	21	11	8	6	5
6	2	4	9	19	24	21	23	33	18	15	15	15	15	18	12	7	5	4	4
5	2	4	8	15	13	13	19	13	7	8	8	8	9	6	4	3	3	2	2
4	3	4	6	12	9	10	6	5	4	5	5	6	5	4	3	2	2	2	1
3	2	3	4	7	6	3	3	2	2	2	2	3	2	2	2	2	1	1	1

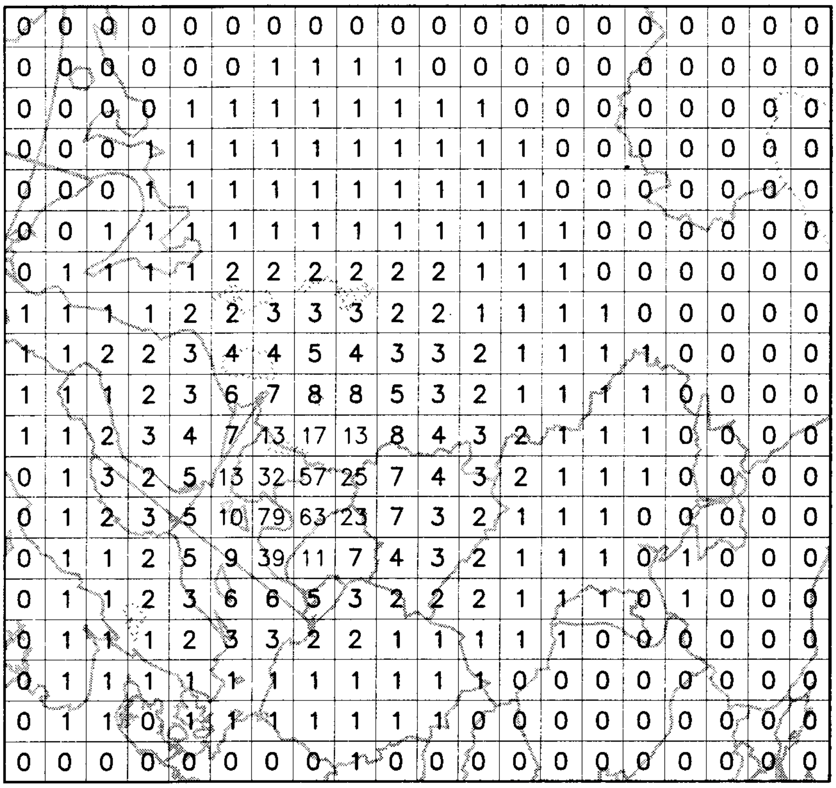
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Latvia

Annual average
between
1985 and 1996

Units: mg(S)/m2

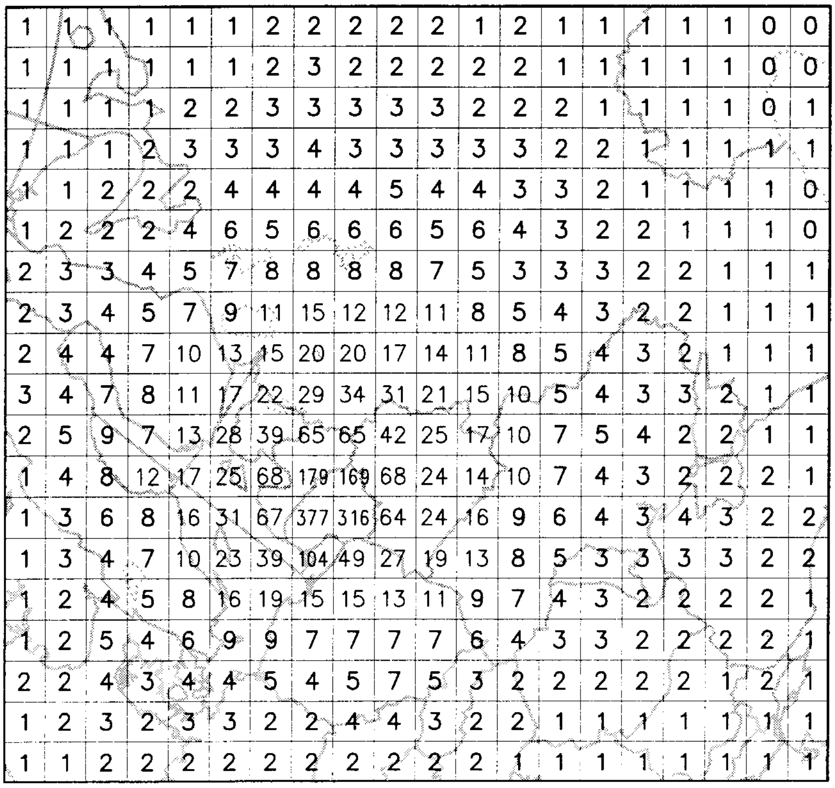


	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
33	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
32	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
31	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
30	0	1	1	1	1	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0
29	1	1	1	1	2	2	3	3	3	2	2	1	1	1	1	0	0	0	0	0
28	1	1	2	2	3	4	4	5	4	3	3	2	1	1	1	1	0	0	0	0
27	1	1	1	2	3	6	7	8	8	5	3	2	1	1	1	1	0	0	0	0
26	1	1	2	3	4	7	13	17	13	8	4	3	2	1	1	1	0	0	0	0
25	0	1	3	2	5	13	32	57	25	7	4	3	2	1	1	1	0	0	0	0
24	0	1	2	3	5	10	79	63	23	7	3	2	1	1	1	0	0	0	0	0
23	0	1	1	2	5	9	39	11	7	4	3	2	1	1	1	0	1	0	0	0
22	0	1	1	2	3	6	6	5	3	2	2	2	1	1	1	0	1	0	0	0
21	0	1	1	1	2	3	3	2	2	1	1	1	1	1	0	0	0	0	0	0
20	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
19	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Total Deposition of Oxidized Sulphur Contribution from Lithuania

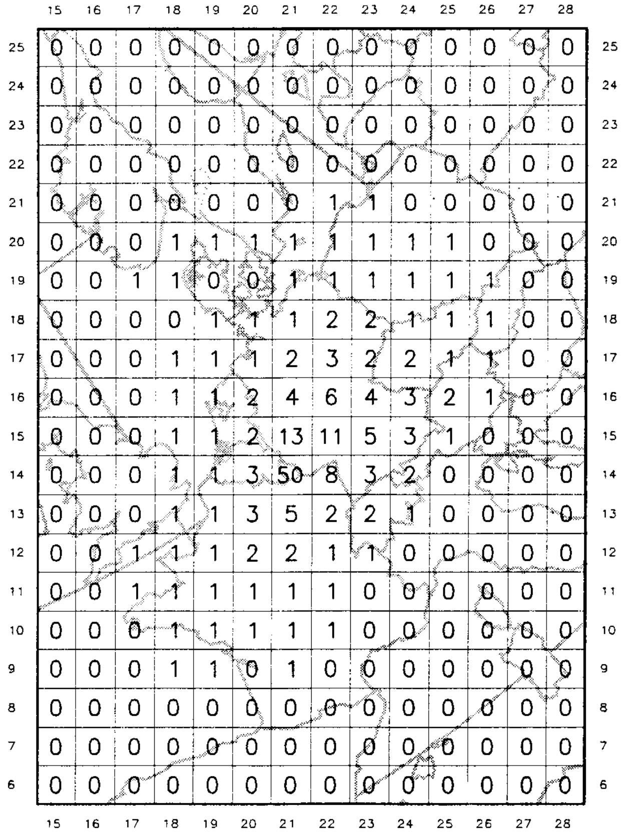
Annual average
between
1985 and 1996

Units: mg(S)/m2



	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
35	1	1	1	1	1	1	2	2	2	2	2	1	2	1	1	1	1	1	0	0
34	1	1	1	1	1	1	2	3	2	2	2	2	2	1	1	1	1	1	0	0
33	1	1	1	1	2	2	3	3	3	3	3	2	2	2	1	1	1	1	0	1
32	1	1	1	2	3	3	3	4	3	3	3	3	3	2	2	1	1	1	1	1
31	1	1	2	2	2	4	4	4	4	5	4	4	3	3	2	1	1	1	1	0
30	1	2	2	2	4	6	5	6	6	6	5	6	4	3	2	2	1	1	1	0
29	2	3	3	4	5	7	8	8	8	8	7	5	3	3	3	2	2	1	1	1
28	2	3	4	5	7	9	11	15	12	12	11	8	5	4	3	2	2	1	1	1
27	2	4	4	7	10	13	15	20	20	17	14	11	8	5	4	3	2	1	1	1
26	3	4	7	8	11	17	22	29	34	31	21	15	10	5	4	3	3	2	1	1
25	2	5	9	7	13	28	39	65	65	42	25	17	10	7	5	4	2	2	1	1
24	1	4	8	12	17	25	68	179	169	68	24	14	10	7	4	3	2	2	2	1
23	1	3	6	8	16	31	67	377	316	64	24	16	9	6	4	3	4	3	2	2
22	1	3	4	7	10	23	39	104	49	27	19	13	8	5	3	3	3	3	2	2
21	1	2	4	5	8	16	19	15	15	13	11	9	7	4	3	2	2	2	2	1
20	1	2	5	4	6	9	9	7	7	7	7	6	4	3	3	2	2	2	2	1
19	2	2	4	3	4	4	5	4	5	7	5	3	2	2	2	2	2	1	2	1
18	1	2	3	2	3	3	2	2	4	4	3	2	2	1	1	1	1	1	1	1
17	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1

Total Deposition of Oxidized Sulphur
Contribution from Luxembourg

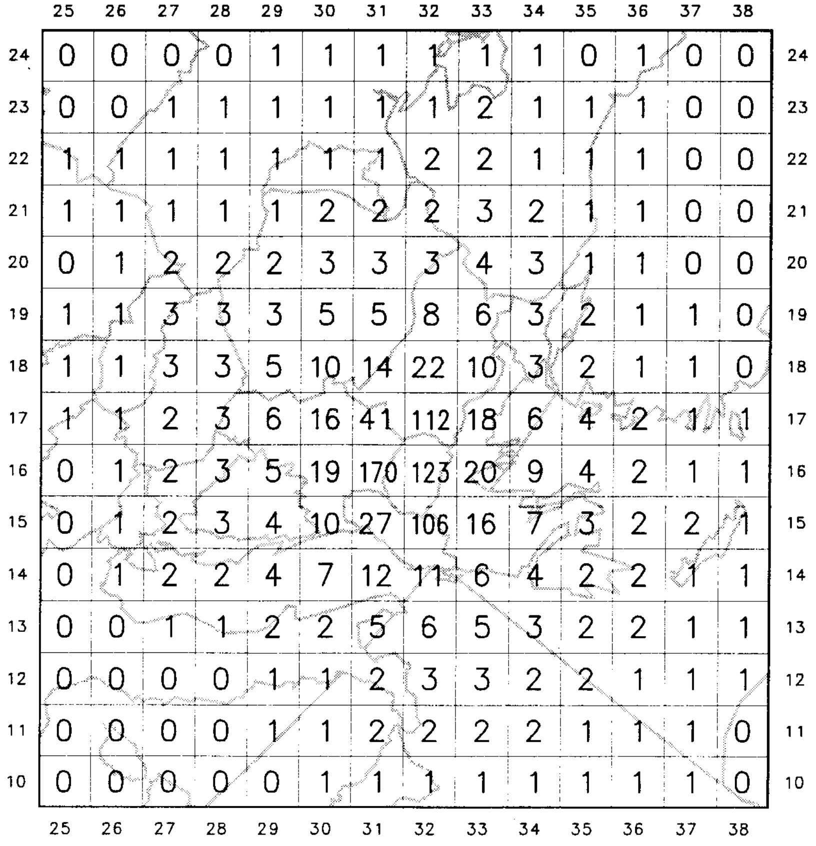


	15	16	17	18	19	20	21	22	23	24	25	26	27	28
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	0	0	0	0	0
20	0	0	0	1	1	1	1	1	1	1	1	0	0	0
19	0	0	1	1	0	0	1	1	1	1	1	1	0	0
18	0	0	0	0	1	1	1	2	2	1	1	1	0	0
17	0	0	0	1	1	1	2	3	2	2	1	1	0	0
16	0	0	0	1	1	2	4	6	4	3	2	1	0	0
15	0	0	0	1	1	2	13	11	5	3	1	0	0	0
14	0	0	0	1	1	3	50	8	3	2	0	0	0	0
13	0	0	0	1	1	3	5	2	2	1	0	0	0	0
12	0	0	1	1	1	2	2	1	1	0	0	0	0	0
11	0	0	1	1	1	1	1	1	0	0	0	0	0	0
10	0	0	0	1	1	1	1	1	0	0	0	0	0	0
9	0	0	0	1	1	0	1	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Macedonia (part of former YU)

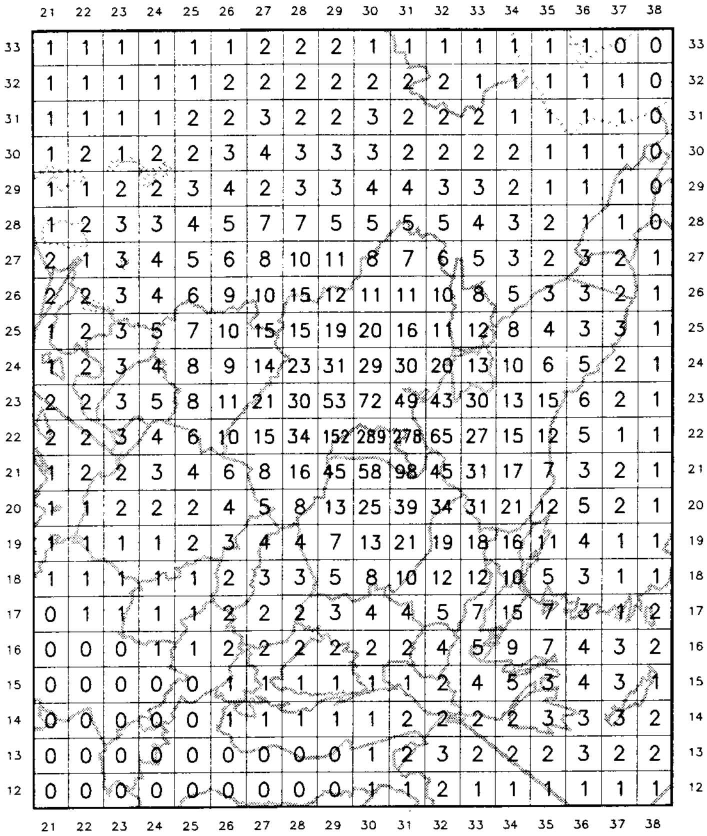


	25	26	27	28	29	30	31	32	33	34	35	36	37	38
24	0	0	0	0	1	1	1	1	1	1	0	1	0	0
23	0	0	1	1	1	1	1	1	2	1	1	1	0	0
22	1	1	1	1	1	1	1	2	2	1	1	1	0	0
21	1	1	1	1	1	2	2	2	3	2	1	1	0	0
20	0	1	2	2	2	3	3	3	4	3	1	1	0	0
19	1	1	3	3	3	5	5	8	6	3	2	1	1	0
18	1	1	3	3	5	10	14	22	10	3	2	1	1	0
17	1	1	2	3	6	16	41	112	18	6	4	2	1	1
16	0	1	2	3	5	19	170	123	20	9	4	2	1	1
15	0	1	2	3	4	10	27	106	16	7	3	2	2	1
14	0	1	2	2	4	7	12	11	6	4	2	2	1	1
13	0	0	1	1	2	2	5	6	5	3	2	2	1	1
12	0	0	0	0	1	1	2	3	3	2	2	1	1	1
11	0	0	0	0	1	1	2	2	2	2	1	1	1	0
10	0	0	0	0	0	1	1	1	1	1	1	1	1	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from the Republic of Moldova

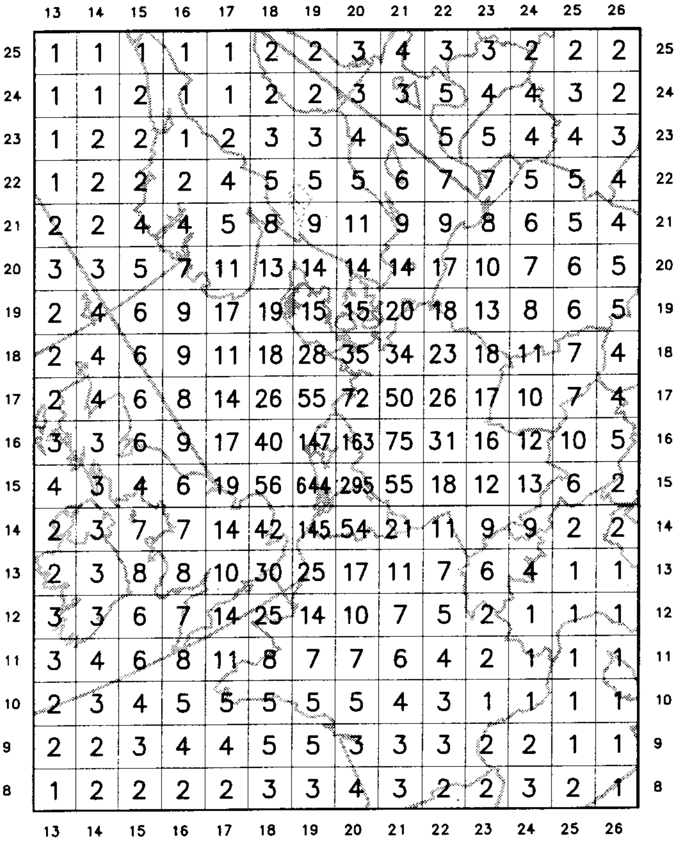


	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
33	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	0	0	33
32	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	0	32
31	1	1	1	1	2	2	3	2	2	3	2	2	2	1	1	1	1	0	31
30	1	2	1	2	2	3	4	3	3	3	2	2	2	2	1	1	1	0	30
29	1	1	2	2	3	4	2	3	3	4	4	3	3	2	1	1	1	0	29
28	1	2	3	3	4	5	7	7	5	5	5	5	4	3	2	1	1	0	28
27	2	1	3	4	5	6	8	10	11	8	7	6	5	3	2	3	2	1	27
26	2	2	3	4	6	9	10	15	12	11	11	10	8	5	3	3	2	1	26
25	1	2	3	5	7	10	15	15	19	20	16	11	12	8	4	3	3	1	25
24	1	2	3	4	8	9	14	23	31	29	30	20	13	10	6	5	2	1	24
23	2	2	3	5	8	11	21	30	53	72	49	43	30	13	15	6	2	1	23
22	2	2	3	4	6	10	15	34	152	289	278	65	27	15	12	5	1	1	22
21	1	2	2	3	4	6	8	16	45	58	98	45	31	17	7	3	2	1	21
20	1	1	2	2	2	4	5	8	13	25	39	34	31	21	12	5	2	1	20
19	1	1	1	1	2	3	4	4	7	13	21	19	18	16	11	4	1	1	19
18	1	1	1	1	1	2	3	3	5	8	10	12	12	10	5	3	1	1	18
17	0	1	1	1	1	2	2	2	3	4	4	5	7	15	7	3	1	2	17
16	0	0	0	1	1	2	2	2	2	2	2	4	5	9	7	4	3	2	16
15	0	0	0	0	0	1	1	1	1	1	1	2	4	5	3	4	3	1	15
14	0	0	0	0	0	1	1	1	1	1	2	2	2	2	3	3	3	2	14
13	0	0	0	0	0	0	0	0	0	1	2	3	2	2	2	3	2	2	13
12	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	1	1	1	12
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from the Netherlands

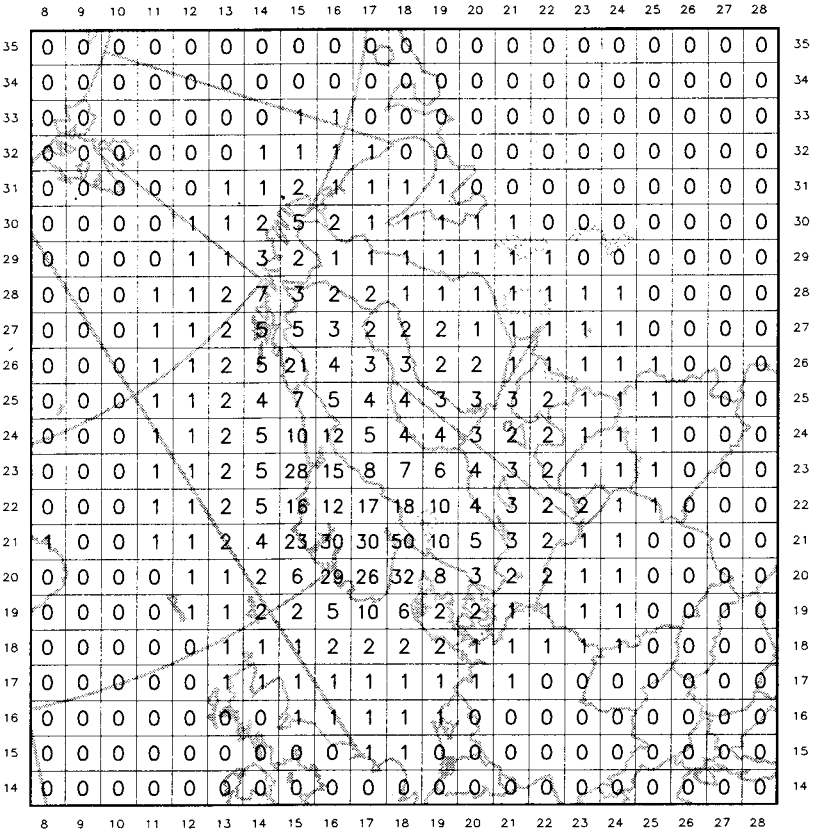


	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
25	1	1	1	1	1	2	2	3	4	3	3	2	2	2	25
24	1	1	2	1	1	2	2	3	3	5	4	4	3	2	24
23	1	2	2	1	2	3	3	4	5	5	5	4	4	3	23
22	1	2	2	2	4	5	5	5	6	7	7	5	5	4	22
21	2	2	4	4	5	8	9	11	9	9	8	6	5	4	21
20	3	3	5	7	11	13	14	14	14	17	10	7	6	5	20
19	2	4	6	9	17	19	15	15	20	18	13	8	6	5	19
18	2	4	6	9	11	18	28	35	34	23	18	11	7	4	18
17	2	4	6	8	14	26	55	72	50	26	17	10	7	4	17
16	3	3	6	9	17	40	147	163	75	31	16	12	10	5	16
15	4	3	4	6	19	56	644	295	55	18	12	13	6	2	15
14	2	3	7	7	14	42	145	54	21	11	9	9	2	2	14
13	2	3	8	8	10	30	25	17	11	7	6	4	1	1	13
12	3	3	6	7	14	25	14	10	7	5	2	1	1	1	12
11	3	4	6	8	11	8	7	7	6	4	2	1	1	1	11
10	2	3	4	5	5	5	5	5	4	3	1	1	1	1	10
9	2	2	3	4	4	5	5	3	3	3	2	2	1	1	9
8	1	2	2	2	2	3	3	4	3	2	2	3	2	1	8
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Norway



	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	1	1	2	1	1	1	1	0	0	0	0	0	0	0	0	0
30	0	0	0	0	1	1	2	5	2	1	1	1	1	1	0	0	0	0	0	0	0
29	0	0	0	0	1	1	3	2	1	1	1	1	1	1	1	0	0	0	0	0	0
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22	0	0	0	1	1	2	5	16	12	17	18	10	4	3	2	2	1	1	0	0	0
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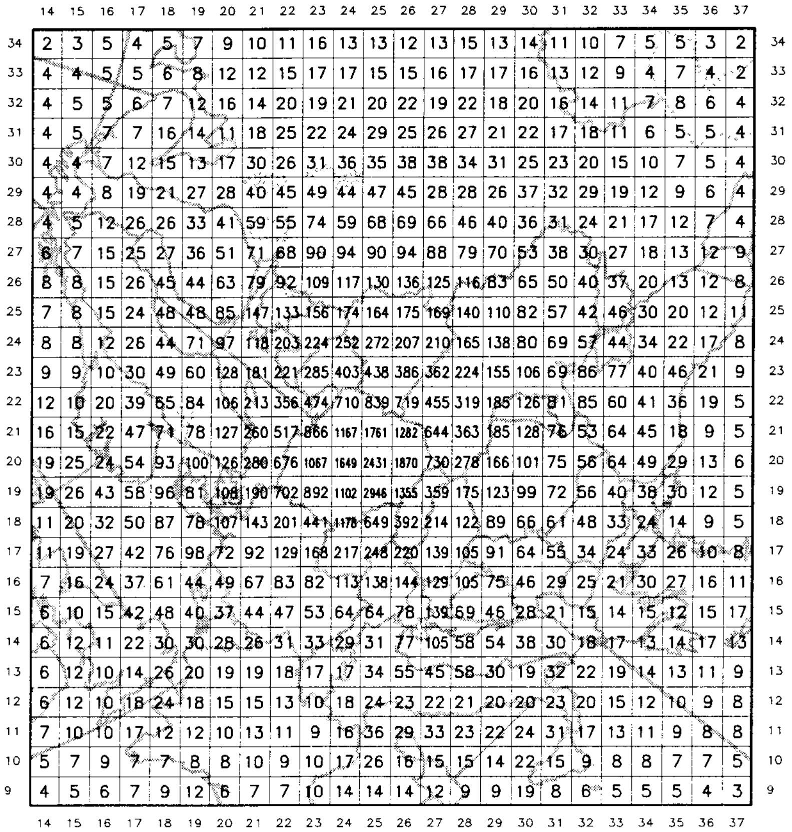
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Poland



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21	16	15	22	47	71	78	127	260	517	866	1167	1761	1282	644	363	185	128	76	53	64	45	18	9	5
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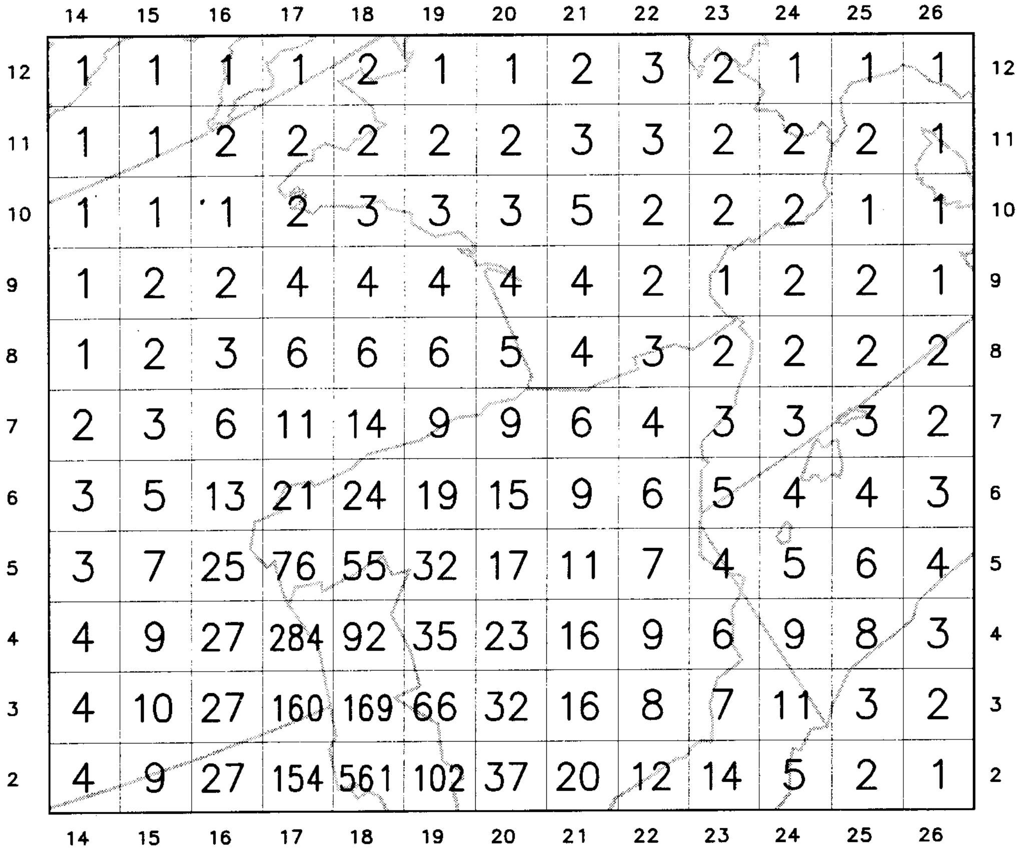
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Portugal



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9	1	2	2	4	4	4	4	4	2	1	2	2	1
8	1	2	3	6	6	6	5	4	3	2	2	2	2
7	2	3	6	11	14	9	9	6	4	3	3	3	2
6	3	5	13	21	24	19	15	9	6	5	4	4	3
5	3	7	25	76	55	32	17	11	7	4	5	6	4
4	4	9	27	284	92	35	23	16	9	6	9	8	3
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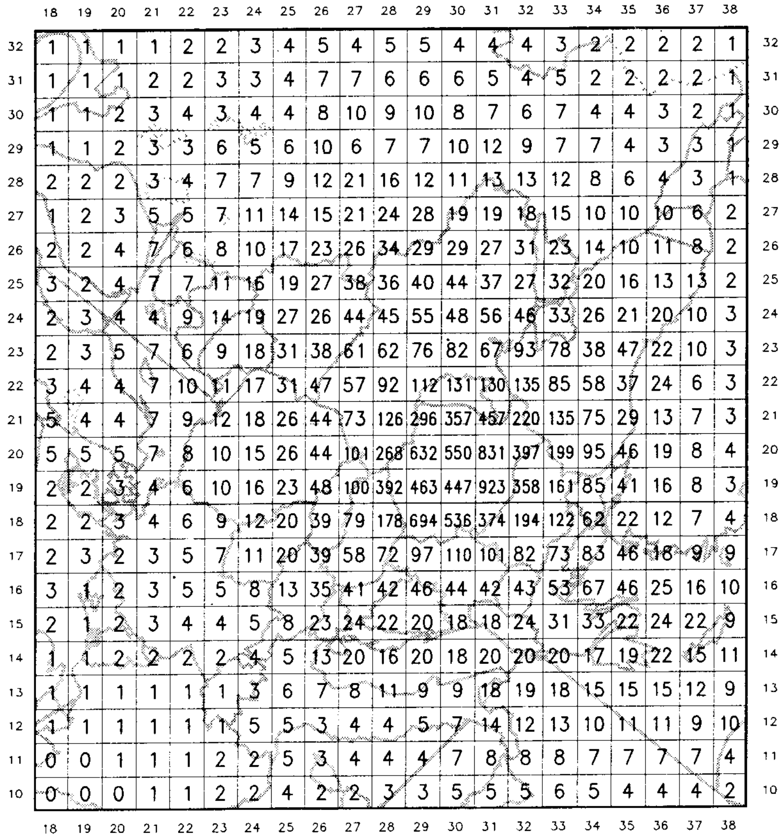
2	4	9	27	154	561	102	37	20	12	14	5	2	1

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Romania



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17	2	3	2	3	5	7	11	20	39	58	72	97	110	101	82	73	83	46	18	9	9
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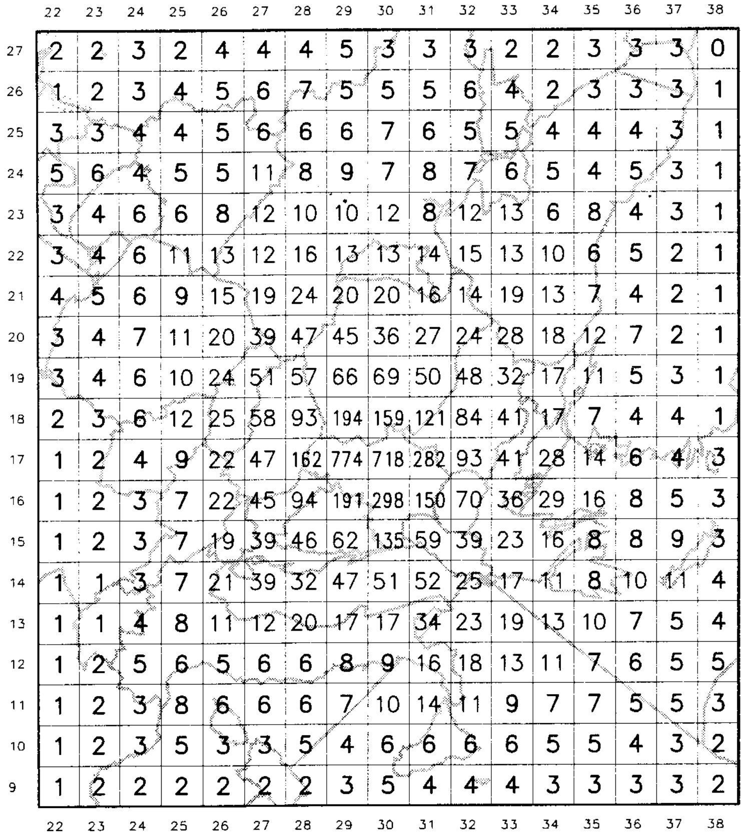
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Serbia/Kosovo/Montenegro/Vojv.



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26	1	2	3	4	5	6	7	5	5	5	6	4	2	3	3	3	1	26
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18	2	3	6	12	25	58	93	194	159	121	84	41	17	7	4	4	1	18
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16	1	2	3	7	22	45	94	191	298	150	70	36	29	16	8	5	3	16
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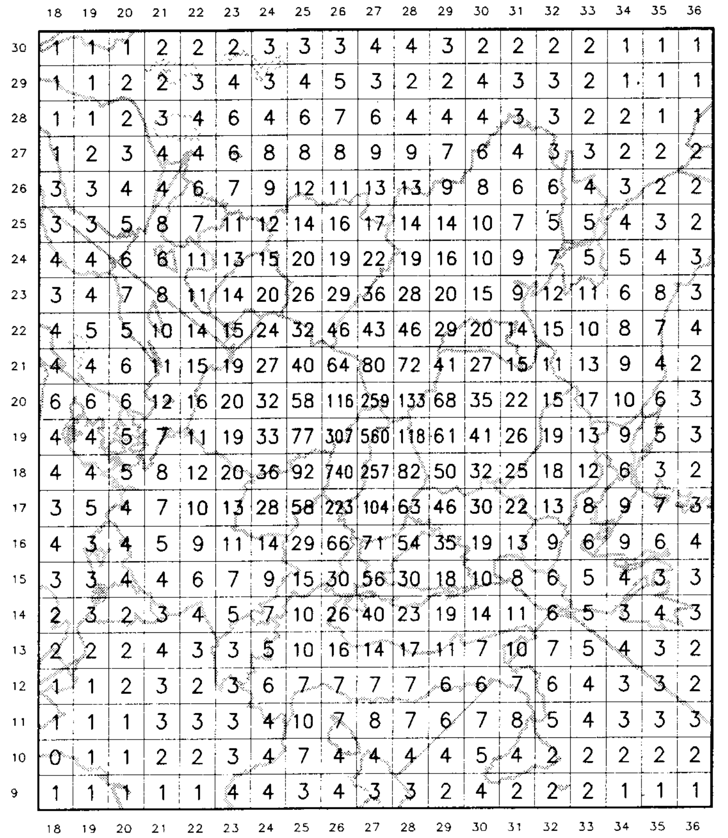
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Slovakia



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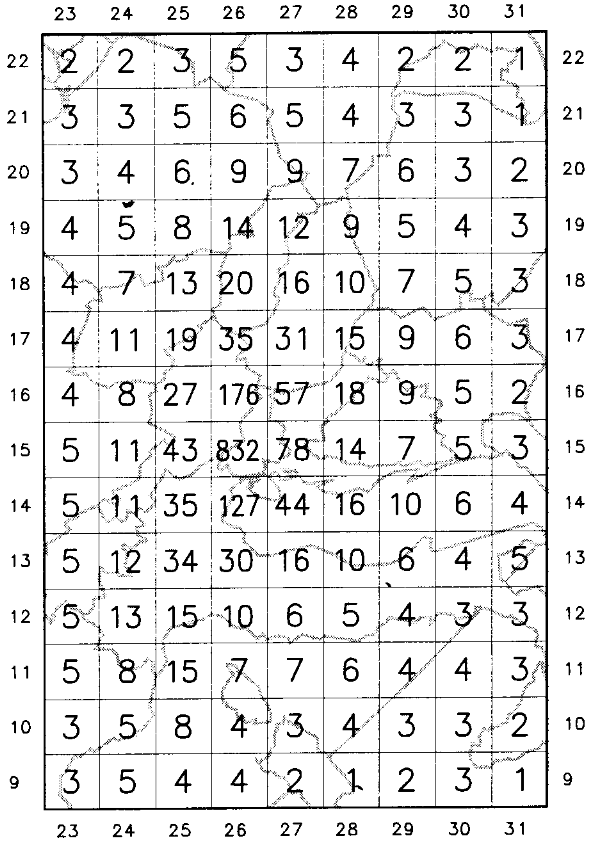
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Slovenia



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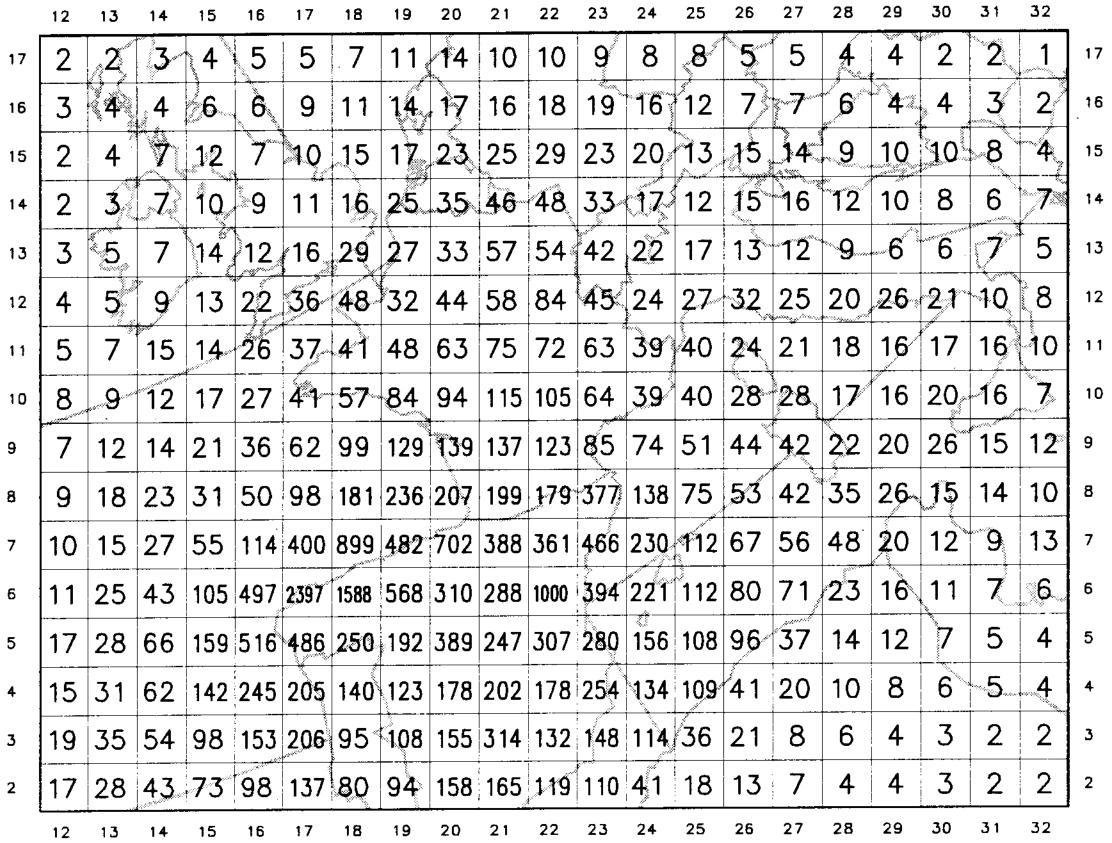
9	3	5	4	4	2	1	2	3	1	9
	23	24	25	26	27	28	29	30	31	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Spain



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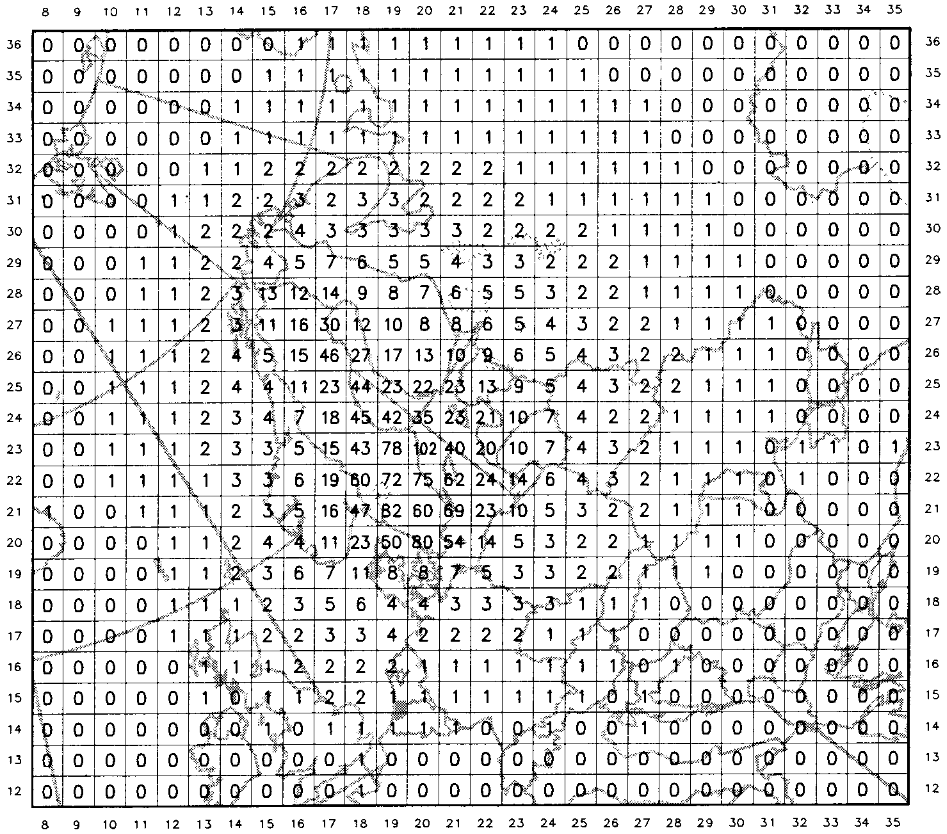
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Sweden



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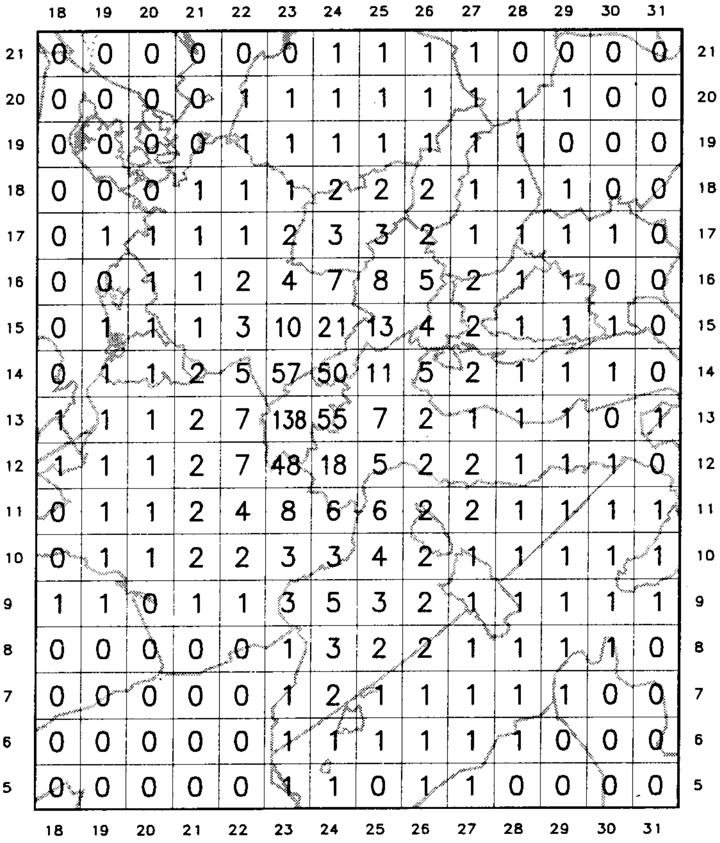
31	0	0	0	0	1	1	2	2	3	2	3	3	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0
30	0	0	0	0	1	2	2	2	4	3	3	3	3	3	2	2	2	2	1	1	1	1	0	0	0	0	0	0
29	0	0	0	1	1	2	2	4	5	7	6	5	5	4	3	3	2	2	2	1	1	1	1	0	0	0	0	0
28	0	0	0	1	1	2	3	13	12	14	9	8	7	6	5	5	3	2	2	1	1	1	1	0	0	0	0	0
27	0	0	1	1	1	2	3	11	16	30	12	10	8	8	6	5	4	3	2	2	1	1	1	1	0	0	0	0
26	0	0	1	1	1	2	4	5	15	46	27	17	13	10	9	6	5	4	3	2	2	1	1	1	0	0	0	0
25	0	0	1	1	1	2	4	4	11	23	44	23	22	23	13	9	5	4	3	2	2	1	1	1	0	0	0	0
24	0	0	1	1	1	2	3	4	7	18	45	42	35	23	21	10	7	4	2	2	1	1	1	1	0	0	0	0
23	0	0	1	1	1	2	3	3	5	15	43	78	102	40	20	10	7	4	3	2	1	1	1	0	1	1	0	1
22	0	0	1	1	1	1	3	3	6	19	80	72	75	62	24	14	6	4	3	2	1	1	1	0	1	0	0	0
21	1	0	0	1	1	1	2	3	5	16	47	82	60	69	23	10	5	3	2	2	1	1	1	0	0	0	0	0
20	0	0	0	0	1	1	2	4	4	11	23	50	80	54	14	5	3	2	2	1	1	1	1	0	0	0	0	0
19	0	0	0	0	1	1	2	3	6	7	11	8	8	7	5	3	3	2	2	1	1	1	0	0	0	0	0	0
18	0	0	0	0	1	1	1	2	3	5	6	4	4	3	3	3	3	1	1	1	0	0	0	0	0	0	0	0
17	0	0	0	0	1	1	1	2	2	3	3	4	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0
15	0	0	0	0	0	1	0	1	1	2	2	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Switzerland



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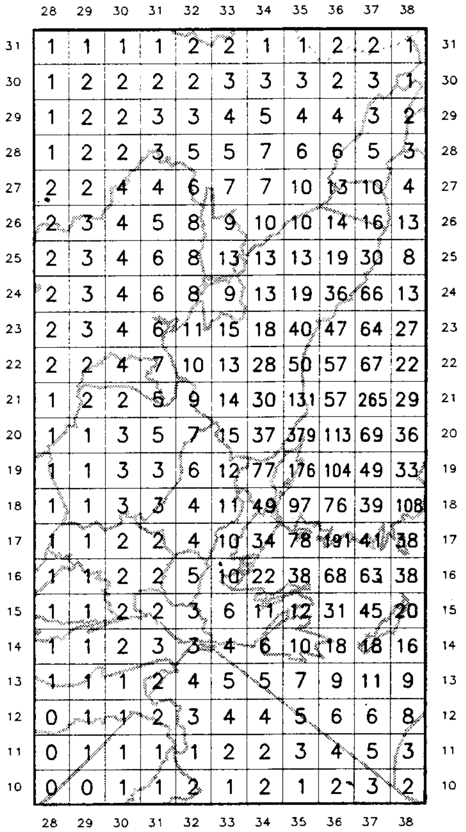
20	0	0	0	0	1	1	1	1	1	1	1	1	0	0
19	0	0	0	0	1	1	1	1	1	1	1	0	0	0
18	0	0	0	1	1	1	2	2	2	1	1	1	0	0
17	0	1	1	1	1	2	3	3	2	1	1	1	1	0
16	0	0	1	1	2	4	7	8	5	2	1	1	0	0
15	0	1	1	1	3	10	21	13	4	2	1	1	1	0
14	0	1	1	2	5	57	50	11	5	2	1	1	1	0
13	1	1	1	2	7	138	55	7	2	1	1	1	0	1
12	1	1	1	2	7	48	18	5	2	2	1	1	1	0
11	0	1	1	2	4	8	6	6	2	2	1	1	1	1
10	0	1	1	2	2	3	3	4	2	1	1	1	1	1
9	1	1	0	1	1	3	5	3	2	1	1	1	1	1
8	0	0	0	0	0	1	3	2	2	1	1	1	1	0
7	0	0	0	0	0	1	2	1	1	1	1	1	0	0
6	0	0	0	0	0	1	1	1	1	1	1	0	0	0
5	0	0	0	0	0	1	1	0	1	1	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Turkey



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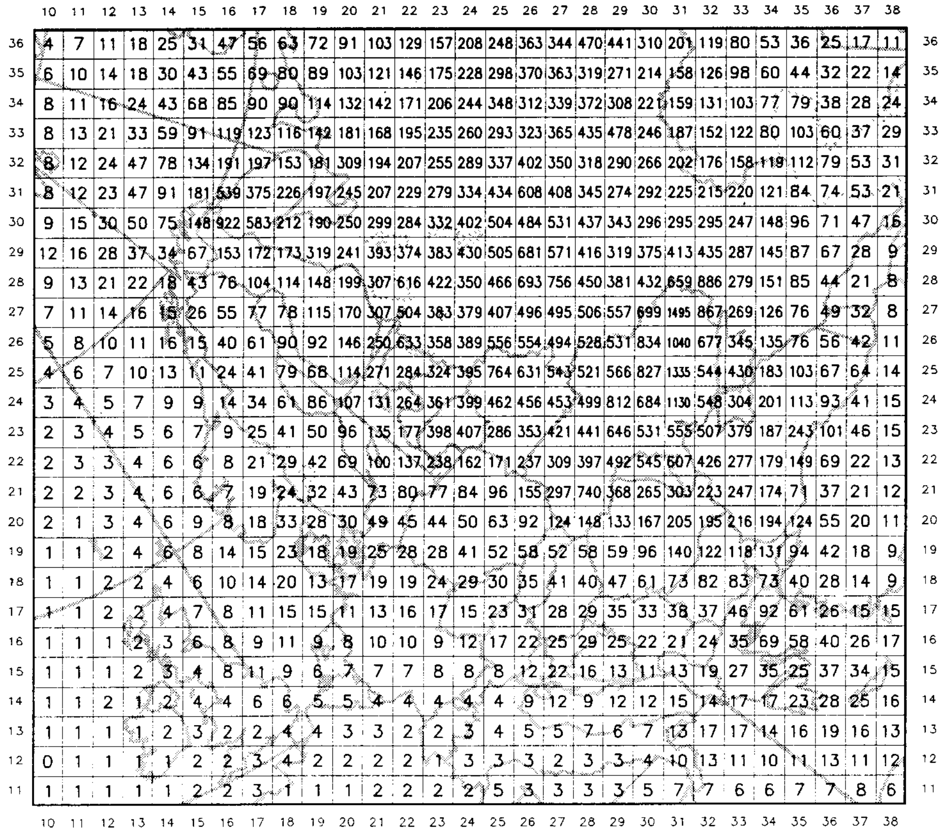
31	1	1	1	1	2	2	1	1	2	2	1
30	1	2	2	2	2	3	3	3	2	3	1
29	1	2	2	3	3	4	5	4	4	3	2
28	1	2	2	3	5	5	7	6	6	5	3
27	2	2	4	4	6	7	7	10	13	10	4
26	2	3	4	5	8	9	10	10	14	16	13
25	2	3	4	6	8	13	13	13	19	30	8
24	2	3	4	6	8	9	13	19	36	66	13
23	2	3	4	6	11	15	18	40	47	64	27
22	2	2	4	7	10	13	28	50	57	67	22
21	1	2	2	5	9	14	30	131	57	265	29
20	1	1	3	5	7	15	37	379	113	69	36
19	1	1	3	3	6	12	77	176	104	49	33
18	1	1	3	3	4	11	49	97	76	39	108
17	1	1	2	2	4	10	34	78	191	41	38
16	1	1	2	2	5	10	22	38	68	63	38
15	1	1	2	2	3	6	11	12	31	45	20
14	1	1	2	3	3	4	6	10	18	18	16
13	1	1	1	2	4	5	5	7	9	11	9
12	0	1	1	2	3	4	4	5	6	6	8
11	0	1	1	1	1	2	2	3	4	5	3
10	0	0	1	1	2	1	2	1	2	3	2

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from USSR (European)



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36	4	7	11	18	25	31	47	56	63	72	91	103	129	157	208	248	363	344	470	441	310	201	119	80	53	36	25	17	11
35	6	10	14	18	30	43	55	69	80	89	103	121	146	175	228	298	370	363	319	271	214	158	126	98	60	44	32	22	14
34	8	11	16	24	43	68	85	90	90	114	132	142	171	206	244	348	312	339	372	308	221	159	131	103	77	79	38	28	24
33	8	13	21	33	59	91	119	123	116	142	181	168	195	235	260	293	323	365	435	478	246	187	152	122	80	103	60	37	29
32	8	12	24	47	78	134	191	197	153	181	309	194	207	255	289	337	402	350	318	290	266	202	176	158	119	112	79	53	31
31	8	12	23	47	91	181	539	375	226	197	245	207	229	279	334	434	608	408	345	274	292	225	215	220	121	84	74	53	21
30	9	15	30	50	75	148	922	583	212	190	250	299	284	332	402	504	484	531	437	343	296	295	295	247	148	96	71	47	16
29	12	16	28	37	34	67	153	172	173	319	241	393	374	383	430	505	681	571	416	319	375	413	435	287	145	87	67	28	9
28	9	13	21	22	18	43	76	104	114	148	199	307	616	422	350	466	693	756	450	381	432	659	886	279	151	85	44	21	8
27	7	11	14	16	15	26	55	77	78	115	170	307	504	383	379	407	496	495	506	557	699	1495	867	269	126	76	49	32	8
26	5	8	10	11	16	15	40	61	90	92	146	250	633	358	389	556	554	494	528	531	834	1040	677	345	135	76	56	42	11
25	4	6	7	10	13	11	24	41	79	68	114	271	284	324	395	764	631	543	521	566	827	1335	544	430	183	103	67	64	14
24	3	4	5	7	9	9	14	34	61	86	107	131	264	361	399	462	456	453	499	812	684	1130	548	304	201	113	93	41	15
23	2	3	4	5	6	7	9	25	41	50	96	135	177	398	407	286	353	421	441	646	531	555	507	379	187	243	101	46	15
22	2	3	3	4	6	6	8	21	29	42	69	100	137	238	162	171	237	309	397	492	545	607	426	277	179	149	69	22	13
21	2	2	3	4	6	6	7	19	24	32	43	73	80	77	84	96	155	297	740	368	265	303	223	247	174	71	37	21	12
20	2	1	3	4	6	9	8	18	33	28	30	49	45	44	50	63	92	124	148	133	167	205	195	216	194	124	55	20	11
19	1	1	2	4	6	8	14	15	23	18	19	25	28	28	41	52	58	52	58	59	96	140	122	118	131	94	42	18	9
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17	1	1	2	2	4	7	8	11	15	15	11	13	16	17	15	23	31	28	29	35	33	38	37	46	92	61	26	15	15
16	1	1	1	2	3	6	8	9	11	9	8	10	10	9	12	17	22	25	29	25	22	21	24	35	69	58	40	26	17
15	1	1	1	2	3	4	8	11	9	6	7	7	7	8	8	8	12	22	16	13	11	13	19	27	35	25	37	34	15
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13	1	1	1	1	2	3	2	2	4	4	3	3	2	2	3	4	5	5	7	6	7	13	17	17	14	16	19	16	13
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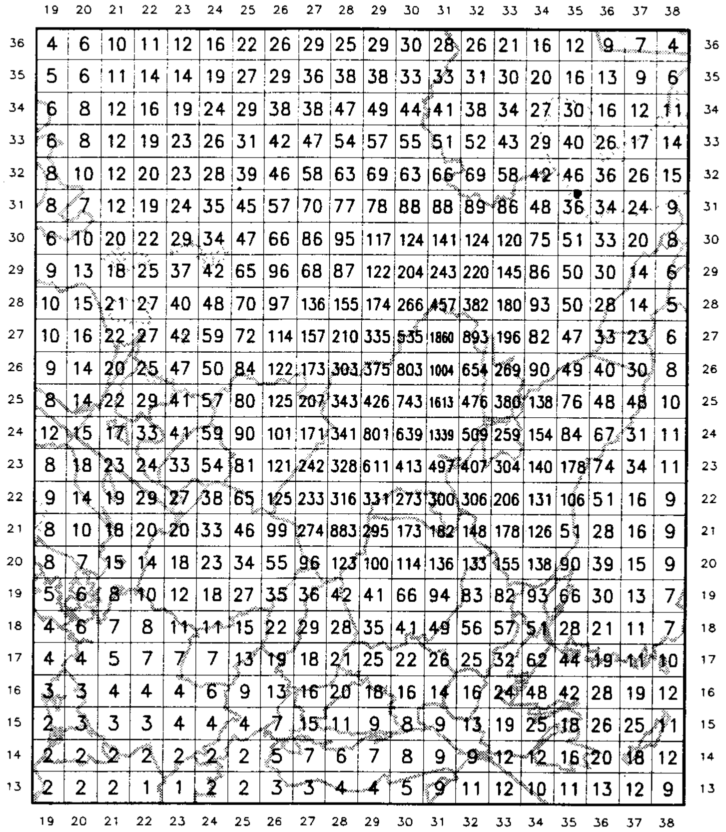
11	1	1	1	1	1	2	2	3	1	1	1	2	2	2	2	5	3	3	3	3	5	7	7	6	6	7	7	8	6

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from Ukraine



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35	5	6	11	14	14	19	27	29	36	38	38	33	33	31	30	20	16	13	9	6
34	6	8	12	16	19	24	29	38	38	47	49	44	41	38	34	27	30	16	12	11
33	6	8	12	19	23	26	31	42	47	54	57	55	51	52	43	29	40	26	17	14
32	8	10	12	20	23	28	39	46	58	63	69	63	66	69	58	42	46	36	26	15
31	8	7	12	19	24	35	45	57	70	77	78	88	88	89	86	48	36	34	24	9
30	6	10	20	22	29	34	47	66	86	95	117	124	141	124	120	75	51	33	20	8
29	9	13	18	25	37	42	65	96	68	87	122	204	243	220	145	86	50	30	14	6
28	10	15	21	27	40	48	70	97	136	155	174	266	457	382	180	93	50	28	14	5
27	10	16	22	27	42	59	72	114	157	210	335	535	1860	893	196	82	47	33	23	6
26	9	14	20	25	47	50	84	122	173	303	375	803	1004	654	269	90	49	40	30	8
25	8	14	22	29	41	57	80	125	207	343	426	743	1613	476	380	138	76	48	48	10
24	12	15	17	33	41	59	90	101	171	341	801	639	1339	509	259	154	84	67	31	11
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22	9	14	19	29	27	38	65	125	233	316	331	273	300	306	206	131	106	51	16	9
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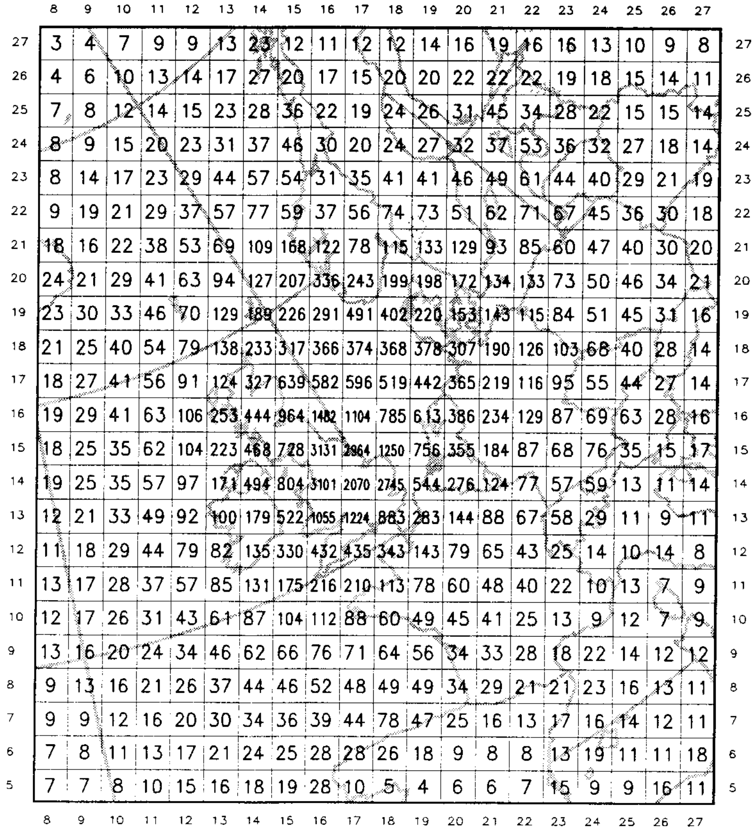
19	5	6	8	10	12	18	27	35	36	42	41	66	94	83	82	93	66	30	13	7
18	4	6	7	8	11	11	15	22	29	28	35	41	49	56	57	51	28	21	11	7
17	4	4	5	7	7	7	13	19	18	21	25	22	26	25	32	62	44	19	11	10
16	3	3	4	4	4	6	9	13	16	20	18	16	14	16	24	48	42	28	19	12
15	2	3	3	3	4	4	4	7	15	11	9	8	9	13	19	25	18	26	25	11
14	2	2	2	2	2	2	2	5	7	6	7	8	9	9	12	12	16	20	18	12
13	2	2	2	1	1	2	2	3	3	4	4	5	9	11	12	10	11	13	12	9

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from the United Kingdom



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26	4	6	10	13	14	17	27	20	17	15	20	20	22	22	22	19	18	15	14	11
25	7	8	12	14	15	23	28	36	22	19	24	26	31	45	34	28	22	15	15	14
24	8	9	15	20	23	31	37	46	30	20	24	27	32	37	53	36	32	27	18	14
23	8	14	17	23	29	44	57	54	31	35	41	41	46	49	61	44	40	29	21	19
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21	18	16	22	38	53	69	109	168	122	78	115	133	129	93	85	60	47	40	30	20
20	24	21	29	41	63	94	127	207	336	243	199	198	172	134	133	73	50	46	34	21
19	23	30	33	46	70	129	189	226	291	491	402	220	153	143	115	84	51	45	31	16
18	21	25	40	54	79	138	233	317	366	374	368	378	307	190	126	103	68	40	28	14
17	18	27	41	56	91	124	327	639	582	596	519	442	365	219	116	95	55	44	27	14
16	19	29	41	63	106	253	444	964	1482	1104	785	613	386	234	129	87	69	63	28	16
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14	19	25	35	57	97	171	494	804	3101	2070	2745	544	276	124	77	57	59	13	11	14
13	12	21	33	49	92	100	179	522	1055	1224	883	283	144	88	67	58	29	11	9	11
12	11	18	29	44	79	82	135	330	432	435	343	143	79	65	43	25	14	10	14	8
11	13	17	28	37	57	85	131	175	216	210	113	78	60	48	40	22	10	13	7	9
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9	13	16	20	24	34	46	62	66	76	71	64	56	34	33	28	18	22	14	12	12
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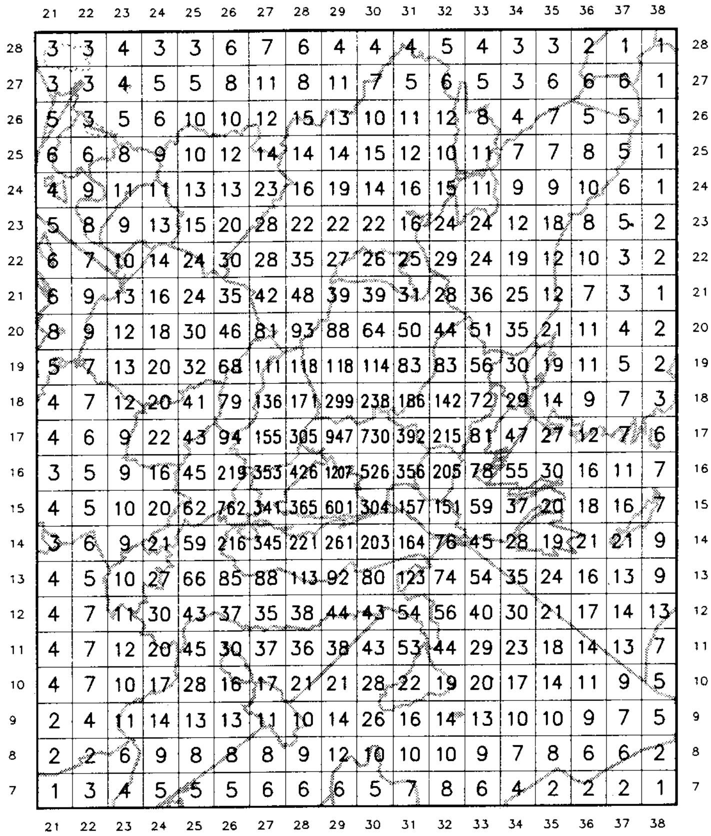
6	7	8	11	13	17	21	24	25	28	28	26	18	9	8	8	13	19	11	11	18
5	7	7	8	10	15	16	18	19	28	10	5	4	6	6	7	15	9	9	16	11

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from the Federal Republic of Yugoslavia



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27	3	3	4	5	5	8	11	8	11	7	5	6	5	3	6	6	6	1	27
26	5	3	5	6	10	10	12	15	13	10	11	12	8	4	7	5	5	1	26
25	6	6	8	9	10	12	14	14	14	15	12	10	11	7	7	8	5	1	25
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22	6	7	10	14	24	30	28	35	27	26	25	29	24	19	12	10	3	2	22
21	6	9	13	16	24	35	42	48	39	39	31	28	36	25	12	7	3	1	21
20	8	9	12	18	30	46	81	93	88	64	50	44	51	35	21	11	4	2	20
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16	3	5	9	16	45	219	353	426	1207	526	356	205	78	55	30	16	11	7	16
15	4	5	10	20	62	762	341	365	601	304	157	151	59	37	20	18	16	7	15
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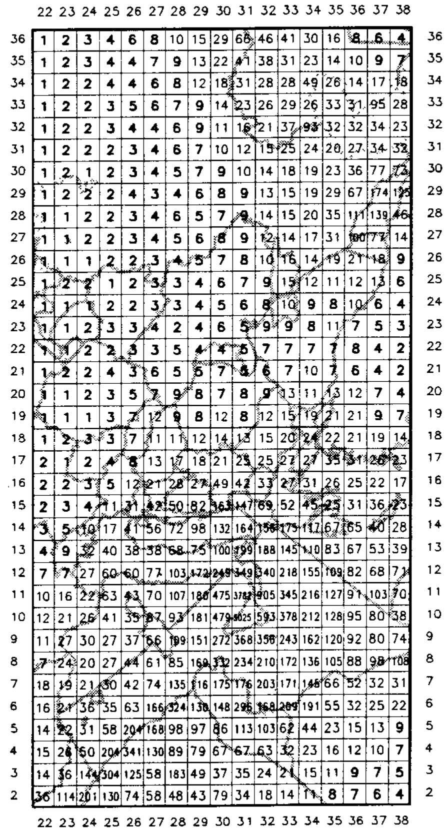
7	1	3	4	5	5	5	6	6	6	5	7	8	6	4	2	2	2	1	7
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from remaining land areas



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35	1	2	3	4	4	7	9	13	22	41	38	31	23	14	10	9	7	35
34	1	2	2	4	4	6	8	12	18	31	28	28	49	26	14	17	18	34
33	1	2	2	3	5	6	7	9	14	23	26	29	26	33	31	95	28	33
32	1	2	2	3	4	4	6	9	11	16	21	37	93	32	32	34	23	32
31	1	2	2	2	3	4	6	7	10	12	15	25	24	20	27	34	32	31
30	1	2	1	2	3	4	5	7	9	10	14	18	19	23	36	77	73	30
29	1	2	2	2	4	3	4	6	8	9	13	15	19	29	67	174	125	29
28	1	1	2	2	3	4	6	5	7	9	14	15	20	35	111	139	46	28
27	1	1	2	2	3	4	5	6	8	9	12	14	17	31	100	77	14	27
26	1	1	1	2	2	3	4	5	7	8	10	16	14	19	21	18	9	26
25	1	2	2	1	2	3	3	4	6	7	9	15	12	11	12	13	6	25
24	1	1	1	2	2	3	3	4	5	6	8	10	9	8	10	6	4	24
23	1	1	2	3	3	4	2	4	6	5	9	9	8	11	7	5	3	23
22	1	1	2	2	3	3	5	4	4	5	7	7	7	7	8	4	2	22
21	1	2	2	4	3	6	5	5	7	4	6	7	10	7	6	4	2	21
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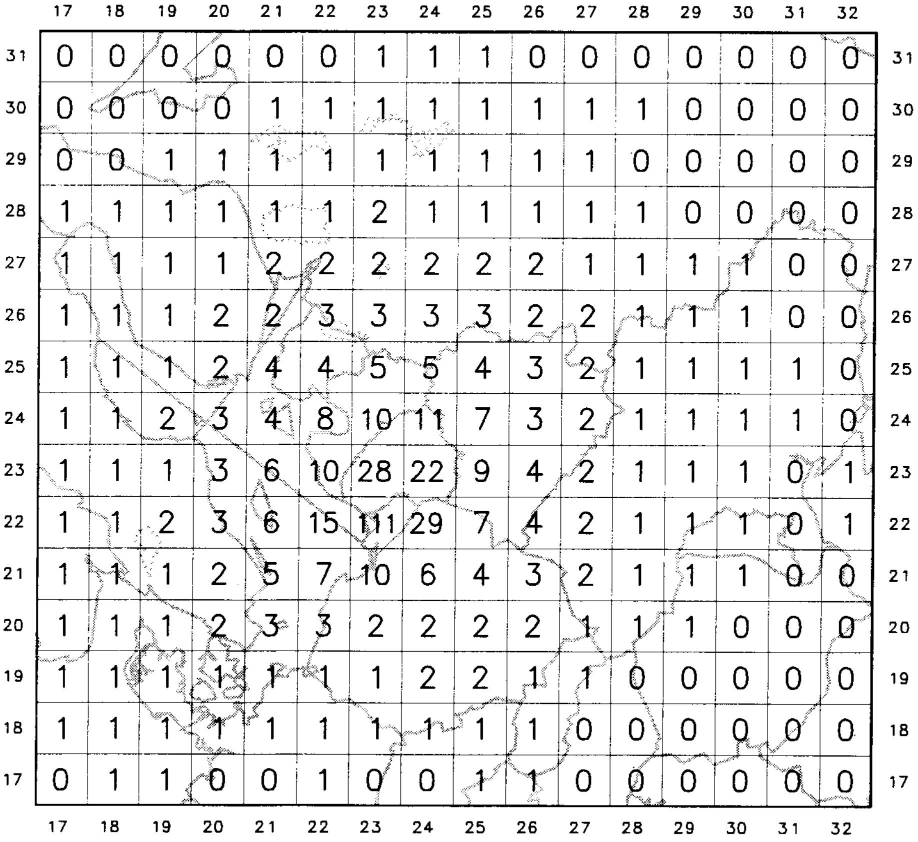
15	2	3	4	11	31	42	50	82	163	147	69	52	45	25	31	36	23	15
14	3	5	10	17	41	56	72	98	132	164	156	175	117	67	65	40	28	14
13	4	9	32	40	38	38	68	75	100	199	188	145	110	83	67	53	39	13
12	7	7	27	60	60	77	103	172	249	349	340	218	155	109	82	68	71	12
11	10	16	22	63	43	70	107	186	475	3782	905	345	216	127	91	103	70	11
10	12	21	26	41	35	87	93	181	479	1025	593	378	212	128	95	80	38	10
9	11	27	30	27	37	66	199	151	272	368	358	243	162	120	92	80	74	9
8	7	24	20	27	44	61	85	169	332	234	210	172	136	105	88	98	108	8
7	18	19	21	30	42	74	135	116	175	176	203	171	146	66	52	32	31	7
6	16	21	36	35	63	166	324	138	148	296	168	209	191	55	32	25	22	6
5	14	22	31	58	204	168	98	97	86	113	103	62	44	23	15	13	9	5
4	15	26	50	204	341	130	89	79	67	67	63	32	23	16	12	10	7	4
3	14	36	144	304	125	58	183	49	37	35	24	21	15	11	9	7	5	3
2	36	114	201	130	74	58	48	43	79	34	18	14	11	8	7	6	4	2
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Kaliningrad



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30	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	30
29	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	29
28	1	1	1	1	1	1	2	1	1	1	1	1	0	0	0	0	28
27	1	1	1	1	2	2	2	2	2	2	1	1	1	1	0	0	27
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25	1	1	1	2	4	4	5	5	4	3	2	1	1	1	1	0	25
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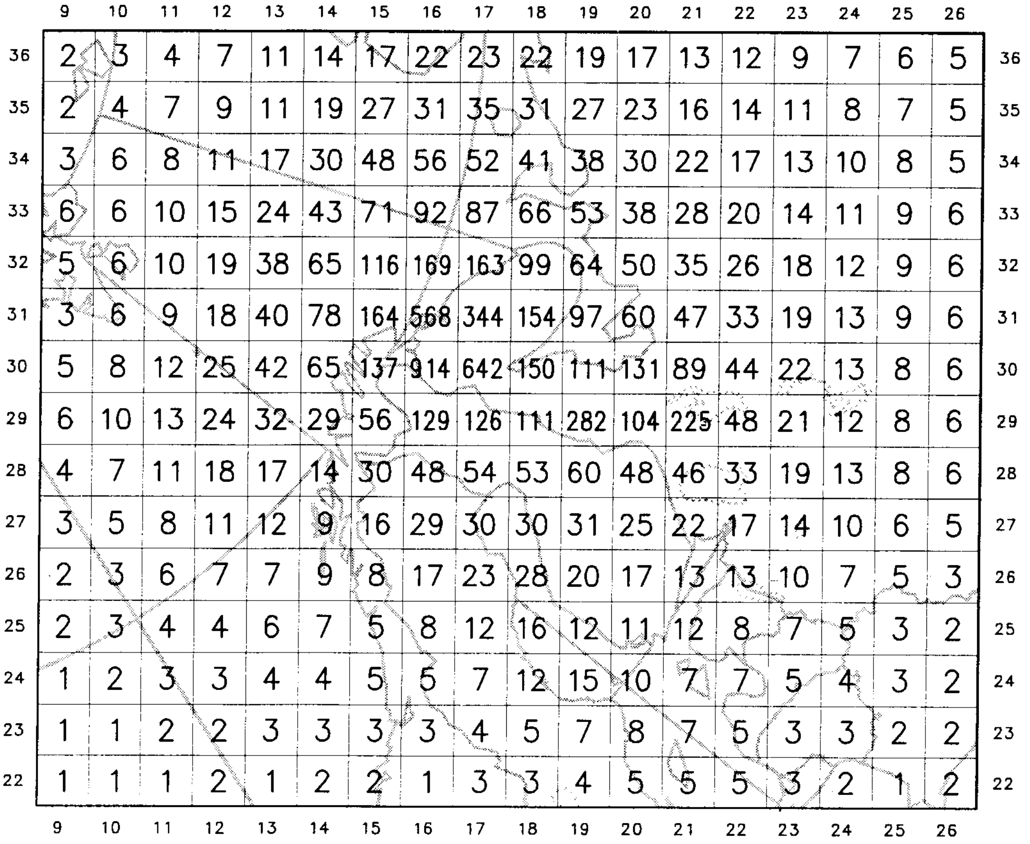
23	1	1	1	3	6	10	28	22	9	4	2	1	1	1	0	1	23
22	1	1	2	3	6	15	111	29	7	4	2	1	1	1	0	1	22
21	1	1	1	2	5	7	10	6	4	3	2	1	1	1	0	0	21
20	1	1	1	2	3	3	2	2	2	2	1	1	1	0	0	0	20
19	1	1	1	1	1	1	1	2	2	1	1	0	0	0	0	0	19
18	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	18
17	0	1	1	0	0	1	0	0	1	1	0	0	0	0	0	0	17
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Kola / Karelia



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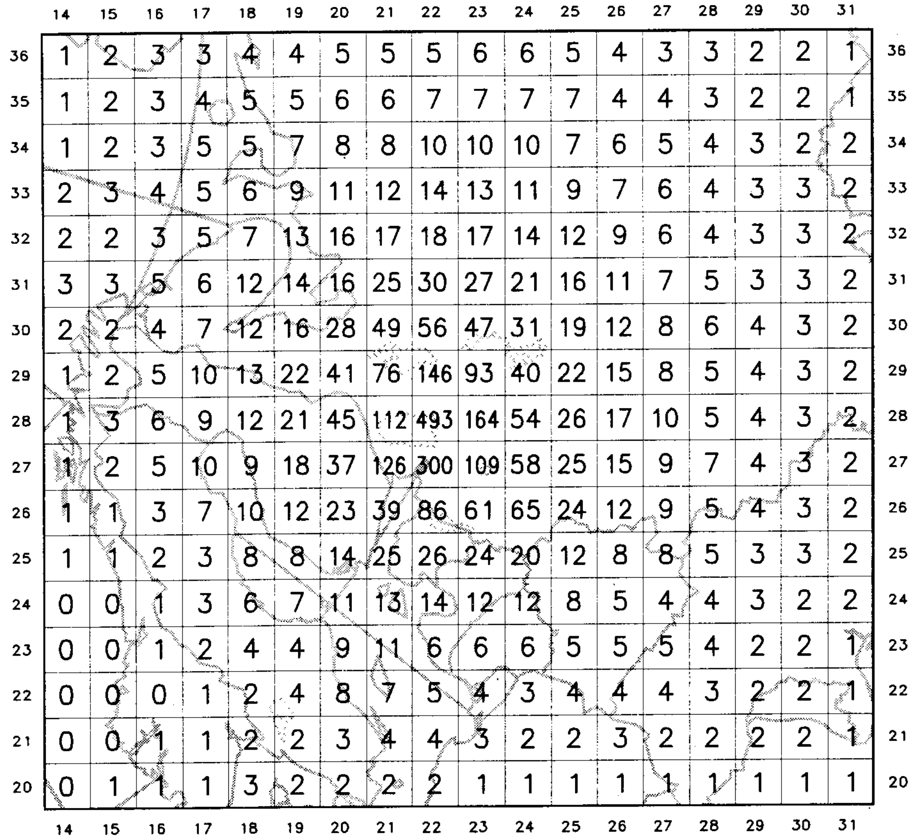
35	2	4	7	9	11	19	27	31	35	31	27	23	16	14	11	8	7	5	35
34	3	6	8	11	17	30	48	56	52	41	38	30	22	17	13	10	8	5	34
33	6	6	10	15	24	43	71	92	87	66	53	38	28	20	14	11	9	6	33
32	5	6	10	19	38	65	116	169	163	99	64	50	35	26	18	12	9	6	32
31	3	6	9	18	40	78	164	568	344	154	97	60	47	33	19	13	9	6	31
30	5	8	12	25	42	65	137	914	642	150	111	131	89	44	22	13	8	6	30
29	6	10	13	24	32	29	56	129	126	111	282	104	225	48	21	12	8	6	29
28	4	7	11	18	17	14	30	48	54	53	60	48	46	33	19	13	8	6	28
27	3	5	8	11	12	9	16	29	30	30	31	25	22	17	14	10	6	5	27
26	2	3	6	7	7	9	8	17	23	28	20	17	13	13	10	7	5	3	26
25	2	3	4	4	6	7	5	8	12	16	12	11	12	8	7	5	3	2	25
24	1	2	3	3	4	4	5	5	7	12	15	10	7	7	5	4	3	2	24
23	1	1	2	2	3	3	3	3	4	5	7	8	7	5	3	3	2	2	23
22	1	1	1	2	1	2	2	1	3	3	4	5	5	5	3	2	1	2	22
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from Leningrad / Novgorod/Pskov



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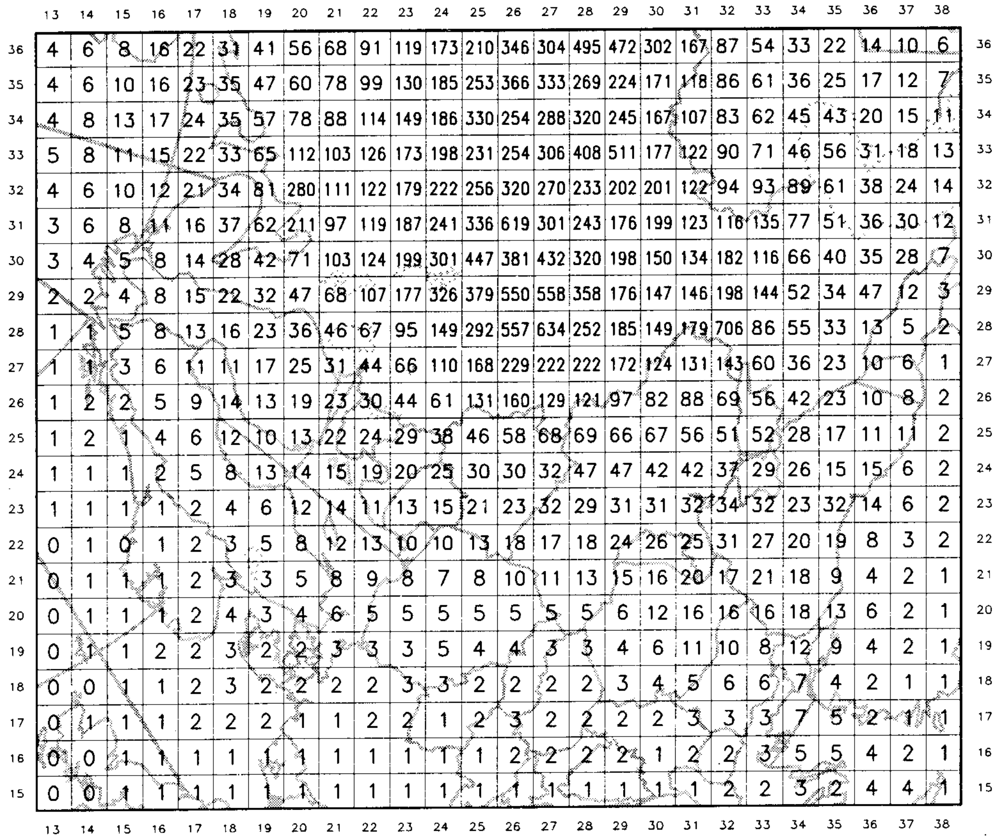
35	1	2	3	4	5	5	6	6	7	7	7	7	4	4	3	2	2	1	35
34	1	2	3	5	5	7	8	8	10	10	10	7	6	5	4	3	2	2	34
33	2	3	4	5	6	9	11	12	14	13	11	9	7	6	4	3	3	2	33
32	2	2	3	5	7	13	16	17	18	17	14	12	9	6	4	3	3	2	32
31	3	3	5	6	12	14	16	25	30	27	21	16	11	7	5	3	3	2	31
30	2	2	4	7	12	16	28	49	56	47	31	19	12	8	6	4	3	2	30
29	1	2	5	10	13	22	41	76	146	93	40	22	15	8	5	4	3	2	29
28	1	3	6	9	12	21	45	112	493	164	54	26	17	10	5	4	3	2	28
27	1	2	5	10	9	18	37	126	300	109	58	25	15	9	7	4	3	2	27
26	1	1	3	7	10	12	23	39	86	61	65	24	12	9	5	4	3	2	26
25	1	1	2	3	8	8	14	25	26	24	20	12	8	8	5	3	3	2	25
24	0	0	1	3	6	7	11	13	14	12	12	8	5	4	4	3	2	2	24
23	0	0	1	2	4	4	9	11	6	6	6	5	5	5	4	2	2	1	23
22	0	0	0	1	2	4	8	7	5	4	3	4	4	4	3	2	2	1	22
21	0	0	1	1	2	2	3	4	4	3	2	2	3	2	2	2	2	1	21
20	0	1	1	1	3	2	2	2	2	1	1	1	1	1	1	1	1	1	20
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from rem. Russian Federation (Europe)



	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
36	4	6	8	16	22	31	41	56	68	91	119	173	210	346	304	495	472	302	167	87	54	33	22	14	10	6	36
35	4	6	10	16	23	35	47	60	78	99	130	185	253	366	333	269	224	171	118	86	61	36	25	17	12	7	35
34	4	8	13	17	24	35	57	78	88	114	149	186	330	254	288	320	245	167	107	83	62	45	43	20	15	11	34
33	5	8	11	15	22	33	65	112	103	126	173	198	231	254	306	408	511	177	122	90	71	46	56	31	18	13	33
32	4	6	10	12	21	34	81	280	111	122	179	222	256	320	270	233	202	201	122	94	93	89	61	38	24	14	32
31	3	6	8	11	16	37	62	211	97	119	187	241	336	619	301	243	176	199	123	116	135	77	51	36	30	12	31
30	3	4	5	8	14	28	42	71	103	124	199	301	447	381	432	320	198	150	134	182	116	66	40	35	28	7	30
29	2	2	4	8	15	22	32	47	68	107	177	326	379	550	558	358	176	147	146	198	144	52	34	47	12	3	29
28	1	1	5	8	13	16	23	36	46	67	95	149	292	557	634	252	185	149	179	706	86	55	33	13	5	2	28
27	1	1	3	6	11	11	17	25	31	44	66	110	168	229	222	222	172	124	131	143	60	36	23	10	6	1	27
26	1	2	2	5	9	14	13	19	23	30	44	61	131	160	129	121	97	82	88	69	56	42	23	10	8	2	26
25	1	2	1	4	6	12	10	13	22	24	29	38	46	58	68	69	66	67	56	51	52	28	17	11	11	2	25
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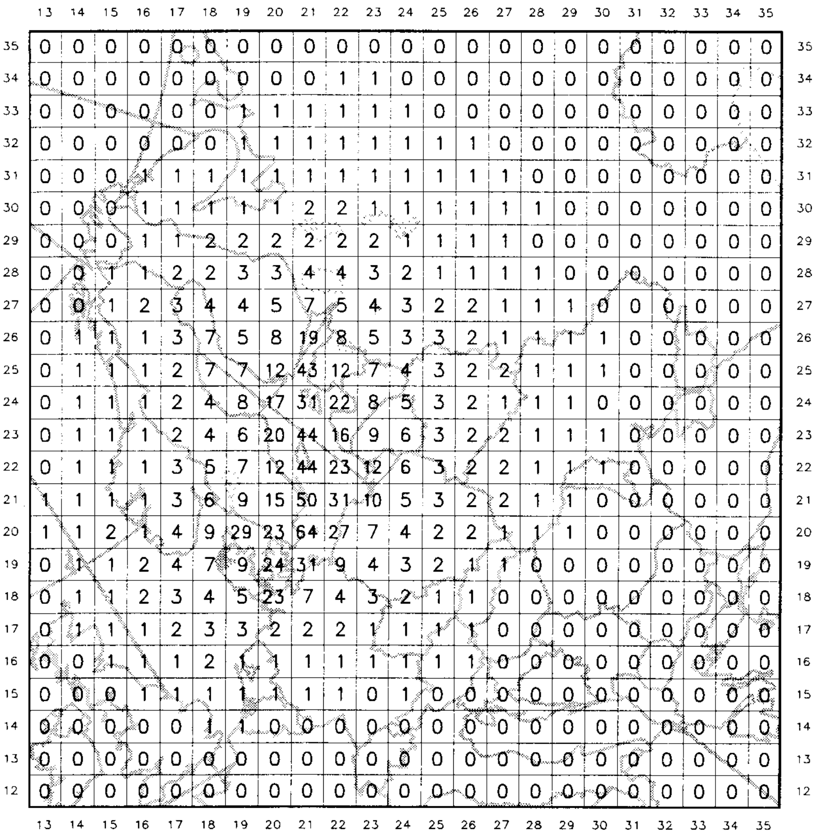
20	0	1	1	1	2	4	3	4	6	5	5	5	5	5	5	5	6	12	16	16	16	18	13	6	2	1	20
19	0	1	1	2	2	3	2	2	3	3	3	5	4	4	3	3	4	6	11	10	8	12	9	4	2	1	19
18	0	0	1	1	2	3	2	2	2	2	3	3	2	2	2	2	3	4	5	6	6	7	4	2	1	1	18
17	0	1	1	1	2	2	2	1	1	2	2	1	2	3	2	2	2	2	3	3	3	7	5	2	1	1	17
16	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2	3	5	5	4	2	1	16
15	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	2	4	4	1	15
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from the Baltic sea



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31	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
30	0	0	0	1	1	1	1	1	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0
29	0	0	0	1	1	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0
28	0	0	1	1	2	2	3	3	4	4	3	2	1	1	1	1	0	0	0	0	0	0	0
27	0	0	1	2	3	4	4	5	7	5	4	3	2	2	1	1	1	0	0	0	0	0	0
26	0	1	1	1	3	7	5	8	19	8	5	3	3	2	1	1	1	1	0	0	0	0	0
25	0	1	1	1	2	7	7	12	43	12	7	4	3	2	2	1	1	1	0	0	0	0	0
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22	0	1	1	1	3	5	7	12	44	23	12	6	3	2	2	1	1	1	0	0	0	0	0
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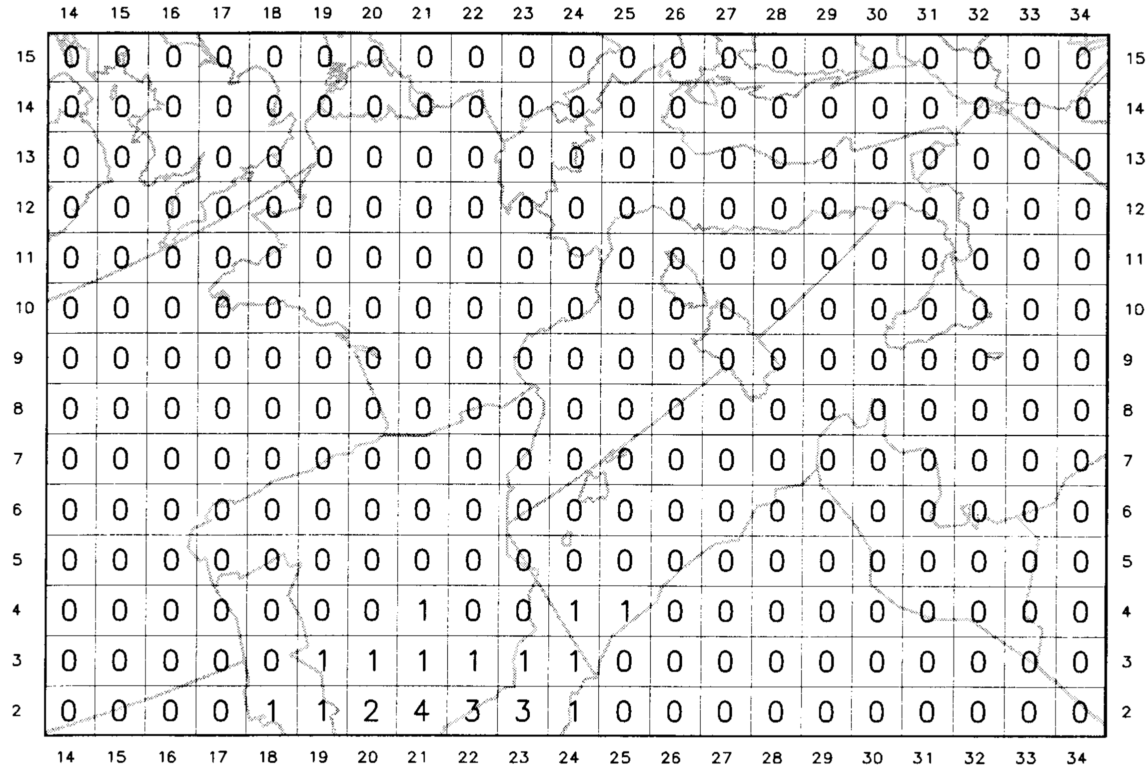
15	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from the Mediteranian Sea



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15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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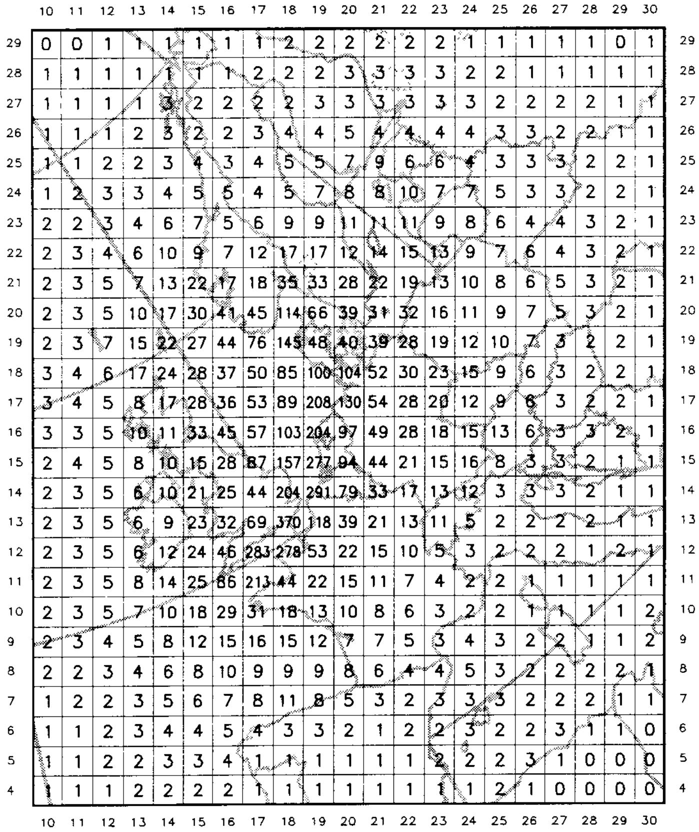
3	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	1	1	2	4	3	3	1	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from the North sea



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29	0	0	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	0	1
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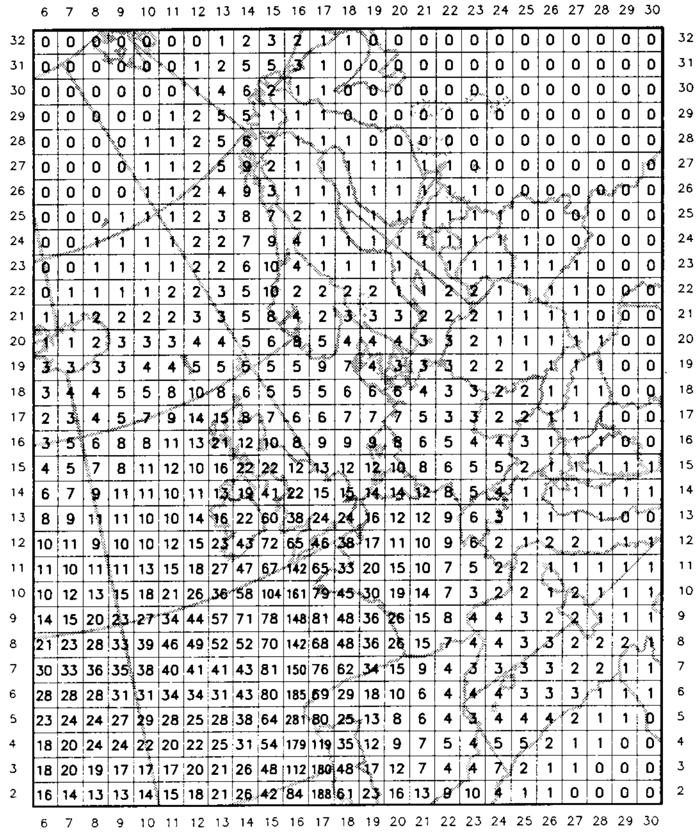
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur Contribution from the remaining N.E. Atlantic Ocean



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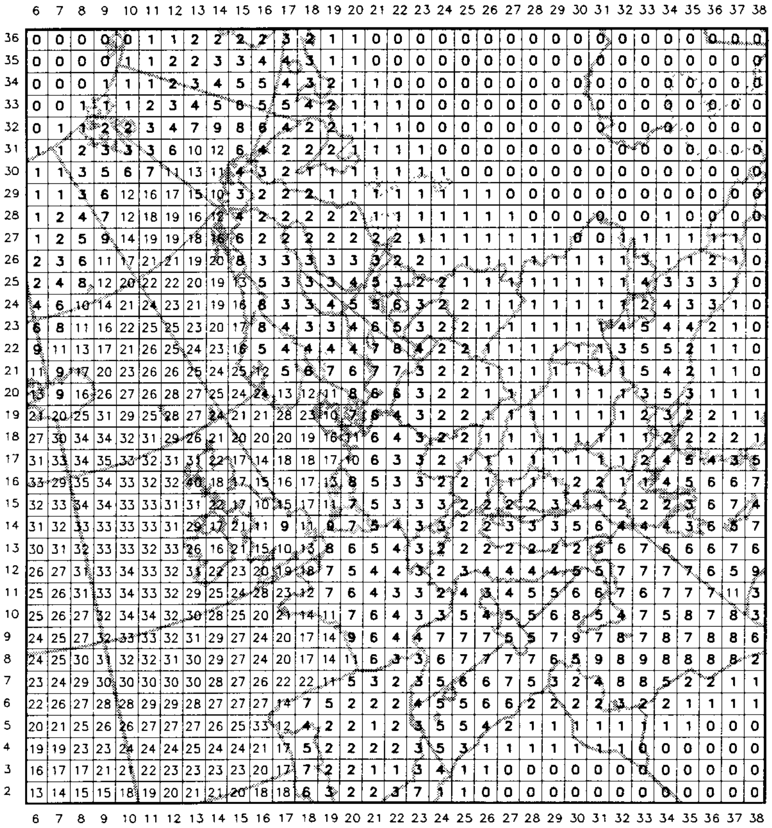
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Contribution from natural marine emissions



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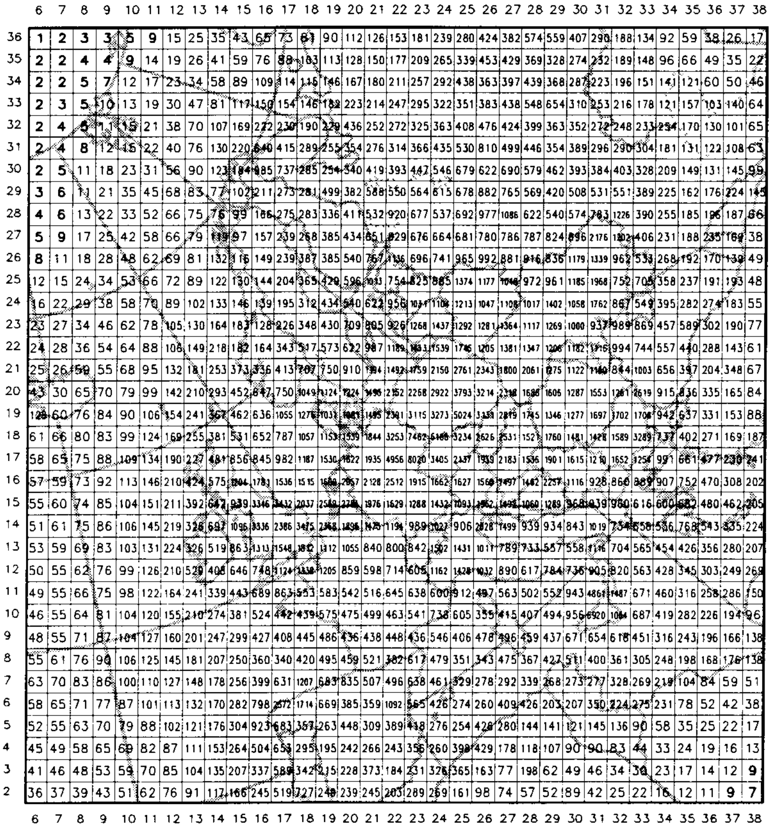
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Sum of attributable contributions



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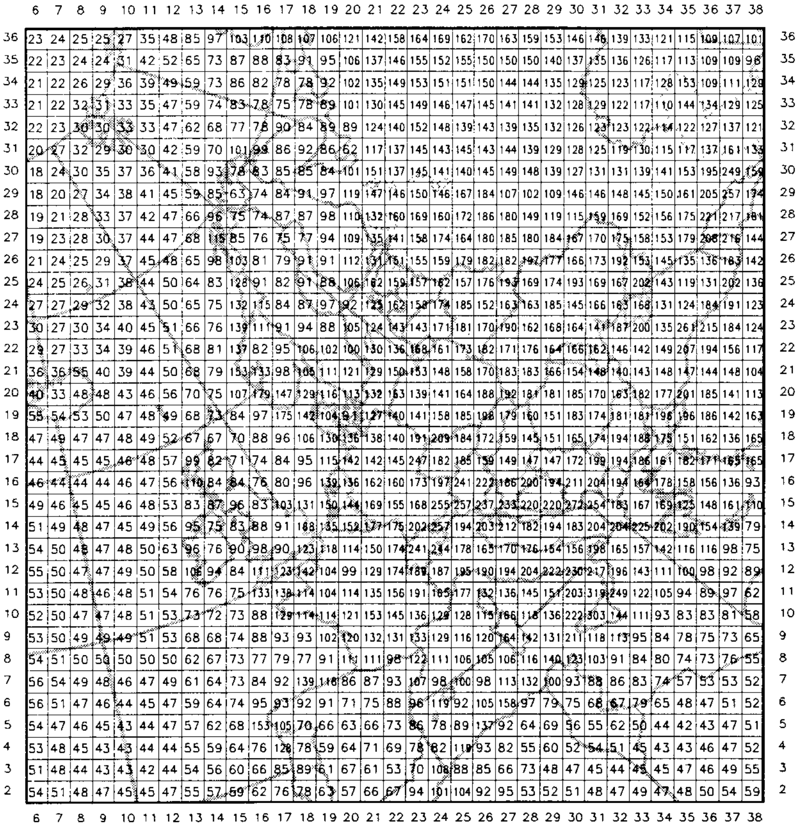
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Inattributable contributions



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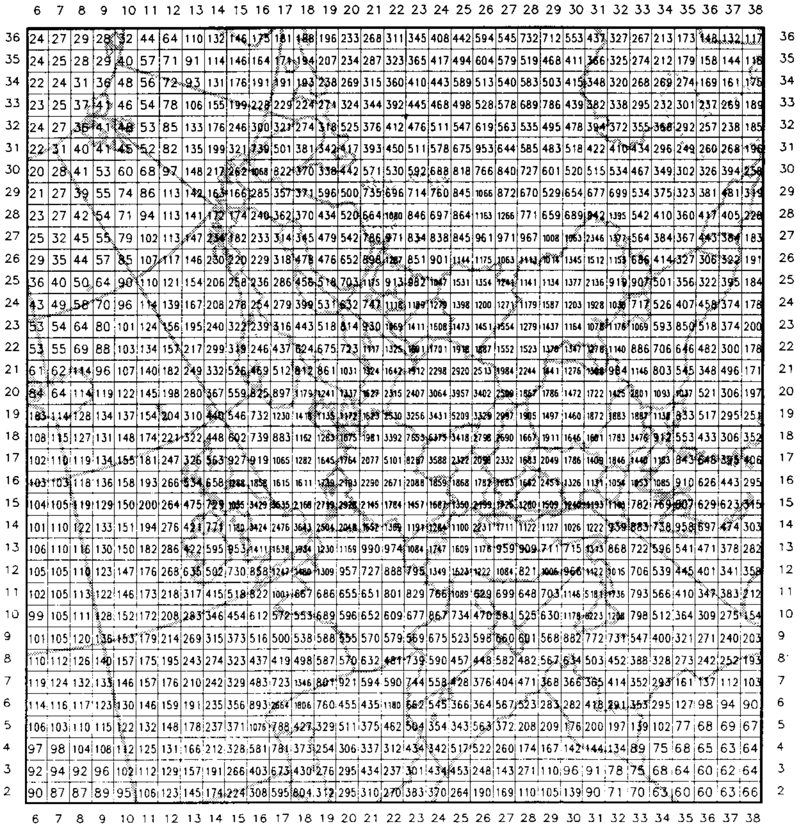
Annual average
between
1985 and 1996

Units: mg(S)/m2

Total Deposition of Oxidized Sulphur
Grand total (all contributions)



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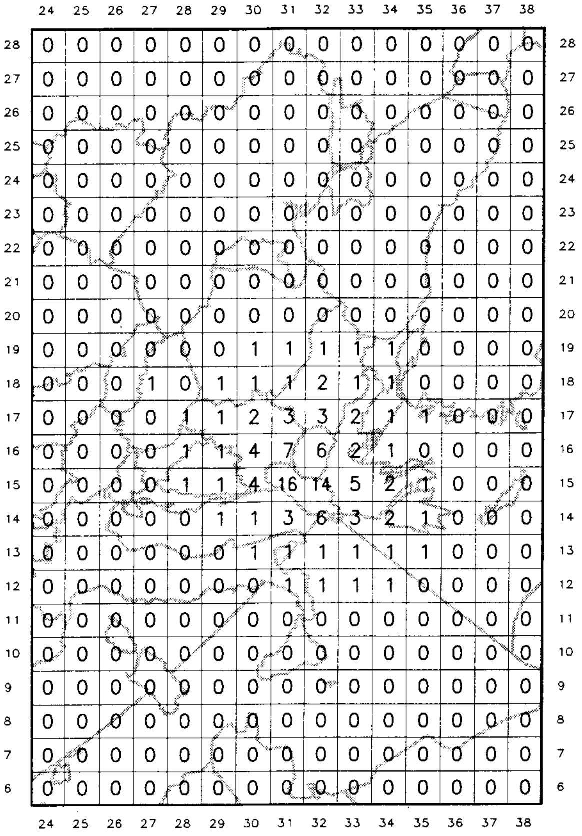
Annual average
between
1985 and 1996

Units: mg(S)/m2

Grid square deposition of Oxidised Nitrogen:

country allocated and total

Total Deposition of Oxidized Nitrogen
Contribution from Albania



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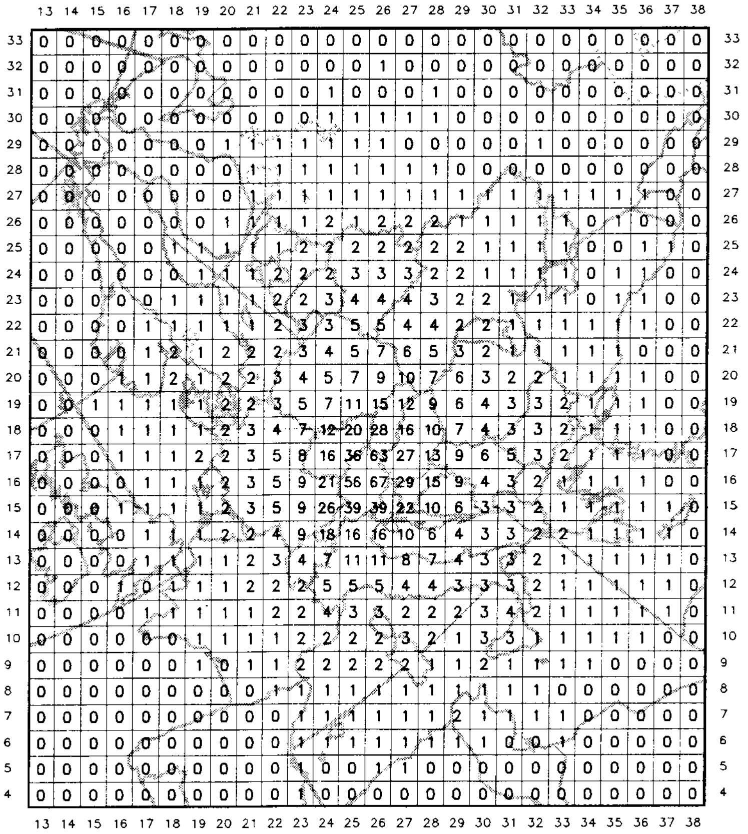
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Austria



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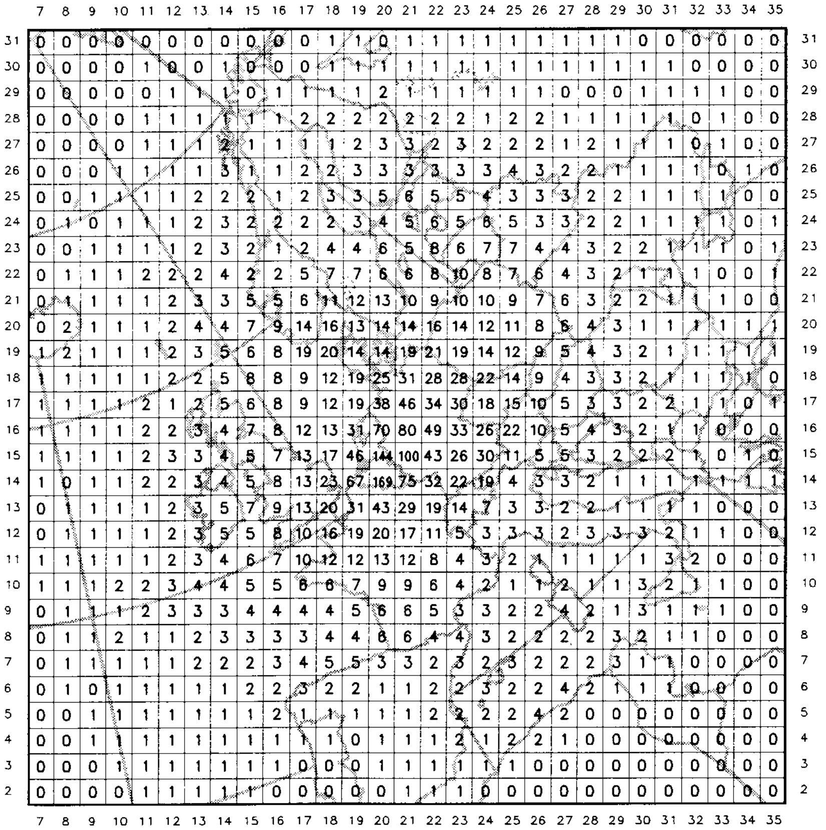
14	0	0	0	0	1	1	1	2	2	4	9	18	16	16	10	6	4	3	3	2	2	1	1	1	1	0
13	0	0	0	0	1	1	1	1	2	3	4	7	11	11	8	7	4	3	3	2	1	1	1	1	1	0
12	0	0	0	1	0	1	1	1	2	2	2	5	5	5	4	4	3	3	3	2	1	1	1	1	1	0
11	0	0	0	0	1	1	1	1	1	2	2	4	3	3	2	2	2	3	4	2	1	1	1	1	1	0
10	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	2	1	3	3	1	1	1	1	1	0	0
9	0	0	0	0	0	0	1	0	1	1	2	2	2	2	2	1	1	2	1	1	1	1	0	0	0	0
8	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Belgium



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31	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
30	0	0	0	0	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
29	0	0	0	0	0	1	1	1	0	1	1	1	1	2	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0
28	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	1	2	2	1	1	1	1	1	0	1	0	0
27	0	0	0	0	1	1	1	2	1	1	1	1	2	3	3	2	3	2	2	2	1	2	1	1	1	0	1	0	0
26	0	0	0	1	1	1	1	3	1	1	2	2	3	3	3	3	3	3	4	3	2	2	1	1	1	1	0	1	0
25	0	0	1	1	1	1	2	2	2	1	2	3	3	5	6	5	5	4	3	3	3	2	2	1	1	1	1	0	0
24	0	1	0	1	1	1	2	3	2	2	2	2	3	4	5	6	5	6	5	3	3	2	2	1	1	1	1	0	1
23	0	0	1	1	1	1	2	3	2	1	2	4	4	6	5	8	6	7	7	4	4	3	2	2	1	1	1	0	1
22	0	1	1	1	2	2	2	4	2	2	5	7	7	6	6	8	10	8	7	6	4	3	2	1	1	1	0	0	1
21	0	1	1	1	1	2	3	3	5	5	6	11	12	13	10	9	10	10	9	7	6	3	2	2	1	1	1	0	0
20	0	2	1	1	1	2	4	4	7	9	14	16	13	14	14	16	14	12	11	8	6	4	3	1	1	1	1	1	1
19	1	2	1	1	1	2	3	5	6	8	19	20	14	14	19	21	19	14	12	9	5	4	3	2	1	1	1	1	1
18	1	1	1	1	1	2	2	5	8	8	9	12	19	25	31	28	28	22	14	9	4	3	3	2	1	1	1	1	0
17	1	1	1	1	2	1	2	5	6	8	9	12	19	38	46	34	30	18	15	10	5	3	3	2	2	1	1	0	1
16	1	1	1	1	2	2	3	4	7	8	12	13	31	70	80	49	33	26	22	10	5	4	3	2	1	1	0	0	0
15	1	1	1	1	2	3	3	4	5	7	13	17	46	144	100	43	26	30	11	5	5	3	2	2	2	1	0	1	0
14	1	0	1	1	2	2	3	4	5	8	13	23	67	169	75	32	22	19	4	3	3	2	1	1	1	1	1	1	1
13	0	1	1	1	1	2	3	5	7	9	13	20	31	43	29	19	14	7	3	3	2	2	1	1	1	1	0	0	0
12	0	1	1	1	1	2	3	5	5	8	10	16	19	20	17	11	5	3	3	3	2	3	3	3	2	1	1	0	0
11	1	1	1	1	1	2	3	4	6	7	10	12	12	13	12	8	4	3	2	1	1	1	1	1	3	2	0	0	0
10	1	1	1	2	2	3	4	4	5	5	6	6	7	9	9	6	4	2	1	1	2	1	1	3	2	1	1	0	0
9	0	1	1	1	2	3	3	3	4	4	4	4	5	6	6	5	3	3	2	2	4	2	1	3	1	1	1	0	0
8	0	1	1	2	1	1	2	3	3	3	3	4	4	6	6	4	4	3	2	2	2	2	3	2	1	1	0	0	0
7	0	1	1	1	1	1	2	2	2	3	4	5	5	3	3	2	3	2	3	2	2	2	3	1	1	0	0	0	0
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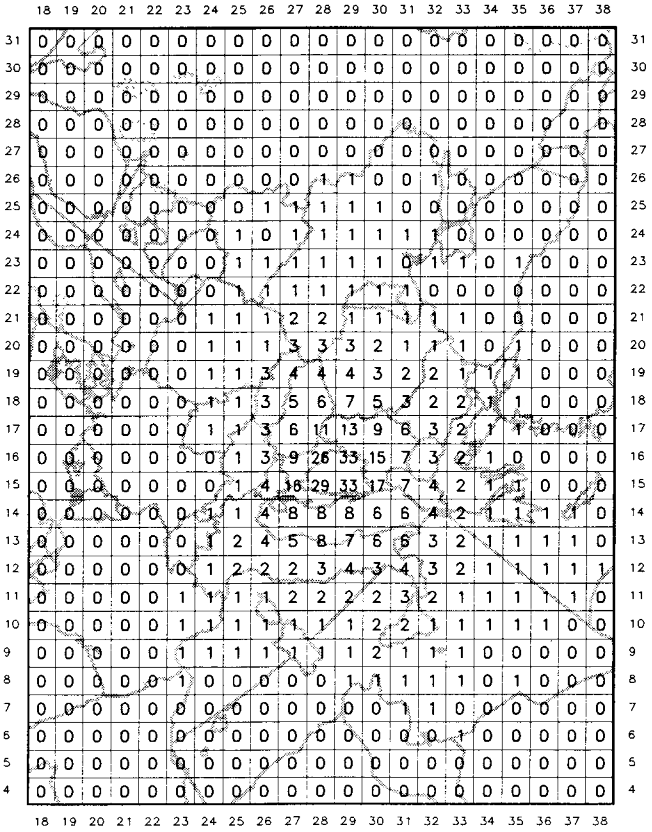
5	0	0	1	1	1	1	1	1	1	2	1	1	1	1	1	2	2	2	2	4	2	0	0	0	0	0	0	0	0
4	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	2	1	2	2	1	0	0	0	0	0	0	0	0
3	0	0	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Bosnia & Hercegovina



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30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0
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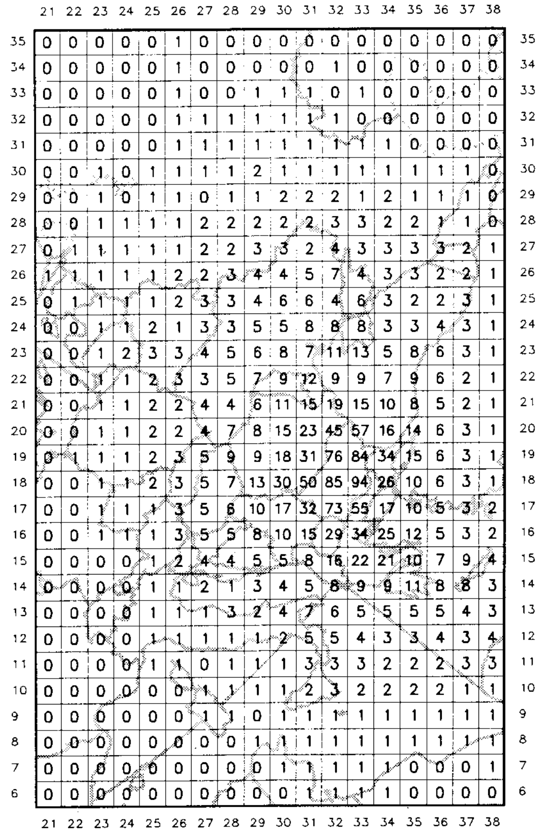
24	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1	0	0	0
22	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	1	1	1	2	2	1	1	1	1	1	0	0	0	0	0
20	0	0	0	0	0	0	1	1	1	3	3	3	2	1	1	1	0	1	0	0	0
19	0	0	0	0	0	0	1	1	3	4	4	4	3	2	2	1	1	1	0	0	0
18	0	0	0	0	0	0	1	1	3	5	6	7	5	3	2	2	1	1	0	0	0
17	0	0	0	0	0	0	1	1	3	6	11	13	9	6	3	2	1	1	0	0	0
16	0	0	0	0	0	0	0	1	3	9	26	33	15	7	3	2	1	0	0	0	0
15	0	0	0	0	0	0	0	1	4	16	29	33	17	7	4	2	1	1	0	0	0
14	0	0	0	0	0	0	1	1	4	8	8	8	6	6	4	2	1	1	1	1	0
13	0	0	0	0	0	0	1	2	4	5	8	7	6	6	3	2	1	1	1	1	0
12	0	0	0	0	0	0	1	2	2	2	3	4	3	4	3	2	1	1	1	1	1
11	0	0	0	0	0	1	1	1	1	2	2	2	2	3	2	1	1	1	1	1	0
10	0	0	0	0	0	1	1	1	1	1	1	1	2	2	1	1	1	1	1	0	0
9	0	0	0	0	0	1	1	1	1	1	1	1	2	1	1	1	0	0	0	0	0
8	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Bulgaria



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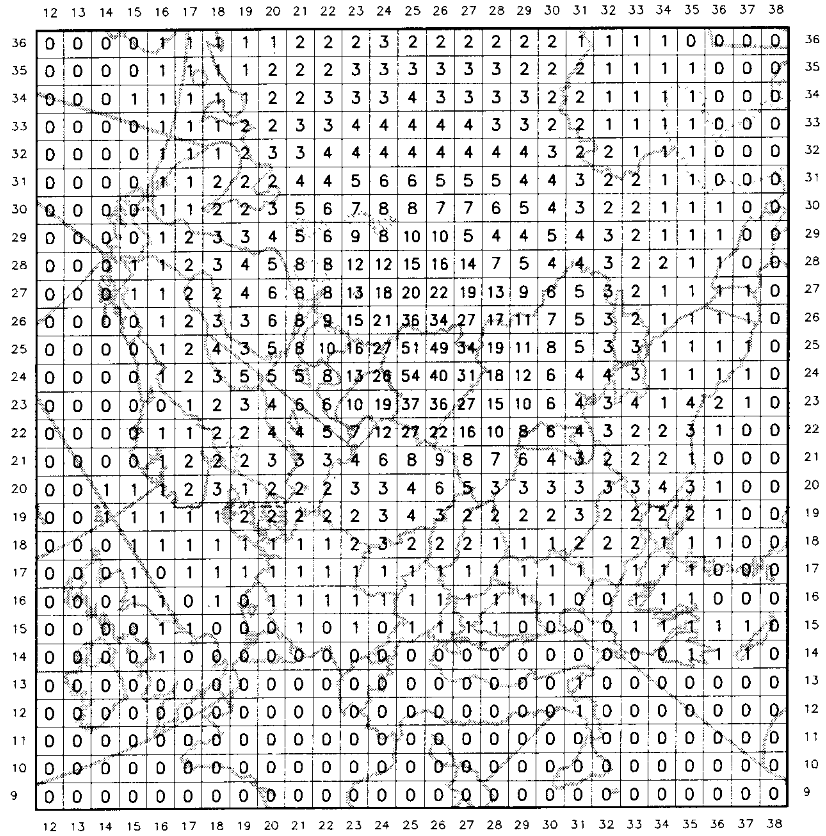
34	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
33	0	0	0	0	0	1	0	0	1	1	1	0	1	0	0	0	0	0
32	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0
31	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0
30	0	0	1	0	1	1	1	1	2	1	1	1	1	1	1	1	1	0
29	0	0	1	0	1	1	0	1	1	2	2	2	1	2	1	1	1	0
28	0	0	1	1	1	1	2	2	2	2	2	3	3	2	2	1	1	0
27	0	1	1	1	1	1	2	2	3	3	2	4	3	3	3	3	2	1
26	1	1	1	1	1	2	2	3	4	4	5	7	4	3	3	2	2	1
25	0	1	1	1	1	2	3	3	4	6	6	4	6	3	2	2	3	1
24	0	0	1	1	2	1	3	3	5	5	8	8	8	3	3	4	3	1
23	0	0	1	2	3	3	4	5	6	8	7	11	13	5	8	6	3	1
22	0	0	1	1	2	3	3	5	7	9	12	9	9	7	9	6	2	1
21	0	0	1	1	2	2	4	4	6	11	15	19	15	10	8	5	2	1
20	0	0	1	1	2	2	4	7	8	15	23	45	57	16	14	6	3	1
19	0	1	1	1	2	3	5	9	9	18	31	76	84	34	15	6	3	1
18	0	0	1	1	2	3	5	7	13	30	50	85	94	26	10	6	3	1
17	0	0	1	1	1	3	5	6	10	17	32	73	55	17	10	5	3	2
16	0	0	1	1	1	3	5	5	8	10	15	29	34	25	12	5	3	2
15	0	0	0	0	1	2	4	4	5	5	8	16	22	21	10	7	9	4
14	0	0	0	0	1	1	2	1	3	4	5	8	9	9	11	8	8	3
13	0	0	0	0	1	1	1	3	2	4	7	6	5	5	5	5	4	3
12	0	0	0	0	1	1	1	1	1	2	5	5	4	3	3	4	3	4
11	0	0	0	0	1	1	0	1	1	1	3	3	3	2	2	2	3	3
10	0	0	0	0	0	0	1	1	1	1	2	3	2	2	2	2	1	1
9	0	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1
8	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
7	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1
6	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Byelorussia



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35	0	0	0	0	1	1	1	1	2	2	2	3	3	3	3	3	3	2	2	2	1	1	1	1	0	0	0
34	0	0	0	1	1	1	1	1	2	2	3	3	3	4	3	3	3	3	2	2	1	1	1	1	0	0	0
33	0	0	0	0	1	1	1	2	2	3	3	4	4	4	4	4	3	3	2	2	1	1	1	1	0	0	0
32	0	0	0	0	1	1	1	2	3	3	4	4	4	4	4	4	4	4	3	2	2	1	1	1	0	0	0
31	0	0	0	0	1	1	2	2	2	4	4	5	6	6	5	5	5	4	4	3	2	2	1	1	0	0	0
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29	0	0	0	0	1	2	3	3	4	5	6	9	8	10	10	5	4	4	5	4	3	2	1	1	1	0	0
28	0	0	0	1	1	2	3	4	5	8	8	12	12	15	16	14	7	5	4	4	3	2	2	1	1	0	0
27	0	0	0	1	1	2	2	4	6	8	8	13	18	20	22	19	13	9	6	5	3	2	1	1	1	1	0
26	0	0	0	0	1	2	3	3	6	8	9	15	21	36	34	27	17	11	7	5	3	2	1	1	1	1	0
25	0	0	0	0	1	2	4	3	5	8	10	16	27	51	49	34	19	11	8	5	3	3	1	1	1	1	0
24	0	0	0	0	1	2	3	5	5	5	8	13	26	54	40	31	18	12	6	4	4	3	1	1	1	1	0
23	0	0	0	0	0	1	2	3	4	6	6	10	19	37	36	27	15	10	6	4	3	4	1	4	2	1	0
22	0	0	0	0	1	1	2	2	4	4	5	7	12	27	22	16	10	8	6	4	3	2	2	3	1	0	0
21	0	0	0	0	1	2	2	2	3	3	3	4	6	8	9	8	7	6	4	3	2	2	2	1	0	0	0
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19	0	0	1	1	1	1	1	2	2	2	2	2	3	4	3	2	2	2	2	3	2	2	2	2	1	0	0
18	0	0	0	1	1	1	1	1	1	1	1	2	3	2	2	2	1	1	1	2	2	2	1	1	1	0	0
17	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
16	0	0	0	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	0
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12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
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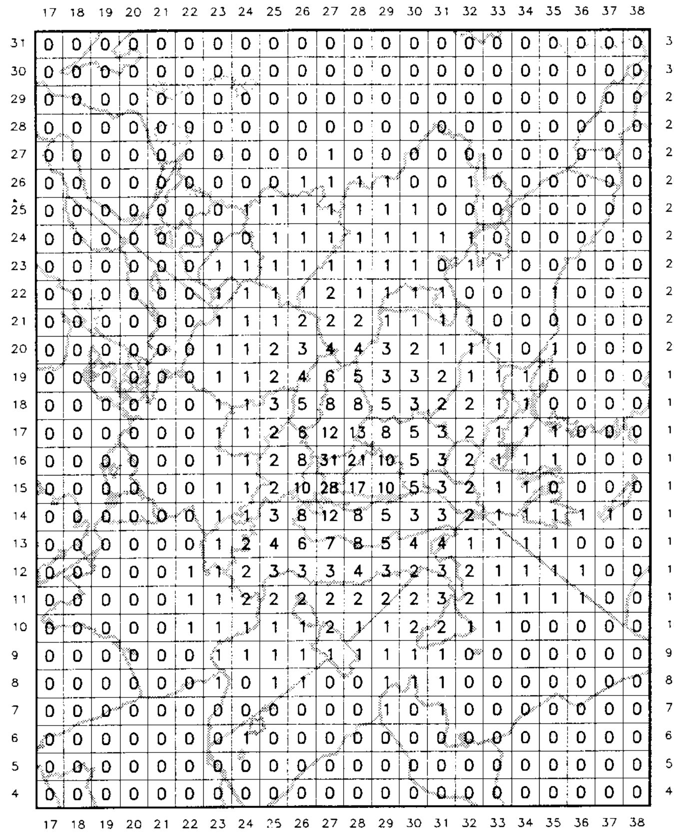
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Croatia



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30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
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22	0	0	0	0	0	0	1	1	1	1	2	1	1	1	1	0	0	0	1	0	0	0
21	0	0	0	0	0	0	1	1	1	2	2	2	1	1	1	1	0	0	0	0	0	0
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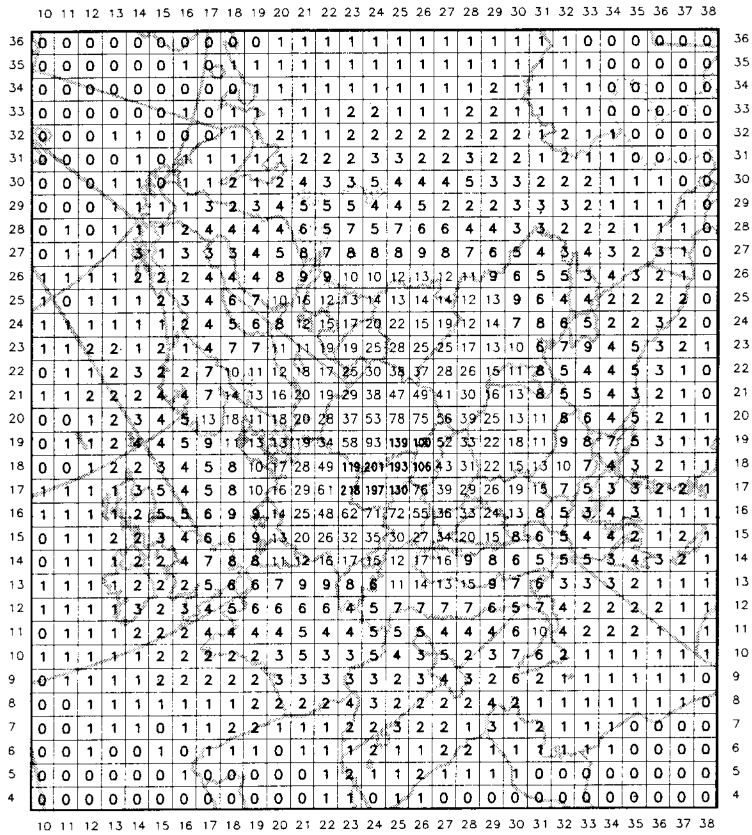
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Czech Republic



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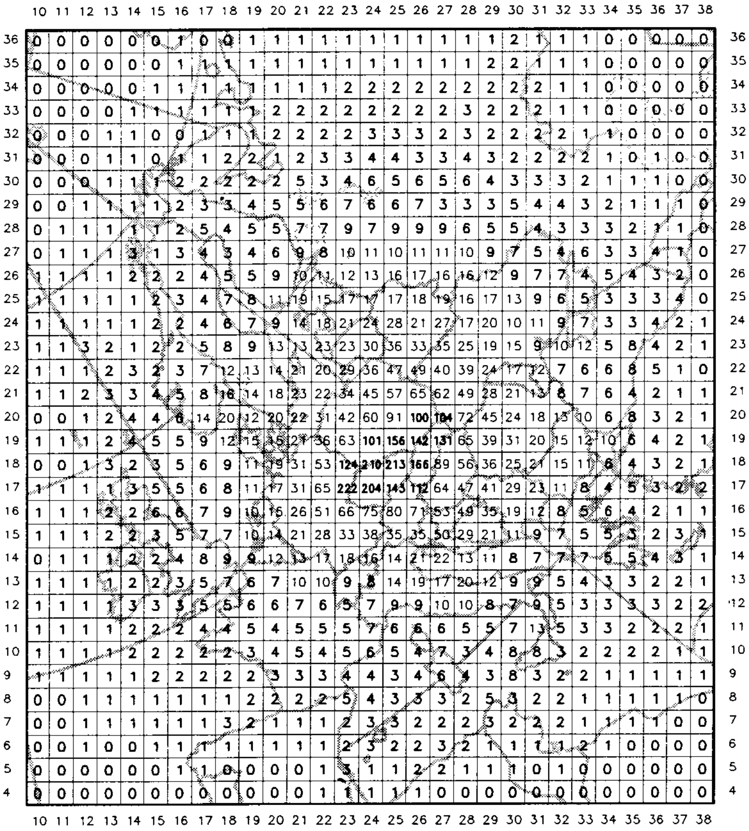
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Czechoslovakia



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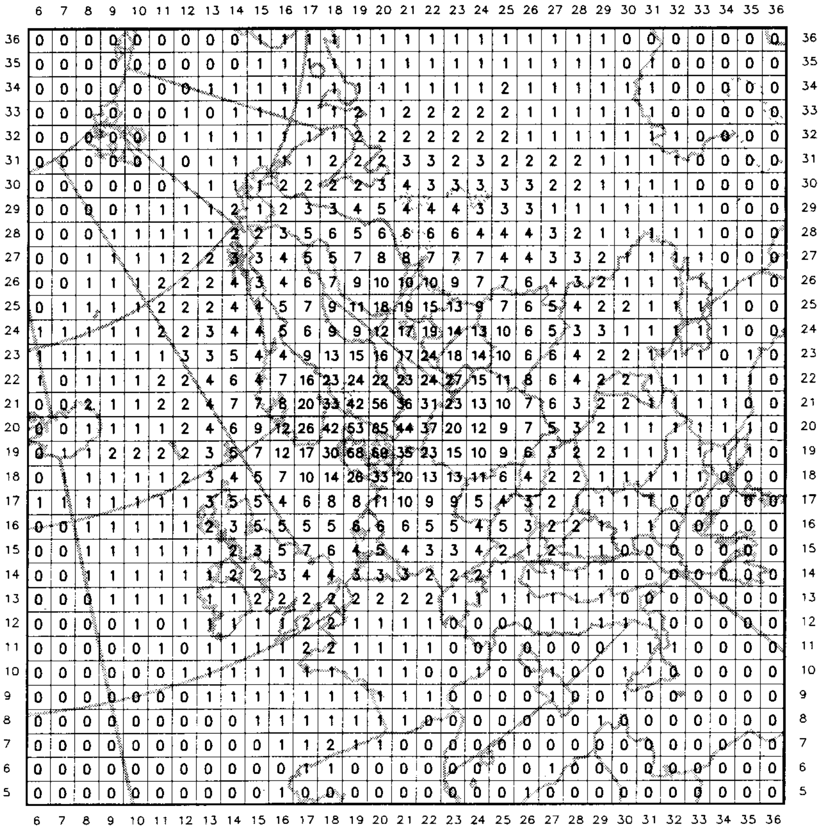
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Denmark



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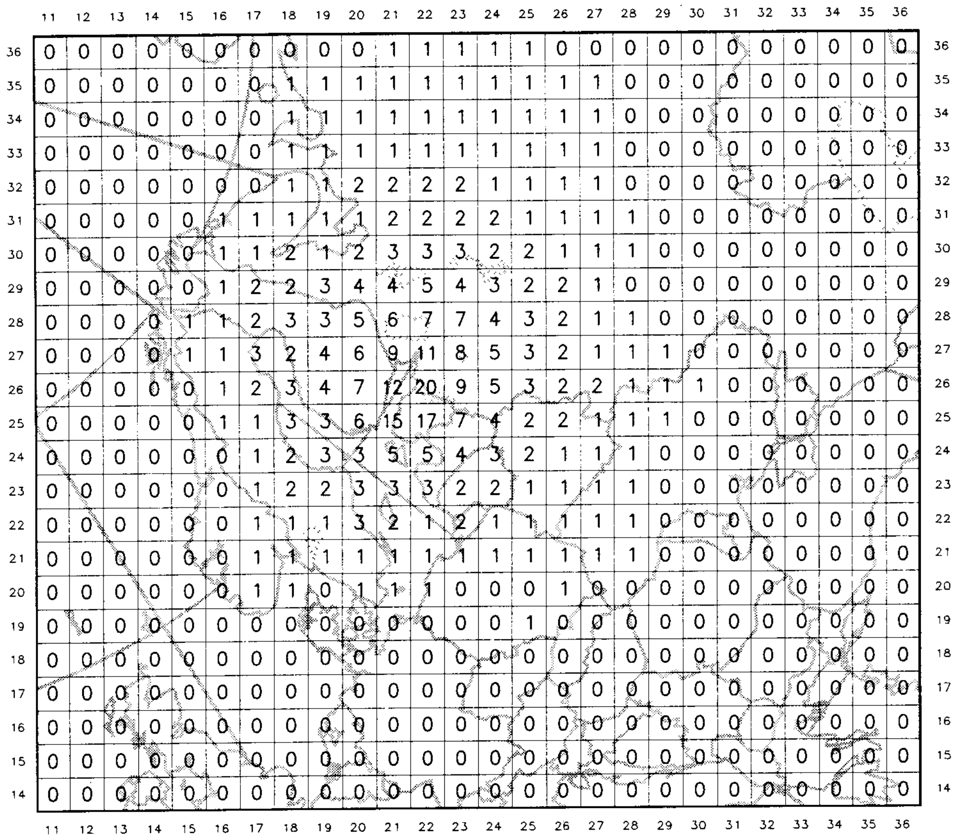
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Estonia



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28	0	0	0	0	1	1	2	3	3	5	6	7	7	4	3	2	1	1	0	0	0	0	0	0	0	0	28
27	0	0	0	0	1	1	3	2	4	6	9	11	8	5	3	2	1	1	1	0	0	0	0	0	0	0	27
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14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
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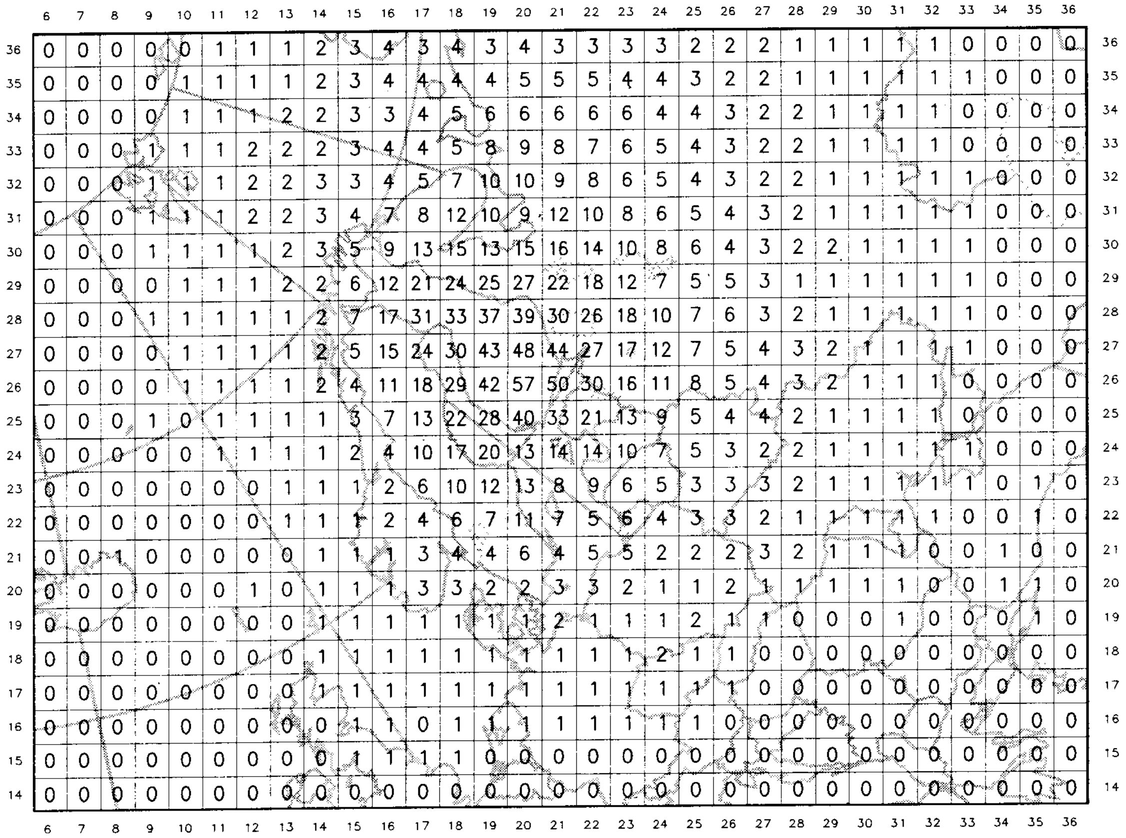
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Finland



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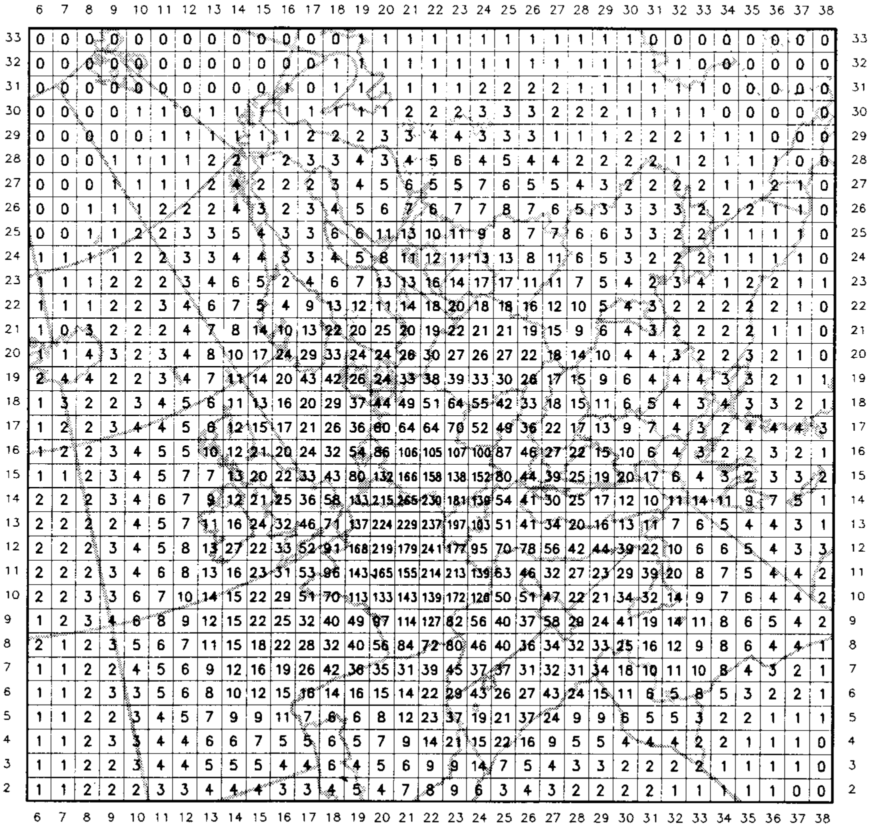
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from France



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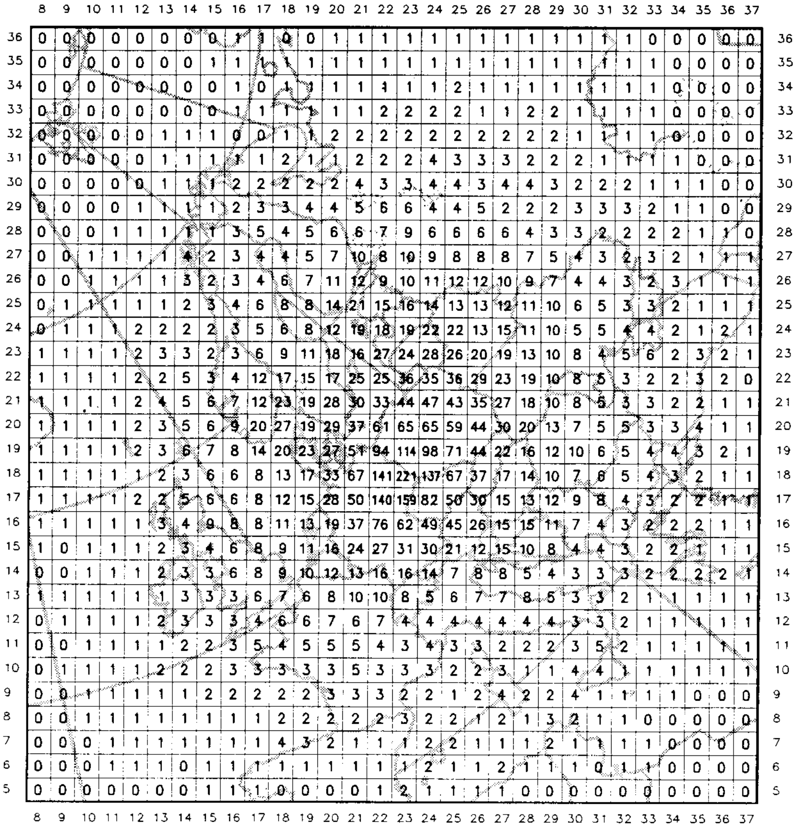
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from German Democratic Republic



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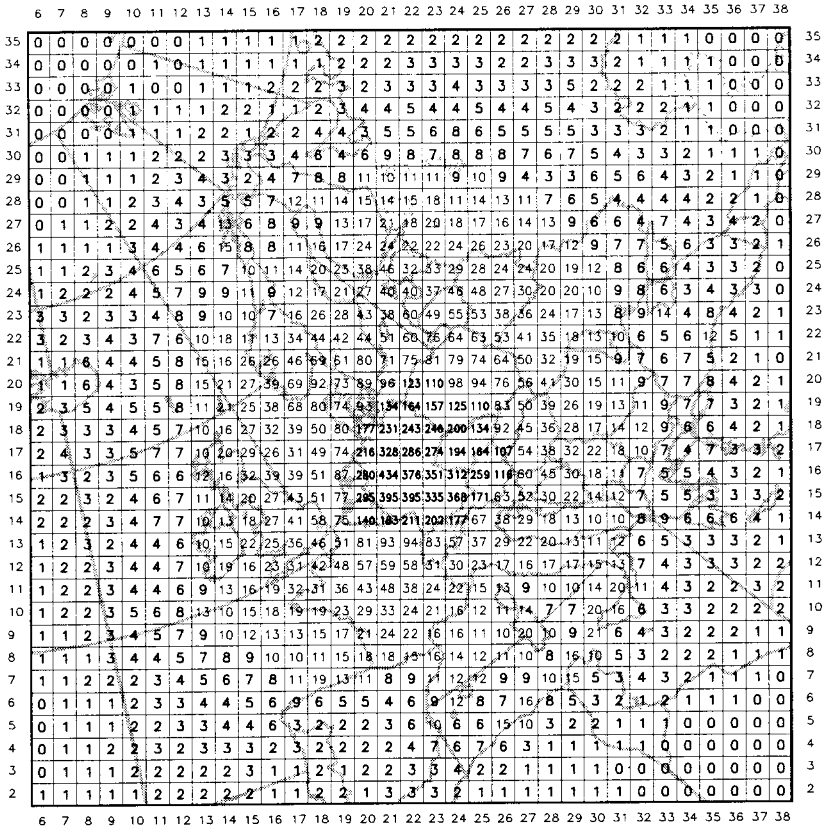
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Federal Republic of Germany



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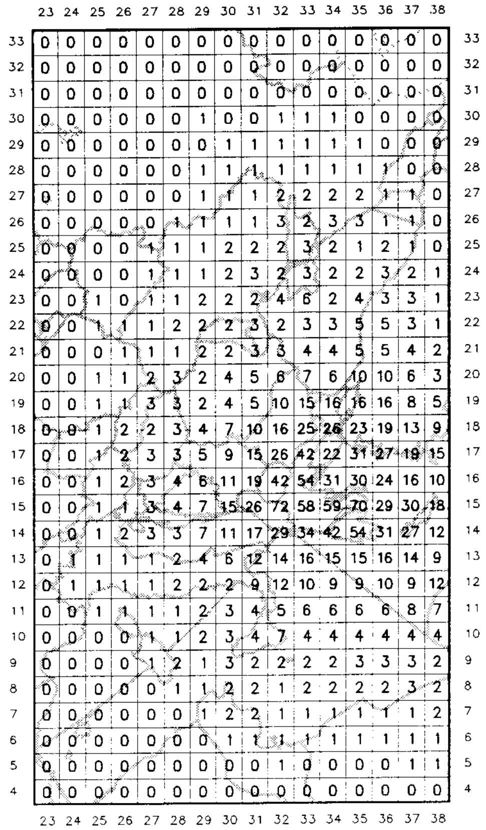
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Greece



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31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0
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28	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0
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19	0	0	1	1	3	3	2	4	5	10	15	16	16	16	8	5
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13	0	1	1	1	1	2	4	6	12	14	16	15	15	16	14	9
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9	0	0	0	0	1	2	1	3	2	2	2	2	3	3	3	2
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6	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
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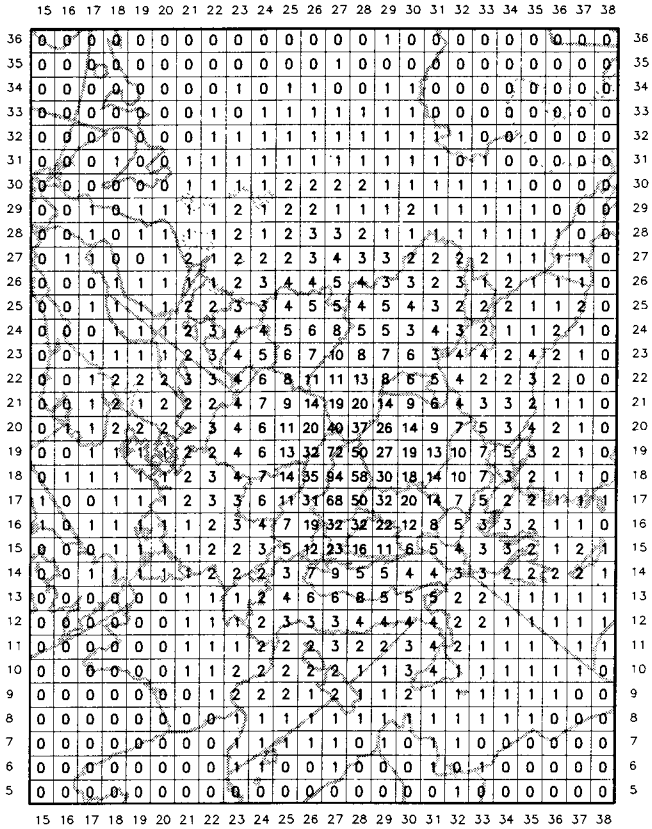
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Hungary



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35	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
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32	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
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27	0	1	1	0	0	1	2	1	2	2	2	3	4	3	3	2	2	2	2	1	1	1	1	0
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19	0	0	1	1	1	1	2	2	4	6	13	32	72	50	27	19	13	10	7	5	3	2	1	0
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16	1	0	1	1	1	1	1	2	3	4	7	19	32	32	22	12	8	5	3	3	2	1	1	0
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14	0	0	1	1	1	1	1	2	2	2	3	7	9	5	5	4	4	3	3	2	2	2	2	1
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12	0	0	0	0	0	0	1	1	1	2	3	3	3	4	4	4	4	2	2	1	1	1	1	1
11	0	0	0	0	0	0	1	1	1	2	2	2	3	2	2	3	4	2	1	1	1	1	1	1
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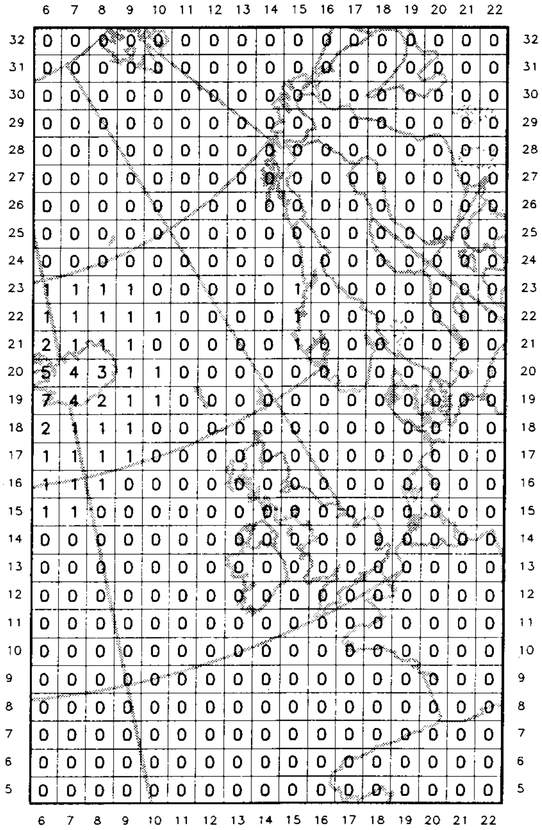
8	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
7	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	1	1	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	0	1	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Iceland



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31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0
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21	2	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0
20	5	4	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0
19	7	4	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
18	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
17	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
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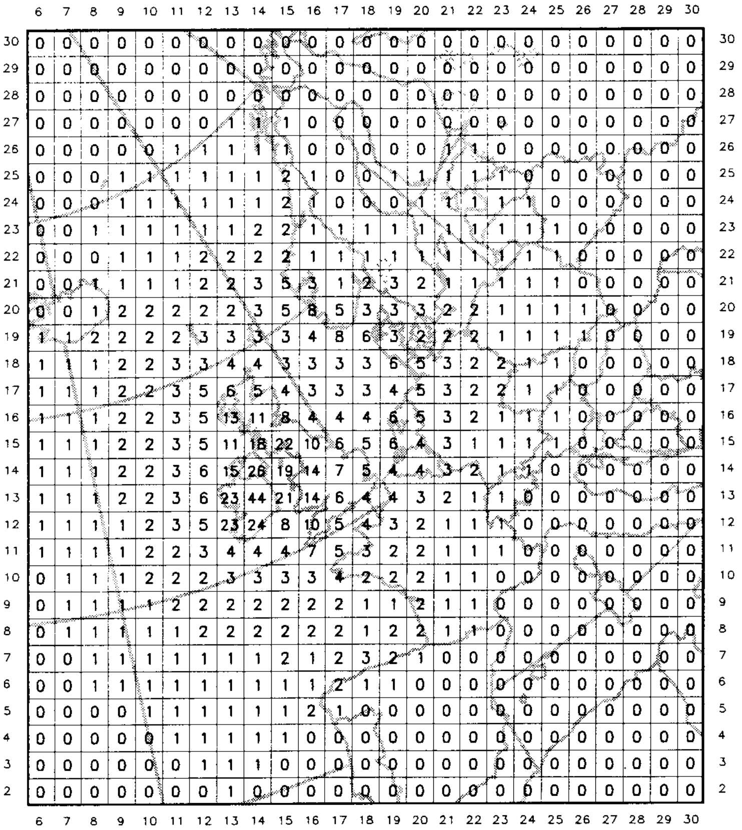
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from the Republic of Ireland



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29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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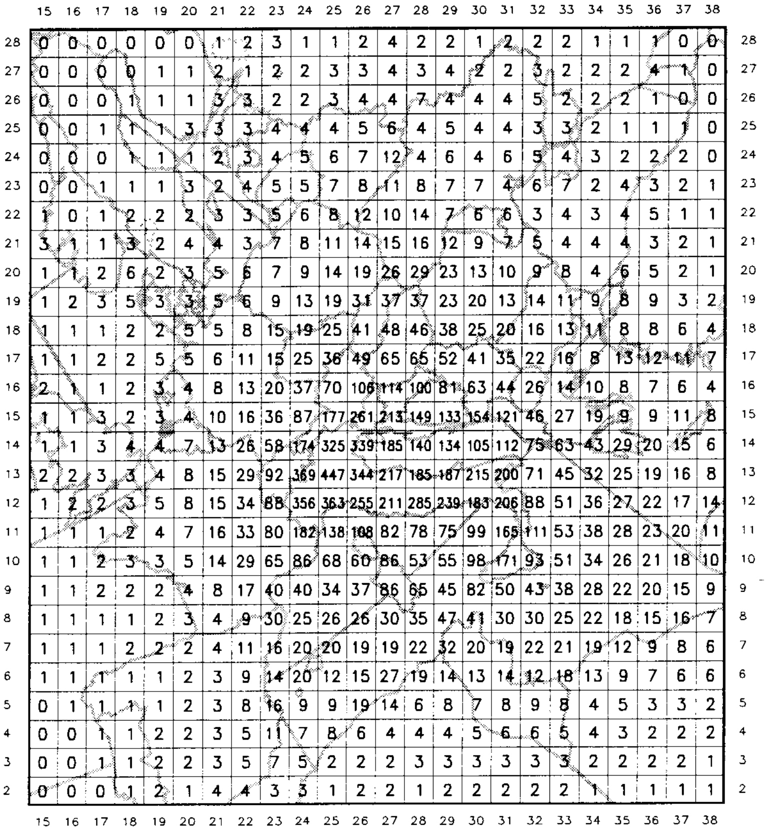
7	0	0	1	1	1	1	1	1	1	2	1	2	3	2	1	0	0	0	0	0	0	0	0	0	0
6	0	0	1	1	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	1	1	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Italy

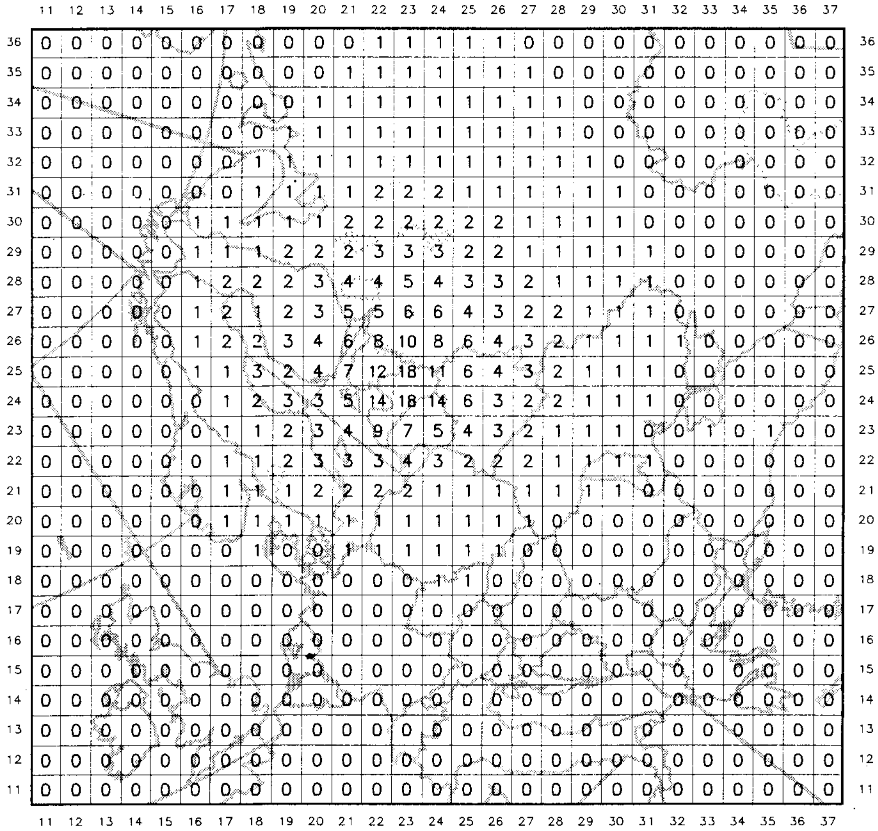


	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
28	0	0	0	0	0	0	1	2	3	1	1	2	4	2	2	1	2	2	2	1	1	1	0	0
27	0	0	0	0	1	1	2	1	2	2	3	3	4	3	4	2	2	3	2	2	2	4	1	0
26	0	0	0	1	1	1	3	3	2	2	3	4	4	7	4	4	4	5	2	2	2	1	0	0
25	0	0	1	1	1	3	3	3	4	4	4	5	6	4	5	4	4	3	3	2	1	1	1	0
24	0	0	0	1	1	1	2	3	4	5	6	7	12	4	6	4	6	5	4	3	2	2	2	0
23	0	0	1	1	1	3	2	4	5	5	7	8	11	8	7	7	4	6	7	2	4	3	2	1
22	1	0	1	2	2	2	3	3	5	6	8	12	10	14	7	6	6	3	4	3	4	5	1	1
21	3	1	1	3	2	4	4	3	7	8	11	14	15	16	12	9	7	5	4	4	4	3	2	1
20	1	1	2	6	2	3	5	6	7	9	14	19	26	29	23	13	10	9	8	4	6	5	2	1
19	1	2	3	5	3	3	5	6	9	13	19	31	37	37	23	20	13	14	11	9	8	9	3	2
18	1	1	1	2	2	5	5	8	15	19	25	41	48	46	38	25	20	16	13	11	8	8	6	4
17	1	1	2	2	5	5	6	11	15	25	36	49	65	65	52	41	35	22	16	8	13	12	11	7
16	2	1	1	2	3	4	8	13	20	37	70	106	114	100	81	63	44	26	14	10	8	7	6	4
15	1	1	3	2	3	4	10	16	36	87	177	261	213	149	133	154	121	46	27	19	9	9	11	8
14	1	1	3	4	4	7	13	26	58	174	325	339	185	140	134	105	112	75	63	43	29	20	15	6
13	2	2	3	3	4	8	15	29	92	369	447	344	217	185	187	215	200	71	45	32	25	19	16	8
12	1	2	2	3	5	8	15	34	88	356	363	255	211	285	239	183	206	88	51	36	27	22	17	14
11	1	1	1	2	4	7	16	33	80	182	138	108	82	78	75	99	165	111	53	38	28	23	20	11
10	1	1	2	3	3	5	14	29	65	86	68	60	86	53	55	98	171	93	51	34	26	21	18	10
9	1	1	2	2	2	4	8	17	40	40	34	37	86	65	45	82	50	43	38	28	22	20	15	9
8	1	1	1	1	2	3	4	9	30	25	26	26	30	35	47	41	30	30	25	22	18	15	16	7
7	1	1	1	2	2	2	4	11	16	20	20	19	19	22	32	20	19	22	21	19	12	9	8	6
6	1	1	1	1	1	2	3	9	14	20	12	15	27	19	14	13	14	12	18	13	9	7	6	6
5	0	1	1	1	1	2	3	8	16	9	9	19	14	6	8	7	8	9	8	4	5	3	3	2
4	0	0	1	1	2	2	3	5	11	7	8	6	4	4	4	5	6	6	5	4	3	2	2	2
3	0	0	1	1	2	2	3	5	7	5	2	2	2	3	3	3	3	3	3	2	2	2	2	1
2	0	0	0	1	2	1	4	4	3	3	1	2	2	1	2	2	2	2	2	1	1	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Latvia



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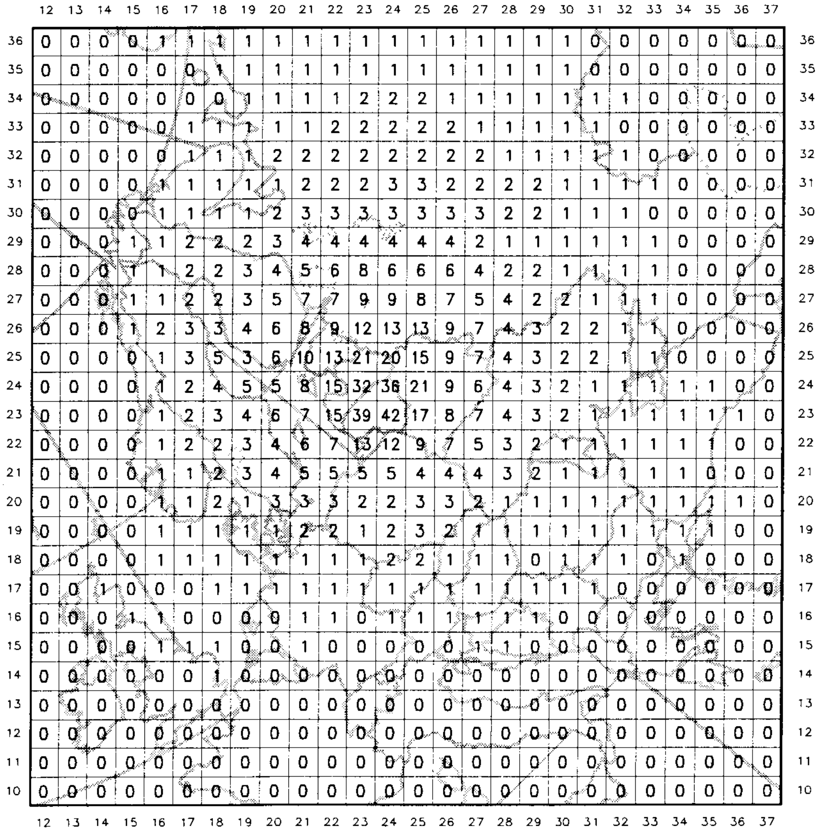
36	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	1	1	1	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0
29	0	0	0	0	0	1	1	1	2	2	2	3	3	3	2	2	1	1	1	1	1	0	0	0	0	0	0
28	0	0	0	0	0	1	2	2	2	3	4	4	5	4	3	3	2	1	1	1	1	0	0	0	0	0	0
27	0	0	0	0	0	1	2	1	2	3	5	5	6	6	4	3	2	2	1	1	1	0	0	0	0	0	0
26	0	0	0	0	0	1	2	2	3	4	6	8	10	8	6	4	3	2	1	1	1	1	0	0	0	0	0
25	0	0	0	0	0	1	1	3	2	4	7	12	18	11	6	4	3	2	1	1	1	0	0	0	0	0	0
24	0	0	0	0	0	0	1	2	3	3	5	14	18	14	6	3	2	2	1	1	1	0	0	0	0	0	0
23	0	0	0	0	0	0	1	1	2	3	4	9	7	5	4	3	2	1	1	1	0	0	1	0	1	0	0
22	0	0	0	0	0	0	1	1	2	3	3	3	4	3	2	2	2	1	1	1	1	0	0	0	0	0	0
21	0	0	0	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0
20	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Lithuania

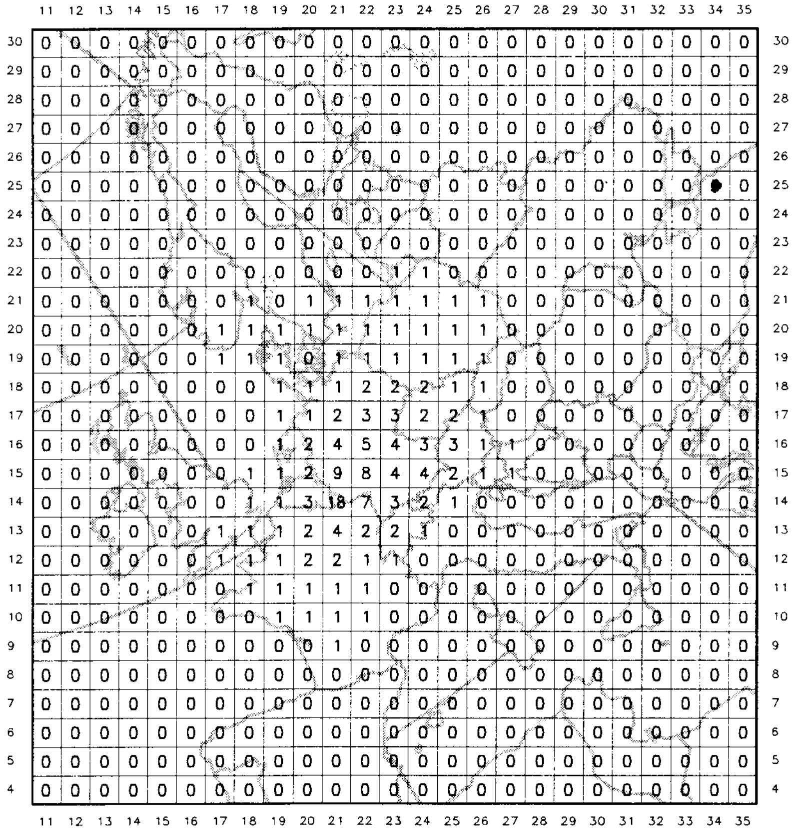


	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
36	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
35	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	1	1	1	1	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0
33	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0
32	0	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	0	0	0	0	0
31	0	0	0	0	1	1	1	1	1	2	2	2	3	3	2	2	2	2	1	1	1	1	0	0	0	0
30	0	0	0	0	1	1	1	1	2	3	3	3	3	3	3	3	2	2	1	1	1	0	0	0	0	0
29	0	0	0	1	1	2	2	2	3	4	4	4	4	4	4	2	1	1	1	1	1	1	0	0	0	0
28	0	0	0	1	1	2	2	3	4	5	6	8	6	6	6	4	2	2	1	1	1	1	0	0	0	0
27	0	0	0	1	1	2	2	3	5	7	7	9	9	8	7	5	4	2	2	1	1	1	0	0	0	0
26	0	0	0	1	2	3	3	4	6	8	9	12	13	13	9	7	4	3	2	2	1	1	0	0	0	0
25	0	0	0	0	1	3	5	3	6	10	13	21	20	15	9	7	4	3	2	2	1	1	0	0	0	0
24	0	0	0	0	1	2	4	5	5	8	15	32	36	21	9	6	4	3	2	1	1	1	1	1	0	0
23	0	0	0	0	1	2	3	4	6	7	15	39	42	17	8	7	4	3	2	1	1	1	1	1	1	0
22	0	0	0	0	1	2	2	3	4	6	7	13	12	9	7	5	3	2	1	1	1	1	1	1	0	0
21	0	0	0	0	1	1	2	3	4	5	5	5	5	4	4	4	3	2	1	1	1	1	1	0	0	0
20	0	0	0	0	1	1	2	1	3	3	3	2	2	3	3	2	1	1	1	1	1	1	1	1	1	0
19	0	0	0	0	1	1	1	1	1	2	2	1	2	3	2	1	1	1	1	1	1	1	1	1	0	0
18	0	0	0	0	1	1	1	1	1	1	1	1	2	2	1	1	1	0	1	1	1	0	1	0	0	0
17	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
16	0	0	0	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0
15	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Luxembourg



	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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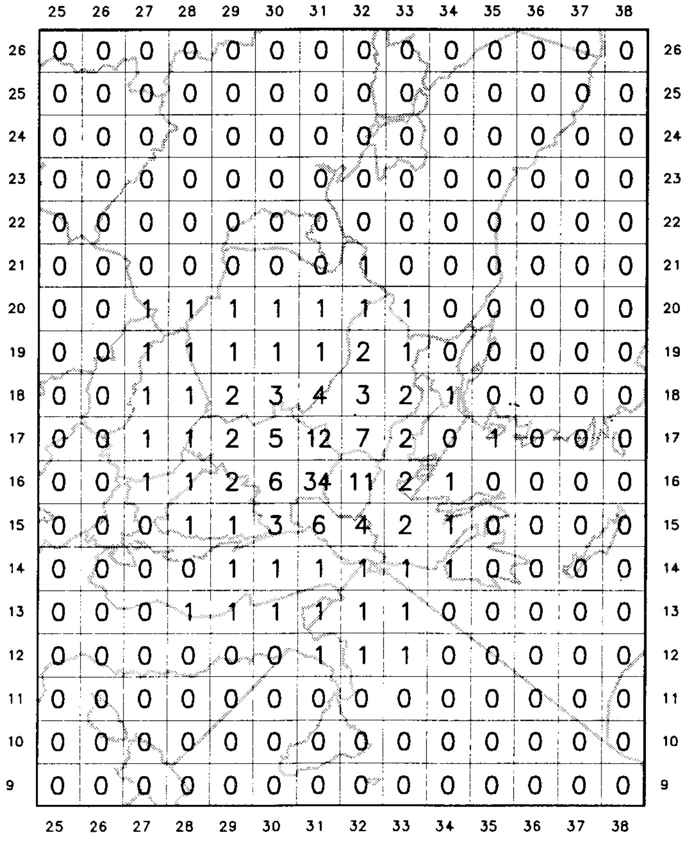
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	1	1	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	1	1	2	3	3	2	2	1	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	1	2	4	5	4	3	3	1	1	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	1	2	9	8	4	4	2	1	1	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	1	1	3	18	7	3	2	1	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	1	1	1	2	4	2	2	1	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	1	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Macedonia (part of former YU)

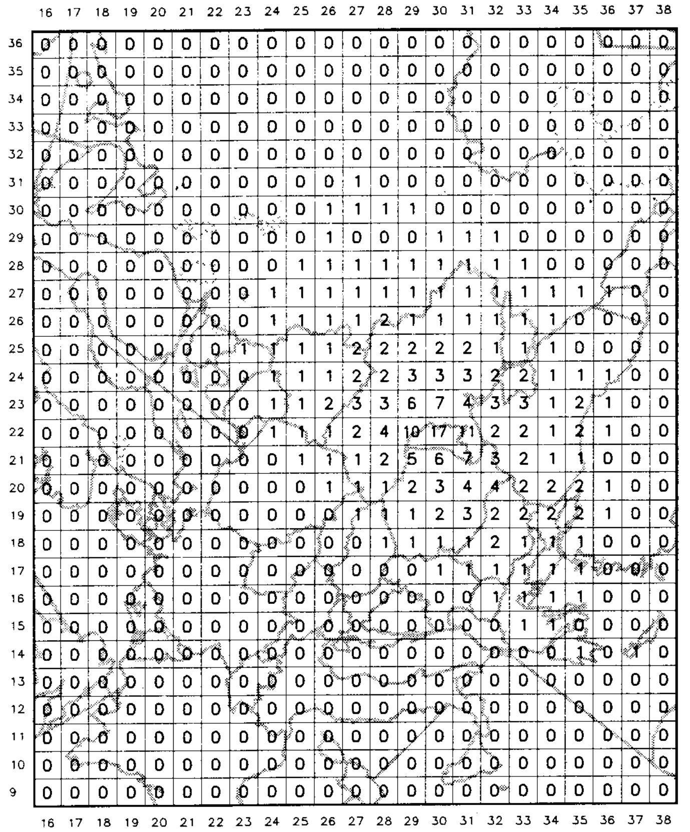


	25	26	27	28	29	30	31	32	33	34	35	36	37	38
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	0	0	0	0	0	0
20	0	0	1	1	1	1	1	1	1	0	0	0	0	0
19	0	0	1	1	1	1	1	2	1	0	0	0	0	0
18	0	0	1	1	2	3	4	3	2	1	0	0	0	0
17	0	0	1	1	2	5	12	7	2	0	1	0	0	0
16	0	0	1	1	2	6	34	11	2	1	0	0	0	0
15	0	0	0	1	1	3	6	4	2	1	0	0	0	0
14	0	0	0	0	1	1	1	1	1	1	0	0	0	0
13	0	0	0	1	1	1	1	1	1	0	0	0	0	0
12	0	0	0	0	0	0	1	1	1	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from the Republic of Moldova



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36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0
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11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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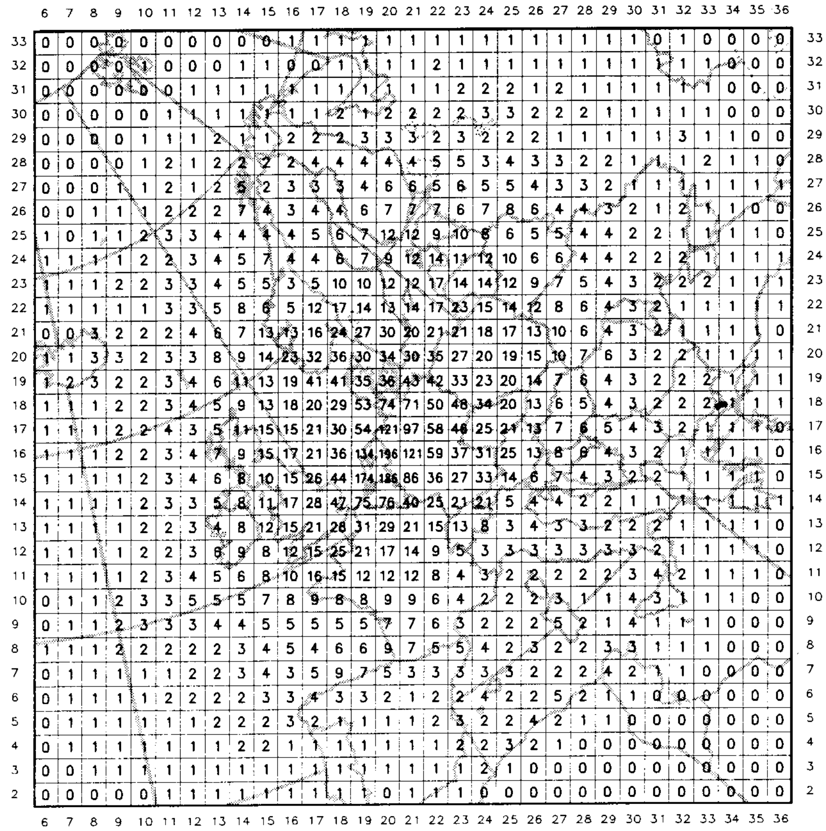
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from the Netherlands



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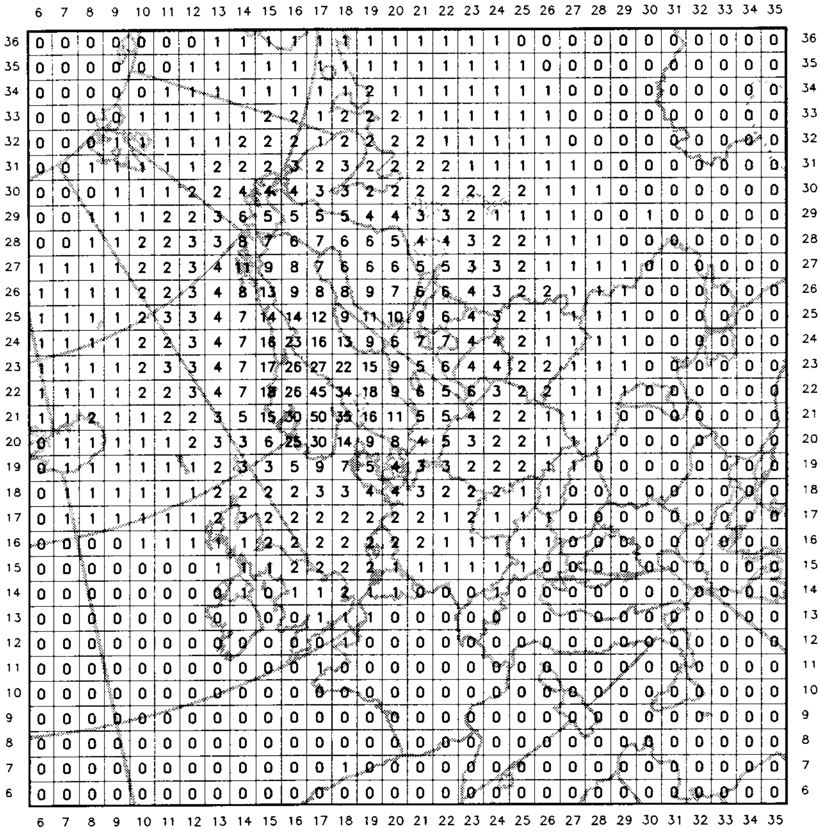
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Norway



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16	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	1	1	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
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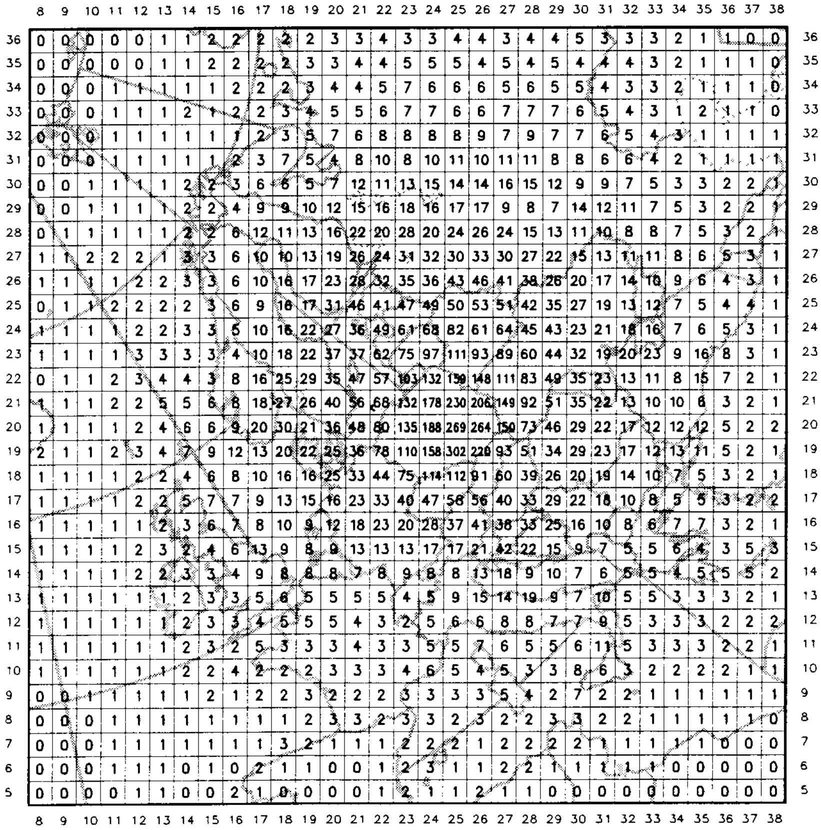
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Poland



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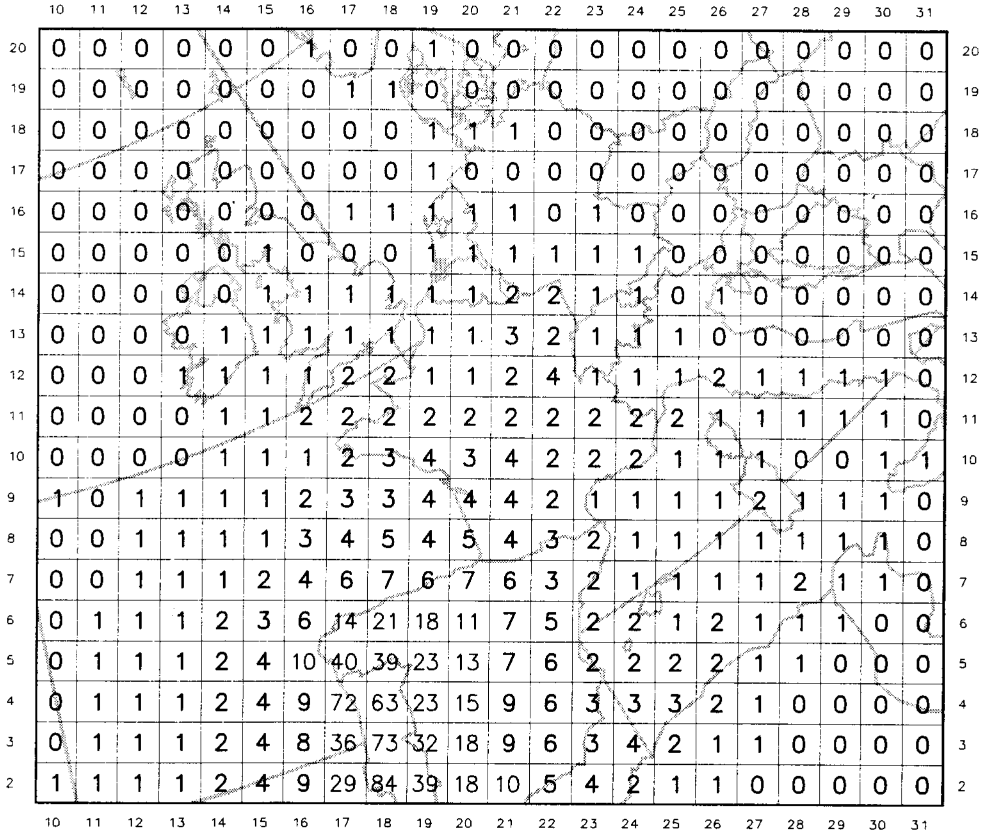
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Portugal



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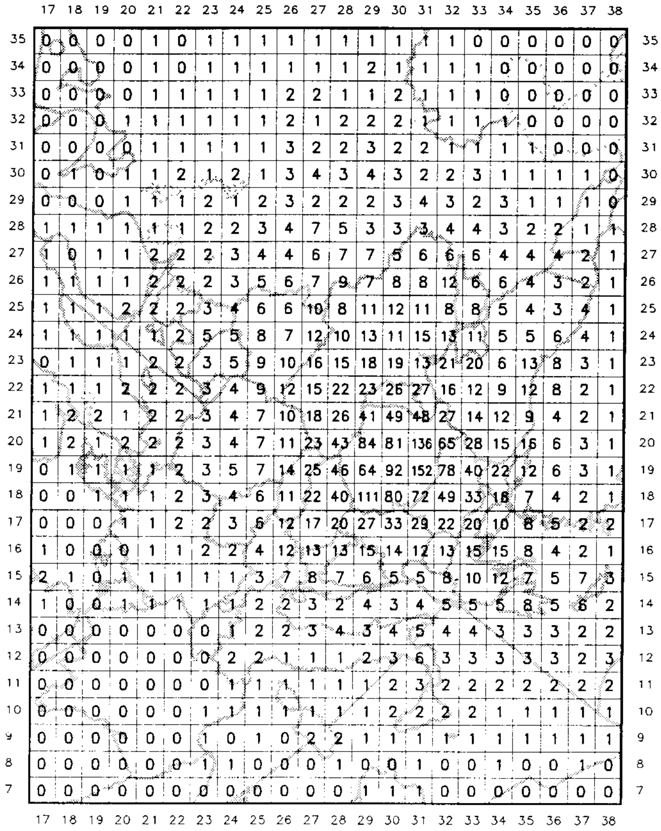
20	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0
15	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
14	0	0	0	0	0	1	1	1	1	1	1	2	2	1	1	0	1	0	0	0	0	0
13	0	0	0	0	1	1	1	1	1	1	1	3	2	1	1	1	0	0	0	0	0	0
12	0	0	0	1	1	1	1	2	2	1	1	2	4	1	1	1	2	1	1	1	1	0
11	0	0	0	0	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	0
10	0	0	0	0	1	1	1	2	3	4	3	4	2	2	2	1	1	1	0	0	1	1
9	1	0	1	1	1	1	2	3	3	4	4	4	2	1	1	1	1	2	1	1	1	0
8	0	0	1	1	1	1	3	4	5	4	5	4	3	2	1	1	1	1	1	1	1	0
7	0	0	1	1	1	2	4	6	7	6	7	6	3	2	1	1	1	1	2	1	1	0
6	0	1	1	1	2	3	6	14	21	18	11	7	5	2	2	1	2	1	1	1	0	0
5	0	1	1	1	2	4	10	40	39	23	13	7	6	2	2	2	2	1	1	0	0	0
4	0	1	1	1	2	4	9	72	63	23	15	9	6	3	3	3	2	1	0	0	0	0
3	0	1	1	1	2	4	8	36	73	32	18	9	6	3	4	2	1	1	0	0	0	0
2	1	1	1	1	2	4	9	29	84	39	18	10	5	4	2	1	1	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Romania



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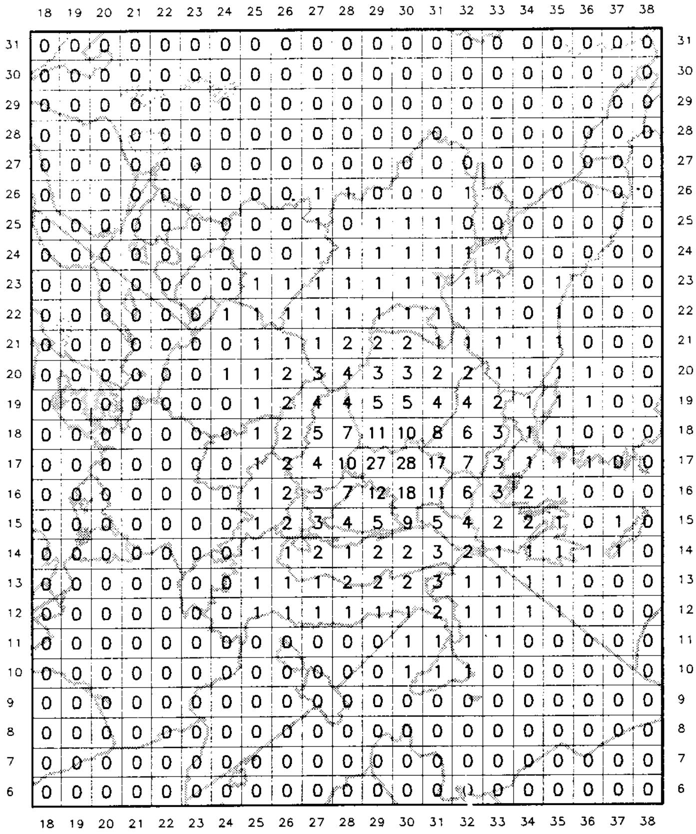
35	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
34	0	0	0	0	1	0	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0
33	0	0	0	0	1	1	1	1	1	2	2	1	1	2	1	1	1	0	0	0	0	0
32	0	0	0	1	1	1	1	1	1	2	1	2	2	2	1	1	1	1	0	0	0	0
31	0	0	0	0	1	1	1	1	1	3	2	2	3	2	2	1	1	1	1	0	0	0
30	0	1	0	1	1	2	1	2	1	3	4	3	4	3	2	2	3	1	1	1	1	0
29	0	0	0	1	1	1	2	1	2	3	2	2	2	3	4	3	2	3	1	1	1	0
28	1	1	1	1	1	1	2	2	3	4	7	5	3	3	3	4	4	3	2	2	1	1
27	1	0	1	1	2	2	2	3	4	4	6	7	7	5	6	6	6	4	4	4	2	1
26	1	1	1	1	2	2	2	3	5	6	7	9	7	8	8	12	6	6	4	3	2	1
25	1	1	1	2	2	2	3	4	6	6	10	8	11	12	11	8	8	5	4	3	4	1
24	1	1	1	1	1	2	5	5	8	7	12	10	13	11	15	13	11	5	5	6	4	1
23	0	1	1	1	2	2	3	5	9	10	16	15	18	19	13	21	20	6	13	8	3	1
22	1	1	1	2	2	2	3	4	9	12	15	22	23	26	27	16	12	9	12	8	2	1
21	1	2	2	1	2	2	3	4	7	10	18	26	41	49	48	27	14	12	9	4	2	1
20	1	2	1	2	2	2	3	4	7	11	23	43	84	81	136	65	28	15	16	6	3	1
19	0	1	1	1	1	2	3	5	7	14	25	46	64	92	152	78	40	22	12	6	3	1
18	0	0	1	1	1	2	3	4	6	11	22	40	111	80	72	49	33	18	7	4	2	1
17	0	0	0	1	1	2	2	3	6	12	17	20	27	33	29	22	20	10	8	5	2	2
16	1	0	0	0	1	1	2	2	4	12	13	13	15	14	12	13	15	15	8	4	2	1
15	2	1	0	1	1	1	1	1	3	7	8	7	6	5	5	8	10	12	7	5	7	3
14	1	0	0	1	1	1	1	1	2	2	3	2	4	3	4	5	5	5	8	5	6	2
13	0	0	0	0	0	0	0	1	2	2	3	4	3	4	5	4	4	3	3	3	2	2
12	0	0	0	0	0	0	0	2	2	1	1	1	2	3	6	3	3	3	3	3	2	3
11	0	0	0	0	0	0	0	1	1	1	1	1	1	2	3	2	2	2	2	2	2	2
10	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1
9	0	0	0	0	0	0	1	0	1	0	2	2	1	1	1	1	1	1	1	1	1	1
8	0	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0
7	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Serbia/Kosovo/Montenegro/Vojv.



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31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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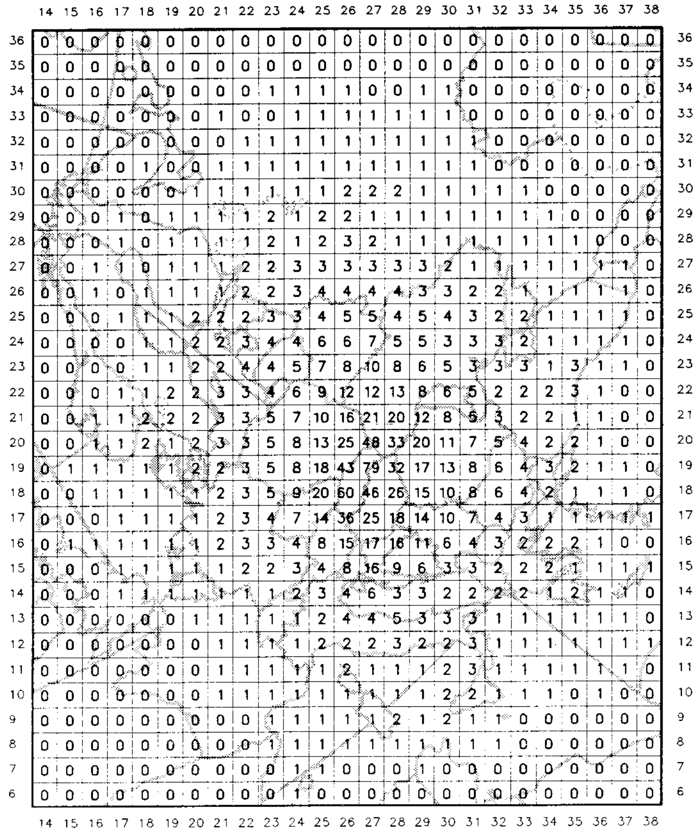
26	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0
23	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0
22	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0
21	0	0	0	0	0	0	0	1	1	1	2	2	2	1	1	1	1	1	0	0	0
20	0	0	0	0	0	0	1	1	2	3	4	3	3	2	2	1	1	1	1	0	0
19	0	0	0	0	0	0	0	1	2	4	4	5	5	4	4	2	1	1	1	0	0
18	0	0	0	0	0	0	0	1	2	5	7	11	10	8	6	3	1	1	0	0	0
17	0	0	0	0	0	0	0	1	2	4	10	27	28	17	7	3	1	1	1	0	0
16	0	0	0	0	0	0	0	1	2	3	7	12	18	11	6	3	2	1	0	0	0
15	0	0	0	0	0	0	0	1	2	3	4	5	9	5	4	2	2	1	0	1	0
14	0	0	0	0	0	0	0	1	1	2	1	2	2	3	2	1	1	1	1	1	0
13	0	0	0	0	0	0	0	1	1	1	2	2	2	3	1	1	1	1	0	0	0
12	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	1	1	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Slovakia



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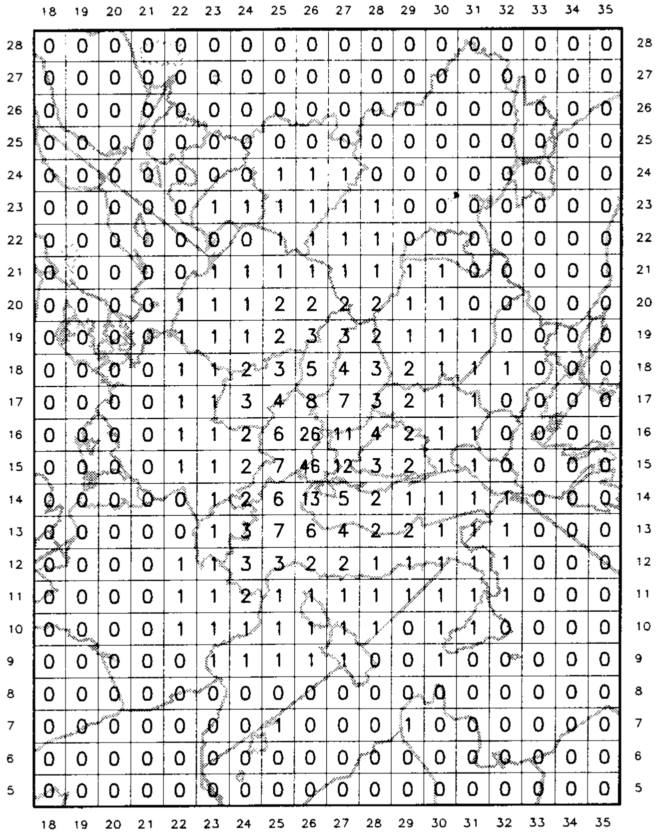
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	1	1	1	1	1	0	0	0	0	0
29	0	0	0	1	0	1	1	1	1	2	1	2	2	1	1	1	1	1	1	1	1	0	0	0	0
28	0	0	0	1	0	1	1	1	1	2	1	2	3	2	1	1	1	1	1	1	1	1	0	0	0
27	0	0	1	1	0	1	1	1	2	2	3	3	3	3	3	3	2	1	1	1	1	1	1	1	0
26	0	0	1	0	1	1	1	1	2	2	3	4	4	4	4	3	3	2	2	1	1	1	1	1	0
25	0	0	0	1	1	1	2	2	2	3	3	4	5	5	4	5	4	3	2	2	1	1	1	1	0
24	0	0	0	0	1	1	2	2	3	4	4	6	6	7	5	5	3	3	3	2	1	1	1	1	0
23	0	0	0	0	1	1	2	2	4	4	5	7	8	10	8	6	5	3	3	3	1	3	1	1	0
22	0	0	0	1	1	2	2	3	3	4	6	9	12	12	13	8	6	5	2	2	2	3	1	0	0
21	0	0	1	1	2	2	2	3	3	5	7	10	16	21	20	12	8	6	3	2	2	1	1	0	0
20	0	0	1	1	2	1	2	3	3	5	8	13	25	48	33	20	11	7	5	4	2	2	1	0	0
19	0	1	1	1	1	1	2	2	3	5	8	18	43	79	32	17	13	8	6	4	3	2	1	1	0
18	0	0	1	1	1	1	1	2	3	5	9	20	60	46	26	15	10	8	6	4	2	1	1	1	0
17	0	0	0	1	1	1	1	2	3	4	7	14	36	25	18	14	10	7	4	3	1	1	1	1	1
16	0	1	1	1	1	1	1	2	3	3	4	8	15	17	16	11	6	4	3	2	2	2	1	0	0
15	0	0	0	1	1	1	1	1	2	2	3	4	8	16	9	6	3	3	2	2	2	1	1	1	1
14	0	0	0	1	1	1	1	1	1	1	2	3	4	6	3	3	2	2	2	2	1	2	1	1	0
13	0	0	0	0	0	0	1	1	1	1	1	2	4	4	5	3	3	3	1	1	1	1	1	1	0
12	0	0	0	0	0	0	0	1	1	1	1	2	2	2	3	2	2	3	1	1	1	1	1	1	1
11	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1	2	3	1	1	1	1	1	1	0
10	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	2	1	1	1	0	1	0	0
9	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	1	2	1	1	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Slovenia



	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
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27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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24	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0
23	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0
20	0	0	0	0	1	1	1	2	2	2	2	1	1	0	0	0	0	0
19	0	0	0	0	1	1	1	2	3	3	2	1	1	1	0	0	0	0
18	0	0	0	0	1	1	2	3	5	4	3	2	1	1	1	0	0	0
17	0	0	0	0	1	1	3	4	8	7	3	2	1	1	0	0	0	0
16	0	0	0	0	1	1	2	6	26	11	4	2	1	1	0	0	0	0
15	0	0	0	0	1	1	2	7	46	12	3	2	1	1	0	0	0	0
14	0	0	0	0	0	1	2	6	13	5	2	1	1	1	1	0	0	0
13	0	0	0	0	0	1	3	7	6	4	2	2	1	1	1	0	0	0
12	0	0	0	0	1	1	3	3	2	2	1	1	1	1	1	0	0	0
11	0	0	0	0	1	1	2	1	1	1	1	1	1	1	1	0	0	0
10	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0
9	0	0	0	0	0	1	1	1	1	1	0	0	1	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
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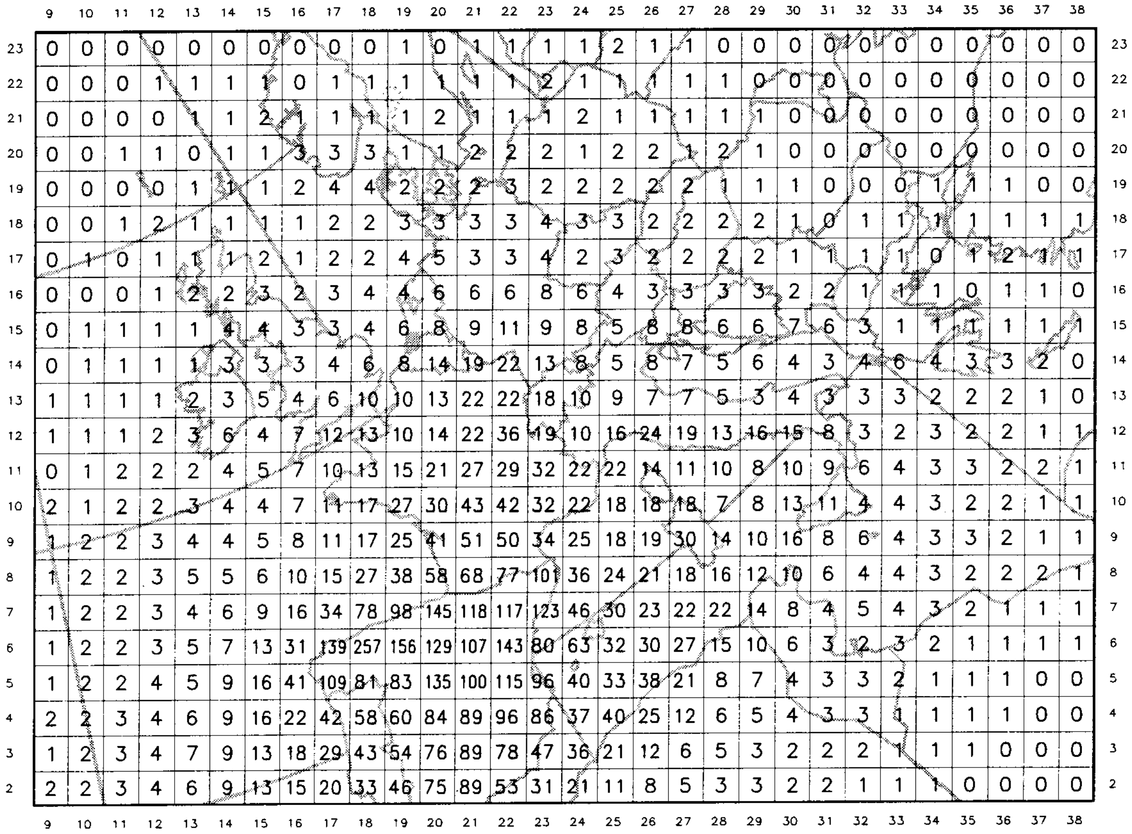
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Spain



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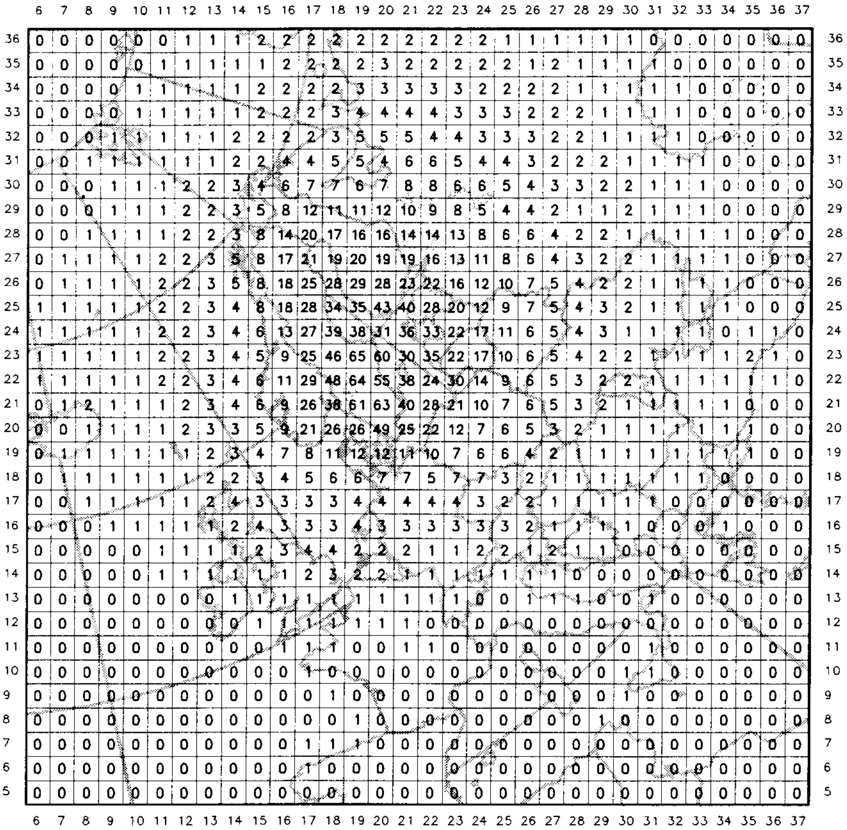
23	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	1	1	1	1	0	1	1	1	1	1	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	1	1	2	1	1	1	1	2	1	1	1	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0
20	0	0	1	1	0	1	1	3	3	3	1	1	2	2	2	1	2	2	1	2	1	0	0	0	0	0	0	0	0	0
19	0	0	0	0	1	1	1	2	4	4	2	2	2	3	2	2	2	2	2	1	1	1	0	0	0	1	1	1	0	0
18	0	0	1	2	1	1	1	1	2	2	3	3	3	3	4	3	3	2	2	2	2	1	0	1	1	1	1	1	1	1
17	0	1	0	1	1	1	2	1	2	2	4	5	3	3	4	2	3	2	2	2	2	1	1	1	1	0	1	2	1	1
16	0	0	0	1	2	2	3	2	3	4	4	6	6	6	8	6	4	3	3	3	3	2	2	1	1	1	0	1	1	0
15	0	1	1	1	1	4	4	3	3	4	6	8	9	11	9	8	5	8	8	6	6	7	6	3	1	1	1	1	1	1
14	0	1	1	1	1	3	3	3	4	6	8	14	19	22	13	8	5	8	7	5	6	4	3	4	6	4	3	3	2	0
13	1	1	1	1	2	3	5	4	6	10	10	13	22	22	18	10	9	7	7	5	3	4	3	3	3	2	2	2	1	0
12	1	1	1	2	3	6	4	7	12	13	10	14	22	36	19	10	16	24	19	13	16	15	8	3	2	3	2	2	1	1
11	0	1	2	2	2	4	5	7	10	13	15	21	27	29	32	22	22	14	11	10	8	10	9	6	4	3	3	2	2	1
10	2	1	2	2	3	4	4	7	11	17	27	30	43	42	32	22	18	18	18	7	8	13	11	4	4	3	2	2	1	1
9	1	2	2	3	4	4	5	8	11	17	25	41	51	50	34	25	18	19	30	14	10	16	8	6	4	3	3	2	1	1
8	1	2	2	3	5	5	6	10	15	27	38	58	68	77	101	36	24	21	18	16	12	10	6	4	4	3	2	2	2	1
7	1	2	2	3	4	6	9	16	34	78	98	145	118	117	123	46	30	23	22	22	14	8	4	5	4	3	2	1	1	1
6	1	2	2	3	5	7	13	31	139	257	156	129	107	143	80	63	32	30	27	15	10	6	3	2	3	2	1	1	1	1
5	1	2	2	4	5	9	16	41	109	81	83	135	100	115	96	40	33	38	21	8	7	4	3	3	2	1	1	1	0	0
4	2	2	3	4	6	9	16	22	42	58	60	84	89	96	86	37	40	25	12	6	5	4	3	3	1	1	1	1	0	0
3	1	2	3	4	7	9	13	18	29	43	54	76	89	78	47	36	21	12	6	5	3	2	2	2	1	1	1	0	0	0
2	2	2	3	4	6	9	13	15	20	33	46	75	89	53	31	21	11	8	5	3	3	2	2	1	1	1	0	0	0	0

Annual avera
between
1985 and 199

Units: mg(N)/

Total Deposition of Oxidized Nitrogen
Contribution from Sweden



	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
36	0	0	0	0	0	0	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0
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32	0	0	0	1	1	1	1	1	2	2	2	2	3	5	5	5	4	4	3	3	3	2	2	1	1	1	1	0	0	0	0	0
31	0	0	1	1	1	1	1	1	2	2	4	4	5	5	4	6	6	5	4	4	3	2	2	2	1	1	1	1	0	0	0	0
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29	0	0	0	1	1	1	2	2	3	5	8	12	11	11	12	10	9	8	5	4	4	2	1	1	2	1	1	1	0	0	0	0
28	0	0	1	1	1	1	2	2	3	8	14	20	17	16	16	14	14	13	8	6	6	4	2	2	1	1	1	1	1	0	0	0
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26	0	1	1	1	1	2	2	3	5	8	18	25	28	29	28	23	22	16	12	10	7	5	4	2	2	1	1	1	1	0	0	0
25	1	1	1	1	1	2	2	3	4	8	18	28	34	35	43	40	28	20	12	9	7	5	4	3	2	1	1	1	1	0	0	0
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22	1	1	1	1	1	2	2	3	4	6	11	29	48	64	55	38	24	30	14	9	6	5	3	2	2	1	1	1	1	1	1	0
21	0	1	2	1	1	1	2	3	4	6	9	26	38	61	63	40	28	21	10	7	6	5	3	2	1	1	1	1	1	0	0	0
20	0	0	1	1	1	1	2	3	3	5	9	21	26	26	49	25	22	12	7	6	5	3	2	1	1	1	1	1	1	1	0	0
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16	0	0	0	1	1	1	1	1	2	4	3	3	3	4	3	3	3	3	3	3	2	1	1	1	1	0	0	0	1	0	0	0
15	0	0	0	0	0	1	1	1	1	2	3	4	4	2	2	2	1	1	2	2	1	2	1	1	0	0	0	0	0	0	0	0
14	0	0	0	0	0	1	1	1	1	1	1	2	3	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
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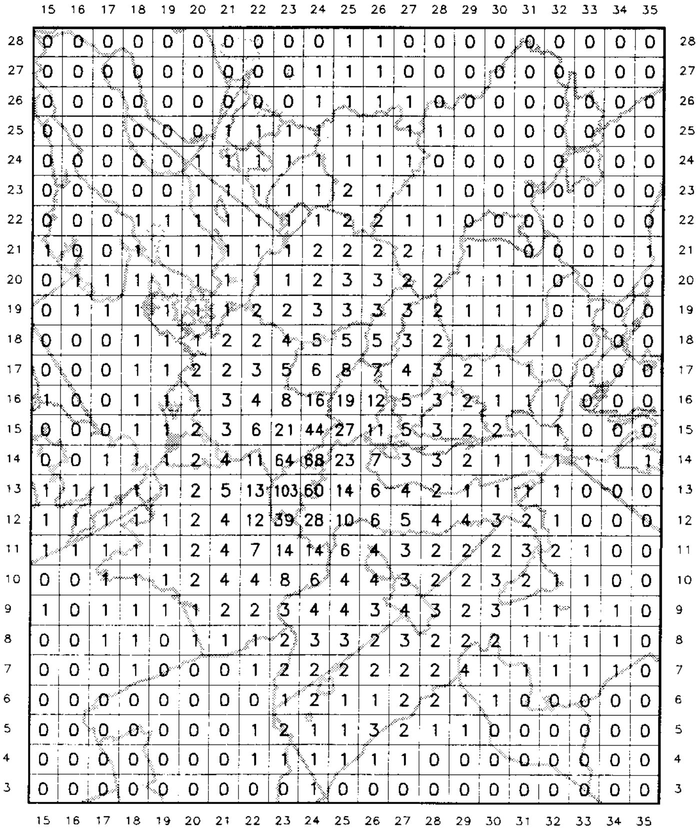
11	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Switzerland



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27	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0
24	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
23	0	0	0	0	0	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0
22	0	0	0	1	1	1	1	1	1	1	2	2	1	1	0	0	0	0	0	0	0
21	1	0	0	1	1	1	1	1	1	2	2	2	2	1	1	1	0	0	0	0	1
20	0	1	1	1	1	1	1	1	1	2	3	3	2	2	1	1	1	0	0	0	0
19	0	1	1	1	1	1	1	2	2	3	3	3	3	2	1	1	1	0	1	0	0
18	0	0	0	1	1	1	2	2	4	5	5	5	3	2	1	1	1	1	0	0	0
17	0	0	0	1	1	2	2	3	5	6	8	7	4	3	2	1	1	0	0	0	0
16	1	0	0	1	1	1	3	4	8	16	19	12	5	3	2	1	1	1	0	0	0
15	0	0	0	1	1	2	3	6	21	44	27	11	5	3	2	2	1	1	0	0	0
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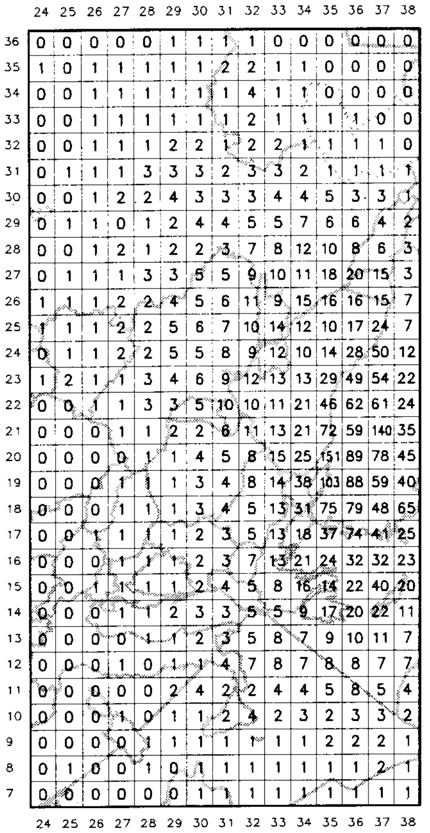
13	1	1	1	1	1	2	5	13	103	60	14	6	4	2	1	1	1	1	0	0	0
12	1	1	1	1	1	2	4	12	39	28	10	6	5	4	4	3	2	1	0	0	0
11	1	1	1	1	1	2	4	7	14	14	6	4	3	2	2	2	3	2	1	0	0
10	0	0	1	1	1	2	4	4	8	6	4	4	3	2	2	3	2	1	1	0	0
9	1	0	1	1	1	1	2	2	3	4	4	3	4	3	2	3	1	1	1	1	0
8	0	0	1	1	0	1	1	1	2	3	3	2	3	2	2	2	1	1	1	1	0
7	0	0	0	1	0	0	0	1	2	2	2	2	2	2	4	1	1	1	1	1	0
6	0	0	0	0	0	0	0	0	1	2	1	1	2	2	1	1	0	0	0	0	0
5	0	0	0	0	0	0	0	1	2	1	1	3	2	1	1	0	0	0	0	0	0
4	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Turkey



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35	1	0	1	1	1	1	1	2	2	1	1	0	0	0	0
34	0	0	1	1	1	1	1	1	4	1	1	0	0	0	0
33	0	0	1	1	1	1	1	1	2	1	1	1	1	0	0
32	0	0	1	1	1	2	2	1	2	2	1	1	1	1	0
31	0	1	1	1	3	3	3	2	3	3	2	1	1	1	1
30	0	0	1	2	2	4	3	3	3	4	4	5	3	3	1
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28	0	0	1	2	1	2	2	3	7	8	12	10	8	6	3
27	0	1	1	1	3	3	5	5	9	10	11	18	20	15	3
26	1	1	1	2	2	4	5	6	11	9	15	16	16	15	7
25	1	1	1	2	2	5	6	7	10	14	12	10	17	24	7
24	0	1	1	2	2	5	5	8	9	12	10	14	28	50	12
23	1	2	1	1	3	4	6	9	12	13	13	29	49	54	22
22	0	0	1	1	3	3	5	10	10	11	21	46	62	61	24
21	0	0	0	1	1	2	2	6	11	13	21	72	59	140	35
20	0	0	0	0	1	1	4	5	8	15	25	151	89	78	45
19	0	0	0	1	1	1	3	4	8	14	38	103	88	59	40
18	0	0	0	1	1	1	3	4	5	13	31	75	79	48	65
17	0	0	1	1	1	1	2	3	5	13	18	37	74	41	25
16	0	0	0	1	1	1	2	3	7	13	21	24	32	32	23
15	0	0	1	1	1	1	2	4	5	8	16	14	22	40	20
14	0	0	0	1	1	2	3	3	5	5	9	17	20	22	11
13	0	0	0	0	1	1	2	3	5	8	7	9	10	11	7
12	0	0	0	1	0	1	1	4	7	8	7	8	8	7	7
11	0	0	0	0	0	2	4	2	2	4	4	5	8	5	4
10	0	0	0	1	0	1	1	2	4	2	3	2	3	3	2
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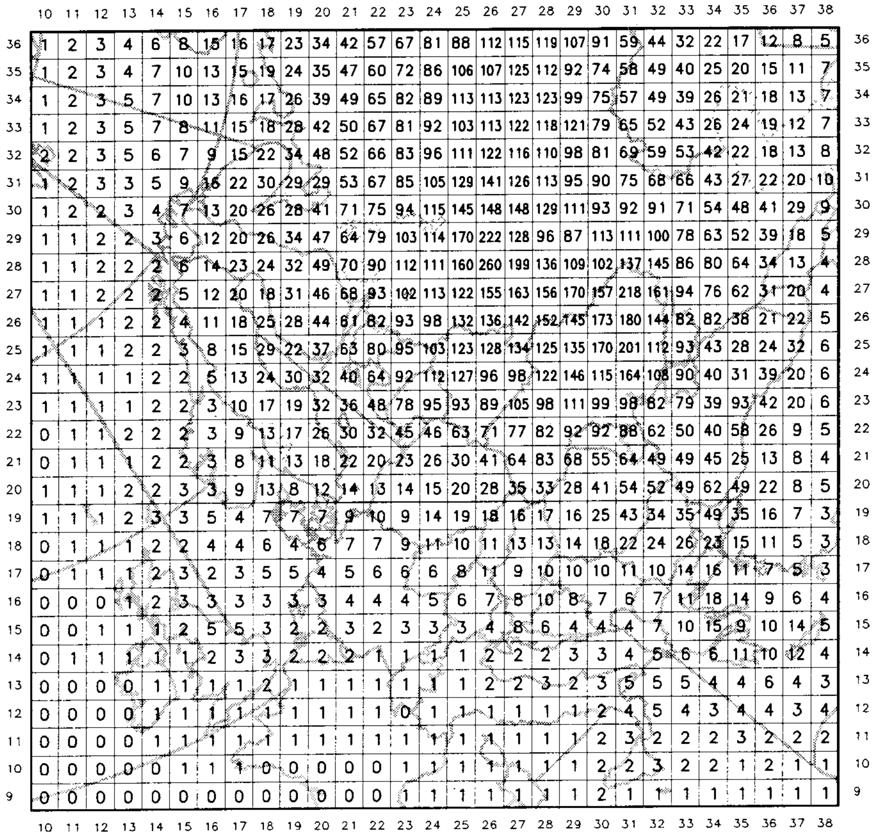
8	0	1	0	0	1	0	1	1	1	1	1	1	1	2	1
7	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from USSR (European)



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36	1	2	3	4	6	8	15	16	17	23	34	42	57	67	81	88	112	115	119	107	91	59	44	32	22	17	12	8	5
35	1	2	3	4	7	10	13	15	19	24	35	47	60	72	86	106	107	125	112	92	74	58	49	40	25	20	15	11	7
34	1	2	3	5	7	10	13	16	17	26	39	49	65	82	89	113	113	123	123	99	75	57	49	39	26	21	18	13	7
33	1	2	3	5	7	8	11	15	18	28	42	50	67	81	92	103	113	122	118	121	79	65	52	43	26	24	19	12	7
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31	1	2	3	3	5	9	16	22	30	29	29	53	67	85	105	129	141	126	113	95	90	75	68	66	43	27	22	20	10
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29	1	1	2	2	3	6	12	20	26	34	47	64	79	103	114	170	222	128	96	87	113	111	100	78	63	52	39	18	5
28	1	1	2	2	2	6	14	23	24	32	49	70	90	112	111	160	260	199	136	109	102	137	145	86	80	64	34	13	4
27	1	1	2	2	2	5	12	20	18	31	46	68	93	102	113	122	155	163	156	170	157	218	161	94	76	62	31	20	4
26	1	1	1	2	2	4	11	18	25	28	44	61	82	93	98	132	136	142	152	145	173	180	144	82	82	38	21	22	5
25	1	1	1	2	2	3	8	15	29	22	37	63	80	95	103	123	128	134	125	135	170	201	112	93	43	28	24	32	6
24	1	1	1	1	2	2	5	13	24	30	32	40	64	92	112	127	96	98	122	146	115	164	108	90	40	31	39	20	6
23	1	1	1	1	2	2	3	10	17	19	32	36	48	78	95	93	89	105	98	111	99	98	82	79	39	93	42	20	6
22	0	1	1	2	2	2	3	9	13	17	26	30	32	45	46	63	71	77	82	92	92	88	62	50	40	58	26	9	5
21	0	1	1	1	2	2	3	8	11	13	18	22	20	23	26	30	41	64	83	68	55	64	49	49	45	25	13	8	4
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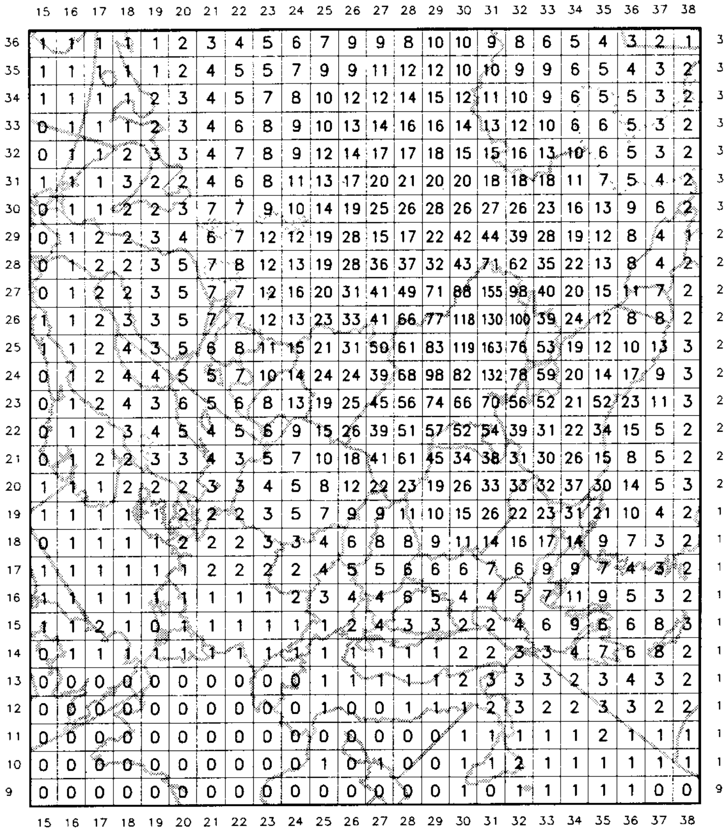
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Ukraine



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25	1	1	2	4	3	5	6	8	11	15	21	31	50	61	83	119	163	76	53	19	12	10	13	3
24	0	1	2	4	4	5	5	7	10	14	24	24	39	68	98	82	132	78	59	20	14	17	9	3
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21	0	1	2	2	3	3	4	3	5	7	10	18	41	61	45	34	38	31	30	26	15	8	5	2
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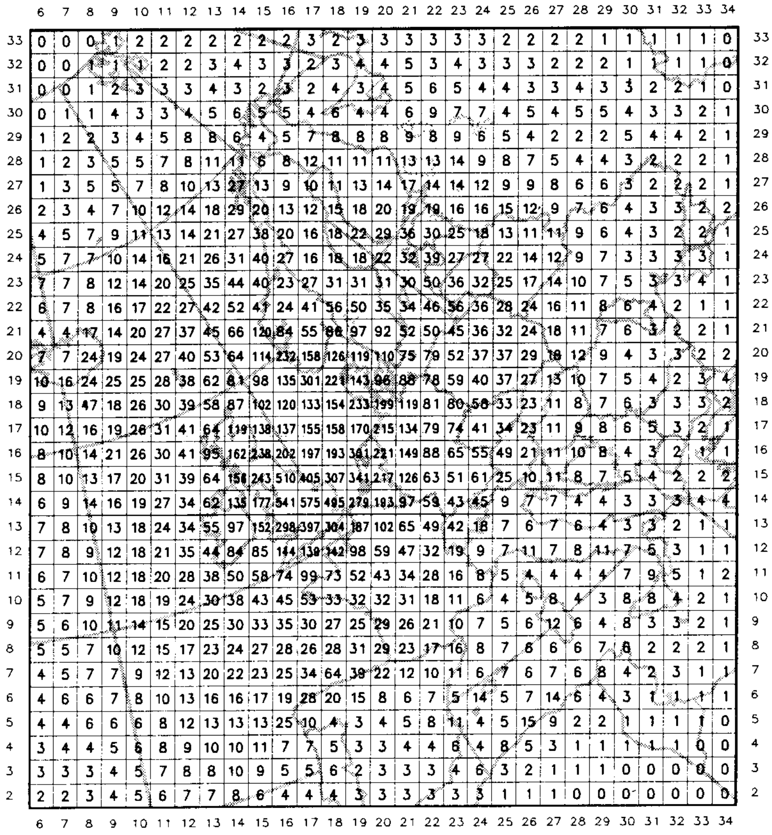
19	1	1	1	1	1	2	2	2	3	5	7	9	9	11	10	15	26	22	23	31	21	10	4	2
18	0	1	1	1	1	2	2	2	3	3	4	6	8	8	9	11	14	16	17	14	9	7	3	2
17	1	1	1	1	1	1	2	2	2	2	4	5	5	6	6	6	7	6	9	9	7	4	3	2
16	1	1	1	1	1	1	1	1	1	2	3	4	4	6	5	4	4	5	7	11	9	5	3	2
15	1	1	2	1	0	1	1	1	1	1	1	2	4	3	3	2	2	4	6	9	6	6	8	3
14	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	4	7	6	8	2
13	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	3	3	3	2	3	4	3	2
12	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	2	3	2	2	3	3	2	2
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1
10	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2	1	1	1	1	1	1
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from the United Kingdom



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32	0	0	1	1	1	2	2	3	4	3	3	2	3	4	4	5	3	4	3	3	3	2	2	2	1	1	1	1	0
31	0	0	1	2	3	3	3	4	3	2	3	2	4	3	4	5	6	5	4	4	3	3	4	3	3	2	2	1	0
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26	2	3	4	7	10	12	14	18	29	20	13	12	15	18	20	19	19	16	16	15	12	9	7	6	4	3	3	2	2
25	4	5	7	9	11	13	14	21	27	38	20	16	18	22	29	36	30	25	18	13	11	11	9	6	4	3	2	2	1
24	5	7	7	10	14	16	21	26	31	40	27	16	18	18	22	32	39	27	27	22	14	12	9	7	3	3	3	3	1
23	7	7	8	12	14	20	25	35	44	40	23	27	31	31	31	30	50	36	32	25	17	14	10	7	5	3	3	4	1
22	6	7	8	16	17	22	27	42	52	41	24	41	56	50	35	34	46	56	36	28	24	16	11	8	6	4	2	1	1
21	4	4	17	14	20	27	37	45	66	120	84	55	88	97	92	52	50	45	36	32	24	18	11	7	6	3	2	2	1
20	7	7	24	19	24	27	40	53	64	114	232	158	126	119	110	75	79	52	37	37	29	18	12	9	4	3	3	2	2
19	10	16	24	25	25	28	38	62	81	98	135	301	221	143	96	88	78	59	40	37	27	13	10	7	5	4	2	3	4
18	9	13	47	18	26	30	39	58	87	102	120	133	154	233	199	119	81	80	58	33	23	11	8	7	6	3	3	3	2
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16	8	10	14	21	26	30	41	95	162	238	202	197	193	381	221	149	88	65	55	49	21	11	10	8	4	3	2	1	1
15	8	10	13	17	20	31	39	64	158	243	510	405	307	341	217	126	63	51	61	25	10	11	8	7	5	4	2	2	2
14	6	9	14	16	19	27	34	62	135	177	541	575	495	279	183	97	59	43	45	9	7	7	4	4	3	3	3	4	4
13	7	8	10	13	18	24	34	55	97	152	298	397	304	187	102	65	49	42	18	7	6	7	6	4	3	3	2	1	1
12	7	8	9	12	18	21	35	44	84	85	144	139	142	98	59	47	32	19	9	7	11	7	8	11	7	5	3	1	1
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9	5	6	10	11	14	15	20	25	30	33	35	30	27	25	29	26	21	10	7	5	6	12	6	4	8	3	3	2	1
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6	4	6	6	7	8	10	13	16	16	17	19	28	20	15	8	6	7	5	14	5	7	14	6	4	3	1	1	1	1
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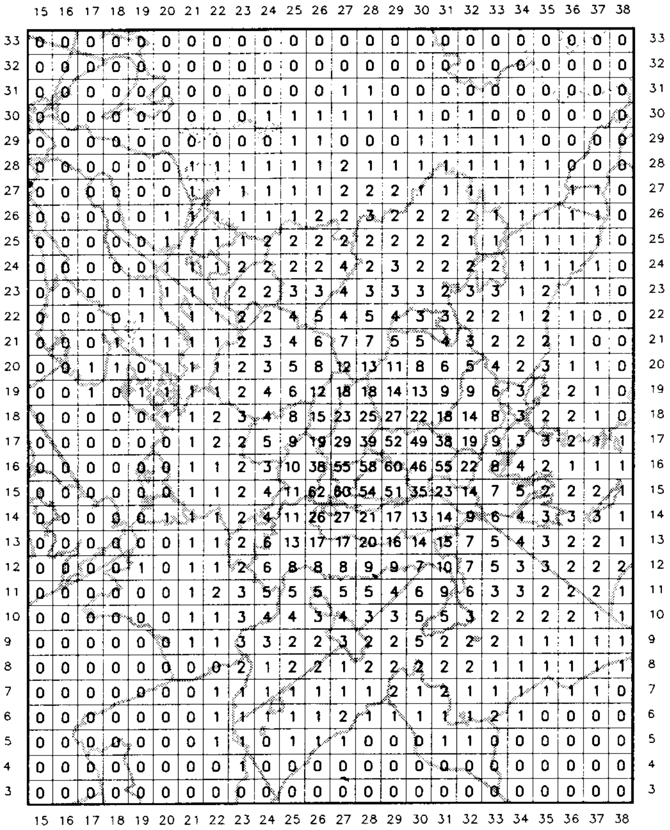
3	3	3	3	4	5	7	8	8	10	9	5	5	6	2	3	3	3	4	6	3	2	1	1	1	0	0	0	0	0
2	2	2	3	4	5	6	7	7	8	6	4	4	4	3	3	3	3	3	3	1	1	1	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from the Federal Republic of Yugoslavia



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33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	1	1	0	0	0	0
28	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0
27	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	0
26	0	0	0	0	0	1	1	1	1	1	1	2	2	3	2	2	2	2	1	1	1	1	1	0
25	0	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	0
24	0	0	0	0	0	1	1	1	2	2	2	2	4	2	3	2	2	2	2	1	1	1	1	0
23	0	0	0	0	1	1	1	1	2	2	3	3	4	3	3	3	2	3	3	1	2	1	1	0
22	0	0	0	0	1	1	1	1	2	2	4	5	4	5	4	3	3	2	2	1	2	1	0	0
21	0	0	0	1	1	1	1	1	2	3	4	6	7	7	5	5	4	3	2	2	2	1	0	0
20	0	0	1	1	0	1	1	1	2	3	5	8	12	13	11	8	6	5	4	2	3	1	1	0
19	0	0	1	0	1	1	1	1	2	4	6	12	18	18	14	13	9	9	6	3	2	2	1	0
18	0	0	0	0	0	1	1	2	3	4	8	15	23	25	27	22	18	14	8	3	2	2	1	0
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16	0	0	0	0	0	0	1	1	2	3	10	38	55	58	60	46	55	22	8	4	2	1	1	1
15	0	0	0	0	0	0	1	1	2	4	11	62	60	54	51	35	23	14	7	5	2	2	2	1
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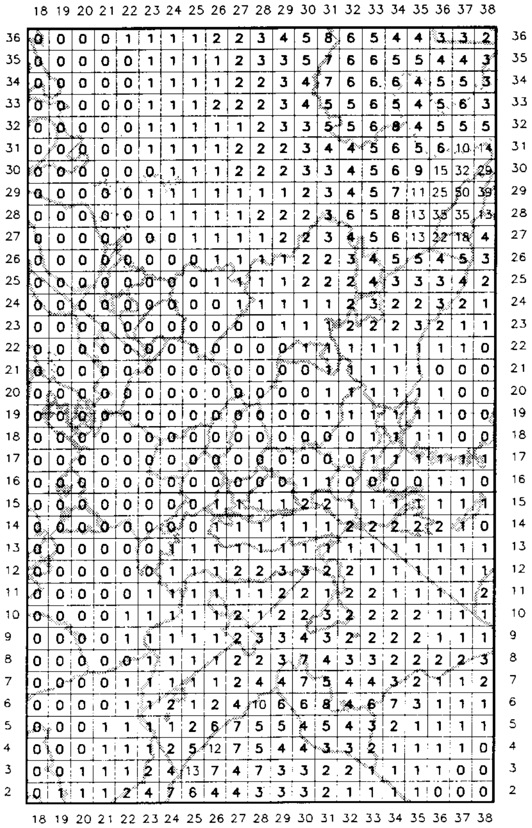
12	0	0	0	0	1	0	1	1	2	6	8	8	8	9	9	7	10	7	5	3	3	2	2	2
11	0	0	0	0	0	0	1	2	3	5	5	5	5	5	4	6	9	6	3	3	2	2	2	1
10	0	0	0	0	0	0	1	1	3	4	4	3	4	3	3	5	5	3	2	2	2	2	1	1
9	0	0	0	0	0	0	1	1	3	3	2	2	3	2	2	5	2	2	2	1	1	1	1	1
8	0	0	0	0	0	0	0	0	2	1	2	2	1	2	2	2	2	2	1	1	1	1	1	1
7	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	0
6	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	1	1	1	2	1	0	0	0	0
5	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from remaining land areas



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35	0	0	0	0	0	1	1	1	1	2	3	3	5	7	6	6	5	5	4	4	3
34	0	0	0	0	0	1	1	1	1	2	2	3	4	7	6	6	6	4	5	5	3
33	0	0	0	0	0	1	1	1	2	2	2	3	4	5	5	6	5	4	5	6	3
32	0	0	0	0	0	1	1	1	1	1	2	3	3	5	5	6	8	4	5	5	5
31	0	0	0	0	0	1	1	1	1	2	2	2	3	4	4	5	6	5	6	10	14
30	0	0	0	0	0	0	1	1	1	2	2	2	3	3	4	5	6	9	15	32	29
29	0	0	0	0	0	1	1	1	1	1	1	1	2	3	4	5	7	11	25	50	39
28	0	0	0	0	0	0	1	1	1	1	2	2	2	3	6	5	8	13	35	35	13
27	0	0	0	0	0	0	0	1	1	1	1	2	2	3	4	5	6	13	22	18	4
26	0	0	0	0	0	0	0	0	1	1	1	1	2	2	3	4	5	5	4	5	3
25	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	4	3	3	3	4	2
24	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	3	2	2	3	2	1
23	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	2	3	2	1	1
22	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
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17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
16	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
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14	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	1	0
13	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	0	0	0	0	0	0	1	1	1	2	2	3	3	2	2	1	1	1	1	1	1
11	0	0	0	0	0	1	1	1	1	1	1	2	2	1	2	2	1	1	1	1	2
10	0	0	0	0	1	1	1	1	1	2	1	2	2	3	2	2	2	2	1	1	1
9	0	0	0	0	1	1	1	1	1	2	3	3	4	3	2	2	2	2	1	1	1
8	0	0	0	0	0	1	1	1	1	2	2	3	7	4	3	3	2	2	2	2	3
7	0	0	0	0	1	1	1	1	1	2	4	4	7	5	4	4	3	2	1	1	2
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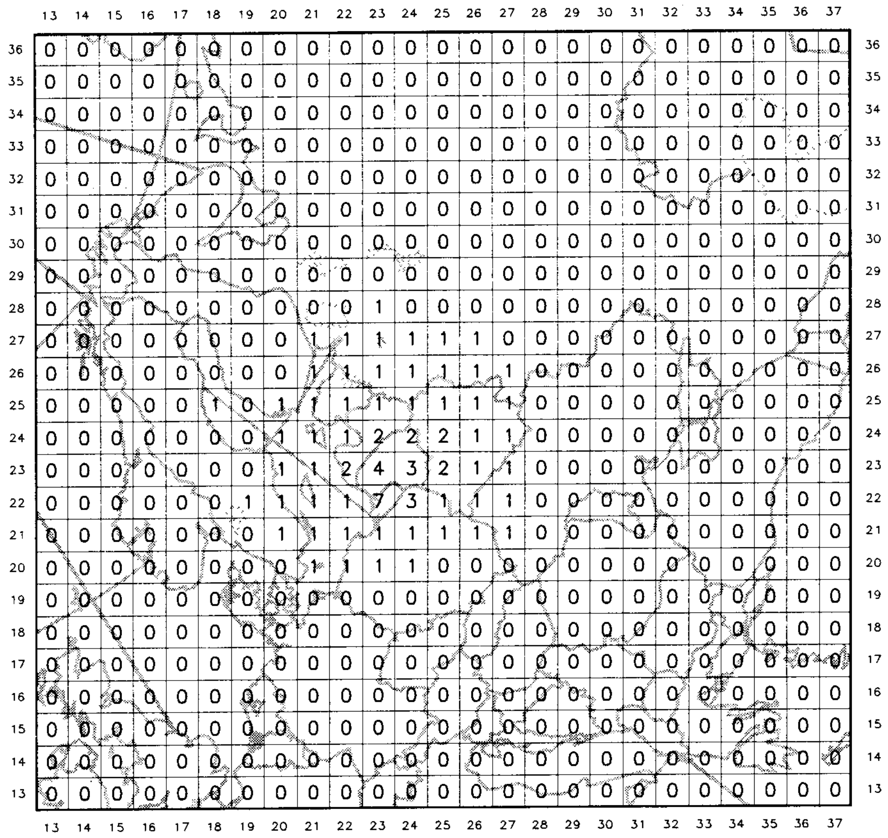
5	0	0	0	1	1	1	1	2	6	7	5	5	4	5	4	3	2	1	1	1	1
4	0	0	0	1	1	1	2	5	12	7	5	4	4	3	3	2	1	1	1	1	0
3	0	0	1	1	1	2	4	13	7	4	7	3	3	2	2	1	1	1	1	0	0
2	0	1	1	1	2	4	7	6	4	4	3	3	3	2	1	1	1	1	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Kaliningrad



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35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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27	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
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23	0	0	0	0	0	0	0	1	1	2	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0
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21	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
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19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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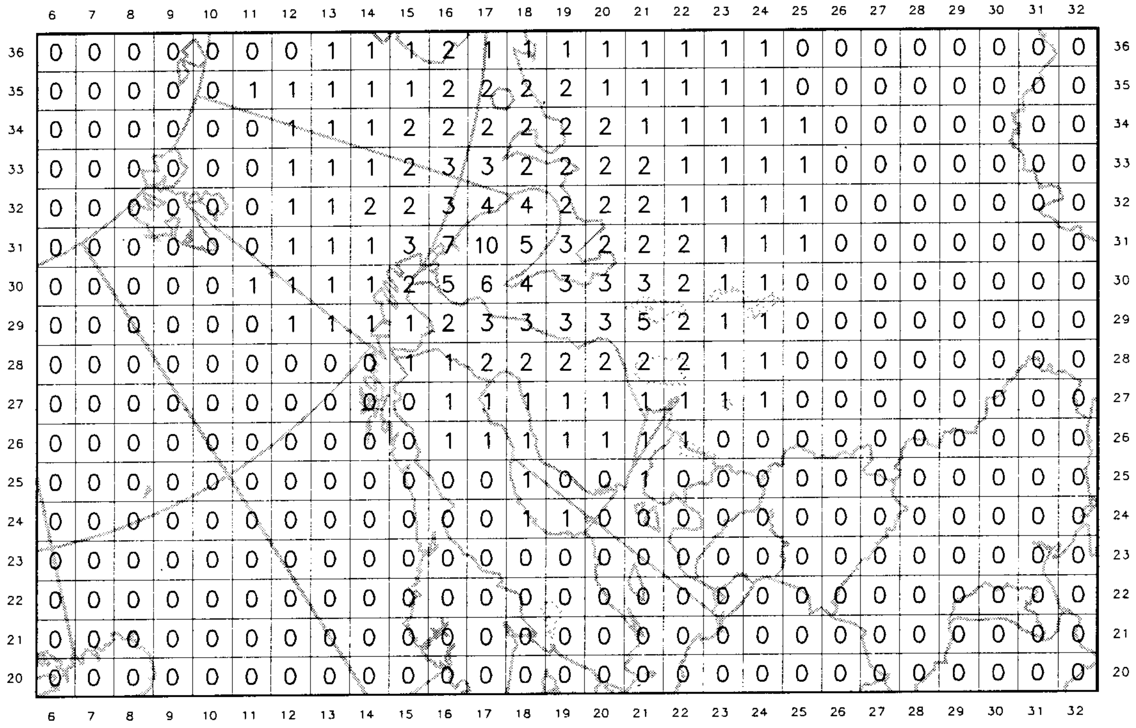
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from Kola / Karelia



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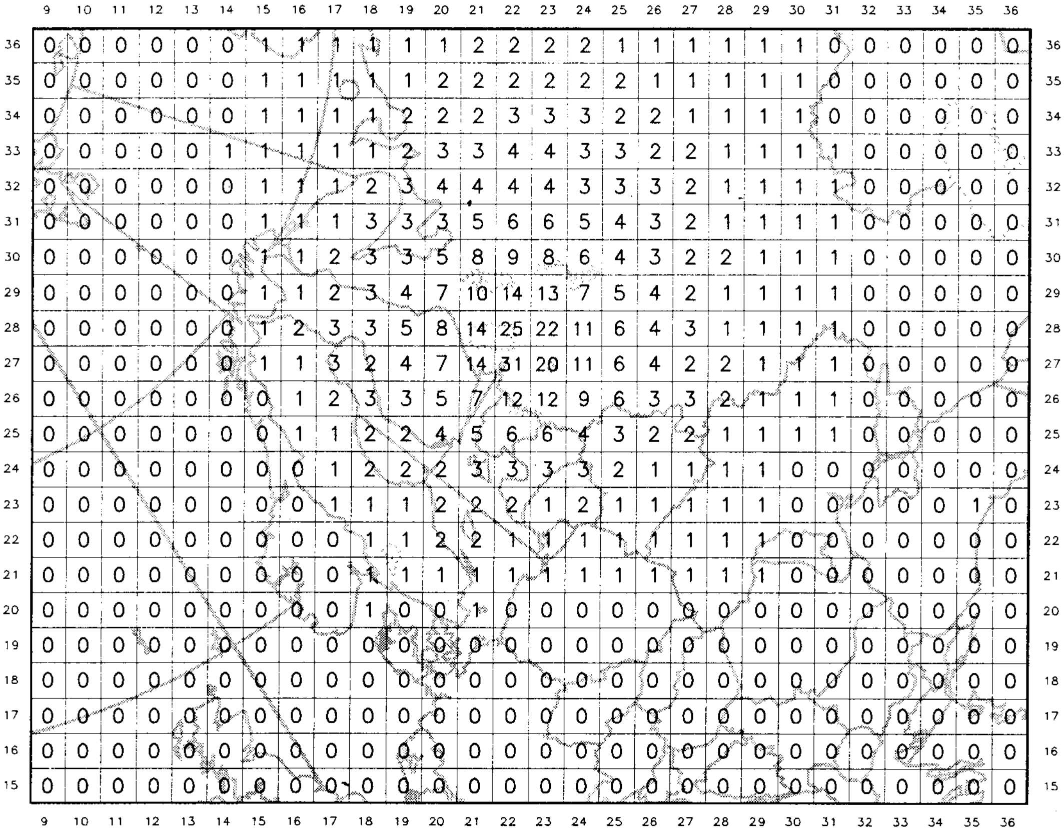
36	0	0	0	0	0	0	0	1	1	1	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
35	0	0	0	0	0	1	1	1	1	1	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	1	1	1	2	2	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	0
33	0	0	0	0	0	0	1	1	1	2	3	3	2	2	2	2	1	1	1	1	0	0	0	0	0	0	0
32	0	0	0	0	0	0	1	1	2	2	3	4	4	2	2	2	1	1	1	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	1	1	1	3	7	10	5	3	2	2	2	1	1	1	0	0	0	0	0	0	0
30	0	0	0	0	0	1	1	1	1	2	5	6	4	3	3	3	2	1	1	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	1	1	1	1	2	3	3	3	3	5	2	1	1	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	1	1	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from Leningrad / Novgorod/Pskov



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36	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	36
35	0	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0	35
34	0	0	0	0	0	0	1	1	1	1	2	2	2	3	3	3	2	2	1	1	1	1	0	0	0	0	0	0	34
33	0	0	0	0	0	1	1	1	1	1	2	3	3	4	4	3	3	2	2	1	1	1	1	0	0	0	0	0	33
32	0	0	0	0	0	0	1	1	1	2	3	4	4	4	4	3	3	3	2	1	1	1	1	0	0	0	0	0	32
31	0	0	0	0	0	0	1	1	1	3	3	3	5	6	6	5	4	3	2	1	1	1	1	0	0	0	0	0	31
30	0	0	0	0	0	0	1	1	2	3	3	5	8	9	8	6	4	3	2	2	1	1	1	0	0	0	0	0	30
29	0	0	0	0	0	0	1	1	2	3	4	7	10	14	13	7	5	4	2	1	1	1	1	0	0	0	0	0	29
28	0	0	0	0	0	0	1	2	3	3	5	8	14	25	22	11	6	4	3	1	1	1	1	0	0	0	0	0	28
27	0	0	0	0	0	0	1	1	3	2	4	7	14	31	20	11	6	4	2	2	1	1	1	0	0	0	0	0	27
26	0	0	0	0	0	0	0	1	2	3	3	5	7	12	12	9	6	3	3	2	1	1	1	0	0	0	0	0	26
25	0	0	0	0	0	0	0	1	1	2	2	4	5	6	6	4	3	2	2	1	1	1	1	0	0	0	0	0	25
24	0	0	0	0	0	0	0	0	1	2	2	2	3	3	3	3	2	1	1	1	1	0	0	0	0	0	0	0	24
23	0	0	0	0	0	0	0	0	1	1	1	2	2	2	1	2	1	1	1	1	1	0	0	0	0	0	1	0	23
22	0	0	0	0	0	0	0	0	0	1	1	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	22
21	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	21
20	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
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16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
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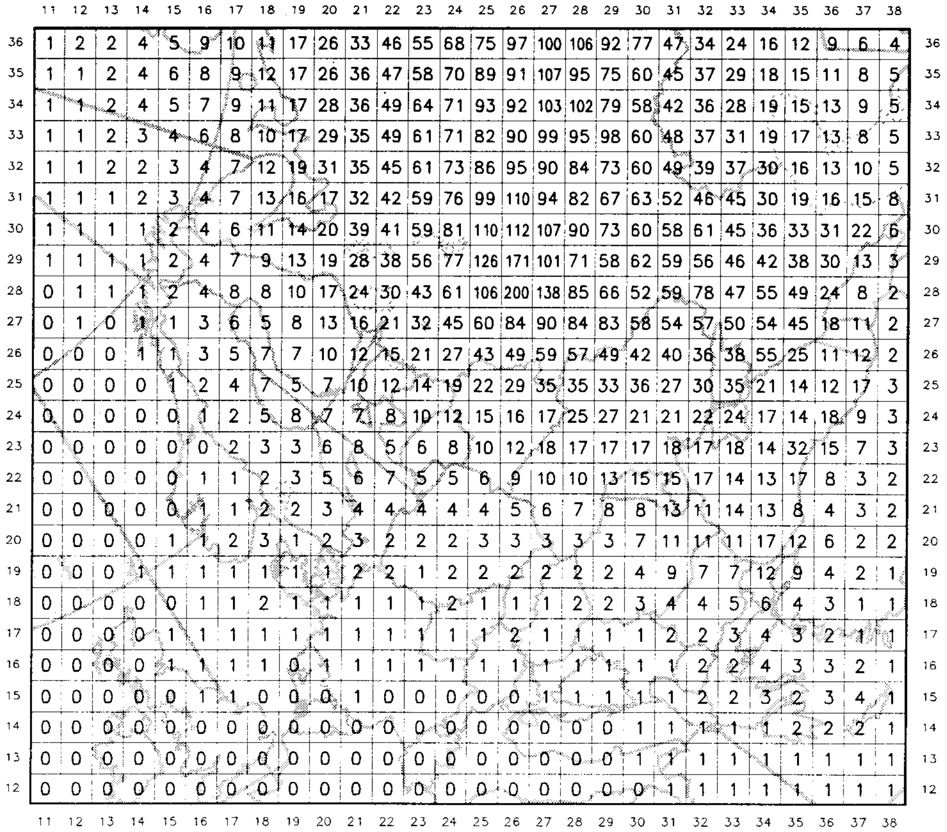
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Contribution from rem. Russian Federation (Europe)

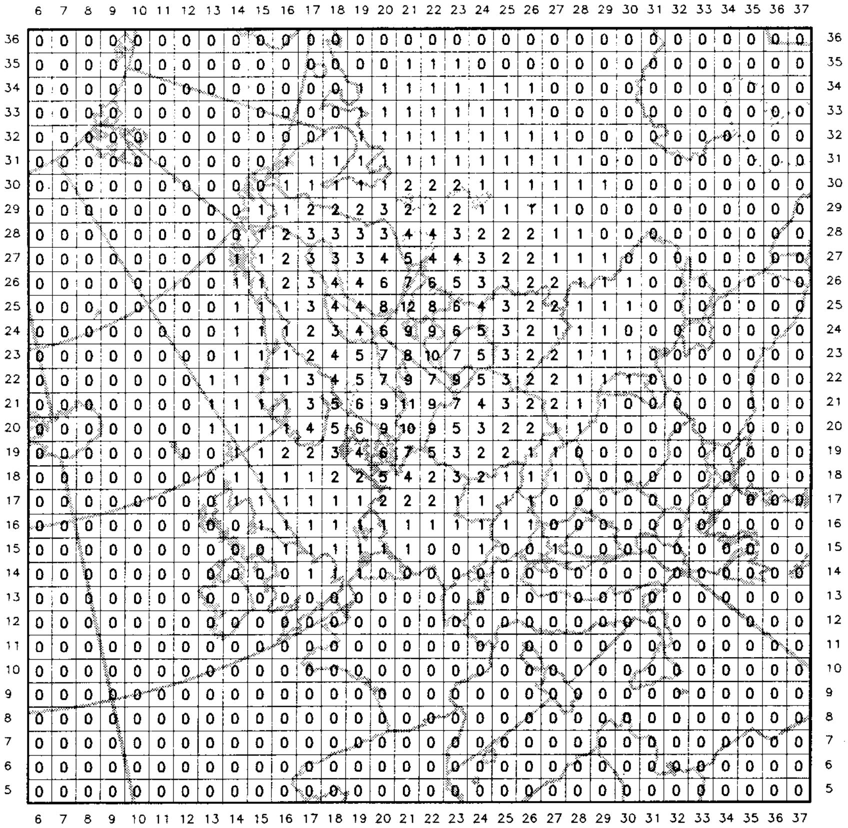


	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
36	1	2	2	4	5	9	10	11	17	26	33	46	55	68	75	97	100	106	92	77	47	34	24	16	12	9	6	4	36
35	1	1	2	4	6	8	9	12	17	26	36	47	58	70	89	91	107	95	75	60	45	37	29	18	15	11	8	5	35
34	1	1	2	4	5	7	9	11	17	28	36	49	64	71	93	92	103	102	79	58	42	36	28	19	15	13	9	5	34
33	1	1	2	3	4	6	8	10	17	29	35	49	61	71	82	90	99	95	98	60	48	37	31	19	17	13	8	5	33
32	1	1	2	2	3	4	7	12	19	31	35	45	61	73	86	95	90	84	73	60	49	39	37	30	16	13	10	5	32
31	1	1	1	2	3	4	7	13	16	17	32	42	59	76	99	110	94	82	67	63	52	46	45	30	19	16	15	8	31
30	1	1	1	1	2	4	6	11	14	20	39	41	59	81	110	112	107	90	73	60	58	61	45	36	33	31	22	6	30
29	1	1	1	1	2	4	7	9	13	19	28	38	56	77	126	171	101	71	58	62	59	56	46	42	38	30	13	3	29
28	0	1	1	1	2	4	8	8	10	17	24	30	43	61	106	200	138	85	66	52	59	78	47	55	49	24	8	2	28
27	0	1	0	1	1	3	6	5	8	13	16	21	32	45	60	84	90	84	83	58	54	57	50	54	45	18	11	2	27
26	0	0	0	1	1	3	5	7	7	10	12	15	21	27	43	49	59	57	49	42	40	36	38	55	25	11	12	2	26
25	0	0	0	0	1	2	4	7	5	7	10	12	14	19	22	29	35	35	33	36	27	30	35	21	14	12	17	3	25
24	0	0	0	0	0	1	2	5	8	7	7	8	10	12	15	16	17	25	27	21	21	22	24	17	14	18	9	3	24
23	0	0	0	0	0	0	2	3	3	6	8	5	6	8	10	12	18	17	17	17	18	17	18	14	32	15	7	3	23
22	0	0	0	0	0	1	1	2	3	5	6	7	5	5	6	9	10	10	13	15	15	17	14	13	17	8	3	2	22
21	0	0	0	0	0	1	1	2	2	3	4	4	4	4	4	5	6	7	8	8	13	11	14	13	8	4	3	2	21
20	0	0	0	0	1	1	2	3	1	2	3	2	2	2	3	3	3	3	3	7	11	11	11	17	12	6	2	2	20
19	0	0	0	1	1	1	1	1	1	1	2	2	1	2	2	2	2	2	2	4	9	7	7	12	9	4	2	1	19
18	0	0	0	0	0	1	1	2	1	1	1	1	1	2	1	1	1	2	2	3	4	4	5	6	4	3	1	1	18
17	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2	3	4	3	2	1	1	17
16	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4	3	3	2	1	16
15	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1	2	2	3	2	3	4	1	15
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	1	14
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	13
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	12
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from the Baltic sea



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36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	1	1	2	2	2	3	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	1	2	3	3	3	3	4	4	3	2	2	2	1	1	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	1	1	2	3	3	3	4	5	4	4	3	2	2	1	1	1	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	1	1	2	3	4	4	6	7	6	5	3	3	2	2	1	1	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	1	1	1	3	4	4	8	12	8	6	4	3	2	2	1	1	1	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	1	1	1	2	3	4	6	9	9	6	5	3	2	1	1	1	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	1	1	1	2	4	5	7	8	10	7	5	3	2	2	1	1	1	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	1	1	1	1	3	4	5	7	9	7	9	5	3	2	2	1	1	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	1	1	1	1	3	5	6	9	11	9	7	4	3	2	2	1	1	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	1	1	1	1	4	5	6	9	10	9	5	3	2	2	1	1	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	1	1	2	2	3	4	6	7	5	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	1	1	1	1	2	2	5	4	2	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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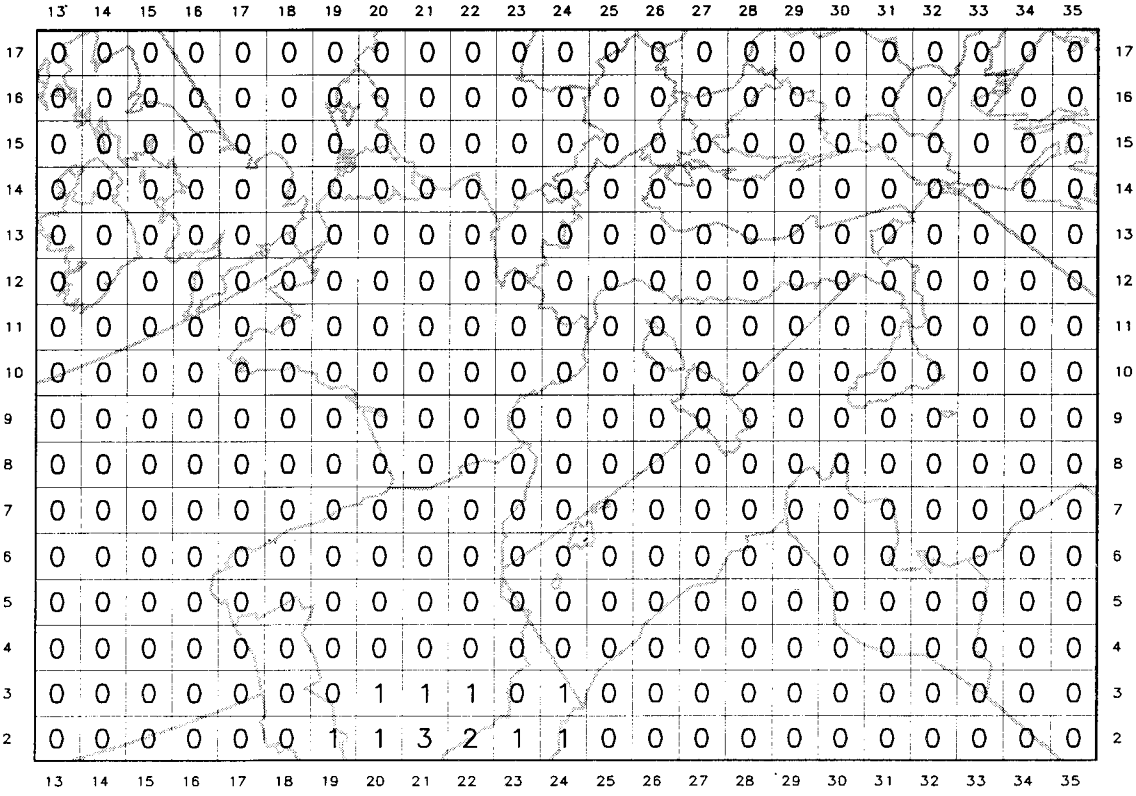
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from the Mediteranian Sea



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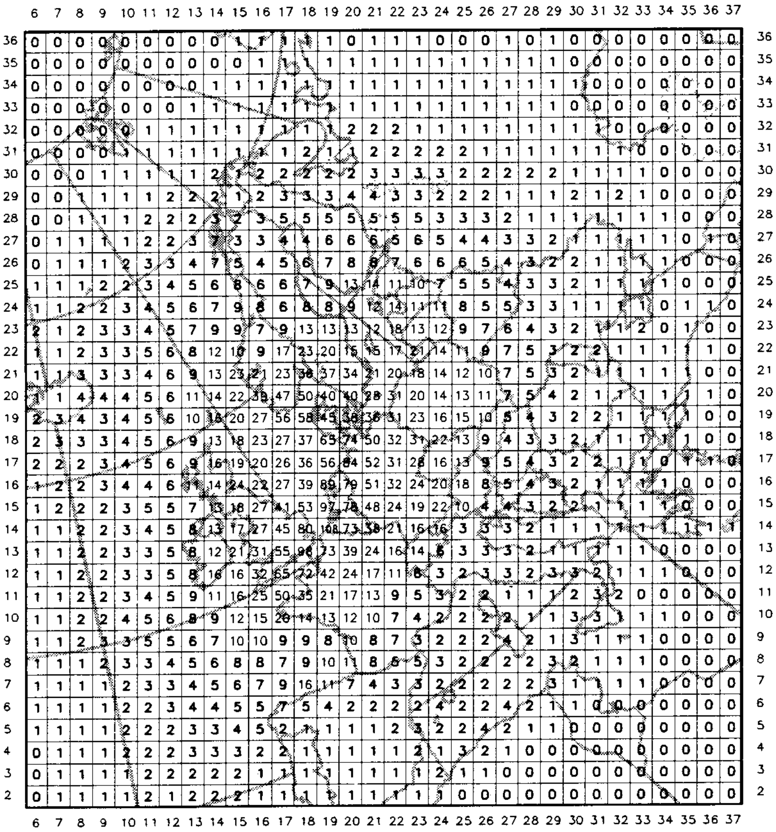
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	1	1	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from the North sea



	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
36	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
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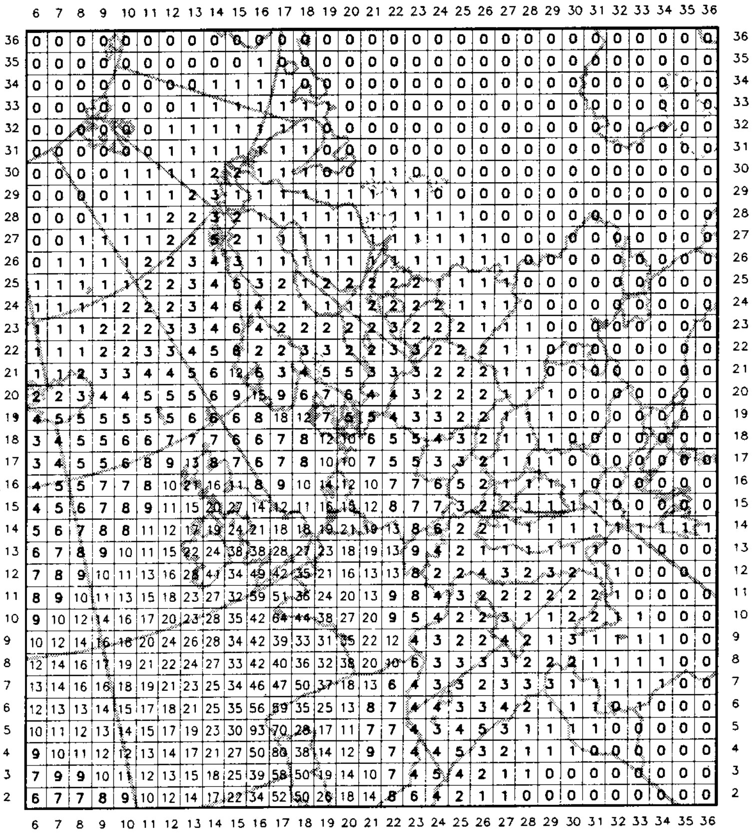
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen Contribution from the remaining N.E. Atlantic Ocean



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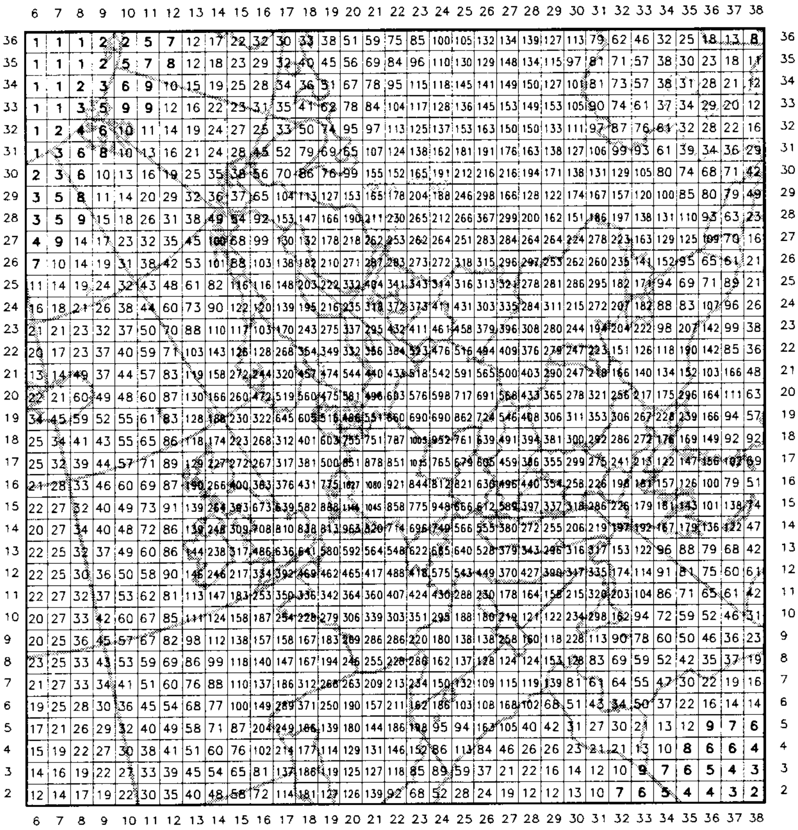
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Sum of attributable contributions



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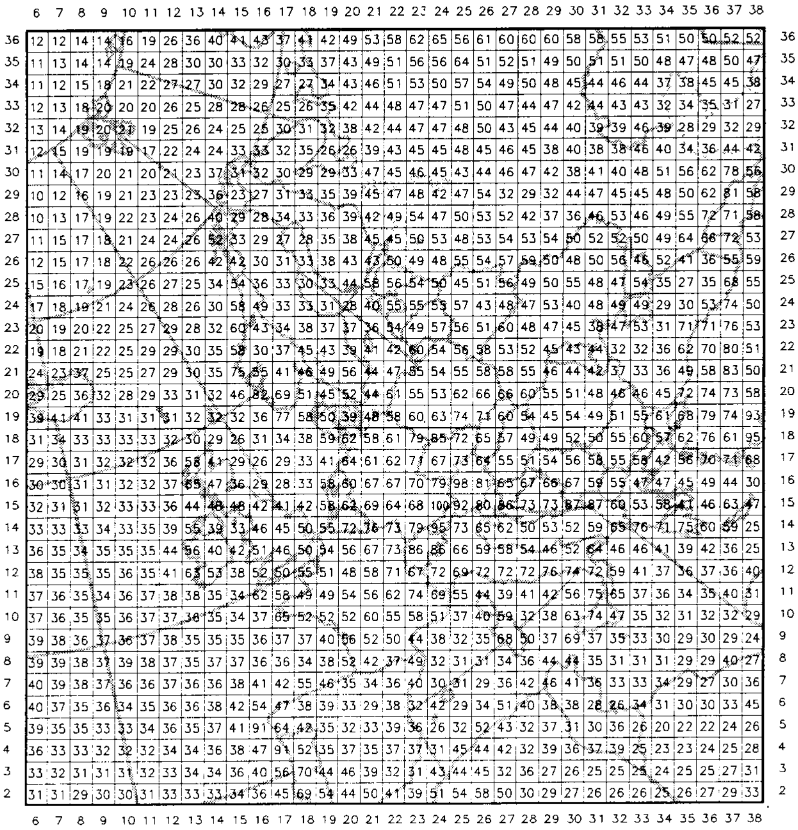
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Inattributable contributions



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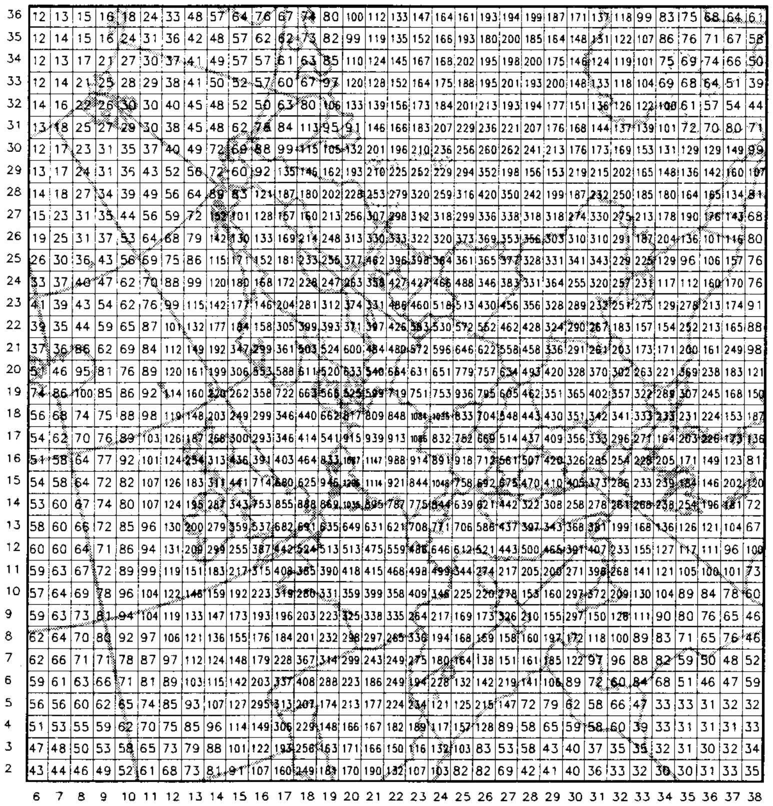
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Oxidized Nitrogen
Grand total (all contributions)



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23	41	39	43	54	62	76	99	115	142	177	146	204	281	312	374	331	486	460	518	513	430	456	356	328	289	232	251	275	129	278	213	174	91	23
22	39	35	44	59	65	87	101	132	177	184	158	305	399	393	371	397	426	583	530	572	562	462	428	324	290	267	183	157	154	252	213	165	88	22
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19	74	86	100	85	86	92	114	160	220	262	358	722	663	568	525	599	719	751	753	936	795	605	462	351	365	402	357	322	289	307	245	168	150	19
18	56	68	74	75	88	98	119	148	203	249	299	346	440	662	817	809	848	1084	1035	833	704	548	443	430	351	342	341	333	233	231	224	153	187	18
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	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

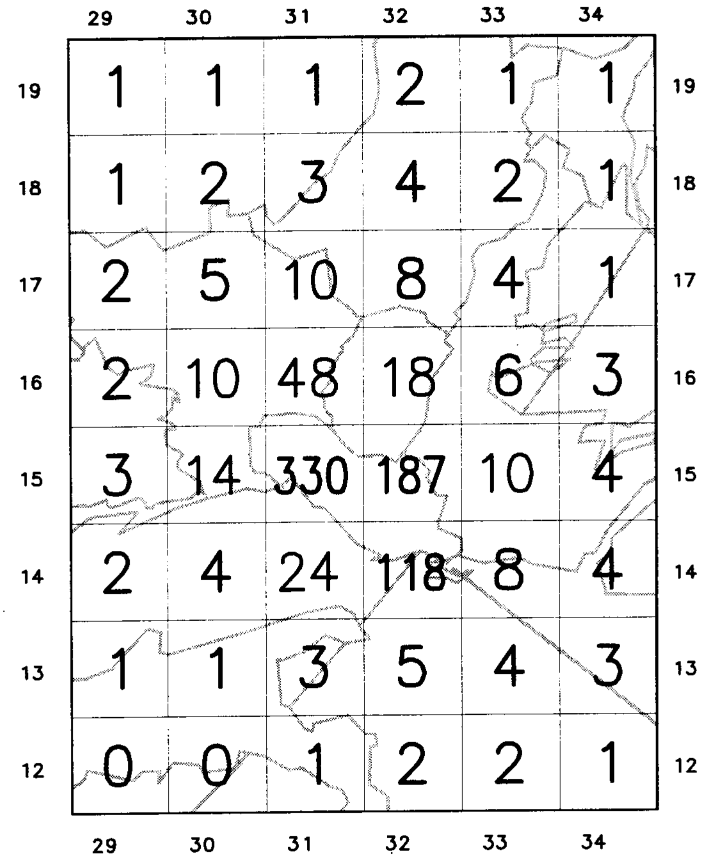
Annual average
between
1985 and 1996

Units: mg(N)/m2

Grid square deposition of Reduced Nitrogen:

country allocated and total

Total Deposition of Reduced Nitrogen Contribution from Albania



	29	30	31	32	33	34	
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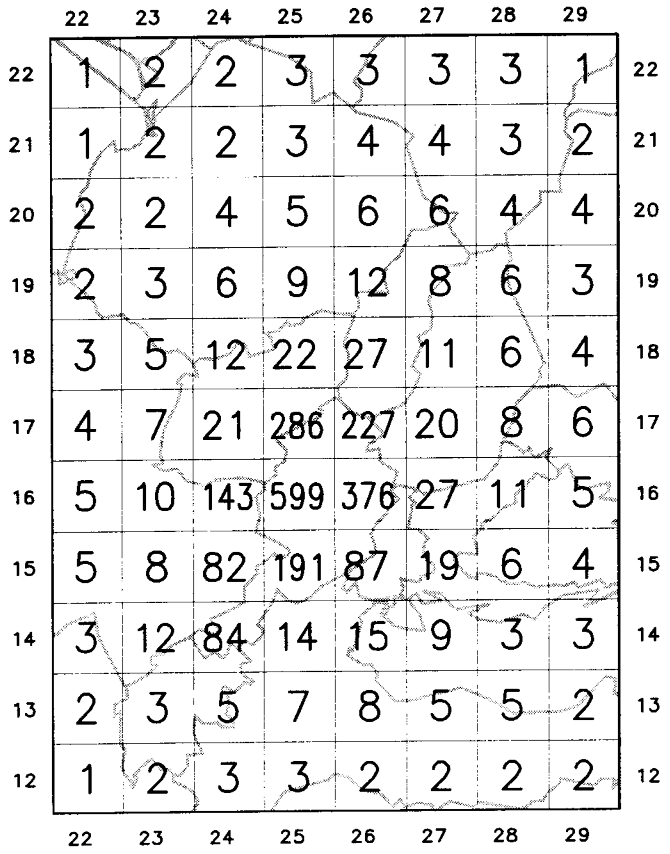
18	1	2	3	4	2	1	18
17	2	5	10	8	4	1	17
16	2	10	48	18	6	3	16
15	3	14	330	187	10	4	15
14	2	4	24	118	8	4	14
13	1	1	3	5	4	3	13
12	0	0	1	2	2	1	12
	29	30	31	32	33	34	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Austria



	22	23	24	25	26	27	28	29	
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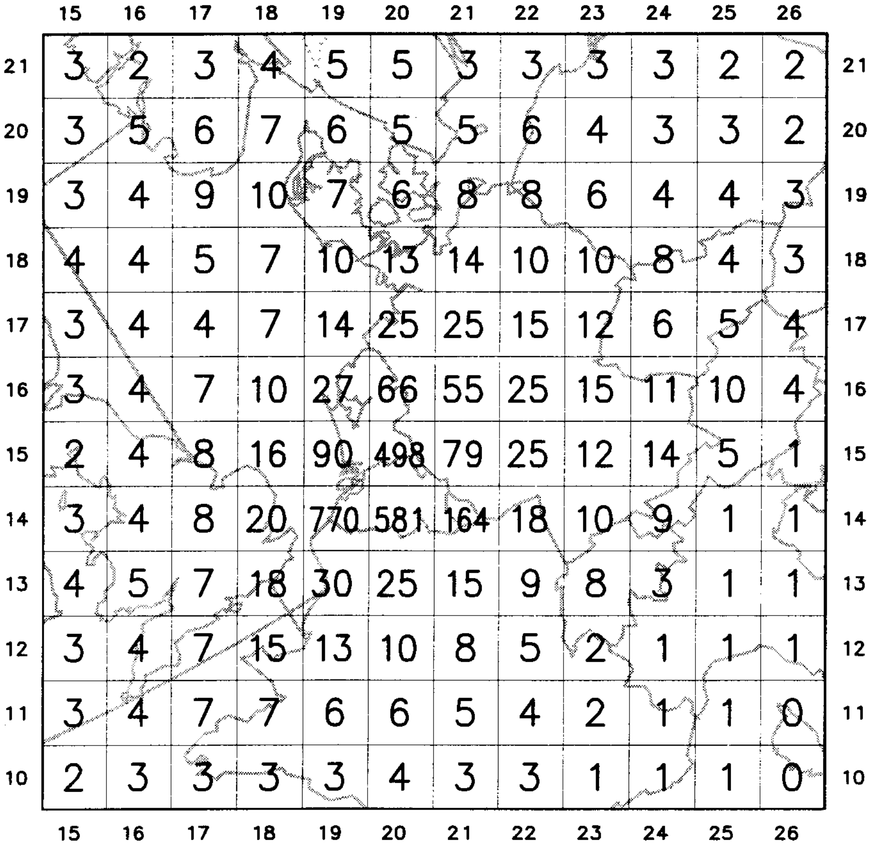
21	1	2	2	3	4	4	3	2	21
20	2	2	4	5	6	6	4	4	20
19	2	3	6	9	12	8	6	3	19
18	3	5	12	22	27	11	6	4	18
17	4	7	21	286	227	20	8	6	17
16	5	10	143	599	376	27	11	5	16
15	5	8	82	191	87	19	6	4	15
14	3	12	84	14	15	9	3	3	14
13	2	3	5	7	8	5	5	2	13
12	1	2	3	3	2	2	2	2	12
	22	23	24	25	26	27	28	29	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Belgium



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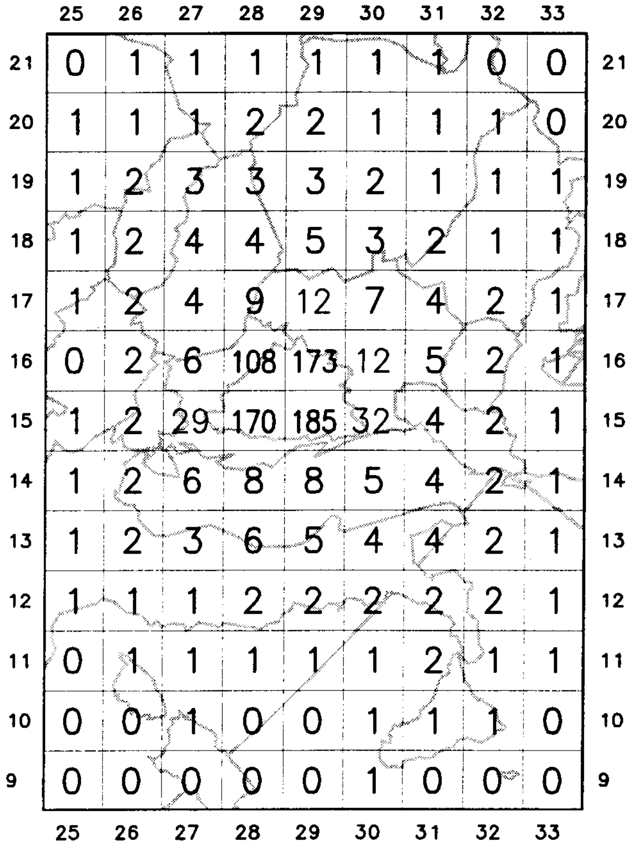
19	3	4	9	10	7	6	8	8	6	4	4	3	19
18	4	4	5	7	10	13	14	10	10	8	4	3	18
17	3	4	4	7	14	25	25	15	12	6	5	4	17
16	3	4	7	10	27	66	55	25	15	11	10	4	16
15	2	4	8	16	90	498	79	25	12	14	5	1	15
14	3	4	8	20	770	581	164	18	10	9	1	1	14
13	4	5	7	18	30	25	15	9	8	3	1	1	13
12	3	4	7	15	13	10	8	5	2	1	1	1	12
11	3	4	7	7	6	6	5	4	2	1	1	0	11
10	2	3	3	3	3	4	3	3	1	1	1	0	10
	15	16	17	18	19	20	21	22	23	24	25	26	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Bosnia & Hercegovina



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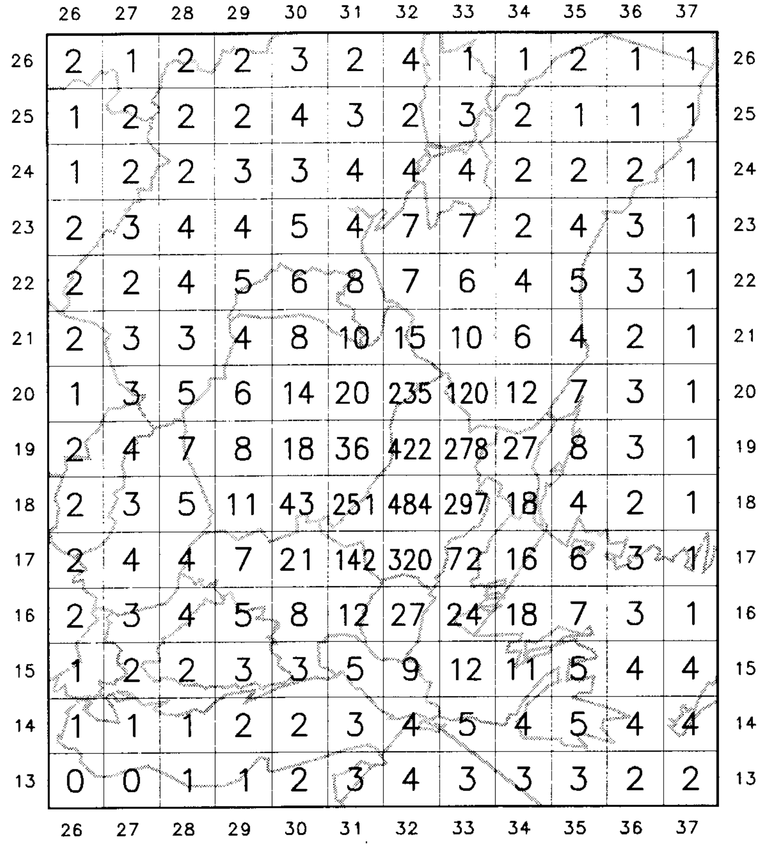
20	1	1	1	2	2	1	1	1	0	20
19	1	2	3	3	3	2	1	1	1	19
18	1	2	4	4	5	3	2	1	1	18
17	1	2	4	9	12	7	4	2	1	17
16	0	2	6	108	173	12	5	2	1	16
15	1	2	29	170	185	32	4	2	1	15
14	1	2	6	8	8	5	4	2	1	14
13	1	2	3	6	5	4	4	2	1	13
12	1	1	1	2	2	2	2	2	1	12
11	0	1	1	1	1	1	2	1	1	11
10	0	0	1	0	0	1	1	1	0	10
9	0	0	0	0	0	1	0	0	0	9
	25	26	27	28	29	30	31	32	33	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Bulgaria



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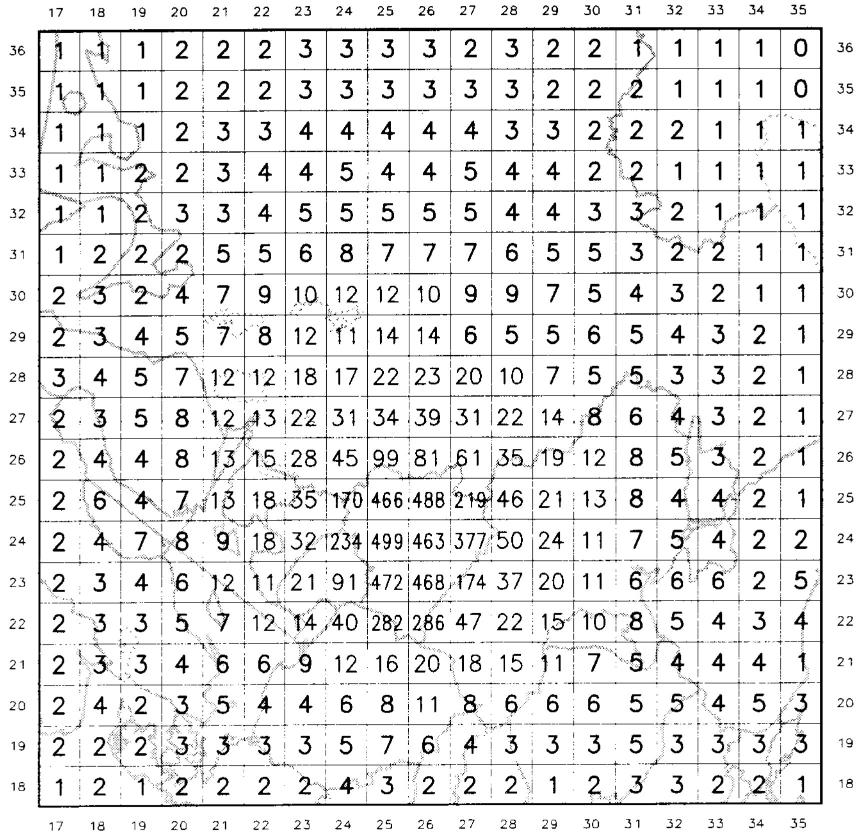
24	1	2	2	3	3	4	4	4	2	2	2	1	24
23	2	3	4	4	5	4	7	7	2	4	3	1	23
22	2	2	4	5	6	8	7	6	4	5	3	1	22
21	2	3	3	4	8	10	15	10	6	4	2	1	21
20	1	3	5	6	14	20	235	120	12	7	3	1	20
19	2	4	7	8	18	36	422	278	27	8	3	1	19
18	2	3	5	11	43	251	484	297	18	4	2	1	18
17	2	4	4	7	21	142	320	72	16	6	3	1	17
16	2	3	4	5	8	12	27	24	18	7	3	1	16
15	1	2	2	3	3	5	9	12	11	5	4	4	15
14	1	1	1	2	2	3	4	5	4	5	4	4	14
13	0	0	1	1	2	3	4	3	3	3	2	2	13
	26	27	28	29	30	31	32	33	34	35	36	37	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Byelorussia



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35	1	1	1	2	2	2	3	3	3	3	3	3	2	2	2	1	1	1	0	35
34	1	1	1	2	3	3	4	4	4	4	4	3	3	2	2	2	1	1	1	34
33	1	1	2	2	3	4	4	5	4	4	5	4	4	2	2	1	1	1	1	33
32	1	1	2	3	3	4	5	5	5	5	5	4	4	3	3	2	1	1	1	32
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29	2	3	4	5	7	8	12	11	14	14	6	5	5	6	5	4	3	2	1	29
28	3	4	5	7	12	12	18	17	22	23	20	10	7	5	5	3	3	2	1	28
27	2	3	5	8	12	13	22	31	34	39	31	22	14	8	6	4	3	2	1	27
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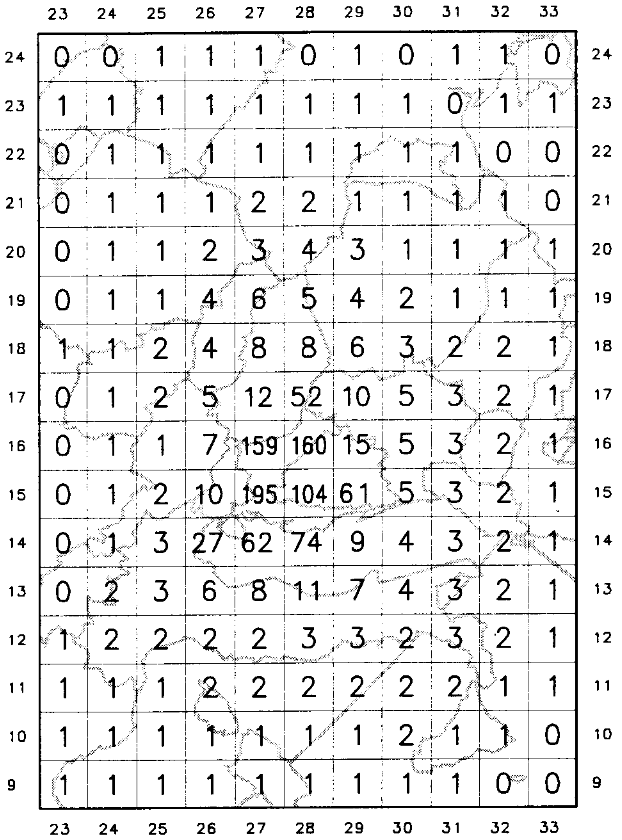
25	2	6	4	7	13	18	35	170	466	488	219	46	21	13	8	4	4	2	1	25
24	2	4	7	8	9	18	32	234	499	463	377	50	24	11	7	5	4	2	2	24
23	2	3	4	6	12	11	21	91	472	468	174	37	20	11	6	6	6	2	5	23
22	2	3	3	5	7	12	14	40	282	286	47	22	15	10	8	5	4	3	4	22
21	2	3	3	4	6	6	9	12	16	20	18	15	11	7	5	4	4	4	1	21
20	2	4	2	3	5	4	4	6	8	11	8	6	6	6	5	5	4	5	3	20
19	2	2	2	3	3	3	3	5	7	6	4	3	3	3	5	3	3	3	3	19
18	1	2	1	2	2	2	2	4	3	2	2	2	1	2	3	3	2	2	1	18
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Croatia

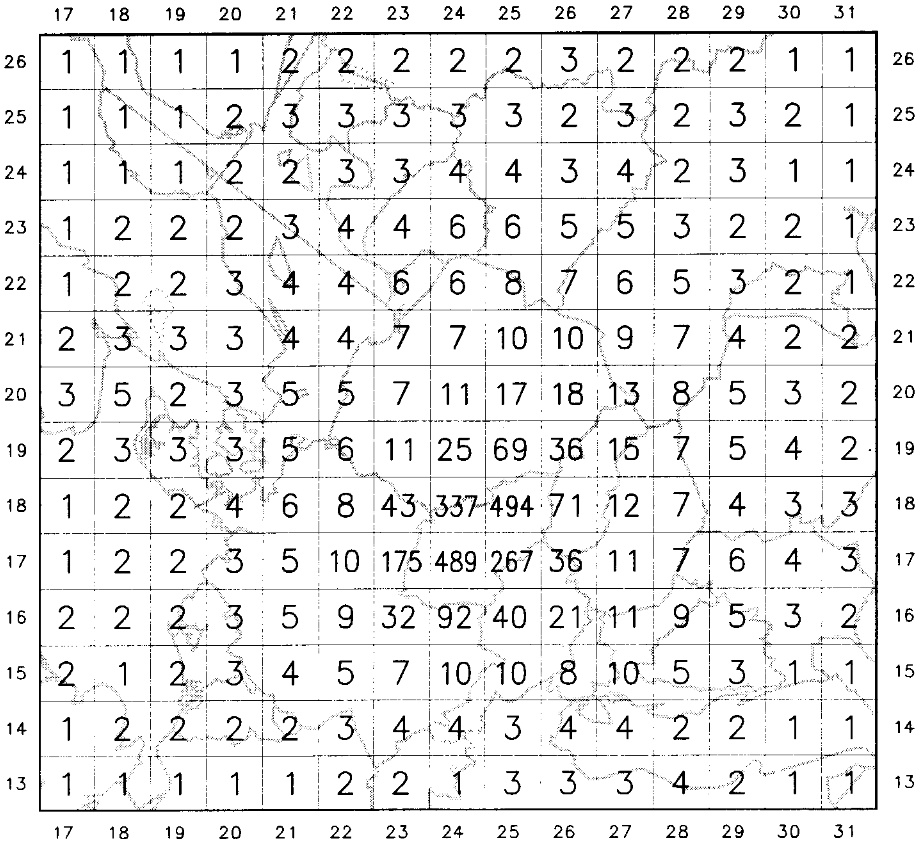


	23	24	25	26	27	28	29	30	31	32	33	
24	0	0	1	1	1	0	1	0	1	1	0	24
23	1	1	1	1	1	1	1	1	0	1	1	23
22	0	1	1	1	1	1	1	1	1	0	0	22
21	0	1	1	1	2	2	1	1	1	1	0	21
20	0	1	1	2	3	4	3	1	1	1	1	20
19	0	1	1	4	6	5	4	2	1	1	1	19
18	1	1	2	4	8	8	6	3	2	2	1	18
17	0	1	2	5	12	52	10	5	3	2	1	17
16	0	1	1	7	159	160	15	5	3	2	1	16
15	0	1	2	10	195	104	61	5	3	2	1	15
14	0	1	3	27	62	74	9	4	3	2	1	14
13	0	2	3	6	8	11	7	4	3	2	1	13
12	1	2	2	2	2	3	3	2	3	2	1	12
11	1	1	1	2	2	2	2	2	2	1	1	11
10	1	1	1	1	1	1	1	2	1	1	0	10
9	1	1	1	1	1	1	1	1	1	0	0	9
	23	24	25	26	27	28	29	30	31	32	33	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Czech Republic

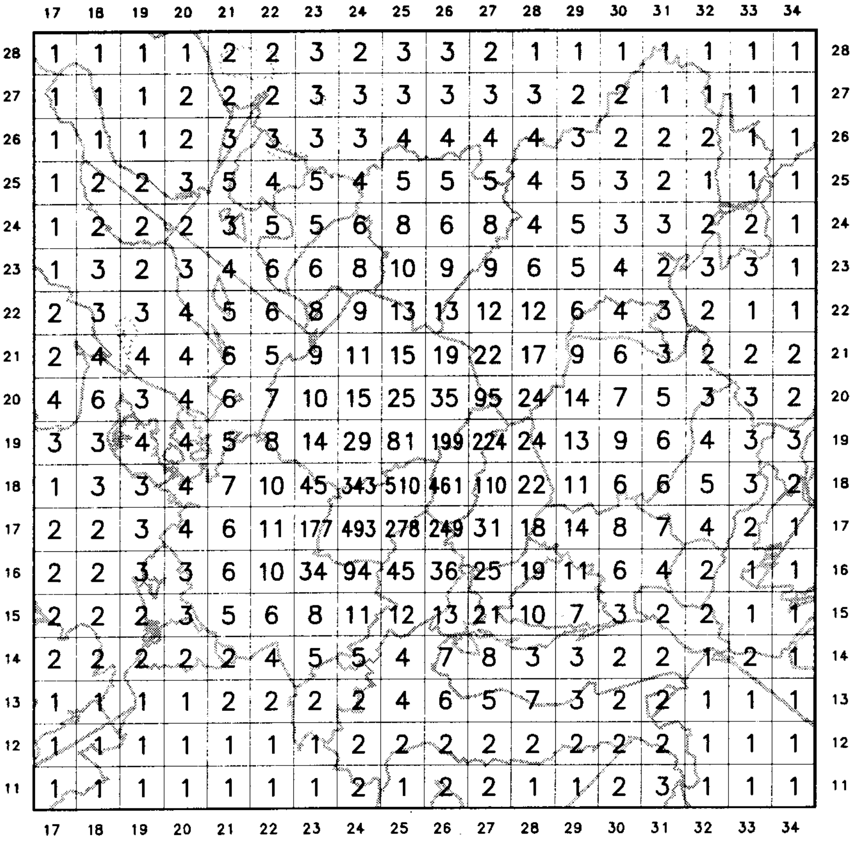


	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
26	1	1	1	1	2	2	2	2	2	3	2	2	2	1	1	26
25	1	1	1	2	3	3	3	3	3	2	3	2	3	2	1	25
24	1	1	1	2	2	3	3	4	4	3	4	2	3	1	1	24
23	1	2	2	2	3	4	4	6	6	5	5	3	2	2	1	23
22	1	2	2	3	4	4	6	6	8	7	6	5	3	2	1	22
21	2	3	3	3	4	4	7	7	10	10	9	7	4	2	2	21
20	3	5	2	3	5	5	7	11	17	18	13	8	5	3	2	20
19	2	3	3	3	5	6	11	25	69	36	15	7	5	4	2	19
18	1	2	2	4	6	8	43	337	494	71	12	7	4	3	3	18
17	1	2	2	3	5	10	175	489	267	36	11	7	6	4	3	17
16	2	2	2	3	5	9	32	92	40	21	11	9	5	3	2	16
15	2	1	2	3	4	5	7	10	10	8	10	5	3	1	1	15
14	1	2	2	2	2	3	4	4	3	4	4	2	2	1	1	14
13	1	1	1	1	1	2	2	1	3	3	3	4	2	1	1	13
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Czechoslovakia

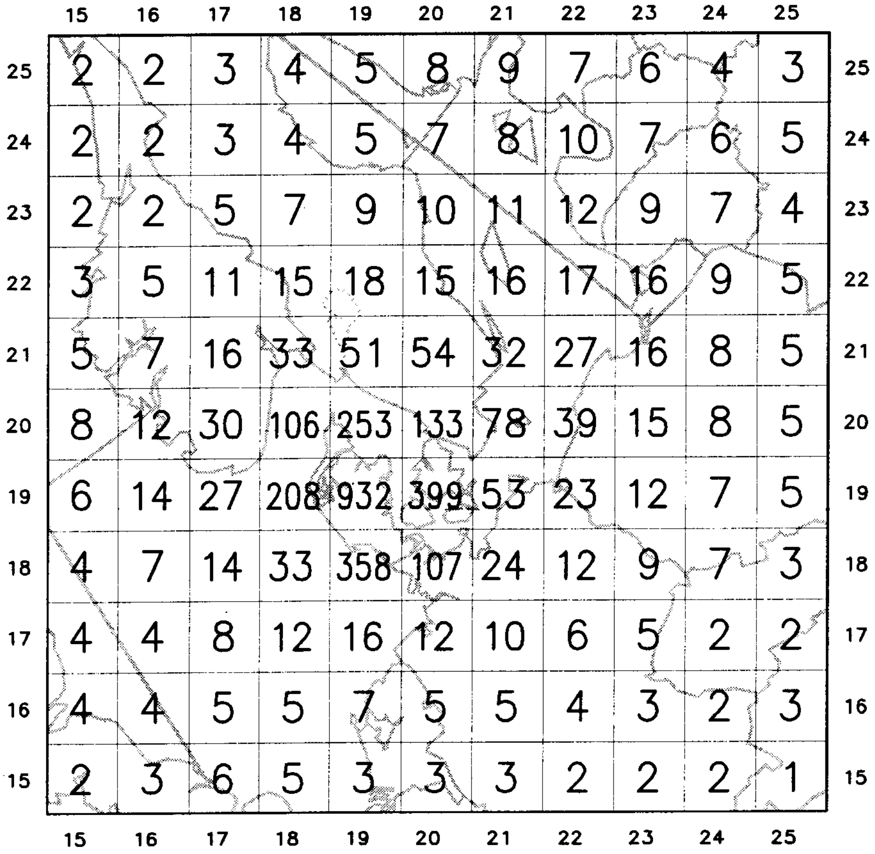


	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
28	1	1	1	1	2	2	3	2	3	3	2	1	1	1	1	1	1	1	28
27	1	1	1	2	2	2	3	3	3	3	3	3	2	2	1	1	1	1	27
26	1	1	1	2	3	3	3	3	4	4	4	4	3	2	2	2	1	1	26
25	1	2	2	3	5	4	5	4	5	5	5	4	5	3	2	1	1	1	25
24	1	2	2	2	3	5	5	6	8	6	8	4	5	3	3	2	2	1	24
23	1	3	2	3	4	6	6	8	10	9	9	6	5	4	2	3	3	1	23
22	2	3	3	4	5	6	8	9	13	13	12	12	6	4	3	2	1	1	22
21	2	4	4	4	6	5	9	11	15	19	22	17	9	6	3	2	2	2	21
20	4	6	3	4	6	7	10	15	25	35	95	24	14	7	5	3	3	2	20
19	3	3	4	4	5	8	14	29	81	199	224	24	13	9	6	4	3	3	19
18	1	3	3	4	7	10	45	343	510	461	110	22	11	6	6	5	3	2	18
17	2	2	3	4	6	11	177	493	278	249	31	18	14	8	7	4	2	1	17
16	2	2	3	3	6	10	34	94	45	36	25	19	11	6	4	2	1	1	16
15	2	2	2	3	5	6	8	11	12	13	21	10	7	3	2	2	1	1	15
14	2	2	2	2	2	4	5	5	4	7	8	3	3	2	2	1	2	1	14
13	1	1	1	1	2	2	2	2	4	6	5	7	3	2	2	1	1	1	13
12	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	12
11	1	1	1	1	1	1	1	2	1	2	2	1	1	2	3	1	1	1	11
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Denmark

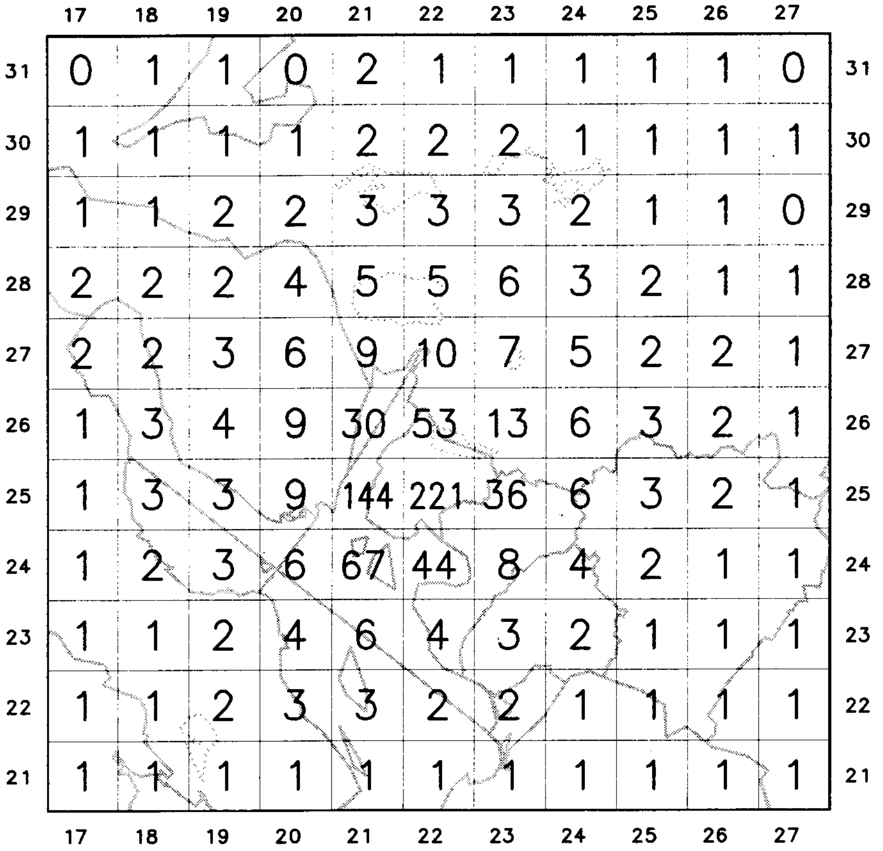


	15	16	17	18	19	20	21	22	23	24	25	
25	2	2	3	4	5	8	9	7	6	4	3	25
24	2	2	3	4	5	7	8	10	7	6	5	24
23	2	2	5	7	9	10	11	12	9	7	4	23
22	3	5	11	15	18	15	16	17	16	9	5	22
21	5	7	16	33	51	54	32	27	16	8	5	21
20	8	12	30	106	253	133	78	39	15	8	5	20
19	6	14	27	208	932	399	53	23	12	7	5	19
18	4	7	14	33	358	107	24	12	9	7	3	18
17	4	4	8	12	16	12	10	6	5	2	2	17
16	4	4	5	5	7	5	5	4	3	2	3	16
15	2	3	6	5	3	3	3	2	2	2	1	15
	15	16	17	18	19	20	21	22	23	24	25	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Estonia

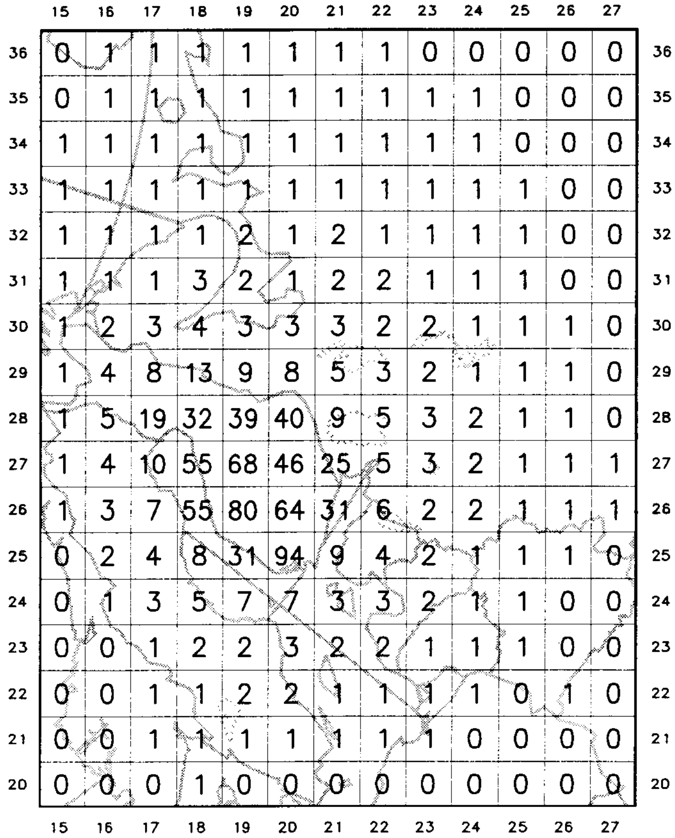


	17	18	19	20	21	22	23	24	25	26	27	
31	0	1	1	0	2	1	1	1	1	1	0	31
30	1	1	1	1	2	2	2	1	1	1	1	30
29	1	1	2	2	3	3	3	2	1	1	0	29
28	2	2	2	4	5	5	6	3	2	1	1	28
27	2	2	3	6	9	10	7	5	2	2	1	27
26	1	3	4	9	30	53	13	6	3	2	1	26
25	1	3	3	9	144	221	36	6	3	2	1	25
24	1	2	3	6	67	44	8	4	2	1	1	24
23	1	1	2	4	6	4	3	2	1	1	1	23
22	1	1	2	3	3	2	2	1	1	1	1	22
21	1	1	1	1	1	1	1	1	1	1	1	21
	17	18	19	20	21	22	23	24	25	26	27	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Finland

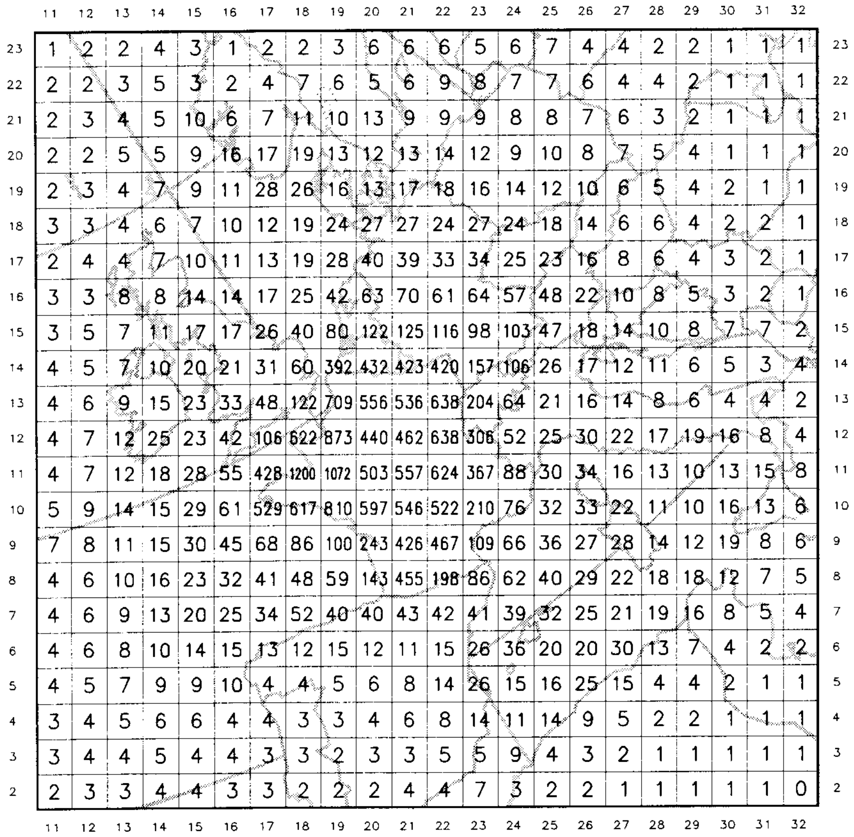


	15	16	17	18	19	20	21	22	23	24	25	26	27	
36	0	1	1	1	1	1	1	1	0	0	0	0	0	36
35	0	1	1	1	1	1	1	1	1	1	0	0	0	35
34	1	1	1	1	1	1	1	1	1	1	0	0	0	34
33	1	1	1	1	1	1	1	1	1	1	1	0	0	33
32	1	1	1	1	2	1	2	1	1	1	1	0	0	32
31	1	1	1	3	2	1	2	2	1	1	1	0	0	31
30	1	2	3	4	3	3	3	2	2	1	1	1	0	30
29	1	4	8	13	9	8	5	3	2	1	1	1	0	29
28	1	5	19	32	39	40	9	5	3	2	1	1	0	28
27	1	4	10	55	68	46	25	5	3	2	1	1	1	27
26	1	3	7	55	80	64	31	6	2	2	1	1	1	26
25	0	2	4	8	31	94	9	4	2	1	1	1	0	25
24	0	1	3	5	7	7	3	3	2	1	1	0	0	24
23	0	0	1	2	2	3	2	2	1	1	1	0	0	23
22	0	0	1	1	2	2	1	1	1	1	0	1	0	22
21	0	0	1	1	1	1	1	1	1	0	0	0	0	21
20	0	0	0	1	0	0	0	0	0	0	0	0	0	20
	15	16	17	18	19	20	21	22	23	24	25	26	27	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from France

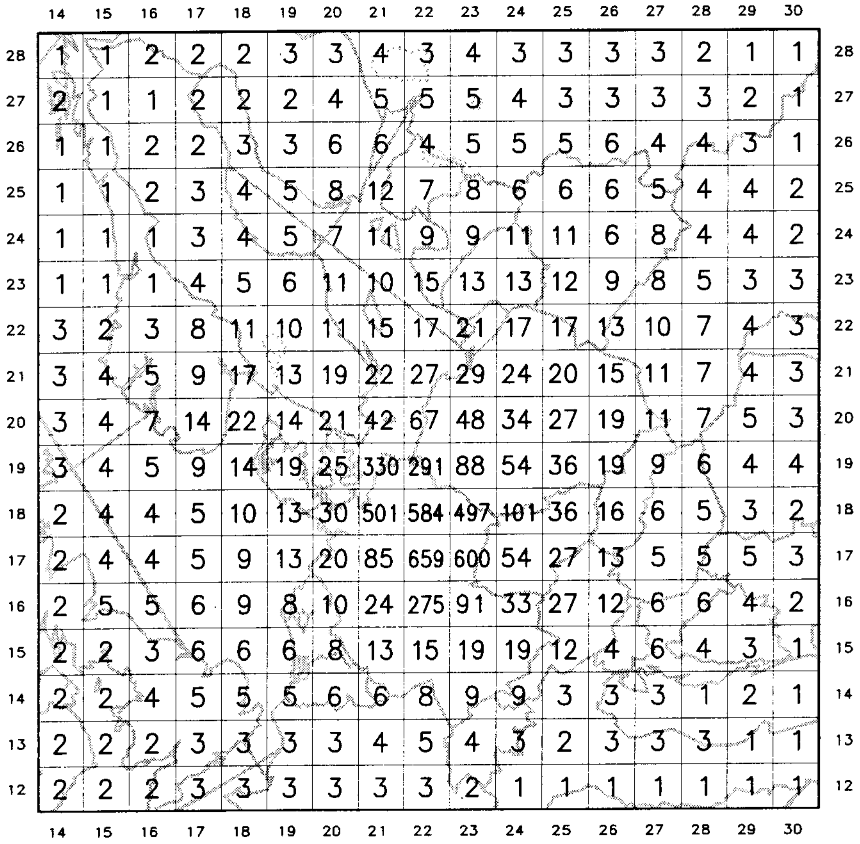


	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
23	1	2	2	4	3	1	2	2	3	6	6	6	5	6	7	4	4	2	2	1	1	1
22	2	2	3	5	3	2	4	7	6	5	6	9	8	7	7	6	4	4	2	1	1	1
21	2	3	4	5	10	6	7	11	10	13	9	9	9	8	8	7	6	3	2	1	1	1
20	2	2	5	5	9	16	17	19	13	12	13	14	12	9	10	8	7	5	4	1	1	1
19	2	3	4	7	9	11	28	26	16	13	17	18	16	14	12	10	6	5	4	2	1	1
18	3	3	4	6	7	10	12	19	24	27	27	24	27	24	18	14	6	6	4	2	2	1
17	2	4	4	7	10	11	13	19	28	40	39	33	34	25	23	16	8	6	4	3	2	1
16	3	3	8	8	14	14	17	25	42	63	70	61	64	57	48	22	10	8	5	3	2	1
15	3	5	7	11	17	17	26	40	80	122	125	116	98	103	47	18	14	10	8	7	7	2
14	4	5	7	10	20	21	31	60	392	432	423	420	157	106	26	17	12	11	6	5	3	4
13	4	6	9	15	23	33	48	122	709	556	536	638	204	64	21	16	14	8	6	4	4	2
12	4	7	12	25	23	42	106	622	873	440	462	638	306	52	25	30	22	17	19	16	8	4
11	4	7	12	18	28	55	428	1200	1072	503	557	624	367	88	30	34	16	13	10	13	15	8
10	5	9	14	15	29	61	529	617	810	597	546	522	210	76	32	33	22	11	10	16	13	6
9	7	8	11	15	30	45	68	86	100	243	426	467	109	66	36	27	28	14	12	19	8	6
8	4	6	10	16	23	32	41	48	59	143	455	198	86	62	40	29	22	18	18	12	7	5
7	4	6	9	13	20	25	34	52	40	40	43	42	41	39	32	25	21	19	16	8	5	4
6	4	6	8	10	14	15	13	12	15	12	11	15	26	36	20	20	30	13	7	4	2	2
5	4	5	7	9	9	10	4	4	5	6	8	14	26	15	16	25	15	4	4	2	1	1
4	3	4	5	6	6	4	4	3	3	4	6	8	14	11	14	9	5	2	2	1	1	1
3	3	4	4	5	4	4	3	3	2	3	3	5	5	9	4	3	2	1	1	1	1	1
2	2	3	3	4	4	3	3	2	2	2	4	4	7	3	2	2	1	1	1	1	1	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from German Democratic Republic

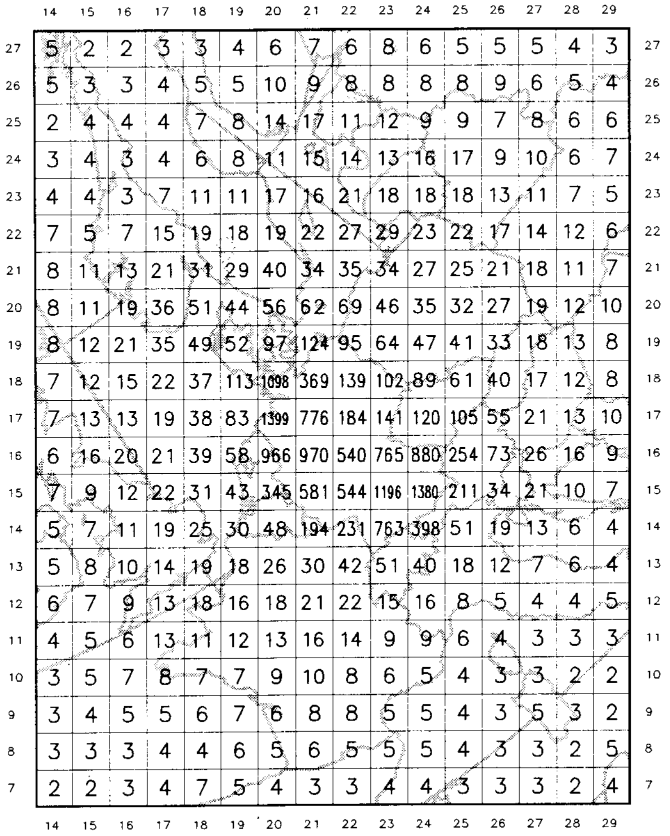


	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
28	1	1	2	2	2	3	3	4	3	4	3	3	3	3	2	1	1
27	2	1	1	2	2	2	4	5	5	5	4	3	3	3	3	2	1
26	1	1	2	2	3	3	6	6	4	5	5	5	6	4	4	3	1
25	1	1	2	3	4	5	8	12	7	8	6	6	6	5	4	4	2
24	1	1	1	3	4	5	7	11	9	9	11	11	6	8	4	4	2
23	1	1	1	4	5	6	11	10	15	13	13	12	9	8	5	3	3
22	3	2	3	8	11	10	11	15	17	21	17	17	13	10	7	4	3
21	3	4	5	9	17	13	19	22	27	29	24	20	15	11	7	4	3
20	3	4	7	14	22	14	21	42	67	48	34	27	19	11	7	5	3
19	3	4	5	9	14	19	25	330	291	88	54	36	19	9	6	4	4
18	2	4	4	5	10	13	30	501	584	497	101	36	16	6	5	3	2
17	2	4	4	5	9	13	20	85	659	600	54	27	13	5	5	5	3
16	2	5	5	6	9	8	10	24	275	91	33	27	12	6	6	4	2
15	2	2	3	6	6	6	8	13	15	19	19	12	4	6	4	3	1
14	2	2	4	5	5	5	6	6	8	9	9	3	3	3	1	2	1
13	2	2	2	3	3	3	3	4	5	4	3	2	3	3	3	1	1
12	2	2	2	3	3	3	3	3	3	2	1	1	1	1	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Federal Republic of Germany

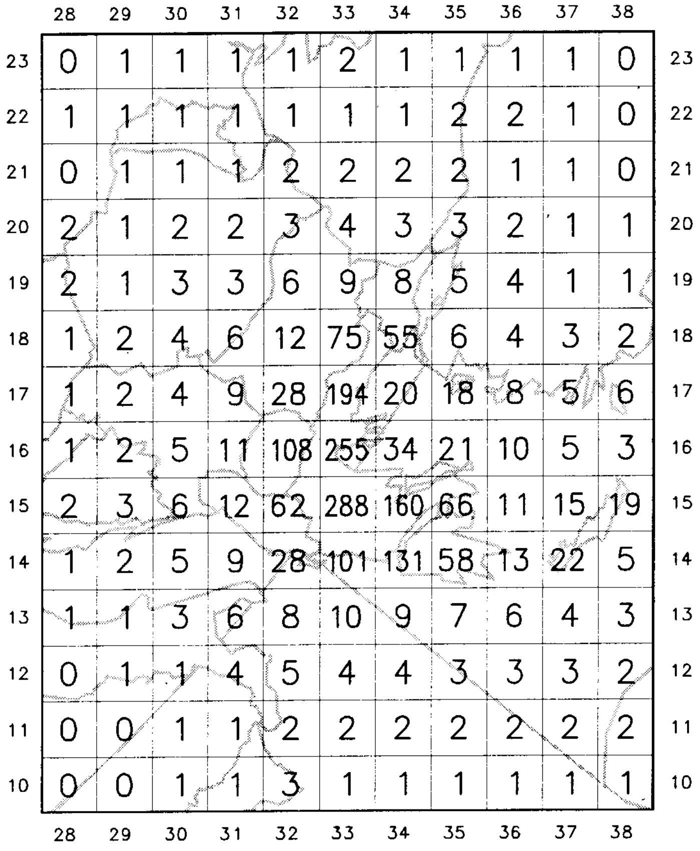


	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
27	5	2	2	3	3	4	6	7	6	8	6	5	5	5	4	3
26	5	3	3	4	5	5	10	9	8	8	8	8	9	6	5	4
25	2	4	4	4	7	8	14	17	11	12	9	9	7	8	6	6
24	3	4	3	4	6	8	11	15	14	13	16	17	9	10	6	7
23	4	4	3	7	11	11	17	16	21	18	18	18	13	11	7	5
22	7	5	7	15	19	18	19	22	27	29	23	22	17	14	12	6
21	8	11	13	21	31	29	40	34	35	34	27	25	21	18	11	7
20	8	11	19	36	51	44	56	62	69	46	35	32	27	19	12	10
19	8	12	21	35	49	52	97	124	95	64	47	41	33	18	13	8
18	7	12	15	22	37	113	1098	369	139	102	89	61	40	17	12	8
17	7	13	13	19	38	83	1399	776	184	141	120	105	55	21	13	10
16	6	16	20	21	39	58	966	970	540	765	880	254	73	26	16	9
15	7	9	12	22	31	43	345	581	544	1196	1380	211	34	21	10	7
14	5	7	11	19	25	30	48	194	231	763	398	51	19	13	6	4
13	5	8	10	14	19	18	26	30	42	51	40	18	12	7	6	4
12	6	7	9	13	18	16	18	21	22	15	16	8	5	4	4	5
11	4	5	6	13	11	12	13	16	14	9	9	6	4	3	3	3
10	3	5	7	8	7	7	9	10	8	6	5	4	3	3	2	2
9	3	4	5	5	6	7	6	8	8	5	5	4	3	5	3	2
8	3	3	3	4	4	6	5	6	5	5	5	4	3	3	2	5
7	2	2	3	4	7	5	4	3	3	4	4	3	3	3	2	4

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Greece

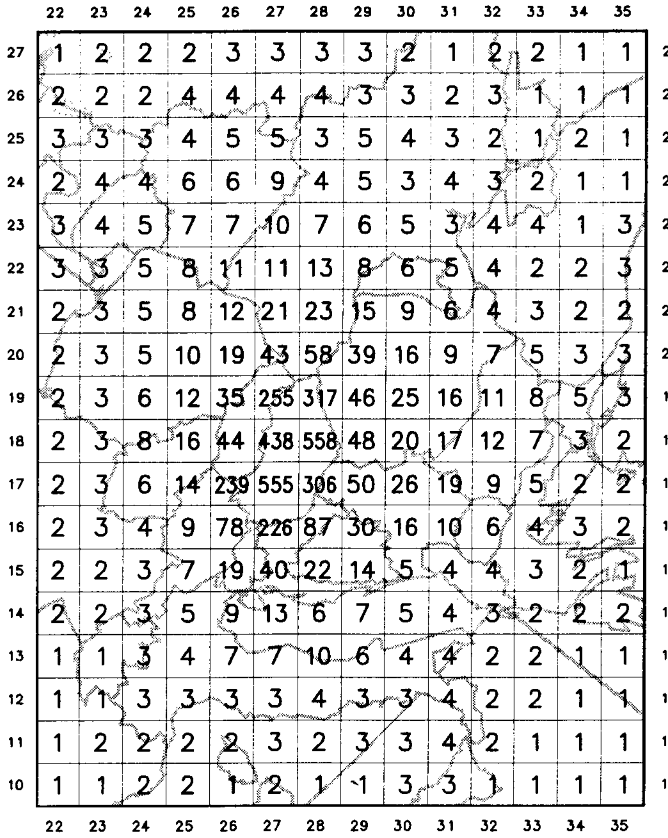


	28	29	30	31	32	33	34	35	36	37	38
23	0	1	1	1	1	2	1	1	1	1	0
22	1	1	1	1	1	1	1	2	2	1	0
21	0	1	1	1	2	2	2	2	1	1	0
20	2	1	2	2	3	4	3	3	2	1	1
19	2	1	3	3	6	9	8	5	4	1	1
18	1	2	4	6	12	75	55	6	4	3	2
17	1	2	4	9	28	194	20	18	8	5	6
16	1	2	5	11	108	255	34	21	10	5	3
15	2	3	6	12	62	288	160	66	11	15	19
14	1	2	5	9	28	101	131	58	13	22	5
13	1	1	3	6	8	10	9	7	6	4	3
12	0	1	1	4	5	4	4	3	3	3	2
11	0	0	1	1	2	2	2	2	2	2	2
10	0	0	1	1	3	1	1	1	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Hungary

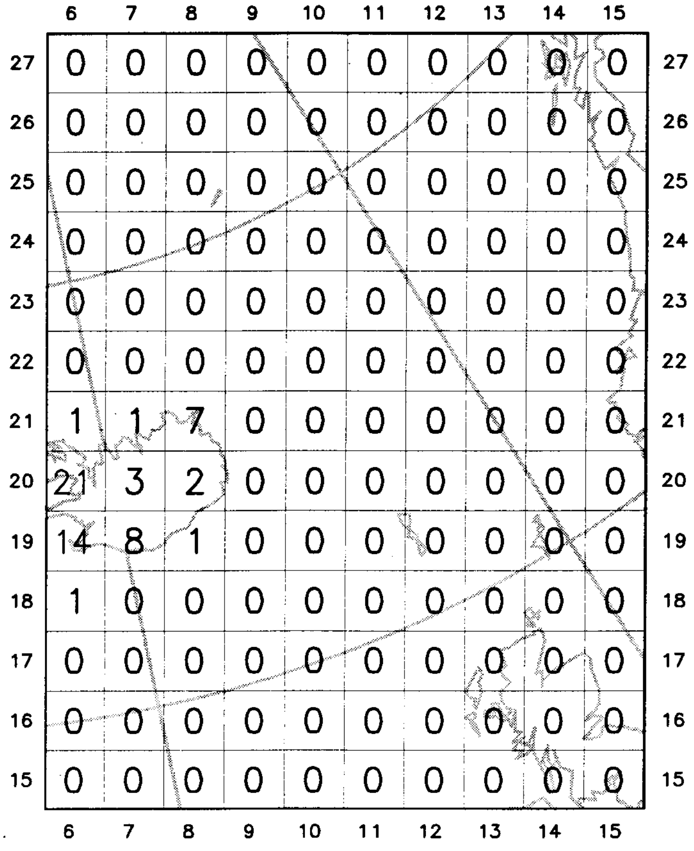


	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
27	1	2	2	2	3	3	3	3	2	1	2	2	1	1	27
26	2	2	2	4	4	4	4	3	3	2	3	1	1	1	26
25	3	3	3	4	5	5	3	5	4	3	2	1	2	1	25
24	2	4	4	6	6	9	4	5	3	4	3	2	1	1	24
23	3	4	5	7	7	10	7	6	5	3	4	4	1	3	23
22	3	3	5	8	11	11	13	8	6	5	4	2	2	3	22
21	2	3	5	8	12	21	23	15	9	6	4	3	2	2	21
20	2	3	5	10	19	43	58	39	16	9	7	5	3	3	20
19	2	3	6	12	35	255	317	46	25	16	11	8	5	3	19
18	2	3	8	16	44	438	558	48	20	17	12	7	3	2	18
17	2	3	6	14	239	555	306	50	26	19	9	5	2	2	17
16	2	3	4	9	78	226	87	30	16	10	6	4	3	2	16
15	2	2	3	7	19	40	22	14	5	4	4	3	2	1	15
14	2	2	3	5	9	13	6	7	5	4	3	2	2	2	14
13	1	1	3	4	7	7	10	6	4	4	2	2	1	1	13
12	1	1	3	3	3	3	4	3	3	4	2	2	1	1	12
11	1	2	2	2	2	3	2	3	3	4	2	1	1	1	11
10	1	1	2	2	1	2	1	1	3	3	1	1	1	1	10
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Iceland

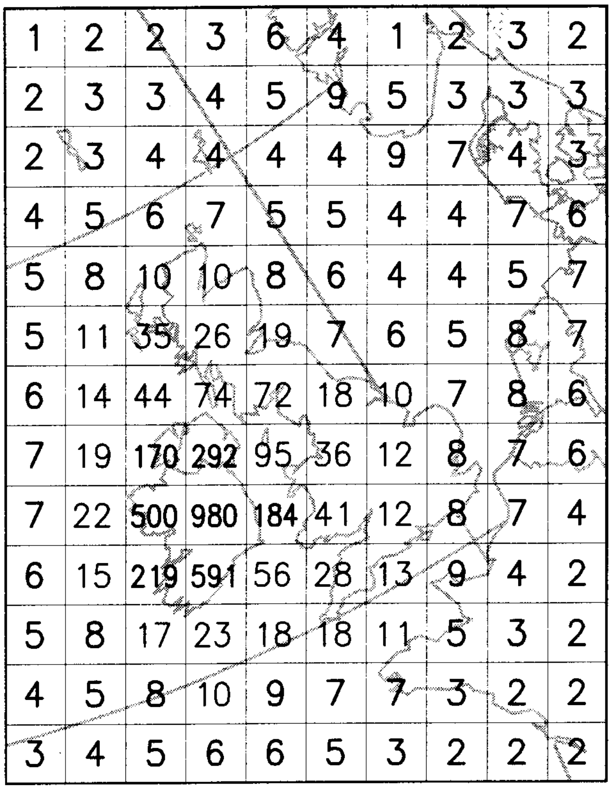


	6	7	8	9	10	11	12	13	14	15	
27	0	0	0	0	0	0	0	0	0	0	27
26	0	0	0	0	0	0	0	0	0	0	26
25	0	0	0	0	0	0	0	0	0	0	25
24	0	0	0	0	0	0	0	0	0	0	24
23	0	0	0	0	0	0	0	0	0	0	23
22	0	0	0	0	0	0	0	0	0	0	22
21	1	1	7	0	0	0	0	0	0	0	21
20	21	3	2	0	0	0	0	0	0	0	20
19	14	8	1	0	0	0	0	0	0	0	19
18	1	0	0	0	0	0	0	0	0	0	18
17	0	0	0	0	0	0	0	0	0	0	17
16	0	0	0	0	0	0	0	0	0	0	16
15	0	0	0	0	0	0	0	0	0	0	15
	6	7	8	9	10	11	12	13	14	15	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from the Republic of Ireland

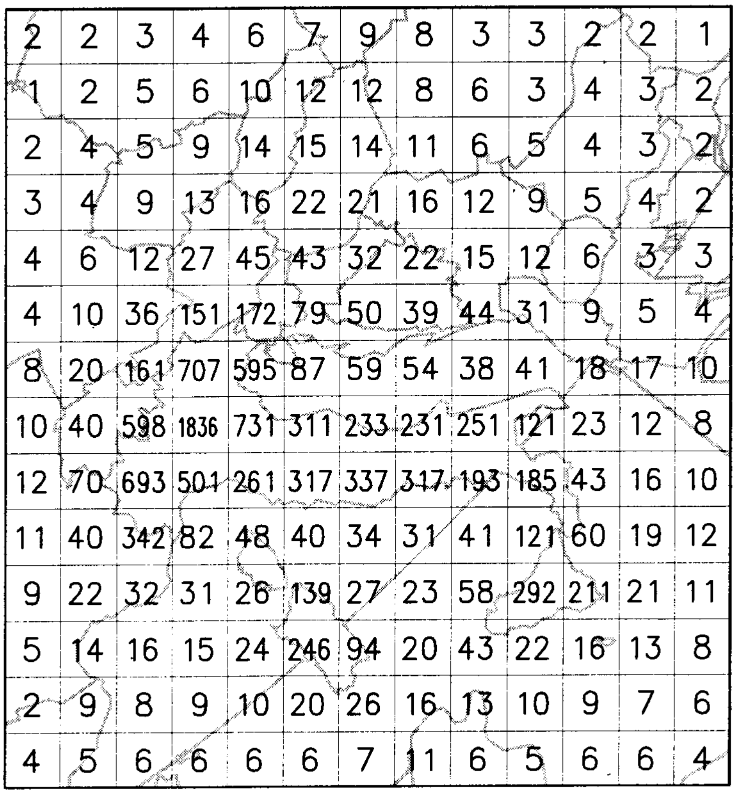


	11	12	13	14	15	16	17	18	19	20
21	1	2	2	3	6	4	1	2	3	2
20	2	3	3	4	5	9	5	3	3	3
19	2	3	4	4	4	4	9	7	4	3
18	4	5	6	7	5	5	4	4	7	6
17	5	8	10	10	8	6	4	4	5	7
16	5	11	35	26	19	7	6	5	8	7
15	6	14	44	74	72	18	10	7	8	6
14	7	19	170	292	95	36	12	8	7	6
13	7	22	500	980	184	41	12	8	7	4
12	6	15	219	591	56	28	13	9	4	2
11	5	8	17	23	18	18	11	5	3	2
10	4	5	8	10	9	7	7	3	2	2
9	3	4	5	6	6	5	3	2	2	2

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Italy

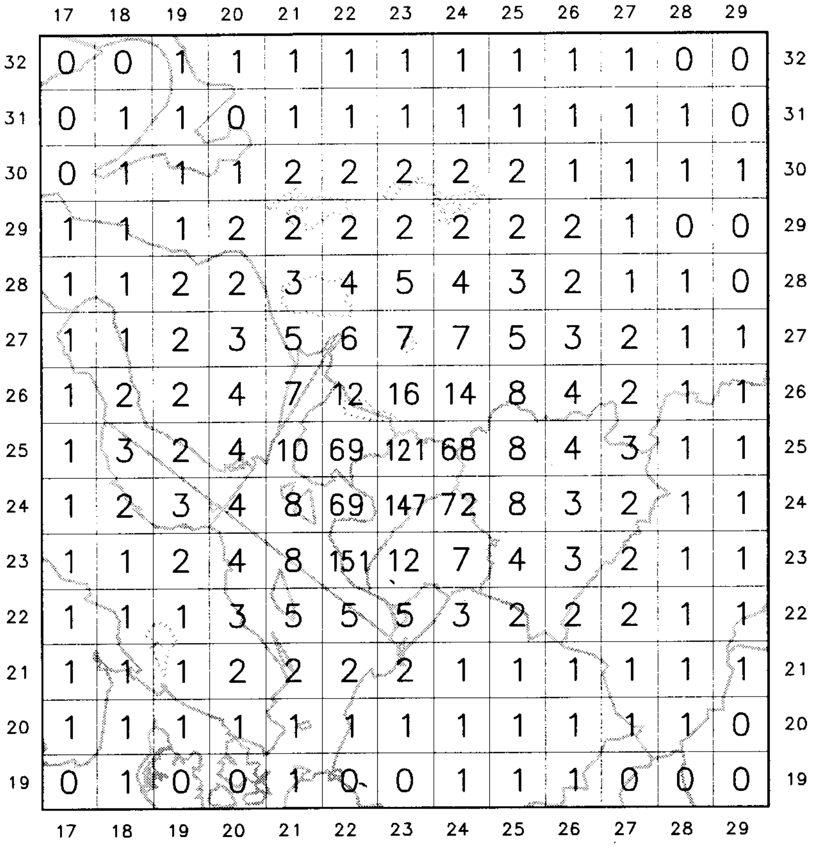


	22	23	24	25	26	27	28	29	30	31	32	33	34
20	2	2	3	4	6	7	9	8	3	3	2	2	1
19	1	2	5	6	10	12	12	8	6	3	4	3	2
18	2	4	5	9	14	15	14	11	6	5	4	3	2
17	3	4	9	13	16	22	21	16	12	9	5	4	2
16	4	6	12	27	45	43	32	22	15	12	6	3	3
15	4	10	36	151	172	79	50	39	44	31	9	5	4
14	8	20	161	707	595	87	59	54	38	41	18	17	10
13	10	40	598	1836	731	311	233	231	251	121	23	12	8
12	12	70	693	501	261	317	337	317	193	185	43	16	10
11	11	40	342	82	48	40	34	31	41	121	60	19	12
10	9	22	32	31	26	139	27	23	58	292	211	21	11
9	5	14	16	15	24	246	94	20	43	22	16	13	8
8	2	9	8	9	10	20	26	16	13	10	9	7	6
7	4	5	6	6	6	6	7	11	6	5	6	6	4

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Latvia

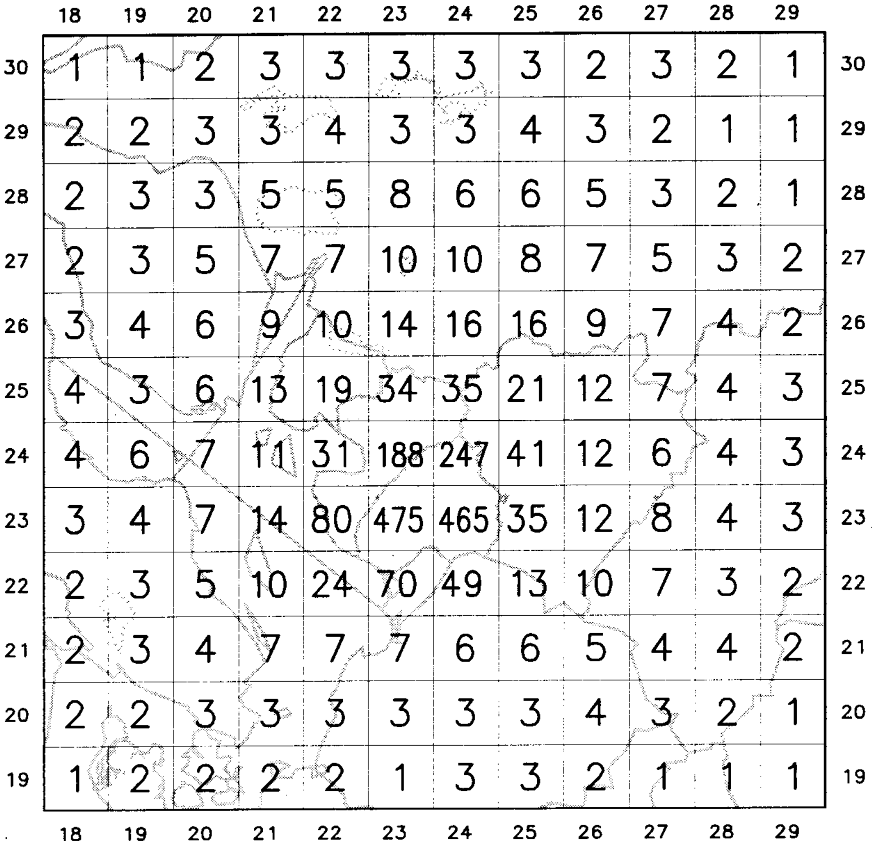


	17	18	19	20	21	22	23	24	25	26	27	28	29	
32	0	0	1	1	1	1	1	1	1	1	1	0	0	32
31	0	1	1	0	1	1	1	1	1	1	1	1	0	31
30	0	1	1	1	2	2	2	2	2	1	1	1	1	30
29	1	1	1	2	2	2	2	2	2	2	1	0	0	29
28	1	1	2	2	3	4	5	4	3	2	1	1	0	28
27	1	1	2	3	5	6	7	7	5	3	2	1	1	27
26	1	2	2	4	7	12	16	14	8	4	2	1	1	26
25	1	3	2	4	10	69	121	68	8	4	3	1	1	25
24	1	2	3	4	8	69	147	72	8	3	2	1	1	24
23	1	1	2	4	8	151	12	7	4	3	2	1	1	23
22	1	1	1	3	5	5	5	3	2	2	2	1	1	22
21	1	1	1	2	2	2	2	1	1	1	1	1	1	21
20	1	1	1	1	1	1	1	1	1	1	1	1	0	20
19	0	1	0	0	1	0	0	1	1	1	0	0	0	19
	17	18	19	20	21	22	23	24	25	26	27	28	29	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Lithuania

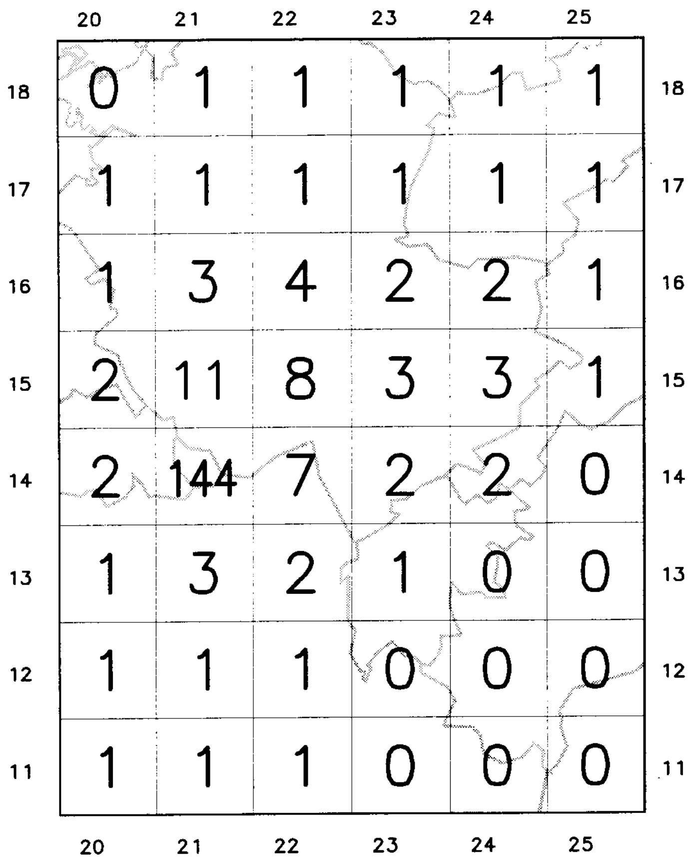


	18	19	20	21	22	23	24	25	26	27	28	29	
30	1	1	2	3	3	3	3	3	2	3	2	1	30
29	2	2	3	3	4	3	3	4	3	2	1	1	29
28	2	3	3	5	5	8	6	6	5	3	2	1	28
27	2	3	5	7	7	10	10	8	7	5	3	2	27
26	3	4	6	9	10	14	16	16	9	7	4	2	26
25	4	3	6	13	19	34	35	21	12	7	4	3	25
24	4	6	7	11	31	188	247	41	12	6	4	3	24
23	3	4	7	14	80	475	465	35	12	8	4	3	23
22	2	3	5	10	24	70	49	13	10	7	3	2	22
21	2	3	4	7	7	7	6	6	5	4	4	2	21
20	2	2	3	3	3	3	3	3	4	3	2	1	20
19	1	2	2	2	2	1	3	3	2	1	1	1	19
	18	19	20	21	22	23	24	25	26	27	28	29	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Luxembourg

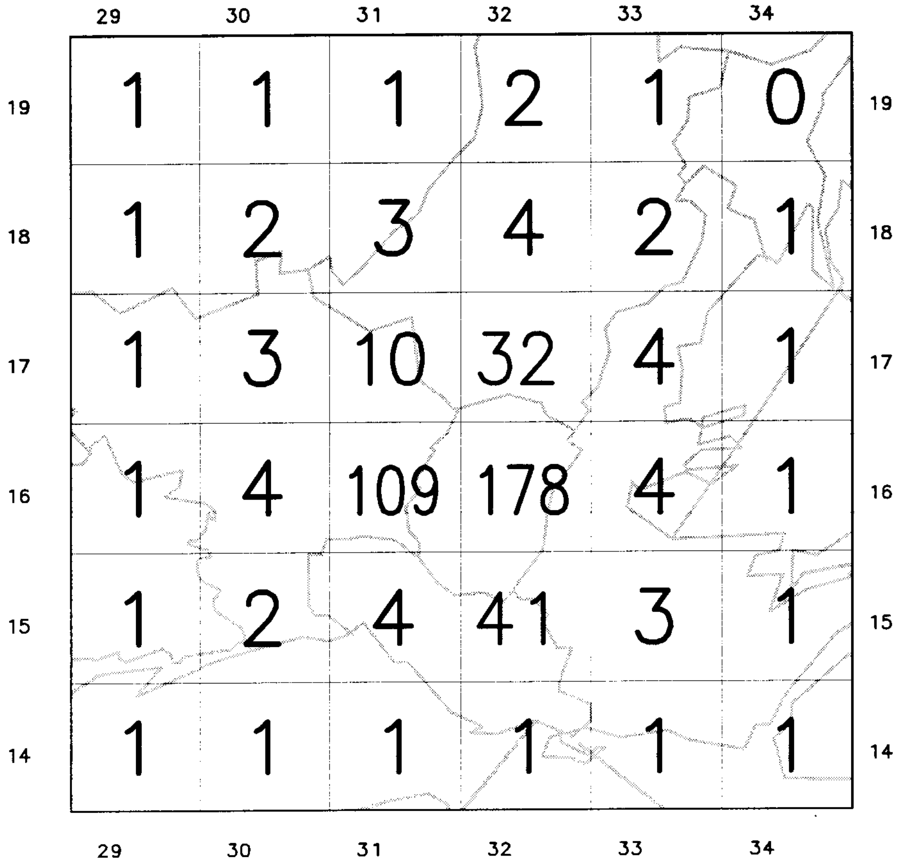


	20	21	22	23	24	25
18	0	1	1	1	1	1
17	1	1	1	1	1	1
16	1	3	4	2	2	1
15	2	11	8	3	3	1
14	2	144	7	2	2	0
13	1	3	2	1	0	0
12	1	1	1	0	0	0
11	1	1	1	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Macedonia (part of former YU)

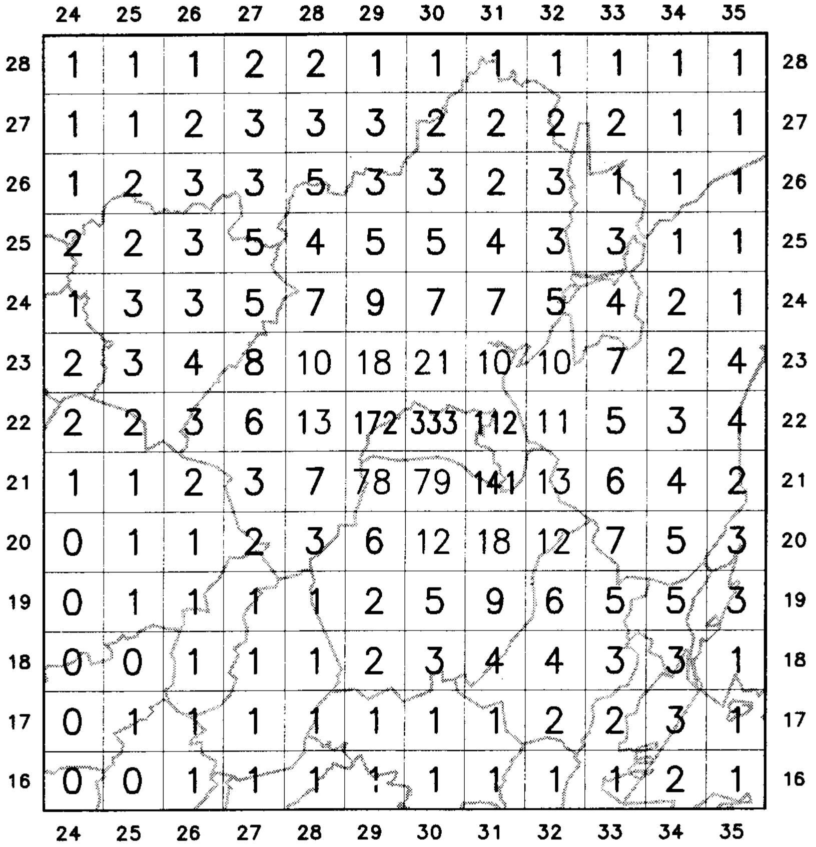


	29	30	31	32	33	34
19	1	1	1	2	1	0
18	1	2	3	4	2	1
17	1	3	10	32	4	1
16	1	4	109	178	4	1
15	1	2	4	41	3	1
14	1	1	1	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from the Republic of Moldova

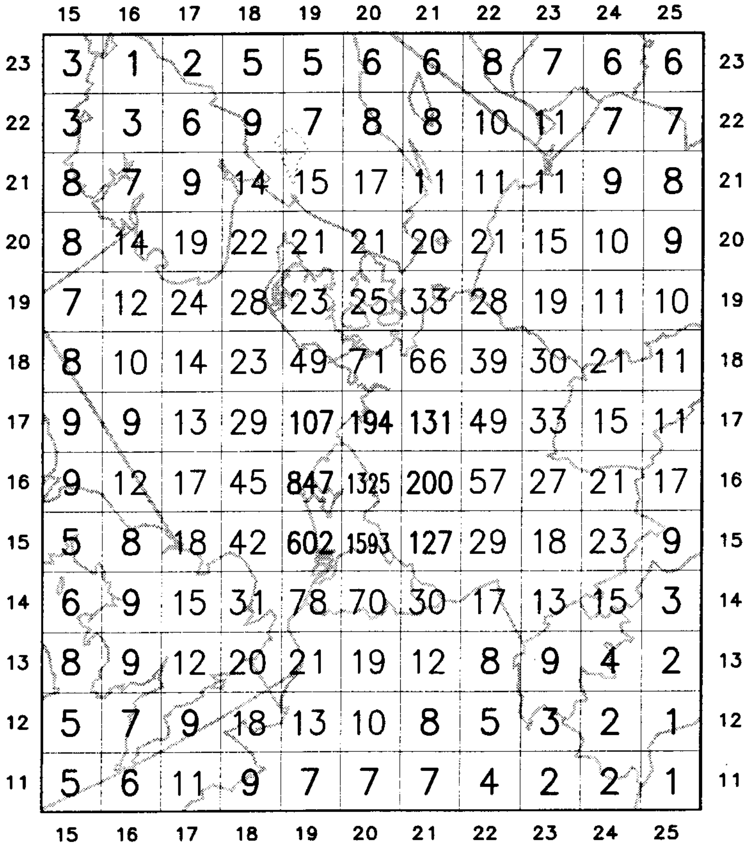


	24	25	26	27	28	29	30	31	32	33	34	35	
28	1	1	1	2	2	1	1	1	1	1	1	1	28
27	1	1	2	3	3	3	2	2	2	2	1	1	27
26	1	2	3	3	5	3	3	2	3	1	1	1	26
25	2	2	3	5	4	5	5	4	3	3	1	1	25
24	1	3	3	5	7	9	7	7	5	4	2	1	24
23	2	3	4	8	10	18	21	10	10	7	2	4	23
22	2	2	3	6	13	172	333	112	11	5	3	4	22
21	1	1	2	3	7	78	79	141	13	6	4	2	21
20	0	1	1	2	3	6	12	18	12	7	5	3	20
19	0	1	1	1	1	2	5	9	6	5	5	3	19
18	0	0	1	1	1	2	3	4	4	3	3	1	18
17	0	1	1	1	1	1	1	1	2	2	3	1	17
16	0	0	1	1	1	1	1	1	1	1	2	1	16
	24	25	26	27	28	29	30	31	32	33	34	35	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from the Netherlands

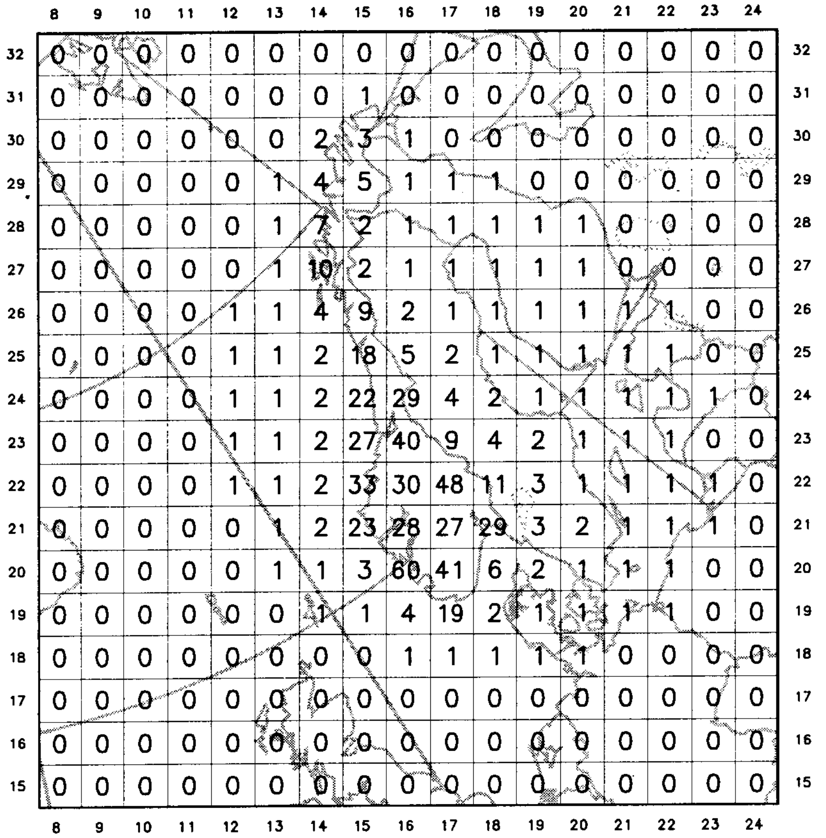


	15	16	17	18	19	20	21	22	23	24	25	
23	3	1	2	5	5	6	6	8	7	6	6	23
22	3	3	6	9	7	8	8	10	11	7	7	22
21	8	7	9	14	15	17	11	11	11	9	8	21
20	8	14	19	22	21	21	20	21	15	10	9	20
19	7	12	24	28	23	25	33	28	19	11	10	19
18	8	10	14	23	49	71	66	39	30	21	11	18
17	9	9	13	29	107	194	131	49	33	15	11	17
16	9	12	17	45	847	1325	200	57	27	21	17	16
15	5	8	18	42	602	1593	127	29	18	23	9	15
14	6	9	15	31	78	70	30	17	13	15	3	14
13	8	9	12	20	21	19	12	8	9	4	2	13
12	5	7	9	18	13	10	8	5	3	2	1	12
11	5	6	11	9	7	7	7	4	2	2	1	11
	15	16	17	18	19	20	21	22	23	24	25	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Norway

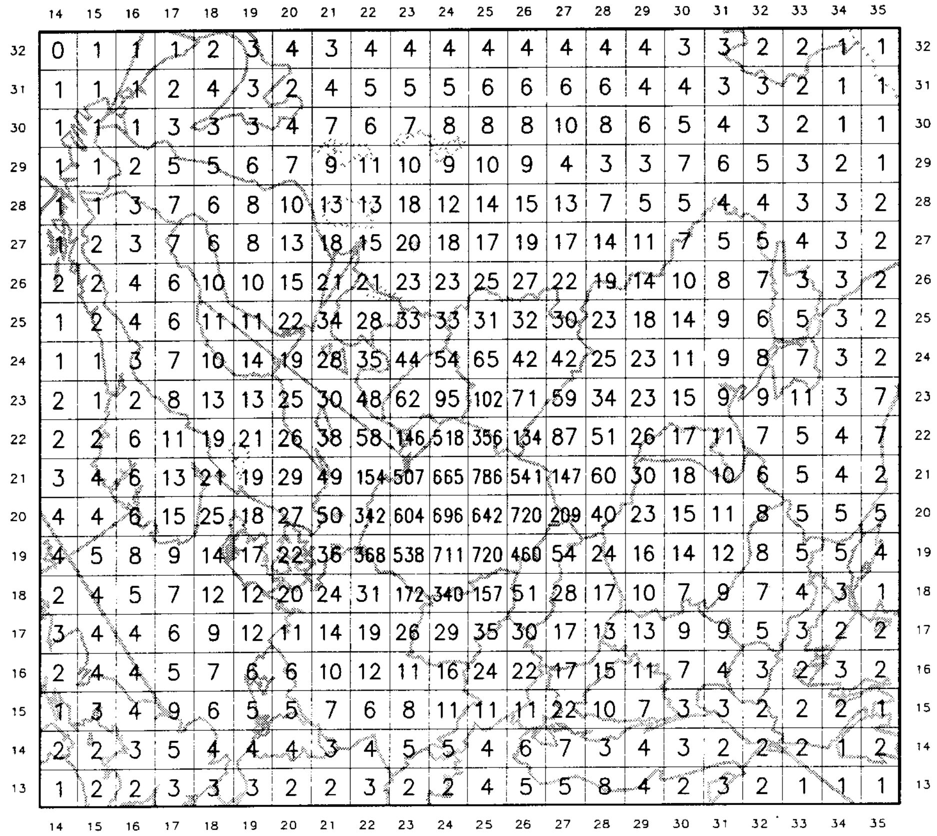


	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	0	0
29	0	0	0	0	0	1	4	5	1	1	1	0	0	0	0	0	0
28	0	0	0	0	0	1	7	2	1	1	1	1	1	0	0	0	0
27	0	0	0	0	0	1	10	2	1	1	1	1	1	0	0	0	0
26	0	0	0	0	1	1	4	9	2	1	1	1	1	1	1	0	0
25	0	0	0	0	1	1	2	18	5	2	1	1	1	1	1	0	0
24	0	0	0	0	1	1	2	22	29	4	2	1	1	1	1	1	0
23	0	0	0	0	1	1	2	27	40	9	4	2	1	1	1	0	0
22	0	0	0	0	1	1	2	33	30	48	11	3	1	1	1	1	0
21	0	0	0	0	0	1	2	23	28	27	29	3	2	1	1	1	0
20	0	0	0	0	0	1	1	3	60	41	6	2	1	1	1	0	0
19	0	0	0	0	0	0	1	1	4	19	2	1	1	1	1	0	0
18	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Poland

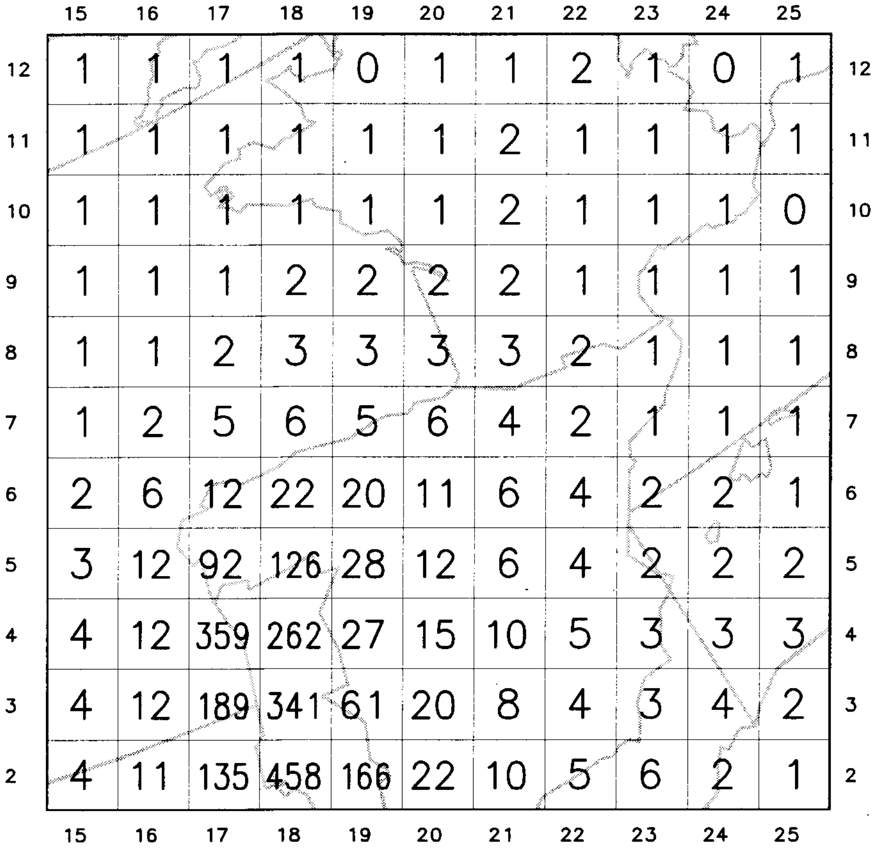


	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
32	0	1	1	1	2	3	4	3	4	4	4	4	4	4	4	4	3	3	2	2	1	1
31	1	1	1	2	4	3	2	4	5	5	5	6	6	6	6	4	4	3	3	2	1	1
30	1	1	1	3	3	3	4	7	6	7	8	8	8	10	8	6	5	4	3	2	1	1
29	1	1	2	5	5	6	7	9	11	10	9	10	9	4	3	3	7	6	5	3	2	1
28	1	1	3	7	6	8	10	13	13	18	12	14	15	13	7	5	5	4	4	3	3	2
27	1	2	3	7	6	8	13	18	15	20	18	17	19	17	14	11	7	5	5	4	3	2
26	2	2	4	6	10	10	15	21	21	23	23	25	27	22	19	14	10	8	7	3	3	2
25	1	2	4	6	11	11	22	34	28	33	33	31	32	30	23	18	14	9	6	5	3	2
24	1	1	3	7	10	14	19	28	35	44	54	65	42	42	25	23	11	9	8	7	3	2
23	2	1	2	8	13	13	25	30	48	62	95	102	71	59	34	23	15	9	9	11	3	7
22	2	2	6	11	19	21	26	38	58	146	518	356	134	87	51	26	17	11	7	5	4	7
21	3	4	6	13	21	19	29	49	154	507	665	786	541	147	60	30	18	10	6	5	4	2
20	4	4	6	15	25	18	27	50	342	604	696	642	720	209	40	23	15	11	8	5	5	5
19	4	5	8	9	14	17	22	36	368	538	711	720	460	54	24	16	14	12	8	5	5	4
18	2	4	5	7	12	12	20	24	31	172	340	157	51	28	17	10	7	9	7	4	3	1
17	3	4	4	6	9	12	11	14	19	26	29	35	30	17	13	13	9	9	5	3	2	2
16	2	4	4	5	7	6	6	10	12	11	16	24	22	17	15	11	7	4	3	2	3	2
15	1	3	4	9	6	5	5	7	6	8	11	11	11	22	10	7	3	3	2	2	2	1
14	2	2	3	5	4	4	4	3	4	5	5	4	6	7	3	4	3	2	2	2	1	2
13	1	2	2	3	3	3	2	2	3	2	2	4	5	5	8	4	2	3	2	1	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Portugal

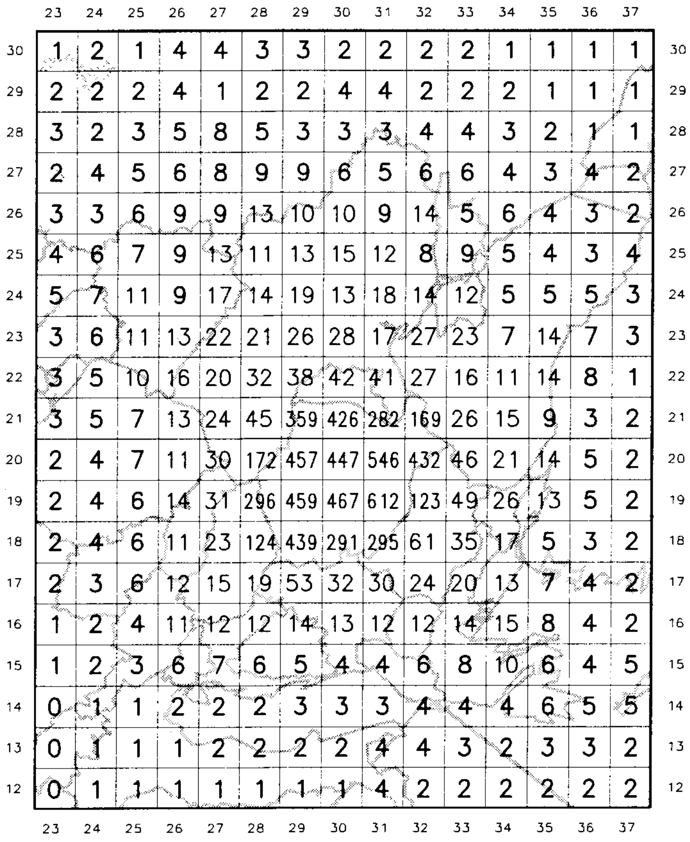


	15	16	17	18	19	20	21	22	23	24	25
12	1	1	1	1	0	1	1	2	1	0	1
11	1	1	1	1	1	1	2	1	1	1	1
10	1	1	1	1	1	1	2	1	1	1	0
9	1	1	1	2	2	2	2	1	1	1	1
8	1	1	2	3	3	3	3	2	1	1	1
7	1	2	5	6	5	6	4	2	1	1	1
6	2	6	12	22	20	11	6	4	2	2	1
5	3	12	92	126	28	12	6	4	2	2	2
4	4	12	359	262	27	15	10	5	3	3	3
3	4	12	189	341	61	20	8	4	3	4	2
2	4	11	135	458	166	22	10	5	6	2	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Romania

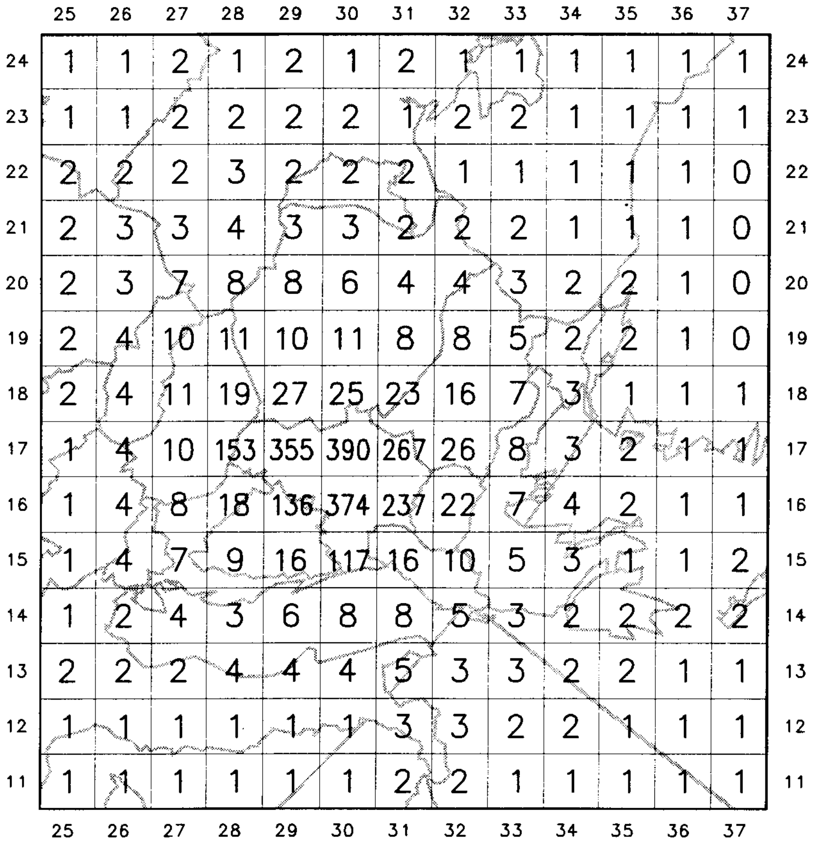


	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
30	1	2	1	4	4	3	3	2	2	2	2	1	1	1	1
29	2	2	2	4	1	2	2	4	4	2	2	2	1	1	1
28	3	2	3	5	8	5	3	3	3	4	4	3	2	1	1
27	2	4	5	6	8	9	9	6	5	6	6	4	3	4	2
26	3	3	6	9	9	13	10	10	9	14	5	6	4	3	2
25	4	6	7	9	13	11	13	15	12	8	9	5	4	3	4
24	5	7	11	9	17	14	19	13	18	14	12	5	5	5	3
23	3	6	11	13	22	21	26	28	17	27	23	7	14	7	3
22	3	5	10	16	20	32	38	42	41	27	16	11	14	8	1
21	3	5	7	13	24	45	359	426	282	169	26	15	9	3	2
20	2	4	7	11	30	172	457	447	546	432	46	21	14	5	2
19	2	4	6	14	31	296	459	467	612	123	49	26	13	5	2
18	2	4	6	11	23	124	439	291	295	61	35	17	5	3	2
17	2	3	6	12	15	19	53	32	30	24	20	13	7	4	2
16	1	2	4	11	12	12	14	13	12	12	14	15	8	4	2
15	1	2	3	6	7	6	5	4	4	6	8	10	6	4	5
14	0	1	1	2	2	2	3	3	3	4	4	4	6	5	5
13	0	1	1	1	2	2	2	2	4	4	3	2	3	3	2
12	0	1	1	1	1	1	1	1	4	2	2	2	2	2	2

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Serbia/Kosovo/Montenegro/Vojv.

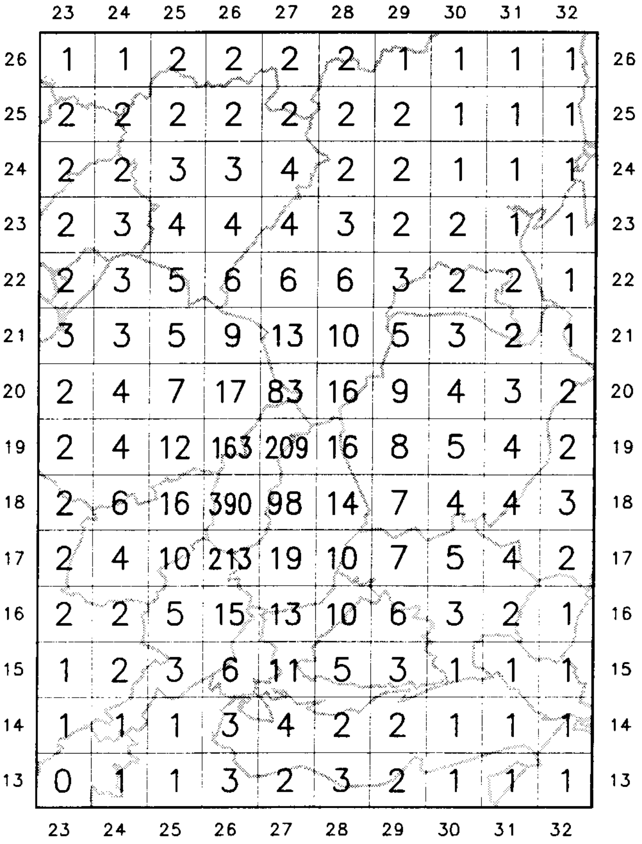


	25	26	27	28	29	30	31	32	33	34	35	36	37	
24	1	1	2	1	2	1	2	1	1	1	1	1	1	24
23	1	1	2	2	2	2	1	2	2	1	1	1	1	23
22	2	2	2	3	2	2	2	1	1	1	1	1	0	22
21	2	3	3	4	3	3	2	2	2	1	1	1	0	21
20	2	3	7	8	8	6	4	4	3	2	2	1	0	20
19	2	4	10	11	10	11	8	8	5	2	2	1	0	19
18	2	4	11	19	27	25	23	16	7	3	1	1	1	18
17	1	4	10	153	355	390	267	26	8	3	2	1	1	17
16	1	4	8	18	136	374	237	22	7	4	2	1	1	16
15	1	4	7	9	16	117	16	10	5	3	1	1	2	15
14	1	2	4	3	6	8	8	5	3	2	2	2	2	14
13	2	2	2	4	4	4	5	3	3	2	2	1	1	13
12	1	1	1	1	1	1	3	3	2	2	1	1	1	12
11	1	1	1	1	1	1	2	2	1	1	1	1	1	11
	25	26	27	28	29	30	31	32	33	34	35	36	37	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Slovakia

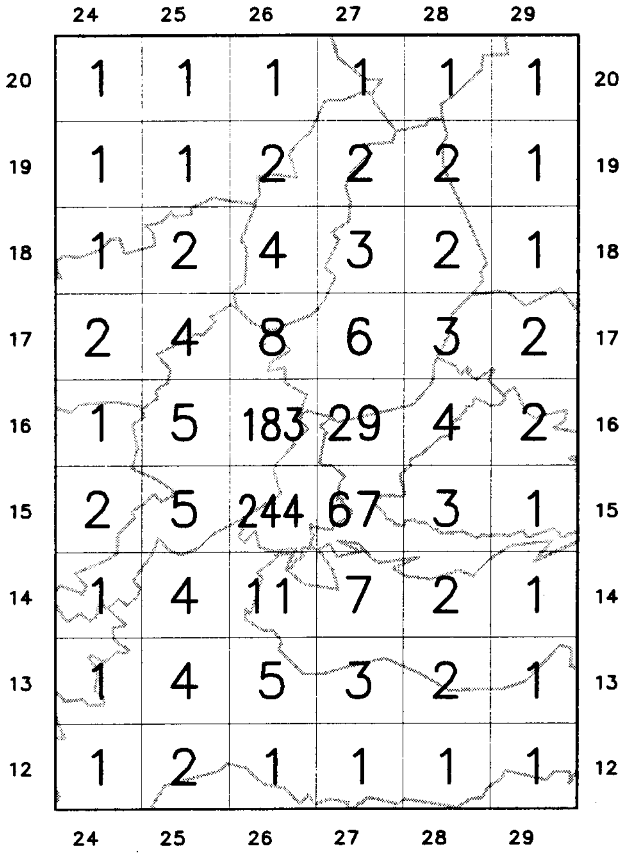


	23	24	25	26	27	28	29	30	31	32	
26	1	1	2	2	2	2	1	1	1	1	26
25	2	2	2	2	2	2	2	1	1	1	25
24	2	2	3	3	4	2	2	1	1	1	24
23	2	3	4	4	4	3	2	2	1	1	23
22	2	3	5	6	6	6	3	2	2	1	22
21	3	3	5	9	13	10	5	3	2	1	21
20	2	4	7	17	83	16	9	4	3	2	20
19	2	4	12	163	209	16	8	5	4	2	19
18	2	6	16	390	98	14	7	4	4	3	18
17	2	4	10	213	19	10	7	5	4	2	17
16	2	2	5	15	13	10	6	3	2	1	16
15	1	2	3	6	11	5	3	1	1	1	15
14	1	1	1	3	4	2	2	1	1	1	14
13	0	1	1	3	2	3	2	1	1	1	13
	23	24	25	26	27	28	29	30	31	32	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Slovenia

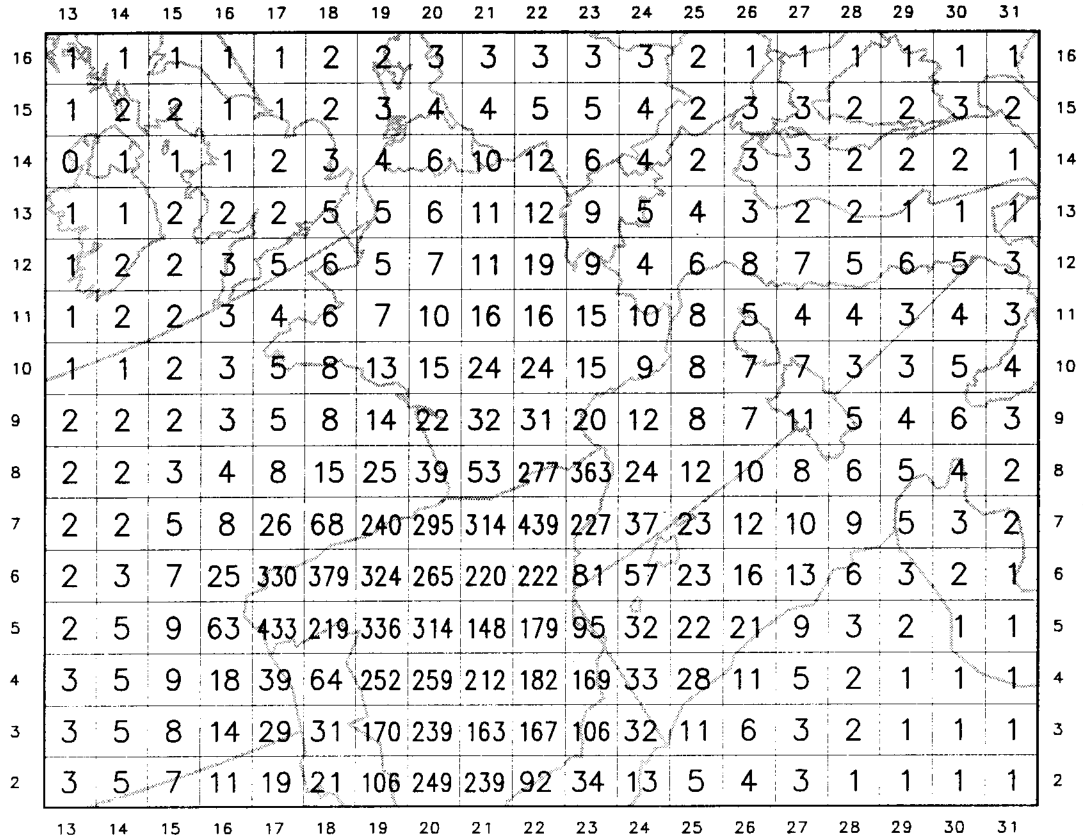


Annual average between 1985 and 1996

Units: mg(N)/m2

	24	25	26	27	28	29
20	1	1	1	1	1	1
19	1	1	2	2	2	1
18	1	2	4	3	2	1
17	2	4	8	6	3	2
16	1	5	183	29	4	2
15	2	5	244	67	3	1
14	1	4	11	7	2	1
13	1	4	5	3	2	1
12	1	2	1	1	1	1

Total Deposition of Reduced Nitrogen
Contribution from Spain

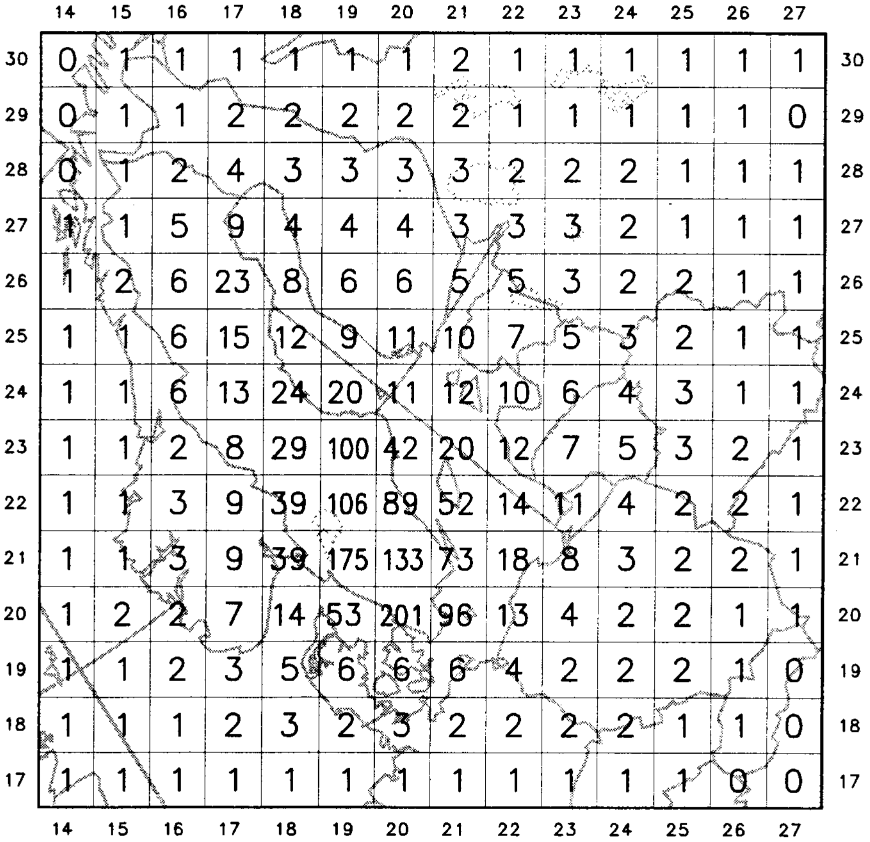


Annual average between 1985 and 1996

Units: mg(N)/m2

	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
16	1	1	1	1	1	2	2	3	3	3	3	3	2	1	1	1	1	1	1
15	1	2	2	1	1	2	3	4	4	5	5	4	2	3	3	2	2	3	2
14	0	1	1	1	2	3	4	6	10	12	6	4	2	3	3	2	2	2	1
13	1	1	2	2	2	5	5	6	11	12	9	5	4	3	2	2	1	1	1
12	1	2	2	3	5	6	5	7	11	19	9	4	6	8	7	5	6	5	3
11	1	2	2	3	4	6	7	10	16	16	15	10	8	5	4	4	3	4	3
10	1	1	2	3	5	8	13	15	24	24	15	9	8	7	7	3	3	5	4
9	2	2	2	3	5	8	14	22	32	31	20	12	8	7	11	5	4	6	3
8	2	2	3	4	8	15	25	39	53	277	363	24	12	10	8	6	5	4	2
7	2	2	5	8	26	68	240	295	314	439	227	37	23	12	10	9	5	3	2
6	2	3	7	25	330	379	324	265	220	222	81	57	23	16	13	6	3	2	1
5	2	5	9	63	433	219	336	314	148	179	95	32	22	21	9	3	2	1	1
4	3	5	9	18	39	64	252	259	212	182	169	33	28	11	5	2	1	1	1
3	3	5	8	14	29	31	170	239	163	167	106	32	11	6	3	2	1	1	1
2	3	5	7	11	19	21	106	249	239	92	34	13	5	4	3	1	1	1	1

Total Deposition of Reduced Nitrogen
Contribution from Sweden

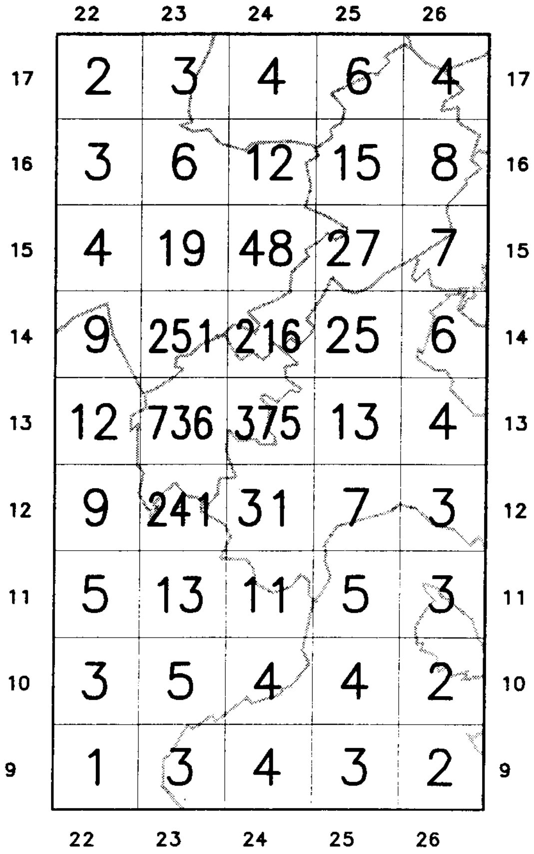


	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
30	0	1	1	1	1	1	1	2	1	1	1	1	1	1	30
29	0	1	1	2	2	2	2	2	1	1	1	1	1	0	29
28	0	1	2	4	3	3	3	3	2	2	2	1	1	1	28
27	1	1	5	9	4	4	4	3	3	3	2	1	1	1	27
26	1	2	6	23	8	6	6	5	5	3	2	2	1	1	26
25	1	1	6	15	12	9	11	10	7	5	3	2	1	1	25
24	1	1	6	13	24	20	11	12	10	6	4	3	1	1	24
23	1	1	2	8	29	100	42	20	12	7	5	3	2	1	23
22	1	1	3	9	39	106	89	52	14	11	4	2	2	1	22
21	1	1	3	9	39	175	133	73	18	8	3	2	2	1	21
20	1	2	2	7	14	53	201	96	13	4	2	2	1	1	20
19	1	1	2	3	5	6	6	6	4	2	2	2	1	0	19
18	1	1	1	2	3	2	3	2	2	2	2	1	1	0	18
17	1	1	1	1	1	1	1	1	1	1	1	1	0	0	17
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Switzerland

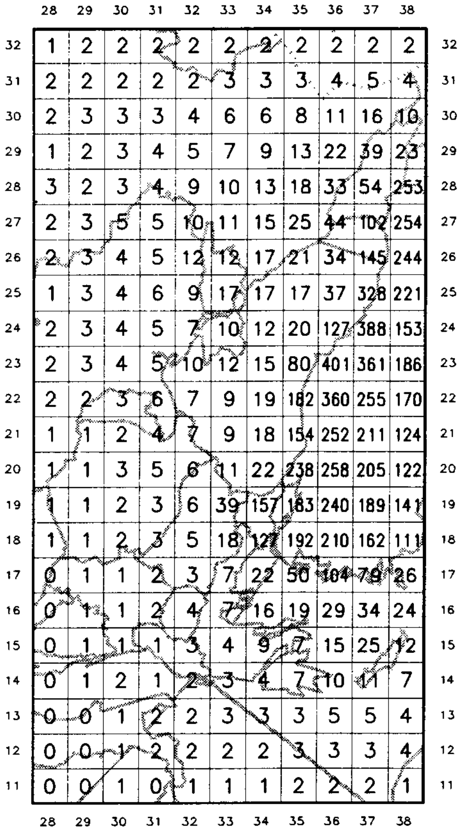


	22	23	24	25	26	
17	2	3	4	6	4	17
16	3	6	12	15	8	16
15	4	19	48	27	7	15
14	9	251	216	25	6	14
13	12	736	375	13	4	13
12	9	241	31	7	3	12
11	5	13	11	5	3	11
10	3	5	4	4	2	10
9	1	3	4	3	2	9
	22	23	24	25	26	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Turkey

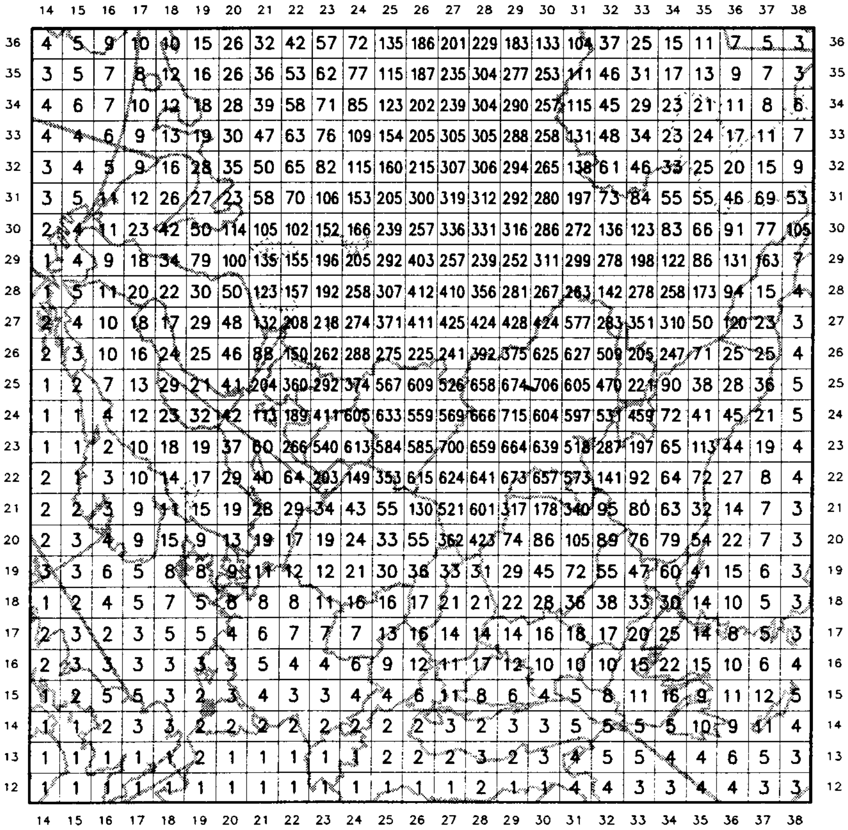


	28	29	30	31	32	33	34	35	36	37	38
32	1	2	2	2	2	2	2	2	2	2	2
31	2	2	2	2	2	3	3	3	4	5	4
30	2	3	3	3	4	6	6	8	11	16	10
29	1	2	3	4	5	7	9	13	22	39	23
28	3	2	3	4	9	10	13	18	33	54	253
27	2	3	5	5	10	11	15	25	44	102	254
26	2	3	4	5	12	12	17	21	34	145	244
25	1	3	4	6	9	17	17	17	37	328	221
24	2	3	4	5	7	10	12	20	127	388	153
23	2	3	4	5	10	12	15	80	401	361	186
22	2	2	3	6	7	9	19	182	360	255	170
21	1	1	2	4	7	9	18	154	252	211	124
20	1	1	3	5	6	11	22	238	258	205	122
19	1	1	2	3	6	39	157	183	240	189	141
18	1	1	2	3	5	18	127	192	210	162	111
17	0	1	1	2	3	7	22	50	104	79	26
16	0	1	1	2	4	7	16	19	29	34	24
15	0	1	1	1	3	4	9	7	15	25	12
14	0	1	2	1	2	3	4	7	10	11	7
13	0	0	1	2	2	3	3	3	5	5	4
12	0	0	1	2	2	2	2	3	3	3	4
11	0	0	1	0	1	1	1	2	2	2	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from USSR (European)

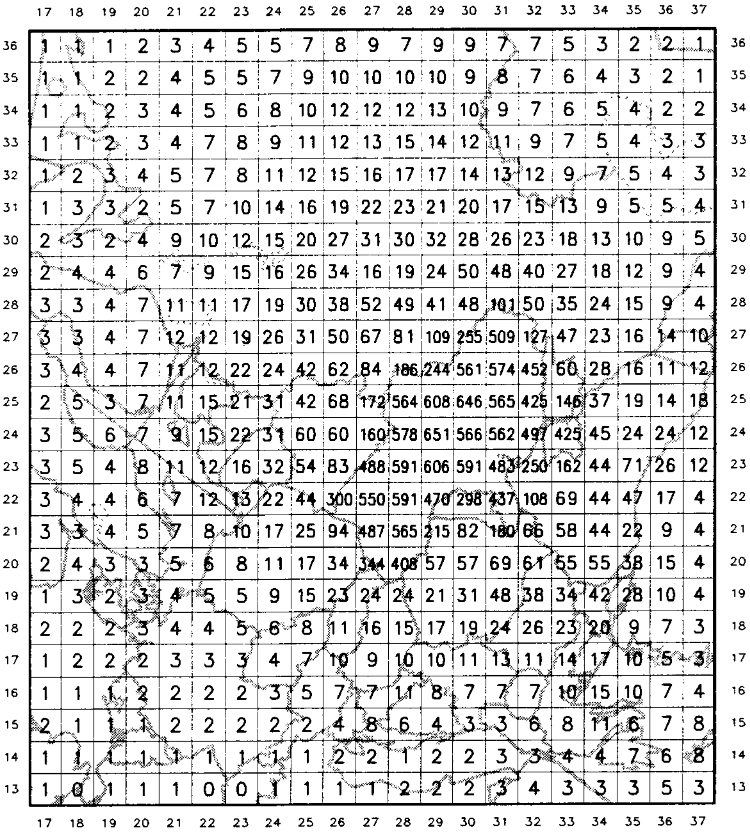


	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
36	4	5	9	10	10	15	26	32	42	57	72	135	186	201	229	183	133	104	37	25	15	11	7	5	3
35	3	5	7	8	12	16	26	36	53	62	77	115	187	235	304	277	253	111	46	31	17	13	9	7	3
34	4	6	7	10	12	18	28	39	58	71	85	123	202	239	304	290	257	115	45	29	23	21	11	8	6
33	4	4	6	9	13	19	30	47	63	76	109	154	205	305	305	288	258	131	48	34	23	24	17	11	7
32	3	4	5	9	16	28	35	50	65	82	115	160	215	307	306	294	265	138	61	46	33	25	20	15	9
31	3	5	11	12	26	27	23	58	70	106	153	205	300	319	312	292	280	197	73	84	55	55	46	69	53
30	2	4	11	23	42	50	114	105	102	152	166	239	257	336	331	316	286	272	136	123	83	66	91	77	105
29	1	4	9	18	34	79	100	135	155	196	205	292	403	257	239	252	311	299	278	198	122	86	131	163	7
28	1	5	11	20	22	30	50	123	157	192	258	307	412	410	356	281	267	263	142	278	258	173	94	15	4
27	2	4	10	18	17	29	48	132	208	218	274	371	411	425	424	428	424	577	283	351	310	50	120	23	3
26	2	3	10	16	24	25	46	88	150	262	288	275	225	241	392	375	625	627	509	205	247	71	25	25	4
25	1	2	7	13	29	21	41	204	360	292	374	567	609	526	658	674	706	605	470	221	90	38	28	36	5
24	1	1	4	12	23	32	42	113	189	411	605	633	559	569	666	715	604	597	531	459	72	41	45	21	5
23	1	1	2	10	18	19	37	60	266	540	613	584	585	700	659	664	639	518	287	197	65	113	44	19	4
22	2	1	3	10	14	17	29	40	64	203	149	353	615	624	641	673	657	573	141	92	64	72	27	8	4
21	2	2	3	9	11	15	19	28	29	34	43	55	130	521	601	317	178	340	95	80	63	32	14	7	3
20	2	3	4	9	15	9	13	19	17	19	24	33	55	362	423	74	86	105	89	76	79	54	22	7	3
19	3	3	6	5	8	8	9	11	12	12	21	30	36	33	31	29	45	72	55	47	60	41	15	6	3
18	1	2	4	5	7	5	8	8	8	11	16	16	17	21	21	22	28	36	38	33	30	14	10	5	3
17	2	3	2	3	5	5	4	6	7	7	7	13	16	14	14	14	16	18	17	20	25	14	8	5	3
16	2	3	3	3	3	3	3	5	4	4	6	9	12	11	17	12	10	10	10	15	22	15	10	6	4
15	1	2	5	5	3	2	3	4	3	3	4	4	6	11	8	6	4	5	8	11	16	9	11	12	5
14	1	1	2	3	3	2	2	2	2	2	2	2	2	3	2	3	3	5	5	5	5	10	9	11	4
13	1	1	1	1	1	2	1	1	1	1	1	2	2	2	3	2	3	4	5	5	4	4	6	5	3
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	4	4	3	3	4	4	3	3

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from Ukraine

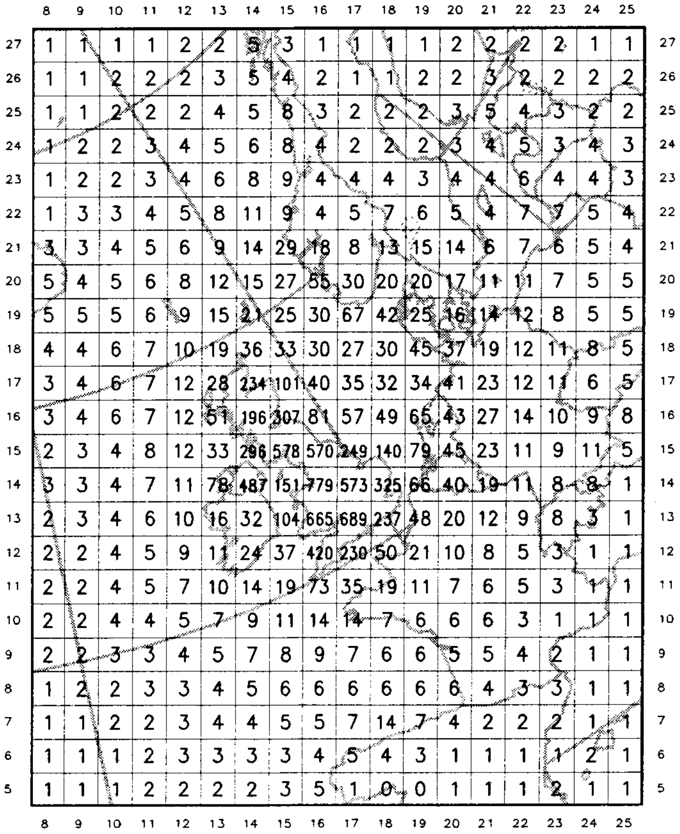


	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
36	1	1	1	2	3	4	5	5	7	8	9	7	9	9	7	7	5	3	2	2	1
35	1	1	2	2	4	5	5	7	9	10	10	10	10	9	8	7	6	4	3	2	1
34	1	1	2	3	4	5	6	8	10	12	12	12	13	10	9	7	6	5	4	2	2
33	1	1	2	3	4	7	8	9	11	12	13	15	14	12	11	9	7	5	4	3	3
32	1	2	3	4	5	7	8	11	12	15	16	17	17	14	13	12	9	7	5	4	3
31	1	3	3	2	5	7	10	14	16	19	22	23	21	20	17	15	13	9	5	5	4
30	2	3	2	4	9	10	12	15	20	27	31	30	32	28	26	23	18	13	10	9	5
29	2	4	4	6	7	9	15	16	26	34	16	19	24	50	48	40	27	18	12	9	4
28	3	3	4	7	11	11	17	19	30	38	52	49	41	48	101	50	35	24	15	9	4
27	3	3	4	7	12	12	19	26	31	50	67	81	109	255	509	127	47	23	16	14	10
26	3	4	4	7	11	12	22	24	42	62	84	186	244	561	574	452	60	28	16	11	12
25	2	5	3	7	11	15	21	31	42	68	172	564	608	646	565	425	146	37	19	14	18
24	3	5	6	7	9	15	22	31	60	60	160	578	651	566	562	497	425	45	24	24	12
23	3	5	4	8	11	12	16	32	54	83	488	591	606	591	483	250	162	44	71	26	12
22	3	4	4	6	7	12	13	22	44	300	550	591	470	298	437	108	69	44	47	17	4
21	3	3	4	5	7	8	10	17	25	94	487	565	215	82	180	66	58	44	22	9	4
20	2	4	3	3	5	6	8	11	17	34	344	408	57	57	69	61	55	55	38	15	4
19	1	3	2	3	4	5	5	9	15	23	24	24	21	31	48	38	34	42	28	10	4
18	2	2	2	3	4	4	5	6	8	11	16	15	17	19	24	26	23	20	9	7	3
17	1	2	2	2	3	3	3	4	7	10	9	10	10	11	13	11	14	17	10	5	3
16	1	1	1	2	2	2	2	3	5	7	7	11	8	7	7	7	10	15	10	7	4
15	2	1	1	1	2	2	2	2	2	4	8	6	4	3	3	6	8	11	6	7	8
14	1	1	1	1	1	1	1	1	1	2	2	1	2	2	3	3	4	4	7	6	8
13	1	0	1	1	1	0	0	1	1	1	1	2	2	2	3	4	3	3	3	5	3

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen Contribution from the United Kingdom



	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
27	1	1	1	1	2	2	5	3	1	1	1	1	2	2	2	2	1	1
26	1	1	2	2	2	3	5	4	2	1	1	2	2	3	2	2	2	2
25	1	1	2	2	2	4	5	8	3	2	2	2	3	5	4	3	2	2
24	1	2	2	3	4	5	6	8	4	2	2	2	3	4	5	3	4	3
23	1	2	2	3	4	6	8	9	4	4	4	3	4	4	6	4	4	3
22	1	3	3	4	5	8	11	9	4	5	7	6	5	4	7	7	5	4
21	3	3	4	5	6	9	14	29	18	8	13	15	14	6	7	6	5	4
20	5	4	5	6	8	12	15	27	55	30	20	20	17	11	11	7	5	5
19	5	5	5	6	9	15	21	25	30	67	42	25	16	14	12	8	5	5
18	4	4	6	7	10	19	36	33	30	27	30	45	37	19	12	11	8	5
17	3	4	6	7	12	28	234	101	40	35	32	34	41	23	12	11	6	5
16	3	4	6	7	12	51	196	307	81	57	49	65	43	27	14	10	9	8
15	2	3	4	8	12	33	296	578	570	249	140	79	45	23	11	9	11	5
14	3	3	4	7	11	78	487	151	779	573	325	66	40	19	11	8	8	1
13	2	3	4	6	10	16	32	104	665	689	237	48	20	12	9	8	3	1
12	2	2	4	5	9	11	24	37	420	230	50	21	10	8	5	3	1	1
11	2	2	4	5	7	10	14	19	73	35	19	11	7	6	5	3	1	1
10	2	2	4	4	5	7	9	11	14	14	7	6	6	6	3	1	1	1
9	2	2	3	3	4	5	7	8	9	7	6	6	5	5	4	2	1	1
8	1	2	2	3	3	4	5	6	6	6	6	6	6	4	3	3	1	1
7	1	1	2	2	3	4	4	5	5	7	14	7	4	2	2	2	1	1
6	1	1	1	2	3	3	3	3	4	5	4	3	1	1	1	1	2	1
5	1	1	1	2	2	2	2	3	5	1	0	0	1	1	1	2	1	1

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from the Federal Republic of Yugoslavia

Annual average
between
1985 and 1996

Units: mg(N)/m2

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
26	1	1	2	2	2	3	2	2	2	3	1	1	2	1	1	26
25	1	2	2	2	2	2	3	3	2	2	2	1	1	1	1	25
24	2	2	3	2	5	2	3	2	3	2	2	1	1	1	1	24
23	2	2	3	3	5	4	4	4	2	3	4	1	2	1	1	23
22	2	2	4	5	5	6	4	4	4	2	2	2	2	2	0	22
21	2	2	4	6	7	8	6	6	4	4	3	2	2	1	0	21
20	1	3	5	8	13	15	14	9	6	6	5	3	3	2	1	20
19	2	3	5	12	22	22	18	17	11	12	8	4	3	2	1	19
18	2	4	7	15	26	34	40	33	30	24	11	4	2	1	1	18
17	1	4	8	19	32	218	380	406	284	62	14	5	3	2	1	17
16	2	3	8	196	202	291	326	396	354	204	13	6	3	2	1	16
15	2	3	10	261	298	286	264	157	28	55	10	6	3	2	2	15
14	1	4	9	43	79	86	25	19	17	10	7	4	3	3	4	14
13	1	5	10	14	15	23	16	13	14	8	6	4	3	2	2	13
12	2	4	6	6	6	7	7	6	9	7	5	3	3	2	2	12
11	2	3	3	4	4	4	4	5	7	5	3	3	2	2	1	11
10	2	3	3	2	3	2	2	4	5	3	2	2	2	2	1	10
9	2	1	1	1	2	2	1	4	2	1	2	1	1	1	1	9
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	

Total Deposition of Reduced Nitrogen
Contribution from remaining land areas

Annual average
between
1985 and 1996

Units: mg(N)/m2

0	0	0	0	1	1	1	1	2	2	7	9	9	7	7	7	7	6
0	0	0	0	1	1	1	1	1	2	8		9	8	7	7	7	6
0	0	0	0	1	1	1	1	1	2	9	9	9	7	7	8	7	6
0	0	0	0	1	1	1	1	1	2	8	9	8	6	3	8	5	2
0	0	1	0	0	1	1	1	1	2	7	9	8	6	2	3	3	4
0	0	0	0	0	1	1	1	1	2	3	5	4	3	3	6	11	42
0	0	0	0	0	1	1	1	1	2	2	3	3	4	7	15	55	144
0	0	0	0	1	1	1	1	1	2	2	3	4	6	11	30	265	[illegible]
0	0	0	0	1	1	1	1	1	2	3	6	4	7	13	76	[illegible]	[illegible]
0	0	0	0	0	1	1	1	1	2	2	4	4	6	11	39	73	5
0	0	0	0	0	0	0	1	1	1	2	3	5	5	6	7	8	2
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0	0	0	0	0	0	0	0	1	1	1	2	2	2	2	3	2	1
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0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0
0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
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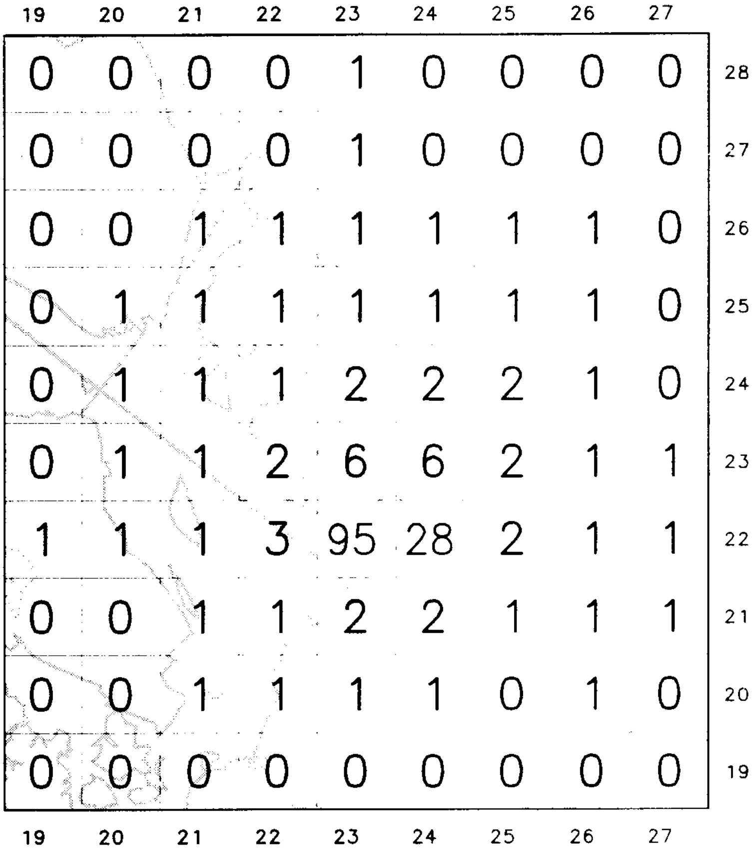
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	1	1	1	2	2	1	0	0	0	0	1	1
0	0	0	0	1	1	1	1	1	1	1	1	2	2	1	1	1	0
0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0	0	0	1	1	2	2	2	2	2	2	1	1	1	1	1	1	7
0	1	1	1	2	1	1	1	2	2	1	2	1	1	1	1	1	11
0	1	1	1	1	1	2	1	2	2	3	1	1	1	1	1	1	[illegible]
0	1	1	1	1	1	3	3	3	4	3	2	2	1	1	1	1	1
0	0	1	1	1	2	2	3	3	24	5	3	2	2	2	2	4	7
0	1	2	1	1	2	3	8	[illegible]	[illegible]	[illegible]	5	4	[illegible]	[illegible]	8	7	3
1	1	1	2	2	4	8	[illegible]	30	[illegible]	[illegible]	10	10	[illegible]	8	2	2	1
1	1	1	2	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9	3	2	1	1	0
1	1	2	3	[illegible]	[illegible]	[illegible]	6	5	4	3	3	2	1	1	1	1	0
1	1	2	[illegible]	[illegible]	[illegible]	6	3	2	2	1	1	1	1	1	0	0	0
1	2	6	[illegible]	[illegible]	7	3	2	1	1	1	1	1	0	0	0	0	0

Total Deposition of Reduced Nitrogen
Contribution from Kaliningrad



	19	20	21	22	23	24	25	26	27	
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27	0	0	0	0	1	0	0	0	0	27
26	0	0	1	1	1	1	1	1	0	26
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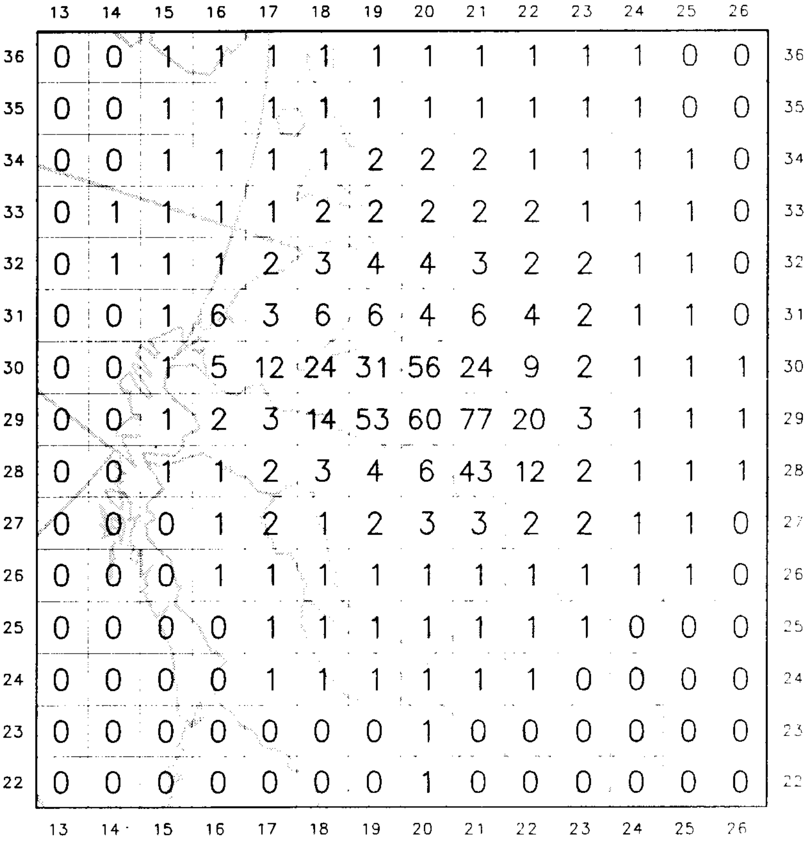
24	0	1	1	1	2	2	2	1	0	24
23	0	1	1	2	6	6	2	1	1	23
22	1	1	1	3	95	28	2	1	1	22
21	0	0	1	1	2	2	1	1	1	21
20	0	0	1	1	1	1	0	1	0	20
19	0	0	0	0	0	0	0	0	0	19
	19	20	21	22	23	24	25	26	27	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Kola / Karelia



	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
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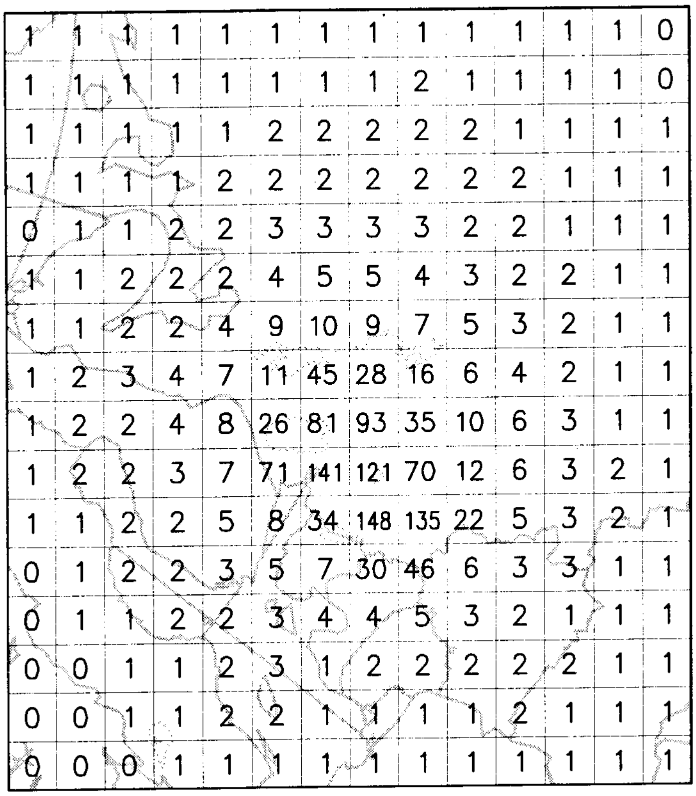
35	0	0	1	1	1	1	1	1	1	1	1	1	0	0	35
34	0	0	1	1	1	1	2	2	2	1	1	1	1	0	34
33	0	1	1	1	1	2	2	2	2	2	1	1	1	0	33
32	0	1	1	1	2	3	4	4	3	2	2	1	1	0	32
31	0	0	1	6	3	6	6	4	6	4	2	1	1	0	31
30	0	0	1	5	12	24	31	56	24	9	2	1	1	1	30
29	0	0	1	2	3	14	53	60	77	20	3	1	1	1	29
28	0	0	1	1	2	3	4	6	43	12	2	1	1	1	28
27	0	0	0	1	2	1	2	3	3	2	2	1	1	0	27
26	0	0	0	1	1	1	1	1	1	1	1	1	1	0	26
25	0	0	0	0	1	1	1	1	1	1	1	0	0	0	25
24	0	0	0	0	1	1	1	1	1	1	0	0	0	0	24
23	0	0	0	0	0	0	0	1	0	0	0	0	0	0	23
22	0	0	0	0	0	0	0	1	0	0	0	0	0	0	22
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from Leningrad / Novgorod/Pskov

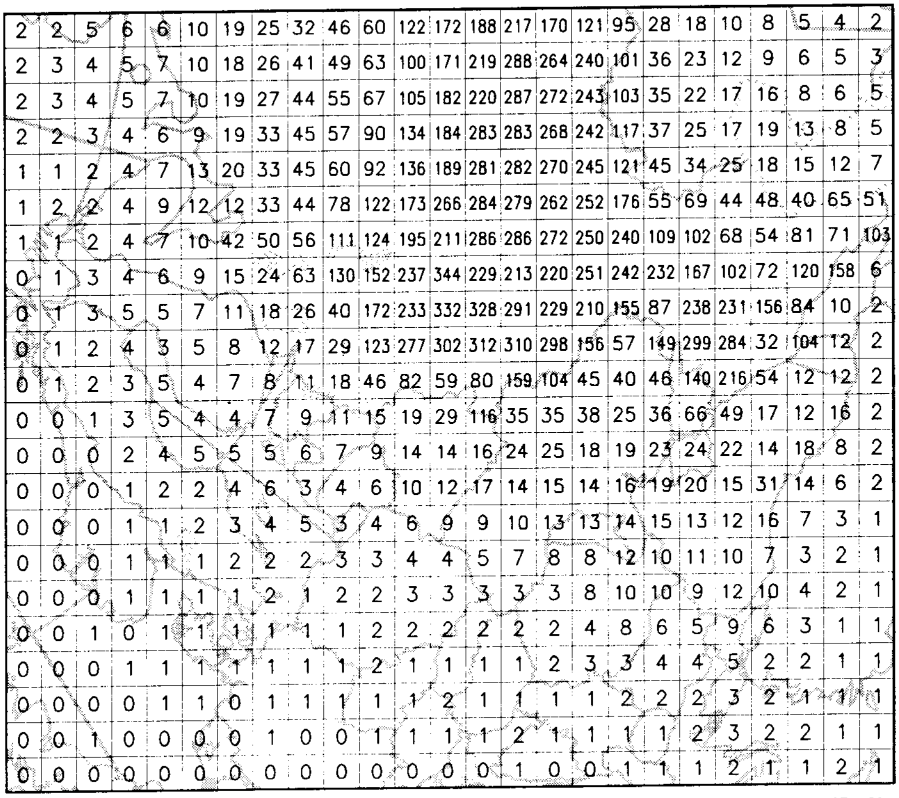


	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
36	1	1	1	1	1	1	1	1	1	1	1	1	1	0	36
35	1	1	1	1	1	1	1	1	2	1	1	1	1	0	35
34	1	1	1	1	1	2	2	2	2	2	1	1	1	1	34
33	1	1	1	1	2	2	2	2	2	2	2	1	1	1	33
32	0	1	1	2	2	3	3	3	3	2	2	1	1	1	32
31	1	1	2	2	2	4	5	5	4	3	2	2	1	1	31
30	1	1	2	2	4	9	10	9	7	5	3	2	1	1	30
29	1	2	3	4	7	11	45	28	16	6	4	2	1	1	29
28	1	2	2	4	8	26	81	93	35	10	6	3	1	1	28
27	1	2	2	3	7	71	141	121	70	12	6	3	2	1	27
26	1	1	2	2	5	8	34	148	135	22	5	3	2	1	26
25	0	1	2	2	3	5	7	30	46	6	3	3	1	1	25
24	0	1	1	2	2	3	4	4	5	3	2	1	1	1	24
23	0	0	1	1	2	3	1	2	2	2	2	2	1	1	23
22	0	0	1	1	2	2	1	1	1	1	2	1	1	1	22
21	0	0	0	1	1	1	1	1	1	1	1	1	1	1	21
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Contribution from rem. Russian Federation (Europe)



	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
36	2	2	5	6	6	10	19	25	32	46	60	122	172	188	217	170	121	95	28	18	10	8	5	4	2	36
35	2	3	4	5	7	10	18	26	41	49	63	100	171	219	288	264	240	101	36	23	12	9	6	5	3	35
34	2	3	4	5	7	10	19	27	44	55	67	105	182	220	287	272	243	103	35	22	17	16	8	6	5	34
33	2	2	3	4	6	9	19	33	45	57	90	134	184	283	283	268	242	117	37	25	17	19	13	8	5	33
32	1	1	2	4	7	13	20	33	45	60	92	136	189	281	282	270	245	121	45	34	25	18	15	12	7	32
31	1	2	2	4	9	12	12	33	44	78	122	173	266	284	279	262	252	176	55	69	44	48	40	65	51	31
30	1	1	2	4	7	10	42	50	56	111	124	195	211	286	286	272	250	240	109	102	68	54	81	71	103	30
29	0	1	3	4	6	9	15	24	63	130	152	237	344	229	213	220	251	242	232	167	102	72	120	158	6	29
28	0	1	3	5	5	7	11	18	26	40	172	233	332	328	291	229	210	155	87	238	231	156	84	10	2	28
27	0	1	2	4	3	5	8	12	17	29	123	277	302	312	310	298	156	57	149	299	284	32	104	12	2	27
26	0	1	2	3	5	4	7	8	11	18	46	82	59	80	159	104	45	40	46	140	216	54	12	12	2	26
25	0	0	1	3	5	4	4	7	9	11	15	19	29	116	35	35	38	25	36	66	49	17	12	16	2	25
24	0	0	0	2	4	5	5	5	6	7	9	14	14	16	24	25	18	19	23	24	22	14	18	8	2	24
23	0	0	0	1	2	2	4	6	3	4	6	10	12	17	14	15	14	16	19	20	15	31	14	6	2	23
22	0	0	0	1	1	2	3	4	5	3	4	6	9	9	10	13	13	14	15	13	12	16	7	3	1	22
21	0	0	0	1	1	1	2	2	2	3	3	4	4	5	7	8	8	12	10	11	10	7	3	2	1	21
20	0	0	0	1	1	1	1	2	1	2	2	3	3	3	3	3	8	10	10	9	12	10	4	2	1	20
19	0	0	1	0	1	1	1	1	1	1	2	2	2	2	2	2	4	8	6	5	9	6	3	1	1	19
18	0	0	0	1	1	1	1	1	1	1	2	1	1	1	1	2	3	3	4	4	5	2	2	1	1	18
17	0	0	0	0	1	1	0	1	1	1	1	1	2	1	1	1	1	2	2	2	3	2	1	1	1	17
16	0	0	1	0	0	0	0	1	0	0	1	1	1	1	2	1	1	1	1	2	3	2	2	1	1	16
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	2	1	1	2	1	15
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	

Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Grand total (all contributions)

Annual average
between
1985 and 1996

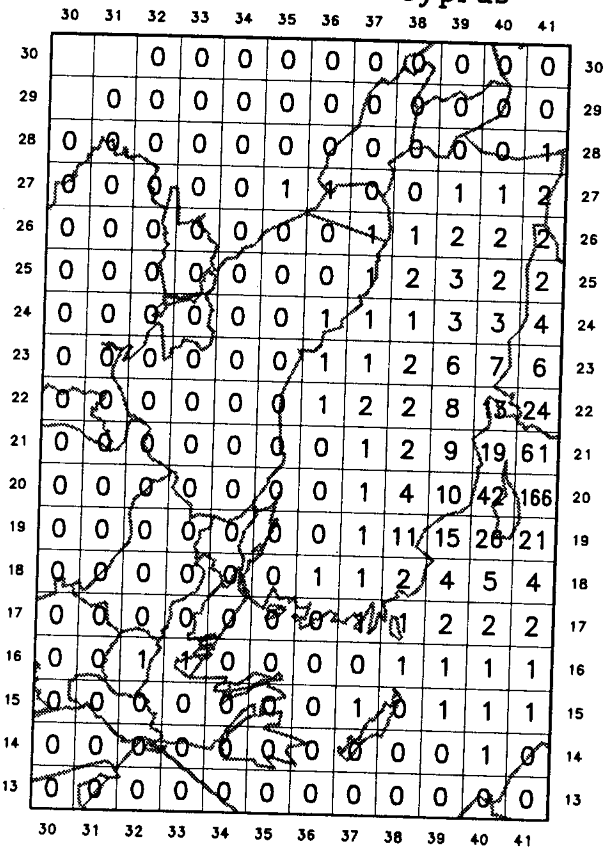
Units: mg(N)/m2

	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
36	8	8	9	9	10	13	18	31	35	41	48	47	43	50	65	80	96	113	131	193	246	257	284	236	181	154	86	67	50	44	39	35	30
35	8	8	9	9	12	16	20	23	27	35	37	35	42	50	61	83	104	116	130	168	241	287	356	325	299	159	94	73	54	47	42	38	28
34	7	7	9	11	14	15	19	22	26	34	34	36	37	50	64	87	111	128	139	178	255	289	356	339	301	161	90	68	57	56	43	37	31
33	7	8	12	12	14	14	18	22	27	30	31	34	40	51	66	95	118	133	167	208	258	357	357	340	303	181	93	73	57	55	52	40	30
32	7	8	12	12	14	14	20	23	23	28	28	38	46	62	71	99	123	143	176	215	273	361	362	345	313	188	111	89	69	55	52	48	38
31	7	10	13	12	12	13	17	21	24	38	46	43	67	62	43	109	130	169	218	266	364	384	376	348	331	245	120	130	93	91	86	124	133
30	6	9	12	14	15	16	17	21	34	34	44	62	84	88	162	180	167	220	236	308	332	414	406	382	340	325	190	176	136	126	177	223	297
29	6	8	11	13	15	17	20	22	34	31	44	69	92	138	172	216	233	276	276	377	497	300	277	293	381	367	347	263	189	162	245	539	290
28	7	8	12	14	16	19	21	24	44	37	54	94	105	128	156	212	255	302	345	405	520	515	431	334	315	334	224	353	335	264	270	383	397
27	7	10	13	14	17	22	21	27	69	48	56	82	117	153	169	255	306	327	385	474	525	541	529	530	504	655	374	435	390	151	331	260	305
26	9	11	12	14	19	23	25	28	60	65	61	91	139	169	201	228	266	378	406	409	364	363	523	483	720	720	625	269	327	152	109	236	294
25	12	12	13	15	18	24	27	30	43	87	69	82	115	129	254	376	503	440	510	754	748	674	777	798	826	703	556	327	160	96	112	437	271
24	14	15	15	17	22	24	30	35	43	88	91	81	115	136	148	255	348	578	795	846	707	744	789	855	695	699	628	557	130	106	241	487	196
23	18	15	17	19	22	27	34	39	51	98	94	90	135	206	202	210	463	731	853	844	787	906	810	803	767	608	409	327	131	313	541	451	229
22	16	13	17	21	22	32	34	45	66	110	94	166	198	256	252	255	282	551	823	876	913	863	856	830	801	707	237	170	146	365	473	318	208
21	17	15	39	23	24	28	38	56	70	164	151	170	271	396	398	318	378	731	869	1009	847	865	854	818	715	743	349	181	154	256	319	270	156
20	41	19	38	31	26	31	42	59	75	122	273	286	363	497	556	451	681	840	906	879	999	881	844	724	675	772	845	325	203	398	358	259	158
19	44	43	41	31	32	33	43	58	85	108	152	310	463	1151	656	686	921	837	982	1050	927	745	823	669	678	840	710	506	361	329	340	245	207
18	24	28	29	28	32	36	44	59	88	103	122	145	219	687	1479	1118	927	994	1071	948	785	763	878	667	504	722	717	544	312	276	288	220	181
17	22	25	26	28	32	39	52	87	301	180	118	137	194	357	1815	1176	1059	1124	858	897	987	798	687	632	614	612	546	401	149	154	187	156	96
16	21	22	23	27	33	37	53	142	280	411	181	168	228	1321	2861	1447	1078	1116	1379	1194	981	679	591	527	568	548	462	393	172	117	103	86	56
15	23	22	23	25	29	41	58	123	430	728	675	393	335	971	2600	1054	840	1482	1855	799	722	631	508	450	351	529	409	408	274	137	90	122	80
14	22	23	25	26	29	42	62	301	831	311	902	707	521	1407	1264	1077	823	1340	1127	924	788	303	232	178	149	177	286	233	239	169	104	115	40
13	23	23	25	26	30	38	65	570	1069	363	806	824	473	889	708	693	818	1171	1203	1986	865	434	371	327	343	230	111	95	77	67	66	53	33
12	23	22	23	25	31	36	58	290	693	160	557	426	787	993	545	580	789	726	878	627	392	436	457	442	310	303	131	78	60	57	56	48	43
11	22	23	23	24	31	36	45	68	86	103	210	560	1003	1161	597	671	745	526	531	192	151	114	105	99	135	241	149	68	55	49	47	42	43
10	21	22	23	26	33	35	44	59	62	82	125	621	898	890	689	661	625	311	178	121	118	241	79	78	162	397	277	61	46	40	40	36	37
9	20	21	23	25	30	35	40	47	54	74	96	121	144	170	330	529	568	204	143	99	100	361	174	76	155	71	57	50	39	35	34	30	23
8	21	20	21	25	28	28	33	41	50	60	71	85	104	134	246	563	519	511	133	96	81	83	86	97	99	54	43	38	36	33	30	29	23
7	20	21	21	21	23	26	29	36	42	54	69	108	203	341	377	393	519	314	116	94	70	73	78	145	98	65	42	40	40	39	27	25	17
6	20	20	20	20	21	25	28	33	38	49	78	395	449	392	309	257	271	144	146	74	72	108	129	72	61	63	37	45	43	24	17	17	15
5	20	18	19	20	20	23	27	30	35	43	137	559	388	388	349	181	223	184	73	70	127	136	53	44	32	28	31	27	18	16	14	14	15
4	19	19	18	19	20	23	23	27	31	37	54	441	353	300	298	250	217	217	74	107	122	55	24	24	20	20	19	16	14	13	13	14	15
3	18	18	17	18	20	21	24	25	28	33	44	242	405	253	285	194	193	139	91	109	53	33	29	19	18	16	15	14	14	13	13	14	15
2	20	18	19	19	19	21	23	24	27	30	39	175	507	298	294	279	126	79	97	85	43	41	18	18	16	15	14	14	13	13	14	14	16

Grid square deposition of Oxidised Sulphur and Nitrogen:

contribution from Cyprus in 1996

Deposition of Oxidized Sulphur Contribution from Cyprus



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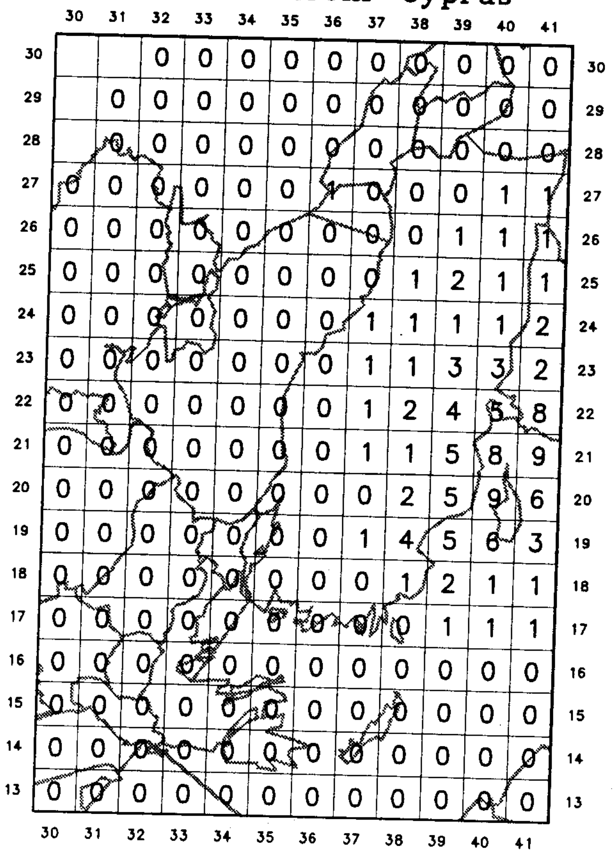
29		0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	1
27	0	0	0	0	0	1	1	0	0	1	1	2
26	0	0	0	0	0	0	0	1	1	2	2	2
25	0	0	0	0	0	0	0	1	2	3	2	2
24	0	0	0	0	0	0	1	1	1	3	3	4
23	0	0	0	0	0	0	1	1	2	6	7	6
22	0	0	0	0	0	0	1	2	2	8	13	24
21	0	0	0	0	0	0	0	1	2	9	19	61
20	0	0	0	0	0	0	0	1	4	10	42	166
19	0	0	0	0	0	0	0	1	11	15	26	21
18	0	0	0	0	0	0	1	1	2	4	5	4
17	0	0	0	0	0	0	0	1	1	2	2	2
16	0	0	1	1	0	0	0	0	1	1	1	1
15	0	0	0	0	0	0	0	1	0	1	1	1
14	0	0	0	0	0	0	0	0	0	0	1	0
13	0	0	0	0	0	0	0	0	0	0	0	0

Year: 1996

unit : mg(S)/m2

Deposition of Oxidized Nitrogen Contribution from Cyprus



	30	31	32	33	34	35	36	37	38	39	40	41
30			0	0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	1	0	0	0	1	1
26	0	0	0	0	0	0	0	0	0	1	1	1
25	0	0	0	0	0	0	0	0	1	2	1	1
24	0	0	0	0	0	0	0	1	1	1	1	2
23	0	0	0	0	0	0	0	1	1	3	3	2
22	0	0	0	0	0	0	0	1	2	4	5	8
21	0	0	0	0	0	0	0	1	1	5	8	9
20	0	0	0	0	0	0	0	0	2	5	9	6
19	0	0	0	0	0	0	0	1	4	5	6	3
18	0	0	0	0	0	0	0	0	1	2	1	1
17	0	0	0	0	0	0	0	0	0	1	1	1
16	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0

Year: 1996

unit : mg(N)/m2

APPENDIX E:

COUNTRY-TO-COUNTRY DEPOSITION BUDGETS FROM 1985 TO 1997

Source-receptor matrices from 1985 to 1997

Import-export tables from 1985 to 1997

This Appendix presents the country to country annual deposition budgets of acidifying pollutants in Europe for the years 1985-97.

Since the Lagrangian model is linear in concentrations and no modifications have been introduced into the model formulation, the depositions for the years from 1985 through 1995 were derived by scaling the results of previous calculations according to the updated emissions. The budgets for 1996 are based on the actual meteorology and the officially submitted emission values. Estimations for 1997 are provisional as they employed 1997 meteorological data and 1996 emissions.

For each year within the period of 1985-97 **Appendix E** contains the following estimates:

- **Source-Receptor matrices for:**

Oxidised Sulphur
Oxidised Nitrogen
Reduced Nitrogen.

Countries (emitting areas) and their codes are given in Table E1.

The depositions are expressed in 100 tonnes of sulphur or nitrogen. Last column in each matrix, denoted SUM, gives total depositions (country allocated plus indeterminate origine) to the corresponding countries which coincide with D_T in the import-export budget. Last line in each matrix, also denoted SUM, displays total deposition originating from each country to all other countries and itself, i.e. within the calculation area. The rest of the emissions from the country is transported outside the domain.

- **Import-Export Budgets**

for Oxidised Sulphur, Oxidised Nitrogen and Reduced Nitrogen for each country (emitting area).

Export of the pollutant from each country is defined as the mass or fraction of the emissions which is transported beyond the country of interested. Thus, for each country:

Mass exported = $Q - D_L$ (in 100 tonnes of sulphur or nirogen)

Emission fraction exported = $(Q - D_L) / Q * 100$ (in %)

here Q is the emission from the country and D_L is the indigenous, i.e. country to itself, deposition.

Import of the pollutant, i.e. deposition to a country arising from the emissions beyond the borders, is namely the difference between the total deposition in the country and its indigenous deposition. Imported deposition is also expressed as a fraction of the total deposition. In this way:

Mass imported = $D_T - D_L$ (in 100 tonnes of sulphur or nirogen)

Deposition fraction imported = $(D_T - D_L) / D_T * 100$ (in %)

here D_T denotes the total deposition to the country.

Finally, the proportions of countries emission which are deposited to sea areas and within the entire EMEP modelled domain are given.

Table E1. Emitting areas and their codes.

Albania	AL	Netherlands	NL
Austria	AT	Norway	NO
Belarus	BY	Poland	PL
Belgium	BE	Portugal	PT
Bosnia and Herzegovina	BA	Romania	RO
Bulgaria	BG	Russian Federation (European Part)	RU
Croatia	HR	Slovakia	SK
Czech Republic	CS*	Slovenia	SI
former Czechoslovakia	CS	Spain	ES
Cyprus	CY	Sweden	SE
Denmark	DK	Switzerland	CH
Estonia	EE	Turkey	TR
Finland	FI	Ukraine	UA
France	FR	United Kingdom	GB
Germany	DD	former USSR (European part)	SU
Greece	GR	Yugoslavia	YU
Hungary	HU	remaining Land Areas&volcanoes	REM
Iceland	IS	Baltic Sea	BAS
Ireland	IE	Black Sea	BLS
Italy	IT	Mediterranean Sea	MED
Latvia	LV	North Sea	NS
Lithuania	LT	NE Atlantic Ocean	ATL
Luxembourg	LU	Natural marine sources	NAT
Former Republic of Macedonia	FYM	Total inattributable sources	IND
Republic of Moldova	MD	Total attributable sources	SUM

Prepared by Svetlana Tsyro

```
********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1985  1  1 12 -  1986  1  1  6
unit =  100. tonnes
```

Emitters

Receivers

	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
AL	4	1	1	4	4	0	0	7	2	5	11	2	0	0	25	0	1	0	3	AL
AT	0	34	20	2	61	3	0	75	33	195	1	8	0	1	75	2	23	1	33	AT
BE	0	0	33	0	3	2	0	43	4	59	0	0	0	1	1	1	27	0	3	BE
BG	2	3	2	86	19	1	0	7	8	18	14	11	0	0	22	0	3	0	17	BG
CS	0	25	21	5	235	9	2	57	102	237	1	34	0	1	33	2	34	2	137	CS
DK	0	0	7	0	7	29	1	12	12	47	0	0	0	1	1	0	20	3	8	DK
FI	0	1	5	0	20	23	95	9	25	52	0	1	0	1	1	0	16	19	49	FI
FR	0	9	85	1	44	11	1	794	46	365	1	5	0	10	131	8	87	2	35	FR
DD	0	5	32	1	89	17	1	61	149	295	0	4	0	2	6	2	60	3	55	DD
DE	0	12	114	2	85	22	2	296	109	880	1	4	0	7	42	10	179	4	59	DE
GR	3	2	1	28	12	1	0	9	5	12	45	5	0	0	26	0	2	0	12	GR
HU	0	18	6	8	73	3	0	22	25	65	2	60	0	0	50	1	9	0	54	HU
IS	0	0	0	0	0	1	0	2	0	1	0	0	2	1	0	0	1	2	0	IS
IE	0	0	3	0	3	1	0	9	4	18	0	0	0	14	0	0	6	0	3	IE
IT	1	20	13	6	52	3	1	152	27	133	11	13	0	1	596	1	15	0	46	IT
LU	0	0	2	0	0	0	0	6	1	7	0	0	0	0	0	1	1	0	0	LU
NL	0	0	20	0	5	2	0	26	7	69	0	0	0	2	1	0	57	1	4	NL
NO	0	1	12	0	14	24	14	21	21	75	0	2	0	5	0	0	26	64	27	NO
PL	0	15	32	5	227	41	7	77	200	327	1	31	0	2	25	2	62	7	525	PL
PT	0	0	0	0	0	0	0	6	0	2	0	0	0	0	1	0	1	0	0	PT
RO	1	9	6	52	85	6	1	20	36	69	7	53	0	0	53	0	14	1	110	RO
ES	0	2	7	0	7	1	0	101	7	43	0	1	0	1	22	1	9	0	7	ES
SE	0	2	22	0	38	68	57	34	49	154	0	4	0	4	1	1	49	53	77	SE
CH	0	2	5	0	4	1	0	68	5	48	0	0	0	0	44	1	5	0	2	CH
TR	1	4	2	42	27	3	1	8	14	30	37	12	0	0	19	0	6	1	40	TR
SU	1	38	63	66	422	117	182	154	308	616	17	119	0	5	119	4	138	47	1050	SU
GB	0	1	18	1	16	11	2	51	21	85	0	1	0	21	3	1	47	5	17	GB
YU	7	27	11	27	95	5	1	66	40	121	28	50	0	1	224	1	17	1	68	YU
REM	0	5	6	8	16	3	4	68	10	39	7	7	0	1	63	0	7	1	28	REM
BAS	0	6	36	1	88	96	73	65	114	302	0	11	0	3	8	2	84	26	184	BAS
NOS	0	3	81	2	45	66	9	186	65	338	1	5	1	28	8	3	200	36	59	NOS
ATL	0	3	72	2	47	67	57	298	71	349	1	5	9	66	9	3	149	78	72	ATL
MED	7	34	32	51	129	9	2	444	65	262	96	42	0	2	785	3	37	2	123	MED
BLS	1	4	2	47	29	4	2	6	15	34	14	14	0	0	15	0	5	1	59	BLS
SUM	32	286	770	448	2001	650	518	3260	1599	5352	298	506	14	183	2411	51	1396	361	2966	SUM
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

Receivers

	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	2	1	0	0	1	2	3	5	1	0	1	0	0	0	0	22	106	AL
AT	0	7	5	2	17	0	4	50	15	0	1	17	5	0	0	0	69	758	AT
BE	0	0	3	1	0	0	1	63	0	0	0	21	6	0	0	0	21	296	BE
BG	0	55	1	1	1	6	23	5	16	1	0	2	0	0	0	0	58	384	BG
CS	0	21	4	6	6	0	17	66	13	0	2	24	5	0	0	0	95	1197	CS
DK	0	1	1	9	0	0	3	70	0	0	2	22	5	0	0	0	23	286	DK
FI	0	2	0	61	0	0	105	47	0	0	11	19	4	0	0	0	123	691	FI
FR	8	5	113	6	23	0	8	327	7	1	2	110	112	0	0	0	344	2702	FR
DD	0	4	6	9	2	0	9	94	2	0	3	39	7	0	0	0	70	1029	DD
DE	1	4	25	10	23	0	10	318	4	0	3	112	29	0	0	0	182	2549	DE
GR	0	17	2	1	1	9	10	6	7	1	0	2	1	0	0	0	69	289	GR
HU	0	30	2	2	3	1	14	18	28	0	1	6	2	0	0	0	53	555	HU
IS	0	0	0	1	0	0	1	19	0	0	0	2	4	0	0	0	40	78	IS
IE	0	0	1	1	0	0	1	64	0	0	0	9	19	0	0	0	46	203	IE
IT	1	9	16	2	32	4	9	36	32	3	1	13	6	0	0	0	184	1438	IT
LU	0	0	1	0	0	0	0	3	0	0	0	1	1	0	0	0	2	27	LU
NL	0	0	3	1	0	0	1	91	0	0	0	30	7	0	0	0	23	351	NL
NO	0	3	1	49	0	0	25	135	0	0	5	40	16	0	0	0	162	743	NO
PL	0	25	10	34	5	0	73	114	12	0	10	49	8	0	0	0	168	2096	PL
PT	20	0	30	0	0	0	0	3	0	0	0	1	31	0	0	0	61	159	PT
RO	0	226	2	6	2	5	92	26	34	1	2	9	2	0	0	0	130	1065	RO
ES	26	1	363	1	3	0	1	43	2	2	0	11	75	2	0	0	203	942	ES
SE	0	8	3	167	1	0	85	153	1	0	16	57	12	0	0	0	172	1288	SE
CH	0	0	5	1	26	0	0	20	1	0	0	6	4	0	0	0	31	282	CH
TR	0	49	2	3	1	141	73	11	9	6	1	3	1	0	0	0	326	869	TR
SU	1	238	18	188	10	34	3399	283	52	56	50	116	20	0	0	0	1806	9736	SU
GB	1	2	5	8	1	0	8	627	1	0	2	76	59	0	0	0	125	1215	GB
YU	0	40	7	4	9	5	28	35	115	1	1	11	3	0	0	0	165	1216	YU
REM	2	10	41	4	4	7	222	18	7	81	1	7	9	1	0	0	703	1390	REM
BAS	1	9	6	136	4	0	161	181	3	1	30	76	14	0	0	0	185	1904	BAS
NOS	4	7	18	47	2	0	31	1138	2	0	8	261	114	0	0	0	330	3096	NOS
ATL	34	5	166	86	4	1	160	985	2	1	11	205	678	0	0	0	2496	6192	ATL
MED	5	49	165	8	36	42	50	102	71	26	2	34	29	1	0	0	725	3475	MED
BLS	0	70	1	4	1	34	216	8	8	9	1	3	0	0	0	0	165	774	BLS
SUM	108	900	1027	857	218	291	4842	5163	451	193	166	1394	1287	6	0	0	9376	49380	SUM
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1985. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1985 1 1 12 - 1986 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
	AL	41	1	1	34	11	0	0	6	13	5	33	13	0	0	39	0	0	0	8	AL
	AT	1	124	27	12	316	4	1	89	403	259	2	87	0	2	124	2	11	0	149	AT
	BE	0	0	198	0	18	2	0	115	58	170	0	1	0	2	2	2	34	0	15	BE
	BG	10	4	2	1261	70	1	1	8	80	18	27	90	0	0	26	0	1	0	70	BG
	CS	1	48	28	29	2161	12	3	67	1641	321	2	392	0	2	48	2	15	1	842	CS
	DK	0	1	12	1	31	146	2	14	119	76	0	3	0	2	1	0	11	3	37	DK
	FI	0	1	7	2	72	24	416	9	201	58	0	8	0	1	1	0	5	10	164	FI
	FR	1	12	195	10	188	15	1	1755	485	601	2	31	0	16	205	12	65	1	137	FR
	DD	0	6	53	8	647	36	2	81	3608	608	0	27	0	3	8	2	32	2	303	DD
	DE	1	25	251	8	431	49	3	464	1444	2426	1	31	0	11	66	16	140	2	272	DE
	GR	17	2	1	359	34	1	0	8	37	11	183	34	0	0	35	0	1	0	38	GR
	HU	2	32	7	45	362	4	0	24	257	70	4	1068	0	0	70	1	4	0	240	HU
	IS	0	0	0	0	1	0	0	1	2	1	0	0	8	1	0	0	0	1	1	IS
R	IE	0	0	5	0	8	1	0	12	26	20	0	1	0	89	0	0	3	0	7	IE
e	IT	4	34	15	53	202	4	1	178	269	147	21	104	0	1	1509	1	6	0	170	IT
c	LU	0	0	4	0	2	0	0	15	8	15	0	0	0	0	0	4	1	0	2	LU
e	NL	0	1	81	1	28	5	1	64	102	247	0	2	0	3	2	1	139	0	22	NL
i	NO	0	1	17	1	45	33	23	24	159	92	0	11	0	7	1	0	12	90	79	NO
v	PL	1	26	47	29	1280	69	12	96	2913	483	1	294	0	3	36	2	29	4	4733	PL
e	PT	0	0	0	0	1	0	0	6	2	2	0	0	0	0	2	0	0	0	1	PT
r	RO	6	12	7	381	321	8	2	22	342	75	13	473	0	1	64	0	5	1	454	RO
s	ES	0	2	10	1	22	1	0	134	59	51	0	3	0	2	32	1	4	0	22	ES
	SE	0	2	30	2	138	155	123	37	433	196	0	26	0	5	2	1	21	46	267	SE
	CH	0	4	8	1	18	1	0	92	54	70	0	3	0	1	110	1	3	0	10	CH
	TR	4	4	3	387	80	3	1	7	112	27	80	77	0	0	21	0	2	0	117	TR
	SU	6	47	80	434	1490	139	364	160	2611	654	32	894	0	7	140	3	51	23	4165	SU
	GB	0	1	45	2	57	14	2	88	181	135	0	6	0	51	2	1	35	2	53	GB
	YU	42	48	15	241	387	6	1	69	417	133	62	492	0	1	322	1	7	0	279	YU
	REM	1	4	6	46	49	3	6	58	75	30	15	34	0	1	79	0	2	0	96	REM
	BAS	0	7	53	10	376	290	288	75	1188	445	0	83	0	5	9	2	41	21	957	BAS
	NOS	1	5	229	10	249	200	18	404	868	693	1	37	1	55	10	3	263	58	295	NOS
	ATL	0	5	139	8	187	66	97	520	593	485	1	28	26	247	14	4	85	71	228	ATL
	MED	49	62	51	697	611	15	3	734	795	332	404	409	0	5	1941	3	21	1	557	MED
	BLS	5	6	3	871	128	6	4	8	170	40	46	135	0	0	26	0	2	1	285	BLS
	SUM	193	527	1629	4946	10022	1312	1377	5443	19725	8997	933	4901	36	523	4947	68	1053	339	15078	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	6	2	0	0	1	5	4	44	38	0	0	0	0	0	1	67	375	AL
	AT	0	19	11	1	13	0	12	75	122	6	1	12	3	0	0	3	176	2068	AT
	BE	0	1	13	1	0	0	3	129	1	0	0	31	5	0	0	3	47	853	BE
	BG	0	222	2	1	0	7	84	8	164	22	0	1	0	0	0	1	177	2358	BG
	CS	0	59	14	4	4	0	60	102	80	4	2	17	4	0	0	3	257	6226	CS
	DK	0	2	4	11	0	0	12	129	1	0	5	26	3	0	0	5	50	709	DK
	FI	0	5	1	54	0	0	759	62	2	1	14	11	3	0	0	9	342	2245	FI
	FR	13	14	450	4	20	0	23	584	37	37	2	125	88	0	0	41	788	5960	FR
	DD	0	9	18	7	1	0	29	166	8	1	6	36	5	0	0	5	177	5896	DD
	DE	2	10	73	8	21	0	33	587	27	6	5	121	21	0	0	17	430	7000	DE
	GR	0	52	4	0	0	12	31	8	65	70	0	1	0	0	0	3	197	1204	GR
	HU	0	112	5	1	2	1	48	28	175	9	1	4	1	0	0	1	146	2725	HU
	IS	0	0	0	1	0	0	4	21	0	0	0	1	2	0	0	18	61	123	IS
R	IE	0	0	3	0	0	0	2	163	0	0	0	8	20	0	0	20	76	468	IE
e	IT	1	21	40	1	28	4	23	54	207	625	1	9	4	0	0	10	524	4274	IT
c	LU	0	0	2	0	0	0	0	5	0	0	0	1	0	0	0	0	6	66	LU
e	NL	0	1	11	1	0	0	5	222	1	1	0	52	5	0	0	4	56	1057	NL
i	NO	0	8	5	52	0	0	206	238	1	0	5	36	14	0	0	32	364	1556	NO
v	PL	1	86	28	25	3	0	305	183	67	4	15	39	6	0	0	8	457	11288	PL
e	PT	112	0	100	0	0	0	0	3	0	3	0	1	36	1	0	4	71	346	PT
r	RO	0	1353	6	4	1	6	427	39	331	24	2	6	1	0	0	3	384	4775	RO
s	ES	76	1	1906	0	2	0	3	65	6	28	0	8	68	3	0	16	357	2887	ES
	SE	1	20	8	308	0	0	368	252	4	1	25	46	9	0	0	21	434	2979	SE
	CH	0	1	14	0	54	0	1	30	7	3	0	5	3	0	0	2	78	577	CH
	TR	0	143	5	1	0	289	227	16	62	52	1	2	0	0	0	6	806	2537	TR
	SU	1	862	44	126	5	40	21308	408	318	283	57	74	13	0	0	41	5380	40258	SU
	GB	1	2	24	4	0	0	21	3298	3	1	1	102	58	0	0	43	257	4491	GB
	YU	0	125	19	2	5	6	105	58	1482	92	1	8	2	0	0	5	472	4909	YU
	REM	5	24	91	2	2	8	1029	22	26	1785	1	4	6	1	0	10	1614	5136	REM
	BAS	1	29	18	239	2	0	793	305	18	3	104	70	9	0	0	24	541	6006	BAS
	NOS	7	17	94	62	1	0	115	4203	14	2	13	667	102	0	0	147	796	9642	NOS
	ATL	135	12	1716	69	3	0	1571	2641	8	8	9	192	1244	1	0	1278	4467	16156	ATL
	MED	16	199	679	5	28	91	196	196	703	2336	2	31	27	2	0	106	2373	13681	MED
	BLS	0	380	3	3	1	83	1282	18	91	71	1	3	0	0	0	14	670	4360	BLS
	SUM	374	3799	5413	999	199	550	29091	14322	4078	5519	273	1750	1764	8	0	1902	23101	175190	SUM
		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1985. Unit: 100 tonnes(S)

```
********* receiver-emitter matrix *********

reduced nitrogen,  tot dep.
averaging period: 1985  1  1 12 -  1986  1  1  6
unit =  100. tonnes

                                                        Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL   100     0     0     2     1     0     0     3     0     1     6     2     0     0     8     0     0     0     1  AL
    AT     0   330     9     1    33     2     0    48    24   151     0    17     0     2    56     1    17     0    17  AT
    BE     0     0   291     0     1     1     0    59     3    21     0     0     0     2     1     1    50     0     2  BE
    BG     5     1     0   479     5     0     0     2     3     3    14    13     0     0     7     0     1     0     8  BG
    CS     1    31     8     3   608     5     0    30    91   122     0    49     0     2    17     1    25     0   118  CS
    DK     0     0     4     0     2   444     0     8    12    35     0     0     0     3     0     0    16     1     6  DK
    FI     0     1     1     0     5    11   153     5    17    19     0     1     0     1     1     0     7     2    40  FI
    FR     0     7    60     1    10     6     0  3219    26   109     0     5     0    20    84     7    62     0    18  FR
    DD     0     3    15     1    17    17     0    35   950   178     0     3     0     3     2     1    61     0    50  DD
    DE     0    18    87     1    20    22     0   246   105  2441     0     4     0    14    24    10   318     0    38  DE
    GR    10     1     0    21     3     0     0     3     2     2   236     5     0     0     8     0     1     0     4  GR
    HU     1    15     2     5    38     1     0    10    12    20     1   590     0     0    24     0     5     0    29  HU
    IS     0     0     0     0     0     0     0     1     0     0     0     0    10     1     0     0     0     0     0  IS
R   IE     0     0     2     0     0     1     0    10     2     5     0     0     0   502     0     0     4     0     2  IE
e   IT     3    15     4     3    13     1     0    77    12    58     5    15     0     1  1695     1     7     0    17  IT
c   LU     0     0     2     0     0     0     0     8     0     3     0     0     0     0     0    21     1     0     0  LU
e   NL     0     0    27     0     1     3     0    28     5    49     0     0     0     4     1     0   850     0     3  NL
i   NO     0     1     6     0     4    23     3    19    17    33     0     3     0     8     0     0    22    90    20  NO
v   PL     0    10    10     3    78    30     1    36   176   117     0    31     0     3    10     1    39     1  2115  PL
e   PT     0     0     0     0     0     0     0     3     0     0     0     0     0     0     0     0     0     0     0  PT
r   RO     3     5     1    56    26     4     0     8    16    18     4    86     0     1    21     0     8     0    68  RO
s   ES     0     2     2     0     2     0     0    86     3     9     0     1     0     2     9     0     5     0     3  ES
    SE     0     2     9     0    11    71    18    21    41    67     0     5     0     5     1     0    34    12    64  SE
    CH     0     2     3     0     1     0     0    71     3    34     0     0     0     1    43     1     3     0     1  CH
    TR     2     2     0    26     6     1     0     2     5     6    12    12     0     0     6     0     2     0    16  TR
    SU     3    24    20    41   121    58    36    73   171   180     6   126     0     8    49     1    73     5   822  SU
    GB     0     1    11     0     3     8     0    61    14    32     0     1     0    93     1     0    32     1    11  GB
    YU    22    25     3    24    34     1     0    28    20    36    17    90     0     1   108     0    10     0    34  YU
   REM     1     2     2     3     3     1     0    30     4     8     3     5     0     1    21     0     3     0    11  REM
   BAS     0     5    13     1    27   126    28    38   125   164     0    13     0     5     4     1    61     4   199  BAS
   NOS     0     3    70     1    11   115     1   286    55   178     0     5     0    62     5     2   225    12    42  NOS
   ATL     0     3    36     1    10    34    10   400    44   111     0     4     5   246     4     2    91    21    39  ATL
   MED    25    20     9    34    32     3     0   275    27    65    61    42     0     3   465     1    16     0    48  MED
   BLS     1     2     0    37     8     1     0     2     7    10     6    16     0     0     5     0     2     0    32  BLS
   SUM   177   532   712   743  1135   991   254  5233  1992  4286   374  1142    16   996  2680    56  2051   151  3877  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                                        Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     2     0     0     0     1     2     0     8     0     0     0     0     0     0     0    21   160  AL
    AT     0     7     3     0    21     0     5    10    22     0     0     0     0     0     0     0    55   833  AT
    BE     0     0     2     0     0     0     1    18     0     0     0     0     0     0     0     0    15   469  BE
    BG     0    77     0     0     0     8    31     1    30     1     0     0     0     0     0     0    43   734  BG
    CS     0    18     2     2     4     0    28    11    15     0     0     0     0     0     0     0    78  1269  CS
    DK     0     0     1     5     0     0     3    15     0     0     0     0     0     0     0     0    15   571  DK
    FI     0     1     0    13     0     0   129     7     0     0     0     0     0     0     0     0    98   516  FI
    FR     8     5    94     1    22     0     7    81     7     1     0     0     0     0     0     0   243  4104  FR
    DD     0     3     3     3     1     0    10    17     1     0     0     0     0     0     0     0    51  1427  DD
    DE     1     3    16     3    31     0    10    74     4     0     0     0     0     0     0     0   138  3629  DE
    GR     0    15     1     0     0    10    11     1    11     1     0     0     0     0     0     0    56   401  GR
    HU     0    38     1     0     2     1    22     2    37     0     0     0     0     0     0     0    43   900  HU
    IS     0     0     0     0     0     0     0     5     0     0     0     0     0     0     0     0    21    42  IS
R   IE     0     0     0     0     0     0     1    29     0     0     0     0     0     0     0     0    25   584  IE
e   IT     0     6     8     0    45     4     8     6    31     3     0     0     0     0     0     0   143  2182  IT
c   LU     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     2    39  LU
e   NL     0     0     2     0     0     0     1    26     0     0     0     0     0     0     0     0    17  1019  NL
i   NO     0     4     1    14     0     0    22    31     0     0     0     0     0     0     0     0   105   428  NO
v   PL     0    24     5    11     3     0   121    17    11     0     0     0     0     0     0     0   134  2988  PL
e   PT   298     0    39     0     0     0     0     0     0     0     0     0     0     0     0     0    20   362  PT
r   RO     0  1350     1     1     1     6   171     3    47     1     0     0     0     0     0     0   118  2025  RO
s   ES    66     0  1317     0     1     0     1     7     1     2     0     0     0     0     0     0    86  1606  ES
    SE     0     9     1   269     0     0    90    26     1     0     0     0     0     0     0     0   126   883  SE
    CH     0     0     4     0   271     0     0     5     1     0     0     0     0     0     0     0    26   472  CH
    TR     0    47     1     1     1  1150    74     1    10     6     0     0     0     0     0     0   247  1635  TR
    SU     1   328    10    39     5    63 11063    39    56    43     0     0     0     0     0     0  1418 14882  SU
    GB     1     1     3     2     0     0     8  1285     1     0     0     0     0     0     0     0    71  1642  GB
    YU     0    41     4     1     5     6    41     5   817     1     0     0     0     0     0     0   137  1512  YU
   REM     2     7    22     0     2    27   256     2     5   341     0     0     0     0     0     0   340  1101  REM
   BAS     1    11     3    68     3     0   235    31     4     1     0     0     0     0     0     0   157  1325  BAS
   NOS     4     5    12    16     1     0    28   387     2     0     0     0     0     0     0     0   208  1737  NOS
   ATL    89     4   159    14     2     0   129   311     1     1     0     0     0     0     0     0  1237  3007  ATL
   MED     8    43   128     1    23    55    51    15    83    36     0     0     0     0     0     0   535  2105  MED
   BLS     0   111     0     1     1   125   386     1    10    14     0     0     0     0     0     0   158   937  BLS
   SUM   484  2161  1846   467   447  1459 12942  2468  1216   454     0     0     0     0     0     0  6185 57526  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduced Nitrogen in 1985. Unit: 100 tonnes(N

Transboundary Import-Export Budgets for 1985

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	319	89	334	89	17	54	69	95	102	96	11	44	155	61	60	38	10	69
AT	881	88	1944	94	9	52	633	95	724	96	8	43	411	55	503	60	4	72
BE	1802	90	655	77	26	81	956	97	263	89	23	78	442	60	178	38	17	97
BG	10309	89	1097	47	15	43	1180	93	298	78	8	35	707	60	255	35	6	63
CS	12289	85	4065	65	12	69	2894	92	962	80	11	64	767	56	661	52	6	83
DK	1549	91	563	79	36	77	887	97	257	90	26	71	594	57	127	22	27	96
FI	1494	78	1829	81	23	72	742	89	596	86	17	62	135	47	363	70	14	88
FR	5595	76	4205	71	26	74	4121	84	1908	71	20	66	2546	44	885	22	17	91
DD	23217	87	2288	39	15	74	2091	93	880	86	15	71	1265	57	477	33	12	90
DE	9409	80	4574	65	19	76	6850	89	1669	65	17	69	2401	50	1188	33	11	89
GR	2317	93	1021	85	20	37	886	95	244	84	12	32	406	63	165	41	10	58
HU	5952	85	1657	61	11	70	737	92	495	89	10	63	810	58	310	34	6	82
IS	82	91	115	93	34	40	47	96	76	97	21	29	15	60	32	76	20	65
IE	611	87	379	81	51	75	263	95	189	93	36	66	536	52	82	14	30	96
IT	7156	83	2765	65	26	57	4240	88	842	59	17	50	1896	53	487	22	13	75
LU	81	95	62	94	14	80	66	99	26	96	16	76	37	64	18	46	10	97
NL	1151	89	918	87	34	82	1784	97	294	84	26	76	1258	60	169	17	19	97
NO	395	81	1466	94	35	70	581	90	679	91	22	56	83	48	338	79	21	87
PL	16767	78	6555	58	12	70	4040	89	1571	75	11	65	2414	53	873	29	8	86
PT	878	89	234	68	19	38	272	93	139	87	15	37	468	61	64	18	13	63
RO	4922	78	3422	72	11	61	1424	86	839	79	8	55	1475	52	675	33	6	77
ES	9044	83	981	34	27	49	2190	86	579	61	14	40	1590	55	289	18	10	64
SE	1022	77	2671	90	31	75	1130	87	1121	87	22	66	233	46	614	70	20	93
CH	326	86	523	91	10	52	519	95	256	91	9	40	338	56	201	43	5	73
TR	1321	82	2248	89	12	34	967	87	728	84	7	26	2268	66	485	30	5	43
SU	34827	62	18950	47	8	52	7481	69	6337	65	6	45	8669	44	3819	26	4	66
GB	15497	82	1193	27	43	76	6720	91	588	48	33	70	1350	51	357	22	28	94
YU	5867	80	3427	70	13	55	838	88	1101	91	9	47	879	52	695	46	6	72
REM	13005	88	3351	65	18	37	1027	93	1309	94	3	17	1067	76	760	69	4	32
BAS	256	71	5902	98	36	76	213	88	1874	98	21	68	0	0	1325	100	0	100
NOS	1530	70	8975	93	44	80	1683	87	2835	92	30	72	0	0	1737	100	0	100
ATL	3413	73	14912	92	30	38	3266	83	5514	89	21	33	0	0	3007	100	0	100
MED	58	97	13679	100	5	13	39	97	3474	100	3	15	0	0	2105	100	0	100
BLS	0	0	4360	100	0	100	0	0	774	100	0	100	0	0	937	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

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          *********  receiver-emitter matrix *********


          oxidized nitrogen, tot dep.
          averaging period: 1986  1  1 12 -  1987  1  1  6
          unit =  100. tonnes

                                               Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL     4     1     0     7     2     0     0     6     1     5    16     1     0     0    25     0     0     0     2  AL
    AT     0    42    11     2    60     2     0    58    23   157     1    13     0     1    82     1    12     1    30  AT
    BE     0     1    29     0     4     1     0    45     5    56     0     0     0     1     2     1    19     0     2  BE
    BG     2     2     1   106    15     1     0     5     6    12    14    10     0     0    12     0     2     0    16  BG
    CS     0    27    15     4   218     6     1    49    79   204     1    34     0     1    31     1    28     1   110  CS
    DK     0     1     6     0     8    23     0    14    12    49     0     1     0     1     0     0    18     2    12  DK
    FI     0     2     8     1    24    29   103    16    31    80     0     7     0     1     3     1    19    21    81  FI
    FR     0     8    78     0    41     6     1   865    43   341     1     7     0     9   155     8    74     2    34  FR
    DD     0     5    27     1    88    16     1    60   148   303     0     4     0     2     7     2    55     1    51  DD
    DE     0    17   100     0    86    17     1   283    96   838     0     5     0     6    46     9   152     4    51  DE
    GR     3     1     1    39     6     1     0    10     2     8    57     4     0     0    29     0     1     0     6  GR
    HU     1    16     4     8    62     2     0    15    17    47     3    60     0     0    36     0     6     1    43  HU
    IS     0     0     2     0     1     1     0     3     2     7     0     0     3     0     0     0     2     1     2  IS
R   IE     0     0     3     0     3     2     0    10     3    12     0     0     0    14     1     0     5     0     5  IE
e   IT     1    22     9     6    35     2     0   173    17    98     7    16     0     1   711     1    10     0    26  IT
c   LU     0     0     2     0     0     0     0     7     0     6     0     0     0     0     0     1     1     0     0  LU
e   NL     0     1    18     0     5     2     0    26     7    62     0     1     0     2     1     0    46     1     3  NL
i   NO     0     3    16     0    29    44    11    38    44   135     0     2     1     7     1     1    45    67    45  NO
v   PL     0    22    28     5   249    36     6    72   192   334     1    37     0     2    32     2    58     5   566  PL
e   PT     0     0     1     0     1     0     0     4     0     3     0     0     0     0     0     0     1     0     1  PT
r   RO     1     9     5    65    66     4     2    15    22    55     9    47     0     0    36     0     9     1    68  RO
s   ES     0     1    10     0     8     3     0    91     6    37     0     1     0     2     9     1    16     0     8  ES
    SE     0     5    22     0    59    83    50    40    70   191     0     6     0     4     4     1    54    59   129  SE
    CH     0     3     4     0     5     0     0    76     4    38     0     1     0     1    57     1     4     0     4  CH
    TR     0     1     2    26    10     1     1    10     5    14    26     6     0     0    17     0     3     0    18  TR
    SU     1    42    68    67   468   147   225   159   324   691    19   128     0     8    84     4   159    61  1172  SU
    GB     0     1    18     1    16    11     1    55    18    85     0     2     0    23     3     1    43     4    25  GB
    YU     7    28     6    58    80     3     1    47    28    83    33    56     0     1   218     1     8     1    57  YU
   REM     0     3     6     5    13     2     3    79     8    38     7     3     0     1    57     0     7     1    24  REM
   BAS     0     7    30     2    81    90    53    64   110   287     0     9     0     4     8     2    74    23   196  BAS
   NOS     0     5    79     1    55    56     6   206    78   381     0     6     1    24     8     3   183    28    69  NOS
   ATL     0     6    79     2    71    71    52   289    88   377     1     7    12    73    21     3   169    90   119  ATL
   MED     5    22    21    51    59     5     1   380    30   157   110    30     0     2   734     2    24     1    52  MED
   BLS     0     2     2    31    20     3     2     7    11    24     9     9     0     0    10     0     4     1    40  BLS
   SUM    27   305   712   490  1948   671   523  3277  1529  5215   316   513    20   193  2442    49  1308   380  3064  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                               Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     2     1     0     1     1     3     1     6     0     0     0     0     0     0     0    32   121  AL
    AT     0    10     2     1    22     0    10    33    17     0     0    10     3     0     0     0    73   678  AT
    BE     0     0     2     1     1     0     1    52     0     0     0    19     5     0     0     0    16   265  BE
    BG     0    67     1     1     1     6    54     3    12     1     0     1     0     0     0     0    75   427  BG
    CS     0    16     2     4     7     0    18    56    12     0     1    16     4     0     0     0    80  1025  CS
    DK     0     1     1     5     1     0     4    54     0     0     2    19     4     0     0     0    21   261  DK
    FI     0     6     0    76     1     0   131    53     2     0    13    21     4     0     0     0   131   865  FI
    FR     9     2   135     4    28     0     7   257    11     2     1   104   120     0     0     0   351  2703  FR
    DD     0     4     3     7     2     0    10    95     2     0     3    34     5     0     0     0    65  1004  DD
    DE     1     3    11     7    34     0    15   296     5     0     3    96    22     0     0     0   170  2375  DE
    GR     0    16     3     1     1    13    18     4     8     1     0     1     1     0     0     0    88   323  GR
    HU     0    31     1     1     3     0    12    12    24     0     0     4     1     0     0     0    45   455  HU
    IS     0     0     0     1     0     0     1     7     0     0     0     2     3     0     0     0    35    75  IS
R   IE     0     0     0     1     0     0     1    48     0     0     0     8    17     0     0     0    36   170  IE
e   IT     1    11    29     1    40     2     7    26    39     5     0     8     8     0     0     0   230  1543  IT
c   LU     0     0     0     0     0     0     0     3     0     0     0     1     1     0     0     0     2    24  LU
e   NL     0     0     1     1     0     0     1    84     0     0     0    24     5     0     0     0    18   308  NL
i   NO     0     2     2    48     1     0    22   209     0     0     6    60    17     0     0     0   176  1034  NO
v   PL     0    26     3    25     6     0    78   112    16     0     9    43     7     0     0     0   167  2141  PL
e   PT    28     0    30     0     0     0     0     5     0     0     0     1    38     0     0     0    42   156  PT
r   RO     0   276     1     4     1     6   144    21    26     3     1     6     1     0     0     0   155  1057  RO
s   ES    41     2   415     1     1     0     1    48     1     2     0    19   103     2     0     0   182  1012  ES
    SE     0     3     1   163     2     0    83   177     2     0    18    64    14     0     0     0   180  1487  SE
    CH     0     0     5     0    37     0     1    19     2     0     0     5     4     0     0     0    43   315  CH
    TR     0    24     3     2     1   134    96     9     3     8     0     2     1     0     0     0   330   754  TR
    SU     2   226    11   233    13    41  4123   380    48    91    55   134    24     0     0     0  2144 11352  SU
    GB     0     4     5     7     1     0    11   590     1     0     2    74    53     0     0     0   114  1170  GB
    YU     0    65     7     3     8     4    28    17   140     2     1     7     3     0     0     0   210  1211  YU
   REM     4     7    57     3     5     5   178    19     4    92     1     7    13     1     0     0   709  1362  REM
   BAS     1     7     3   117     3     0   137   195     4     0    25    71    13     0     0     0   162  1780  BAS
   NOS     1     7    13    33     3     0    24  1011     2     0     6   232    86     0     0     0   281  2889  NOS
   ATL    24     7   111    76     6     0   152  1104     3     1    11   238   627     0     0     0  2253  6143  ATL
   MED     8    39   184     4    27    61    51    70    60    29     1    24    36     1     0     0   789  3072  MED
   BLS     0    38     0     4     1    29   219     8     5    14     1     3     0     0     0     0   160   656  BLS
   SUM   121   904  1043   838   259   302  5641  5076   455   255   161  1360  1241     5     0     0  9564 50209  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Oxidised Nitrogen in 1986. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1986 1 1 12 - 1987 1 1 6
unit = 100. tonnes

Emitters

Receivers	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
AL	44	1	0	61	6	0	0	6	11	4	47	8	0	0	40	0	0	0	4	AL
AT	1	134	16	10	275	2	0	62	260	192	2	121	0	2	134	1	7	0	120	AT
BE	0	1	209	0	20	1	0	114	62	154	0	2	0	2	3	2	28	0	9	BE
BG	7	3	2	1680	52	1	1	5	56	13	25	74	0	0	19	0	1	0	55	BG
CS	1	48	23	21	2156	7	2	52	1344	269	2	375	0	2	45	1	14	1	609	CS
DK	0	1	11	1	36	109	1	16	149	83	0	5	0	2	1	0	11	2	52	DK
FI	0	2	9	8	75	24	393	12	197	68	0	43	0	2	3	0	7	10	235	FI
FR	0	9	166	2	159	7	1	1731	419	508	1	44	0	18	231	12	55	1	124	FR
DD	0	7	49	6	684	27	1	77	4083	600	1	33	0	3	8	3	35	1	300	DD
DE	0	29	225	3	432	30	2	415	1350	2349	1	37	0	11	69	15	131	1	226	DE
GR	16	1	1	503	18	1	0	8	17	7	220	24	0	0	37	0	0	0	19	GR
HU	2	28	4	59	291	2	1	15	183	47	5	1081	0	0	50	0	3	0	161	HU
IS	0	0	1	0	2	0	0	2	7	3	0	0	11	1	0	0	0	0	3	IS
IE	0	0	4	0	8	1	0	11	26	15	0	1	0	101	1	0	3	0	11	IE
IT	3	29	11	32	121	2	0	184	158	92	12	110	0	1	1718	1	4	0	92	IT
LU	0	0	3	0	2	0	0	15	6	13	0	0	0	0	1	4	1	0	1	LU
NL	0	1	74	1	32	3	0	61	117	224	0	5	0	3	1	0	145	0	17	NL
NO	0	3	20	0	98	51	16	34	356	138	0	15	0	9	2	1	19	85	127	NO
PL	1	31	45	38	1338	52	9	84	3040	487	1	331	0	4	47	2	31	3	4962	PL
PT	0	0	1	0	2	0	0	3	2	2	0	1	0	0	0	0	0	0	1	PT
RO	5	11	6	483	244	4	2	15	203	52	15	394	0	1	49	0	3	0	245	RO
ES	0	1	13	1	18	2	0	99	37	36	0	6	0	3	14	0	7	0	15	ES
SE	0	5	29	2	197	144	91	41	577	215	0	36	0	5	6	1	24	45	415	SE
CH	0	4	7	0	23	0	0	89	47	52	0	6	0	1	142	1	2	0	16	CH
TR	2	2	2	277	31	1	1	8	38	11	55	34	0	0	20	0	1	0	49	TR
SU	6	45	78	472	1590	136	371	132	2672	661	33	935	0	10	105	3	58	27	4253	SU
GB	0	1	42	4	59	11	1	83	179	132	0	12	0	61	3	1	35	2	66	GB
YU	38	41	8	416	283	3	1	46	281	82	68	447	0	1	317	1	4	0	190	YU
REM	1	2	5	32	42	2	4	59	66	28	14	18	0	1	73	0	3	0	77	REM
BAS	0	10	50	14	378	238	211	74	1270	433	0	79	0	6	12	2	41	17	1060	BAS
NOS	0	7	220	11	279	152	12	410	1027	736	1	52	1	58	14	4	268	47	393	NOS
ATL	0	6	124	7	259	64	77	385	788	453	1	48	32	275	21	3	91	70	357	ATL
MED	38	35	37	692	288	7	1	606	383	209	472	293	0	6	1788	2	16	1	251	MED
BLS	3	5	4	736	108	4	3	11	134	33	28	109	0	1	19	0	2	0	194	BLS
SUM	170	504	1497	5573	9602	1090	1204	4962	19543	8400	1003	4778	46	590	4992	63	1051	315	14709	SUM
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

Receivers	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	7	2	0	0	1	10	2	54	32	0	0	0	0	0	1	93	435	AL
AT	0	30	8	1	15	0	33	55	138	11	0	8	2	0	0	2	207	1848	AT
BE	0	0	6	0	0	0	3	110	1	0	0	28	4	0	0	2	40	803	BE
BG	0	251	1	1	1	7	205	6	136	18	0	1	0	0	0	2	261	2883	BG
CS	0	57	6	3	4	0	67	93	73	4	1	13	2	0	0	2	223	5518	CS
DK	0	3	2	8	0	0	15	113	1	0	4	23	2	0	0	4	47	703	DK
FI	0	17	1	67	0	0	718	74	12	1	16	12	3	0	0	9	345	2361	FI
FR	14	5	455	2	21	0	22	441	42	50	1	120	94	0	0	38	891	5683	FR
DD	0	11	9	5	1	0	36	187	11	1	5	34	4	0	0	5	182	6411	DD
DE	1	10	40	6	27	0	47	587	25	6	4	107	15	0	0	11	440	6655	DE
GR	0	48	6	0	1	17	59	5	69	75	0	1	0	0	0	3	263	1420	GR
HU	0	122	2	1	1	1	46	19	172	7	0	3	1	0	0	1	126	2435	HU
IS	0	0	1	1	0	0	2	7	0	0	0	1	1	0	0	17	52	112	IS
IE	0	0	1	1	0	0	3	143	0	0	0	7	17	0	0	17	66	436	IE
IT	2	26	61	1	29	2	20	42	220	641	0	6	5	0	0	12	713	4354	IT
LU	0	0	1	0	0	0	0	5	0	0	0	1	0	0	0	0	5	58	LU
NL	0	1	5	1	0	0	5	219	2	0	0	44	4	0	0	3	46	1015	NL
NO	0	6	3	51	0	0	160	346	2	1	6	50	14	0	0	38	410	2065	NO
PL	0	100	11	21	4	0	348	209	104	5	14	37	4	0	0	8	468	11838	PL
PT	116	0	106	0	0	0	0	5	0	2	0	0	41	0	0	5	60	349	PT
RO	0	1638	5	2	1	7	660	30	256	23	1	4	1	0	0	2	500	4863	RO
ES	86	3	2049	1	0	0	2	56	5	37	0	12	91	3	0	21	404	3022	ES
SE	0	10	3	308	1	0	292	291	8	1	26	51	9	0	0	23	449	3306	SE
CH	1	1	13	0	64	0	3	32	9	7	0	5	3	0	0	2	131	661	CH
TR	0	69	5	1	0	312	270	12	24	71	0	1	0	0	0	5	833	2137	TR
SU	1	832	24	158	5	47	23360	534	299	366	62	80	13	0	0	44	6692	44106	SU
GB	0	6	20	5	0	0	24	3430	4	0	1	105	54	0	0	41	248	4632	GB
YU	0	194	15	2	5	4	115	29	1837	91	1	5	2	0	0	5	693	5226	YU
REM	6	18	117	2	2	8	788	22	14	2132	1	4	8	1	0	12	1701	5262	REM
BAS	0	27	9	229	1	0	644	369	26	2	100	70	8	0	0	22	457	5861	BAS
NOS	1	23	52	53	2	0	135	4309	15	3	13	681	86	0	0	138	734	9938	NOS
ATL	104	18	1203	72	3	0	1374	2707	15	14	10	202	1212	0	0	1362	4188	15546	ATL
MED	19	158	709	4	21	148	214	150	568	2267	1	23	33	2	0	109	2505	12058	MED
BLS	0	241	2	3	1	80	1227	18	69	82	1	3	0	0	0	13	638	3771	BLS
SUM	354	3934	4954	1010	213	635	30909	14660	4211	5951	274	1742	1733	6	0	1978	25113	177769	SUM
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1986. Unit: 100 tonnes(N)

```
********* receiver-emitter matrix *********

reduced nitrogen,  tot dep.
averaging period: 1986  1  1 12 -  1987  1  1  6
unit =  100. tonnes

                                          Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL   113     0     0     4     0     0     0     2     1     1    11     2     0     0     9     0     0     0     1  AL
    AT     0   352     5     1    38     1     0    35    14   144     0    30     0     2    56     1     9     0    19  AT
    BE     0     0   295     0     1     1     0    56     3    21     0     0     0     2     1     2    42     0     1  BE
    BG     3     1     0   538     5     1     0     2     3     3    15    15     0     0     4     0     1     0     9  BG
    CS     0    35     7     2   592     3     0    22    65   106     0    46     0     2    12     1    20     0    84  CS
    DK     0     1     3     0     2   394     0     9    13    35     0     1     0     1     0     0    16     0    10  DK
    FI     0     1     3     1     6    12   149     6    18    23     0     6     0     1     1     0    11     2    52  FI
    FR     0     5    60     0    10     3     0  3364    25   106     0     8     0    18    91     7    61     0    19  FR
    DD     0     3    12     1    18    18     0    31   947   168     0     3     0     3     2     1    54     0    47  DD
    DE     0    23    79     0    23    17     0   221    93  2410     0     6     0    12    21     9   278     0    31  DE
    GR    11     1     0    27     1     0     0     3     1     2   261     5     0     0     9     0     1     0     3  GR
    HU     1    14     1     5    31     1     0     5     8    15     1   560     0     0    14     0     3     0    21  HU
    IS     0     0     1     0     0     0     0     2     1     1     0     0    12     1     0     0     1     0     2  IS
R   IE     0     0     2     0     1     1     0    12     2     5     0     0     0   484     0     0     4     0     2  IE
e   IT     1    18     3     2    11     1     0    82     8    47     2    18     0     1  1933     0     5     0    12  IT
c   LU     0     0     2     0     0     0     0     7     0     2     0     0     0     0     0    21     1     0     0  LU
e   NL     0     0    25     0     1     2     0    24     4    44     0     0     0     3     0     0   846     0     2  NL
i   NO     0     3     8     0     9    41     2    24    38    62     0     3     0    11     1     0    34    89    41  NO
v   PL     0    15     9     4    80    29     1    28   149   109     0    39     0     3    13     1    35     1  2114  PL
e   PT     0     0     0     0     0     0     0     2     0     1     0     0     0     0     0     0     1     0     0  PT
r   RO     2     5     1    74    20     2     0     4     9    13     5    80     0     0    13     0     4     0    40  RO
s   ES     0     0     5     0     2     1     0    91     4    10     0     1     0     3     3     0     9     0     3  ES
    SE     0     4     8     0    17    72    15    19    52    76     0     7     0     5     2     0    37    12    96  SE
    CH     0     3     3     0     2     0     0    77     3    36     0     1     0     1    54     0     4     0     3  CH
    TR     1     1     0    15     2     0     0     3     2     3     7     4     0     0     5     0     1     0     7  TR
    SU     3    27    24    41   128    68    49    61   173   202     9   129     0     9    33     1    92     7   785  SU
    GB     0     1    14     0     4     8     0    70    15    40     0     2     0    83     1     1    39     1    15  GB
    YU    24    26     2    48    31     2     0    18    16    30    23   115     0     1   100     0     4     0    31  YU
   REM     0     1     2     2     2     1     0    36     3     7     2     2     0     1    18     0     3     0     8  REM
   BAS     0     5    12     1    20   106    21    32   104   136     0     9     0     4     3     1    56     3   183  BAS
   NOS     0     5    66     0    16   103     1   287    72   209     0     8     0    43     3     2   223    10    55  NOS
   ATL     0     4    43     0    17    34     9   389    60   127     0     7     5   238     7     2   107    21    68  ATL
   MED    19    11     7    26    14     2     0   240    13    37    55    29     0     3   395     1    13     0    22  MED
   BLS     0     1     1    21     4     1     0     2     4     4     3     7     0     0     3     0     2     0    17  BLS
   SUM   180   566   701   813  1110   924   250  5266  1924  4235   397  1143    18   935  2807    54  2015   148  3802  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                          Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     2     1     0     0     1     3     0    12     0     0     0     0     0     0     0    33   196  AL
    AT     0    10     1     0    22     0    16     7    25     0     0     0     0     0     0     0    68   857  AT
    BE     0     0     1     0     0     0     1    13     0     0     0     0     0     0     0     0    12   451  BE
    BG     0   100     0     0     0     9    78     0    29     1     0     0     0     0     0     0    70   887  BG
    CS     0    15     1     1     3     0    28    10    10     0     0     0     0     0     0     0    61  1128  CS
    DK     0     1     0     3     0     0     5    10     0     0     0     0     0     0     0     0    13   518  DK
    FI     0     6     0    16     0     0   142     7     2     0     0     0     0     0     0     0   103   571  FI
    FR     8     1   103     1    26     0     7    63     8     3     0     0     0     0     0     0   287  4285  FR
    DD     0     2     1     2     1     0     9    17     1     0     0     0     0     0     0     0    47  1388  DD
    DE     1     3     6     2    38     0    15    66     3     0     0     0     0     0     0     0   141  3499  DE
    GR     0    15     2     0     0    13    20     0    15     1     0     0     0     0     0     0    77   466  GR
    HU     0    37     0     0     1     0    15     2    33     0     0     0     0     0     0     0    36   804  HU
    IS     0     0     0     0     0     0     1     1     0     0     0     0     0     0     0     0    19    43  IS
R   IE     0     0     0     0     0     0     1    23     0     0     0     0     0     0     0     0    21   561  IE
e   IT     1     6    15     0    45     1     8     4    34     5     0     0     0     0     0     0   216  2481  IT
c   LU     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     2    37  LU
e   NL     0     0     1     0     0     0     1    20     0     0     0     0     0     0     0     0    13   988  NL
i   NO     0     3     1    16     1     0    22    50     0     0     0     0     0     0     0     0   125   584  NO
v   PL     0    27     1    10     2     0   138    16    16     0     0     0     0     0     0     0   130  2970  PL
e   PT   294     0    38     0     0     0     0     1     0     0     0     0     0     0     0     0    16   354  PT
r   RO     0  1488     1     1     0     6   288     2    39     2     0     0     0     0     0     0   170  2270  RO
s   ES    81     1  1445     0     1     0     1     8     1     3     0     0     0     0     0     0    97  1771  ES
    SE     0     3     0   252     1     0    79    28     2     0     0     0     0     0     0     0   129   918  SE
    CH     0     0     3     0   269     0     1     5     1     0     0     0     0     0     0     0    48   514  CH
    TR     0    22     1     0     0  1081    98     1     3     9     0     0     0     0     0     0   243  1509  TR
    SU     1   308     5    52     5    79 12835    58    52    76     0     0     0     0     0     0  1941 17253  SU
    GB     0     2     2     2     0     0     9  1246     1     0     0     0     0     0     0     0    69  1626  GB
    YU     0    66     3     1     4     4    45     2   916     2     0     0     0     0     0     0   227  1743  YU
   REM     4     4    30     0     2    29   218     2     2   382     0     0     0     0     0     0   353  1116  REM
   BAS     0     7     1    57     1     0   184    28     4     0     0     0     0     0     0     0   118  1096  BAS
   NOS     1     5     6    12     2     0    28   311     2     0     0     0     0     0     0     0   180  1651  NOS
   ATL    60     5   107    12     3     0   112   324     3     1     0     0     0     0     0     0  1179  2943  ATL
   MED    10    29   137     1    13    77    48    10    65    39     0     0     0     0     0     0   564  1881  MED
   BLS     0    52     0     1     0   110   347     1     6    19     0     0     0     0     0     0   136   741  BLS
   SUM   462  2223  1914   444   443  1411 14803  2337  1286   547     0     0     0     0     0     0  6941 60099  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
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Deposition budget matrix for Reduced Nitrogen in 1986. Unit: 100 tonnes(N

Transboundary Import-Export Budgets for 1986

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	316	*88*	391	*90*	13	47	69	*95*	117	*97*	7	37	142	*56*	83	*42*	7	71
AT	751	*85*	1714	*93*	8	57	612	*94*	636	*94*	6	47	389	*53*	505	*59*	4	76
BE	1676	*89*	594	*74*	25	79	936	*97*	236	*89*	22	74	463	*61*	156	*35*	17	93
BG	10155	*86*	1203	*42*	14	47	1160	*92*	321	*75*	7	39	648	*55*	349	*39*	4	69
CS	11749	*84*	3362	*61*	10	69	2895	*93*	807	*79*	9	63	783	*57*	536	*48*	5	81
DK	1301	*92*	594	*84*	35	77	951	*98*	238	*91*	23	69	611	*61*	124	*24*	24	92
FI	1262	*76*	1968	*83*	20	73	740	*88*	762	*88*	14	62	139	*48*	422	*74*	11	87
FR	4979	*74*	3952	*70*	25	74	4059	*82*	1838	*68*	19	67	2401	*42*	921	*21*	16	91
DD	22982	*85*	2328	*36*	15	72	2104	*93*	856	*85*	14	68	1244	*57*	441	*32*	12	88
DE	8791	*79*	4306	*65*	18	75	6911	*89*	1537	*65*	16	67	2366	*50*	1089	*31*	11	89
GR	2290	*91*	1200	*85*	23	40	926	*94*	266	*82*	12	32	381	*59*	205	*44*	9	62
HU	5729	*84*	1354	*56*	10	70	743	*93*	395	*87*	8	64	840	*60*	244	*30*	4	82
IS	79	*88*	101	*90*	42	51	49	*94*	72	*96*	25	39	13	*51*	31	*72*	20	73
IE	709	*88*	335	*77*	49	73	290	*95*	156	*92*	34	63	554	*53*	77	*14*	28	90
IT	6992	*80*	2636	*61*	24	57	4402	*86*	832	*54*	15	48	1723	*47*	548	*22*	11	77
LU	76	*95*	54	*93*	14	79	66	*99*	23	*96*	15	73	37	*64*	16	*43*	10	94
NL	1175	*89*	870	*86*	34	80	1789	*97*	262	*85*	25	71	1345	*61*	142	*14*	18	92
NO	370	*81*	1980	*96*	33	69	627	*90*	967	*94*	21	55	84	*49*	495	*85*	20	86
PL	16038	*76*	6876	*58*	12	70	4273	*88*	1575	*74*	10	63	2415	*53*	856	*29*	8	84
PT	959	*89*	233	*67*	13	33	340	*92*	128	*82*	9	33	472	*62*	60	*17*	9	60
RO	4827	*75*	3225	*66*	8	61	1425	*84*	781	*74*	6	53	1394	*48*	782	*34*	3	77
ES	7756	*79*	973	*32*	23	51	2184	*84*	597	*59*	12	40	1462	*50*	326	*18*	9	66
SE	1052	*77*	2998	*91*	28	74	1152	*88*	1324	*89*	18	64	250	*50*	666	*73*	17	88
CH	281	*81*	597	*90*	9	62	499	*93*	278	*88*	7	48	258	*49*	245	*48*	4	84
TR	1458	*82*	1825	*85*	15	36	1071	*89*	620	*82*	7	25	2337	*68*	428	*28*	5	41
SU	30150	*56*	20746	*47*	8	58	6913	*63*	7229	*64*	5	51	7284	*36*	4418	*26*	4	74
GB	16230	*83*	1202	*26*	42	75	7025	92	580	*50*	31	67	1389	*53*	380	*23*	26	89
YU	5518	*75*	3389	*65*	11	57	828	*86*	1071	*88*	8	47	780	*46*	827	*47*	5	76
REM	12658	*86*	3130	*59*	18	40	1016	*92*	1270	*93*	4	23	1026	*73*	734	*66*	4	39
BAS	260	*72*	5761	*98*	35	76	218	*90*	1755	*99*	18	66	0	*0*	1096	*100*	0	100
NOS	1516	*69*	9257	*93*	45	79	1712	*88*	2657	*92*	29	70	0	*0*	1651	*100*	0	100
ATL	3445	*74*	14334	*92*	29	37	3317	*84*	5516	*90*	19	31	0	*0*	2943	*100*	0	100
MED	58	*97*	12056	*100*	3	10	39	*97*	3071	*100*	3	13	0	*0*	1881	*100*	0	100
BLS	0	*0*	3771	*100*	0	100	0	*0*	656	*100*	0	100	0	*0*	741	*100*	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1987 1 1 12 - 1988 1 1 6
unit = 100. tonnes

Emitters

Receivers

	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
AL	3	1	0	2	3	0	0	3	1	3	9	1	0	0	26	0	1	0	3	AL
AT	0	41	16	2	64	2	0	67	35	194	0	12	0	1	93	2	20	0	34	AT
BE	0	0	45	0	4	2	0	60	6	67	0	0	0	1	1	1	34	0	3	BE
BG	2	4	1	94	14	1	0	4	5	14	19	10	0	0	22	0	2	0	13	BG
CS	0	33	24	2	258	7	1	69	111	269	1	40	0	1	48	3	34	1	126	CS
DK	0	1	6	0	9	34	1	14	16	52	0	1	0	1	2	0	18	3	10	DK
FI	0	1	4	1	14	15	120	7	14	36	0	3	0	1	3	0	10	15	50	FI
FR	0	8	86	0	44	7	1	937	40	309	0	6	0	13	91	7	79	1	38	FR
DD	0	5	41	0	105	15	1	73	189	382	0	3	0	2	10	3	78	1	55	DD
DE	0	16	135	0	93	19	1	328	117	1007	0	4	0	6	60	12	214	2	49	DE
GR	3	2	1	30	7	0	0	9	3	10	52	4	0	0	32	0	2	0	5	GR
HU	0	22	5	7	73	2	0	23	20	66	2	69	0	0	61	1	7	0	47	HU
IS	0	0	2	0	0	2	0	5	2	11	0	0	4	3	0	0	5	1	1	IS
IE	0	0	3	0	1	1	0	16	1	11	0	0	0	20	1	0	6	0	1	IE
IT	0	18	12	2	36	3	0	163	18	99	5	12	0	1	584	1	17	0	38	IT
LU	0	0	2	0	1	0	0	8	1	6	0	0	0	0	0	1	1	0	0	LU
NL	0	0	28	0	4	3	0	34	6	85	0	0	0	2	1	1	73	0	4	NL
NO	0	2	8	0	14	36	14	19	21	67	0	2	1	5	5	0	24	77	29	NO
PL	0	26	44	5	308	53	6	97	285	433	2	46	0	2	44	3	81	7	685	PL
PT	0	0	0	0	0	0	0	3	0	2	0	0	0	0	1	0	1	0	1	PT
RO	1	13	5	64	83	4	1	19	28	72	12	57	0	0	55	1	9	1	87	RO
ES	0	1	4	0	5	1	0	63	4	21	0	2	0	2	12	0	7	0	6	ES
SE	0	5	12	0	40	78	56	27	53	121	0	7	0	3	10	1	32	62	102	SE
CH	0	2	6	0	4	0	0	74	3	40	0	1	0	0	39	1	6	0	2	CH
TR	1	3	1	35	12	2	0	12	5	15	38	8	0	0	25	0	2	0	17	TR
SU	1	35	39	79	371	126	234	73	259	447	19	122	0	3	73	2	94	51	1099	SU
GB	0	1	21	0	8	9	2	69	14	74	0	0	0	27	3	1	38	3	8	GB
YU	5	30	8	22	75	3	1	61	27	99	20	49	0	0	275	1	13	0	67	YU
REM	1	2	4	7	11	2	4	57	6	28	11	4	0	1	43	0	6	1	26	REM
BAS	0	7	26	1	73	107	73	46	112	245	0	11	0	3	13	1	65	31	214	BAS
NOS	0	4	86	0	58	80	12	197	97	447	0	3	1	26	15	3	233	32	77	NOS
ATL	0	5	71	0	42	57	39	331	57	312	0	2	11	86	17	3	128	72	61	ATL
MED	6	35	32	76	109	7	2	470	52	225	140	50	0	3	848	3	48	1	121	MED
BLS	1	5	2	69	36	4	2	14	16	46	20	17	0	0	20	0	5	1	57	BLS
SUM	25	330	780	498	1977	684	571	3449	1624	5314	352	546	17	211	2531	53	1394	366	3136	SUM
	AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

Receivers

	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	2	1	0	0	1	2	1	5	0	0	0	0	0	0	0	22	92	AL
AT	0	5	2	1	20	0	5	30	15	0	0	12	3	0	0	0	70	747	AT
BE	0	0	2	1	1	0	1	77	0	0	0	29	6	0	0	0	21	363	BE
BG	0	56	1	1	1	7	26	2	16	0	0	1	0	0	0	0	57	370	BG
CS	0	15	2	3	8	0	16	44	16	0	1	19	3	0	0	0	94	1253	CS
DK	0	1	1	8	0	0	4	61	1	0	2	21	4	0	0	0	21	291	DK
FI	0	3	0	53	0	0	134	22	1	0	10	11	2	0	0	0	105	637	FI
FR	12	2	138	3	25	0	7	297	5	2	1	119	126	0	0	0	344	2751	FR
DD	1	2	2	5	4	0	12	105	2	0	3	45	7	0	0	0	68	1221	DD
DE	1	2	12	6	39	0	11	310	3	0	3	119	23	0	0	0	166	2760	DE
GR	0	15	2	0	1	9	14	3	8	1	0	1	0	0	0	0	74	288	GR
HU	0	32	2	1	5	0	13	8	30	0	0	4	1	0	0	0	56	557	HU
IS	0	0	0	1	0	0	1	32	0	0	0	5	6	0	0	0	55	136	IS
IE	0	0	1	1	1	0	1	73	0	0	0	9	21	0	0	0	46	214	IE
IT	2	7	28	2	33	1	8	35	24	6	0	13	7	0	0	0	202	1375	IT
LU	0	0	0	0	0	0	0	3	0	0	0	1	1	0	0	0	2	29	LU
NL	0	0	1	1	0	0	1	115	0	0	0	37	6	0	0	0	19	423	NL
NO	0	2	1	57	2	0	24	139	1	0	5	39	12	0	0	0	151	756	NO
PL	1	27	4	28	6	1	96	116	17	0	10	58	8	0	0	0	182	2680	PL
PT	37	0	31	0	0	0	0	5	0	0	0	1	40	0	0	0	68	192	PT
RO	0	249	1	2	3	7	87	9	35	1	1	5	1	0	0	0	126	1038	RO
ES	51	1	427	1	1	0	1	47	2	2	0	10	92	2	0	0	221	986	ES
SE	0	6	1	189	3	0	95	99	2	0	18	43	8	0	0	0	165	1240	SE
CH	0	0	4	0	32	0	1	15	1	0	0	5	3	0	0	0	32	273	CH
TR	0	30	2	1	2	199	99	2	6	14	0	1	1	0	0	0	396	928	TR
SU	0	237	4	207	7	55	5229	160	41	94	52	84	10	0	0	0	2001	11308	SU
GB	1	0	5	7	1	0	6	863	0	0	1	83	53	0	0	0	117	1415	GB
YU	0	38	9	2	13	3	16	18	118	2	1	8	2	0	0	0	169	1154	YU
REM	3	10	49	3	3	20	381	27	4	138	1	7	9	0	0	0	963	1833	REM
BAS	0	11	2	161	3	0	237	153	4	0	34	69	9	0	0	0	178	1890	BAS
NOS	2	3	14	52	6	0	41	1226	1	0	10	279	84	0	0	0	298	3389	NOS
ATL	44	2	157	68	6	0	117	1016	1	1	9	191	559	0	0	0	1779	5246	ATL
MED	10	59	216	5	38	89	97	119	86	41	2	41	35	1	0	0	979	4049	MED
BLS	0	69	1	3	1	71	325	4	11	11	1	3	0	0	0	0	252	1068	BLS
SUM	168	885	1124	873	264	463	7108	5237	457	314	169	1377	1143	5	0	0	9498	52947	SUM
	PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1987. Unit: 100 tonnes(N)

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********* receiver-emitter matrix *********

oxidized sulphur,  tot dep.
averaging period: 1987  1  1 12 -  1988  1  1  6
unit =  100. tonnes

                                              Emitters

            AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
      AL    36     1     0    18     9     0     0     3    12     3    27     9     0     0    40     0     0     0     7  AL
      AT     0   123    18     8   308     2     0    64   347   195     1   101     0     1   139     2     9     0   149  AT
      BE     0     0   223     0    22     2     0   129    72   169     0     1     0     2     2     3    41     0    13  BE
      BG     8     4     1  1579    45     1     0     3    43    11    34    68     0     0    29     0     0     0    45  BG
      CS     1    48    26    14  2300     6     1    60  1662   276     1   385     0     1    62     2    14     0   780  CS
      DK     0     1     9     0    38   117     1    14   154    69     0     7     0     1     3     0     9     2    47  DK
      FI     0     1     5     4    45    12   398     6   110    33     0    17     0     1     3     0     4     6   139  FI
      FR     0    11   187     2   176     7     0  1694   422   463     0    36     0    21   146    12    62     0   119  FR
      DD     0     7    56     2   789    27     1    80  4633   612     0    22     0     2    12     3    38     1   312  DD
      DE     0    27   247     1   480    33     2   420  1605  2234     0    26     0     8    76    17   151     1   231  DE
      GR    15     2     1   388    20     0     0     7    26     6   194    21     0     0    43     0     1     0    18  GR
      HU     1    30     5    42   338     2     0    20   189    53     3  1107     0     0    79     0     3     0   190  HU
      IS     0     0     1     0     1     1     0     2     8     6     0     0    10     3     0     0     1     0     1  IS
R     IE     0     0     5     0     3     1     0    14     8    11     0     0     0   115     1     0     3     0     2  IE
e     IT     2    24    14    14   128     2     0   158   175    89     9    82     0     1  1573     1     7     0   125  IT
c     LU     0     0     4     0     2     0     0    16     7    13     0     0     0     0     0     4     1     0     1  LU
e     NL     0     0    92     0    22     4     0    65    95   260     0     1     0     3     1     1   164     0    20  NL
i     NO     0     1     9     0    48    39    19    16   159    58     0    10     0     6     6     0     9    72    82  NO
v     PL     1    28    46    26  1430    64     7    81  3480   443     3   348     0     2    56     3    32     2  5614  PL
e     PT     0     0     0     0     1     0     0     2     2     1     0     0     0     1     1     0     0     0     1  PT
r     RO     5    14     5   506   288     3     2    16   234    57    20   433     0     0    73     0     3     0   308  RO
s     ES     0     1     5     1    12     1     0    70    22    18     0     9     0     3    19     0     3     0    15  ES
      SE     0     4    15     2   138   114    92    26   413   121     0    39     0     3    10     1    13    36   341  SE
      CH     0     4     8     0    17     0     0    77    33    48     0     5     0     1   103     1     3     0     8  CH
      TR     4     3     0   340    33     1     0     8    34     9    72    40     0     0    30     0     0     0    46  TR
      SU     6    32    38   544  1219    95   371    62  1973   366    28   769     0     4    94     2    31    16  3872  SU
      GB     0     1    45     0    37     7     1    99   141   100     0     1     0    55     4     1    33     1    27  GB
      YU    25    42     8   153   271     2     1    53   239    83    40   410     0     1   406     1     5     0   242  YU
     REM     2     2     3    43    29     1     5    41    41    18    22    17     0     1    53     0     2     0    61  REM
     BAS     0     9    36     6   326   232   243    49  1183   315     0    82     0     4    14     1    31    16  1047  BAS
     NOS     0     6   225     1   293   167    20   386  1145   727     0    20     0    51    22     4   294    39   321  NOS
     ATL     0     4   103     1   158    46    57   441   462   308     0    14    26   323    20     3    64    51   183  ATL
     MED    39    48    43   923   468     7     2   626   596   224   503   398     0     5  2026     2    24     0   482  MED
     BLS     6     7     2  1045   126     3     3     9   142    38    41   129     0     0    35     0     2     0   224  BLS
     SUM   152   483  1489  5662  9620   998  1227  4816 19867  7435  1000  4606    38   620  5181    66  1059   245 15076  SUM
            AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                              Emitters

             PT     RO     ES     SE     CH     TR     SU     GB     YU    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
      AL      0      6      2      0      0      1      5      2     43     35      0      0      0      0      0      1     67    328  AL
      AT      0     14      7      1     12      0     12     44    107      8      0      8      2      0      0      1    175   1858  AT
      BE      0      0      6      0      0      0      1    133      0      0      0     37      4      0      0      3     47    912  BE
      BG      0    211      1      0      1      8    115      3    149     17      0      1      0      0      0      1    177   2554  BG
      CS      0     51      8      1      4      0     52     58     84     10      1     12      2      0      0      2    250   6176  CS
      DK      0      2      3      9      0      0     12    105      3      0      6     25      2      0      0      6     48    696  DK
      FI      0     12      0     41      0      0    745     28      6      1     14      7      2      0      0      7    290   1934  FI
      FR     17      5    427      2     20      0     11    489     26     24      1    133     98      0      0     45    797   5453  FR
      DD      0      6      7      3      2      0     30    162      9      1      5     39      4      0      0      5    193   7065  DD
      DE      2      6     43      4     24      0     24    500     15      2      5    120     15      0      0     13    406   6738  DE
      GR      0     43      3      0      0     12     45      5     66     68      0      1      0      0      0      3    216   1202  GR
      HU      0    119      4      0      2      0     41     11    181     17      0      3      1      0      0      1    154   2599  HU
      IS      0      0      1      0      0      0      1     32      0      0      0      2      3      0      0     21     71    166  IS
R     IE      0      0      3      0      0      0      1    185      0      0      0      7     21      0      0     18     72    470  IE
e     IT      2     18     55      1     23      1     17     50    156    603      0      9      5      0      0      9    557   3910  IT
c     LU      0      0      1      0      0      0      0      5      0      0      0      1      0      0      0      0      5     62  LU
e     NL      0      0      7      1      0      0      2    234      0      0      0     57      4      0      0      4     48   1087  NL
i     NO      0      5      3     51      1      0    188    224      3      0      6     33     11      0      0     28    331   1419  NO
v     PL      1     91     17     18      3      1    361    171     99     14     15     42      5      0      0      8    479  12990  PL
e     PT    140      0    102      0      0      0      0      5      1      3      0      0     40      0      0      6     76    382  PT
r     RO      0   1460      4      1      1      8    409     12    308     28      1      3      1      0      0      2    368   4573  RO
s     ES     93      1   1787      0      0      0      1     71      5     32      0      7     79      3      0     19    385   2662  ES
      SE      0     16      3    273      1      0    335    155     11      2     28     34      6      0      0     18    421   2673  SE
      CH      1      1     12      0     52      0      1     26      4      1      0      4      2      0      0      1     87    500  CH
      TR      0     77      4      0      1    370    222      3     43     90      0      1      0      0      0      6    886   2323  TR
      SU      1    829     12    109      3     55  23788    209    274    368     55     48      6      0      0     33   6220  41530  SU
      GB      2      0     19      3      1      0      9   3922      1      0      1    110     49      0      0     40    229   4940  GB
      YU      0    118     16      1      6      3     47     27   1476    129      1      5      2      0      0      5    481   4297  YU
     REM      5     19     94      1      1     20    966     35     19   2416      0      4      6      1      0     10   2297   6235  REM
     BAS      0     35      5    227      1      0    866    257     23      4    115     64      6      0      0     26    532   5754  BAS
     NOS      3      8     67     52      3      0    108   4289      5      1     17    719     79      0      0    142    746   9960  NOS
     ATL    153      6   1283     51      3      0   1137   2575      5      6      8    172   1204      1      0   1192   3410  13472  ATL
     MED     22    211    683      3     24    167    324    228    754   2470      1     34     32      2      0    121   2909  14401  MED
     BLS      0    300      2      2      1    135   1451      5    104     69      1      2      0      0      0     17    850   4752  BLS
     SUM    446   3667   4694    855    191    780  31330  14259   3978   6420    282   1745   1691      7      0   1811  24281 176077  SUM
             PT     RO     ES     SE     CH     TR     SU     GB     YU    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
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Deposition budget matrix for Oxidised Sulphur in 1987. Unit: 100 tonnes(S)

********* receiver-emitter matrix *********

reduced nitrogen, tot dep.
averaging period: 1987 1 1 12 - 1988 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
	AL	102	0	0	2	1	0	0	1	0	1	4	1	0	0	8	0	0	0	1	AL
	AT	0	349	6	1	34	1	0	38	19	141	0	17	0	1	62	1	14	0	17	AT
	BE	0	0	333	0	0	1	0	70	3	23	0	0	0	3	0	2	63	0	1	BE
	BG	4	2	0	512	3	0	0	1	1	3	15	9	0	0	6	0	0	0	5	BG
	CS	0	42	8	1	625	3	0	31	80	124	0	49	0	1	22	1	23	0	95	CS
	DK	0	1	3	0	2	424	0	9	15	38	0	1	0	1	1	0	15	1	11	DK
	FI	0	1	1	0	4	7	156	3	9	13	0	3	0	1	1	0	6	2	33	FI
	FR	0	5	69	0	8	3	0	3460	18	88	0	3	0	19	50	7	51	0	14	FR
	DD	0	4	17	0	21	13	0	37	1007	201	0	2	0	3	3	2	68	0	47	DD
	DE	0	23	88	0	23	19	0	232	104	2529	0	3	0	9	24	11	337	0	27	DE
	GR	9	1	0	20	1	0	0	3	1	2	252	3	0	0	9	0	0	0	2	GR
	HU	0	18	1	4	34	1	0	10	7	19	1	540	0	0	26	0	3	0	20	HU
	IS	0	0	1	0	0	1	0	3	3	5	0	0	11	3	0	0	3	0	0	IS
R	IE	0	0	2	0	0	0	0	12	1	3	0	0	0	495	0	0	3	0	0	IE
e	IT	1	12	4	1	9	1	0	79	7	38	2	10	0	1	1748	0	7	0	13	IT
c	LU	0	0	2	0	0	0	0	8	0	3	0	0	0	0	0	21	1	0	0	LU
e	NL	0	0	34	0	0	2	0	30	4	58	0	0	0	3	0	0	923	0	2	NL
i	NO	0	1	3	0	4	25	3	8	14	23	0	2	0	6	3	0	12	90	17	NO
v	PL	0	19	14	3	103	31	1	44	207	150	1	40	0	2	18	1	49	1	2355	PL
e	PT	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	PT
r	RO	2	7	1	60	23	1	0	6	9	17	6	74	0	0	21	0	3	0	38	RO
s	ES	0	0	1	0	1	0	0	59	2	5	0	1	0	2	5	0	3	0	2	ES
	SE	0	3	4	0	12	61	15	11	37	46	0	7	0	3	4	0	18	12	75	SE
	CH	0	2	3	0	1	0	0	69	2	33	0	0	0	1	33	1	3	0	1	CH
	TR	2	1	0	19	3	0	0	4	2	4	12	5	0	0	7	0	1	0	6	TR
	SU	3	23	12	49	115	53	44	32	138	148	9	117	0	3	30	1	51	5	775	SU
	GB	0	0	13	0	1	5	0	61	8	22	0	0	0	78	1	0	23	0	4	GB
	YU	15	23	2	21	25	1	0	24	9	26	13	68	0	0	129	0	6	0	30	YU
	REM	1	1	1	3	2	0	0	31	2	6	3	3	0	0	12	0	3	0	9	REM
	BAS	0	6	11	1	21	126	28	25	121	141	0	11	0	3	4	1	51	4	212	BAS
	NOS	0	4	70	0	12	126	3	273	76	240	0	3	0	42	8	2	256	11	52	NOS
	ATL	0	3	31	0	8	21	6	381	30	80	0	2	4	256	6	2	61	18	30	ATL
	MED	20	20	9	45	30	2	0	294	20	51	73	48	0	3	450	1	20	0	50	MED
	BLS	2	3	0	42	9	1	0	4	6	12	10	15	0	0	8	0	2	0	26	BLS
	SUM	163	576	748	783	1135	931	259	5355	1962	4294	402	1037	16	940	2699	56	2081	145	3970	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	1	0	0	0	0	2	0	8	0	0	0	0	0	0	0	20	155	AL
	AT	0	4	1	0	19	0	3	5	21	0	0	0	0	0	0	0	54	808	AT
	BE	0	0	1	0	0	0	0	16	0	0	0	0	0	0	0	0	16	533	BE
	BG	0	66	0	0	0	7	36	0	27	0	0	0	0	0	0	0	41	741	BG
	CS	0	14	1	1	4	0	22	6	16	0	0	0	0	0	0	0	70	1241	CS
	DK	0	1	0	5	0	0	5	11	1	0	0	0	0	0	0	0	13	559	DK
	FI	0	4	0	10	0	0	117	3	1	0	0	0	0	0	0	0	77	451	FI
	FR	10	1	99	1	21	0	3	64	4	2	0	0	0	0	0	0	248	4248	FR
	DD	0	1	1	2	2	0	8	16	1	0	0	0	0	0	0	0	51	1508	DD
	DE	1	2	8	2	37	0	6	55	2	0	0	0	0	0	0	0	127	3669	DE
	GR	0	12	1	0	0	9	12	0	12	1	0	0	0	0	0	0	61	412	GR
	HU	0	39	1	0	2	0	13	1	41	0	0	0	0	0	0	0	46	829	HU
	IS	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	30	66	IS
R	IE	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	24	568	IE
e	IT	1	4	15	0	35	1	5	4	21	5	0	0	0	0	0	0	151	2174	IT
c	LU	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	39	LU
e	NL	0	0	1	0	0	0	0	22	0	0	0	0	0	0	0	0	14	1095	NL
i	NO	0	1	0	16	1	0	19	26	1	0	0	0	0	0	0	0	93	369	NO
v	PL	1	25	2	8	3	1	143	16	16	0	0	0	0	0	0	0	142	3395	PL
e	PT	305	0	40	0	0	0	0	1	0	0	0	0	0	0	0	0	23	373	PT
r	RO	0	1309	1	0	1	6	149	1	45	0	0	0	0	0	0	0	107	1891	RO
s	ES	79	0	1418	0	0	0	0	7	1	3	0	0	0	0	0	0	94	1686	ES
	SE	0	5	0	268	1	0	83	15	2	0	0	0	0	0	0	0	119	803	SE
	CH	0	0	2	0	247	0	0	3	0	0	0	0	0	0	0	0	29	431	CH
	TR	0	22	1	0	1	1357	77	0	7	15	0	0	0	0	0	0	279	1824	TR
	SU	0	308	2	40	3	88	13249	21	51	80	0	0	0	0	0	0	1923	17374	SU
	GB	1	0	3	1	0	0	2	1319	0	0	0	0	0	0	0	0	62	1606	GB
	YU	0	33	4	0	6	2	18	2	818	2	0	0	0	0	0	0	141	1420	YU
	REM	3	6	25	0	1	67	381	3	4	473	0	0	0	0	0	0	598	1639	REM
	BAS	0	11	1	75	1	0	289	24	4	0	0	0	0	0	0	0	153	1324	BAS
	NOS	1	3	9	19	3	0	31	325	1	0	0	0	0	0	0	0	181	1749	NOS
	ATL	76	2	134	12	3	0	75	292	1	0	0	0	0	0	0	0	825	2359	ATL
	MED	11	48	149	1	20	118	85	15	101	50	0	0	0	0	0	0	725	2460	MED
	BLS	0	82	0	1	1	179	449	0	14	16	0	0	0	0	0	0	237	1121	BLS
	SUM	492	2005	1922	462	415	1835	15283	2308	1220	649	0	0	0	0	0	0	6777	60919	SUM
		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Reduced Nitrogen in 1987. Unit: 100 tonnes(N)

Transboundary Import-Export Budgets for 1987

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	to area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	324	90	292	89	14	42	70	96	89	97	10	34	153	60	53	34	9	64
AT	682	85	1735	93	10	60	601	94	706	95	9	51	384	52	459	57	5	79
BE	1612	88	689	76	24	81	962	96	318	88	22	77	449	57	200	38	15	96
BG	10521	87	975	38	18	47	1172	93	276	75	12	39	674	57	229	31	7	66
CS	11590	83	3876	63	11	69	2825	92	995	79	10	64	750	55	616	50	6	83
DK	1133	91	579	83	39	80	916	96	257	88	27	72	540	56	135	24	29	97
FI	1242	76	1536	79	21	75	757	86	517	81	15	65	132	46	295	65	13	90
FR	4756	74	3759	69	26	75	4024	81	1814	66	21	70	2305	40	788	19	17	93
DD	22582	83	2432	34	14	73	2094	92	1032	85	15	71	1175	54	501	33	12	90
DE	7286	77	4504	67	18	78	6380	86	1753	64	17	72	2182	46	1140	31	11	91
GR	2326	92	1008	84	24	40	983	95	236	82	15	34	390	61	160	39	13	63
HU	5318	83	1492	57	11	72	738	91	488	88	10	68	695	56	289	35	6	84
IS	70	88	156	94	38	47	51	93	132	97	22	31	14	55	55	83	16	65
IE	755	87	355	76	50	71	330	94	194	91	34	60	543	52	73	13	29	91
IT	7877	83	2337	60	25	55	4839	89	791	58	17	47	1925	52	426	20	13	73
LU	76	95	58	94	13	82	66	99	28	97	15	79	37	64	18	46	10	97
NL	1151	88	923	85	34	81	1799	96	350	83	26	74	1259	58	172	16	18	95
NO	298	81	1347	95	31	66	638	89	679	90	19	51	83	48	279	76	19	84
PL	15386	73	7376	57	12	72	3972	85	1995	74	11	67	2174	48	1040	31	8	88
PT	1020	88	242	63	18	38	407	92	155	81	13	38	461	60	68	18	11	64
RO	5065	78	3113	68	10	56	1516	86	789	76	8	50	1400	52	582	31	5	74
ES	7728	81	875	33	25	49	2288	84	559	57	14	41	1489	51	268	16	10	66
SE	867	76	2400	90	31	75	1141	86	1051	85	22	66	234	47	535	67	21	92
CH	263	83	448	90	11	61	498	94	241	88	10	50	272	52	184	43	5	80
TR	1400	79	1953	84	19	44	1098	85	729	79	12	36	2061	60	467	26	9	54
SU	29102	55	17742	43	8	59	8147	61	6079	54	6	53	6804	34	4125	24	5	76
GB	15688	80	1018	21	41	73	7126	89	552	39	32	66	1316	50	287	18	25	88
YU	5838	80	2821	66	14	54	853	88	1036	90	11	47	878	52	602	42	7	72
REM	12559	84	3819	61	19	43	970	88	1695	92	5	28	935	66	1166	71	5	46
BAS	245	68	5639	98	39	78	209	86	1856	98	23	69	0	0	1324	100	0	100
NOS	1478	67	9241	93	45	79	1665	86	3110	92	30	71	0	0	1749	100	0	100
ATL	3453	74	12268	91	28	36	3385	86	4687	89	17	29	0	0	2359	100	0	100
MED	58	97	14399	100	5	12	39	97	4048	100	3	13	0	0	2460	100	0	100
BLS	0	0	4752	100	0	100	0	0	1068	100	0	100	0	0	1121	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

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              ********* receiver-emitter matrix *********

              oxidized nitrogen, tot dep.
              averaging period: 1988  1  1 12 -  1989  1  1  6
              unit =  100. tonnes

                                                   Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL     3     1     1     2     5     0     0     5     2     5     8     2     0     0    30     0     1     0     3  AL
    AT     0    38    13     2    68     3     1    59    34   174     0     8     0     1    78     1    17     1    24  AT
    BE     0     0    41     0     2     1     0    57     3    49     0     0     0     1     1     1    33     0     2  BE
    BG     2     3     1    92    18     1     0     4     6    13    20    12     0     0    24     0     2     0    15  BG
    CS     0    27    21     2   255     7     1    55   113   231     1    34     0     1    41     2    31     2   108  CS
    DK     0     1    10     0     8    25     0    17    13    58     0     1     0     2     2     0    25     2    14  DK
    FI     0     2     8     0    18    23   132    15    22    69     0     2     0     1     2     0    21    17    53  FI
    FR     0     5    90     0    21     5     1   840    23   243     0     2     0    10    89     7    87     1     9  FR
    DD     0     5    34     0    87    16     1    64   152   311     0     2     0     2    12     3    62     3    44  DD
    DE     0    14   125     1    70    20     1   293    89   890     0     4     0     6    44    11   194     5    37  DE
    GR     4     2     1    27     9     0     0     7     4     9    51     5     0     0    34     0     2     0     7  GR
    HU     0    19     5     5    78     2     1    21    21    54     2    62     0     0    65     0     7     0    47  HU
    IS     0     0     0     0     0     1     0     1     0     2     0     0     4     1     0     0     1     1     1  IS
R   IE     0     0     1     0     0     0     0     8     0     5     0     0     0    21     0     0     2     0     0  IE
e   IT     0    17    11     3    35     3     0   153    17    99     4    11     0     1   582     1    13     1    22  IT
c   LU     0     0     2     0     0     0     0     7     0     6     0     0     0     0     0     1     2     0     0  LU
e   NL     0     0    25     0     4     1     0    34     4    62     0     0     0     2     1     0    61     1     4  NL
i   NO     0     1    18     0    17    33    10    30    27   106     0     1     1     5     1     1    45    73    37  NO
v   PL     0    22    42     5   302    48     9    92   269   411     1    32     0     3    42     3    84     7   630  PL
e   PT     0     0     0     0     0     0     0     4     0     2     0     0     0     0     0     0     1     0     0  PT
r   RO     1    13     5    60    90     3     2    21    31    61    11    55     0     0    64     0    10     1    86  RO
s   ES     0     0     8     0     1     1     0    79     2    18     0     1     0     2     8     0    12     0     1  ES
    SE     0     4    24     0    53    82    49    41    70   179     0     5     0     4     4     1    56    58   112  SE
    CH     0     2     7     0     4     1     0    70     5    48     0     0     0     1    44     1     7     0     2  CH
    TR     1     3     2    44    17     1     1     9     7    17    43     9     0     0    26     0     3     0    23  TR
    SU     1    41    53    78   425   120   239   140   273   533    17   120     0     4    98     4   107    48  1129  SU
    GB     0     0    17     0     4     5     1    55     9    47     0     0     0    30     1     1    28     2     7  GB
    YU     5    28     9    22    93     2     1    61    32    88    20    50     0     1   263     1    13     1    60  YU
   REM     0     3     7     4    11     2     1    60     6    31     4     3     0     1    54     0     8     1    11  REM
   BAS     0     7    36     1    87    94    64    71   111   286     0    10     0     4    10     2    79    24   204  BAS
   NOS     0     2    92     0    35    59     3   228    60   309     0     1     1    32     6     4   211    25    56  NOS
   ATL     0     1    49     0    18    54    48   241    34   175     0     1    14    91     4     2    93    76    51  ATL
   MED     5    27    28    54    82     9     1   347    39   183   105    31     0     3   693     2    38     2    63  MED
   BLS     1     3     2    50    28     3     2     5    12    22    12    12     0     0    15     0     3     0    51  BLS
   SUM    24   292   786   453  1947   623   570  3194  1490  4796   300   477    21   229  2338    51  1358   354  2913  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL


                                                   Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     2     1     0     0     0     1     2     6     1     0     1     0     0     0     0    21   103  AL
    AT     0     5     3     2    18     0     3    31    14     0     1    12     4     0     0     0    69   683  AT
    BE     0     0     3     1     0     0     1    67     0     0     0    23     7     0     0     0    22   318  BE
    BG     0    63     1     1     1     4    37     3    16     1     0     1     0     0     0     0    65   408  BG
    CS     0    12     3     5     8     0    10    48    12     0     1    19     4     0     0     0    87  1141  CS
    DK     0     0     1     6     0     0     3    78     0     0     2    25     4     0     0     0    27   326  DK
    FI     0     2     0    71     1     0   166    41     1     0    13    18     3     0     0     0   127   829  FI
    FR    16     1   145     4    25     0     3   309     4     2     1   104   128     0     0     0   334  2508  FR
    DD     0     2     3     7     5     0     7    90     1     0     3    36     7     0     0     0    70  1028  DD
    DE     2     3    15     9    37     0    11   280     3     0     3   107    27     0     0     0   176  2477  DE
    GR     0    14     2     1     1     6    12     3     9     1     0     1     0     0     0     0    72   283  GR
    HU     0    26     1     2     4     0     8    12    28     0     0     5     1     0     0     0    52   528  HU
    IS     0     0     0     1     0     0     3    12     0     0     0     2     2     0     0     0    34    67  IS
R   IE     1     0     1     0     0     0     0    59     0     0     0     7    19     0     0     0    33   159  IE
e   IT     2     5    30     2    32     0     3    43    27     4     1    11     8     0     0     0   191  1330  IT
c   LU     0     0     0     0     0     0     0     3     0     0     0     1     1     0     0     0     2    28  LU
e   NL     0     0     1     1     0     0     1    90     0     0     0    31     6     0     0     0    22   353  NL
i   NO     0     0     1    50     1     0    24   182     0     0     5    55    13     0     0     0   145   882  NO
v   PL     1    25     5    31     9     1    68   148    13     0    11    56     9     0     0     0   197  2576  PL
e   PT    39     0    28     0     0     0     0     3     0     0     0     1    39     0     0     0    54   174  PT
r   RO     0   243     2     3     4     6   111    13    34     1     1     6     1     0     0     0   143  1086  RO
s   ES    57     0   393     0     1     0     0    48     1     3     0    13    87     2     0     0   200   940  ES
    SE     1     5     2   177     3     0   110   165     1     0    18    60    10     0     0     0   173  1469  SE
    CH     1     0     7     1    33     0     0    20     1     0     0     6     4     0     0     0    35   299  CH
    TR     0    35     2     1     1   176    82     4     7     7     0     2     1     0     0     0   309   833  TR
    SU     1   225     9   201    15    59  4820   210    47    76    51    89    17     0     0     0  2111 11359  SU
    GB     2     0     7     3     0     0     1   778     0     0     1    71    60     0     0     0   105  1233  GB
    YU     1    42     9     3     8     1    17    25   116     1     1     9     3     0     0     0   162  1146  YU
   REM     4     4    44     2     6     4   172    31     5    88     0     8     8     1     0     0   653  1235  REM
   BAS     0     8     3   129     4     0   174   193     4     0    28    71    12     0     0     0   183  1903  BAS
   NOS     5     0    16    28     3     0    14  1257     0     0     7   269    98     0     0     0   307  3128  NOS
   ATL    51     1   162    64     3     0   165  1051     0     1     9   186   703     0     0     0  2378  5728  ATL
   MED    12    46   189     7    28    34    42   113    64    27     2    32    30     1     0     0   700  3041  MED
   BLS     0    59     0     3     1    49   262     6     7     8     1     2     0     0     0     0   175   795  BLS
   SUM   198   830  1089   815   254   343  6332  5418   422   221   160  1340  1317     5     0     0  9436 50396  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Oxidised Nitrogen in 1988. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1988 1 1 12 - 1989 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
	AL	35	1	1	19	14	0	0	4	17	3	22	11	0	0	45	0	0	0	9	AL
	AT	0	86	15	9	275	3	1	55	376	125	1	59	0	1	128	1	7	0	100	AT
	BE	0	0	229	0	9	1	0	120	31	82	0	0	0	2	2	2	38	0	8	BE
	BG	9	3	1	1419	61	1	0	4	63	9	35	80	0	0	32	0	1	0	51	BG
	CS	1	29	22	12	2166	7	1	51	1698	172	1	312	0	1	51	2	12	0	600	CS
	DK	0	0	13	0	28	102	1	17	118	55	0	6	0	2	1	0	12	2	54	DK
	FI	0	1	7	3	52	16	384	11	148	36	0	13	0	1	2	0	6	6	158	FI
	FR	0	4	174	3	75	5	1	1567	236	232	1	14	0	13	136	10	65	0	35	FR
	DD	0	4	45	2	552	24	1	67	3782	342	0	12	0	2	12	2	31	1	191	DD
	DE	0	15	223	4	256	30	1	380	1037	1411	0	21	0	8	67	15	134	2	129	DE
	GR	17	1	1	334	29	0	0	5	32	5	184	28	0	0	46	0	1	0	24	GR
	HU	2	20	5	25	308	1	1	15	210	30	3	990	0	0	83	0	3	0	172	HU
	IS	0	0	0	0	0	0	0	1	1	1	0	0	12	1	0	0	0	0	2	IS
R	IE	0	0	1	0	0	0	0	6	2	2	0	0	0	108	0	0	1	0	1	IE
e	IT	2	16	12	22	119	2	0	148	166	60	7	68	0	1	1553	1	6	0	78	IT
c	LU	0	0	4	0	1	0	0	14	3	8	0	0	0	0	0	4	1	0	0	LU
e	NL	0	0	84	0	16	2	0	66	57	133	0	0	0	2	1	1	162	0	15	NL
i	NO	0	1	19	0	55	35	12	24	220	66	0	6	0	6	1	0	17	66	112	NO
v	PL	1	20	49	32	1311	59	9	83	3370	304	2	264	0	3	53	2	34	3	5133	PL
e	PT	0	0	1	0	0	0	0	4	1	1	0	0	0	0	0	0	0	0	0	PT
r	RO	5	11	6	423	297	3	2	18	298	36	18	411	0	0	83	0	4	0	309	RO
s	ES	0	0	9	0	4	1	0	85	16	13	0	4	0	3	15	0	5	0	3	ES
	SE	0	3	27	1	169	126	72	37	582	121	0	25	0	4	4	1	21	32	338	SE
	CH	0	2	9	2	17	1	0	75	55	40	0	3	0	1	109	1	3	0	6	CH
	TR	5	2	2	391	49	1	1	7	53	9	82	52	0	0	30	0	1	0	67	TR
	SU	5	30	51	490	1296	94	327	105	2150	297	26	821	0	4	118	2	36	14	3960	SU
	GB	0	0	28	0	15	4	0	66	71	37	0	0	0	55	2	1	18	1	20	GB
	YU	25	28	10	152	301	2	1	51	301	51	37	377	0	1	374	1	5	0	203	YU
	REM	1	2	5	23	26	1	1	42	36	13	8	14	0	1	65	0	2	0	34	REM
	BAS	0	7	46	7	346	214	203	69	1198	248	0	62	0	5	12	2	37	13	1038	BAS
	NOS	0	2	210	0	136	121	5	382	638	340	0	10	1	54	8	4	273	33	250	NOS
	ATL	0	1	63	0	54	37	61	321	227	106	0	7	31	260	5	2	40	45	126	ATL
	MED	40	33	40	714	385	11	2	501	503	137	402	306	0	5	1855	2	20	1	312	MED
	BLS	5	3	2	913	118	3	2	6	137	16	31	109	0	0	26	0	1	0	223	BLS
	SUM	151	324	1414	4999	8536	910	1091	4407	17834	4541	859	4087	45	544	4921	59	1000	220	13761	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	6	1	0	0	0	4	3	46	35	0	0	0	0	0	1	62	341	AL
	AT	0	15	8	1	11	0	9	47	87	6	1	8	2	0	0	1	173	1612	AT
	BE	0	0	6	0	0	0	2	132	0	1	0	32	5	0	0	2	50	757	BE
	BG	0	263	1	0	0	4	142	5	160	26	0	1	0	0	0	1	183	2555	BG
	CS	0	44	7	2	3	0	34	65	64	6	1	13	2	0	0	2	230	5616	CS
	DK	0	0	1	6	0	0	10	134	1	0	5	28	2	0	0	5	61	666	DK
	FI	0	8	1	49	0	0	757	47	6	1	15	10	2	0	0	7	341	2089	FI
	FR	18	4	381	2	15	0	8	569	15	37	1	124	97	0	0	39	811	4695	FR
	DD	1	6	8	4	2	0	18	152	5	2	5	33	4	0	0	3	176	5490	DD
	DE	2	9	40	5	22	0	24	499	16	4	5	112	17	0	0	12	414	4912	DE
	GR	0	47	2	0	0	8	41	5	74	74	0	1	0	0	0	3	204	1167	GR
	HU	0	100	3	1	2	0	29	18	159	10	0	3	1	0	0	1	131	2324	HU
	IS	0	0	0	0	0	0	3	12	0	0	0	1	1	0	0	16	47	99	IS
R	IE	1	0	3	0	0	0	0	125	0	0	0	5	18	0	0	15	58	348	IE
e	IT	2	16	51	1	21	0	8	69	154	522	1	8	5	0	0	10	563	3694	IT
c	LU	0	0	1	0	0	0	0	5	0	0	0	1	0	0	0	0	6	50	LU
e	NL	0	0	4	1	0	0	2	211	0	1	0	53	4	0	0	4	54	874	NL
i	NO	0	1	2	42	0	0	145	283	1	0	6	43	11	0	0	27	338	1539	NO
v	PL	1	92	11	19	3	1	245	220	76	5	15	40	5	0	0	6	498	11967	PL
e	PT	139	0	73	0	0	0	0	4	0	5	0	1	40	0	0	6	69	344	PT
r	RO	0	1638	4	2	2	7	469	18	309	33	1	4	1	0	0	2	373	4786	RO
s	ES	97	1	1408	0	1	0	0	69	2	42	0	9	76	2	0	17	371	2254	ES
	SE	0	15	4	267	1	0	291	254	5	1	27	45	7	0	0	17	426	2924	SE
	CH	1	1	14	0	51	0	1	33	4	4	0	4	3	0	0	1	95	536	CH
	TR	0	109	3	1	0	364	224	6	53	70	0	1	0	0	0	6	728	2314	TR
	SU	1	849	17	109	5	63	22528	248	284	344	55	51	9	0	0	32	6337	40757	SU
	GB	2	0	17	1	0	0	3	3636	0	1	1	97	52	0	0	35	218	4381	GB
	YU	1	140	14	1	4	2	55	42	1479	119	1	6	2	0	0	5	450	4240	YU
	REM	5	12	64	1	2	6	572	36	19	2193	0	4	5	1	0	10	1553	4759	REM
	BAS	1	30	7	200	2	0	638	332	21	1	108	66	8	0	0	21	521	5461	BAS
	NOS	5	1	46	31	2	0	45	4517	1	3	12	730	89	0	0	146	781	8877	NOS
	ATL	167	4	1151	44	1	0	1228	2102	2	12	7	159	1320	1	0	1424	4119	13130	ATL
	MED	27	202	552	5	19	86	179	224	647	2095	2	29	30	2	0	106	2296	11768	MED
	BLS	0	340	1	2	1	115	1283	9	87	55	1	2	0	0	0	14	666	4170	BLS
	SUM	472	3954	3908	799	170	658	29000	14130	3775	5708	268	1725	1822	7	0	1996	23404	161499	SUM
		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1988. Unit: 100 tonnes(S)

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                    *********  receiver-emitter matrix *********

                    reduced nitrogen,  tot dep.
                    averaging period: 1988  1  1 12 -  1989  1  1  6
                    unit =  100. tonnes

                                               Emitters

           AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
     AL    98     1     0     1     1     0     0     2     1     1     3     2     0     0    10     0     0     0     1  AL
     AT     0   340     5     1    33     2     0    32    22   141     0    16     0     1    55     1    11     0    13  AT
     BE     0     0   339     0     1     1     0    75     2    19     0     0     0     2     1     2    56     0     2  BE
     BG     5     2     0   495     4     0     0     1     2     3    16    12     0     0     8     0     1     0     6  BG
     CS     0    35     7     2   602     4     0    24    87   111     1    46     0     1    17     1    17     0    82  CS
     DK     0     1     5     0     2   409     0     9    15    45     0     1     0     2     0     0    21     1    14  DK
     FI     0     1     3     0     5     9   163     6    15    23     0     3     0     1     1     0    10     2    35  FI
     FR     0     4    73     0     5     3     0  3353    18    86     0     3     0    14    46     7    57     0     7  FR
     DD     0     4    14     0    17    16     0    32   959   177     0     3     0     2     3     1    49     0    37  DD
     DE     0    21    86     1    19    22     0   220    92  2449     0     5     0     9    20    10   310     1    26  DE
     GR     9     1     0    19     2     0     0     2     1     2   235     4     0     0     9     0     1     0     3  GR
     HU     1    16     1     3    35     1     0     6     9    16     1   559     0     0    26     0     3     0    21  HU
     IS     0     0     0     0     0     0     0     2     0     1     0     0    12     1     0     0     1     0     1  IS
R    IE     0     0     0     0     0     0     0     7     0     1     0     0     0   501     0     0     1     0     0  IE
e    IT     1    12     4     2     8     1     0    76     7    43     2    12     0     1  1707     0     6     0     7  IT
c    LU     0     0     2     0     0     0     0     8     0     3     0     0     0     0     0    21     1     0     0  LU
e    NL     0     0    36     0     1     1     0    32     3    46     0     0     0     2     0     0   828     0     3  NL
i    NO     0     1     7     0     4    27     2    16    20    41     0     1     0     6     0     0    23    91    28  NO
v    PL     0    17    14     4    92    31     1    39   201   136     1    29     0     2    16     1    47     1  2260  PL
e    PT     0     0     0     0     0     0     0     2     0     0     0     0     0     0     0     0     0     0     0  PT
r    RO     3     7     1    60    25     1     0     7    13    17     7    79     0     0    23     0     4     0    42  RO
s    ES     0     0     4     0     0     0     0    79     1     4     0     1     0     3     3     0     6     0     0  ES
     SE     0     4     9     0    12    68    13    21    50    68     0     6     0     3     1     0    31    11    81  SE
     CH     0     2     3     0     1     0     0    70     4    40     0     1     0     1    37     1     4     0     1  CH
     TR     2     2     0    24     4     0     0     3     2     4    15     8     0     0     8     0     1     0     9  TR
     SU     2    27    16    46   110    44    43    56   143   164     8   116     0     4    37     1    54     5   730  SU
     GB     0     0     9     0     1     2     0    57     7    15     0     0     0    84     0     0    15     0     5  GB
     YU    16    23     2    19    27     1     0    24    12    23    11    76     0     0   111     0     5     0    24  YU
    REM     1     2     2     1     2     0     0    32     2     5     1     2     0     1    17     0     3     0     3  REM
    BAS     0     6    12     1    21   110    24    33   114   153     0    10     0     4     3     1    51     3   189  BAS
    NOS     0     2    74     0     8   111     0   300    51   168     0     2     0    46     2     2   206    11    46  NOS
    ATL     0     1    24     0     4    23     8   331    21    48     0     1     6   250     1     1    44    19    28  ATL
    MED    18    15     9    30    18     3     0   224    13    41    53    27     0     3   362     1    15     0    19  MED
    BLS     1     2     0    30     7     1     0     1     5     5     5    10     0     0     4     0     1     0    24  BLS
    SUM   157   546   763   739  1069   891   256  5183  1893  4098   360  1032    18   946  2530    54  1882   145  3747  SUM
           AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL


                                               Emitters

           PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
     AL     0     1     0     0     0     0     1     0     8     0     0     0     0     0     0     0    19   151  AL
     AT     0     4     2     0    19     0     3     5    18     0     0     0     0     0     0     0    53   779  AT
     BE     0     0     1     0     0     0     1    14     0     0     0     0     0     0     0     0    17   533  BE
     BG     0    77     0     0     0     7    42     0    30     1     0     0     0     0     0     0    45   758  BG
     CS     0    12     1     1     4     0    15     6    11     0     0     0     0     0     0     0    62  1150  CS
     DK     0     0     0     4     0     0     5    14     0     0     0     0     0     0     0     0    18   567  DK
     FI     0     2     0    14     0     0   164     4     1     0     0     0     0     0     0     0   100   561  FI
     FR    12     1   107     1    22     0     4    61     3     2     0     0     0     0     0     0   253  4140  FR
     DD     0     2     1     2     2     0     8    13     1     0     0     0     0     0     0     0    46  1389  DD
     DE     1     3     8     2    38     0    11    49     3     0     0     0     0     0     0     0   133  3538  DE
     GR     0    11     1     0     0     6    11     0    13     1     0     0     0     0     0     0    55   388  GR
     HU     0    30     1     0     2     0    10     1    34     0     0     0     0     0     0     0    38   814  HU
     IS     0     0     0     0     0     0     1     3     0     0     0     0     0     0     0     0    18    40  IS
R    IE     0     0     1     0     0     0     0    26     0     0     0     0     0     0     0     0    18   556  IE
e    IT     1     4    15     0    36     0     3     6    24     4     0     0     0     0     0     0   149  2132  IT
c    LU     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     2    39  LU
e    NL     0     0     1     0     0     0     1    19     0     0     0     0     0     0     0     0    16   993  NL
i    NO     0     0     0    15     1     0    20    33     0     0     0     0     0     0     0     0    93   431  NO
v    PL     0    24     2    10     3     1   117    18    10     0     0     0     0     0     0     0   145  3222  PL
e    PT   303     0    38     0     0     0     0     0     0     0     0     0     0     0     0     0    19   365  PT
r    RO     0  1336     1     1     2     9   177     1    43     1     0     0     0     0     0     0   117  1977  RO
s    ES    77     0  1364     0     1     0     0     8     1     4     0     0     0     0     0     0    93  1650  ES
     SE     0     5     1   266     1     0   104    22     1     0     0     0     0     0     0     0   121   899  SE
     CH     1     0     4     0   250     0     0     3     1     0     0     0     0     0     0     0    32   458  CH
     TR     0    29     1     0     1  1079    75     0     8     7     0     0     0     0     0     0   210  1491  TR
     SU     0   278     5    40     6    89 12780    25    49    48     0     0     0     0     0     0  1805 16729  SU
     GB     1     0     3     1     0     0     1  1296     0     0     0     0     0     0     0     0    57  1556  GB
     YU     0    35     5     0     3     1    18     3   802     1     0     0     0     0     0     0   130  1373  YU
    REM     3     2    23     0     2    24   157     3     4   324     0     0     0     0     0     0   303   918  REM
    BAS     0     9     2    62     2     0   232    27     4     0     0     0     0     0     0     0   144  1218  BAS
    NOS     2     0     8    12     2     0    16   336     0     0     0     0     0     0     0     0   191  1597  NOS
    ATL    76     1   133    11     1     0   103   306     0     1     0     0     0     0     0     0  1139  2580  ATL
    MED    13    31   142     1    14    40    33    14    67    37     0     0     0     0     0     0   477  1719  MED
    BLS     0    72     0     0     1    96   400     1     7    11     0     0     0     0     0     0   153   837  BLS
    SUM   492  1971  1870   445   412  1355 14515  2318  1145   441     0     0     0     0     0     0  6272 57546  SUM
           PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduced Nitrogen in 1988. Unit: 100 tonnes(N)

Transboundary Import-Export Budgets for 1988

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	325	*90*	306	*90*	14	42	70	*96*	100	*97*	8	33	157	*62*	53	*35*	7	61
AT	494	*85*	1526	*95*	9	56	574	*94*	645	*94*	7	48	393	*54*	439	*56*	4	74
BE	1541	*87*	528	*70*	22	80	1009	*96*	277	*87*	20	75	468	*58*	194	*36*	15	95
BG	9721	*87*	1136	*44*	16	45	1171	*93*	316	*77*	8	36	691	*58*	263	*35*	5	62
CS	11109	*84*	3450	*61*	9	64	3002	*92*	886	*78*	8	60	773	*56*	548	*48*	4	78
DK	1108	*92*	564	*85*	34	75	894	*97*	301	*92*	24	68	538	*57*	158	*28*	26	94
FI	1126	*75*	1705	*82*	20	72	760	*85*	697	*84*	13	64	125	*43*	398	*71*	11	89
FR	4563	*74*	3128	*67*	23	72	4075	*83*	1668	*67*	18	65	2412	*42*	787	*19*	15	90
DD	22533	*86*	1708	*31*	11	68	2109	*93*	876	*85*	11	66	1265	*57*	430	*31*	9	85
DE	4664	*77*	3501	*71*	15	75	6128	*87*	1587	*64*	14	68	2163	*47*	1089	*31*	9	89
GR	2346	*93*	983	*84*	19	34	1039	*95*	232	*82*	11	28	407	*63*	153	*39*	9	56
HU	5100	*84*	1334	*57*	9	67	723	*92*	466	*88*	7	61	759	*58*	255	*31*	4	78
IS	78	*87*	87	*88*	42	50	54	*93*	63	*94*	26	36	13	*51*	28	*70*	24	73
IE	652	*86*	240	*69*	50	72	350	*94*	138	*87*	35	62	537	*52*	55	*10*	29	91
IT	8002	*84*	2141	*58*	23	52	5094	*90*	748	*56*	13	41	1982	*54*	425	*20*	10	69
LU	71	*95*	46	*92*	13	79	69	*99*	27	*96*	14	73	37	*64*	18	*46*	9	94
NL	1088	*87*	712	*81*	32	80	1820	*97*	292	*83*	23	72	1181	*59*	165	*17*	16	94
NO	269	*80*	1473	*96*	30	66	618	*89*	809	*92*	18	51	82	*47*	340	*79*	19	84
PL	15767	*75*	6834	*57*	10	66	4087	*87*	1946	*76*	9	62	2269	*50*	962	*30*	7	83
PT	1106	*89*	205	*60*	19	38	481	*93*	135	*78*	13	38	463	*60*	62	*17*	12	64
RO	5707	*78*	3148	*66*	9	54	1553	*86*	843	*78*	6	46	1456	*52*	641	*32*	4	71
ES	6527	*82*	846	*38*	26	49	2322	*86*	547	*58*	14	40	1543	*53*	286	*17*	10	64
SE	853	*76*	2657	*91*	27	71	1138	*87*	1292	*88*	18	62	236	*47*	633	*70*	17	89
CH	229	*82*	485	*90*	10	61	487	*94*	266	*89*	7	49	269	*52*	208	*45*	4	79
TR	1406	*79*	1950	*84*	13	37	1078	*86*	657	*79*	7	27	2339	*68*	412	*28*	4	40
SU	27202	*55*	18229	*45*	8	58	7622	*61*	6539	*58*	5	51	7199	*36*	3949	*24*	4	73
GB	15589	*81*	745	*17*	41	73	7461	*91*	455	*37*	32	66	1339	*51*	260	*17*	26	88
YU	5879	*80*	2761	*65*	12	51	870	*88*	1030	*90*	8	43	894	*53*	571	*42*	5	67
REM	12447	*85*	2566	*54*	17	39	1020	*92*	1147	*93*	3	20	1084	*77*	594	*65*	3	31
BAS	252	*70*	5353	*98*	36	74	215	*89*	1875	*99*	19	66	0	*0*	1218	*100*	0	100
NOS	1467	*67*	8147	*92*	45	79	1675	*86*	2859	*91*	29	69	0	*0*	1597	*100*	0	100
ATL	3337	*72*	11810	*90*	31	39	3241	*82*	5025	*88*	21	33	0	*0*	2580	*100*	0	100
MED	58	*97*	11766	*100*	5	12	39	*97*	3040	*100*	3	13	0	*0*	1719	*100*	0	100
BLS	0	*0*	4170	*100*	0	100	0	*0*	795	*100*	0	100	0	*0*	837	*100*	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

```
********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1989  1  1 12 -  1990  1  1  6
unit =  100. tonnes

                                                        Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL     4     1     0     4     3     0     0     2     1     2    11     2     0     0    23     0     0     0     2  AL
    AT     0    50    10     2    95     3     1    48    38   156     0    12     0     0    96     1    18     1    40  AT
    BE     0     1    49     0     5     1     0    70     4    55     0     0     0     1     2     1    37     0     2  BE
    BG     1     3     1   103    20     1     1     2     6    10    24    11     0     0    14     0     1     0    26  BG
    CS     0    29    17     2   316     8     2    58   117   213     2    34     0     1    36     2    27     1   149  CS
    DK     0     1    10     0     7    24     1    19    11    43     0     0     0     2     2     0    24     2     7  DK
    FI     0     1    11     1    22    25   121    18    27    59     0     2     0     2     1     0    22    25    46  FI
    FR     0    10   106     0    35     5     1  1033    31   287     0     5     0    10   158     8    92     1    16  FR
    DD     0     5    34     0   112    17     1    74   188   342     0     3     0     2    11     3    59     2    38  DD
    DE     0    20   138     1   102    17     1   330   121   991     0     4     0     5    64    12   211     3    32  DE
    GR     3     1     1    36     8     0     0     4     3     6    63     4     0     0    27     0     1     0    10  GR
    HU     0    22     3     6   105     2     1    15    20    45     3    77     0     0    63     0     5     0    74  HU
    IS     0     0     1     0     0     0     0     2     0     2     0     0     4     1     0     0     2     0     0  IS
R   IE     0     0     4     0     1     1     0    16     1    14     0     0     0    24     0     0     8     0     1  IE
e   IT     1    23    10     8    44     2     0   153    17    84     8    12     0     1   768     1    12     0    25  IT
c   LU     0     0     3     0     0     0     0    10     0     6     0     0     0     0     0     1     2     0     0  LU
e   NL     0     0    29     0     3     2     0    38     4    70     0     0     0     2     1     0    69     0     3  NL
i   NO     0     1    16     1    12    28     9    34    23    81     0     1     1     8     3     1    32    68    20  NO
v   PL     0    22    39     4   343    49    11   104   289   395     2    29     0     3    40     3    74     8   662  PL
e   PT     0     0     0     0     0     0     0     3     0     1     0     0     0     0     1     0     0     0     0  PT
r   RO     1    11     4    63    98     3     2    12    27    44    15    59     0     0    47     0     7     1   107  RO
s   ES     0     1     6     0     2     1     0    96     2    20     1     1     0     2    36     1     7     0     1  ES
    SE     0     2    22     1    42    81    38    45    55   130     0     4     0     6    10     1    49    71    79  SE
    CH     0     4     8     0     6     1     0    75     6    57     0     1     0     0    57     1     8     0     1  CH
    TR     1     2     1    32    14     1     1     2     6    10    35     6     0     0    12     0     2     0    27  TR
    SU     1    41    67    75   479   142   260   166   329   561    18   107     0     8   114     4   135    61  1097  SU
    GB     0     1    23     0     7     7     1    70    10    62     0     0     0    32     3     1    44     2    11  GB
    YU     5    34     4    33   111     3     1    34    29    63    26    63     0     0   249     0     7     1    69  YU
   REM     0     1     5     4     8     3     2    39     5    18     6     2     0     0    51     0     7     0    21  REM
   BAS     0     6    36     2    82   101    55    76   109   243     1     6     0     5    16     2    75    30   163  BAS
   NOS     0     4    82     0    36    40     3   225    47   256     0     2     1    34     9     3   186    20    35  NOS
   ATL     0     2    77     0    20    42    54   392    32   241     0     1    14    99    15     4   123    65    31  ATL
   MED     6    24    19    70    76     3     1   295    27   115   130    29     0     2   806     2    23     1    58  MED
   BLS     0     3     1    44    28     3     2     3    14    20    11    10     0     0     8     0     3     1    62  BLS
   SUM    25   324   836   492  2244   614   569  3564  1601  4700   359   486    22   251  2740    53  1373   366  2917  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
```

```
                                                     Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     3     1     0     0     0     1     0     7     1     0     0     0     0     0     0    18    87  AL
    AT     0     8     2     4    19     0     6    20    16     0     1     8     2     0     0     0    81   739  AT
    BE     0     0     3     0     1     0     0    74     0     0     0    26     5     0     0     0    22   360  BE
    BG     0    68     0     1     0    12    33     2    14     0     0     1     0     0     0     0    56   413  BG
    CS     0    11     3     6     8     0    17    32    12     0     2    15     2     0     0     0    95  1218  CS
    DK     0     0     1     5     1     0     1    89     0     0     2    26     5     0     0     0    25   308  DK
    FI     0     2     1    81     0     0   111    63     1     0    13    22     4     0     0     0   128   809  FI
    FR    14     1   149     3    30     0     2   408     8     1     1   132   104     0     0     0   353  3005  FR
    DD     1     1     4     6     4     0     6    82     1     0     3    37     4     0     0     0    73  1113  DD
    DE     2     2    18     6    41     0     7   258     3     0     3   103    18     0     0     0   179  2692  DE
    GR     0    17     2     0     0     6    12     1     7     1     0     1     0     0     0     0    63   276  GR
    HU     0    31     2     2     2     0    15     7    30     0     1     3     1     0     0     0    58   595  HU
    IS     0     0     0     0     0     0     0    17     0     0     0     2     3     0     0     0    36    73  IS
R   IE     1     0     3     0     0     0     0    63     0     0     0     9    21     0     0     0    43   212  IE
e   IT     2     9    31     1    33     1     4    26    36     4     0     8     7     0     0     0   209  1541  IT
c   LU     0     0     1     0     0     0     0     3     0     0     0     1     0     0     0     0     2    32  LU
e   NL     0     0     2     1     0     0     1   102     0     0     0    35     5     0     0     0    23   390  NL
i   NO     0     1     2    33     1     0    11   242     1     0     4    51    20     0     0     0   184   888  NO
v   PL     1    17     6    35    10     1    79   129    13     0    13    53     7     0     0     0   206  2648  PL
e   PT    60     0    46     0     0     0     0     4     0     1     0     1    48     0     0     0    59   225  PT
r   RO     0   265     1     3     1    12   109     9    32     0     1     4     1     0     0     0   104  1046  RO
s   ES    71     1   523     0     1     0     0    51     3     5     0    13    86     2     0     0   242  1176  ES
    SE     0     3     2   162     2     0    51   197     2     0    16    67    13     0     0     0   177  1329  SE
    CH     1     0     7     1    40     0     0    18     1     0     0     5     4     0     0     0    37   337  CH
    TR     0    28     1     1     0   194    89     3     4     5     0     1     0     0     0     0   270   748  TR
    SU     1   193    12   232    13    47  4483   329    40    55    58   120    16     0     0     0  2004 11268  SU
    GB     1     0     9     4     1     0     7   895     0     0     1    81    58     0     0     0   129  1460  GB
    YU     0    59     6     3     5     1    20     8   145     1     1     4     2     0     0     0   163  1151  YU
   REM     2     5    30     2     2     5   230    12     3    83     1     5     5     0     0     0   628  1189  REM
   BAS     1     5     5   140     3     0   101   203     3     0    29    75    10     0     0     0   175  1757  BAS
   NOS     3     0    19    20     4     0    10  1297     1     0     5   255    97     0     0     0   305  2998  NOS
   ATL    63     1   195    58     5     0   129  1157     1     1     8   203   704     0     0     0  2321  6060  ATL
   MED    10    51   176     2    19    53    39    60    70    28     1    21    22     1     0     0   690  2930  MED
   BLS     0    50     0     3     0    46   207     6     6     5     1     2     0     0     0     0   136   678  BLS
   SUM   237   833  1264   818   248   381  5780  5866   461   193   166  1390  1275     6     0     0  9295 51750  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Oxidised Nitrogem in 1989. Unit: 100 tonnes(N)

```
 *********  receiver-emitter matrix *********


 oxidized sulphur,  tot dep.
 averaging period: 1989  1  1 12 -  1990  1  1  6
 unit =  100. tonnes

                                                    Emitters

           AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
     AL    36     1     0    29     8     0     0     1     8     1    30     9     0     0    33     0     0     0     7  AL
     AT     0    93    10    12   345     2     1    43   416    92     1    87     0     0   145     1     6     0   152  AT
     BE     0     1   215     0    16     1     0   144    43    71     0     1     0     2     3     3    31     0     8  BE
     BG     6     2     1  1466    63     1     1     3    58     5    38    78     0     0    18     0     0     0    91  BG
     CS     1    30    17    13  2317     6     2    53  1735   133     4   291     0     1    42     2     9     0   735  CS
     DK     0     1    13     0    28    81     1    20   109    35     0     3     0     2     2     0    10     1    34  DK
     FI     0     1     8     2    60    15   306    13   193    26     0     8     0     2     1     0     6     7   145  FI
     FR     0     7   163     2   103     4     1  1819   288   213     0    24     0    14   230    12    52     0    56  FR
     DD     0     4    44     2   650    21     1    87  4251   310     0    16     0     2    11     3    25     1   176  DD
     DE     0    21   205     6   357    21     1   420  1354  1163     0    20     0     6    94    16   109     1   119  DE
     GR    15     1     0   431    23     0     0     3    24     3   191    24     0     0    34     0     0     0    31  GR
     HU     1    20     3    30   368     1     1    13   202    21     6  1037     0     0    73     0     1     0   257  HU
     IS     0     0     0     0     0     0     0     1     1     1     0     0    13     1     0     0     0     0     0  IS
R    IE     0     0     4     0     4     1     0    12    13     6     0     0     0   120     0     0     3     0     4  IE
e    IT     4    19    10    64   119     1     0   144   144    42    14    79     0     1  1746     1     4     0    81  IT
c    LU     0     0     4     0     1     0     0    17     3     7     0     0     0     0     1     4     1     0     1  LU
e    NL     0     1    82     0    12     2     0    80    52   115     0     1     0     2     2     1   136     0    12  NL
i    NO     0     1    14     3    33    26     8    27   155    41     0     5     0     9     3     0    10    58    67  NO
v    PL     1    18    43    30  1387    50     9   100  3789   259     3   208     0     3    47     2    26     2  5253  PL
e    PT     0     0     0     0     0     0     0     2     0     0     0     0     0     0     1     0     0     0     0  PT
r    RO     5     9     3   418   310     2     2    11   265    22    24   428     0     0    59     0     2     0   405  RO
s    ES     0     0     6     2     5     1     0    86    16    12     1     4     0     3    44     0     3     0     4  ES
     SE     0     2    25     6   130   109    43    45   478    84     1    20     0     7    11     1    19    34   274  SE
     CH     0     4     8     0    20     0     0    74    56    33     0     4     0     0   135     1     3     0     6  CH
     TR     2     1     1   297    34     1     1     2    45     4    68    35     0     0    12     0     0     0    77  TR
     SU     5    29    57   511  1390    94   283   124  2655   267    31   708     0     7   119     3    35    15  4006  SU
     GB     0     1    36     0    21     5     1   100    83    43     0     1     0    60     3     1    24     0    35  GB
     YU    22    30     4   181   324     2     1    30   263    30    49   435     0     0   325     0     2     0   217  YU
    REM     1     1     4    28    20     1     2    25    36     8    10    11     0     0    61     0     2     0    60  REM
    BAS     1     5    47     9   287   195   147    84  1122   193     1    43     0     7    17     2    32    13   797  BAS
    NOS     0     4   196     2   172    76     4   476   626   261     0    14     1    62    13     3   224    25   177  NOS
    ATL     0     1    90     2    53    27    49   480   221   132     0     5    32   295    20     3    50    37    97  ATL
    MED    43    24    23   916   294     3     1   394   325    69   470   274     0     2  1943     2     9     0   243  MED
    BLS     2     3     2   779   106     3     2     3   151    12    26    95     0     0    12     0     1     0   291  BLS
    SUM   145   334  1339  5239  9060   751   866  4936 19180  3712   968  3968    46   610  5261    61   836   197 13917  SUM
           AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                                     Emitters

            PT     RO     ES     SE     CH     TR     SU     GB     YU    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
     AL      0     10      1      0      0      0      3      0     48     43      0      0      0      0      0      1     63    332  AL
     AT      0     29      6      1     10      0     20     27    105      7      1      6      1      0      0      2    221   1843  AT
     BE      0      0      8      0      0      0      1    115      0      0      0     32      4      0      0      2     46    748  BE
     BG      0    303      1      0      0     12    127      2    160     15      0      1      0      0      0      2    223   2677  BG
     CS      0     43      6      2      3      0     51     41     62      6      2     10      2      0      0      2    271   5890  CS
     DK      0      1      4      4      0      0      6    139      1      0      4     29      3      0      0      5     54    588  DK
     FI      0      6      1     43      0      0    498     72      3      1     15     12      2      0      0      8    336   1790  FI
     FR     15      4    407      1     17      0      4    539     36     45      1    135     78      0      0     36    827   5132  FR
     DD      0      4     10      2      1      0     15    131      7      2      5     35      3      0      0      4    196   6019  DD
     DE      2      8     44      2     24      0     18    400     15      4      5    105     12      0      0     12    425   4988  DE
     GR      0     63      2      0      0      8     43      1     62     62      0      0      0      0      0      3    208   1233  GR
     HU      0    127      4      1      1      0     48      8    181     10      1      2      0      0      0      1    178   2597  HU
     IS      0      0      1      0      0      0      0     20      0      0      0      1      2      0      0     18     46    105  IS
R    IE      0      0      5      0      0      0      1    132      0      0      0      7     19      0      0     18     78    427  IE
e    IT      2     30     49      0     18      1     12     33    214    626      0      6      5      0      0     10    647   4126  IT
c    LU      0      0      1      0      0      0      0      5      0      0      0      1      0      0      0      0      5     52  LU
e    NL      0      0      7      0      0      0      1    192      0      0      0     55      3      0      0      4     50    810  NL
i    NO      0      4      4     22      0      0    103    354      4      1      4     42     15      0      0     38    425   1478  NO
v    PL      1     70     14     15      3      1    236    177     74      7     18     42      4      0      0      8    542  12444  PL
e    PT    194      0    126      0      0      0      0      4      0      8      0      0     45      1      0      6     82    471  PT
r    RO      0   1785      3      1      1     13    459     11    313     23      1      3      0      0      0      3    449   5031  RO
s    ES    108      2   2008      0      0      0      2     59     12     94      0      9     72      3      0     18    485   3059  ES
     SE      0     10      5    184      1      0    131    273      9      7     24     54      9      0      0     21    434   2451  SE
     CH      1      1     14      0     50      0      1     24      6      3      0      4      2      0      0      1    100    549  CH
     TR      0    100      1      0      0    364    249      3     32     43      0      1      0      0      0      6    731   2110  TR
     SU      1    813     20     96      4     49  19409    357    247    288     63     65      9      0      0     33   6060  37854  SU
     GB      1      0     28      1      0      0     15   3666      1      1      1    109     54      0      0     41    268   4601  GB
     YU      0    200     11      1      2      1     73      9   1778     95      1      3      1      0      0      5    537   4632  YU
    REM      4     17     48      1      0      7    700     11     16   2021      1      3      4      0      0     10   1651   4765  REM
    BAS      1     20     12    150      1      0    369    346     18      7    109     74      7      0      0     24    488   4629  BAS
    NOS      4      2     63     17      2      0     37   4357      4      3      9    720     91      0      0    147    742   8533  NOS
    ATL    189      6   1438     29      2      0   1060   2273      5     15      7    180   1330      1      0   1383   4067  13580  ATL
    MED     21    254    520      1     10    113    181     88    711   2544      1     19     21      2      0    106   2362  11988  MED
    BLS      0    318      1      1      0     91   1059      8     72     38      1      2      0      0      0     12    617   3711  BLS
    SUM    546   4231   4870    579    154    662  24931  13879   4197   6019    276   1765   1798      7      0   1990  23912 161244  SUM
            PT     RO     ES     SE     CH     TR     SU     GB     YU    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
```

Deposition budget matrix for Oxidised Sulphur in 1989. Unit: 100 tonnes(S)

```
********* receiver-emitter matrix *********

reduced nitrogen,  tot dep.
averaging period: 1989  1  1 12 -  1990  1  1  6
unit =  100. tonnes

                                                       Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
     AL  105     0     0     2     1     0     0     0     0     0     5     2     0     0     6     0     0     0     1   AL
     AT    0   393     4     2    46     2     0    21    22   138     0    28     0     0    53     0    12     0    31   AT
     BE    0     1   348     0     1     1     0    70     2    21     0     0     0     2     1     2    54     0     1   BE
     BG    3     1     0   513     5     0     0     1     2     2    18    13     0     0     3     0     0     0    12   BG
     CS    0    43     5     2   629     4     0    19    80   115     1    52     0     1    11     1    18     0   119   CS
     DK    0     1     5     0     1   393     0     9    11    35     0     0     0     2     1     0    17     1     6   DK
     FI    0     1     4     0     5    10   159     7    18    21     0     2     0     2     0     0    12     3    37   FI
     FR    0     6    78     0     7     3     0  3298    15    89     0     5     0    13    66     7    50     0     9   FR
     DD    0     4    12     0    18    16     0    29   963   192     0     2     0     1     3     1    52     0    39   DD
     DE    0    30    84     1    23    19     0   198   106  2489     0     6     0     5    25    10   296     0    23   DE
     GR    9     1     0    23     2     0     0     1     1     2   245     4     0     0     7     0     0     0     3   GR
     HU    1    21     1     5    47     1     0     4     8    17     1   634     0     0    22     0     3     0    36   HU
     IS    0     0     0     0     0     0     0     1     0     0     0     0    12     1     0     0     1     0     0   IS
R    IE    0     0     2     0     0     0     0    11     1     4     0     0     0   508     0     0     4     0     1   IE
e    IT    1    17     4     3     9     1     0    68     6    42     3    13     0     0  1735     0     6     0    10   IT
c    LU    0     0     3     0     0     0     0     8     0     3     0     0     0     0     0    22     1     0     0   LU
e    NL    0     0    36     0     1     2     0    29     3    50     0     0     0     2     0     0   814     0     2   NL
i    NO    0     1     6     1     3    22     2    17    16    32     0     1     0     8     1     0    18   101    17   NO
v    PL    1    18    11     3    94    31     2    32   196   137     1    30     0     3    10     1    41     1  2356   PL
e    PT    0     0     0     0     0     0     0     2     0     0     0     0     0     0     0     0     0     0     0   PT
r    RO    3     6     1    64    25     1     0     3    10    12     9    94     0     0    14     0     3     0    48   RO
s    ES    0     0     2     0     0     1     0    85     2     6     0     1     0     2    12     0     4     0     1   ES
     SE    0     3     9     1    10    75    10    21    41    59     0     4     0     5     4     0    28    16    68   SE
     CH    0     4     4     0     1     0     0    61     3    46     0     1     0     0    38     1     5     0     1   CH
     TR    1     1     0    17     3     0     0     1     2     3    10     5     0     0     3     0     1     0    10   TR
     SU    2    28    20    43   108    55    44    54   160   177     9   109     0     7    35     1    68     5   705   SU
     GB    0     1    15     0     1     4     0    65     7    23     0     0     0    86     1     0    27     0    11   GB
     YU   16    30     1    28    34     1     0    13    10    21    15   107     0     0    94     0     3     0    31   YU
    REM    0     1     2     2     1     1     0    19     2     5     2     2     0     0    13     0     5     0     7   REM
    BAS    0     5    13     1    17   122    20    32   107   136     0     6     0     5     5     1    46     4   166   BAS
    NOS    0     3    69     0     7    79     0   284    34   141     0     1     0    46     3     1   179    10    28   NOS
    ATL    0     1    35     0     3    20    10   419    21    68     0     1     6   246     4     2    61    20    23   ATL
    MED   18    13     7    33    14     1     0   180     8    31    56    27     0     2   343     1    11     0    17   MED
    BLS    0     2     0    28     6     1     0     1     5     5     3     9     0     0     2     0     1     0    23   BLS
    SUM  162   636   779   772  1123   868   249  5065  1864  4123   382  1161    18   949  2515    54  1841   163  3845   SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL



                                                    Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
     AL    0     2     0     0     0     0     1     0     9     0     0     0     0     0     0     0    18   152   AL
     AT    0     9     1     1    18     0    13     3    23     0     0     0     0     0     0     0    74   896   AT
     BE    0     0     1     0     0     0     0    12     0     0     0     0     0     0     0     0    15   533   BE
     BG    0    82     0     0     0    11    45     0    27     0     0     0     0     0     0     0    55   796   BG
     CS    0    13     1     2     3     0    30     4    11     0     0     0     0     0     0     0    79  1243   CS
     DK    0     0     1     3     0     0     2    15     0     0     0     0     0     0     0     0    16   519   DK
     FI    0     2     0    16     0     0   107     8     1     0     0     0     0     0     0     0    99   513   FI
     FR    6     1    90     1    22     0     2    65     6     2     0     0     0     0     0     0   256  4098   FR
     DD    0     1     1     2     2     0     6    10     1     0     0     0     0     0     0     0    52  1411   DD
     DE    1     3     8     2    41     0    10    38     3     0     0     0     0     0     0     0   139  3561   DE
     GR    0    13     1     0     0     6    13     0    11     1     0     0     0     0     0     0    54   395   GR
     HU    0    43     1     0     1     0    26     1    41     0     0     0     0     0     0     0    58   972   HU
     IS    0     0     0     0     0     0     0     3     0     0     0     0     0     0     0     0    20    39   IS
R    IE    0     0     1     0     0     0     0    25     0     0     0     0     0     0     0     0    27   587   IE
e    IT    1     6    13     0    36     1     4     4    28     4     0     0     0     0     0     0   169  2185   IT
c    LU    0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     2    40   LU
e    NL    0     0     1     0     0     0     1    18     0     0     0     0     0     0     0     0    15   973   NL
i    NO    0     2     1     9     0     0     9    45     1     0     0     0     0     0     0     0   129   444   NO
v    PL    0    19     2    11     3     1   144    14    12     0     0     0     0     0     0     0   163  3337   PL
e    PT  328     0    51     0     0     0     0     1     0     0     0     0     0     0     0     0    24   407   PT
r    RO    0  1356     0     1     1    11   189     1    40     0     0     0     0     0     0     0   135  2029   RO
s    ES   78     1  1475     0     1     0     1     8     3     5     0     0     0     0     0     0   129  1818   ES
     SE    0     3     1   260     1     0    46    25     2     0     0     0     0     0     0     0   127   819   SE
     CH    0     0     3     0   247     0     0     3     1     0     0     0     0     0     0     0    34   454   CH
     TR    0    23     0     0     0  1071    90     0     5     5     0     0     0     0     0     0   201  1454   TR
     SU    0   249     4    44     5    55 11862    37    38    37     0     0     0     0     0     0  1679 15641   SU
     GB    1     0     5     1     0     0     8  1312     0     0     0     0     0     0     0     0    77  1648   GB
     YU    0    48     2     1     2     1    28     1   861     1     0     0     0     0     0     0   164  1513   YU
    REM    2     4    14     0     1    23   192     1     3   322     0     0     0     0     0     0   321   942   REM
    BAS    0     6     2    68     1     0   135    26     3     0     0     0     0     0     0     0   135  1065   BAS
    NOS    1     0     9     8     2     0    11   327     1     0     0     0     0     0     0     0   184  1430   NOS
    ATL   79     2   136    11     2     0    88   303     1     0     0     0     0     0     0     0  1155  2718   ATL
    MED    8    36   108     0     9    50    39     8    68    34     0     0     0     0     0     0   456  1580   MED
    BLS    0    59     0     0     0    74   327     0     6     7     0     0     0     0     0     0   134   695   BLS
    SUM  509  1983  1934   443   400  1308 13427  2318  1204   421     0     0     0     0     0     0  6393 56908   SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduced Nitrogen in 1989. Unit: 100 tonnes(N

Transboundary Import-Export Budgets 1989

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	324	*90*	296	*89*	14	40	69	*95*	83	*95*	8	34	150	*59*	47	*31*	7	63
AT	422	*82*	1750	*95*	8	65	543	*92*	689	*93*	7	55	398	*50*	503	*56*	3	80
BE	1410	*87*	533	*71*	24	82	1038	*95*	311	*86*	20	77	484	*58*	185	*35*	15	94
BG	9434	*87*	1211	*45*	18	48	1148	*92*	310	*75*	9	39	673	*57*	283	*36*	5	65
CS	10538	*82*	3573	*61*	8	70	3175	*91*	902	*74*	7	64	746	*54*	614	*49*	3	82
DK	874	*92*	507	*86*	34	79	834	*97*	284	*92*	22	72	538	*58*	126	*24*	24	93
FI	914	*75*	1484	*83*	18	71	795	*87*	688	*85*	13	62	129	*45*	354	*69*	10	86
FR	4851	*73*	3313	*65*	24	74	4360	*81*	1972	*66*	18	66	2467	*43*	800	*20*	16	88
DD	22019	*84*	1768	*29*	10	73	2082	*92*	925	*83*	10	71	1195	*55*	448	*32*	8	86
DE	3547	*75*	3825	*77*	16	79	5540	*85*	1701	*63*	13	72	2090	*46*	1072	*30*	8	90
GR	2349	*92*	1042	*85*	22	38	1078	*94*	213	*77*	12	31	397	*62*	150	*38*	9	59
HU	4473	*81*	1560	*60*	9	72	672	*90*	518	*87*	6	65	766	*55*	338	*35*	3	83
IS	72	*85*	92	*88*	46	54	54	*93*	69	*95*	26	38	13	*51*	27	*69*	24	73
IE	690	*85*	307	*72*	53	75	363	*94*	188	*89*	36	65	530	*51*	79	*13*	29	91
IT	7679	*81*	2380	*58*	24	56	5377	*88*	773	*50*	14	45	1823	*51*	450	*21*	10	71
LU	71	*95*	48	*92*	13	81	69	*99*	31	*97*	16	76	36	*62*	18	*45*	9	94
NL	884	*87*	674	*83*	33	82	1757	*96*	321	*82*	22	75	1146	*58*	159	*16*	15	94
NO	237	*80*	1420	*96*	28	67	632	*90*	820	*92*	17	52	88	*47*	343	*77*	18	86
PL	14297	*73*	7191	*58*	9	71	3842	*85*	1986	*75*	8	65	2173	*48*	981	*29*	6	85
PT	1136	*85*	277	*59*	19	41	537	*90*	165	*73*	13	40	438	*57*	79	*19*	11	66
RO	5800	*76*	3246	*65*	9	56	1497	*85*	781	*75*	6	47	1452	*52*	673	*33*	4	71
ES	7742	*79*	1051	*34*	25	50	2496	*83*	653	*56*	13	42	1432	*49*	343	*19*	9	67
SE	616	*77*	2267	*92*	27	72	1110	*87*	1167	*88*	18	64	242	*48*	559	*68*	17	88
CH	200	*80*	499	*91*	6	62	474	*92*	297	*88*	6	48	264	*52*	207	*46*	3	78
TR	1406	*79*	1746	*83*	13	37	1218	*86*	554	*74*	7	27	2347	*69*	383	*26*	4	38
SU	26851	*58*	18445	*49*	7	54	8482	*65*	6785	*60*	4	45	8002	*40*	3779	*24*	3	68
GB	14934	*80*	935	*20*	42	75	7843	*90*	565	*39*	31	67	1323	*50*	336	*20*	25	88
YU	5625	*76*	2854	*62*	12	57	835	*85*	1006	*87*	8	47	835	*49*	652	*43*	5	71
REM	14514	*88*	2744	*58*	18	36	1025	*93*	1106	*93*	3	17	1086	*77*	620	*66*	3	30
BAS	251	*70*	4520	*98*	35	77	214	*88*	1728	*98*	18	68	0	*0*	1065	*100*	0	100
NOS	1477	*67*	7813	*92*	45	80	1689	*87*	2743	*91*	29	71	0	*0*	1430	*100*	0	100
ATL	3327	*71*	12250	*90*	31	39	3240	*82*	5356	*88*	21	32	0	*0*	2718	*100*	0	100
MED	58	*97*	11986	*100*	5	12	39	*97*	2929	*100*	3	15	0	*0*	1580	*100*	0	100
BLS	0	*0*	3711	*100*	0	100	0	*0*	678	*100*	0	100	0	*0*	695	*100*	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

```
                    *********  receiver-emitter matrix *********

                    oxidized nitrogen, tot dep.
                    averaging period: 1990  1  1 12 -  1991  1  1  6
                    unit =  100. tonnes

                                                        Emitters

            AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
      AL     4     1     0     3     2     0     0     3     1     2    10     1     0     0    26     0     0     0     2  AL
      AT     0    46    13     1    64     2     0    61    29   151     0     7     0     1    93     2    14     0    30  AT
      BE     0     0    38     0     4     1     0    60     5    43     0     0     0     2     2     1    28     0     3  BE
      BG     2     3     1    94    20     1     0     5     7    12    23    12     0     0    22     0     2     0    18  BG
      CS     0    29    22     2   242     5     1    61   102   218     1    33     0     1    44     2    29     1   102  CS
      DK     0     0    10     0     4    24     1    18     9    40     0     0     0     2     1     0    22     2     6  DK
      FI     0     2     6     0    16    23   123    15    18    39     0     2     0     1     7     0    13    22    40  FI
      FR     0     6    82     0    31     5     0   840    33   244     0     3     0     8   114     8    81     1    26  FR
      DD     0     3    41     0    68    14     1    76   143   306     0     2     0     2    10     4    66     2    32  DD
      DE     0    15   131     0    75    14     1   318    88   763     0     2     0     8    51    12   187     3    43  DE
      GR     3     1     1    34     7     0     0     8     2     6    64     4     0     0    36     0     1     0     7  GR
      HU     0    24     5     3    83     2     0    22    20    50     1    66     0     0    73     1     6     0    42  HU
      IS     0     0     1     0     0     0     0     3     0     5     0     0     4     1     0     0     3     1     1  IS
R     IE     0     0     4     0     3     1     0     9     3    10     0     0     0    22     0     0     6     0     0  IE
e     IT     1    22    11     4    44     1     0   182    19    89     8    14     0     1   766     1    12     0    26  IT
c     LU     0     0     2     0     0     0     0     9     1     5     0     0     0     0     0     1     1     0     0  LU
e     NL     0     0    25     0     3     1     0    33     5    51     0     0     0     3     1     0    62     1     3  NL
i     NO     0     1    18     0    14    29    11    45    20    75     0     2     1     7     2     1    45    63    20  NO
v     PL     0    20    55     3   290    44     7   105   295   432     1    32     0     4    41     4    96     8   555  PL
e     PT     0     0     1     0     0     0     0     7     0     3     0     0     0     0     2     0     1     0     0  PT
r     RO     1    10     4    41    84     2     1    15    25    43     8    51     0     0    46     0     7     1    67  RO
s     ES     0     1     9     0     4     2     0   104     7    33     0     0     0     2    28     1    11     0     4  ES
      SE     0     3    23     1    35    82    50    46    52   144     0     3     0     5     5     1    53    66    60  SE
      CH     0     3     5     0     5     0     0    78     4    42     0     0     0     0    51     1     6     0     4  CH
      TR     0     2     1    27    12     1     0     5     5    11    27     6     0     0    10     0     2     0    17  TR
      SU     1    49    98    78   492   146   255   210   351   681    21   116     0     9   106     6   180    57  1067  SU
      GB     0     0    14     0     8     7     0    45    12    48     0     0     0    31     1     1    29     3     6  GB
      YU     5    32     6    24    76     2     1    53    25    66    18    49     0     0   289     1     8     0    45  YU
     REM     0     3     4     5    20     3     2    43    12    26    10     4     0     0    73     0     6     0    26  REM
     BAS     0     4    39     1    50   100    62    72    94   239     0     6     0     6    11     2    91    29   117  BAS
     NOS     0     2    72     0    28    46     3   186    48   212     0     2     1    34     7     2   178    22    28  NOS
     ATL     0     4    69     1    34    42    59   246    50   235     0     3    16    79    13     3   118    73    44  ATL
     MED     5    27    21    55    85     4     1   319    39   126   136    31     0     2   843     2    27     0    62  MED
     BLS     0     3     2    38    23     2     1     5     9    17    11     9     0     0    11     0     3     0    33  BLS
     SUM    23   320   836   419  1927   608   581  3306  1534  4467   339   462    24   232  2786    57  1395   358  2536  SUM
            AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL



                                                        Emitters

            PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
      AL     0     2     2     0     0     0     1     1     7     0     0     0     0     0     0     0    20    91  AL
      AT     0     2     4     1    21     0     4    26    15     0     0    10     3     0     0     0    71   672  AT
      BE     0     0     4     0     1     0     1    80     0     0     0    26     7     0     0     0    23   330  BE
      BG     0    66     1     1     1     5    22     4    15     0     0     1     0     0     0     0    54   391  BG
      CS     0    10     3     4     9     0    10    51    14     0     1    19     3     0     0     0    92  1114  CS
      DK     0     0     1     6     0     0     2   101     0     0     2    26     5     0     0     0    28   312  DK
      FI     0     2     2    63     1     0   107    47     1     0    11    16     4     0     0     0   123   705  FI
      FR    12     1   156     2    26     0     5   242     5     1     1   102   111     0     0     0   323  2469  FR
      DD     0     1     4     6     4     0     9   112     1     0     3    42     6     0     0     0    74  1030  DD
      DE     1     2    17     7    36     0    11   341     3     0     2   113    22     0     0     0   181  2449  DE
      GR     0    18     4     0     1     7    11     4     7     2     0     1     1     0     0     0    73   304  GR
      HU     0    18     3     1     3     0     7    10    32     0     0     4     1     0     0     0    56   538  HU
      IS     0     0     0     1     0     0     0    15     0     0     0     2     3     0     0     0    34    75  IS
R     IE     1     0     2     0     0     0     0    47     0     0     0     7    20     0     0     0    43   179  IE
e     IT     3     7    45     1    40     1     5    21    37     4     0     9     9     0     0     0   218  1605  IT
c     LU     0     0     1     0     0     0     0     3     0     0     0     1     1     0     0     0     2    28  LU
e     NL     0     0     2     1     0     0     1   135     0     0     0    33     6     0     0     0    25   392  NL
i     NO     1     2     7    36     1     0    18   244     1     0     5    61    21     0     0     0   198   948  NO
v     PL     0    16     5    35     8     0    70   198    14     0    13    66    10     0     0     0   220  2649  PL
e     PT    59     0    50     0     0     0     0     8     0     0     0     2    41     0     0     0    48   224  PT
r     RO     0   206     2     2     2     4    60    12    32     0     1     5     1     0     0     0   100   834  RO
s     ES    70     0   575     1     3     0     0    50     2     3     0    13    87     2     0     0   199  1212  ES
      SE     1     3     4   162     2     0    74   231     2     0    17    68    15     0     0     0   207  1416  SE
      CH     0     0     7     0    38     0     0    11     1     0     0     5     3     0     0     0    35   302  CH
      TR     0    24     1     1     0   169    91     4     3     6     0     2     0     0     0     0   230   659  TR
      SU     2   222    16   232    19    71  4770   438    51    48    63   147    26     0     0     0  2217 12247  SU
      GB     2     0     8     4     1     0     3   735     0     0     1    63    60     0     0     0   130  1214  GB
      YU     1    37    12     1     8     1    11    15   126     1     1     6     3     0     0     0   162  1088  YU
     REM     4     9    48     3     3     7   265    20     5    88     1     5     7     0     0     0   632  1334  REM
     BAS     1     5     5   138     3     0   108   274     3     0    29    88    15     0     0     0   188  1776  BAS
     NOS     5     1    28    28     3     0    11  1384     1     0     6   246   101     0     0     0   333  3021  NOS
     ATL    61     3   188    60     5     0   137  1005     2     1     8   175   652     0     0     0  2460  5849  ATL
     MED    14    43   238     3    25    56    39    67    72    28     1    21    29     1     0     0   717  3138  MED
     BLS     0    47     0     2     0    44   203     6     5     4     1     2     0     0     0     0   124   609  BLS
     SUM   241   747  1445   802   264   367  6060  5943   458   188   167  1389  1272     5     0     0  9642 51202  SUM
            PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Oxidised Nitrogen in 1990. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1990 1 1 12 - 1991 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	
	AL	39	0	0	24	7	0	0	3	6	1	26	7	0	0	34	0	0	0	5	AL
	AT	0	84	13	5	251	1	0	62	263	86	1	52	0	1	121	1	5	0	110	AT
	BE	0	0	217	0	13	1	0	137	45	63	0	0	0	3	2	2	28	0	10	BE
	BG	7	2	1	1440	58	0	0	5	52	6	40	70	0	0	22	0	1	0	55	BG
	CS	0	27	21	14	2121	4	1	61	1312	131	1	286	0	1	45	2	9	0	503	CS
	DK	0	0	12	0	22	79	0	21	89	34	0	2	0	3	1	0	9	1	26	DK
	FI	0	1	5	2	39	14	322	11	95	16	0	10	0	1	5	0	3	5	93	FI
	FR	0	4	143	3	113	4	0	1674	314	193	0	13	0	14	149	10	48	0	77	FR
	DD	0	2	56	1	519	17	0	97	3529	304	0	7	0	3	11	3	29	1	144	DD
	DE	0	15	224	3	312	19	0	463	981	1074	0	11	0	12	68	15	112	1	149	DE
	GR	14	1	1	422	20	0	0	6	20	2	192	20	0	0	35	0	0	0	20	GR
	HU	1	19	5	20	309	1	0	21	167	24	2	954	0	0	78	0	2	0	135	HU
	IS	0	0	1	0	1	0	0	1	2	1	0	0	16	1	0	0	1	0	1	IS
R	IE	0	0	4	0	6	0	0	9	19	5	0	0	0	136	0	0	2	0	1	IE
e	IT	3	16	10	32	133	1	0	180	160	42	14	76	0	1	1529	1	4	0	83	IT
c	LU	0	0	3	0	2	0	0	17	5	6	0	0	0	0	0	4	1	0	1	LU
e	NL	0	0	80	0	14	1	0	78	56	97	0	1	0	4	2	0	141	0	9	NL
i	NO	0	0	16	1	42	26	10	34	130	37	0	7	1	8	2	0	13	51	55	NO
v	PL	1	17	58	21	1409	41	7	110	3529	285	1	233	0	5	40	3	32	2	4430	PL
e	PT	0	0	1	0	1	0	0	7	2	1	0	0	0	0	2	0	0	0	0	PT
r	RO	5	7	4	299	262	2	1	15	199	21	15	348	0	0	50	0	2	0	216	RO
s	ES	0	1	9	0	12	1	0	111	44	15	0	2	0	3	31	1	4	0	10	ES
	SE	0	2	21	1	108	108	59	42	359	80	0	14	0	6	5	1	16	28	186	SE
	CH	0	2	6	0	18	0	0	84	36	26	0	2	0	1	104	1	2	0	13	CH
	TR	1	1	1	253	35	1	0	4	35	4	52	31	0	0	10	0	0	0	48	TR
	SU	6	31	82	531	1573	98	295	173	2473	317	31	732	0	11	102	4	47	14	3603	SU
	GB	0	0	22	0	19	4	0	62	70	30	0	1	0	73	2	0	16	1	14	GB
	YU	26	24	6	160	230	1	1	48	208	30	33	316	0	1	333	0	2	0	143	YU
	REM	1	1	3	29	54	1	2	34	75	10	17	21	0	1	75	0	1	0	65	REM
	BAS	0	4	45	4	237	180	165	80	858	178	0	42	0	9	12	1	33	11	583	BAS
	NOS	0	2	175	0	151	80	3	386	548	217	0	12	1	71	10	2	218	24	124	NOS
	ATL	0	2	86	4	98	24	57	370	320	132	0	15	46	296	13	3	48	35	120	ATL
	MED	39	24	24	708	349	3	1	476	411	73	463	242	0	3	1696	2	11	0	245	MED
	BLS	2	2	2	655	89	2	2	5	85	9	24	75	0	0	13	0	1	0	138	BLS
	SUM	146	294	1356	4633	8622	715	928	4886	16495	3553	912	3603	64	672	4599	59	843	176	11418	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DD	DE	GR	HU	IS	IE	IT	LU	NL	NO	PL	

Emitters

		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	7	4	0	0	0	3	1	54	41	0	0	0	0	0	1	62	327	AL
	AT	0	6	9	0	10	0	9	34	95	7	0	8	2	0	0	1	195	1433	AT
	BE	0	1	11	0	0	0	3	121	0	1	0	35	4	0	0	2	53	753	BE
	BG	0	258	2	0	0	6	65	5	150	18	0	1	0	0	0	2	193	2460	BG
	CS	0	34	8	1	3	0	25	62	78	7	1	13	2	0	0	2	251	5029	CS
	DK	0	0	3	4	0	0	5	159	1	0	4	28	3	0	0	6	59	574	DK
	FI	0	5	3	30	0	0	475	54	5	1	13	9	2	0	0	7	301	1525	FI
	FR	10	3	429	1	13	0	13	375	23	17	1	119	85	0	0	33	778	4662	FR
	DD	0	3	10	2	1	0	24	172	3	1	4	39	4	0	0	5	197	5190	DD
	DE	1	5	47	2	19	0	29	524	12	5	4	122	16	0	0	13	447	4705	DE
	GR	0	57	5	0	0	9	31	3	65	90	0	0	0	0	0	3	208	1225	GR
	HU	0	79	7	0	1	0	18	12	188	20	0	3	1	0	0	1	154	2224	HU
	IS	0	0	0	0	0	0	1	14	0	0	0	1	2	0	0	16	49	107	IS
R	IE	1	0	4	0	0	0	0	99	0	0	0	6	18	0	0	18	79	408	IE
e	IT	3	18	70	0	19	1	12	27	208	705	0	6	5	0	0	10	656	4028	IT
c	LU	0	0	1	0	0	0	0	3	0	0	0	1	0	0	0	0	6	51	LU
e	NL	0	0	6	0	0	0	3	267	0	0	0	55	4	0	0	4	60	887	NL
i	NO	1	5	14	19	0	0	107	363	2	0	5	48	14	0	0	37	438	1486	NO
v	PL	0	57	14	12	3	0	187	258	85	10	18	48	6	0	0	9	568	11497	PL
e	PT	181	0	141	0	0	0	0	7	1	9	0	1	42	0	0	5	73	476	PT
r	RO	0	1439	4	1	1	5	238	15	308	17	1	3	1	0	0	2	344	3825	RO
s	ES	109	0	2258	0	1	0	1	62	5	51	0	9	76	3	0	18	425	3260	ES
	SE	0	8	8	163	0	0	187	326	9	1	25	52	10	0	0	22	465	2313	SE
	CH	0	0	16	0	45	0	1	15	4	3	0	4	2	0	0	1	97	482	CH
	TR	0	83	2	0	0	321	252	5	24	52	0	1	0	0	0	6	635	1857	TR
	SU	1	853	33	83	5	75	18663	504	329	265	70	84	14	0	0	41	6529	37670	SU
	GB	1	0	23	1	0	0	5	3508	0	1	1	87	56	0	0	41	267	4307	GB
	YU	1	120	23	0	3	1	30	18	1599	115	0	4	2	0	0	5	489	3971	YU
	REM	5	24	84	1	1	8	694	19	26	2395	0	2	4	0	0	13	1777	5444	REM
	BAS	1	17	13	126	1	0	370	420	20	1	108	79	9	0	0	24	488	4119	BAS
	NOS	4	3	76	17	1	0	27	4645	5	3	10	711	94	0	0	149	797	8566	NOS
	ATL	184	7	1548	26	2	0	1021	1979	7	12	7	160	1268	0	0	1374	4194	13456	ATL
	MED	27.	182	706	1	12	112	144	103	656	2723	1	17	27	2	0	102	2392	11977	MED
	BLS	0	269	1	1	0	82	907	9	54	33	1	2	0	0	0	12	539	3013	BLS
	SUM	533	3543	5583	494	143	621	23547	14186	4018	6602	277	1758	1775	7	0	1983	24266	153312	SUM
		PT	RO	ES	SE	CH	TR	SU	GB	YU	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1988. Unit: 100 tonnes(S)

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*********  receiver-emitter matrix *********

reduced nitrogen,  tot dep.
averaging period: 1990  1  1 12 -  1991  1  1  6
unit =  100. tonnes

                                                  Emitters

          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
    AL   100     0     0     2     0     0     0     1     0     1     4     1     0     0     6     0     0     0     1  AL
    AT     0   346     5     0    36     1     0    30    14   146     0    18     0     1    51     1     9     0    15  AT
    BE     0     0   355     0     1     0     0    78     2    20     0     0     0     2     1     2    51     0     2  BE
    BG     4     2     0   504     6     0     0     1     2     3    14    16     0     0     6     0     1     0    10  BG
    CS     0    38     7     2   618     3     0    26    65   127     0    50     0     1    14     1    17     0    82  CS
    DK     0     0     5     0     1   437     0    12     7    37     0     0     0     3     0     0    17     1     5  DK
    FI     0     1     2     0     4    10   157     6     8    14     0     2     0     1     2     0     6     2    25  FI
    FR     0     4    71     0     6     2     0  3217    14    89     0     3     0    11    48     7    53     0    14  FR
    DD     0     2    17     0    14    15     0    38   779   198     0     1     0     3     3     2    54     0    33  DD
    DE     0    23    94     0    22    17     0   232    72  2467     0     2     0    10    20    11   290     0    28  DE
    GR     9     1     0    24     2     0     0     3     1     1   240     4     0     0     8     0     0     0     3  GR
    HU     0    19     1     2    40     1     0     7     7    19     1   597     0     0    24     0     3     0    20  HU
    IS     0     0     0     0     0     0     0     1     0     1     0     0    12     1     0     0     1     0     0  IS
R   IE     0     0     2     0     0     0     0    10     1     3     0     0     0   517     0     0     4     0     0  IE
e   IT     1    14     4     2    11     0     0    90     6    43     3    16     0     1  1655     0     6     0     9  IT
c   LU     0     0     2     0     0     0     0     9     0     3     0     0     0     0     0    21     1     0     0  LU
e   NL     0     0    39     0     0     1     0    32     3    47     0     0     0     4     0     0   802     0     2  NL
i   NO     0     0     9     0     3    31     2    23    13    36     0     1     0     8     1     0    23    99    15  NO
v   PL     0    13    18     2    93    37     1    41   193   163     0    28     0     5    10     2    51     1  2208  PL
e   PT     0     0     0     0     0     0     0     5     0     1     0     0     0     0     1     0     1     0     0  PT
r   RO     2     5     1    44    24     1     0     5     8    12     4    80     0     0    13     0     2     0    34  RO
s   ES     0     1     4     0     1     1     0    96     4    10     0     1     0     2     8     0     5     0     4  ES
    SE     0     2     8     0    10    82    13    20    31    62     0     2     0     5     2     0    27    15    50  SE
    CH     0     3     3     0     1     0     0    75     2    38     0     0     0     0    34     1     5     0     2  CH
    TR     0     1     0    16     3     0     0     1     1     3     6     6     0     0     2     0     0     0     7  TR
    SU     2    31    32    49   132    70    44    89   148   220     8   120     0     9    32     2    85     6   759  SU
    GB     0     0     8     0     2     4     0    52     6    19     0     0     0    94     0     0    16     0     4  GB
    YU    15    24     2    20    25     1     0    21     9    25     9    83     0     0   104     0     3     0    20  YU
   REM     1     1     1     2     5     1     0    20     4     7     3     4     0     0    19     0     2     0    11  REM
   BAS     0     3    14     0    12   133    22    34    83   147     0     4     0     7     3     1    53     4   121  BAS
   NOS     0     2    72     0     5    90     0   272    29   137     0     1     0    50     2     1   179    11    17  NOS
   ATL     0     3    32     0     8    18     9   325    25    78     0     3     6   233     4     2    58    19    23  ATL
   MED    17    14     7    30    20     1     0   209    12    36    53    33     0     1   336     1    12     0    22  MED
   BLS     1     2     0    27     5     1     0     1     3     4     4     9     0     0     3     0     1     0    15  BLS
   SUM   153   556   819   729  1109   960   249  5083  1553  4217   349  1087    18   968  2412    56  1838   162  3558  SUM
          AL    AT    BE    BG    CS    DK    FI    FR    DD    DE    GR    HU    IS    IE    IT    LU    NL    NO    PL
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                                                  Emitters

          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     2     1     0     0     0     1     0     9     0     0     0     0     0     0     0    17   145  AL
    AT     0     2     1     0    23     0     4     4    21     0     0     0     0     0     0     0    63   791  AT
    BE     0     0     2     0     0     0     2    16     0     0     0     0     0     0     0     0    19   553  BE
    BG     0    74     0     0     0     5    28     0    28     0     0     0     0     0     0     0    45   750  BG
    CS     0     9     1     1     5     0    16     6    12     0     0     0     0     0     0     0    72  1174  CS
    DK     0     0     0     4     0     0     2    17     0     0     0     0     0     0     0     0    18   566  DK
    FI     0     1     1    12     1     0    76     5     1     0     0     0     0     0     0     0    86   424  FI
    FR     5     1    81     0    26     0     7    45     3     1     0     0     0     0     0     0   248  3957  FR
    DD     0     1     2     2     2     0    12    15     0     0     0     0     0     0     0     0    56  1248  DD
    DE     1     1     8     1    45     0    15    54     1     0     0     0     0     0     0     0   151  3567  DE
    GR     0    14     1     0     0     6    10     0    11     1     0     0     0     0     0     0    53   391  GR
    HU     0    24     1     0     2     0     8     1    40     0     0     0     0     0     0     0    46   865  HU
    IS     0     0     0     0     0     0     0     3     0     0     0     0     0     0     0     0    19    40  IS
R   IE     0     0     1     0     0     0     0    22     0     0     0     0     0     0     0     0    27   588  IE
e   IT     1     4    15     0    50     1     4     2    32     4     0     0     0     0     0     0   183  2158  IT
c   LU     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     2    41  LU
e   NL     0     0     1     0     0     0     1    26     0     0     0     0     0     0     0     0    19   977  NL
i   NO     1     2     3    11     0     0    12    44     0     0     0     0     0     0     0     0   136   473  NO
v   PL     0    13     2    12     3     0   110    23    11     0     0     0     0     0     0     0   176  3216  PL
e   PT   315     0    49     0     0     0     0     1     0     0     0     0     0     0     0     0    20   395  PT
r   RO     0  1072     1     0     1     3   118     1    41     0     0     0     0     0     0     0    96  1569  RO
s   ES    69     0  1392     0     1     0     0     6     1     3     0     0     0     0     0     0   102  1712  ES
    SE     0     3     1   268     1     0    62    30     1     0     0     0     0     0     0     0   147   844  SE
    CH     0     0     3     0   299     0     1     2     1     0     0     0     0     0     0     0    35   503  CH
    TR     0    22     0     0     0   969    96     0     3     6     0     0     0     0     0     0   154  1299  TR
    SU     1   259     8    50     8    80 12091    51    51    33     0     0     0     0     0     0  1879 16348  SU
    GB     1     0     3     1     1     0     2  1296     0     0     0     0     0     0     0     0    80  1591  GB
    YU     0    28     4     0     5     0    11     1   798     1     0     0     0     0     0     0   142  1353  YU
   REM     2     7    18     0     1    27   224     2     4   337     0     0     0     0     0     0   349  1053  REM
   BAS     0     3     2    68     1     0   121    35     2     0     0     0     0     0     0     0   141  1016  BAS
   NOS     2     1    10    10     2     0     9   362     1     0     0     0     0     0     0     0   211  1478  NOS
   ATL    72     2   123     9     3     0    66   269     1     0     0     0     0     0     0     0  1198  2589  ATL
   MED     9    30   116     0    14    50    37     6    74    35     0     0     0     0     0     0   471  1647  MED
   BLS     0    57     0     0     0    64   311     0     6     5     0     0     0     0     0     0   110   630  BLS
   SUM   482  1633  1850   453   495  1204 13455  2345  1157   428     0     0     0     0     0     0  6574 55953  SUM
          PT    RO    ES    SE    CH    TR    SU    GB    YU   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduced Nitrogen in 1988. Unit: 100 tonnes(N)

Transboundary Import-Export Budgets 1990

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AT	381	*82*	1349	*94*	8	63	551	*92*	626	*93*	7	54	354	*51*	445	*56*	3	79
BE	1393	*87*	536	*71*	23	84	1006	*96*	292	*88*	19	80	501	*59*	198	*36*	15	96
BG	8660	*86*	1020	*41*	15	46	1050	*92*	297	*76*	8	37	682	*57*	246	*33*	5	61
CS	9974	*82*	2908	*58*	8	71	2701	*92*	872	*78*	7	65	757	*55*	556	*47*	4	81
DK	831	*91*	495	*86*	34	79	834	*97*	288	*92*	23	71	568	*57*	129	*23*	24	96
FI	978	*75*	1203	*79*	19	71	790	*87*	582	*83*	14	64	131	*46*	267	*63*	11	86
FR	4826	*74*	2988	*64*	23	75	3999	*83*	1629	*66*	17	68	2548	*44*	740	*19*	15	88
DD	18391	*84*	1661	*32*	11	75	1960	*93*	887	*86*	11	73	967	*55*	469	*38*	9	89
DE	3321	*76*	3631	*77*	15	81	5211	*87*	1686	*69*	14	75	2120	*46*	1100	*31*	9	92
GR	2358	*92*	1033	*84*	22	36	1129	*95*	240	*79*	12	28	402	*63*	151	*39*	9	54
HU	4096	*81*	1270	*57*	9	71	658	*91*	472	*88*	7	64	754	*56*	268	*31*	4	80
IS	104	*87*	91	*85*	47	53	57	*93*	71	*95*	28	39	13	*51*	28	*70*	24	73
IE	754	*85*	272	*67*	50	76	328	*94*	157	*88*	35	66	521	*50*	71	*12*	28	93
IT	6861	*82*	2499	*62*	24	55	5464	*88*	839	*52*	14	45	1771	*52*	503	*23*	10	70
LU	66	*94*	47	*92*	11	84	69	*99*	27	*96*	13	81	37	*64*	20	*49*	9	97
NL	869	*86*	746	*84*	33	83	1752	*97*	330	*84*	23	77	1109	*58*	175	*18*	16	96
NO	214	*81*	1435	*97*	29	66	628	*91*	885	*93*	18	52	90	*48*	374	*79*	18	86
PL	11620	*72*	7067	*61*	8	71	3338	*86*	2094	*79*	7	65	1976	*47*	1008	*31*	5	85
PT	1234	*87*	295	*62*	18	38	614	*91*	165	*74*	12	36	451	*59*	80	*20*	11	63
RO	5116	*78*	2386	*62*	8	54	1456	*88*	628	*75*	6	45	1399	*57*	497	*32*	4	66
ES	9072	*80*	1002	*31*	24	49	3041	*84*	637	*53*	13	40	1515	*52*	320	*19*	9	64
SE	517	*76*	2150	*93*	27	73	1089	*87*	1254	*89*	18	64	234	*47*	576	*68*	17	90
CH	170	*79*	437	*91*	8	67	464	*92*	264	*87*	7	53	294	*50*	204	*41*	3	83
TR	1449	*82*	1536	*83*	12	35	1344	*89*	490	*74*	7	24	2449	*72*	330	*25*	3	35
SU	24477	*57*	19007	*50*	7	55	8658	*64*	7477	*61*	4	45	7204	*37*	4257	*26*	3	70
GB	15312	*81*	799	*19*	42	75	7939	*92*	479	*39*	32	69	1339	*51*	295	*19*	26	89
YU	5740	*78*	2372	*60*	11	55	878	*87*	962	*88*	8	46	898	*53*	555	*41*	5	68
REM	15710	*87*	3049	*56*	17	36	1020	*92*	1246	*93*	3	17	1071	*76*	716	*68*	3	30
BAS	252	*70*	4011	*97*	35	77	214	*88*	1747	*98*	18	69	0	*0*	1016	*100*	0	100
NOS	1486	*68*	7855	*92*	44	80	1698	*87*	2775	*92*	27	71	0	*0*	1478	*100*	0	100
ATL	3389	*73*	12188	*91*	30	38	3292	*83*	5197	*89*	20	32	0	*0*	2589	*100*	0	100
MED	58	*97*	11975	*100*	3	12	39	*97*	3137	*100*	3	13	0	*0*	1647	*100*	0	100
BLS	0	*0*	3013	*100*	0	100	0	*0*	609	*100*	0	100	0	*0*	630	*100*	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1991 1 1 12 - 1992 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	
	AL	4	1	1	3	3	0	0	5	4	12	2	0	0	29	0	1	0	3	0	3	1	AL
	AT	0	43	11	1	70	5	0	57	184	0	8	0	0	93	1	13	1	32	0	4	2	AT
	BE	0	1	44	0	3	1	0	57	53	0	0	0	1	1	1	33	0	3	1	0	3	BE
	BG	2	3	1	66	18	1	0	4	17	22	9	0	0	17	0	3	0	17	0	61	0	BG
	CS	0	26	16	2	220	9	2	56	245	1	27	0	1	35	2	20	2	118	0	10	3	CS
	DK	0	1	5	0	9	27	1	11	36	0	1	0	2	1	0	17	3	11	0	0	0	DK
	FI	0	1	7	0	25	28	126	14	82	0	2	0	1	1	0	18	22	58	0	2	1	FI
	FR	0	10	86	0	37	5	1	807	274	0	6	0	8	145	8	73	1	18	13	2	162	FR
	DE*	0	24	142	0	166	36	2	365	1180	0	8	0	7	52	13	224	7	82	2	2	22	DE*
	GR	3	1	1	27	7	1	0	6	6	73	4	0	0	28	0	1	0	9	0	19	1	GR
	HU	0	19	4	4	78	2	0	16	60	2	56	0	0	48	0	6	0	53	0	23	2	HU
	IS	0	0	1	0	0	1	0	3	4	0	0	5	1	0	0	3	1	0	0	0	0	IS
R	IE	0	0	2	0	1	1	0	10	12	0	0	0	22	0	0	5	0	1	0	0	3	IE
e	IT	1	26	10	4	44	3	0	160	114	9	15	0	1	800	1	15	1	28	3	9	40	IT
c	LU	0	0	2	0	0	0	0	8	5	0	0	0	0	0	1	2	0	0	0	0	1	LU
e	NL	0	1	24	0	4	2	0	30	70	0	0	0	2	1	0	65	0	3	0	0	2	NL
i	NO	0	1	14	0	19	31	8	21	96	0	2	1	6	1	0	35	71	32	0	1	1	NO
v	PL	0	18	40	3	244	52	8	93	511	1	24	0	2	37	3	70	8	517	1	20	5	PL
e	PT	0	0	0	0	0	0	0	4	2	0	0	0	0	1	0	0	0	0	59	0	46	PT
r	RO	1	7	2	36	68	4	2	8	50	11	37	0	0	39	0	6	1	70	0	195	1	RO
s	ES	0	2	7	0	6	1	0	90	35	0	1	0	2	41	1	10	0	3	71	0	591	ES
	SE	0	3	21	0	25	87	43	33	149	0	2	0	4	2	1	61	71	52	0	3	1	SE
	CH	0	3	5	0	5	1	0	66	49	0	1	0	0	56	1	7	0	2	1	0	6	CH
	TR	1	2	0	25	12	1	1	3	9	41	7	0	0	11	0	1	0	16	0	27	1	TR
	GB	0	2	20	0	10	7	1	73	77	0	1	0	28	3	1	38	3	12	1	1	10	GB
	YU	5	32	8	16	97	4	1	36	104	21	54	0	0	248	1	12	1	73	0	36	5	YU
	BY	0	5	8	4	49	17	9	18	97	2	9	0	1	12	1	14	4	138	0	13	1	BY
	UA	1	9	6	23	104	16	11	23	114	10	34	0	0	35	1	13	4	224	0	75	2	UA
	MD	0	0	0	3	5	1	0	1	5	1	2	0	0	2	0	1	0	11	0	9	0	MD
	RU	0	14	29	20	145	96	223	60	314	5	30	0	1	36	1	63	45	363	0	63	4	RU
	EE	0	1	2	0	7	12	13	4	21	0	1	0	0	2	0	5	4	16	0	0	0	EE
	LV	0	1	4	0	12	14	8	8	38	0	1	0	0	2	0	9	4	26	0	1	1	LV
	LT	0	2	5	1	17	13	4	10	53	1	2	0	0	3	0	10	3	44	0	2	1	LT
	REM	0	2	4	3	6	1	2	55	18	7	2	0	0	80	0	6	0	14	5	5	57	REM
	BAS	0	4	34	0	48	116	58	62	278	0	4	0	4	7	2	77	32	109	0	4	4	BAS
	NOS	0	8	85	0	65	57	5	223	370	0	5	1	32	14	3	198	23	63	3	2	23	NOS
	ATL	0	10	98	0	72	65	50	367	493	0	6	18	106	18	5	179	79	88	68	2	225	ATL
	MED	6	29	25	59	88	7	2	351	154	162	35	0	2	931	2	34	1	77	16	60	273	MED
	BLS	0	5	1	28	24	4	2	3	17	12	10	0	0	8	0	3	1	42	0	43	0	BLS
	SUM	25	316	777	330	1815	732	585	3222	5397	392	406	27	238	2840	51	1347	393	2425	248	698	1499	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	

Emitters

		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	1	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	29	109	AL
	AT	3	20	0	19	13	2	2	0	1	0	0	1	0	1	10	2	0	0	0	76	678	AT
	BE	1	1	0	58	0	0	0	0	0	0	0	0	0	0	26	6	0	0	0	21	315	BE
	BG	1	0	7	4	14	3	28	2	9	0	0	1	1	0	1	0	0	0	0	60	374	BG
	CS	6	7	0	37	11	5	7	0	2	0	1	3	0	2	15	3	0	0	0	92	985	CS
	DK	6	1	0	80	0	1	1	0	2	0	0	1	0	2	22	3	0	0	0	24	269	DK
	FI	74	0	0	52	1	10	7	0	40	12	5	13	0	12	21	3	0	0	0	121	760	FI
	FR	3	30	0	283	7	1	2	0	0	0	0	1	1	1	105	97	0	0	0	309	2495	FR
	DE*	12	33	0	330	4	4	5	0	2	0	0	2	0	6	139	26	0	0	0	250	3153	DE*
	GR	1	0	14	3	7	2	14	1	5	0	0	1	1	0	1	0	0	0	0	83	323	GR
	HU	2	3	0	11	23	2	11	0	1	0	0	1	0	1	4	1	0	0	0	52	488	HU
	IS	0	0	0	17	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	36	80	IS
R	IE	0	0	0	72	0	0	0	0	0	0	0	0	0	0	9	20	0	0	0	36	197	IE
e	IT	2	31	1	31	34	2	4	0	0	0	0	1	5	1	11	6	0	0	0	222	1636	IT
c	LU	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	26	LU
e	NL	1	1	0	95	0	0	0	0	0	0	0	0	0	0	33	5	0	0	0	22	364	NL
i	NO	36	0	0	196	1	3	2	0	6	1	1	2	0	4	47	14	0	0	0	159	815	NO
v	PL	34	6	0	120	10	25	22	1	19	2	4	20	0	12	51	7	0	0	0	203	2197	PL
e	PT	0	1	0	4	0	0	0	0	0	0	0	0	0	0	1	37	0	0	0	46	203	PT
r	RO	3	1	7	9	26	10	73	6	24	1	1	4	1	1	4	0	0	0	0	101	807	RO
s	ES	1	4	0	60	2	0	0	0	0	0	0	0	4	0	15	84	2	0	0	193	1227	ES
	SE	157	1	0	191	1	7	9	0	20	5	4	10	0	15	66	11	0	0	0	168	1221	SE
	CH	0	32	0	13	1	0	0	0	0	0	0	0	0	0	5	3	0	0	0	35	294	CH
	TR	1	0	261	3	4	5	71	2	40	0	0	2	4	0	1	0	0	0	0	392	945	TR
	GB	6	1	0	849	0	2	4	0	1	0	0	1	0	1	81	54	0	0	0	125	1414	GB
	YU	3	4	2	18	113	3	12	1	1	0	0	3	1	1	8	1	0	0	0	171	1099	YU
	BY	19	2	5	26	4	93	44	2	49	3	8	34	0	5	12	2	0	0	0	104	814	BY
	UA	14	3	35	28	15	72	537	13	231	4	5	19	8	4	13	1	0	0	0	316	2019	UA
	MD	0	0	1	1	1	3	22	4	9	0	0	1	0	0	1	0	0	0	0	15	100	MD
	RU	155	6	40	149	12	213	578	8	2441	56	43	117	80	39	62	9	0	0	0	1708	7232	RU
	EE	18	0	0	18	0	3	2	0	6	7	4	6	0	5	6	1	0	0	0	26	191	EE
	LV	20	0	1	21	0	7	4	0	8	4	8	18	0	6	9	1	0	0	0	37	273	LV
	LT	15	1	0	18	1	10	5	0	9	1	4	29	0	4	9	1	0	0	0	37	316	LT
	REM	2	3	5	19	4	6	51	1	166	1	1	2	96	0	6	9	0	0	0	694	1334	REM
	BAS	147	2	0	220	1	13	13	0	28	11	9	20	0	30	81	11	0	0	0	173	1601	BAS
	NOS	29	5	0	1308	2	5	6	0	5	1	1	4	0	7	267	89	0	0	0	300	3208	NOS
	ATL	63	11	0	1351	2	10	8	0	81	5	3	9	1	10	250	761	0	0	0	2565	7078	ATL
	MED	5	20	87	87	73	11	62	5	22	1	1	5	32	2	29	28	1	0	0	851	3635	MED
	BLS	3	0	74	7	4	11	185	5	130	1	1	3	14	1	3	0	0	0	0	217	860	BLS
	SUM	843	228	542	5813	400	546	1794	53	3364	119	105	337	252	174	1426	1302	5	0	0	10071	51138	SUM
		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1991. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1991 1 1 12 - 1992 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	
	AL	41	0	1	28	8	0	0	4	7	33	11	0	0	34	0	0	0	9	0	9	1	AL
	AT	0	73	10	4	291	4	0	57	360	1	74	0	1	110	1	4	0	124	0	11	5	AT
	BE	0	0	207	0	15	1	0	137	107	0	2	0	1	2	2	26	0	11	1	0	7	BE
	BG	8	2	1	1224	50	1	0	4	48	35	59	0	0	18	0	1	0	54	0	236	1	BG
	CS	0	23	16	12	1883	8	1	56	1013	1	253	0	1	32	1	6	0	600	0	34	6	CS
	DK	0	1	7	0	36	106	1	13	121	0	4	0	2	1	0	7	1	49	0	1	1	DK
	FI	0	0	6	0	57	19	245	11	156	0	8	0	1	1	0	4	5	137	0	4	2	FI
	FR	1	7	151	2	141	5	0	1666	466	1	41	0	11	172	10	40	0	64	11	6	406	FR
	DE*	0	24	223	2	968	54	2	494	4659	0	64	0	9	55	14	104	2	391	2	9	56	DE*
	GR	14	1	1	380	20	0	0	5	17	247	25	0	0	27	0	0	0	25	0	60	2	GR
	HU	1	15	4	24	282	2	0	16	152	3	851	0	0	49	0	2	0	188	0	91	2	HU
	IS	0	0	1	0	1	0	0	2	3	0	0	16	2	0	0	0	0	0	0	0	1	IS
R	IE	0	0	3	0	4	1	0	10	20	0	0	0	134	0	0	2	0	3	0	0	4	IE
e	IT	4	19	10	33	146	3	0	166	199	15	115	0	1	1470	1	4	0	97	3	23	63	IT
c	LU	0	0	3	0	2	0	0	16	10	0	0	0	0	0	4	1	0	1	0	0	2	LU
e	NL	0	1	76	0	20	2	0	69	167	0	2	0	3	2	1	111	0	13	0	0	5	NL
i	NO	0	1	12	0	43	31	7	18	157	0	7	1	6	1	0	9	45	73	0	3	2	NO
v	PL	1	12	45	23	1100	58	6	97	2220	2	168	0	3	33	2	21	2	4049	0	65	11	PL
e	PT	0	0	0	0	1	0	0	4	2	0	0	0	0	1	0	0	0	1	184	0	122	PT
r	RO	5	4	2	304	201	3	1	9	158	16	268	0	0	37	0	2	0	241	0	1258	2	RO
s	ES	0	1	8	1	15	1	0	103	44	0	3	0	4	42	0	3	0	8	105	1	2257	ES
	SE	0	1	22	1	75	133	42	34	252	0	14	0	5	1	0	17	26	170	0	8	2	SE
	CH	0	3	6	0	22	1	0	77	74	0	9	0	0	102	1	3	0	7	0	1	15	CH
	TR	2	1	0	273	31	1	1	2	28	75	38	0	0	10	0	0	0	40	0	79	0	TR
	GB	0	1	36	0	38	6	1	110	150	0	4	0	66	3	1	22	1	36	1	2	23	GB
	YU	25	24	8	140	299	4	0	38	242	41	406	0	0	255	1	4	0	225	0	124	8	YU
	BY	0	3	9	31	163	14	7	20	274	2	62	0	1	12	0	4	1	540	0	49	2	BY
	UA	3	6	7	196	336	13	10	22	354	16	257	0	1	30	0	4	1	850	0	311	3	UA
	MD	0	0	0	29	17	1	0	1	20	2	12	0	0	2	0	0	0	39	0	54	0	MD
	RU	1	5	22	129	357	60	186	44	632	8	162	0	1	27	0	13	8	938	0	173	5	RU
	EE	0	0	2	0	20	9	21	4	46	0	4	0	0	1	0	1	1	52	0	1	1	EE
	LV	0	1	4	1	39	12	8	7	91	0	9	0	0	2	0	2	1	103	0	3	2	LV
	LT	0	1	6	5	60	12	4	11	140	1	10	0	0	4	0	3	1	192	0	5	2	LT
	REM	1	1	4	24	13	1	1	42	22	11	9	0	0	77	0	2	0	34	7	12	81	REM
	BAS	0	3	42	3	203	241	122	73	761	0	29	0	5	5	1	26	11	574	0	14	10	BAS
	NOS	0	7	210	1	334	120	5	467	1095	0	37	1	62	13	4	199	21	292	2	7	57	NOS
	ATL	0	4	113	1	186	49	37	530	707	0	26	45	342	17	4	54	32	222	187	5	1666	ATL
	MED	48	23	30	805	337	7	1	537	376	565	305	0	3	1663	2	12	0	295	27	221	693	MED
	BLS	2	2	1	516	78	3	2	2	69	23	64	0	0	8	0	1	0	145	0	183	0	BLS
	SUM	157	272	1308	4190	7892	985	714	4975	15423	1098	3413	64	666	4318	53	716	160	10893	534	3060	5527	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	

Emitters

		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	1	1	52	1	3	1	0	0	0	0	27	0	0	0	0	0	1	80	354	AL
	AT	1	9	0	22	88	5	8	1	1	1	0	2	7	1	7	2	0	0	2	207	1496	AT
	BE	0	0	0	83	0	1	0	0	0	0	0	0	0	0	33	4	0	0	2	51	695	BE
	BG	0	0	8	6	152	12	103	18	11	1	0	2	24	0	1	0	0	0	2	224	2306	BG
	CS	2	2	0	44	59	12	25	2	7	2	1	6	9	2	11	2	0	0	2	258	4394	CS
	DK	3	0	0	121	1	3	3	0	3	1	0	2	0	5	25	2	0	0	5	54	579	DK
	FI	29	0	0	53	4	22	18	1	316	66	8	22	0	15	11	2	0	0	8	318	1550	FI
	FR	1	16	0	405	35	4	5	0	0	0	0	1	21	1	120	72	0	0	30	723	4638	FR
	DE*	4	17	0	448	19	9	15	0	9	2	0	5	3	9	140	16	0	0	18	661	8507	DE*
	GR	0	0	15	4	67	6	41	9	5	0	0	1	48	0	1	0	0	0	4	243	1270	GR
	HU	1	1	1	12	148	7	41	3	2	1	0	3	14	1	3	0	0	0	1	151	2070	HU
	IS	0	0	0	15	0	0	0	0	1	0	0	0	0	0	1	2	0	0	14	46	107	IS
R	IE	0	0	0	147	0	0	0	0	0	0	0	1	0	0	7	20	0	0	16	70	443	IE
e	IT	0	15	1	39	209	5	12	2	1	0	0	1	556	1	8	4	0	0	11	625	3860	IT
c	LU	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	6	48	LU
e	NL	0	0	0	166	0	1	1	0	0	0	0	0	0	0	53	3	0	0	4	55	756	NL
i	NO	17	0	0	255	2	6	6	1	93	3	1	3	0	4	36	12	0	0	31	368	1255	NO
v	PL	11	2	0	147	61	57	98	7	56	11	5	50	11	17	39	4	0	0	8	577	9080	PL
e	PT	0	0	0	3	0	0	0	0	0	0	0	0	4	0	0	39	0	0	5	65	433	PT
r	RO	1	0	8	10	262	33	315	61	36	3	1	7	16	1	3	0	0	0	2	385	3657	RO
s	ES	0	1	0	67	7	0	0	0	0	0	0	0	51	0	10	73	3	0	18	403	3229	ES
	SE	133	0	0	249	4	18	25	2	81	20	5	18	0	23	51	8	0	0	19	412	1876	SE
	CH	0	39	0	19	7	0	1	0	0	0	0	0	3	0	4	2	0	0	1	102	500	CH
	TR	0	0	429	4	32	14	215	19	35	1	1	3	29	0	1	0	0	0	8	843	2217	TR
	GB	1	0	0	3652	1	3	9	1	1	1	0	2	2	1	115	51	0	0	40	272	4652	GB
	YU	1	1	2	21	1593	9	41	4	4	1	1	5	110	1	5	1	0	0	5	509	4158	YU
	BY	5	1	3	30	28	672	175	17	110	17	14	93	2	5	8	1	0	0	2	358	2736	BY
	UA	4	1	32	30	102	272	3559	165	412	20	6	37	30	4	9	1	0	0	6	1099	8206	UA
	MD	0	0	1	1	7	10	98	97	14	1	0	1	1	0	0	0	0	0	0	59	470	MD
	RU	38	1	37	121	75	847	2118	63	8223	405	63	195	259	35	29	5	0	0	23	5077	20385	RU
	EE	6	0	0	19	2	9	7	0	25	129	12	16	0	9	4	0	0	0	2	73	479	EE
	LV	7	0	0	25	3	29	14	1	28	18	46	68	0	8	5	1	0	0	2	106	648	LV
	LT	5	0	0	20	4	29	20	2	34	6	10	213	0	6	6	1	0	0	2	115	933	LT
	REM	0	1	6	16	16	16	180	4	345	3	1	3	1611	0	3	5	1	0	13	1678	4243	REM
	BAS	110	1	0	311	9	38	51	4	112	87	28	59	1	110	73	7	0	0	24	479	3628	BAS
	NOS	16	2	0	4319	10	17	21	1	15	4	2	11	3	12	733	82	0	0	144	768	9096	NOS
	ATL	23	4	0	2402	7	23	21	2	890	19	4	14	8	9	206	1353	0	0	1399	4377	14991	ATL
	MED	2	9	150	126	686	30	207	43	25	2	1	8	2047	2	23	24	2	0	111	2488	11936	MED
	BLS	1	0	113	5	41	41	906	69	159	4	1	7	44	1	1	0	0	0	14	773	3278	BLS
	SUM	423	124	808	13420	3793	2260	8364	600	11062	829	214	859	4943	284	1788	1798	6	0	2001	25160	145156	SUM
		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1991. Unit: 100 tonnes(S)

********* receiver-emitter matrix *********

reduced nitrogen, tot dep.
averaging period: 1991 1 1 12 - 1992 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	
	AL	106	0	0	2	1	0	0	2	1	6	2	0	0	7	0	0	0	1	0	2	0	AL
	AT	0	327	4	0	40	2	0	35	167	0	16	0	0	52	1	9	0	23	0	3	1	AT
	BE	0	0	317	0	1	1	0	73	23	0	0	0	1	0	2	53	0	2	0	0	1	BE
	BG	5	1	0	471	5	0	0	2	6	17	11	0	0	4	0	2	0	7	0	81	0	BG
	CS	0	35	6	2	551	4	0	27	148	0	40	0	1	10	1	12	0	95	0	10	1	CS
	DK	0	1	2	0	2	379	0	6	32	0	1	0	2	0	0	11	1	8	0	0	0	DK
	FI	0	1	2	0	5	10	159	4	28	0	1	0	1	0	0	7	3	37	0	2	0	FI
	FR	0	6	65	0	7	3	0	3065	104	0	5	0	9	53	7	47	0	7	5	1	82	FR
	DE*	0	27	85	0	35	36	0	281	3030	0	6	0	8	19	10	318	2	58	1	2	8	DE*
	GR	9	1	0	26	2	0	0	3	1	265	4	0	0	6	0	0	0	3	0	16	0	GR
	HU	1	16	1	4	41	1	0	6	24	1	495	0	0	14	0	3	0	28	0	32	0	HU
	IS	0	0	1	0	0	0	0	2	1	0	0	12	2	0	0	1	0	0	0	0	0	IS
R	IE	0	0	1	0	0	0	0	8	4	0	0	0	521	0	0	3	0	1	0	0	1	IE
e	IT	1	18	3	3	13	1	0	81	60	3	17	0	1	1623	0	9	0	11	2	6	15	IT
c	LU	0	0	2	0	0	0	0	8	2	0	0	0	0	0	21	1	0	0	0	0	0	LU
e	NL	0	0	33	0	1	2	0	28	53	0	0	0	2	0	0	794	0	2	0	0	1	NL
i	NO	0	1	5	0	4	21	1	12	40	0	2	0	5	0	0	19	104	24	0	1	0	NO
v	PL	1	13	13	3	80	32	1	37	230	1	24	0	2	9	1	42	1	1945	0	18	1	PL
e	PT	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	312	0	44	PT
r	RO	3	4	1	54	20	1	0	3	18	5	61	0	0	10	0	3	0	32	0	1079	0	RO
s	ES	0	1	3	0	1	1	0	76	8	0	1	0	2	14	0	4	0	1	71	0	1420	ES
	SE	0	2	6	0	5	69	11	13	66	0	3	0	3	0	0	30	17	37	0	2	0	SE
	CH	0	3	3	0	1	1	0	63	45	0	1	0	0	36	0	6	0	1	0	0	2	CH
	TR	1	1	0	19	3	0	0	2	2	11	7	0	0	2	0	1	0	7	0	25	0	TR
	GB	0	1	11	0	2	4	0	69	32	0	0	0	84	1	0	24	0	8	0	1	3	GB
	YU	16	26	2	21	34	1	0	14	38	12	85	0	0	75	0	6	0	34	0	33	2	YU
	BY	0	3	2	4	11	7	1	6	32	1	10	0	1	4	0	8	0	115	0	16	0	BY
	UA	1	5	2	19	30	6	2	7	40	4	35	0	0	8	0	7	0	153	0	108	0	UA
	MD	0	0	0	3	1	0	0	0	2	0	2	0	0	0	0	0	0	6	0	22	0	MD
	RU	1	8	7	14	34	31	37	17	105	2	30	0	1	9	0	30	5	219	0	65	0	RU
	EE	0	1	1	0	1	5	3	1	7	0	0	0	0	0	0	2	0	12	0	0	0	EE
	LV	0	1	1	0	3	6	1	2	13	0	1	0	0	1	0	4	0	21	0	1	0	LV
	LT	0	2	2	0	5	5	1	3	18	0	2	0	0	1	0	5	0	49	0	2	0	LT
	REM	0	1	2	1	1	0	0	27	4	2	1	0	0	20	0	2	0	5	3	3	21	REM
	BAS	0	3	11	0	11	120	21	28	179	0	3	0	4	2	1	47	5	120	0	3	1	BAS
	NOS	0	6	71	0	14	89	1	307	223	0	4	0	41	4	2	206	12	44	1	2	9	NOS
	ATL	0	6	42	0	16	28	8	431	174	0	5	6	272	5	2	100	23	47	77	2	129	ATL
	MED	21	16	8	43	22	2	0	229	45	68	36	0	1	344	1	15	0	25	9	47	129	MED
	BLS	1	2	0	23	7	1	0	1	5	4	10	0	0	2	0	1	0	17	0	51	0	BLS
	SUM	168	537	716	714	1011	869	252	4982	5014	403	923	19	967	2336	52	1832	175	3205	482	1637	1875	SUM
		AL	AT	BE	BG	CS	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	

Emitters

		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	0	0	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	27	171	AL
	AT	1	24	0	2	22	2	4	0	1	0	0	1	0	0	0	0	0	0	0	67	807	AT
	BE	0	1	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	504	BE
	BG	0	0	8	1	34	4	45	6	7	0	0	1	1	0	0	0	0	0	0	56	776	BG
	CS	1	4	0	4	11	6	18	1	2	0	1	3	0	0	0	0	0	0	0	77	1074	CS
	DK	4	0	0	13	0	2	2	0	1	0	0	1	0	0	0	0	0	0	0	16	486	DK
	FI	14	0	0	4	1	11	10	0	36	13	7	10	0	0	0	0	0	0	0	92	459	FI
	FR	1	28	0	50	5	1	2	0	0	0	0	0	1	0	0	0	0	0	0	218	3772	FR
	DE*	4	42	0	48	3	4	8	0	1	0	0	2	0	0	0	0	0	0	0	205	4242	DE*
	GR	0	0	10	0	14	2	17	3	2	0	0	0	1	0	0	0	0	0	0	69	456	GR
	HU	0	1	0	1	36	3	19	1	1	0	0	1	0	0	0	0	0	0	0	46	776	HU
	IS	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	40	IS
R	IE	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	592	IE
e	IT	0	42	1	4	32	1	5	1	0	0	0	0	6	0	0	0	0	0	0	182	2141	IT
c	LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	38	LU
e	NL	0	1	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	953	NL
i	NO	11	0	0	33	1	3	3	0	4	1	1	2	0	0	0	0	0	0	0	106	407	NO
v	PL	12	4	0	15	11	48	60	2	25	3	6	25	0	0	0	0	0	0	0	177	2843	PL
e	PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	378	PT
r	RO	1	0	7	1	39	14	155	31	19	1	1	3	1	0	0	0	0	0	0	106	1675	RO
s	ES	0	2	0	9	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	99	1720	ES
	SE	261	0	0	23	1	9	10	1	16	5	6	9	0	0	0	0	0	0	0	116	723	SE
	CH	0	283	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	486	CH
	TR	0	0	1242	1	6	5	74	5	27	0	0	1	5	0	0	0	0	0	0	261	1710	TR
	GB	1	1	0	1334	0	2	5	0	1	0	0	1	0	0	0	0	0	0	0	74	1663	GB
	YU	1	2	2	2	833	3	17	1	1	0	1	2	1	0	0	0	0	0	0	152	1422	YU
	BY	4	1	2	3	5	902	126	6	55	3	16	49	0	0	0	0	0	0	0	111	1505	BY
	UA	3	1	29	4	16	144	3240	56	243	3	6	15	8	0	0	0	0	0	0	327	4524	UA
	MD	0	0	1	0	1	4	70	151	8	0	0	0	0	0	0	0	0	0	0	16	290	MD
	RU	26	2	84	16	14	286	620	20	5542	42	61	92	74	0	0	0	0	0	0	1499	8994	RU
	EE	4	0	0	2	0	5	4	0	6	105	12	8	0	0	0	0	0	0	0	22	203	EE
	LV	5	0	0	3	0	18	8	0	8	10	150	39	0	0	0	0	0	0	0	32	331	LV
	LT	4	0	0	2	1	27	13	1	9	2	13	319	0	0	0	0	0	0	0	35	523	LT
	REM	0	2	36	2	3	5	30	1	163	0	0	1	386	0	0	0	0	0	0	380	1101	REM
	BAS	71	1	0	28	1	20	22	1	25	23	22	27	0	0	0	0	0	0	0	132	933	BAS
	NOS	12	3	0	342	2	6	8	0	4	1	1	4	0	0	0	0	0	0	0	185	1601	NOS
	ATL	10	6	0	347	2	9	10	1	43	2	3	6	0	0	0	0	0	0	0	1254	3069	ATL
	MED	1	13	72	11	88	8	63	9	9	0	1	2	41	0	0	0	0	0	0	587	1964	MED
	BLS	0	0	147	1	5	12	296	15	134	0	1	2	18	0	0	0	0	0	0	203	960	BLS
	SUM	452	468	1642	2368	1199	1568	4966	313	6403	216	312	625	551	0	0	0	0	0	0	7060	56312	SUM
		SE	CH	TR	GB	YU	BY	UA	MD	RU	EE	LV	LT	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Reduced Nitrogen in 1991. Unit: 100 tonnes(N

Transboundary Import-Export Budgets 1991

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	319	89	313	88	16	44	69	95	105	96	8	34	149	58	65	38	9	66
AT	352	83	1423	95	10	64	572	93	635	94	9	51	348	52	480	59	5	80
BE	1423	87	488	70	27	80	1003	96	271	86	23	74	449	59	187	37	17	93
BG	7161	85	1082	47	18	50	744	92	308	82	11	41	550	54	305	39	6	70
CS	9227	83	2511	57	11	71	2632	92	765	78	10	64	684	55	523	49	6	82
DK	1109	91	473	82	38	81	950	97	242	90	25	75	527	58	107	22	26	96
FI	725	75	1305	84	19	74	757	86	634	83	13	66	121	43	300	65	11	90
FR	5214	76	2972	64	26	72	4163	84	1688	68	20	65	2617	46	707	19	18	88
DE*	16206	78	3848	45	16	74	6520	85	1973	63	17	70	2512	45	1212	29	11	90
GR	2363	91	1023	81	26	42	1093	94	250	77	15	34	377	59	191	42	11	63
HU	3714	81	1219	59	11	75	562	91	432	89	10	66	609	55	281	36	5	84
IS	99	86	91	85	47	56	59	92	75	94	30	42	13	51	28	70	24	77
IE	761	85	309	70	54	74	340	94	175	89	40	66	517	50	71	12	31	93
IT	6385	81	2390	62	25	55	5561	87	836	51	15	45	1704	51	518	24	11	70
LU	66	94	44	92	16	76	72	99	25	96	16	70	37	64	17	45	10	90
NL	754	87	645	85	37	83	1712	96	299	82	28	76	1133	59	159	17	19	95
NO	180	80	1210	96	32	71	599	89	744	91	20	59	94	47	303	74	20	89
PL	10926	73	5031	55	11	73	3150	86	1680	76	10	66	1761	48	898	32	7	86
PT	1301	88	249	58	17	36	653	92	144	71	12	35	454	59	66	17	11	63
RO	3947	76	2399	66	9	59	1217	86	612	76	8	49	1120	51	596	36	5	74
ES	8858	80	972	30	26	50	3183	84	636	52	14	40	1495	51	300	17	9	64
SE	427	76	1743	93	29	76	1091	87	1064	87	20	68	233	47	462	64	19	91
CH	166	81	461	92	8	60	455	93	262	89	8	47	310	52	203	42	4	79
TR	1341	76	1788	81	17	46	1297	83	684	72	10	35	2176	64	468	27	6	48
GB	14243	80	1000	21	44	75	7548	90	565	40	35	69	1301	49	329	20	28	90
YU	5011	76	2565	62	13	57	760	87	986	90	9	46	822	50	589	41	6	72
BY	2588	79	2064	75	5	69	762	89	721	89	6	64	902	50	603	40	3	87
UA	9131	72	4647	57	11	66	2473	82	1482	73	9	60	2764	46	1284	28	7	83
MD	823	89	373	79	15	65	90	96	96	96	11	56	236	61	139	48	7	81
RU	13737	63	12162	60	6	50	5384	69	4791	66	3	43	4019	42	3452	38	2	67
EE	1036	89	350	73	11	71	173	96	184	96	11	66	134	56	98	48	11	90
LV	244	84	602	93	13	74	150	95	265	97	9	66	196	57	181	55	8	90
LT	957	82	720	77	9	73	476	94	287	91	8	67	381	54	204	39	6	89
REM	10684	87	2632	62	19	40	1012	91	1238	93	4	23	1022	73	715	65	4	39
BAS	250	69	3518	97	37	79	213	88	1571	98	21	71	0	0	933	100	0	100
NOS	1464	67	8363	92	47	81	1677	86	2941	92	32	73	0	0	1601	100	0	100
ATL	3304	71	13638	91	31	39	3183	81	6317	89	23	33	0	0	3069	100	0	100
MED	58	97	11934	100	3	10	39	97	3634	100	3	13	0	0	1964	100	0	100
BLS	0	0	3278	100	0	100	0	0	860	100	0	100	0	0	960	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

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                 *********  receiver-emitter matrix *********

                 oxidized nitrogen, tot dep.
                 averaging period: 1992  1  1 12 -  1993  1  1  6
                 unit =  100. tonnes

                                                   Emitters

            AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH
     AL      4     1     0     3     2     0     0     3     4    12     1     0     0    26     0     0     0     1     0     2     1     0     0  AL
     AT      0    36    14     1    46     2     0    83   147     1     6     0     1   118     2    15     0    19     0     4     6     1    20  AT
     BE      0     1    46     0     5     1     0    63    59     0     0     0     1     1     1    29     0     2     1     0     6     0     0  BE
     BG      1     4     2    56    19     1     0     7    22    14    10     0     0    17     0     3     0    14     0    40     1     1     0  BG
     CS      0    27    21     2   217     5     0    63   244     2    23     0     1    43     2    27     1    96     0     7     5     3     7  CS
     DK      0     0     6     0     4    24     0    11    32     0     0     0     2     0     0    15     2     7     1     0     1     4     0  DK
     FI      0     1     7     0    18    24   110    16    77     0     2     0     1     3     0    17    23    43     0     2     2    69     1  FI
     FR      0    10    87     0    38     6     0   888   282     0     3     0     9   180     8    69     1    18    17     2   188     2    33  FR
    DE*      0    25   168     0   179    24     1   416  1177     0     7     0    11    97    14   243     4    78     4     3    34     8    39  DE*
     GR      3     2     1    24     9     1     0     6    12    62     5     0     0    31     0     1     0     7     0    12     2     0     0  GR
     HU      0    18     6     3    65     2     0    22    60     1    45     0     0    47     1     7     0    39     0    14     2     1     4  HU
     IS      0     0     0     0     0     1     0     1     1     0     0     4     0     0     0     1     1     0     0     0     0     0     0  IS
R    IE      0     0     2     0     1     0     0     7     5     0     0     0    25     0     0     3     0     1     1     0     3     0     0  IE
e    IT      1    16     6     5    28     2     0   149    66     9     9     0     1   869     1     6     0    21     3     6    54     1    28  IT
c    LU      0     0     2     0     0     0     0     9     5     0     0     0     0     0     1     1     0     0     0     0     1     0     0  LU
e    NL      0     0    28     0     6     1     0    34    69     0     0     0     2     1     0    68     0     4     0     0     2     1     0  NL
i    NO      0     1    13     0    15    27     8    24    76     0     1     1     7     2     1    33    69    17     0     0     3    32     1  NO
v    PL      0    17    47     2   240    46     4   104   517     2    20     0     5    35     3    86     8   494     1     9     9    31     7  PL
e    PT      0     0     1     0     1     0     0     6     3     0     0     0     0     2     0     1     0     0    60     0    53     0     0  PT
r    RO      1     9     8    25    78     3     1    23    76     8    38     0     0    37     1    11     1    68     0   135     2     2     2  RO
s    ES      0     3    13     0    10     1     0   117    46     0     3     0     2    50     1    15     0     7    79     1   646     1     4  ES
     SE      0     2    27     0    28    79    36    41   158     0     2     0     4     3     1    54    69    47     1     1     3   138     1  SE
     CH      0     3     4     0     4     1     0    78    30     0     0     0     0    87     1     3     0     2     1     0    10     0    33  CH
     TR      1     4     3    27    20     2     1    11    38    39     8     0     0    25     0     4     1    25     0    26     1     2     1  TR
     GB      0     1    22     0    16     5     0    65    70     0     0     0    35     2     1    42     3    10     1     0     8     3     1  GB
     BY      0     6     7     3    41    15    11    19    70     1     9     0     1    20     0    15     3   116     0    13     2    17     3  BY
     UA      1    10    18    23   127    16    11    39   178     9    33     0     1    37     1    33     5   265     0    59     3    19     4  UA
     MD      0     1     1     2     8     1     0     2     9     1     2     0     0     2     0     2     0    12     0     7     0     1     0  MD
     RU      1    17    33    35   148    86   224    73   301    15    36     0     4    39     1    64    46   378     0    73    11   150     6  RU
     EE      0     1     2     0     9     8    13     5    26     0     1     0     0     1     0     4     3    17     0     1     0    14     0  EE
     LV      0     1     3     0    14    11     9     7    34     0     1     0     1     2     0     7     3    30     0     2     1    16     0  LV
     LT      0     1     4     0    16    11     4    10    40     0     2     0     1     2     0    10     2    47     0     2     1    13     1  LT
     SI      0     7     1     0     7     0     0     9    16     0     2     0     0    50     0     1     0     5     0     1     2     0     2  SI
     HR      0     9     3     1    18     1     0    15    30     2     9     0     0    91     0     3     0    14     0     3     3     1     2  HR
     BA      1     5     2     1    16     1     0    12    27     2     8     0     0    70     0     3     0    12     0     4     2     1     2  BA
    YU*      3     8     3    10    28     1     0    14    41     8    18     0     0    59     0     6     0    18     0    17     2     1     2  YU*
    FYM      2     1     0     5     3     0     0     2     4     9     2     0     0     9     0     0     0     2     0     3     0     0     0  FYM
    REM      0     3     5     5    15     1     3    48    27     9     3     0     0    95     0     5     1    24     3     6    52     3     2  REM
    BAS      0     3    37     0    52   106    53    69   286     0     4     0     5     5     2    78    29   112     1     4     5   132     2  BAS
    NOS      0     5    81     0    46    48     3   209   297     0     2     1    42    11     2   211    25    44     6     1    25    25     3  NOS
    ATL      0     7    64     0    51    47    59   297   289     0     3    20   103    21     3   112    85    62    84     1   243    60     8  ATL
    MED      8    23    20    52    67     5     1   352   148   173    27     0     2  1043     2    20     1    62    14    38   284     5    24  MED
    BLS      1     5     6    36    43     5     3    16    61    16    15     0     0    24     0     9     2    66     0    51     1     6     2  BLS
    SUM     28   293   824   328  1758   618   560  3442  5160   398   361    27   269  3257    54  1336   390  2307   281   554  1682   765   248  SUM
            AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH


                                                   Emitters

            TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
     AL      4     1     0     1     0     0     0     0     0     0     1     2     1     2     0     0     0     0     0     0     0    19    91  AL
     AT      1    37     0     1     0     0     0     0     0     9     2     1     1     0     0     0    10     3     0     0     0    76   664  AT
     BE      0    70     0     0     0     0     0     0     0     0     0     0     0     0     0     0    22     5     0     0     0    20   335  BE
     BG     20     4     2    15     3     5     0     0     1     0     2     3     6     4     0     0     2     0     0     0     0    59   337  BG
     CS      1    56     2     5     0     1     0     0     1     4     3     2     1     0     0     1    17     3     0     0     0    90   987  CS
     DK      0    70     1     1     0     0     0     0     0     0     0     0     0     0     0     2    19     3     0     0     0    20   227  DK
     FI      1    51     7     8     0    31     5     5     7     0     0     0     0     0     0    12    21     3     0     0     0   112   680  FI
     FR      0   247     0     1     0     0     0     0     0     2     2     1     1     0     2     1    95    73     0     0     0   263  2531  FR
    DE*      0   443     2     4     0     2     0     0     2     3     1     1     0     0     0     4   123    25     0     0     0   257  3403  DE*
     GR     46     2     1    10     1     4     0     0     0     0     1     2     3     3     1     0     1     0     0     0     0    73   327  GR
     HU      1    13     1     6     0     1     0     0     0     4     7     5     4     1     0     0     5     1     0     0     0    49   437  HU
     IS      0     6     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     2     0     0     0    25    45  IS
R    IE      0    53     0     0     0     0     0     0     0     0     0     0     0     0     0     0     6    14     0     0     0    31   154  IE
e    IT     11    20     1     3     0     1     0     0     0     8     7     8     2     1     5     0     6     5     0     0     0   203  1564  IT
c    LU      0     3     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     1     0     0     0     2    27  LU
e    NL      0   123     0     0     0     0     0     0     0     0     0     0     0     0     0     0    29     4     0     0     0    21   396  NL
i    NO      0   192     1     1     0     3     0     1     1     0     0     0     0     0     0     4    52    13     0     0     0   148   749  NO
v    PL      1   197    16    17     1    12     0     2     8     3     3     2     2     0     0    11    57     9     0     0     0   204  2230  PL
e    PT      0     2     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1    19     0     0     0    33   184  PT
r    RO     13    17     6    44     8    10     0     0     2     2     3     5     8     3     0     1     6     1     0     0     0   112   771  RO
s    ES      0    45     0     0     0     0     0     0     0     1     1     1     1     0     4     0    13    55     2     0     0   178  1303  ES
     SE      0   178     4     3     0    10     2     3     5     0     0     0     0     0     0    16    68    11     0     0     0   159  1155  SE
     CH      0    16     0     0     0     0     0     0     0     1     0     0     0     0     0     0     4     3     0     0     0    36   317  CH
     TR    767     6     5    61     4    31     0     0     1     1     1     2     2     1     4     1     3     0     0     0     0   426  1557  TR
     GB      0   843     1     0     0     0     0     0     0     0     0     0     0     0     0     1    75    43     0     0     0   106  1356  GB
     BY      8    42    68    40     3    34     2     7    20     1     1     2     1     0     1     5    13     2     0     0     0   103   727  BY
     UA     69    69    58   402    20   156     2     5    15     3     4     5     5     2     5     6    23     4     0     0     0   300  2045  UA
     MD      4     4     2    14     5     3     0     0     1     0     0     0     0     0     0     0     1     0     0     0     0    15   101  MD
     RU    211   178   182   596    19  2436    27    36    70     3     4     5     7     2   101    40    66    12     0     0     0  1768  7502  RU
     EE      0    15     2     2     0     6     3     3     3     0     0     0     0     0     0     4     5     1     0     0     0    24   176  EE
     LV      1    26     5     3     0     8     2     6     9     0     0     0     0     0     0     5     8     1     0     0     0    35   252  LV
     LT      2    28     8     4     0     7     1     4    18     0     0     0     0     0     0     4     9     1     0     0     0    36   289  LT
     SI      1     2     0     0     0     0     0     0     0     6     2     1     0     0     0     0     1     0     0     0     0    17   136  SI
     HR      1     5     0     1     0     0     0     0     0     4     8     9     2     0     1     0     2     1     0     0     0    40   281  HR
     BA      2     5     0     1     0     0     0     0     0     2     6    17     3     1     1     0     2     1     0     0     0    40   248  BA
    YU*      3     7     1     4     0     1     0     0     0     2     5    14    17     8     0     0     3     1     0     0     0    59   364  YU*
    FYM      3     1     0     1     0     0     0     0     0     0     0     1     2     4     0     0     0     0     0     0     0    13    69  FYM
    REM     57    12     7    54     1   189     1     1     2     1     1     2     1     0   118     1     4     5     0     0     0   834  1601  REM
    BAS      1   224     9     8     1    19     4     7    12     1     1     1     1     0     0    30    76    10     0     0     0   170  1560  BAS
    NOS      0  1422     2     2     0     2     0     1     2     0     0     0     0     0     0     7   265    81     0     0     0   288  3160  NOS
    ATL      0  1018     8     8     0    90     2     3     6     1     1     0     0     0     1    10   191   600     0     0     0  2096  5656  ATL
    MED    391    66     5    36     5    13     0     1     2     8    16    24    11     7    37     1    19    20     1     0     0   957  3992  MED
    BLS    253    15    12   159    11   101     0     1     4     1     2     3     4     1    10     2     6     1     0     0     0   281  1238  BLS
    SUM   1874  5831   419  1517    86  3185    52    86   194    72    87   121    85    41   293   172  1328  1037     5     0     0  9799 51224  SUM
            TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
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Deposition budget matrix for Oxidised Nitrogen in 1992. Unit: 100 tonnes(N)

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********* receiver-emitter matrix *********

oxidized sulphur,  tot dep.
averaging period; 1992  1  1 12 -  1993  1  1  6
unit =  100. tonnes

                                                                      Emitters

             AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH
       AL    37     0     0    23     7     0     0     2     6    32     8     0     0    26     0     0     0     5     0     7     2     0     0  AL
       AT     0    46    12     3   185     1     0    80   209     1    48     0     1   125     1     4     0    75     0    11    13     0     9  AT
       BE     0     0   198     0    18     1     0   130   112     0     2     0     2     1     2    25     0     8     1     0    14     0     0  BE
       BG     4     2     2   725    52     1     0     7    40    22    73     0     0    15     0     1     0    49     0   196     1     0     0  BG
       CS     1    17    21     8  1702     4     0    65   891     3   225     0     1    39     2     8     0   514     0    31    11     1     3  CS
       DK     0     0     8     0    15    85     0    13    71     0     1     0     2     0     0     6     1    27     1     0     2     2     0  DK
       FI     0     0     6     2    43    14   173    11   110     0     9     0     1     2     0     3     4   105     0     7     3    26     0  FI
       FR     0     6   148     1   131     5     0  1598   421     1    23     0    12   183    10    38     0    67    16     6   453     1    17  FR
      DE*     0    13   258     4   894    37     0   531  4050     1    41     0    12    89    18   123     0   315     4    11    85     2    18  DE*
       GR    17     1     1   242    24     0     0     5    21   231    28     0     0    27     0     0     0    22     0    45     2     0     0  GR
       HU     1    11     5    15   237     1     0    20   116     2   688     0     0    39     0     2     0   135     0    66     4     0     1  HU
       IS     0     0     0     0     1     0     0     0     2     0     0    14     0     0     0     0     0     1     0     0     0     0     0  IS
R      IE     0     0     2     0     3     0     0     6     7     0     0     0   123     0     0     1     0     2     0     0     5     0     0  IE
e      IT     4     8     5    33    85     2     0   154    98    14    59     0     1  1407     1     2     0    73     4    19    88     0    14  IT
c      LU     0     0     3     0     2     0     0    17     9     0     0     0     0     0     4     0     0     1     0     0     1     0     0  LU
e      NL     0     0    78     0    23     2     0    67   156     0     2     0     3     1     0   113     0    15     0     1     6     0     0  NL
i      NO     0     0    11     0    33    23     5    19    99     0     7     0     6     1     0     9    37    41     0     2     4    14     0  NO
v      PL     1     8    50    12   993    48     2   105  1982     4   143     0     4    30     2    27     2  3840     1    36    23    11     2  PL
e      PT     0     0     1     0     1     0     0     7     2     0     1     0     0     2     0     0     0     1   200     0   122     0     0  PT
r      RO     3     4     7   156   227     2     1    22   148    12   305     0     0    34     1     3     0   242     0  1007     4     1     1  RO
s      ES     0     1    15     1    24     1     0   127    56     0    12     0     3    42     1     5     0    17   124     3  2312     0     1  ES
       SE     0     1    27     0    81   113    24    40   288     0     9     0     4     2     1    16    23   140     1     4     7   116     0  SE
       CH     0     2     4     0    15     0     0    82    39     0     3     0     1   132     1     1     0     8     1     0    22     0    38  CH
       TR     5     1     2   227    50     1     1     9    49    78    47     0     0    19     0     1     0    70     0    97     2     1     0  TR
       GB     0     0    33     0    52     4     0    82   131     0     2     0    67     2     1    20     1    34     1     1    19     1     0  GB
       BY     1     2     7    18   113    11     7    19   154     2    63     0     1    15     0     5     1   458     0    51     4     5     1  BY
       UA     3     4    17   140   371    11     6    37   414    14   239     0     1    31     1     8     1  1006     0   287     7     5     1  UA
       MD     0     0     1    16    19     0     0     2    19     1    14     0     0     2     0     0     0    42     0    45     0     0     0  MD
       RU     3     4    25   176   320    45   140    52   475    20   177     0     2    25     1    13     6   990     0   214    12    35     1  RU
       EE     0     0     2     1    25     5    16     4    57     0     5     0     0     1     0     1     1    55     0     3     0     5     0  EE
       LV     0     1     3     2    40     9     7     6    80     0     9     0     0     2     0     2     1   107     0     5     1     6     0  LV
       LT     0     1     4     3    44     9     3    10    85     1    13     0     1     2     0     3     0   182     0     6     2     5     0  LT
       SI     0     5     1     1    21     0     0     9    21     0    16     0     0    57     0     0     0    14     0     4     4     0     1  SI
       HR     1     5     2     6    57     1     0    14    49     2    73     0     0    87     0     1     0    43     0    11     6     0     1  HR
       BA     2     3     2     7    47     0     0    10    44     3    53     0     0    47     0     1     0    37     0    13     5     0     0  BA
      YU*    10     4     2    55    79     1     0    12    66    13   143     0     0    49     0     1     0    55     0    68     4     0     0  YU*
      FYM     9     0     0    38     8     0     0     1     7    19    11     0     0     8     0     0     0     6     0    12     1     0     0  FYM
      REM     1     1     3    30    32     1     2    35    36    14    18     0     1    81     0     1     0    58     4    19    94     1     1  REM
      BAS     0     2    43     2   205   203    88    76   718     0    27     0     5     6     2    27     9   538     1    13    13   109     1  BAS
      NOS     0     2   178     1   190    84     2   379   700     0    15     1    65    11     2   192    18   186     3     4    56    12     1  NOS
      ATL     0     3    72     1   151    27    31   421   418     0    19    49   281    22     3    36    27   161   239     4  1222    19     3  ATL
      MED    59    13    20   510   234     4     1   501   257   639   224     0     3  1632     2     7     0   231    26   167   890     1    10  MED
      BLS     4     3     6   493   126     3     2    16   126    33   111     0     0    24     0     2     0   221     0   268     3     2     1  BLS
      SUM   168   177  1287  2952  6980   759   515  4803 12838  1163  2966    66   606  4322    59   713   132 10198   628  2745  5529   383   128  SUM
             AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH


                                                                      Emitters

             TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND    SUM
       AL     1     1     0     3     1     0     0     0     0     1     1    18    15    13     9     0     0     0     0     0     1    58    309  AL
       AT     0    41     1     3     1     0     0     0     0    71     7     7     7     0     7     0     7     2     0     0     1   187   1180  AT
       BE     0   112     0     1     0     0     0     0     0     0     0     1     0     0     1     0    28     3     0     0     2    45    710  BE
       BG     6     5     5    60    18     6     0     0     1     3     4    37    91    23     3     0     1     0     0     0     1   194   1660  BG
       CS     0    59     4    19     2     3     0     0     1    20     8    14    20     1     5     1    12     2     0     0     2   221   3957  CS
       DK     0   110     1     1     0     0     0     0     1     0     0     0     0     0     0     5    24     2     0     0     5    44    432  DK
       FI     0    46    16    25     2   253    52     5    12     1     0     0     2     0     0    15    11     2     0     0     8   315   1285  FI
       FR     0   345     1     3     0     0     0     0     1    12     4     8     7     0    48     1   114    57     0     0    28   645   4443  FR
      DE*     0   633     4    13     1     5     0     0     4    12     3     3     5     0     7     8   123    15     0     0    13   590   7961  DE*
       GR    17     2     2    29     7     3     0     0     0     1     3    25    35    22    20     0     0     0     0     0     3   206   1107  GR
       HU     0    15     3    20     2     1     0     0     1    21    22    35    48     2     8     0     3     0     0     0     1   133   1685  HU
       IS     0     7     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     1     0     0    13    37     81  IS
R      IE     0   102     0     0     0     0     0     0     0     0     0     0     0     0     0     0     5    11     0     0    16    62    348  IE
e      IT     2    23     2     8     2     1     0     0     0    53    28    53    26     3   150     0     4     3     0     0    10   577   4278  IT
c      LU     0     3     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     0     0     0     0     5     48  LU
e      NL     0   234     0     2     0     1     0     0     0     0     0     0     0     0     0     0    45     3     0     0     3    49    807  NL
i      NO     0   242     1     3     0    66     2     1     2     1     0     2     1     0     0     4    45    10     0     0    32   371   1096  NO
v      PL     0   228    27    68     5    28     3     2    21    13     7    14    21     1     6    17    40     5     0     0     6   526   8373  PL
e      PT     0     2     0     0     0     0     0     0     0     0     0     0     0     0    12     0     1    21     0     0     5    54    435  PT
r      RO     4    17    16   205    56    18     1     0     3     8    10    56   126     8     6     1     4     0     0     0     1   353   3093  RO
s      ES     0    50     0     0     0     0     0     0     0     4     2     4     3     0   120     0    10    49     3     0    17   406   3429  ES
       SE     0   232     6     9     1    58    10     2     8     1     1     3     3     0     1    25    57     7     0     0    20   408   1748  SE
       CH     0    17     0     0     0     0     0     0     0     3     1     0     1     0     5     0     3     2     0     0     1    96    485  CH
       TR   417     6    12   201    25    30     2     0     2     2     3    15    25     5    20     0     1     0     0     0     6   846   2339  TR
       GB     0  3684     1     1     0     1     0     0     1     0     0     0     0     0     0     1    99    38     0     0    39   222   4542  GB
       BY     2    47   453   171    16    77    17    10    59     5     3    11    14     1     4     6     8     1     0     0     2   349   2208  BY
       UA    20    60   194  3056   173   277    14     5    31    11     9    42    59     5    14     5    12     2     0     0     5  1020   7639  UA
       MD     1     2     6    75    92     5     1     0     1     1     1     3     5     0     1     0     1     0     0     0     0    52    411  MD
       RU    56   175   618  2395    91  7591   335    42   121     9     8    37    57     5   182    34    31     6     0     0    26  5451  20033  RU
       EE     0    16     7     9     1    19    93     7     9     0     0     0     1     0     0     8     3     0     0     0     1    75    435  EE
       LV     0    31    17    14     2    22    15    28    37     1     0     1     3     0     0     8     5     1     0     0     2   107    575  LV
       LT     1    32    17    16     1    25     5     7   122     1     1     1     3     0     1     6     6     1     0     0     2   107    728  LT
       SI     0     3     0     1     0     0     0     0     0   143    11     8     5     0     6     0     1     0     0     0     0    46    395  SI
       HR     0     7     1     5     0     0     0     0     0    23    68    85    26     1    24     0     1     0     0     0     1   115    778  HR
       BA     0     6     1     5     0     0     0     0     0     7    20   382    43     2    18     0     1     0     0     0     1   109    923  BA
      YU*     1     8     2    13     2     2     0     0     0     7    14   231   374    26    12     0     2     0     0     0     1   178   1499  YU*
      FYM     1     1     0     4     1     0     0     0     0     1     1    17    25    50     3     0     0     0     0     0     0    45    280  FYM
      REM    16     9    17   216     7   367     4     1     3     3     2    10     9     1  2979     1     2     3     0     0    14  1778   6125  REM
      BAS     0   328    18    26     2    81    63    18    35     2     1     5     8     0     1   114    73     6     0     0    23   496   3390  BAS
      NOS     0  4682     5     6     1    11     2     1     4     2     1     2     1     0     2    11   718    72     0     0   148   721   8495  NOS
      ATL     0  1851    16    25     1   829    18     2     9     3     1     1     2     0    22     8   169  1080     0     0  1465  4103  12822  ATL
      MED   193    89    11   135    28    18     1     1     3    57   111   260   161    37  1971     1    14    18     2     0   123  2473  14954  MED
      BLS   125    17    35   831   103   117     4     1     8     5     6    26    51     6    23     1     3     0     0     0    15   867   3722  BLS
      SUM   867 13581  1523  7678   643  9922   643   138   501   514   367  1416  1283   217  5691   282  1687  1426     7     0  2067 24741 141242  SUM
             TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND    SUM
```

Deposition budget matrix for Oxidised Sulphur in 1992. Unit: 100 tonnes(S)

```
********* receiver-emitter matrix *********

reduced nitrogen,  tot dep.
averaging period: 1992  1  1 12 -  1993  1  1  6
unit =  100. tonnes

                                                  Emitters

        AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH
   AL   102     0     0     1     1     0     0     1     1     5     1     0     0     6     0     0     0     0     0     2     0     0     0  AL
   AT     0   321     4     0    26     1     0    51   184     0    12     0     0    57     1     6     0     9     0     3     3     0    31  AT
   BE     0     1   328     0     1     0     0    80    31     0     0     0     2     0     2    47     0     1     0     0     3     0     0  BE
   BG     3     2     0   331     5     0     0     2     6    12    10     0     0     3     0     1     0     5     0    69     0     0     0  BG
   CS     0    36     6     1   515     3     0    30   158     1    33     0     1    11     1    10     0    59     0     9     2     1     6  CS
   DK     0     0     2     0     1   380     0     6    36     0     0     0     2     0     0     9     0     4     0     0     0     3     0  DK
   FI     0     1     2     0     4    10   151     6    27     0     2     0     1     1     0     6     3    25     0     3     1    13     0  FI
   FR     0     6    69     0     7     4     0  3185   142     0     3     0    10    66     7    39     0     6     7     2   100     1    42  FR
  DE*     0    30    95     0    36    29     0   305  3293     0     6     0     9    35    11   267     0    57     1     3    17     2    60  DE*
   GR     9     1     0    11     2     0     0     1     3   249     4     0     0     6     0     0     0     2     0    15     0     0     0  GR
   HU     1    15     2     1    35     1     0     8    25     1   415     0     0    12     0     2     0    14     0    24     1     0     2  HU
   IS     0     0     0     0     0     0     0     1     1     0     0    11     0     0     0     0     0     0     0     0     0     0     0  IS
R  IE     0     0     1     0     0     0     0     8     2     0     0     0   540     0     0     1     0     0     0     0     1     0     0  IE
e  IT     2    11     1     2     8     1     0    64    47     4    10     0     0  1649     0     2     0     9     1     5    19     0    53  IT
c  LU     0     0     2     0     0     0     0    10     3     0     0     0     0     0    21     0     0     0     0     0     0     0     0  LU
e  NL     0     0    36     0     1     1     0    30    68     0     0     0     2     0     0   658     0     2     0     0     1     0     0  NL
i  NO     0     1     5     0     4    24     1    12    39     0     2     0     7     0     0    14   110    10     0     1     1    10     0  NO
v  PL     0    10    14     1    71    29     1    46   220     1    16     0     4     9     1    35     1  1473     0    10     4    11     4  PL
e  PT     0     0     0     0     0     0     0     3     1     0     0     0     0     0     0     0     0     0   315     0    42     0     0  PT
r  RO     2     5     2    18    24     1     0     9    25     4    54     0     0     8     0     4     0    25     0   945     1     0     1  RO
s  ES     0     1     4     0     2     1     0    96    20     0     2     0     2    14     0     5     0     2    72     1  1440     0     3  ES
   SE     0     1     9     0     4    77     9    20    79     0     2     0     3     1     0    24    18    28     0     2     1   252     1  SE
   CH     0     3     1     0     1     0     0    75    44     0     0     0     0    51     0     1     0     1     0     0     5     0   319  CH
   TR     2     2     1    10     4     1     0     3    12    11     6     0     0     5     0     1     0     8     0    30     0     0     1  TR
   GB     0     1    13     0     3     4     0    64    34     0     0     0    97     1     1    18     1     7     0     0     4     1     1  GB
   BY     0     3     2     2    10     6     2     8    24     1     9     0     1     6     0     5     0    78     0    20     1     3     2  BY
   UA     2     6     5     9    36     6     1    16    54     4    33     0     1     9     0    11     0   134     0   106     1     4     2  UA
   MD     0     0     0     1     2     0     0     1     3     0     2     0     0     0     0     1     0     5     0    19     0     0     0  MD
   RU     2     8    10    13    34    34    41    33   107     7    28     0     2    10     0    25     5   177     0    88     4    27     2  RU
   EE     0     0     1     0     2     3     3     2    10     0     1     0     0     0     0     2     0    10     0     2     0     3     0  EE
   LV     0     1     1     0     3     6     1     3    13     0     1     0     0     0     0     2     0    17     0     1     0     5     0  LV
   LT     0     1     1     0     3     5     1     4    14     0     1     0     1     1     0     3     0    34     0     2     1     4     0  LT
   SI     0    10     0     0     3     0     0     3    10     0     4     0     0    19     0     0     0     3     0     1     1     0     1  SI
   HR     1     7     1     0     8     0     0     4    13     1    19     0     0    31     0     1     0     7     0     3     1     0     1  HR
   BA     1     3     0     1     6     0     0     3    10     1    13     0     0    19     0     1     0     6     0     4     1     0     1  BA
  YU*     9     4     1     7     8     0     0     4    13     4    26     0     0    13     0     1     0     6     0    22     1     0     1  YU*
  FYM     7     0     0     3     1     0     0     0     1     8     2     0     0     2     0     0     0     1     0     4     0     0     0  FYM
  REM     1     2     1     1     3     0     0    20     8     3     3     0     0    23     0     1     0     7     1     5    19     0     1  REM
  BAS     0     2    12     0     9   128    20    35   193     0     4     0     4     1     1    38     4    95     1     5     2    70     1  BAS
  NOS     0     4    70     0    11    98     0   304   243     0     3     0    53     3     1   166    14    30     2     1    10    11     3  NOS
  ATL     0     4    25     0    11    23    10   372   124     0     3     7   270     5     2    44    26    32    90     2   134     9     6  ATL
  MED    25    11     5    18    17     2     0   192    52    74    25     0     1   371     1     7     0    21     7    40   145     1    16  MED
  BLS     1     3     1    14     9     2     0     5    18     6    11     0     0     6     0     3     0    22     0    70     0     1     1  BLS
  SUM   171   518   733   447   933   880   242  5128  5414   396   769    18  1016  2456    54  1462   185  2436   500  1519  1967   434   568  SUM
        AL    AT    BE    BG    CS    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH


                                                  Emitters

        TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND    SUM
   AL     1     0     0     1     0     0     0     0     0     0     1     1     5     2     0     0     0     0     0     0     0    18    151  AL
   AT     0     4     1     2     0     0     0     0     0    13     3     1     1     0     0     0     0     0     0     0     0    66    805  AT
   BE     0    14     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    17    530  BE
   BG     7     0     3    32     6     4     0     0     1     0     2     2    25     4     0     0     0     0     0     0     0    54    594  BG
   CS     0     6     4    16     0     1     0     0     1     3     3     1     4     0     0     0     0     0     0     0     0    73    999  CS
   DK     0    11     1     1     0     0     0     0     1     0     0     0     0     0     0     0     0     0     0     0     0    14    475  DK
   FI     0     5    12    17     1    25    13     6    10     0     0     0     0     0     0     0     0     0     0     0     0    97    442  FI
   FR     0    47     1     1     0     0     0     0     1     1     2     1     1     0     2     0     0     0     0     0     0   205   3958  FR
  DE*     0    62     5     8     0     2     0     0     4     1     1     0     0     0     0     0     0     0     0     0     0   215   4562  DE*
   GR    13     0     1    14     2     3     0     0     0     0     1     1     8     5     1     0     0     0     0     0     0    60    413  GR
   HU     0     1     2    13     1     1     0     0     0     4    13     4    14     0     0     0     0     0     0     0     0    41    654  HU
   IS     0     2     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    14     31  IS
R  IE     0    26     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    21    601  IE
e  IT     2     2     1     5     1     0     0     0     0     5    11     5     6     1     5     0     0     0     0     0     0   182   2114  IT
c  LU     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2     41  LU
e  NL     0    24     0     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    18    846  NL
i  NO     0    34     1     2     0     0     1     1     1     0     0     0     0     0     0     0     0     0     0     0     0   124    408  NO
v  PL     0    23    40    48     1    13     1     2    16     2     3     1     3     0     0     0     0     0     0     0     0   173   2289  PL
e  PT     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    15    379  PT
r  RO     4     2    11   123    27    11     0     1     2     1     5     3    23     1     0     0     0     0     0     0     0   109   1453  RO
s  ES     0     6     0     0     0     0     0     0     0     1     1     1     1     0     5     0     0     0     0     0     0   101   1784  ES
   SE     0    23     5     5     0     6     3     3     6     0     0     0     1     0     0     0     0     0     0     0     0   126    710  SE
   CH     0     2     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    35    540  CH
   TR  1255     0     6    80     6    24     0     0     1     0     1     1     5     1     5     0     0     0     0     0     0   262   1748  TR
   GB     0  1393     1     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    69   1715  GB
   BY     2     4   885   126     6    40     4    14    50     1     2     1     3     0     1     0     0     0     0     0     0   115   1438  BY
   UA    23     6   144  3153    50   167     2     5    20     1     5     3    13     1     5     0     0     0     0     0     0   325   4362  UA
   MD     1     0     4    52   142     3     0     0     1     0     0     0     1     0     0     0     0     0     0     0     0    16    257  MD
   RU   148    22   301   776    26  5757    46    49    89     1     5     3    14     1   102     0     0     0     0     0     0  1726   9728  RU
   EE     0     2     5     5     0     5   103     9     7     0     0     0     0     0     0     0     0     0     0     0     0    24    202  EE
   LV     0     3    15     8     1     9    10   117    33     0     0     0     1     0     0     0     0     0     0     0     0    34    284  LV
   LT     1     4    24     8     0     8     2    11   300     0     0     0     0     0     0     0     0     0     0     0     0    35    469  LT
   SI     0     0     0     1     0     0     0     0     0    76     5     1     1     0     0     0     0     0     0     0     0    15    157  SI
   HR     0     0     1     4     0     0     0     0     0     5   122    12     6     0     1     0     0     0     0     0     0    38    288  HR
   BA     0     0     1     4     0     0     0     0     0     2    21   115    14     0     1     0     0     0     0     0     0    37    265  BA
  YU*     0     1     2     9     1     1     0     0     0     1     9    14   349     6     1     0     0     0     0     0     0    57    572  YU*
  FYM     1     0     0     2     0     0     0     0     0     0     1     1    11    54     0     0     0     0     0     0     0    14    113  FYM
  REM    71     1     7    43     1   205     1     1     2     1     1     1     3     0   461     0     0     0     0     0     0   517   1417  REM
  BAS     0    29    17    17     1    17    24    18    27     0     1     0     1     0     0     0     0     0     0     0     0   144    922  BAS
  NOS     0   407     4     5     0     1     0     1     3     0     1     0     0     0     0     0     0     0     0     0     0   210   1660  NOS
  ATL     0   306    10    10     0    51     3     3     6     0     0     0     0     0     1     0     0     0     0     0     0  1313   2902  ATL
  MED   108     6     5    47     6     9     0     0     1     5    31    16    31     5    42     0     0     0     0     0     0   681   2026  MED
  BLS   184     1    18   322    22   105     1     1     4     1     3     1     8     1    15     0     0     0     0     0     0   249   1112  BLS
  SUM  1822  2480  1537  4966   302  6481   216   244   589   129   256   190   558    85   650     0     0     0     0     0     0  7662  56416  SUM
        TR    GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   REM   BAS   NOS   ATL   MED   BLS   NAT   IND    SUM
```

Deposition budget matrix for Reduced Nitrogen in 1992. Unit: 100 tonnes(N

Transboundary Import-Export Budgets for 1992

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	323	90	272	88	19	47	69	95	87	96	12	38	153	60	49	32	10	67
AT	279	86	1134	96	7	54	551	94	628	95	7	50	363	53	484	60	4	76
BE	1352	87	512	72	23	83	1031	96	289	86	19	76	430	57	202	38	15	97
BG	4915	87	935	56	20	52	671	92	281	83	12	45	583	64	263	44	4	49
CS	7888	82	2255	57	11	73	2486	92	770	78	10	65	621	55	484	48	5	82
DK	865	91	347	80	37	80	816	97	203	89	25	74	559	60	95	20	27	94
FI	532	75	1112	87	20	73	751	87	570	84	14	65	121	44	291	66	11	89
FR	4597	74	2845	64	25	78	3975	82	1643	65	19	71	2382	43	773	20	16	92
DE*	13095	76	3911	49	14	75	5981	84	2226	65	15	72	2159	40	1269	28	12	99
GR	2434	91	876	79	28	44	1079	95	265	81	17	35	393	61	164	40	12	62
HU	3447	83	997	59	11	72	512	92	392	90	9	65	598	59	239	37	5	76
IS	106	88	67	83	50	55	63	94	41	91	31	40	14	55	20	65	28	73
IE	682	85	225	65	52	75	355	93	129	84	40	71	498	48	61	10	32	98
IT	5713	80	2871	67	26	61	5574	87	695	44	17	51	1596	49	465	22	12	76
LU	71	95	44	92	12	79	72	99	26	96	12	74	37	64	20	49	9	94
NL	747	87	694	86	33	83	1673	96	328	83	25	77	874	57	188	22	17	95
NO	148	80	1059	97	32	71	588	90	680	91	22	59	96	47	298	73	21	90
PL	10260	73	4533	54	11	72	2945	86	1736	78	10	67	1343	48	816	36	7	86
PT	1555	89	235	54	18	36	701	92	124	67	14	37	451	59	64	17	13	65
RO	3748	79	2086	67	11	58	952	88	636	82	9	51	1155	55	508	35	6	72
ES	8663	79	1117	33	23	50	3177	83	657	50	15	44	1459	50	344	19	10	68
SE	399	77	1632	93	30	74	1028	88	1017	88	20	66	234	48	458	65	19	89
CH	152	80	447	92	9	67	433	93	284	90	8	53	274	46	221	41	5	96
TR	1353	76	1922	82	20	49	861	53	790	51	40	115	2163	63	493	28	9	53
GB	13846	79	858	19	44	77	7335	90	513	38	34	71	1242	47	322	19	28	94
BY	1837	80	1755	79	4	67	614	90	659	91	5	61	919	51	553	38	3	85
UA	8824	74	4583	60	10	65	2124	84	1643	80	8	60	2851	47	1209	28	7	83
MD	928	91	319	78	15	63	144	97	96	95	11	58	245	63	115	45	7	78
RU	11604	60	12442	62	7	52	4558	65	5066	68	3	46	3170	36	3971	41	2	73
EE	802	90	342	79	11	72	116	97	173	98	5	44	136	57	99	49	12	90
LV	162	85	547	95	13	73	125	95	246	98	10	66	155	57	167	59	8	90
LT	573	82	606	83	9	72	280	94	271	94	9	65	367	55	169	36	6	88
SI	805	85	252	64	8	54	161	96	130	96	7	43	113	60	81	52	3	68
HR	467	87	710	91	25	69	144	95	273	97	13	57	158	56	166	58	13	91
BA*	2018	84	541	59	14	59	226	93	231	93	11	50	140	55	150	57	7	74
YU*	1606	81	1125	75	12	65	132	89	347	95	11	57	392	53	223	39	5	75
FYM	480	91	230	82	9	41	115	97	65	94	7	35	86	61	59	52	4	61
REM	12266	80	3146	51	15	37	990	89	1483	93	4	26	947	67	956	67	4	46
BAS	246	68	3276	97	38	78	213	88	1530	98	21	71	0	0	922	100	0	100
NOS	1479	67	7777	92	44	77	1679	86	2895	92	29	68	0	0	1660	100	0	100
ATL	3577	77	11742	92	25	31	3344	85	5056	89	18	26	0	0	2902	100	0	100
MED	58	97	14952	100	3	12	39	97	3991	100	3	13	0	0	2026	100	0	100
BLS	0	0	3722	100	0	100	0	0	1238	100	0	100	0	0	1112	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1993 1 1 12 - 1994 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	4	1	0	3	0	0	3	2	11	1	0	0	24	0	0	0	2	0	1	1	0	0	2	AL
	AT	0	31	11	2	2	0	63	117	1	8	0	0	115	1	11	1	18	0	6	7	2	18	0	AT
	BE	0	1	42	0	1	0	52	60	0	1	0	1	3	2	30	0	2	1	0	5	0	1	0	BE
	BG	1	3	1	49	1	0	5	19	11	9	0	0	17	0	3	0	13	0	31	1	0	1	8	BG
	DK	0	1	4	0	28	0	7	34	0	1	0	1	1	0	13	3	18	0	0	1	6	0	0	DK
	FI	0	2	6	0	15	102	9	44	0	2	0	1	0	0	11	16	37	0	1	0	48	0	0	FI
	FR	0	9	83	1	4	0	775	215	1	4	0	7	156	8	67	1	18	18	2	170	2	24	0	FR
	DE*	0	32	148	2	31	2	374	1140	1	14	0	8	106	15	211	5	105	6	8	35	12	38	0	DE*
	GR	4	2	1	21	0	0	6	9	57	3	0	0	32	0	1	0	6	0	8	2	1	1	15	GR
	HU	0	18	5	5	1	0	19	58	2	40	0	0	48	0	7	0	34	0	17	3	1	3	2	HU
	IS	0	0	1	0	0	0	1	1	0	0	3	1	0	0	1	1	0	0	0	0	1	0	0	IS
R	IE	0	0	3	0	1	0	15	8	0	0	0	22	0	0	5	0	1	1	0	5	0	0	0	IE
e	IT	1	12	7	5	2	0	146	63	7	9	0	1	770	1	10	1	20	2	4	36	2	23	2	IT
c	LU	0	0	2	0	0	0	7	6	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	LU
e	NL	0	1	27	0	3	0	29	82	0	1	0	1	3	1	67	1	6	0	0	3	1	0	0	NL
i	NO	0	1	9	0	23	12	16	63	0	2	0	4	0	1	22	69	21	0	1	1	43	0	0	NO
v	PL	0	19	39	3	34	4	86	458	2	25	0	4	39	3	69	6	510	1	14	9	22	9	1	PL
e	PT	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	61	0	43	0	0	0	PT
r	RO	1	10	5	22	2	0	16	58	6	37	0	0	40	0	8	0	51	0	104	3	1	2	5	RO
s	ES	0	1	7	1	1	0	73	17	1	1	0	2	22	0	9	0	2	75	1	592	0	2	0	ES
	SE	0	3	16	1	64	43	27	118	0	4	0	4	2	1	36	59	72	0	5	1	138	1	0	SE
	CH	0	2	4	0	0	0	64	25	0	1	0	0	81	0	4	0	2	1	0	9	0	25	0	CH
	TR	1	3	2	21	1	1	11	27	40	6	0	0	21	0	3	0	20	0	17	2	1	1	257	TR
	GB	0	2	25	0	7	1	72	102	0	1	0	23	4	1	51	3	16	2	1	10	4	1	0	GB
	BY	0	4	6	3	14	4	19	72	1	6	0	1	10	1	11	4	97	0	7	3	14	3	1	BY
	UA	0	13	13	17	13	4	37	145	7	33	0	1	43	1	23	3	210	1	45	4	11	4	18	UA
	MD	0	1	1	1	0	0	2	7	0	2	0	0	3	0	1	0	9	0	5	0	0	0	1	MD
	RU	1	17	27	21	78	190	84	311	11	41	0	7	54	2	59	51	349	2	54	11	137	8	50	RU
	EE	0	1	1	0	4	8	3	13	0	0	0	0	1	0	2	3	11	0	0	0	9	0	0	EE
	LV	0	1	2	0	8	5	5	22	0	1	0	0	1	0	4	3	20	0	1	1	11	0	0	LV
	LT	0	1	3	1	9	3	6	30	0	1	0	0	2	0	7	2	33	0	2	1	11	1	0	LT
	SI	0	5	1	1	0	0	7	13	0	2	0	0	45	0	1	0	4	0	2	1	0	2	0	SI
	HR	0	6	2	2	1	0	11	23	1	7	0	0	77	0	3	0	13	0	3	3	1	1	1	HR
	BA	1	4	1	3	1	0	8	17	2	6	0	0	61	0	2	0	11	0	3	3	1	1	1	BA
	YU*	2	6	2	10	1	0	10	27	8	14	0	0	59	0	4	0	13	0	12	3	1	1	3	YU*
	FYM	2	1	0	5	0	0	1	2	8	1	0	0	9	0	0	0	1	0	2	0	0	0	2	FYM
	CS*	0	16	16	1	4	0	49	187	1	10	0	1	24	2	21	1	48	0	5	5	3	7	0	CS*
	SK	0	10	3	2	1	0	13	46	1	17	0	0	17	0	6	0	36	0	6	2	1	2	1	SK
	REM	0	3	6	7	5	4	54	46	8	5	0	1	75	0	10	2	31	3	10	41	6	5	19	REM
	BAS	0	6	24	2	86	50	46	220	1	7	0	4	9	1	53	24	157	1	6	3	106	2	0	BAS
	NOS	0	6	84	0	68	5	210	356	0	4	1	29	11	3	199	28	82	3	2	24	39	3	0	NOS
	ATL	0	7	80	1	64	58	347	344	0	6	20	110	22	4	144	88	89	77	5	277	72	4	0	ATL
	MED	8	21	20	43	5	1	330	142	160	26	0	2	921	2	26	2	56	14	29	253	5	22	130	MED
	BLS	1	4	4	28	3	1	14	49	15	12	0	0	20	0	7	1	49	1	33	2	2	2	84	BLS
	SUM	28	289	747	283	587	502	3137	4799	366	372	26	237	2950	53	1226	377	2294	273	453	1575	716	219	606	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	1	0	1	0	0	0	0	1	2	1	1	1	1	1	0	0	0	0	0	0	20	89	AL
	AT	22	0	3	0	1	0	0	0	9	3	2	1	0	26	6	0	1	10	4	0	0	0	70	576	AT
	BE	56	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	25	6	0	0	0	20	316	BE
	BG	4	1	15	1	7	0	0	0	1	2	3	6	3	10	6	1	0	2	0	0	0	0	54	291	BG
	DK	49	1	1	0	1	0	0	1	0	0	0	0	0	6	1	0	3	18	2	0	0	0	18	223	DK
	FI	38	9	9	0	46	8	4	6	0	0	0	0	0	11	2	0	10	14	3	0	0	0	98	555	FI
	FR	239	1	1	0	0	0	0	1	2	2	2	1	0	21	4	2	1	102	85	0	0	0	269	2296	FR
	DE*	328	2	7	0	2	0	0	2	4	3	1	1	0	164	14	0	6	138	32	0	0	0	246	3246	DE*
	GR	2	1	8	0	5	0	0	0	0	1	3	3	2	5	2	1	0	1	0	0	0	0	64	267	GR
	HU	11	1	7	0	3	0	0	0	5	6	4	4	1	30	26	0	0	5	1	0	0	0	50	420	HU
	IS	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	22	44	IS
R	IE	69	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	10	20	0	0	0	30	194	IE
e	IT	20	1	3	0	2	0	0	0	7	7	8	3	1	14	6	4	0	8	7	0	0	0	185	1402	IT
c	LU	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	28	LU
e	NL	82	0	1	0	0	0	0	0	0	0	0	0	0	8	1	0	0	34	5	0	0	0	22	381	NL
i	NO	115	3	3	0	7	1	1	2	0	0	0	0	0	10	2	0	5	35	10	0	0	0	127	611	NO
v	PL	144	17	35	1	20	1	1	6	4	3	2	2	0	183	38	0	10	55	10	0	0	0	186	2076	PL
e	PT	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	35	0	0	0	43	193	PT
r	RO	13	3	37	4	15	0	0	1	3	5	5	8	1	33	27	1	1	6	1	0	0	0	100	635	RO
s	ES	31	0	0	0	0	0	0	0	0	1	1	0	0	2	0	4	0	11	71	2	0	0	175	1107	ES
	SE	136	11	12	1	23	5	4	7	0	0	0	0	0	25	5	0	17	53	10	0	0	0	162	1066	SE
	CH	11	0	0	0	0	0	0	0	1	1	1	0	0	2	0	0	0	4	3	0	0	0	36	282	CH
	TR	7	3	26	1	21	0	0	1	1	1	1	2	0	13	5	6	0	3	1	0	0	0	354	882	TR
	GB	846	1	1	0	0	0	0	0	0	0	0	0	0	15	2	0	1	93	49	0	0	0	107	1444	GB
	BY	29	53	40	1	54	1	4	11	1	1	1	1	0	26	7	1	5	12	2	0	0	0	87	617	BY
	UA	53	35	299	10	129	1	2	7	3	4	3	3	1	67	39	6	4	19	4	0	0	0	263	1600	UA
	MD	2	1	12	2	3	0	0	0	0	0	0	0	0	4	2	0	0	1	0	0	0	0	12	74	MD
	RU	192	148	409	10	2128	31	26	48	4	5	4	4	1	103	39	91	34	68	15	0	0	0	1681	6615	RU
	EE	8	3	3	0	9	4	2	2	0	0	0	0	0	3	1	0	3	3	1	0	0	0	18	117	EE
	LV	14	7	5	0	11	2	4	7	0	0	0	0	0	5	1	0	3	6	1	0	0	0	25	176	LV
	LT	18	10	7	0	11	1	2	12	0	0	0	0	0	7	2	0	3	7	1	0	0	0	26	221	LT
	SI	2	0	1	0	0	0	0	0	6	2	1	0	0	3	1	0	0	1	0	0	0	0	15	118	SI
	HR	4	1	2	0	1	0	0	0	4	8	8	2	0	10	4	0	0	2	1	0	0	0	34	239	HR
	BA	4	1	3	0	1	0	0	0	1	5	14	3	1	8	4	0	0	2	1	0	0	0	34	208	BA
	YU*	6	1	5	0	2	0	0	0	2	5	13	16	7	14	7	1	0	2	1	0	0	0	55	316	YU*
	FYM	1	0	1	0	1	0	0	0	0	0	1	2	4	1	1	0	0	0	0	0	0	0	13	59	FYM
	CS*	34	1	4	0	1	0	0	1	2	1	1	1	0	111	13	0	1	15	4	0	0	0	57	649	CS*
	SK	10	1	5	0	2	0	0	0	2	1	1	1	0	31	24	0	0	4	1	0	0	0	29	277	SK
	REM	20	10	70	1	191	1	1	3	1	1	1	1	0	8	3	108	2	7	6	0	0	0	794	1569	REM
	BAS	161	17	18	1	38	7	7	13	1	1	1	1	0	45	9	0	27	62	10	0	0	0	148	1375	BAS
	NOS	1054	7	9	0	8	1	2	5	1	1	1	0	0	49	6	0	10	274	83	0	0	0	283	2954	NOS
	ATL	1241	12	16	1	105	5	4	7	1	1	1	0	0	48	6	1	13	251	775	0	0	0	2540	6846	ATL
	MED	53	5	37	2	22	0	1	2	10	16	23	10	5	36	18	35	1	22	25	1	0	0	850	3390	MED
	BLS	13	6	83	4	76	0	1	2	1	2	2	3	1	24	10	17	1	5	2	0	0	0	228	813	BLS
	SUM	5154	375	1199	46	2956	72	69	149	79	89	111	84	33	1187	346	283	164	1393	1292	5	0	0	9651	46854	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1993. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1993 1 1 12 - 1994 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	35	0	0	31	0	0	2	3	28	6	0	0	27	0	0	0	4	0	5	1	0	0	1	AL
	AT	0	43	11	13	2	0	59	165	1	61	0	1	130	1	4	0	74	1	21	17	1	8	0	AT
	BE	0	1	168	0	1	0	103	99	0	3	0	1	3	2	24	0	8	0	1	11	0	0	0	BE
	BG	5	2	1	802	0	0	5	41	20	56	0	0	18	0	1	0	43	0	162	2	0	0	7	BG
	DK	0	0	5	1	72	0	8	87	0	5	0	2	1	0	5	1	57	0	2	2	3	0	0	DK
	FI	0	1	4	1	8	128	6	57	0	9	0	1	0	0	2	3	87	0	3	1	19	0	0	FI
	FR	0	5	124	5	3	0	1287	281	1	22	0	9	185	10	35	0	58	15	7	379	1	12	0	FR
	DE*	0	19	206	15	31	0	434	3743	1	72	0	10	102	16	103	1	412	4	28	81	4	15	0	DE*
	GR	19	1	1	284	0	0	5	18	217	18	0	0	32	0	0	0	17	0	36	2	0	0	16	GR
	HU	1	11	4	29	1	0	16	106	3	550	0	0	45	0	2	0	121	0	79	6	0	1	1	HU
	IS	0	0	0	0	0	0	1	3	0	0	12	1	0	0	0	0	1	0	0	0	0	0	0	IS
R	IE	0	0	2	0	0	0	9	10	0	0	0	104	0	0	1	0	2	1	0	12	0	0	0	IE
e	IT	3	8	7	35	1	0	138	88	13	55	0	1	1304	1	3	0	69	3	16	58	0	12	1	IT
c	LU	0	0	3	0	0	0	14	8	0	0	0	0	1	4	1	0	1	0	0	2	0	0	0	LU
e	NL	0	1	64	0	2	0	48	185	0	5	0	2	2	1	100	0	20	0	2	6	0	0	0	NL
i	NO	0	0	7	1	17	6	13	96	0	7	0	3	0	0	5	30	54	0	4	2	19	0	0	NO
v	PL	1	9	40	18	28	2	84	1729	2	167	0	4	37	2	23	1	3509	2	63	23	7	3	1	PL
e	PT	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	173	0	100	0	0	0	PT
r	RO	3	6	5	186	1	0	16	133	10	262	0	0	41	0	3	0	180	0	884	5	0	1	5	RO
s	ES	1	0	7	4	0	0	76	18	2	2	0	2	24	0	3	0	4	117	2	1898	0	0	0	ES
	SE	0	1	14	2	73	27	25	222	0	18	0	4	2	0	10	18	213	0	14	3	107	0	0	SE
	CH	0	2	5	2	0	0	66	31	0	5	0	0	125	0	2	0	8	1	2	20	0	29	0	CH
	TR	4	2	2	217	1	0	9	50	81	36	0	0	20	0	1	0	57	0	72	4	0	0	384	TR
	GB	0	1	36	0	4	0	85	150	0	6	0	46	4	1	23	1	41	2	2	26	1	0	0	GB
	BY	0	2	6	20	9	3	18	171	1	43	0	1	11	0	3	1	408	0	35	9	4	1	1	BY
	UA	2	7	13	142	8	3	36	375	9	248	0	2	45	1	7	1	849	1	273	11	3	1	16	UA
	MD	0	0	1	11	0	0	2	19	1	14	0	0	3	0	0	0	36	0	37	0	0	0	1	MD
	RU	3	7	20	142	38	113	53	532	16	191	0	5	43	1	14	8	941	1	187	18	37	2	42	RU
	EE	0	0	1	0	3	9	2	26	0	2	0	0	1	0	1	1	33	0	1	1	4	0	0	EE
	LV	0	0	2	2	6	3	4	50	0	4	0	0	1	0	1	1	76	0	4	1	4	0	0	LV
	LT	0	0	3	6	7	1	6	70	0	9	0	1	2	0	2	0	137	0	9	2	4	0	0	LT
	SI	0	4	1	3	0	0	7	18	1	13	0	0	55	0	0	0	16	0	5	3	0	1	0	SI
	HR	1	4	2	13	1	0	10	44	2	54	0	0	88	0	1	0	48	0	13	6	0	0	1	HR
	BA	2	2	1	19	0	0	7	32	4	44	0	0	48	0	1	0	35	0	12	4	0	0	1	BA
	YU*	10	3	2	77	0	0	9	52	15	98	0	0	52	0	1	0	41	0	56	3	0	0	3	YU*
	FYM	9	0	0	49	0	0	1	4	17	6	0	0	9	0	0	0	4	0	8	1	0	0	1	FYM
	CS*	1	11	16	7	2	0	48	634	2	61	0	1	22	2	7	0	271	0	19	14	1	2	0	CS*
	SK	0	7	3	9	1	0	12	102	2	158	0	0	16	0	2	0	169	0	29	4	0	1	1	SK
	REM	1	1	5	43	2	2	37	61	13	21	0	1	68	0	3	0	85	4	29	54	1	1	16	REM
	BAS	0	3	27	9	146	68	51	594	1	44	0	5	8	1	19	8	692	1	24	9	88	1	0	BAS
	NOS	0	4	169	1	94	4	340	849	0	26	1	53	14	3	180	17	310	3	9	65	19	1	0	NOS
	ATL	0	3	78	3	35	34	407	437	0	26	43	296	30	3	43	25	206	189	14	1697	26	1	0	ATL
	MED	55	14	25	592	4	1	458	250	634	186	0	3	1627	2	11	0	216	29	150	648	2	9	195	MED
	BLS	4	3	4	510	2	1	15	125	34	98	0	0	25	0	2	0	192	1	227	5	1	1	117	BLS
	SUM	163	189	1100	3305	606	409	4034	11766	1134	2712	58	563	4274	55	648	117	9806	550	2547	5217	359	104	813	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	4	0	1	0	0	0	1	2	19	14	10	3	1	29	0	0	0	0	0	1	61	292	AL
	AT	27	1	10	1	1	0	0	0	60	9	14	16	1	115	25	10	1	7	2	0	0	1	194	1110	AT
	BE	78	0	2	0	0	0	0	0	1	0	0	1	0	15	1	1	0	32	4	0	0	2	47	612	BE
	BG	6	3	66	9	8	0	0	1	3	5	32	87	19	30	14	15	0	1	0	0	0	2	195	1663	BG
	DK	78	1	4	0	2	0	0	2	1	1	1	1	0	23	3	0	6	21	1	0	0	5	45	445	DK
	FI	39	19	25	1	229	47	6	11	0	0	0	1	0	27	5	1	12	7	2	0	0	6	254	1026	FI
	FR	324	1	5	1	1	0	0	1	10	5	10	8	0	69	9	54	1	115	63	0	0	25	637	3777	FR
	DE*	447	4	28	3	8	1	0	2	16	6	9	14	1	839	36	11	10	137	20	0	0	15	640	7546	DE*
	GR	2	1	28	3	4	0	0	0	2	4	25	38	20	12	4	52	0	1	0	0	0	3	198	1063	GR
	HU	13	2	27	3	3	0	0	1	21	21	32	51	2	96	91	12	0	3	1	0	0	1	144	1503	HU
	IS	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	10	24	64	IS
R	IE	122	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	18	0	0	13	55	360	IE
e	IT	25	1	12	1	1	0	0	0	43	27	62	29	3	47	15	623	0	6	4	0	0	9	579	3304	IT
c	LU	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	5	45	LU
e	NL	143	0	3	0	0	0	0	0	0	0	0	1	0	32	3	1	0	53	3	0	0	3	56	737	NL
i	NO	143	5	7	1	63	5	2	3	0	0	1	2	0	26	3	0	5	28	9	0	0	22	295	887	NO
v	PL	193	27	151	8	38	3	2	17	13	7	20	27	2	811	120	8	14	42	6	0	0	8	496	7767	PL
e	PT	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1	36	0	0	5	58	386	PT
r	RO	17	7	194	34	18	1	0	3	12	15	45	125	6	104	73	23	1	4	1	0	0	2	379	2803	RO
s	ES	35	0	0	0	0	0	0	0	1	1	3	2	1	5	0	72	0	8	62	2	0	15	342	2712	ES
	SE	166	17	29	2	75	15	6	14	1	1	2	5	0	72	11	1	26	41	7	0	0	18	419	1684	SE
	CH	14	0	1	0	0	0	0	0	4	2	4	3	0	8	1	6	0	3	2	0	0	1	103	450	CH
	TR	8	5	103	9	15	1	0	1	3	3	12	25	4	37	11	57	0	2	0	0	0	6	818	2062	TR
	GB	3299	1	5	0	1	1	0	0	1	0	0	1	0	44	3	1	1	115	46	0	0	33	232	4217	GB
	BY	42	344	194	10	92	8	8	41	4	2	5	9	1	92	23	5	6	8	1	0	0	2	295	1942	BY
	UA	69	111	2672	104	222	6	4	18	14	12	23	44	3	222	117	38	5	14	2	0	0	5	904	6662	UA
	MD	2	2	73	51	5	0	0	1	1	1	2	3	0	12	6	2	0	1	0	0	0	0	47	335	MD
	RU	197	472	1884	57	6188	215	43	99	11	10	29	44	2	258	77	385	32	35	8	0	0	24	5283	17772	RU
	EE	11	10	11	1	23	66	7	7	0	0	0	0	0	10	1	0	6	2	0	0	0	1	54	295	EE
	LV	19	29	23	1	23	8	28	30	0	0	0	1	0	21	3	1	6	4	1	0	0	2	74	434	LV
	LT	23	29	33	2	25	3	6	98	1	0	1	2	0	28	5	1	5	5	1	0	0	2	81	611	LT
	SI	3	0	3	0	0	0	0	0	115	10	8	6	0	12	4	8	0	1	0	0	0	0	46	343	SI
	HR	6	1	9	1	1	0	0	0	20	62	74	28	1	34	14	26	0	2	0	0	0	1	104	675	HR
	BA	5	1	10	1	1	0	0	0	6	18	298	35	2	23	11	37	0	1	0	0	0	1	105	768	BA
	YU*	8	1	21	2	2	0	0	1	7	15	193	314	22	39	19	49	0	2	0	0	0	1	168	1289	YU*
	FYM	1	0	5	0	1	0	0	0	1	1	15	20	42	3	1	10	0	0	0	0	0	0	42	252	FYM
	CS*	38	2	13	1	1	1	0	1	8	3	6	11	1	1052	48	2	1	11	2	0	0	1	154	2478	CS*
	SK	11	2	21	2	2	0	0	0	6	4	8	14	1	118	173	4	0	3	1	0	0	1	79	968	SK
	REM	21	23	309	7	330	4	1	4	2	2	9	10	1	21	6	2046	1	4	3	1	0	11	2075	5340	REM
	BAS	246	41	70	5	112	58	24	46	4	2	5	10	1	176	26	2	106	62	6	0	0	23	459	3281	BAS
	NOS	3552	9	27	2	17	7	3	8	4	2	4	5	0	226	16	5	16	727	78	0	0	138	762	7769	NOS
	ATL	2036	19	45	2	714	23	5	10	5	2	4	4	0	131	12	18	11	198	1354	0	0	1441	4427	14059	ATL
	MED	83	9	148	16	23	1	1	3	57	109	241	151	33	138	50	2725	2	20	24	3	0	119	2692	11757	MED
	BLS	18	19	536	47	77	2	1	5	6	7	30	49	5	87	32	84	1	4	1	0	0	16	842	3236	BLS
	SUM	11580	1219	6810	388	8329	478	150	433	464	372	1250	1207	186	5121	1077	6425	275	1741	1775	7	0	1996	24967	126779	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1993. Unit: 100 tonnes(S)

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          ********* receiver-emitter matrix *********

          reduced nitrogen,  tot dep.
          averaging period: 1993  1  1 12 -  1994  1  1  6
          unit =  100. tonnes

                                                       Emitters

          AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
    AL    95     0     0     2     0     0     1     1     5     1     0     0     5     0     0     0     1     0     1     0     0     0     1  AL
    AT     0   318     6     2     1     0    45   145     0    17     0     1    61     1     8     0    10     0     7     3     1    26     0  AT
    BE     0     1   319     0     1     0    65    25     0     1     0     1     1     2    47     0     1     0     0     2     0     0     0  BE
    BG     3     2     1   352     1     0     2     9    11    12     0     0     4     0     1     0     7     0    56     0     0     0     7  BG
    DK     0     1     2     0   394     0     4    32     0     1     0     2     0     0     8     1    12     0     0     0     4     0     0  DK
    FI     0     1     1     0     6   129     3    14     0     2     0     1     0     0     4     2    21     0     1     0    10     0     0  FI
    FR     0     5    67     0     2     0  2825    83     0     3     0     8    64     6    36     0     4     8     1    81     0    26     0  FR
   DE*     0    36   103     1    33     0   306  3002     0    12     0    11    41    11   282     1    62     3     8    15     4    52     0  DE*
    GR    10     1     0    19     0     0     2     3   228     3     0     0     6     0     0     0     2     0     9     0     0     0    11  GR
    HU     1    20     2     5     0     0     8    28     1   377     0     0    13     0     4     0    16     0    28     1     0     2     1  HU
    IS     0     0     0     0     0     0     1     1     0     0    10     1     0     0     0     0     0     0     0     0     0     0     0  IS
R   IE     0     0     1     0     1     0    13     3     0     0     0   515     0     0     1     0     0     0     0     2     0     0     0  IE
e   IT     1    11     3     3     1     0    72    40     3     9     0     0  1499     0     5     0     8     1     3    11     0    41     1  IT
c   LU     0     0     2     0     0     0     8     3     0     0     0     0     0    20     1     0     0     0     0     0     0     0     0  LU
e   NL     0     1    34     0     3     0    26    63     0     1     0     2     1     0   672     0     2     0     1     1     0     0     0  NL
i   NO     0     1     4     0    21     2    10    27     0     2     0     4     0     0    10   101    12     0     2     1    13     0     0  NO
v   PL     0    16    13     3    30     1    41   241     1    24     0     4    12     1    39     1  1620     0    19     3     9     6     1  PL
e   PT     0     0     0     0     0     0     2     0     0     0     0     0     0     0     0     0     0   304     0    44     0     0     0  PT
r   RO     2     7     1    34     1     0     6    22     3    63     0     0    11     0     4     0    25     0   776     1     0     1     5  RO
s   ES     0     1     3     1     0     0    64     6     1     1     0     2     6     0     3     0     0    74     1  1305     0     1     0  ES
    SE     0     2     5     0    67    12    13    58     0     4     0     4     0     0    15    17    45     0     5     0   239     0     0  SE
    CH     0     2     2     0     0     0    69    28     0     1     0     0    53     0     3     0     1     0     0     4     0   271     0  CH
    TR     2     2     1    16     0     0     4    11    12     6     0     0     5     0     1     0     9     0    18     1     0     0  1208  TR
    GB     0     2    16     0     4     0    76    43     0     1     0    73     2     1    31     1     7     1     1     5     1     1     0  GB
    BY     0     3     2     2     8     1     7    28     0     6     0     1     3     0     5     0    87     0    11     1     4     1     2  BY
    UA     1    10     4    15     7     1    14    56     3    41     0     1    12     0    10     0   146     0    95     1     3     3    17  UA
    MD     0     0     0     1     0     0     1     3     0     2     0     0     1     0     0     0     5     0    14     0     0     0     0  MD
    RU     1    11     9    14    37    39    29   114     3    32     0     5    17     0    27     6   192     1    67     3    27     3   104  RU
    EE     0     0     0     0     2     2     1     4     0     0     0     0     0     0     1     0     7     0     0     0     2     0     0  EE
    LV     0     0     1     0     4     1     2     7     0     0     0     0     0     0     1     0    13     0     1     0     4     0     0  LV
    LT     0     1     1     1     5     0     2    11     0     1     0     0     0     0     3     0    31     0     2     0     4     0     0  LT
    SI     0     9     0     1     0     0     3     9     0     4     0     0    20     0     1     0     2     0     2     0     0     1     0  SI
    HR     0     7     1     2     0     0     4    12     1    15     0     0    29     0     2     0     7     0     4     1     0     1     0  HR
    BA     1     3     0     2     0     0     3     7     1    11     0     0    18     0     1     0     6     0     3     1     0     0     0  BA
   YU*     7     4     1    13     0     0     3    10     4    24     0     0    15     0     2     0     6     0    16     1     0     0     2  YU*
   FYM     6     0     0     5     0     0     0     1     6     1     0     0     2     0     0     0     0     0     2     0     0     0     1  FYM
   CS*     0    29     7     1     2     0    29   145     0    11     0     1     8     1    14     0    36     0     5     2     1     5     0  CS*
    SK     0    13     1     1     0     0     6    23     1    26     0     0     5     0     3     0    26     0    10     1     0     2     1  SK
   REM     1     1     2     4     2     0    23    16     2     4     0     1    19     0     5     0    16     1     9    14     1     3    69  REM
   BAS     0     4     9     1   125    18    22   155     0     6     0     5     2     1    28     5   132     0     6     1    64     1     0  BAS
   NOS     0     5    72     0   118     1   297   223     0     4     0    44     4     1   181    12    41     1     2    10    14     2     0  NOS
   ATL     0     5    36     0    34    10   442   127     0     4     6   267     7     2    61    24    40    85     4   163    13     2     0  ATL
   MED    23    14     7    29     2     0   205    51    71    23     0     2   352     1    12     0    21     8    27   120     1    15    98  MED
   BLS     1     3     1    25     1     0     6    19     6    12     0     0     6     0     4     0    24     0    56     1     1     1   188  BLS
   SUM   159   554   741   557   917   218  4764  4905   364   769    17   958  2307    52  1536   174  2703   493  1272  1804   422   472  1719  SUM
          AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
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                                                       Emitters

          GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     0     1     0     1     0     0     0     0     1     1     4     2     0     0     0     0     0     0     0     0     0    18   143  AL
    AT     4     1     5     1     1     0     0     0    15     3     1     4     0    21     7     0     0     0     0     0     0     0    62   777  AT
    BE    12     0     1     0     0     0     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0    15   496  BE
    BG     1     2    29     4     5     0     0     0     0     2     2    22     4     3     3     1     0     0     0     0     0     0    45   591  BG
    DK     9     1     2     0     0     0     0     1     0     0     0     0     0     2     1     0     0     0     0     0     0     0    12   490  DK
    FI     4    15    13     0    31    13     4    10     0     0     0     0     0     3     1     0     0     0     0     0     0     0    69   359  FI
    FR    48     0     1     0     0     0     0     0     1     1     1     1     0     4     1     2     0     0     0     0     0     0   176  3461  FR
   DE*    61     2    12     1     2     0     0     2     3     2     1     2     0    49     7     0     0     0     0     0     0     0   196  4324  DE*
    GR     0     1    11     1     3     0     0     0     0     1     1     8     4     1     1     1     0     0     0     0     0     0    48   382  GR
    HU     1     2    13     1     2     0     0     0     5     9     3    13     0    13    22     0     0     0     0     0     0     0    39   633  HU
    IS     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     8    22  IS
R   IE    31     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    16   584  IE
e   IT     3     1     5     0     1     0     0     0     5     8     5     6     0     4     3     4     0     0     0     0     0     0   154  1914  IT
c   LU     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2    39  LU
e   NL    18     0     1     0     0     0     0     0     0     0     0     0     0     2     1     0     0     0     0     0     0     0    17   847  NL
i   NO    20     5     4     0     4     2     1     3     0     0     0     0     0     2     1     0     0     0     0     0     0     0    81   334  NO
v   PL    22    43    99     4    15     1     1    14     2     2     1     6     0    66    25     0     0     0     0     0     0     0   150  2538  PL
e   PT     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    15   367  PT
r   RO     2     6   107    23    12     0     0     1     2     5     3    22     1    10    13     1     0     0     0     0     0     0    85  1255  RO
s   ES     5     0     0     0     0     0     0     0     0     0     0     1     0     0     0     4     0     0     0     0     0     0    79  1558  ES
    SE    20    17    18     1    14     7     4    12     0     0     0     1     0     6     3     0     0     0     0     0     0     0   118   711  SE
    CH     2     0     0     0     0     0     0     0     0     1     0     1     0     0     0     0     0     0     0     0     0     0    36   479  CH
    TR     1     4    50     4    13     0     0     1     0     1     1     4     1     4     2     6     0     0     0     0     0     0   234  1624  TR
    GB  1334     0     2     0     0     0     0     0     0     0     0     0     0     4     1     0     0     0     0     0     0     0    62  1668  GB
    BY     4   826   143     5    43     3     6    42     1     1     0     2     0     6     4     1     0     0     0     0     0     0    85  1346  BY
    UA     7   115  2869    51   120     2     2    14     2     4     2     9     1    17    21     5     0     0     0     0     0     0   233  3911  UA
    MD     0     2    45   129     3     0     0     0     0     0     0     1     0     1     1     0     0     0     0     0     0     0    11   222  MD
    RU    27   294   736    27  4475    40    27    86     2     4     3     9     0    23    15    97     0     0     0     0     0     0  1540  8149  RU
    EE     1     7     5     0     6    91     5     6     0     0     0     0     0     1     0     0     0     0     0     0     0     0    14   159  EE
    LV     2    22    11     1     9     7    64    30     0     0     0     0     0     1     0     0     0     0     0     0     0     0    19   204  LV
    LT     2    34    18     1     9     2     5   279     0     0     0     0     0     1     1     0     0     0     0     0     0     0    24   441  LT
    SI     0     0     1     0     0     0     0     0    71     3     1     1     0     1     1     0     0     0     0     0     0     0    13   148  SI
    HR     1     1     6     0     0     0     0     0     5   102     9     6     0     4     3     0     0     0     0     0     0     0    29   253  HR
    BA     1     1     7     0     0     0     0     0     1    13   104    11     0     3     3     0     0     0     0     0     0     0    31   234  BA
   YU*     1     1    10     1     1     0     0     0     1     7    12   311     5     4     4     1     0     0     0     0     0     0    45   512  YU*
   FYM     0     0     2     0     1     0     0     0     0     0     1     8    48     0     0     0     0     0     0     0     0     0    11    97  FYM
   CS*     5     2     7     1     1     0     0     1     2     1     1     2     0   353    10     0     0     0     0     0     0     0    45   730  CS*
    SK     1     1    14     1     1     0     0     0     1     1     1     3     0    17   160     0     0     0     0     0     0     0    23   345  SK
   REM     2    15    85     3   180     1     1     3     0     1     1     2     0     2     1   429     0     0     0     0     0     0   470  1391  REM
   BAS    26    33    33     2    26    23    12    36     1     1     0     2     0    10     4     0     0     0     0     0     0     0   116   911  BAS
   NOS   325     6    12     1     5     2     1     5     1     1     0     1     0    12     3     0     0     0     0     0     0     0   184  1591  NOS
   ATL   351    11    18     1    42     4     2     6     1     1     0     1     0    10     2     1     0     0     0     0     0     0  1264  3048  ATL
   MED     7     6    50     5    10     0     0     2     7    22    15    26     4     9     7    42     0     0     0     0     0     0   570  1866  MED
   BLS     2    14   255    17    78     0     1     3     1     2     1     6     1     7     4    19     0     0     0     0     0     0   202   969  BLS
   SUM  2364  1492  4703   287  5120   200   138   564   134   201   174   500    74   678   336   618     0     0     0     0     0     0  6662 52121  SUM
          GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduced Nitrogen in 1993. Unit: 100 tonnes(N)

Transboundary Import-Export Budgets for 1993

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	325	90	257	88	19	45	69	95	85	96	14	38	160	63	48	34	11	62
AT	267	86	1067	96	9	61	517	94	545	95	9	53	382	55	459	59	5	79
BE	1277	88	444	73	23	76	1005	96	274	87	23	71	480	60	177	36	18	93
BG	6328	89	861	52	18	46	688	93	242	83	12	38	546	61	239	40	7	62
DK	708	91	373	84	39	78	806	97	195	87	30	70	586	60	96	20	31	94
FI	492	79	898	88	20	66	756	88	453	82	15	58	143	53	230	64	12	80
FR	4318	77	2490	66	26	72	3927	84	1521	66	23	67	2660	48	636	18	21	87
DE*	12167	76	3803	50	16	74	5632	83	2106	65	19	71	2351	44	1322	31	12	92
GR	2508	92	846	80	28	42	1057	95	210	79	18	33	414	65	154	40	14	57
HU	3230	85	953	63	12	72	520	93	380	90	11	66	570	60	256	40	6	81
IS	108	90	52	81	44	48	67	96	41	93	36	37	15	60	12	55	28	69
IE	681	87	256	71	54	72	349	94	172	89	47	64	523	50	69	12	38	92
IT	6146	82	2000	61	26	57	5308	87	632	45	19	49	1729	54	415	22	14	71
LU	71	95	41	91	12	73	75	99	27	96	13	70	38	65	19	49	9	90
NL	720	88	637	86	34	79	1610	96	314	82	29	73	950	59	175	21	20	95
NO	145	83	857	97	32	67	616	90	542	89	24	55	105	51	233	70	23	85
PL	10116	74	4258	55	13	72	2899	85	1566	75	14	67	1526	49	918	36	9	86
PT	1327	88	213	55	18	37	694	92	132	68	16	36	462	60	63	17	15	64
RO	3756	81	1919	68	11	55	864	89	531	84	9	47	1060	58	479	38	6	69
ES	8457	82	814	30	28	50	3142	84	515	47	18	42	1536	54	253	16	13	63
SE	398	79	1577	94	30	71	1012	88	928	87	22	62	239	50	472	66	21	88
CH	141	83	421	94	8	61	416	94	257	91	8	50	314	54	208	43	4	81
TR	1386	78	1678	81	20	46	1453	85	625	71	15	35	2210	65	416	26	10	50
GB	12536	79	918	22	42	73	6744	89	598	41	38	68	1301	49	334	20	32	90
BY	1566	82	1598	82	6	64	577	92	564	91	8	60	978	54	520	39	4	83
UA	8298	76	3990	60	9	62	1831	86	1301	81	9	56	3135	52	1042	27	7	78
MD	589	92	284	85	13	61	83	98	72	97	9	54	258	67	93	42	7	74
RU	11092	64	11584	65	6	48	4778	69	4487	68	4	43	2961	40	3674	45	3	69
EE	659	91	229	78	14	66	115	97	113	97	12	61	148	62	68	43	13	84
LV	192	87	406	94	17	68	109	96	172	98	13	61	101	61	140	69	10	84
LT	527	84	513	84	12	69	225	95	209	95	13	63	380	58	162	37	9	86
SI	799	87	228	66	9	51	180	97	112	95	8	43	118	63	77	52	6	71
HR	508	89	613	91	24	65	153	95	231	97	14	55	170	62	151	60	11	74
BA	2102	88	470	61	14	52	229	94	194	93	13	46	151	59	130	56	7	68
YU*	1691	84	975	76	12	60	148	90	300	95	9	51	430	58	201	39	6	67
FYM	488	92	210	83	8	35	115	97	55	93	5	28	92	66	49	51	4	53
CS*	6043	85	1426	58	12	72	1636	94	538	83	13	68	446	56	377	52	6	85
SK	1452	89	795	82	9	66	533	96	253	91	10	62	260	62	185	54	5	80
REM	13199	87	3294	62	21	42	1000	90	1461	93	6	26	979	70	962	69	5	44
BAS	254	71	3175	97	38	76	216	89	1348	98	21	67	0	0	911	100	0	100
NOS	1470	67	7042	91	46	79	1670	86	2680	91	32	72	0	0	1591	100	0	100
ATL	3303	71	12705	90	31	38	3169	80	6071	89	23	33	0	0	3048	100	0	100
MED	57	95	11754	100	5	12	39	97	3389	100	3	13	0	0	1866	100	0	100
BLS	0	0	3236	100	0	100	0	0	813	100	0	100	0	0	969	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

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********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1994  1  1 12 -  1995  1  1  6
unit =  100. tonnes

                                                                Emitters

           AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
     AL     4     1     0     2     0     0     2     3    11     1     0     0    28     0     0     0     1     0     1     2     0     0     1  AL
     AT     0    33    10     1     1     0    83   119     2     7     0     0   105     1    10     0    19     0     2     5     1    19     0  AT
     BE     0     0    41     0     0     0    60    36     0     0     0     1     2     1    21     0     1     0     0     5     0     1     0  BE
     BG     1     3     1    55     1     0     5    11    14     8     0     0    20     0     1     0    10     0    38     1     1     1    11  BG
     DK     0     0     5     0    23     0     9    32     0     0     0     2     1     0    12     2    10     0     0     1     4     0     0  DK
     FI     0     1     5     0    19    92    10    40     0     2     0     1     4     0    11    19    40     0     2     1    56     0     0  FI
     FR     0     4    65     1     2     0   813   127     0     2     0     5   108     6    37     0     9    14     2   174     1    19     0  FR
    DE*     0    19   157     0    19     0   410   985     0     4     0     8    83    13   205     3    60     2     2    35     7    32     0  DE*
     GR     4     1     1    24     0     0     6     8    70     4     0     0    33     0     1     0     6     0    10     3     0     0    24  GR
     HU     0    20     5     3     1     0    27    54     2    49     0     0    58     1     5     0    28     0    13     2     1     4     1  HU
     IS     0     0     1     0     0     0     3     4     0     0     3     1     0     0     1     0     1     0     0     0     0     0     0  IS
R    IE     0     0     3     0     0     0    12     6     0     0     0    21     0     0     4     0     0     1     0     3     0     0     0  IE
e    IT     1    16     6     3     1     0   148    56     6     8     0     0   838     1     6     0    12     2     3    32     0    24     1  IT
c    LU     0     0     2     0     0     0     9     3     0     0     0     0     0     1     1     0     0     0     0     1     0     0     0  LU
e    NL     0     0    29     0     1     0    34    59     0     0     0     2     1     1    61     0     2     0     0     3     0     0     0  NL
i    NO     0     2     9     0    30    10    20    74     0     1     0     4     3     0    23    65    25     0     0     1    40     0     0  NO
v    PL     0    15    45     3    37     2   107   434     2    19     0     4    44     3    71     6   458     1     9     6    20     6     1  PL
e    PT     0     0     0     0     0     0     3     1     0     0     0     0     0     0     0     0     0    56     0    39     0     0     0  PT
r    RO     1    10     5    23     2     1    20    46     7    40     0     0    46     0     5     1    39     0   120     2     2     3    10  RO
s    ES     0     1     5     0     1     0    63    15     0     0     0     1    12     0     6     0     1    77     0   556     0     2     0  ES
     SE     0     2    17     1    66    34    33   118     0     3     0     4     3     1    36    55    51     0     1     2   122     1     0  SE
     CH     0     2     4     0     0     0    76    22     0     0     0     0    78     0     3     0     1     0     0     7     0    26     0  CH
     TR     1     2     2    18     2     1     7    14    33     5     0     0    15     0     1     0    14     0    13     1     2     0   312  TR
     GB     0     0    24     0     6     0    93    62     0     0     0    26     6     1    43     2     4     3     1    16     2     1     0  GB
     BY     0     3     9     3    12     6    24    82     1     8     0     1    13     1    15     3   123     0     7     1    13     2     3  BY
     UA     1    12    14    18    11     6    43   140     5    40     0     1    48     1    22     3   198     0    54     2    11     4    18  UA
     MD     0     1     1     1     0     0     2     6     0     3     0     0     3     0     1     0     7     0     7     0     0     0     1  MD
     RU     1    16    28    24    75   200    64   262    11    37     0     5    41     1    62    44   346     0    64     3   135     5    63  RU
     EE     0     0     1     0     5     9     3    13     0     1     0     0     1     0     3     3    12     0     0     0    11     0     0  EE
     LV     0     1     2     0     7     5     5    20     0     1     0     0     2     0     5     3    24     0     1     0    12     0     0  LV
     LT     0     1     4     1     9     2     9    33     0     1     0     0     3     0     7     2    39     0     1     1    10     1     0  LT
     SI     0     6     1     0     0     0    10    12     0     3     0     0    44     0     1     0     3     0     1     1     0     2     0  SI
     HR     0     8     1     2     0     0    17    22     2     9     0     0    89     0     2     0     8     0     3     3     0     2     1  HR
     BA     1     3     1     3     0     0     9    13     3     6     0     0    66     0     2     0     7     0     3     2     0     1     0  BA
    YU*     3     5     1     9     1     0    10    19    11    16     0     0    62     0     2     0    13     0    13     2     0     1     3  YU*
    FYM     2     0     0     4     0     0     1     3     9     1     0     0     9     0     0     0     2     0     2     1     0     0     2  FYM
    CS*     0    13    18     1     2     0    57   168     1     5     0     1    22     2    17     0    40     0     2     4     1     5     0  CS*
     SK     0    11     4     1     1     0    19    43     1    16     0     0    21     0     5     0    36     0     4     1     1     3     0  SK
    REM     1     3     3     3     1     2    64    20     8     4     0     0    97     0     4     0    14     5     4    60     2     3    16  REM
    BAS     0     4    25     1    86    42    50   209     1     5     0     6    10     1    58    23   118     0     3     3    99     2     2  BAS
    NOS     0     8   102     1    61     4   262   354     0     4     1    35    24     4   210    22    62     4     2    31    31     5     0  NOS
    ATL     0     6    91     1    68    66   339   317     0     5    17    98    16     4   147   101    90    61     4   216    77     6     0  ATL
    MED     9    25    16    39     4     0   384   122   158    25     0     1  1084     2    17     1    41    18    28   297     2    20   135  MED
    BLS     1     3     5    30     4     3    12    32    14    10     0     0    17     0     4     1    37     0    33     0     5     1   105  BLS
    SUM    30   263   769   278   560   487  3436  4220   375   353    22   230  3163    51  1149   361  2015   248   455  1523   667   205   713  SUM
           AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
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                                                                Emitters

           GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
     AL     1     0     1     0     1     0     0     0     0     1     2     1     2     1     1     0     0     0     0     0     0     0    19    89  AL
     AT    21     1     1     0     0     0     0     0     9     2     1     1     0    23     9     0     0     9     5     0     0     0    67   568  AT
     BE    46     0     0     0     0     0     0     0     0     0     0     0     0     2     0     0     0    23     6     0     0     0    19   266  BE
     BG     2     1    13     1     5     0     0     0     1     2     3     6     4     5     5     0     0     1     0     0     0     0    50   281  BG
     DK    56     0     0     0     0     0     0     0     0     0     0     0     0     4     0     0     2    18     3     0     0     0    20   204  DK
     FI    39     7     4     0    27     8     5     6     0     0     0     0     0     8     2     0    10    15     3     0     0     0    96   533  FI
     FR   143     0     1     0     0     0     0     0     2     1     1     0     0     9     1     2     0    78    92     0     0     0   257  1978  FR
    DE*   345     2     3     0     2     0     0     1     3     1     0     0     0    91     6     0     4   142    36     0     0     0   223  2913  DE*
     GR     2     0     7     0     5     0     0     0     0     1     2     3     3     3     2     1     0     1     0     0     0     0    73   299  GR
     HU    11     1     4     0     1     0     0     0     5     8     5     4     1    22    28     0     0     5     2     0     0     0    53   425  HU
     IS    10     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2     2     0     0     0    19    47  IS
R    IE    46     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     8    22     0     0     0    30   158  IE
e    IT    13     0     1     0     1     0     0     0    10     8     8     2     1    12     5     3     0     6     7     0     0     0   193  1436  IT
c    LU     2     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1     1     0     0     0     2    24  LU
e    NL    96     0     0     0     0     0     0     0     0     0     0     0     0     2     0     0     0    33     5     0     0     0    21   352  NL
i    NO   128     3     1     0     6     1     1     2     0     0     0     0     0    10     1     0     6    40    11     0     0     0   134   657  NO
v    PL   159    11    12     1     9     1     2     6     3     3     2     2     0   137    28     0    10    60    13     0     0     0   186  1938  PL
e    PT     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     1    36     0     0     0    42   180  PT
r    RO    13     4    26     4    10     0     0     1     3     5     6    10     2    23    24     0     1     5     1     0     0     0    94   615  RO
s    ES    20     0     0     0     0     0     0     0     0     0     0     0     0     1     0     2     0     8    80     2     0     0   156  1008  ES
     SE   126     9     4     0    16     4     4     6     0     0     0     0     0    14     2     0    16    50     9     0     0     0   145   959  SE
     CH     6     0     0     0     0     0     0     0     1     0     0     0     0     1     0     0     0     4     4     0     0     0    32   273  CH
     TR     2     3    29     2    26     0     0     1     0     1     1     2     1     5     3     6     0     2     1     0     0     0   379   905  TR
     GB   718     0     0     0     0     0     0     0     0     0     0     0     0     4     0     0     1    91    52     0     0     0   105  1261  GB
     BY    35    53    24     2    25     2     4    12     1     1     1     1     0    22     8     1     4    13     3     0     0     0    80   622  BY
     UA    51    33   236    13   100     2     3     6     3     5     4     5     1    55    40     6     4    18     4     0     0     0   238  1478  UA
     MD     2     1     7     3     2     0     0     0     0     0     0     0     0     2     2     0     0     1     0     0     0     0    12    68  MD
     RU   184   161   386    12  1981    35    33    49     3     5     5     4     1    65    34   101    36    69    12     0     0     0  1674  6340  RU
     EE    11     3     1     0     5     4     3     3     0     0     0     0     0     3     1     0     3     4     1     0     0     0    18   123  EE
     LV    17     6     3     0     6     2     6     7     0     0     0     0     0     5     1     0     3     6     1     0     0     0    25   178  LV
     LT    20     8     3     0     5     1     3    13     0     0     0     0     0     6     1     0     3     7     1     0     0     0    26   224  LT
     SI     2     0     0     0     0     0     0     0     6     2     1     0     0     3     2     0     0     1     0     0     0     0    15   122  SI
     HR     3     0     1     0     1     0     0     0     4     9     8     2     0     9     5     0     0     2     1     0     0     0    34   250  HR
     BA     2     0     2     0     1     0     0     0     1     6    15     3     1     6     3     0     0     1     1     0     0     0    33   195  BA
    YU*     4     1     4     0     2     0     0     0     1     5    13    17     7     8     7     0     0     2     1     0     0     0    56   302  YU*
    FYM     0     0     1     0     1     0     0     0     0     0     1     2     4     1     1     0     0     0     0     0     0     0    13    61  FYM
    CS*    35     1     1     0     0     0     0     0     2     1     1     0     0    90     8     0     0    14     5     0     0     0    54   573  CS*
     SK    11     1     2     0     1     0     0     0     2     2     1     1     0    25    25     0     0     4     1     0     0     0    31   277  SK
    REM    12     5    35     1   179     0     1     1     1     2     2     1     0     6     2   112     0     4    10     1     0     0   716  1406  REM
    BAS   189    14     8     0    25     8     9    13     1     1     1     0     0    26     5     0    26    69    10     0     0     0   147  1299  BAS
    NOS  1229     4     3     0     5     1     2     4     2     1     1     0     0    38     5     0     9   291    91     0     0     0   320  3231  NOS
    ATL  1136    14    10     1    93     7     6     8     1     1     0     0     0    34     5     1    14   250   750     0     0     0  2542  6602  ATL
    MED    48     2    20     2    12     0     0     1    12    19    22    10     5    30    17    33     1    18    37     2     0     0   892  3614  MED
    BLS     8     8    89     5    87     1     1     2     1     2     2     3     1    11     7    14     1     5     1     0     0     0   212   778  BLS
    SUM  5003   360   946    50  2644    78    84   145    80    97   111    82    34   823   299   288   157  1380  1319     5     0     0  9552 45108  SUM
           GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
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Deposition budget matrix for Oxidised Nitrogen in 1994. Unit: 100 tonnes(N)

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                    *********  receiver-emitter matrix *********

                    oxidized sulphur,  tot dep.
                    averaging period: 1994  1  1 12 -  1995  1  1  6
                    unit =  100. tonnes

                                                          Emitters

           AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
     AL    38     0     0    26     0     0     2     5    32     7     0     0    28     0     0     0     4     0     5     3     0     0     1  AL
     AT     1    38     9     5     1     0    61   136     4    46     0     1   105     1     3     0    62     0     9    11     0     7     0  AT
     BE     0     0   143     0     0     0    94    53     0     0     0     2     2     2    17     0     5     0     0    11     0     0     0  BE
     BG     7     1     1   934     1     0     4    21    22    49     0     0    18     0     0     0    35     0   174     1     0     0     9  BG
     DK     0     0     6     0    64     0     9    77     0     2     0     2     1     0     5     1    43     0     1     2     2     0     0  DK
     FI     0     0     4     3    10   115     5    52     0     8     0     1     3     0     2     3    83     0     6     1    22     0     0  FI
     FR     0     2    84     3     2     0  1121   155     0    10     0     8   118     7    20     0    33    12     6   408     0     8     0  FR
    DE*     0    11   198     5    23     0   422  2765     1    28     0    12    80    15    97     0   241     1    12    74     2    13     0  DE*
     GR    18     1     0   319     0     0     4    14   259    21     0     0    31     0     0     0    20     0    40     5     0     0    20  GR
     HU     1    11     4    21     1     0    20    82     4   581     0     0    48     0     1     0    94     0    63     5     0     1     1  HU
     IS     0     0     0     0     0     0     1     2     0     0    10     1     0     0     0     0     1     0     0     0     0     0     0  IS
R    IE     0     0     3     0     0     0     9     7     0     0     0   120     0     0     1     0     1     0     0     8     0     0     0  IE
e    IT     3     8     5    20     1     0   118    67     9    45     0     1  1240     1     2     0    39     2    13    47     0    11     1  IT
c    LU     0     0     2     0     0     0    12     4     0     0     0     0     0     3     0     0     0     0     0     1     0     0     0  LU
e    NL     0     0    59     0     1     0    53    95     0     1     0     4     2     1    89     0     6     0     1     6     0     0     0  NL
i    NO     0     1     8     2    24     5    15   125     0     7     0     5     2     0     6    29    66     0     1     5    17     0     0  NO
v    PL     1     8    40    27    33     1    86  1525     4   132     0     4    38     2    22     1  3239     0    45    16     7     2     1  PL
e    PT     0     0     0     0     0     0     2     0     0     0     0     0     0     0     0     0     0   146     0    99     0     0     0  PT
r    RO     4     5     4   217     2     0    17    86    11   272     0     0    42     0     2     0   147     0   926     3     1     1     7  RO
s    ES     0     0     4     0     0     0    53    19     0     0     0     1    13     0     2     0     2   107     0  1840     0     1     0  ES
     SE     0     1    14     4    72    20    25   187     0    12     0     5     2     1    10    16   146     0     4     4    95     0     0  SE
     CH     0     1     4     0     0     0    61    21     1     3     0     0   105     0     1     0     4     1     1    16     0    25     0  CH
     TR     3     1     1   207     1     0     5    20    69    24     0     0    13     0     0     0    37     0    50     2     0     0   408  TR
     GB     0     0    29     0     3     0    92    74     0     2     0    63     5     1    18     0    15     2     2    42     0     0     0  GB
     BY     0     2     8    27     8     3    17   172     1    49     0     1    11     0     4     1   475     0    34     4     4     1     2  BY
     UA     2     6    11   161     8     3    34   311     8   271     0     1    47     1     6     1   774     0   293     8     3     1    16  UA
     MD     0     0     0    14     0     0     1    13     0    16     0     0     4     0     0     0    26     0    44     0     0     0     1  MD
     RU     3     6    20   179    35   109    40   396    16   163     0     5    33     1    14     7   860     0   210     8    37     1    48  RU
     EE     0     0     1     3     3    10     2    20     0     4     0     1     2     0     1     0    38     0     2     0     4     0     0  EE
     LV     0     0     2     6     5     3     4    36     0     6     0     1     2     0     2     1    88     0     5     1     5     0     0  LV
     LT     0     0     3     5     6     1     7    62     0     7     0     1     3     0     2     0   154     0     6     1     4     0     0  LT
     SI     0     5     1     2     0     0     7    16     1    15     0     0    47     0     0     0    10     0     3     3     0     1     0  SI
     HR     1     4     1    13     0     0    13    38     4    57     0     0    87     0     1     0    28     0    12     6     0     1     0  HR
     BA     3     2     1    18     0     0     6    24     6    36     0     0    46     0     0     0    23     0    10     3     0     0     0  BA
    YU*    14     3     1    80     1     0     8    36    21   101     0     0    49     0     1     0    45     0    53     4     0     0     2  YU*
    FYM    10     0     0    45     0     0     1     5    22     8     0     0     8     0     0     0     6     0     7     1     0     0     2  FYM
    CS*     0     8    15     8     2     0    49   516     1    33     0     1    19     1     6     0   207     0     8     9     0     2     0  CS*
     SK     0     7     4     9     1     0    14    89     2   148     0     0    18     0     2     0   159     0    19     3     0     1     0  SK
    REM     2     1     2    27     1     1    36    24    15    16     0     0    80     0     1     0    32     6    15    87     0     1    13  REM
    BAS     0     2    26    11   141    57    42   474     1    29     0     8    10     1    20     7   564     0    13     9    82     1     1  BAS
    NOS     0     4   160     4    87     2   334   710     0    26     1    69    24     4   165    15   251     3    10    81    15     2     0  NOS
    ATL     0     2    74     3    38    33   288   380     0    19    40   309    12     2    42    28   215   146    11  1499    28     2     0  ATL
    MED    55    15    16   527     3     0   447   210   639   179     0     2  1636     1     7     0   168    29   137   732     1     9   183  MED
    BLS     4     2     3   558     3     1    10    57    28    68     0     0    18     0     1     0   135     0   197     1     1     0   128  BLS
    SUM   173   159   969  3493   583   367  3652  9184  1184  2500    53   631  4053    49   572   112  8582   459  2447  5072   332    92   845  SUM
           AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR


                                                          Emitters

            GB     BY     UA     MD     RU     EE     LV     LT     SI     HR     BA    YU*    FYM    CS*     SK    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
     AL      1      0      4      0      1      0      0      0      0      1     15     16     12      4      1     26      0      0      0      0      0      1     54    288  AL
     AT     23      1      4      0      1      0      0      1     51      5     10     12      1    106     21     10      0      6      3      0      0      2    169    925  AT
     BE     65      0      1      0      0      0      0      0      0      0      0      0      0      6      0      0      0     31      4      0      0      2     41    481  BE
     BG      3      2     49      7      7      1      0      1      3      4     37     91     22     18     10     14      0      1      0      0      0      1    187   1735  BG
     DK     80      1      1      0      0      0      0      1      0      0      0      0      0     22      1      0      5     22      2      0      0      4     42    398  DK
     FI     36     14     14      1    164     42      7      9      1      0      1      2      0     21      3      1     13      8      2      0      0      7    247    914  FI
     FR    178      0      4      1      0      0      0      0      6      2      4      5      0     40      3     37      0     95     72      0      0     28    548   3023  FR
    DE*    437      3     13      2      3      0      0      2      8      2      6      7      0    570     13     17      7    146     23      0      0     15    530   5806  DE*
     GR      2      1     23      2      4      0      0      0      1      2     21     35     21     10      4     63      0      1      0      0      0      3    217   1164  GR
     HU     12      2     16      1      2      0      0      1     20     17     35     53      2     88     72     12      0      3      1      0      0      1    148   1424  HU
     IS      8      0      0      0      0      0      0      0      0      0      0      0      0      0      0      0      0      1      1      0      0     10     22     59  IS
R    IE     83      0      0      0      0      0      0      0      0      0      0      0      0      1      0      0      0      7     21      0      0     14     50    327  IE
e    IT     15      1      5      1      0      0      0      0     47     23     49     27      2     48     11    669      0      4      4      0      0      9    566   3113  IT
c    LU      2      0      0      0      0      0      0      0      0      0      0      0      0      1      0      0      0      1      0      0      0      0      5     34  LU
e    NL    162      0      1      0      0      0      0      0      0      0      0      0      0      8      0      0      0     53      4      0      0      3     49    598  NL
i    NO    136      5      2      0     46      4      2      3      1      0      2      1      0     38      2      0      6     34      9      0      0     25    296    931  NO
v    PL    178     16     54      3     20      2      2     15     10      5     20     22      2    741     75      7     15     45      8      0      0      8    469   6951  PL
e    PT      1      0      0      0      0      0      0      0      0      0      0      0      0      0      0      3      0      0     39      0      0      5     54    352  PT
r    RO     15      9    124     24     16      1      1      2     10     11     63    155      7     87     52     20      1      4      1      0      0      2    365   2721  RO
s    ES     20      0      0      0      0      0      0      0      1      0      0      0      0      5      0     31      0      6     73      3      0     15    293   2490  ES
     SE    140     15     10      0     44     16      6     12      1      1      3      4      0     54      4      0     24     39      7      0      0     16    340   1354  SE
     CH      7      0      1      0      0      0      0      0      3      1      2      1      0      6      1     18      0      3      2      0      0      1     87    378  CH
     TR      3      5    108      7     21      1      0      1      1      1     11     23      4     15      5     50      0      1      0      0      0      6    763   1869  TR
     GB   2631      0      1      0      0      0      0      0      1      0      0      1      0     17      1      1      1    116     50      0      0     33    208   3414  GB
     BY     37    286    118      8     52     10      9     38      4      2      9     11      1     88     19      5      5      9      2      0      0      2    256   1794  BY
     UA     58     90   2003     84    169      7      4     15     13     10     40     62      3    219     91     32      4     13      2      0      0      5    815   5707  UA
     MD      2      2     40     43      3      0      0      0      1      1      3      5      0      9      4      2      0      1      0      0      0      0     43    283  MD
     RU    164    433   1684     47   5536    219     53     94     11      8     37     53      3    195     51    392     33     36      8      0      0     25   5141  16406  RU
     EE     12      7      6      0     15     63      9      8      0      0      1      1      0      9      1      1      6      3      0      0      0      1     49    284  EE
     LV     18     20     11      1     15      9     34     31      1      0      2      2      0     18      3      1      6      4      1      0      0      2     71    415  LV
     LT     21     19     14      1     18      3      8     98      1      0      2      3      0     28      3      1      5      5      1      0      0      2     76    574  LT
     SI      2      0      1      0      0      0      0      0    112      7      7      5      0     13      4      3      0      1      0      0      0      0     41    309  SI
     HR      4      1      5      0      1      0      0      0     20     50     71     29      1     36     11     14      0      1      1      0      0      1     98    612  HR
     BA      3      0      5      0      1      0      0      0      5     13    315     38      2     22      7     20      0      1      0      0      0      1     95    709  BA
    YU*      6      1     16      2      2      0      0      0      5     11    195    357     27     32     15     38      0      1      0      0      0      2    169   1296  YU*
    FYM      1      0      4      0      1      0      0      0      0      1     12     22     46      4      2      9      0      0      0      0      0      0     43    260  FYM
    CS*     35      1      6      0      1      0      0      1      8      2      4      6      1    959     24      4      1     10      3      0      0      1    135   2090  CS*
     SK     11      1     10      1      1      0      0      1      7      3      9     12      1    117    137      4      0      3      1      0      0      1     82    878  SK
    REM     11     11    156      3    322      2      1      2      3      2      9      7      1     17      4   2126      0      2      6      1      0     13   1879   4940  REM
    BAS    247     30     32      2     74     53     28     40      3      2      4      5      0    134     14      2    103     66      7      0      0     21    427   2794  BAS
    NOS   3436      7     10      1      9      4      3      7      6      2      5      6      0    200     11      3     15    733     86      0      0    143    767   7423  NOS
    ATL   1683     22     28      1    614     26      7     11      3      1      1      4      0    121      7      7     13    188   1308      0      0   1444   4291  12952  ATL
    MED     67      4     91     10     14      1      0      2     57     86    227    157     33    147     40   2699      1     17     34      3      0    119   2680  11488  MED
    BLS     10     20    520     37     92      3      1      4      4      4     26     43      5     42     15     76      1      3      1      0      0     16    790   2933  BLS
    SUM  10064   1033   5197    292   7276    470    177    401    431    283   1258   1281    200   4315    743   6417    266   1724   1789      7      0   2009  23699 114896  SUM
            GB     BY     UA     MD     RU     EE     LV     LT     SI     HR     BA    YU*    FYM    CS*     SK    REM    BAS    NOS    ATL    MED    BLS    NAT    IND    SUM
```

Deposition budget matrix for Oxidised Sulphur in 1994. Unit: 100 tonnes(S)

********* receiver-emitter matrix *********

reduced nitrogen, tot dep.
averaging period: 1994 1 1 12 - 1995 1 1 6
unit = 100. tonnes

Emitters

Receivers

	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
AL	100	0	0	2	0	0	1	1	5	1	0	0	6	0	0	0	0	0	1	0	0	0	1	AL
AT	0	325	5	1	1	0	54	150	1	14	0	1	53	1	6	0	13	0	3	2	0	28	0	AT
BE	0	0	318	0	0	0	73	18	0	0	0	1	1	2	32	0	1	0	0	2	0	1	0	BE
BG	3	2	0	346	0	0	2	5	13	10	0	0	4	0	0	0	6	0	58	0	0	0	8	BG
DK	0	0	2	0	361	0	5	34	0	0	0	2	0	0	7	0	8	0	0	0	3	0	0	DK
FI	0	1	2	0	8	121	3	15	0	2	0	1	2	0	4	3	18	0	2	0	12	0	0	FI
FR	0	3	56	0	2	0	2908	61	0	2	0	6	46	7	23	0	4	6	1	84	0	23	0	FR
DE*	0	29	107	0	26	0	308	2881	0	5	0	9	30	14	240	0	51	1	2	15	2	48	0	DE*
GR	10	1	0	21	0	0	2	3	255	4	0	0	6	0	0	0	2	0	11	1	0	0	13	GR
HU	1	22	2	3	0	0	12	30	1	394	0	0	17	0	2	0	16	0	23	1	0	3	0	HU
IS	0	0	0	0	0	0	2	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	IS
IE	0	0	2	0	0	0	14	3	0	0	0	499	0	0	2	0	0	0	0	1	0	0	0	IE
IT	1	15	2	2	0	0	68	40	2	9	0	0	1508	0	2	0	6	1	3	9	0	45	0	IT
LU	0	0	2	0	0	0	9	2	0	0	0	0	0	23	1	0	0	0	0	0	0	0	0	LU
NL	0	0	36	0	1	0	29	50	0	0	0	3	0	1	580	0	1	0	0	1	0	0	0	NL
NO	0	1	4	0	28	2	12	49	0	1	0	4	1	0	13	101	19	0	0	1	14	0	0	NO
PL	1	14	15	3	29	0	43	235	1	19	0	3	14	1	34	1	1584	0	13	2	9	4	1	PL
PT	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	288	0	35	0	0	0	PT
RO	2	7	1	33	1	0	8	19	4	59	0	0	12	0	2	0	21	0	784	1	0	2	6	RO
ES	0	0	2	0	0	0	53	5	0	0	0	1	3	0	2	0	0	73	0	1258	0	1	0	ES
SE	0	2	6	0	60	8	12	65	0	2	0	3	1	0	16	15	34	0	1	0	224	1	0	SE
CH	0	3	2	0	0	0	73	27	0	1	0	0	47	0	2	0	1	0	0	3	0	273	0	CH
TR	1	1	0	13	1	0	2	5	10	4	0	0	3	0	0	0	6	0	14	0	0	0	1195	TR
GB	0	1	16	0	4	0	94	33	0	0	0	81	2	1	22	0	3	1	0	7	1	1	0	GB
BY	0	3	3	2	5	1	8	28	0	7	0	1	4	0	6	0	90	0	11	0	3	1	3	BY
UA	1	9	4	14	5	1	16	52	2	42	0	1	14	0	9	0	122	0	95	1	3	2	17	UA
MD	0	0	0	1	0	0	1	1	0	3	0	0	1	0	0	0	3	0	15	0	0	0	1	MD
RU	2	9	8	17	28	38	21	100	5	29	0	5	12	0	24	5	184	0	69	1	25	3	118	RU
EE	0	0	0	0	2	2	1	6	0	1	0	0	1	0	1	0	8	0	1	0	3	0	0	EE
LV	0	0	1	0	3	1	2	8	0	1	0	0	1	0	2	0	16	0	1	0	4	0	0	LV
LT	0	1	1	0	5	0	3	12	0	1	0	0	1	0	2	0	35	0	2	0	4	0	0	LT
SI	0	11	0	0	0	0	5	10	0	5	0	0	19	0	1	0	2	0	1	1	0	2	0	SI
HR	1	8	1	1	0	0	6	12	1	19	0	0	32	0	1	0	5	0	4	1	0	1	0	HR
BA	2	2	0	2	0	0	3	6	1	10	0	0	17	0	1	0	4	0	3	1	0	0	0	BA
YU*	10	4	0	12	0	0	3	8	6	26	0	0	13	0	1	0	9	0	19	1	0	0	1	YU*
FYM	7	0	0	5	0	0	0	1	8	1	0	0	2	0	0	0	1	0	2	0	0	0	1	FYM
CS*	0	26	7	1	1	0	30	134	0	6	0	1	7	1	9	0	34	0	2	1	0	4	0	CS*
SK	0	14	1	1	0	0	9	24	0	24	0	0	6	0	2	0	27	0	6	0	0	2	0	SK
REM	1	1	1	2	0	0	25	6	2	3	0	0	22	0	1	0	5	2	4	21	0	2	61	REM
BAS	0	3	9	1	112	14	21	162	0	4	0	6	4	1	28	4	117	0	3	1	61	1	1	BAS
NOS	0	8	80	0	111	1	328	269	0	4	0	51	7	3	172	12	48	1	2	13	14	4	0	NOS
ATL	0	5	43	0	36	11	383	144	0	4	5	259	4	2	70	28	47	69	3	137	15	5	0	ATL
MED	26	17	5	28	1	0	223	46	72	24	0	1	370	1	6	0	15	11	28	141	0	15	96	MED
BLS	1	2	1	23	1	0	5	10	6	9	0	0	4	0	1	0	16	0	50	0	1	0	192	BLS
SUM	171	552	746	536	836	202	4881	4774	397	749	15	940	2297	62	1326	171	2582	455	1239	1744	400	476	1718	SUM
	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

Receivers

	GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	0	2	0	1	0	0	0	0	1	1	5	2	0	0	0	0	0	0	0	0	0	16	149	AL
AT	5	1	4	0	0	0	0	1	13	2	1	2	0	20	7	0	0	0	0	0	0	0	56	771	AT
BE	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	14	477	BE
BG	0	3	36	5	5	0	0	0	0	1	2	22	4	2	2	0	0	0	0	0	0	0	47	588	BG
DK	10	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	12	452	DK
FI	4	11	8	0	20	11	3	8	0	0	0	1	0	2	1	0	0	0	0	0	0	0	67	330	FI
FR	32	1	2	0	0	0	0	0	1	1	0	1	0	3	0	2	0	0	0	0	0	0	159	3435	FR
DE*	62	3	10	0	1	0	0	2	1	1	0	1	0	35	3	0	0	0	0	0	0	0	170	4064	DE*
GR	0	1	12	1	3	0	0	0	0	1	1	8	5	1	1	1	0	0	0	0	0	0	60	424	GR
HU	2	4	16	1	1	0	0	1	5	9	4	13	0	12	19	0	0	0	0	0	0	0	44	660	HU
IS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	23	IS
IE	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	561	IE
IT	2	1	3	0	0	0	0	0	7	8	4	6	0	5	2	3	0	0	0	0	0	0	158	1918	IT
LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	41	LU
NL	23	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	14	742	NL
NO	24	5	3	0	3	1	1	3	0	0	0	0	0	4	1	0	0	0	0	0	0	0	85	382	NO
PL	23	31	56	2	8	1	1	14	2	2	2	5	0	60	17	0	0	0	0	0	0	0	142	2391	PL
PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	339	PT
RO	2	11	113	23	12	0	0	2	2	4	4	26	1	8	9	0	0	0	0	0	0	0	85	1267	RO
ES	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	63	1467	ES
SE	16	13	8	0	9	5	3	10	0	0	0	1	0	4	1	0	0	0	0	0	0	0	95	617	SE
CH	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31	468	CH
TR	0	4	55	3	17	0	0	1	0	1	1	4	1	1	1	6	0	0	0	0	0	0	215	1568	TR
GB	1311	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	55	1637	GB
BY	4	790	120	5	25	3	5	40	0	1	1	2	0	6	3	1	0	0	0	0	0	0	71	1253	BY
UA	6	106	2759	47	85	2	2	13	2	4	3	11	1	17	16	6	0	0	0	0	0	0	204	3691	UA
MD	0	2	37	122	2	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	10	205	MD
RU	25	312	765	25	3852	39	24	85	2	4	3	12	1	18	10	101	0	0	0	0	0	0	1475	7461	RU
EE	1	6	4	0	5	90	4	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	13	158	EE
LV	2	19	9	0	6	7	53	30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19	189	LV
LT	2	29	10	1	6	1	4	272	0	0	0	0	0	2	0	0	0	0	0	0	0	0	22	418	LT
SI	0	0	1	0	0	0	0	0	70	3	1	1	0	2	1	0	0	0	0	0	0	0	12	150	SI
HR	0	1	4	0	1	0	0	0	5	100	10	7	0	4	3	0	0	0	0	0	0	0	29	256	HR
BA	0	0	4	0	1	0	0	0	1	12	107	13	0	2	2	0	0	0	0	0	0	0	29	226	BA
YU*	0	1	11	1	2	0	0	0	1	6	12	330	7	3	3	0	0	0	0	0	0	0	50	542	YU*
FYM	0	0	2	0	1	0	0	0	0	0	1	9	51	0	0	0	0	0	0	0	0	0	12	106	FYM
CS*	5	2	5	0	0	0	0	1	1	1	0	1	0	329	6	0	0	0	0	0	0	0	40	658	CS*
SK	1	2	12	0	1	0	0	1	1	1	1	2	0	16	128	0	0	0	0	0	0	0	25	312	SK
REM	2	7	43	1	149	0	0	1	0	1	1	2	0	2	1	406	0	0	0	0	0	0	388	1164	REM
BAS	27	26	23	1	19	21	10	33	1	1	0	1	0	9	2	0	0	0	0	0	0	0	112	839	BAS
NOS	395	6	7	0	2	1	1	5	1	1	0	1	0	13	3	0	0	0	0	0	0	0	203	1770	NOS
ATL	356	16	18	1	45	6	2	8	1	0	0	1	0	11	2	1	0	0	0	0	0	0	1274	3013	ATL
MED	7	4	44	4	7	0	0	1	7	22	15	27	4	9	5	40	0	0	0	0	0	0	604	1928	MED
BLS	1	16	290	16	80	1	0	3	1	2	2	6	1	3	2	20	0	0	0	0	0	0	189	956	BLS
SUM	2394	1438	4501	263	4375	194	115	544	128	193	177	522	80	612	254	594	0	0	0	0	0	0	6408	50063	SUM
	GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Reduced Nitrogen in 1994. Unit: 100 tonnes(N

Transboundary Import-Export Budgets for 1994

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	322	89	250	87	19	48	69	95	85	96	15	41	155	61	49	33	13	67
AT	242	86	887	96	10	57	506	94	535	94	9	49	391	55	446	58	5	77
BE	1112	89	338	70	25	77	1012	96	225	85	26	73	473	60	159	33	20	94
BG	6466	87	801	46	17	47	645	92	226	80	12	40	486	58	242	41	7	64
DK	711	92	334	84	39	75	805	97	181	89	30	68	570	61	91	20	31	90
FI	445	79	799	87	19	66	766	89	441	83	16	57	143	54	209	63	11	77
FR	3949	78	1902	63	25	72	4312	84	1165	59	24	67	2593	47	527	15	21	89
DE*	10170	79	3041	52	16	71	5199	84	1928	66	19	68	2414	46	1183	29	14	90
GR	2521	91	905	78	28	43	1017	94	229	77	18	35	387	60	169	40	14	62
HU	3124	84	843	59	10	67	523	91	376	88	10	62	545	58	266	40	6	80
IS	110	92	49	83	41	44	64	96	44	94	33	33	16	64	14	61	24	61
IE	765	86	207	63	52	71	335	94	137	87	47	65	514	51	62	11	39	93
IT	5945	83	1873	60	27	56	5727	87	598	42	20	48	1696	53	410	21	15	72
LU	62	95	31	91	12	75	69	99	23	96	17	73	43	65	18	44	11	94
NL	641	88	509	85	35	78	1540	96	291	83	31	72	836	59	162	22	22	94
NO	141	83	902	97	34	66	611	90	592	90	26	53	105	51	281	74	25	83
PL	9786	75	3712	53	12	66	2905	86	1480	76	12	60	1578	50	807	34	9	82
PT	1214	89	206	59	16	34	717	93	124	69	13	32	470	62	51	15	13	60
RO	3634	80	1795	66	9	54	851	88	495	80	8	47	1036	57	483	38	5	68
ES	8465	82	650	26	27	49	3178	85	452	45	17	41	1583	56	209	14	13	61
SE	390	80	1259	93	29	68	1010	89	837	87	21	59	254	53	393	64	21	84
CH	130	84	353	93	10	59	397	94	247	90	9	48	312	53	195	42	5	81
TR	1362	77	1461	78	20	48	1596	84	593	66	15	37	2223	65	373	24	10	50
GB	10904	81	783	23	45	74	6519	90	543	43	42	69	1324	50	326	20	35	91
BY	1334	82	1508	84	6	64	565	91	569	91	8	58	1014	56	463	37	4	80
UA	6572	77	3704	65	9	61	1493	86	1242	84	9	55	3245	54	932	25	7	75
MD	497	92	240	85	11	54	104	97	65	96	8	47	265	68	83	40	6	68
RU	9379	63	10870	66	6	49	4091	67	4359	69	4	44	2506	39	3609	48	3	69
EE	642	91	221	78	14	67	127	97	119	97	14	60	149	62	68	43	13	81
LV	226	87	381	92	16	68	131	96	172	97	14	61	87	62	136	72	9	82
LT	487	83	476	83	12	69	221	94	211	94	13	62	387	59	146	35	8	83
SI	771	87	197	64	9	49	195	97	116	95	9	40	111	61	80	53	7	71
HR	395	89	562	92	24	64	171	95	241	96	15	54	155	61	156	61	12	76
BA	2085	87	394	56	13	52	228	94	180	92	12	46	148	58	119	53	8	69
YU*	1763	83	939	72	12	60	141	89	285	94	9	52	411	55	212	39	6	70
FYM	484	91	214	82	8	38	115	97	57	93	5	29	89	64	55	52	4	57
CS*	5391	85	1131	54	11	68	1234	93	483	84	12	62	429	57	329	50	6	81
SK	1058	89	741	84	8	62	502	95	252	91	8	57	201	61	184	59	5	77
REM	13119	86	2814	57	21	42	996	90	1294	92	5	26	1002	71	758	65	5	42
BAS	257	71	2691	96	37	74	217	89	1273	98	21	64	0	0	839	100	0	100
NOS	1464	67	6690	90	46	78	1653	85	2940	91	33	71	0	0	1770	100	0	100
ATL	3349	72	11644	90	31	38	3194	81	5852	89	23	33	0	0	3013	100	0	100
MED	57	95	11485	100	5	12	38	95	3612	100	5	13	0	0	1928	100	0	100
BLS	0	0	2933	100	0	100	0	0	778	100	0	100	0	0	956	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1995 1 1 12 - 1996 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	4	0	0	2	0	0	3	2	11	1	0	0	31	0	0	0	2	0	1	4	0	0	2	AL
	AT	0	34	15	0	4	1	61	150	1	8	0	1	94	1	19	1	19	0	2	5	2	15	0	AT
	BE	0	0	41	0	1	0	55	39	0	0	0	2	2	1	29	0	1	0	0	3	0	1	0	BE
	BG	2	3	1	68	1	0	4	19	20	9	0	0	20	0	3	0	18	0	35	1	1	0	9	BG
	DK	0	0	5	0	23	0	9	28	0	0	0	1	1	0	11	3	8	0	0	1	6	0	0	DK
	FI	0	1	7	1	21	91	14	51	0	2	0	1	1	0	16	23	30	0	2	0	57	0	0	FI
	FR	0	6	84	0	4	0	800	207	0	2	0	9	132	7	64	2	13	14	1	152	2	27	0	FR
	DE*	0	23	148	0	33	3	336	992	0	7	0	9	69	11	218	8	75	2	2	20	16	27	0	DE*
	GR	3	1	1	23	0	0	6	8	62	3	0	0	37	0	2	0	6	0	8	3	0	1	23	GR
	HU	0	18	5	3	2	1	20	58	2	47	0	0	56	0	7	1	41	0	16	3	2	3	0	HU
	IS	0	0	0	0	1	0	3	1	0	0	5	1	0	0	0	1	0	0	0	0	0	0	0	IS
R	IE	0	0	3	0	1	0	13	9	0	0	0	20	1	0	4	0	1	0	0	2	0	1	0	IE
e	IT	1	16	9	3	2	0	146	80	5	8	0	1	820	1	10	1	18	3	4	49	2	24	2	IT
c	LU	0	0	3	0	0	0	8	4	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	LU
e	NL	0	0	25	0	2	0	28	53	0	0	0	2	1	0	59	1	2	0	0	3	1	0	0	NL
i	NO	0	1	9	0	25	9	32	59	0	1	1	4	4	0	21	75	24	1	1	5	34	1	0	NO
v	PL	0	16	28	3	40	7	66	323	1	23	0	3	27	1	53	7	479	0	12	5	27	5	0	PL
e	PT	0	0	0	0	0	0	3	1	0	0	0	0	1	0	0	0	0	49	0	40	0	0	0	PT
r	RO	1	7	5	37	3	1	16	47	7	35	0	0	47	0	8	1	67	0	132	3	3	2	5	RO
s	ES	0	1	5	0	0	0	86	20	0	0	0	2	17	0	5	0	2	68	0	534	0	2	0	ES
	SE	0	3	16	0	60	32	34	105	0	5	0	3	10	1	30	63	57	0	4	2	129	2	0	SE
	CH	0	3	6	0	1	0	71	38	0	1	0	0	71	1	6	0	1	1	0	6	0	27	0	CH
	TR	1	2	1	20	1	1	7	10	45	3	0	0	27	0	1	0	11	0	13	2	1	0	306	TR
	GB	0	2	23	0	6	0	72	67	0	1	0	23	5	1	45	3	12	2	0	12	3	2	0	GB
	BY	0	5	7	3	13	7	24	71	1	8	0	1	10	0	11	4	140	0	10	3	15	3	2	BY
	UA	1	14	14	34	11	7	47	126	11	40	0	1	57	1	24	4	221	0	69	5	13	5	38	UA
	MD	0	0	0	2	1	0	1	4	0	2	0	0	2	0	1	0	9	0	8	0	1	0	1	MD
	RU	1	16	32	32	67	201	76	261	23	30	0	3	44	1	55	47	365	0	56	5	137	5	102	RU
	EE	0	1	3	0	7	9	5	20	0	1	0	0	1	0	5	3	14	0	1	0	13	0	0	EE
	LV	0	1	3	0	10	6	7	26	0	2	0	0	2	0	6	4	26	0	1	0	15	0	0	LV
	LT	0	1	4	1	10	3	8	33	0	1	0	0	2	0	7	3	40	0	2	1	12	1	1	LT
	SI	0	6	1	0	0	0	8	14	0	2	0	0	47	0	2	0	3	0	0	2	0	2	0	SI
	HR	0	8	3	1	1	0	16	29	2	7	0	0	95	0	4	0	11	0	3	6	1	2	0	HR
	BA	1	4	2	2	1	0	12	20	3	6	0	0	76	0	3	0	8	0	3	6	0	1	1	BA
	YU*	3	6	3	11	1	0	11	28	10	15	0	0	72	0	5	0	20	0	14	4	1	1	2	YU*
	FYM	2	0	0	5	0	0	1	3	11	1	0	0	10	0	0	0	2	0	2	1	0	0	2	FYM
	CS*	0	15	14	1	6	1	43	166	0	7	0	1	16	1	23	1	51	0	2	3	4	5	0	CS*
	SK	0	10	4	1	2	1	15	39	0	19	0	0	18	0	5	1	49	0	5	1	2	2	0	SK
	REM	0	3	5	4	2	3	59	26	6	3	0	0	85	0	6	1	17	4	4	51	2	4	19	REM
	BAS	0	4	23	1	87	47	47	190	0	6	0	3	7	1	49	31	113	0	5	3	114	2	0	BAS
	NOS	0	5	77	0	53	3	224	249	0	4	1	30	11	2	171	37	57	6	2	37	29	4	0	NOS
	ATL	0	4	70	0	50	50	337	260	0	4	19	101	14	3	110	79	76	67	3	234	57	7	0	ATL
	MED	8	22	23	46	7	3	361	145	140	24	0	2	1025	2	27	2	67	17	29	281	6	24	133	MED
	BLS	1	2	2	37	1	1	6	17	21	6	0	0	20	0	3	0	23	0	31	1	2	1	109	BLS
	SUM	30	266	730	347	561	489	3202	4100	387	344	29	225	3088	41	1130	409	2197	241	483	1506	712	210	762	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	0	0	0	0	0	0	0	0	1	1	2	1	1	0	0	0	0	0	0	0	20	95	AL
	AT	29	0	1	0	0	0	0	0	10	3	1	1	0	31	9	0	1	13	2	0	0	0	68	605	AT
	BE	70	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	24	6	0	0	0	20	298	BE
	BG	3	1	11	1	6	0	0	0	1	1	2	6	4	8	7	1	0	2	0	0	0	0	66	339	BG
	DK	44	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	18	2	0	0	0	18	187	DK
	FI	44	8	6	0	34	8	2	4	0	0	0	0	0	8	2	0	10	23	5	0	0	0	106	582	FI
	FR	265	0	0	0	0	0	0	0	2	1	1	0	0	14	2	1	1	106	93	0	0	0	274	2288	FR
	DE*	366	2	2	0	2	0	0	1	3	1	0	0	0	98	9	0	7	141	26	0	0	0	237	2897	DE*
	GR	2	1	6	1	3	0	0	0	0	1	2	2	2	3	2	1	0	1	0	0	0	0	72	288	GR
	HU	13	1	3	0	0	0	0	1	5	8	7	6	1	24	29	0	1	6	1	0	0	0	55	449	HU
	IS	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	30	57	IS
R	IE	55	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	9	19	0	0	0	28	169	IE
e	IT	21	0	1	0	0	0	0	0	10	7	7	2	1	14	6	3	1	9	7	0	0	0	192	1484	IT
c	LU	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	26	LU
e	NL	89	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	29	5	0	0	0	21	326	NL
i	NO	129	2	2	0	5	1	0	1	0	0	0	0	0	7	2	0	5	51	18	0	0	0	154	687	NO
v	PL	114	14	16	1	10	2	2	7	3	3	2	2	0	114	33	0	12	48	8	0	0	0	176	1696	PL
e	PT	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	24	0	0	0	44	166	PT
r	RO	15	5	31	4	11	0	0	1	2	5	7	12	3	32	27	1	1	6	1	0	0	0	113	697	RO
s	ES	25	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0	9	64	0	0	0	175	1024	ES
	SE	106	6	6	0	12	4	2	4	1	1	0	1	0	15	5	0	15	53	12	0	0	0	152	953	SE
	CH	15	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	0	6	3	0	0	0	32	292	CH
	TR	3	3	24	1	23	0	0	0	0	1	1	2	1	4	3	6	0	1	0	0	0	0	418	945	TR
	GB	630	1	1	0	1	0	0	0	0	0	0	0	0	7	1	0	1	78	51	0	0	0	96	1149	GB
	BY	28	64	31	1	36	3	4	13	1	1	1	1	0	26	11	1	5	12	3	0	0	0	98	677	BY
	UA	47	42	284	11	138	2	2	8	4	5	6	7	3	48	43	7	4	19	4	0	0	0	303	1734	UA
	MD	2	1	10	3	5	0	0	0	0	0	0	0	0	2	2	0	0	1	0	0	0	0	14	77	MD
	RU	133	139	329	7	1939	44	23	43	3	4	3	5	2	71	34	105	36	66	18	0	0	0	1806	6371	RU
	EE	10	3	2	0	7	5	2	2	0	0	0	0	0	4	1	0	4	5	1	0	0	0	23	154	EE
	LV	17	7	4	0	9	2	4	6	0	0	0	0	0	5	2	0	5	8	1	0	0	0	32	215	LV
	LT	19	8	4	0	7	1	2	11	0	0	0	0	0	7	2	0	4	8	1	0	0	0	32	240	LT
	SI	2	0	0	0	0	0	0	0	7	2	1	0	0	4	1	0	0	1	0	0	0	0	14	124	SI
	HR	5	0	1	0	0	0	0	0	4	9	9	2	0	9	5	0	0	3	1	0	0	0	38	277	HR
	BA	5	0	1	0	0	0	0	0	1	5	15	3	1	8	4	0	0	2	1	0	0	0	38	235	BA
	YU*	7	1	3	0	0	0	0	0	2	5	12	18	8	12	9	0	0	3	1	0	0	0	63	354	YU*
	FYM	0	0	1	0	0	0	0	0	0	0	1	1	3	1	1	0	0	0	0	0	0	0	14	65	FYM
	CS*	36	1	2	0	1	0	0	1	2	1	1	1	0	86	11	0	1	15	3	0	0	0	57	577	CS*
	SK	12	1	2	0	0	0	0	0	2	2	2	1	0	24	26	0	1	4	1	0	0	0	31	288	SK
	REM	15	5	34	1	137	1	0	1	1	1	1	1	0	6	3	109	1	5	7	0	0	0	780	1413	REM
	BAS	134	10	8	1	22	8	5	9	1	1	0	1	0	29	7	0	28	65	9	0	0	0	146	1219	BAS
	NOS	1000	2	3	0	4	1	1	2	1	0	0	0	0	28	5	0	8	265	91	0	0	0	296	2711	NOS
	ATL	951	9	9	0	87	5	2	5	1	0	0	0	0	27	5	1	11	226	812	0	0	0	2273	5970	ATL
	MED	71	5	21	2	11	0	1	2	10	16	22	11	6	32	17	38	2	26	27	0	0	0	915	3627	MED
	BLS	6	7	92	4	85	0	0	1	1	1	2	3	2	7	5	15	1	2	0	0	0	0	239	757	BLS
	SUM	4553	352	952	42	2606	89	54	126	82	88	109	92	40	815	333	297	167	1376	1335	0	0	0	9782	44783	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1995. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1995 1 1 12 - 1996 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	40	0	0	22	0	0	2	4	34	5	0	0	33	0	0	0	5	0	5	3	0	0	1	AL
	AT	0	43	12	2	3	0	46	195	1	50	0	1	97	1	6	0	60	0	7	12	1	7	0	AT
	BE	0	0	143	0	1	0	92	56	0	1	0	2	2	1	22	0	5	0	1	9	0	0	0	BE
	BG	9	1	1	1036	1	0	3	34	34	45	0	0	17	0	1	0	47	0	167	2	0	0	8	BG
	DK	0	0	6	0	64	0	9	47	0	2	0	1	1	0	4	1	31	0	1	2	3	0	0	DK
	FI	0	0	5	3	12	106	9	56	0	9	0	1	1	0	4	4	67	0	9	1	22	0	0	FI
	FR	0	3	113	1	4	0	1139	225	1	12	0	14	133	6	34	0	41	14	3	384	1	13	0	FR
	DE*	0	14	179	3	36	1	342	2496	0	38	0	12	66	8	97	2	280	1	9	48	4	13	0	DE*
	GR	16	1	1	300	0	0	3	10	255	15	0	0	32	0	0	0	16	0	31	4	0	0	19	GR
	HU	2	12	4	18	2	0	15	84	3	587	0	0	50	0	2	0	121	0	73	6	0	1	0	HU
	IS	0	0	0	0	0	0	1	0	0	0	15	1	0	0	0	0	0	0	0	1	0	0	0	IS
R	IE	0	0	2	0	0	0	8	8	0	0	0	111	0	0	1	0	3	0	0	4	0	0	0	IE
e	IT	2	9	7	23	2	0	115	86	10	45	0	1	1266	0	3	0	51	2	14	65	0	12	1	IT
c	LU	0	0	3	0	0	0	12	5	0	0	0	0	0	2	1	0	1	0	0	1	0	0	0	LU
e	NL	0	0	53	0	1	0	43	94	0	1	0	3	1	0	88	0	8	0	0	7	0	0	0	NL
i	NO	0	1	7	1	20	4	20	68	0	6	0	4	3	0	5	34	56	1	4	9	15	0	0	NO
v	PL	1	9	26	18	33	3	51	1025	1	145	0	4	24	1	17	1	2991	0	55	13	8	2	0	PL
e	PT	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	151	0	93	0	0	0	PT
r	RO	5	4	4	261	2	1	14	78	11	212	0	0	35	0	2	0	177	0	1010	6	1	1	4	RO
s	ES	0	0	4	0	0	0	67	17	0	1	0	2	17	0	2	0	6	89	0	1750	0	1	0	ES
	SE	0	1	14	3	72	17	25	156	0	20	0	3	7	0	9	19	147	0	9	4	101	0	0	SE
	CH	0	2	6	0	0	0	60	33	0	3	0	1	100	0	2	0	4	1	0	13	0	30	0	CH
	TR	4	1	1	210	0	0	4	16	97	17	0	0	22	0	0	0	26	0	50	2	0	0	376	TR
	GB	0	1	28	0	3	0	77	72	0	3	0	50	4	0	21	0	27	2	1	32	1	0	0	GB
	BY	0	2	5	19	8	3	15	131	2	46	0	1	7	0	3	1	448	0	41	6	4	1	1	BY
	UA	5	7	12	241	7	3	34	214	18	265	0	2	44	0	7	1	693	0	332	11	3	1	25	UA
	MD	0	0	0	17	0	0	1	8	1	11	0	0	2	0	0	0	25	0	50	0	0	0	1	MD
	RU	5	6	23	225	34	97	50	367	35	141	0	3	30	0	13	7	855	0	189	12	35	1	69	RU
	EE	0	0	2	2	4	9	3	25	0	5	0	0	1	0	1	1	39	0	3	1	5	0	0	EE
	LV	0	0	3	5	7	3	5	43	1	8	0	0	1	0	2	1	82	0	5	1	5	0	0	LV
	LT	0	1	4	8	7	1	6	61	0	7	0	1	2	0	2	1	136	0	8	1	4	0	0	LT
	SI	0	5	1	1	0	0	7	18	1	12	0	0	54	0	0	0	9	0	2	4	0	1	0	SI
	HR	1	5	2	8	1	0	12	39	3	52	0	0	87	0	1	0	32	0	10	9	0	1	0	HR
	BA	2	2	2	14	0	0	8	28	6	36	0	0	46	0	1	0	22	0	13	8	0	0	1	BA
	YU*	16	3	2	70	1	0	8	42	19	100	0	0	54	0	1	0	55	0	58	6	0	0	1	YU*
	FYM	12	0	0	44	0	0	1	4	27	6	0	0	10	0	0	0	6	0	8	1	0	0	1	FYM
	CS*	0	10	12	3	4	0	35	504	0	42	0	1	13	1	7	0	229	0	9	8	1	2	0	CS*
	SK	0	8	3	9	2	0	11	72	1	166	0	0	17	0	2	0	180	0	23	3	0	1	0	SK
	REM	1	1	3	32	1	1	31	27	11	14	0	0	70	0	1	0	44	5	15	69	1	1	13	REM
	BAS	0	3	24	7	141	58	41	414	0	40	0	4	7	1	17	8	486	0	20	6	89	1	0	BAS
	NOS	0	3	137	1	75	1	320	488	0	21	1	53	12	1	152	19	201	5	5	103	13	2	0	NOS
	ATL	0	2	64	3	28	23	323	271	0	17	44	307	11	2	35	23	161	164	9	1666	20	2	0	ATL
	MED	47	15	24	528	6	1	418	219	586	167	0	3	1576	1	10	0	220	25	129	679	2	12	162	MED
	BLS	7	1	2	607	1	1	6	34	47	38	0	0	20	0	1	0	70	0	181	2	1	0	128	BLS
	SUM	176	178	946	3743	586	336	3494	7872	1206	2411	62	587	3976	29	579	124	8162	465	2558	5070	340	107	815	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	2	0	0	0	0	0	0	1	11	12	11	3	1	55	0	0	0	0	0	1	65	318	AL
	AT	29	1	3	0	0	0	0	1	42	4	8	8	1	141	21	8	1	9	2	0	0	2	162	987	AT
	BE	90	0	0	0	0	0	0	0	0	0	0	0	0	8	1	1	0	30	4	0	0	2	41	513	BE
	BG	3	2	41	5	6	0	0	1	1	2	26	87	28	25	11	27	0	1	0	0	0	2	219	1895	BG
	DK	59	1	1	0	1	0	0	1	0	0	0	0	0	11	1	0	5	23	2	0	0	5	39	320	DK
	FI	38	15	21	1	185	30	5	8	0	0	2	2	0	23	3	1	13	13	3	0	0	7	288	968	FI
	FR	325	0	2	0	0	0	0	0	4	1	3	3	0	58	5	36	1	126	74	0	0	27	621	3427	FR
	DE*	450	2	10	0	4	1	0	2	7	2	3	4	0	609	19	9	10	134	18	0	0	18	484	5440	DE*
	GR	2	1	19	2	2	0	0	0	1	1	15	27	19	8	3	116	0	1	0	0	0	3	208	1133	GR
	HU	13	1	11	1	0	0	0	1	15	16	46	74	2	85	73	9	1	4	1	0	0	1	158	1492	HU
	IS	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	14	42	83	IS
R	IE	95	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	7	16	0	0	14	51	325	IE
e	IT	22	0	3	0	0	0	0	0	32	15	42	22	3	52	11	748	1	7	4	0	0	9	524	3214	IT
c	LU	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	5	37	LU
e	NL	139	0	1	0	0	0	0	0	0	0	0	0	0	17	1	1	0	43	3	0	0	4	42	551	NL
i	NO	142	2	6	0	60	2	1	2	1	0	1	1	0	24	3	0	5	45	15	0	0	31	349	947	NO
v	PL	126	16	75	2	25	4	3	19	9	4	17	29	1	572	83	4	16	36	5	0	0	8	464	5948	PL
e	PT	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	27	0	0	4	56	343	PT
r	RO	15	8	151	17	15	1	1	3	5	7	77	173	10	65	49	16	1	4	1	0	0	2	381	2828	RO
s	ES	24	0	0	0	0	0	0	0	0	0	0	0	0	6	0	62	0	6	61	0	0	13	318	2450	ES
	SE	116	8	20	1	48	8	3	9	2	1	2	4	0	53	8	0	24	45	9	0	0	19	372	1359	SE
	CH	15	0	0	0	0	0	0	0	2	0	1	1	0	8	1	7	0	5	2	0	0	1	83	382	CH
	TR	3	5	86	4	18	0	0	1	1	1	8	22	4	12	4	90	0	1	0	0	0	6	778	1872	TR
	GB	2185	1	2	0	1	0	0	0	0	0	0	1	0	24	2	2	1	102	46	0	0	36	190	2918	GB
	BY	27	282	137	5	64	8	8	40	3	1	6	11	1	87	21	2	5	8	2	0	0	2	327	1794	BY
	UA	48	95	2283	54	211	6	4	17	9	7	47	87	7	162	92	32	4	12	2	0	0	6	1014	6125	UA
	MD	2	3	58	27	5	0	0	1	0	0	3	6	0	5	3	1	0	1	0	0	0	0	52	288	MD
	RU	115	340	1427	23	5424	192	40	87	6	4	25	53	6	203	52	222	32	35	10	0	0	26	5251	15780	RU
	EE	9	7	9	0	19	55	7	7	0	0	0	1	0	13	2	0	7	3	0	0	0	1	69	311	EE
	LV	16	18	17	1	19	8	26	29	1	0	1	2	0	20	3	1	7	5	1	0	0	2	93	439	LV
	LT	21	16	18	1	20	3	6	90	1	0	1	2	0	26	4	1	5	6	1	0	0	2	92	565	LT
	SI	3	0	0	0	0	0	0	0	65	5	6	3	0	13	3	7	0	1	0	0	0	0	36	260	SI
	HR	6	0	3	0	0	0	0	0	14	36	76	26	1	32	11	20	0	2	1	0	0	1	111	605	HR
	BA	5	0	4	0	0	0	0	0	3	9	329	39	1	26	8	24	0	1	0	0	0	1	115	757	BA
	YU*	7	1	11	1	0	0	0	1	3	7	191	442	28	39	17	53	0	2	0	0	0	2	203	1449	YU*
	FYM	0	0	2	0	0	0	0	0	0	0	9	17	49	3	1	20	0	0	0	0	0	1	47	271	FYM
	CS*	37	1	7	0	1	0	0	1	5	1	5	6	0	755	30	2	1	11	2	0	0	2	127	1878	CS*
	SK	12	1	8	0	0	0	0	1	6	3	11	17	1	95	152	2	1	3	1	0	0	1	85	900	SK
	REM	13	9	140	2	225	2	1	2	2	2	7	8	1	17	4	1389	1	3	5	0	0	11	1591	3771	REM
	BAS	169	22	37	2	80	42	19	30	2	1	4	9	0	147	17	1	109	63	6	0	0	23	422	2572	BAS
	NOS	2682	4	9	0	11	1	1	4	2	1	2	3	0	154	10	4	11	712	84	0	0	151	671	6134	NOS
	ATL	1417	15	26	1	625	14	3	8	1	0	1	3	0	86	7	17	9	193	1361	0	0	1402	4199	12564	ATL
	MED	94	6	85	7	13	1	1	4	37	58	218	151	30	150	40	3280	2	23	27	0	0	116	2399	11571	MED
	BLS	7	17	502	22	84	2	1	3	1	2	20	39	8	26	10	73	1	2	0	0	0	16	784	2767	BLS
	SUM	8595	903	5236	183	7179	382	133	371	285	197	1229	1395	213	3865	786	6349	276	1729	1798	0	0	1994	23629	110550	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Suphur in 1995. Unit: 100 tonnes(S)

********* receiver-emitter matrix *********

reduced nitrogen, tot dep.
averaging period: 1995 1 1 12 - 1996 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	106	0	0	1	0	0	1	1	5	1	0	0	6	0	0	0	1	0	1	1	0	0	1	AL
	AT	0	343	7	0	3	0	35	167	0	15	0	1	44	1	9	0	13	0	2	1	1	23	0	AT
	BE	0	0	331	0	1	0	65	23	0	0	0	2	1	2	35	0	1	0	0	2	0	1	0	BE
	BG	5	2	0	370	1	0	1	10	16	12	0	0	4	0	2	0	8	0	58	0	0	0	7	BG
	DK	0	0	2	0	386	0	5	33	0	0	0	1	0	0	6	1	6	0	0	1	4	0	0	DK
	FI	0	1	2	1	11	138	6	21	0	2	0	1	0	0	5	3	17	0	3	0	13	0	0	FI
	FR	0	4	72	0	4	0	2935	108	0	2	0	13	46	8	36	0	5	6	1	72	1	31	0	FR
	DE*	0	33	96	0	45	0	236	3056	0	7	0	12	23	12	219	1	53	0	2	6	6	43	0	DE*
	GR	9	1	0	17	0	0	1	2	258	3	0	0	6	0	0	0	2	0	8	1	0	0	12	GR
	HU	1	21	2	3	2	0	7	28	1	426	0	0	16	0	3	0	23	0	25	1	0	2	0	HU
	IS	0	0	0	0	0	0	1	0	0	0	12	1	0	0	0	0	0	0	0	0	0	0	0	IS
R	IE	0	0	2	0	0	0	10	5	0	0	0	491	0	0	2	0	1	0	0	1	0	0	0	IE
e	IT	1	14	3	2	1	0	67	47	2	9	0	0	1570	0	4	0	7	1	3	15	0	42	1	IT
c	LU	0	0	3	0	0	0	8	3	0	0	0	0	0	24	1	0	0	0	0	0	0	0	0	LU
e	NL	0	0	32	0	2	0	23	51	0	0	0	3	0	0	518	0	1	0	0	1	0	0	0	NL
i	NO	0	1	4	0	26	2	18	37	0	1	0	4	1	0	9	113	16	0	1	2	13	1	0	NO
v	PL	0	12	9	2	32	1	24	198	0	21	0	3	7	1	24	1	1628	0	16	1	11	3	0	PL
e	PT	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	286	0	39	0	0	0	PT
r	RO	2	5	1	41	2	0	6	18	5	60	0	0	9	0	3	0	33	0	858	1	1	1	3	RO
s	ES	0	0	2	0	0	0	75	7	0	0	0	2	5	0	2	0	1	62	0	1278	0	1	0	ES
	SE	0	2	5	0	63	9	14	60	0	5	0	2	4	0	12	17	40	0	4	1	262	1	0	SE
	CH	0	3	3	0	1	0	68	39	0	1	0	1	40	1	3	0	1	0	0	2	0	284	0	CH
	TR	2	1	0	13	0	0	2	5	12	3	0	0	6	0	0	0	3	0	14	1	0	0	1203	TR
	GB	0	1	14	0	4	0	68	34	0	1	0	76	1	0	20	0	6	1	0	4	1	1	0	GB
	BY	0	3	2	3	6	1	8	28	0	7	0	1	2	0	4	0	98	0	16	1	4	1	2	BY
	UA	2	9	5	21	6	1	19	49	5	44	0	2	14	0	9	0	139	0	110	2	3	3	25	UA
	MD	0	0	0	1	0	0	1	2	0	2	0	0	1	0	0	0	5	0	17	0	0	0	1	MD
	RU	2	11	9	19	28	38	30	110	8	28	0	2	10	1	20	5	187	0	62	2	25	2	138	RU
	EE	0	0	1	0	3	2	2	10	0	1	0	0	0	0	3	0	9	0	1	0	4	0	0	EE
	LV	0	1	1	0	6	1	2	13	0	1	0	0	1	0	3	0	18	0	2	0	5	0	0	LV
	LT	0	1	1	1	5	0	3	15	0	1	0	1	0	0	3	0	36	0	3	0	4	0	0	LT
	SI	0	11	0	0	0	0	3	9	0	4	0	0	20	0	1	0	1	0	0	1	0	1	0	SI
	HR	0	8	1	1	1	0	6	13	1	18	0	0	31	0	2	0	5	0	3	2	0	1	0	HR
	BA	1	3	1	2	0	0	4	8	1	10	0	0	19	0	1	0	4	0	4	2	0	0	0	BA
	YU*	11	4	1	12	1	0	4	12	5	27	0	0	17	0	2	0	9	0	19	1	0	1	1	YU*
	FYM	8	0	0	5	0	0	0	1	9	1	0	0	2	0	0	0	1	0	2	0	0	0	1	FYM
	CS*	0	29	6	0	4	0	21	143	0	8	0	1	4	1	11	0	43	0	2	1	1	4	0	CS*
	SK	0	14	1	1	2	0	6	21	0	30	0	0	5	0	2	0	37	0	7	0	0	2	0	SK
	REM	1	1	1	2	0	0	22	7	2	2	0	0	19	0	2	0	7	2	4	17	0	2	54	REM
	BAS	0	3	8	1	119	18	19	157	0	6	0	3	3	1	23	4	112	0	6	1	71	1	0	BAS
	NOS	0	5	66	0	103	1	278	198	0	2	0	48	3	1	122	15	32	3	1	16	12	3	0	NOS
	ATL	0	3	32	0	22	8	393	111	0	2	6	256	3	2	42	23	32	71	2	142	9	5	0	ATL
	MED	25	15	7	26	2	0	214	49	65	24	0	1	354	1	8	0	22	10	26	135	1	17	81	MED
	BLS	1	2	1	23	1	0	2	8	7	6	0	0	4	0	1	0	10	0	43	0	0	0	173	BLS
	SUM	179	570	735	569	892	224	4715	4916	405	795	19	928	2302	60	1170	187	2671	445	1329	1754	456	480	1702	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	1	0	0	0	0	0	0	0	1	4	2	0	0	0	0	0	0	0	0	0	21	156	AL
	AT	5	1	2	0	0	0	0	0	15	2	1	1	0	23	8	0	0	0	0	0	0	0	60	785	AT
	BE	17	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	16	497	BE
	BG	0	3	32	5	4	0	0	0	0	1	1	24	6	3	3	0	0	0	0	0	0	0	66	647	BG
	DK	9	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	12	470	DK
	FI	5	16	18	1	28	11	3	5	0	0	0	0	0	2	1	0	0	0	0	0	0	0	89	405	FI
	FR	65	0	1	0	0	0	0	0	1	1	0	0	0	4	1	1	0	0	0	0	0	0	196	3614	FR
	DE*	75	3	7	0	1	0	0	1	2	1	0	0	0	37	4	0	0	0	0	0	0	0	190	4177	DE*
	GR	0	1	13	1	2	0	0	0	0	1	1	6	5	1	1	1	0	0	0	0	0	0	63	417	GR
	HU	2	3	12	1	0	0	0	1	5	12	5	17	0	12	21	0	0	0	0	0	0	0	49	704	HU
	IS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	33	IS
R	IE	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	557	IE
e	IT	3	0	2	0	0	0	0	0	6	8	4	5	0	5	3	3	0	0	0	0	0	0	165	1993	IT
c	LU	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43	LU
e	NL	22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	16	673	NL
i	NO	27	3	5	0	3	1	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	0	121	416	NO
v	PL	18	39	68	2	9	2	2	10	2	2	1	4	0	50	20	0	0	0	0	0	0	0	156	2381	PL
e	PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	345	PT
r	RO	2	11	124	26	7	0	0	1	1	4	4	28	2	7	10	0	0	0	0	0	0	0	118	1397	RO
s	ES	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	76	1519	ES
	SE	15	11	15	1	10	5	2	5	1	1	0	1	0	5	3	0	0	0	0	0	0	0	117	694	SE
	CH	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	31	480	CH
	TR	0	4	49	3	18	0	0	0	0	1	1	4	1	1	1	7	0	0	0	0	0	0	249	1605	TR
	GB	1266	1	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	56	1563	GB
	BY	4	911	148	6	32	3	6	25	1	1	0	2	0	7	4	0	0	0	0	0	0	0	111	1449	BY
	UA	7	123	3235	58	123	2	2	9	2	4	3	16	1	15	19	6	0	0	0	0	0	0	327	4420	UA
	MD	0	3	55	143	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	16	256	MD
	RU	18	264	646	21	3968	42	24	43	1	3	2	11	1	21	11	100	0	0	0	0	0	0	1672	7587	RU
	EE	1	9	9	0	8	104	5	4	0	0	0	0	0	1	1	0	0	0	0	0	0	0	22	201	EE
	LV	3	23	16	1	9	9	61	19	0	0	0	0	0	1	1	0	0	0	0	0	0	0	28	227	LV
	LT	3	30	18	2	7	2	5	166	0	0	0	0	0	2	1	0	0	0	0	0	0	0	29	341	LT
	SI	0	0	0	0	0	0	0	0	73	4	1	1	0	2	1	0	0	0	0	0	0	0	12	146	SI
	HR	1	1	2	0	0	0	0	0	6	110	11	6	0	4	3	0	0	0	0	0	0	0	36	275	HR
	BA	1	1	3	0	0	0	0	0	1	13	112	12	0	3	2	0	0	0	0	0	0	0	39	250	BA
	YU*	1	2	10	1	0	0	0	0	1	6	13	350	7	4	4	0	0	0	0	0	0	0	65	591	YU*
	FYM	0	0	2	0	0	0	0	0	0	0	0	8	55	0	0	0	0	0	0	0	0	0	15	112	FYM
	CS*	6	2	5	0	0	0	0	1	1	1	0	1	0	325	9	0	0	0	0	0	0	0	45	676	CS*
	SK	2	2	11	0	0	0	0	1	2	2	1	3	0	16	152	0	0	0	0	0	0	0	28	349	SK
	REM	2	6	40	1	117	0	0	1	0	1	1	2	0	1	1	422	0	0	0	0	0	0	441	1183	REM
	BAS	20	25	29	2	20	24	10	17	1	1	0	1	0	8	3	0	0	0	0	0	0	0	120	838	BAS
	NOS	355	3	6	0	2	1	0	1	0	0	0	1	0	8	2	0	0	0	0	0	0	0	196	1484	NOS
	ATL	311	11	15	1	42	3	1	3	0	0	0	0	0	7	2	1	0	0	0	0	0	0	1334	2898	ATL
	MED	10	6	48	5	6	0	0	1	7	22	15	27	4	9	6	40	0	0	0	0	0	0	654	1944	MED
	BLS	1	14	290	16	81	0	0	1	0	1	1	5	1	2	2	21	0	0	0	0	0	0	220	939	BLS
	SUM	2317	1532	4941	302	4506	212	124	318	131	204	182	543	87	596	301	609	0	0	0	0	0	0	7328	51736	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Reduced Nitrogen in 1995. Unit: 100 tonnes(N

Transboundary Import-Export Budgets for 1995

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	320	89	278	87	17	49	69	95	91	96	14	41	149	58	50	32	12	70
AT	257	86	944	96	9	59	499	94	571	94	8	50	373	52	442	56	4	80
BE	1092	88	370	72	23	77	991	96	257	86	21	71	468	59	166	33	16	92
BG	6449	86	859	45	18	50	742	92	271	80	12	43	445	55	277	43	7	70
DK	686	91	256	80	37	78	738	97	164	88	29	74	553	59	84	18	29	95
FI	374	78	862	89	20	70	697	88	491	84	15	62	117	46	267	66	12	88
FR	3806	77	2288	67	26	71	4270	84	1488	65	22	63	2566	47	679	19	20	86
DE*	8154	77	2944	54	15	74	4888	83	1905	66	17	70	2289	43	1121	27	11	92
GR	2525	91	878	77	26	43	1025	94	226	78	17	36	384	60	159	38	14	63
HU	2938	83	905	61	9	68	501	91	402	90	9	63	529	55	278	39	5	83
IS	105	88	68	82	45	52	65	93	52	91	34	41	13	51	21	64	28	77
IE	694	86	214	66	54	73	330	94	149	88	47	64	530	52	66	12	38	91
IT	5919	82	1948	61	26	55	5745	88	664	45	19	47	1634	51	423	21	14	72
LU	38	95	35	95	13	72	60	98	25	96	13	67	42	64	19	44	8	91
NL	647	88	463	84	32	79	1505	96	267	82	26	72	734	59	155	23	18	93
NO	141	81	913	96	32	71	601	89	612	89	26	61	93	45	303	73	24	91
PL	8694	74	2957	50	11	70	2930	86	1217	72	11	64	1501	48	753	32	7	85
PT	1209	89	192	56	17	34	724	94	117	70	14	31	472	62	59	17	14	59
RO	3550	78	1818	64	9	56	839	86	565	81	8	50	962	53	539	39	5	73
ES	8555	83	700	29	28	49	3200	86	490	48	18	40	1563	55	241	16	13	62
SE	369	79	1258	93	29	72	973	88	824	86	21	65	240	48	432	62	20	91
CH	140	82	352	92	11	63	387	93	265	91	10	51	301	51	196	41	5	82
TR	1394	79	1496	80	19	46	1800	85	639	68	14	36	2215	65	402	25	9	50
GB	9575	81	733	25	42	73	6148	91	519	45	37	67	1369	52	297	19	31	88
BY	1093	79	1512	84	5	66	529	89	613	91	6	59	893	49	538	37	4	85
UA	5912	72	3842	63	9	64	1332	82	1450	84	10	59	2769	46	1185	27	7	82
MD	268	91	261	91	12	62	73	96	74	96	9	55	244	63	113	44	7	78
RU	8766	62	10356	66	7	51	3874	67	4432	70	4	45	2390	38	3619	48	3	71
EE	495	90	256	82	12	69	138	97	149	97	10	62	135	56	97	48	13	89
LV	164	86	413	94	14	70	84	95	211	98	10	61	79	56	166	73	8	89
LT	445	83	475	84	10	69	193	95	229	95	10	62	196	54	175	51	7	88
SI	532	89	195	75	8	48	197	97	117	94	7	40	108	60	73	50	5	72
HR	279	89	569	94	22	63	158	95	268	97	12	53	154	58	165	60	11	77
BA	2071	86	428	57	12	51	228	94	220	94	11	45	143	56	138	55	7	71
YU*	1868	81	1007	69	10	60	162	90	336	95	9	51	391	53	241	41	5	73
FYM	481	91	222	82	8	40	116	97	62	95	8	34	85	61	57	51	4	62
CS*	4700	86	1123	60	12	71	1168	93	491	85	11	65	383	54	351	52	5	84
SK	1043	87	748	83	8	66	525	95	262	91	8	60	219	59	197	56	4	81
REM	13856	91	2382	63	25	42	999	90	1304	92	6	27	986	70	761	64	5	43
BAS	251	70	2463	96	37	77	215	89	1191	98	21	69	0	0	838	100	0	100
NOS	1485	68	5422	88	45	79	1679	86	2446	90	30	71	0	0	1484	100	0	100
ATL	3296	71	11203	89	32	39	3132	79	5158	86	24	34	0	0	2898	100	0	100
MED	60	100	11571	100	0	0	40	100	3627	100	0	0	0	0	1944	100	0	100
BLS	0	0	2767	100	0	100	0	0	757	100	0	100	0	0	939	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

********* receiver-emitter matrix *********

oxidized nitrogen, tot dep.
averaging period: 1996 1 1 12 - 1997 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	4	1	0	2	0	0	3	1	15	1	0	0	31	0	0	0	1	0	1	1	0	0	2	AL
	AT	0	46	5	2	2	0	27	93	1	9	0	0	120	1	5	0	26	0	4	1	1	15	0	AT
	BE	0	1	40	0	2	0	51	51	0	0	0	1	5	1	29	0	3	0	0	6	1	1	0	BE
	BG	2	2	0	78	0	0	2	4	22	5	0	0	13	0	0	0	9	0	37	0	0	0	12	BG
	DK	0	1	7	0	27	1	12	44	0	1	0	1	4	0	12	3	12	0	0	1	7	1	0	DK
	FI	0	1	4	0	19	108	9	38	0	2	0	1	3	0	7	27	39	0	1	1	56	1	0	FI
	FR	0	7	98	0	8	1	913	267	1	3	0	6	183	8	75	2	20	9	1	215	4	34	0	FR
	DE*	0	31	111	1	36	5	273	1000	0	10	0	5	123	9	156	7	113	1	6	21	18	44	0	DE*
	GR	4	1	0	29	0	0	3	1	75	2	0	0	29	0	0	0	3	0	7	2	0	0	25	GR
	HU	1	19	2	9	1	0	8	26	6	59	0	0	54	0	2	0	52	0	26	1	1	3	2	HU
	IS	0	0	1	0	2	0	3	4	0	0	5	1	0	0	2	1	1	0	0	0	1	0	0	IS
R	IE	0	1	4	0	1	0	15	16	0	1	0	21	1	0	5	0	3	1	1	4	0	0	0	IE
e	IT	1	28	5	4	1	0	125	67	9	9	0	0	975	0	4	0	16	2	5	36	1	37	4	IT
c	LU	0	0	2	0	0	0	6	5	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	LU
e	NL	0	1	23	0	3	0	30	66	0	1	0	1	3	1	51	1	6	0	0	3	1	1	0	NL
i	NO	0	1	8	0	25	8	17	47	0	2	0	2	4	0	19	91	23	0	0	1	39	1	0	NO
v	PL	1	25	17	6	31	8	39	244	3	41	0	1	55	1	27	6	561	0	24	2	26	7	0	PL
e	PT	0	0	1	0	0	0	5	1	0	0	0	0	0	0	0	0	0	58	0	48	0	0	0	PT
r	RO	2	6	1	56	1	1	3	18	15	27	0	0	35	0	2	0	51	0	166	1	1	1	17	RO
s	ES	0	0	6	0	1	0	84	18	0	1	0	1	20	0	6	0	2	67	0	605	1	2	0	ES
	SE	0	2	11	0	59	39	21	89	0	4	0	2	7	0	24	62	62	0	2	2	127	1	0	SE
	CH	0	3	4	0	0	0	55	33	0	0	0	0	80	1	4	0	1	0	0	5	0	35	0	CH
	TR	1	1	0	19	0	0	2	2	41	2	0	0	16	0	0	0	4	0	6	1	0	0	440	TR
	GB	0	2	30	1	10	1	84	97	0	2	0	23	10	1	48	3	17	2	1	19	6	2	0	GB
	BY	0	5	3	5	6	5	9	37	2	12	0	0	14	0	5	2	113	0	18	1	9	2	4	BY
	UA	1	7	3	35	7	6	9	44	12	25	0	0	36	0	6	2	153	0	81	0	7	2	47	UA
	MD	0	0	0	3	0	0	0	2	1	1	0	0	2	0	0	0	6	0	9	0	0	0	3	MD
	RU	0	9	8	20	37	190	20	109	6	17	0	0	27	0	19	35	212	0	42	0	89	3	43	RU
	EE	0	1	1	0	7	11	6	17	0	1	0	0	5	0	3	2	22	0	1	0	10	1	0	EE
	LV	0	1	2	1	7	6	4	23	0	2	0	0	3	0	4	2	36	0	2	0	9	1	0	LV
	LT	0	2	2	1	6	3	5	26	0	3	0	0	4	0	4	2	51	0	3	0	7	1	0	LT
	SI	0	9	0	1	0	0	5	9	1	3	0	0	45	0	0	0	4	0	1	1	0	2	0	SI
	HR	1	12	1	3	0	0	7	13	4	13	0	0	80	0	1	0	16	0	4	2	0	2	1	HR
	BA	1	5	1	2	0	0	5	9	5	9	0	0	61	0	0	0	12	0	3	1	0	1	1	BA
	YU*	4	5	1	19	0	0	4	10	19	20	0	0	54	0	1	0	23	0	17	1	0	1	4	YU*
	FYM	2	0	0	6	0	0	1	0	14	1	0	0	10	0	0	0	1	0	2	0	0	0	2	FYM
	CS*	0	21	8	1	4	1	24	133	1	11	0	0	40	1	11	1	74	0	5	1	4	6	0	CS*
	SK	0	11	1	4	1	0	6	21	2	27	0	0	23	0	2	0	56	0	10	1	1	2	1	SK
	CY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	CY
	REM	1	2	2	9	1	1	39	11	29	2	0	0	79	0	2	0	11	4	5	61	1	4	75	REM
	BAS	0	7	22	1	86	64	42	209	1	10	0	2	22	1	41	28	171	0	7	3	110	3	0	BAS
	NOS	0	10	125	1	128	14	296	514	0	8	1	31	40	5	245	51	188	2	5	32	71	8	0	NOS
	ATL	0	13	159	1	111	52	632	618	0	11	25	147	33	7	255	142	186	87	4	354	107	10	0	ATL
	MED	11	47	22	80	4	1	497	151	254	31	0	1	1535	2	23	0	68	22	35	478	3	56	288	MED
	BLS	1	2	0	41	1	1	1	6	17	6	0	0	8	0	1	0	18	0	31	0	1	0	134	BLS
	SUM	39	355	743	443	635	529	3404	4195	558	394	33	251	3893	42	1102	472	2448	258	574	1913	723	292	1111	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	1	0	0	0	0	0	0	1	2	1	2	1	0	0	1	0	0	0	0	0	0	22	95	AL
	AT	7	1	2	0	1	0	0	0	16	4	2	1	0	34	7	0	0	0	3	0	0	0	0	74	515	AT
	BE	38	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	18	4	0	0	0	20	277	BE
	BG	1	1	12	2	6	0	0	0	0	1	2	5	5	4	3	0	2	0	0	0	0	0	0	58	286	BG
	DK	30	1	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	2	16	2	0	0	0	19	212	DK
	FI	22	11	6	0	42	11	4	6	0	0	0	0	0	8	2	0	0	11	14	3	0	0	0	115	572	FI
	FR	240	1	1	0	0	0	0	0	2	1	1	0	0	21	2	0	3	1	99	65	0	0	0	333	2628	FR
	DE*	191	4	4	0	4	0	0	2	6	2	1	0	0	134	10	0	0	8	89	14	0	0	0	241	2683	DE*
	GR	0	0	6	1	3	0	0	0	0	1	2	2	3	1	1	0	1	0	0	0	0	0	0	66	272	GR
	HU	3	1	7	1	3	0	0	0	5	9	11	8	3	22	27	0	0	0	1	0	0	0	0	58	433	HU
	IS	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	32	74	IS
R	IE	60	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	9	19	0	0	0	24	192	IE
e	IT	9	0	2	0	1	0	0	0	17	10	11	3	2	17	5	0	4	0	3	3	0	0	0	224	1640	IT
c	LU	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	24	LU
e	NL	56	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	23	4	0	0	0	19	302	NL
i	NO	86	4	1	0	9	1	1	3	0	0	0	0	0	7	1	0	0	5	38	9	0	0	0	124	579	NO
v	PL	39	24	25	1	22	2	2	10	7	5	4	4	1	120	40	0	1	10	23	3	0	0	0	198	1666	PL
e	PT	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	25	0	0	0	45	187	PT
r	RO	2	4	37	5	16	0	0	1	1	3	7	11	6	14	15	0	2	0	1	0	0	0	0	125	654	RO
s	ES	27	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	9	58	2	0	0	192	1107	ES
	SE	69	9	4	0	22	5	3	7	1	0	1	1	0	13	3	0	0	15	43	7	0	0	0	145	864	SE
	CH	7	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	3	1	0	0	0	35	271	CH
	TR	0	1	16	1	22	0	0	0	0	0	1	1	1	2	1	9	26	0	0	0	0	0	0	560	1177	TR
	GB	673	1	1	0	1	0	0	1	0	0	0	0	0	11	1	0	0	1	84	44	0	0	0	95	1274	GB
	BY	9	71	51	3	64	2	4	11	2	1	1	1	1	20	11	0	2	3	4	1	0	0	0	110	622	BY
	UA	8	38	298	13	195	1	2	7	2	3	5	5	3	27	21	0	21	3	5	0	0	0	0	327	1470	UA
	MD	0	1	11	3	5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	16	69	MD
	RU	44	136	253	6	2140	37	19	34	1	1	2	2	1	35	17	0	169	23	27	9	0	0	0	1928	5784	RU
	EE	6	6	4	0	13	6	2	3	0	0	0	0	0	4	1	0	0	4	4	0	0	0	0	28	170	EE
	LV	9	10	6	0	15	3	4	7	1	0	0	0	0	6	2	0	0	3	5	0	0	0	0	35	211	LV
	LT	8	12	7	0	10	1	2	12	1	0	0	0	0	10	3	0	0	2	4	0	0	0	0	34	230	LT
	SI	0	0	0	0	0	0	0	0	10	3	2	0	0	5	2	0	0	0	0	0	0	0	0	16	121	SI
	HR	1	0	1	0	1	0	0	0	5	11	12	2	1	11	6	0	0	0	0	0	0	0	0	37	249	HR
	BA	1	0	1	0	1	0	0	0	2	6	17	4	1	6	4	0	0	0	0	0	0	0	0	33	195	BA
	YU*	2	1	4	0	2	0	0	0	1	4	13	20	13	9	9	0	1	0	0	0	0	0	0	59	324	YU*
	FYM	0	0	1	0	0	0	0	0	0	0	1	1	4	0	0	0	0	0	0	0	0	0	0	15	64	FYM
	CS*	14	1	3	0	2	0	0	1	5	2	1	1	0	99	11	0	0	1	6	1	0	0	0	64	559	CS*
	SK	2	1	4	0	2	0	0	0	3	3	3	3	1	20	24	0	0	0	1	0	0	0	0	35	273	SK
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	7	14	CY
	REM	5	3	22	1	151	0	0	1	1	1	2	1	1	3	1	5	206	0	2	5	0	0	0	1187	1938	REM
	BAS	90	24	13	1	51	13	8	16	2	1	1	1	1	40	9	0	0	29	50	6	0	0	0	177	1368	BAS
	NOS	1237	21	12	1	29	3	3	8	1	1	1	1	0	70	9	0	0	19	328	76	0	0	0	353	3948	NOS
	ATL	1986	21	12	0	110	6	4	9	2	1	0	0	0	83	10	0	1	19	449	1020	0	0	0	2635	9321	ATL
	MED	40	3	37	2	23	0	0	1	24	25	39	15	13	44	16	6	63	1	18	30	2	0	0	1267	5280	MED
	BLS	1	5	81	4	111	0	0	1	0	1	1	2	1	6	3	1	37	0	1	0	0	0	0	205	729	BLS
	SUM	5043	419	947	47	3087	93	62	142	121	103	150	100	66	930	279	23	545	165	1386	1416	5	0	0	11390	50925	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1996. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********

oxidized sulphur, tot dep.
averaging period: 1996 1 1 12 - 1997 1 1 6
unit = 100. tonnes

Emitters

Receivers

	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
AL	48	0	0	17	0	0	2	1	49	3	0	0	28	0	0	0	3	0	4	1	0	0	1	AL
AT	1	59	4	9	1	0	17	115	2	57	0	0	113	0	1	0	73	0	13	3	0	5	0	AT
BE	0	1	149	0	2	0	91	73	0	2	0	1	4	1	21	0	12	0	1	13	0	0	0	BE
BG	8	1	0	1168	0	0	1	7	36	22	0	0	8	0	0	0	20	0	161	0	0	0	9	BG
DK	0	0	6	0	86	1	11	67	0	3	0	1	2	0	4	1	43	0	1	2	4	0	0	DK
FI	0	0	2	1	11	117	5	40	0	6	0	0	1	0	1	4	67	0	3	2	21	0	0	FI
FR	0	4	125	2	7	0	1352	248	1	15	0	8	158	7	34	0	54	5	6	472	1	15	0	FR
DE*	0	21	127	7	43	2	261	2586	0	64	0	5	109	7	62	1	482	1	22	51	6	18	0	DE*
GR	19	0	0	356	0	0	1	2	314	7	0	0	23	0	0	0	7	0	26	3	0	0	20	GR
HU	4	11	1	48	1	0	5	35	8	671	0	0	37	0	0	0	131	0	116	2	0	1	1	HU
IS	0	0	0	0	1	0	1	2	0	0	15	1	0	0	0	0	1	0	0	0	0	0	0	IS
IE	0	0	3	0	1	0	12	15	0	2	0	108	1	0	2	0	9	1	2	7	0	0	0	IE
IT	4	13	3	23	1	0	85	56	15	41	0	0	1509	0	1	0	43	2	16	56	0	14	2	IT
LU	0	0	3	0	0	0	11	6	0	0	0	0	1	2	1	0	1	0	0	2	0	0	0	LU
NL	0	1	52	0	3	0	42	136	0	4	0	1	3	0	82	0	28	0	1	7	0	0	0	NL
NO	0	0	6	0	19	3	12	52	0	4	0	2	1	0	4	38	35	0	1	1	17	0	0	NO
PL	2	13	11	33	25	3	28	709	4	249	0	1	43	1	6	1	3533	0	104	4	7	2	0	PL
PT	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	181	0	101	0	0	0	PT
RO	7	2	1	393	1	0	2	27	22	136	0	0	24	0	0	0	120	0	1251	1	0	0	11	RO
ES	0	0	5	0	0	0	68	12	0	2	0	1	16	0	2	0	3	82	0	2208	0	1	0	ES
SE	0	1	9	0	73	19	16	108	0	13	0	1	2	0	6	17	129	0	5	6	101	0	0	SE
CH	0	2	3	0	0	0	43	23	0	2	0	0	117	0	1	0	4	0	1	9	0	38	0	CH
TR	3	0	0	186	0	0	1	2	79	6	0	0	11	0	0	0	8	0	24	2	0	0	482	TR
GB	0	1	38	2	8	0	102	120	0	8	0	39	7	1	23	1	53	2	3	38	2	1	0	GB
BY	1	2	2	33	4	2	6	60	4	53	0	0	12	0	1	0	321	0	71	1	2	1	2	BY
UA	3	3	2	227	4	2	6	65	18	142	0	0	28	0	1	0	420	0	381	1	2	0	29	UA
MD	0	0	0	24	0	0	0	3	1	6	0	0	1	0	0	0	15	0	55	0	0	0	2	MD
RU	1	4	6	126	20	87	13	143	7	74	0	0	18	0	4	5	487	0	135	2	25	1	26	RU
EE	0	0	1	1	4	10	3	20	0	4	0	0	2	0	1	0	52	0	2	0	3	0	0	EE
LV	0	1	1	3	5	3	3	32	0	9	0	0	2	0	1	0	98	0	7	0	3	0	0	LV
LT	0	1	1	4	3	1	3	42	1	13	0	0	3	0	1	0	161	0	12	1	2	0	0	LT
SI	0	7	0	4	0	0	3	11	1	15	0	0	49	0	0	0	11	0	4	1	0	0	0	SI
HR	2	6	0	18	0	0	4	17	5	79	0	0	68	0	0	0	39	0	14	4	0	0	1	HR
BA	4	2	0	11	0	0	3	12	8	47	0	0	37	0	0	0	27	0	12	2	0	0	1	BA
YU*	24	2	0	117	0	0	2	15	33	101	0	0	36	0	0	0	49	0	71	2	0	0	2	YU*
FYM	14	0	0	51	0	0	0	1	34	3	0	0	7	0	0	0	2	0	6	0	0	0	1	FYM
CS*	1	15	5	8	3	0	15	399	1	64	0	0	31	0	3	0	328	0	16	2	1	2	0	CS*
SK	1	8	1	20	1	0	3	33	4	211	0	0	16	0	0	0	199	0	38	1	0	0	0	SK
CY	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	CY
REM	2	1	1	56	0	0	20	6	53	5	0	0	53	0	0	0	17	5	14	102	0	1	49	REM
BAS	1	3	20	4	150	68	35	393	1	45	0	2	11	1	12	6	605	0	23	8	84	1	0	BAS
NOS	0	6	188	4	189	6	415	848	0	44	1	41	25	3	174	25	605	2	20	72	33	3	0	NOS
ATL	0	4	117	2	54	22	543	486	0	35	47	347	17	3	64	33	317	174	12	1444	30	2	0	ATL
MED	61	21	17	752	3	0	440	126	852	144	0	2	1919	1	6	0	180	27	129	1195	1	16	305	MED
BLS	4	1	0	571	0	0	1	13	31	28	0	0	5	0	0	0	47	0	154	0	0	0	134	BLS
SUM	218	221	912	4281	723	351	3688	7164	1588	2441	64	563	4558	28	520	134	8841	483	2936	5830	348	124	1085	SUM
	AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

Receivers

	GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
AL	0	0	2	0	0	0	0	0	0	0	14	11	16	1	1	0	79	0	0	0	0	0	1	73	356	AL
AT	5	1	7	0	2	0	0	1	59	6	11	10	1	136	22	0	9	0	2	0	0	0	0	219	969	AT
BE	49	0	0	0	0	0	0	0	0	0	0	0	0	19	1	0	0	0	24	2	0	0	2	44	513	BE
BG	0	2	39	5	5	0	0	0	0	1	18	54	35	9	5	0	25	0	0	0	0	0	1	215	1857	BG
DK	29	2	2	0	4	1	0	1	0	0	1	0	0	22	1	0	0	6	20	1	0	0	4	45	372	DK
FI	15	15	15	0	215	42	6	9	0	0	1	1	0	18	3	0	1	13	7	2	0	0	5	331	981	FI
FR	262	1	3	0	0	0	0	1	5	2	6	5	0	81	5	0	78	1	112	47	0	0	19	832	3976	FR
DE*	185	6	15	0	10	2	0	4	11	3	6	8	0	922	29	0	4	12	83	8	0	0	10	591	5784	DE*
GR	0	0	17	2	2	0	0	0	0	1	17	14	25	3	2	0	99	0	0	0	0	0	3	238	1204	GR
HU	2	2	23	1	3	0	0	1	12	15	93	97	7	63	87	0	19	0	1	0	0	0	1	181	1679	HU
IS	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	12	48	98	IS
IE	105	0	0	0	0	0	0	0	0	0	0	0	0	8	1	0	1	0	7	15	0	0	11	49	362	IE
IT	5	1	7	0	1	0	0	0	45	16	60	25	4	51	10	0	1379	0	2	2	0	0	7	629	4131	IT
LU	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	5	35	LU
NL	72	0	1	0	0	0	0	0	0	0	0	0	0	37	2	0	0	1	36	2	0	0	3	44	562	NL
NO	69	5	2	0	52	2	1	5	0	0	2	1	0	21	1	0	0	5	33	10	0	0	17	354	776	NO
PL	32	35	103	4	46	4	4	26	13	6	35	45	4	577	130	0	18	12	16	1	0	0	4	607	6505	PL
PT	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0	0	4	63	383	PT
RO	2	6	149	22	18	0	0	2	2	4	74	151	18	38	32	0	28	0	1	0	0	0	2	473	3021	RO
ES	22	0	0	0	0	0	0	0	0	0	1	1	0	4	0	0	23	0	6	51	3	0	10	400	2923	ES
SE	54	12	11	0	68	12	6	14	1	0	4	4	0	40	5	0	0	23	33	5	0	0	11	410	1222	SE
CH	6	0	0	0	0	0	0	0	1	0	1	1	0	8	1	0	2	0	2	1	0	0	0	101	371	CH
TR	0	3	47	2	12	0	0	0	0	0	5	9	5	4	2	19	100	0	0	0	0	0	6	2197	3218	TR
GB	2125	2	2	0	4	1	0	1	1	0	0	1	0	47	4	0	2	1	114	37	0	0	26	203	3021	GB
BY	6	334	186	8	93	5	7	29	3	1	11	15	2	54	24	0	11	3	2	0	0	0	1	395	1768	BY
UA	6	77	2089	61	286	4	3	13	4	4	47	56	8	75	52	0	39	2	3	0	0	0	4	1227	5395	UA
MD	0	2	54	30	6	0	0	0	0	0	3	4	1	3	2	0	1	0	0	0	0	0	0	59	275	MD
RU	30	328	924	16	5639	194	31	62	3	1	19	23	3	102	34	1	273	22	14	5	0	0	17	6345	15277	RU
EE	4	12	11	0	32	71	9	9	0	0	1	1	0	12	2	0	2	7	2	0	0	0	1	86	366	EE
LV	6	28	19	1	30	11	27	31	1	0	2	2	0	19	4	0	2	5	3	0	0	0	1	108	465	LV
LT	5	25	24	1	24	3	7	91	1	0	2	3	0	35	6	0	1	3	2	0	0	0	1	108	594	LT
SI	0	0	2	0	0	0	0	0	86	7	8	5	1	15	4	0	10	0	0	0	0	0	0	49	294	SI
HR	1	0	5	0	1	0	0	0	15	39	107	29	3	31	15	0	36	0	0	0	0	0	1	113	653	HR
BA	1	0	4	0	1	0	0	0	3	9	439	43	4	17	10	0	43	0	0	0	0	0	1	107	849	BA
YU*	2	1	13	1	2	0	0	0	2	5	236	476	47	24	19	0	63	0	0	0	0	0	1	217	1565	YU*
FYM	0	0	2	0	0	0	0	0	0	0	10	13	63	1	1	0	22	0	0	0	0	0	0	57	291	FYM
CS*	11	2	10	0	3	0	0	2	9	3	9	9	1	846	44	0	3	1	4	0	0	0	1	170	2023	CS*
SK	2	2	14	1	3	0	0	1	5	4	25	29	3	71	183	0	8	0	1	0	0	0	0	109	998	SK
CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	0	0	0	24	37	CY
REM	3	6	74	2	236	1	0	2	1	1	11	6	3	5	1	29	1236	0	1	3	0	0	14	3007	5031	REM
BAS	80	41	42	2	130	64	26	51	3	1	9	10	1	162	20	0	2	109	47	3	0	0	19	557	2854	BAS
NOS	2673	31	32	1	51	7	5	19	3	1	5	6	0	337	23	0	5	28	816	65	0	0	144	904	7859	NOS
ATL	2409	25	23	0	677	16	5	13	3	1	3	3	0	200	15	0	10	14	319	1559	0	0	1556	4950	15554	ATL
MED	37	6	110	8	19	0	0	2	53	58	342	138	49	135	37	18	5673	1	12	21	3	0	146	3629	16695	MED
BLS	1	9	363	18	88	1	0	2	0	1	13	29	7	19	8	1	72	0	0	0	0	0	17	908	2553	BLS
SUM	8332	1022	4447	192	7770	445	142	395	351	192	1653	1340	312	4276	848	74	9382	272	1728	1870	6	0	2086	31479	125715	SUM
	GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1996. Unit: 100 tonnes(S)

********* receiver-emitter matrix *********

reduced nitrogen, tot dep.
averaging period: 1996 1 1 12 - 1997 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	116	0	0	1	0	0	1	0	8	1	0	0	6	0	0	0	0	0	1	0	0	0	1	AL
	AT	0	399	1	1	1	0	9	123	0	18	0	0	53	0	2	0	11	0	3	1	0	22	0	AT
	BE	0	1	327	0	1	0	61	33	0	0	0	1	1	3	44	0	1	0	0	2	0	1	0	BE
	BG	3	1	0	322	0	0	0	1	17	5	0	0	2	0	0	0	3	0	58	0	0	0	8	BG
	DK	0	1	3	0	335	0	6	45	0	1	0	1	1	0	8	0	9	0	0	0	5	0	0	DK
	FI	0	1	1	0	7	143	3	16	0	1	0	0	1	0	2	3	18	0	1	0	12	1	0	FI
	FR	0	4	87	0	3	0	3325	125	0	2	0	7	66	11	40	0	6	3	1	116	1	46	0	FR
	DE*	0	46	74	0	31	0	162	3273	0	8	0	4	33	12	195	1	71	0	4	8	6	65	0	DE*
	GR	13	0	0	16	0	0	1	0	286	1	0	0	4	0	0	0	1	0	7	0	0	0	13	GR
	HU	2	21	0	5	0	0	2	10	2	468	0	0	12	0	1	0	19	0	38	0	0	2	1	HU
	IS	0	0	0	0	0	0	2	1	0	0	12	1	0	0	0	0	0	0	0	0	0	0	0	IS
R	IE	0	1	2	0	0	0	13	7	0	1	0	566	0	0	2	0	1	1	1	1	0	0	0	IE
e	IT	2	23	1	2	0	0	43	51	3	9	0	0	1819	0	1	0	5	1	4	11	0	61	1	IT
c	LU	0	0	3	0	0	0	6	4	0	0	0	0	0	23	1	0	0	0	0	0	0	0	0	LU
e	NL	0	1	34	0	2	0	24	74	0	0	0	1	1	0	507	0	3	0	0	1	0	1	0	NL
i	NO	0	1	3	0	16	1	9	27	0	1	0	2	1	0	9	119	12	0	0	0	14	0	0	NO
v	PL	1	20	4	4	18	1	11	151	1	34	0	1	13	0	10	1	1803	0	28	0	9	4	0	PL
e	PT	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	329	0	42	0	0	0	PT
r	RO	3	3	0	50	0	0	1	5	7	48	0	0	6	0	0	0	19	0	1011	0	0	0	7	RO
s	ES	0	0	2	0	0	0	74	4	0	0	0	1	4	0	2	0	1	67	0	1520	0	1	0	ES
	SE	0	1	4	0	47	8	8	50	0	2	0	1	1	0	9	16	30	0	1	1	260	0	0	SE
	CH	0	4	2	0	0	0	44	46	0	0	0	0	46	0	1	0	1	0	0	2	0	328	0	CH
	TR	1	0	0	9	0	0	0	0	11	1	0	0	2	0	0	0	1	0	6	0	0	0	2374	TR
	GB	0	2	18	0	4	0	85	47	0	1	0	79	2	1	22	0	8	1	1	7	1	2	0	GB
	BY	0	4	1	3	2	1	2	14	1	12	0	0	4	0	1	0	87	0	23	0	2	1	1	BY
	UA	1	4	1	18	2	1	2	16	4	31	0	0	9	0	2	0	100	0	136	0	2	1	25	UA
	MD	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3	0	23	0	0	0	1	MD
	RU	0	6	2	11	12	38	5	43	2	14	0	0	6	0	5	5	114	0	45	0	16	2	57	RU
	EE	0	1	0	0	3	2	2	8	0	1	0	0	1	0	1	0	14	0	1	0	3	1	0	EE
	LV	0	1	0	0	3	1	1	9	0	2	0	0	1	0	1	0	24	0	2	0	3	0	0	LV
	LT	0	2	0	0	2	0	2	11	0	2	0	0	1	0	1	0	47	0	3	0	2	1	0	LT
	SI	0	16	0	0	0	0	1	5	0	5	0	0	17	0	0	0	1	0	1	0	0	1	0	SI
	HR	1	10	0	1	0	0	2	4	1	25	0	0	24	0	0	0	5	0	3	1	0	1	0	HR
	BA	2	3	0	1	0	0	1	3	2	12	0	0	13	0	0	0	4	0	3	0	0	0	0	BA
	YU*	14	2	0	15	0	0	1	3	8	28	0	0	9	0	0	0	6	0	20	0	0	0	2	YU*
	FYM	10	0	0	5	0	0	0	0	13	1	0	0	2	0	0	0	0	0	2	0	0	0	1	FYM
	CS*	0	46	2	1	2	0	9	129	0	11	0	0	11	0	4	0	54	0	4	0	1	5	0	CS*
	SK	1	13	0	2	0	0	2	9	1	43	0	0	6	0	1	0	38	0	11	0	0	1	0	SK
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	CY
	REM	1	1	0	3	0	0	12	2	6	1	0	0	14	0	0	0	2	2	4	21	0	1	137	REM
	BAS	0	4	8	1	94	22	16	165	0	6	0	2	3	1	20	4	145	0	6	1	67	2	0	BAS
	NOS	0	9	94	0	157	2	336	391	0	7	0	43	9	3	182	18	127	1	6	11	32	5	0	NOS
	ATL	0	9	67	0	34	9	610	228	0	6	7	368	5	4	91	33	74	80	4	163	19	6	0	ATL
	MED	32	24	7	32	1	0	234	50	100	24	0	1	516	1	8	0	18	10	27	236	1	31	169	MED
	BLS	1	1	0	21	0	0	0	2	6	5	0	0	1	0	0	0	6	0	42	0	0	0	209	BLS
	SUM	205	685	751	529	780	231	5129	5187	480	842	20	1082	2729	61	1176	202	2895	494	1533	2151	460	595	3014	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	1	0	0	0	0	0	0	0	1	6	3	0	0	0	0	0	0	0	0	0	0	24	172	AL
	AT	1	1	5	0	1	0	0	0	24	3	1	2	0	29	11	0	0	0	0	0	0	0	0	75	800	AT
	BE	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	16	503	BE
	BG	0	1	26	5	3	0	0	0	0	1	1	23	6	1	1	0	1	0	0	0	0	0	0	69	559	BG
	DK	5	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	14	441	DK
	FI	3	12	10	0	25	14	3	5	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	101	389	FI
	FR	54	1	2	0	0	0	0	0	1	1	0	1	0	4	1	0	2	0	0	0	0	0	0	279	4189	FR
	DE*	32	6	9	0	1	0	0	2	3	1	0	2	0	51	5	0	0	0	0	0	0	0	0	201	4308	DE*
	GR	0	0	9	1	1	0	0	0	0	0	1	5	8	0	0	0	1	0	0	0	0	0	0	74	444	GR
	HU	0	2	21	1	2	0	0	0	5	13	8	24	1	9	31	0	0	0	0	0	0	0	0	58	760	HU
	IS	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	41	IS
R	IE	35	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15	649	IE
e	IT	1	0	4	0	0	0	0	0	10	8	5	6	1	5	2	0	4	0	0	0	0	0	0	202	2283	IT
c	LU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	40	LU
e	NL	13	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	15	680	NL
i	NO	16	5	2	0	3	1	1	2	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	115	364	NO
v	PL	5	65	113	4	16	1	2	14	3	3	2	7	0	63	35	0	0	0	0	0	0	0	0	200	2652	PL
e	PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	393	PT
r	RO	0	6	145	37	10	0	0	0	1	3	4	31	3	4	8	0	1	0	0	0	0	0	0	158	1572	RO
s	ES	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	102	1787	ES
	SE	9	12	9	0	12	5	3	7	0	0	0	1	0	3	1	0	0	0	0	0	0	0	0	122	626	SE
	CH	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	35	512	CH
	TR	0	2	34	2	12	0	0	0	0	0	0	2	1	0	0	0	37	0	0	0	0	0	0	741	3239	TR
	GB	1399	1	2	0	0	0	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	61	1752	GB
	BY	1	1034	236	9	49	2	6	24	1	1	1	4	0	6	7	0	1	0	0	0	0	0	0	132	1674	BY
	UA	1	126	3797	79	176	1	1	7	1	3	3	13	1	7	14	0	11	0	0	0	0	0	0	411	5007	UA
	MD	0	2	71	160	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	19	289	MD
	RU	6	243	504	14	4627	37	20	33	1	1	1	6	1	10	8	0	157	0	0	0	0	0	0	2058	8117	RU
	EE	1	12	9	0	9	108	7	6	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	27	221	EE
	LV	1	32	15	1	12	11	62	24	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	32	244	LV
	LT	1	49	23	1	8	2	6	174	0	0	0	1	0	4	1	0	0	0	0	0	0	0	0	33	381	LT
	SI	0	0	1	0	0	0	0	0	80	5	1	1	0	2	1	0	0	0	0	0	0	0	0	16	156	SI
	HR	0	0	3	0	0	0	0	0	8	109	16	7	0	4	5	0	0	0	0	0	0	0	0	35	267	HR
	BA	0	0	3	0	0	0	0	0	1	15	121	16	1	2	3	0	0	0	0	0	0	0	0	35	240	BA
	YU*	0	1	9	1	1	0	0	0	1	5	15	389	11	3	5	0	1	0	0	0	0	0	0	70	621	YU*
	FYM	0	0	2	0	0	0	0	0	0	0	1	10	61	0	0	0	0	0	0	0	0	0	0	19	128	FYM
	CS*	2	2	8	0	1	0	0	1	3	2	1	2	0	363	13	0	0	0	0	0	0	0	0	57	735	CS*
	SK	0	2	19	1	1	0	0	0	2	3	2	6	1	13	187	0	0	0	0	0	0	0	0	36	403	SK
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	11	CY
	REM	0	3	28	1	179	0	0	1	0	1	1	2	1	0	0	0	800	0	0	0	0	0	0	903	2129	REM
	BAS	12	44	34	2	32	33	14	27	1	1	0	2	0	11	4	0	0	0	0	0	0	0	0	162	947	BAS
	NOS	434	34	31	1	13	3	2	8	1	1	1	1	0	24	6	0	0	0	0	0	0	0	0	266	2260	NOS
	ATL	584	21	22	0	41	4	2	5	1	0	0	0	0	18	5	0	0	0	0	0	0	0	0	1588	4110	ATL
	MED	5	4	54	5	10	0	0	1	11	26	24	36	8	12	8	0	68	0	0	0	0	0	0	1042	2837	MED
	BLS	0	7	276	14	101	0	0	1	0	0	1	4	1	2	2	0	35	0	0	0	0	0	0	252	990	BLS
	SUM	2640	1732	5541	342	5360	223	132	343	160	208	214	613	109	666	374	0	1122	0	0	0	0	0	0	9915	60925	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Reduceded Nitrogen in 1996. Unit: 100 tonnes(N)

Transboundry Import-Export Budgets for 1996

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	312	87	308	87	19	61	69	95	91	96	16	53	139	55	56	33	13	80
AT	241	80	910	94	12	74	487	91	469	91	15	67	317	44	401	50	7	96
BE	1051	88	364	71	32	76	977	96	237	86	32	73	472	59	176	35	22	94
BG	5932	84	689	37	19	60	710	90	208	73	16	56	362	53	237	42	8	77
DK	844	91	286	77	46	78	850	97	185	87	38	72	480	59	106	24	35	96
FI	363	76	864	88	21	73	680	86	464	81	17	67	112	44	246	63	13	90
FR	3803	74	2624	66	31	72	4081	82	1715	65	29	68	2176	40	864	21	22	93
DE*	6669	72	3198	55	22	77	4655	82	1683	63	26	74	2088	39	1035	24	16	97
GR	2466	89	890	74	33	57	1012	93	197	72	25	51	356	55	158	36	17	75
HU	2679	80	1008	60	9	73	516	90	374	86	11	68	496	51	292	38	5	87
IS	105	88	83	85	48	53	65	93	69	93	37	47	13	51	29	71	28	81
IE	607	85	254	70	65	79	329	94	171	89	52	72	488	46	83	13	39	103
IT	5676	79	2622	63	28	63	5590	85	665	41	25	59	1385	43	464	20	17	85
LU	38	95	33	94	20	70	60	98	23	96	25	69	43	65	17	43	14	93
NL	598	88	480	85	42	76	1486	97	251	83	37	72	728	59	173	25	24	95
NO	137	78	738	95	41	77	585	87	488	84	33	70	87	42	245	67	27	98
PL	8152	70	2972	46	16	76	2848	84	1105	66	19	72	1326	42	849	32	12	93
PT	1179	87	202	53	18	36	715	92	129	69	14	33	429	57	64	16	12	65
RO	3309	73	1770	59	8	64	805	83	488	75	8	59	809	44	561	36	5	84
ES	8097	79	715	24	30	57	3129	84	502	45	23	51	1321	47	267	15	14	76
SE	369	79	1121	92	34	74	975	88	737	85	27	66	242	48	366	58	24	92
CH	112	75	333	90	15	83	361	91	236	87	19	74	257	44	184	36	8	102
TR	1288	73	2736	85	25	61	1666	79	737	63	20	53	1044	31	865	27	11	88
GB	8015	79	896	30	59	82	5828	90	601	47	52	78	1236	47	353	20	39	100
BY	1041	76	1434	81	9	74	522	88	551	89	12	71	770	43	640	38	6	96
UA	4376	68	3306	61	9	69	1123	79	1172	80	11	67	2207	37	1210	24	7	92
MD	265	90	245	89	10	65	73	96	66	96	11	62	227	59	129	45	6	88
RU	7536	57	9638	63	8	59	3332	61	3644	63	6	56	1731	27	3490	43	3	84
EE	514	88	295	81	16	76	128	96	164	96	16	69	131	55	113	51	17	93
LV	163	86	438	94	19	75	84	95	207	98	17	70	78	56	182	75	13	94
LT	444	83	503	85	17	74	192	94	218	95	17	70	188	52	207	54	12	95
SI	463	84	208	71	11	64	203	95	111	92	14	57	101	56	76	49	8	88
HR	251	87	614	94	22	66	159	94	238	96	17	60	138	56	158	59	11	84
BA	1961	82	410	48	16	69	226	93	178	91	17	62	134	53	119	50	10	84
YU*	1694	78	1089	70	9	62	153	88	304	94	11	58	352	48	232	37	6	83
FYM	467	88	228	78	11	59	115	97	60	94	13	56	79	56	67	52	6	78
CS*	4609	84	1177	58	17	78	1155	92	460	82	19	74	345	49	372	51	9	94
SK	952	84	815	82	10	75	372	94	249	91	12	71	225	55	216	54	6	91
CY	209	91	16	43	8	32	63	98	13	93	11	36	0	0	11	100	0	100
REM	14009	92	3795	75	39	62	902	81	1732	89	9	49	608	43	1329	62	7	80
BAS	251	70	2745	96	42	76	214	88	1339	98	28	68	0	0	947	100	0	100
NOS	1381	63	7043	90	54	79	1616	83	3620	92	44	71	0	0	2260	100	0	100
ATL	3098	67	13995	90	35	40	2924	74	8301	89	29	36	0	0	4110	100	0	100
MED	57	95	16692	100	5	10	38	95	5278	100	5	13	0	0	2837	100	0	100
BLS	0	0	2553	100	0	100	0	0	729	100	0	100	0	0	990	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

```
********* receiver-emitter matrix *********
          ( provisional )

oxidized nitrogen, tot dep.
averaging period: 1997  1  1 12 -  1998  1  1  6
unit =  100. tonnes
```

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	3	1	0	2	0	0	3	2	9	1	0	0	28	0	0	0	1	0	1	1	0	0	1	AL
	AT	0	41	6	1	2	0	31	103	0	6	0	0	97	1	6	1	15	0	2	2	1	17	0	AT
	BE	0	1	41	0	1	0	59	44	0	0	0	1	4	1	25	0	2	0	0	4	0	1	0	BE
	BG	2	2	1	71	1	0	2	9	18	7	0	0	14	0	1	0	20	0	38	0	1	0	6	BG
	DK	0	1	8	0	28	1	14	40	0	0	0	1	2	0	15	3	11	0	0	1	7	0	0	DK
	FI	0	1	4	0	16	94	9	24	0	1	0	1	1	0	8	23	17	0	0	2	51	0	0	FI
	FR	0	7	81	0	4	0	929	213	0	3	0	7	156	7	52	1	11	15	1	229	2	33	0	FR
	DE*	0	24	134	0	36	1	300	993	0	4	0	5	103	11	176	7	85	2	2	16	14	43	0	DE*
	GR	4	1	0	28	0	0	3	3	62	3	0	0	29	0	0	0	7	0	8	2	0	0	19	GR
	HU	0	23	3	3	1	0	13	40	2	50	0	0	49	0	3	0	61	0	11	1	1	4	1	HU
	IS	0	0	0	0	1	0	1	2	0	0	6	1	0	0	1	1	1	0	0	0	1	0	0	IS
R	IE	0	0	4	0	1	0	15	11	0	0	0	24	1	0	6	0	0	1	0	3	0	0	0	IE
e	IT	1	20	5	3	1	0	117	59	7	7	0	0	800	0	5	0	17	2	3	33	1	35	2	IT
c	LU	0	0	2	0	0	0	7	5	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	LU
e	NL	0	1	26	0	2	0	33	61	0	0	0	1	2	1	55	1	4	0	0	2	1	1	0	NL
i	NO	0	0	7	0	25	9	15	30	0	0	1	3	0	0	14	86	14	0	0	2	36	0	0	NO
v	PL	0	18	21	3	37	6	59	298	1	23	0	1	45	1	35	11	521	1	9	5	29	8	0	PL
e	PT	0	0	0	0	0	0	4	1	0	0	0	0	1	0	0	0	0	64	0	55	0	0	0	PT
r	RO	2	9	3	37	3	1	11	39	10	38	0	0	51	0	4	1	86	0	152	1	3	3	5	RO
s	ES	0	1	4	0	0	0	79	17	0	1	0	1	25	0	4	0	2	76	0	674	0	2	0	ES
	SE	0	2	13	0	65	38	27	87	0	1	0	2	5	0	25	62	49	0	0	3	122	2	0	SE
	CH	0	2	3	0	0	0	52	24	0	0	0	0	63	0	3	0	1	1	0	5	0	34	0	CH
	TR	1	2	1	33	1	1	2	8	41	4	0	0	16	0	1	0	16	0	19	2	1	0	455	TR
	GB	0	1	28	0	6	0	95	71	0	0	0	26	5	1	48	3	5	2	0	15	3	2	0	GB
	BY	0	4	8	2	17	10	21	83	1	8	0	1	16	1	13	6	141	0	9	2	17	2	1	BY
	UA	1	14	10	32	17	10	27	119	11	41	0	1	48	1	14	6	273	0	86	2	16	5	25	UA
	MD	0	1	0	3	1	0	1	4	1	2	0	0	2	0	0	0	10	0	10	0	1	0	2	MD
	RU	1	14	25	24	68	191	57	226	9	26	0	2	45	1	45	50	363	0	49	3	112	5	74	RU
	EE	0	0	3	0	7	11	6	16	0	1	0	0	2	0	5	4	12	0	1	1	11	1	0	EE
	LV	0	1	6	0	9	7	10	28	0	1	0	0	6	0	6	4	25	0	1	1	13	1	0	LV
	LT	0	1	5	1	9	4	9	32	0	2	0	0	6	0	6	3	39	0	1	0	11	1	0	LT
	SI	0	8	0	0	0	0	5	10	0	2	0	0	42	0	1	0	3	0	1	1	0	2	0	SI
	HR	0	12	1	1	1	0	11	20	1	9	0	0	80	0	1	0	13	0	2	3	0	3	0	HR
	BA	0	8	1	2	1	0	11	16	2	8	0	0	75	0	1	0	11	0	3	2	0	2	0	BA
	YU*	2	7	2	9	1	0	8	19	6	19	0	0	52	0	2	0	28	0	16	2	1	1	2	YU*
	FYM	2	0	0	5	0	0	1	1	9	1	0	0	9	0	0	0	2	0	2	0	0	0	1	FYM
	CS*	0	16	10	0	6	0	29	148	0	6	0	0	30	1	13	1	52	0	2	2	4	8	0	CS*
	SK	0	12	2	1	1	0	9	26	1	20	0	0	21	0	2	0	59	0	4	1	1	2	0	SK
	CY	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	5	CY
	REM	1	4	1	14	3	3	38	15	34	5	0	0	111	0	1	1	26	3	11	49	3	5	91	REM
	BAS	0	5	30	0	95	53	55	207	0	4	0	3	17	1	52	36	118	1	2	7	118	3	0	BAS
	NOS	0	7	127	0	88	5	300	413	0	3	1	43	22	4	256	41	82	4	2	35	37	9	0	NOS
	ATL	0	10	121	0	71	48	577	480	0	5	29	140	32	6	199	116	88	119	2	405	64	15	0	ATL
	MED	14	44	16	94	6	1	408	123	265	37	0	1	1485	1	14	2	100	22	48	424	6	49	288	MED
	BLS	2	5	2	71	7	3	6	28	28	13	0	0	26	0	3	2	62	0	63	1	6	2	160	BLS
	SUM	38	332	765	445	638	498	3466	4204	519	361	38	271	3624	44	1124	476	2451	316	559	2001	699	303	1140	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	1	0	0	0	0	0	0	0	0	1	2	2	3	1	1	0	0	0	0	0	0	0	0	17	82	AL
	AT	11	0	1	0	0	0	0	0	12	3	1	1	0	28	4	0	0	0	5	1	0	0	0	72	474	AT
	BE	51	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	18	4	0	0	0	19	280	BE
	BG	1	1	9	1	3	0	0	0	1	1	3	6	5	6	4	0	0	0	1	0	0	0	0	53	289	BG
	DK	43	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	20	3	0	0	0	20	225	DK
	FI	35	6	1	0	30	8	3	3	0	0	0	0	0	3	1	0	0	9	15	5	0	0	0	111	482	FI
	FR	195	0	0	0	0	0	0	0	3	1	1	0	0	14	2	0	2	1	84	80	0	0	0	315	2452	FR
	DE*	233	3	0	0	3	0	0	2	5	1	0	0	0	106	4	0	0	6	98	17	0	0	0	234	2672	DE*
	GR	1	0	4	0	2	0	0	0	0	1	2	3	4	3	1	0	1	0	0	0	0	0	0	60	254	GR
	HU	4	1	3	0	1	0	0	0	6	8	6	4	1	28	26	0	0	0	2	0	0	0	0	56	417	HU
	IS	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	32	65	IS
R	IE	82	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	13	20	0	0	0	23	206	IE
e	IT	9	0	1	0	0	0	0	0	11	8	10	2	2	12	4	0	3	0	4	3	0	0	0	176	1367	IT
c	LU	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	23	LU
e	NL	69	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	26	4	0	0	0	18	313	NL
i	NO	98	1	0	0	5	1	1	1	0	0	0	0	0	2	0	0	0	5	38	14	0	0	0	129	537	NO
v	PL	72	22	12	0	22	2	2	9	4	2	2	2	1	125	25	0	0	11	32	5	0	0	0	204	1687	PL
e	PT	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	45	200	PT
r	RO	5	5	32	4	9	0	0	1	3	4	8	11	5	23	23	0	0	1	3	0	0	0	0	130	726	RO
s	ES	10	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	2	0	5	55	2	0	0	182	1149	ES
	SE	90	4	1	0	17	5	3	4	0	0	0	0	0	10	2	0	0	15	46	11	0	0	0	146	860	SE
	CH	5	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	1	0	0	0	29	228	CH
	TR	1	3	22	2	22	0	0	1	0	1	2	3	2	6	2	10	19	0	1	0	0	0	0	526	1229	TR
	GB	784	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	96	53	0	0	0	86	1336	GB
	BY	31	71	28	1	51	3	5	15	1	1	1	1	0	26	8	0	0	5	13	2	0	0	0	123	748	BY
	UA	30	53	288	13	138	2	3	10	4	4	5	6	3	61	35	0	5	5	13	2	0	0	0	351	1790	UA
	MD	1	1	10	3	2	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	15	75	MD
	RU	99	158	311	7	2031	39	23	45	3	3	3	4	2	70	24	0	124	30	49	15	0	0	0	2161	6595	RU
	EE	11	4	1	0	8	5	2	3	0	0	0	0	0	3	1	0	0	4	6	1	0	0	0	28	158	EE
	LV	14	7	2	0	10	3	4	7	0	0	0	0	0	5	1	0	0	4	7	1	0	0	0	37	223	LV
	LT	19	9	2	0	9	1	2	11	1	0	0	0	0	7	1	0	0	3	6	1	0	0	0	37	243	LT
	SI	1	0	0	0	0	0	0	0	9	2	1	0	0	3	1	0	0	0	0	0	0	0	0	15	109	SI
	HR	2	0	1	0	0	0	0	0	6	9	9	2	1	10	4	0	0	0	1	0	0	0	0	37	244	HR
	BA	3	0	1	0	0	0	0	0	3	7	16	3	1	9	4	0	0	0	1	0	0	0	0	41	234	BA
	YU*	2	0	2	0	1	0	0	0	2	5	13	17	9	14	9	0	0	0	1	0	0	0	0	60	314	YU*
	FYM	0	0	0	0	0	0	0	0	0	0	1	2	5	1	1	0	0	0	0	0	0	0	0	12	55	FYM
	CS*	17	1	1	0	1	0	0	0	3	1	1	0	0	98	6	0	0	1	8	1	0	0	0	64	535	CS*
	SK	3	1	2	0	1	0	0	0	3	2	1	1	0	25	21	0	0	0	2	0	0	0	0	32	258	SK
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	14	CY
	REM	5	10	53	1	210	1	1	2	2	2	3	2	2	8	3	4	236	1	2	5	0	0	0	1192	2164	REM
	BAS	127	12	3	0	33	10	6	11	1	1	1	0	0	27	4	0	0	30	64	10	0	0	0	178	1322	BAS
	NOS	1508	3	2	0	10	1	1	2	1	0	0	0	0	48	3	0	0	11	359	108	0	0	0	329	3865	NOS
	ATL	1434	10	4	0	74	4	2	4	2	0	0	0	0	57	5	0	0	12	330	1024	0	0	0	2529	8019	ATL
	MED	43	4	25	3	11	0	0	1	20	25	46	19	17	52	20	7	54	2	15	27	2	0	0	1196	5039	MED
	BLS	4	12	115	8	96	1	1	3	1	2	5	5	3	15	8	1	14	2	2	0	0	0	0	257	1045	BLS
	SUM	5168	403	938	47	2806	88	60	138	109	98	148	98	65	926	259	24	464	165	1393	1502	5	0	0	11386	50601	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Nitrogen in 1997. Unit: 100 tonnes(N)

********* receiver-emitter matrix *********
(provisional)

oxidized sulphur, tot dep.
averaging period: 1997 1 1 12 - 1998 1 1 6
unit = 100. tonnes

Emitters

		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	
	AL	40	0	0	16	0	0	2	2	33	5	0	0	24	0	0	0	4	0	4	2	0	0	0	AL
	AT	0	57	4	3	2	0	20	125	0	38	0	0	97	0	2	0	49	0	7	5	0	6	0	AT
	BE	0	0	153	0	1	0	105	63	0	1	0	1	3	1	19	0	4	0	0	9	0	0	0	BE
	BG	8	1	0	1051	1	0	1	15	31	33	0	0	11	0	0	0	48	0	180	1	0	0	5	BG
	DK	0	0	8	0	90	0	13	52	0	2	0	1	1	0	5	1	35	0	0	2	3	0	0	DK
	FI	0	0	2	0	8	106	4	22	0	2	0	0	1	0	1	4	35	0	1	3	19	0	0	FI
	FR	0	4	108	1	3	0	1362	194	0	10	0	8	151	6	25	0	28	10	2	511	0	14	0	FR
	DE*	0	16	158	2	42	0	319	2411	0	20	0	5	85	8	72	2	300	1	5	38	4	17	0	DE*
	GR	20	0	0	322	0	0	1	7	264	12	0	0	25	0	0	0	16	0	30	3	0	0	17	GR
	HU	2	14	1	14	1	0	7	57	3	611	0	0	38	0	1	0	164	0	57	2	0	1	1	HU
	IS	0	0	0	0	0	0	0	1	0	0	18	1	0	0	0	0	1	0	0	1	0	0	0	IS
R	IE	0	0	4	0	0	0	11	8	0	0	0	117	0	0	2	0	1	0	0	6	0	0	0	IE
e	IT	5	11	4	18	1	0	84	45	11	35	0	0	1303	0	1	0	46	2	10	57	0	15	1	IT
c	LU	0	0	3	0	0	0	12	5	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	LU
e	NL	0	0	58	0	2	0	53	104	0	1	0	1	2	0	88	0	13	0	0	5	0	0	0	NL
i	NO	0	0	5	0	18	3	9	26	0	1	0	3	0	0	3	38	27	0	1	3	13	0	0	NO
v	PL	1	10	18	20	38	2	45	952	2	123	0	1	30	1	9	2	3482	0	35	11	10	2	0	PL
e	PT	0	0	0	0	0	0	2	1	0	0	0	0	1	0	0	0	0	191	0	102	0	0	0	PT
r	RO	7	5	2	244	2	0	7	56	15	221	0	0	41	0	1	0	234	0	1201	1	1	1	4	RO
s	ES	0	0	3	0	0	0	65	12	0	2	0	1	20	0	1	0	4	89	0	2329	0	1	0	ES
	SE	0	1	10	0	84	17	19	94	0	5	0	2	3	0	6	17	108	0	1	6	100	0	0	SE
	CH	0	2	3	0	0	0	43	15	0	1	0	0	100	0	1	0	2	0	0	12	0	37	0	CH
	TR	4	1	0	312	0	0	1	13	86	16	0	0	12	0	0	0	31	0	67	3	0	0	512	TR
	GB	0	0	35	0	4	0	95	76	0	1	0	47	3	1	23	0	16	1	0	29	1	1	0	GB
	BY	0	2	4	16	10	5	12	120	2	37	0	1	14	0	2	1	438	0	34	3	5	1	1	BY
	UA	5	6	6	196	10	5	15	192	15	215	0	0	36	0	3	1	827	0	377	4	4	1	15	UA
	MD	0	0	0	21	0	0	1	7	1	9	0	0	2	0	0	0	30	0	56	0	0	0	1	MD
	RU	3	5	14	150	31	88	29	290	14	108	0	1	34	0	7	6	785	0	170	6	28	1	45	RU
	EE	0	0	2	0	4	10	3	17	0	2	0	0	1	0	1	1	25	0	2	1	4	0	0	EE
	LV	0	0	4	2	6	4	6	38	0	5	0	0	4	0	1	1	66	0	3	1	5	0	0	LV
	LT	0	1	3	4	7	2	6	55	0	7	0	0	5	0	1	1	126	0	4	1	4	0	0	LT
	SI	0	7	0	2	0	0	3	11	0	9	0	0	48	0	0	0	9	0	2	2	0	1	0	SI
	HR	1	6	1	7	1	0	6	26	2	55	0	0	77	0	0	0	35	0	9	5	0	1	0	HR
	BA	2	3	1	10	0	0	5	24	3	44	0	0	49	0	0	0	28	0	10	3	0	0	0	BA
	YU*	12	3	1	56	1	0	5	28	10	108	0	0	41	0	0	0	64	0	61	3	0	0	1	YU*
	FYM	11	0	0	43	0	0	0	2	23	5	0	0	7	0	0	0	5	0	7	0	0	0	1	FYM
	CS*	0	12	7	3	5	0	21	468	0	32	0	0	23	0	3	0	256	0	6	5	1	2	0	CS*
	SK	0	8	1	6	1	0	5	50	1	156	0	0	15	0	0	0	226	0	15	1	0	1	0	SK
	CY	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	CY
	REM	4	1	1	85	1	1	20	14	58	18	0	0	74	0	0	0	48	4	31	81	1	1	59	REM
	BAS	0	2	27	1	182	61	47	343	0	17	0	3	10	1	16	9	425	0	6	12	97	1	0	BAS
	NOS	0	3	184	1	116	2	401	599	0	11	1	58	15	2	177	21	231	2	4	75	14	2	0	NOS
	ATL	0	3	99	0	33	17	514	390	0	15	52	324	20	3	52	28	157	214	2	1641	18	4	0	ATL
	MED	78	22	12	918	4	1	408	157	871	197	0	1	1922	1	4	0	280	25	186	1109	2	16	305	MED
	BLS	9	2	1	887	4	2	3	41	52	65	0	0	19	0	1	0	156	0	319	1	2	0	155	BLS
	SUM	213	210	946	4414	717	329	3789	7229	1500	2251	71	581	4368	30	533	135	8864	543	2907	6093	338	129	1129	SUM
		AL	AT	BE	BG	DK	FI	FR	DE*	GR	HU	IS	IE	IT	LU	NL	NO	PL	PT	RO	ES	SE	CH	TR	

Emitters

		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	
	AL	0	0	1	0	0	0	0	0	0	1	22	16	15	3	1	0	54	0	0	0	0	0	1	60	307	AL
	AT	9	0	2	0	0	0	0	0	45	5	6	10	0	132	14	0	6	1	3	0	0	0	1	205	856	AT
	BE	62	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	24	2	0	0	2	41	507	BE
	BG	1	1	29	4	3	0	0	1	1	1	38	75	32	18	10	0	17	0	0	0	0	0	1	199	1818	BG
	DK	49	0	0	0	2	1	0	1	0	0	1	0	0	13	1	0	1	6	24	2	0	0	4	47	366	DK
	FI	20	9	4	0	226	32	4	6	0	0	1	0	0	10	1	0	0	11	6	2	0	0	5	335	879	FI
	FR	204	0	0	0	0	0	0	0	6	2	5	2	0	57	3	0	51	1	100	57	0	0	21	806	3755	FR
	DE*	252	3	2	0	5	0	0	2	9	1	3	5	0	710	10	0	8	11	96	9	0	0	11	568	5214	DE*
	GR	0	0	9	1	1	0	0	0	1	1	24	25	28	8	3	0	85	0	0	0	0	0	3	219	1130	GR
	HU	3	1	10	0	1	0	0	1	14	12	50	52	2	91	86	0	8	0	1	0	0	0	0	160	1469	HU
	IS	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0	0	13	50	96	IS
R	IE	109	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	10	15	0	0	11	46	344	IE
e	IT	7	0	3	0	0	0	0	0	35	14	65	23	5	37	10	0	1295	0	2	1	0	0	6	516	3666	IT
c	LU	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	5	33	LU
e	NL	97	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	41	3	0	0	3	38	532	NL
i	NO	87	1	0	0	62	2	1	2	0	0	0	1	0	6	1	0	0	4	33	12	0	0	20	373	755	NO
v	PL	70	27	35	1	42	3	4	25	8	3	15	19	2	653	80	0	4	16	24	2	0	0	5	575	6406	PL
e	PT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	27	0	0	4	68	398	PT
r	RO	4	6	137	17	13	1	1	2	7	6	83	160	15	70	57	0	38	1	1	0	0	0	1	491	3152	RO
s	ES	8	0	0	0	0	0	0	0	1	0	1	0	0	5	1	0	25	0	3	49	2	0	9	406	3040	ES
	SE	74	5	2	0	66	10	4	8	1	0	1	2	0	29	4	0	0	22	37	7	0	0	12	408	1165	SE
	CH	5	0	0	0	0	0	0	0	1	0	1	1	0	4	0	0	4	0	2	1	0	0	0	91	326	CH
	TR	1	4	64	5	18	1	0	1	0	1	20	23	7	14	5	21	118	0	0	0	0	0	6	2154	3522	TR
	GB	2269	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	2	1	124	45	0	0	29	191	3016	GB
	BY	20	326	82	4	83	10	10	48	3	1	6	8	1	82	18	0	4	5	6	1	0	0	2	428	1854	BY
	UA	24	114	1983	59	205	8	5	23	7	5	46	62	8	189	87	0	27	5	6	1	0	0	4	1284	6086	UA
	MD	1	2	45	29	3	0	0	1	0	0	4	5	1	8	3	0	1	0	0	0	0	0	0	62	294	MD
	RU	56	358	1188	21	5476	189	39	84	6	3	27	37	6	194	50	1	215	25	19	6	0	0	18	7109	16949	RU
	EE	6	5	2	0	22	65	7	6	0	0	1	1	0	8	1	0	2	7	3	0	0	0	1	85	295	EE
	LV	9	15	5	0	21	10	29	28	0	0	2	1	0	18	2	0	1	6	4	0	0	0	2	112	413	LV
	LT	16	17	6	0	25	3	8	97	1	0	2	2	0	28	3	0	1	5	4	0	0	0	1	115	560	LT
	SI	1	0	0	0	0	0	0	0	77	6	6	6	0	12	2	0	7	0	0	0	0	0	0	42	253	SI
	HR	2	0	2	0	0	0	0	0	18	36	87	24	1	32	11	0	23	0	1	0	0	0	0	107	580	HR
	BA	2	0	2	0	0	0	0	0	6	11	403	37	2	28	9	0	38	0	1	0	0	0	1	129	853	BA
	YU*	2	1	8	1	1	0	0	0	4	6	252	438	28	40	21	0	58	0	1	0	0	0	1	210	1466	YU*
	FYM	0	0	1	0	0	0	0	0	0	0	14	18	58	3	1	0	13	0	0	0	0	0	0	46	259	FYM
	CS*	14	1	2	0	1	0	0	1	5	1	3	4	0	889	25	0	1	1	6	1	0	0	1	159	1963	CS*
	SK	3	1	7	0	1	0	0	1	5	2	10	13	1	103	169	0	2	0	1	0	0	0	0	92	898	SK
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	0	0	0	24	40	CY
	REM	3	16	186	3	291	2	1	3	3	2	22	15	5	17	6	26	1327	1	1	3	0	0	15	3214	5663	REM
	BAS	122	18	7	0	101	53	21	31	2	1	4	3	0	101	10	0	1	116	60	5	0	0	21	556	2494	BAS
	NOS	3144	4	3	0	13	3	1	3	2	0	1	2	0	212	7	0	5	14	833	86	0	0	155	804	7214	NOS
	ATL	1647	12	6	0	628	8	2	5	2	0	1	1	0	167	8	0	5	8	244	1566	0	0	1561	4757	14216	ATL
	MED	37	5	78	7	11	1	0	2	51	60	479	194	68	180	55	21	5124	2	11	19	2	0	144	3543	16611	MED
	BLS	3	22	541	38	95	3	2	7	2	3	44	62	16	47	18	2	60	2	1	0	0	0	19	1069	3773	BLS
	SUM	8451	977	4453	192	7425	407	139	388	325	186	1750	1345	305	4272	793	76	8634	270	1734	1926	6	0	2113	31998	125486	SUM
		GB	BY	UA	MD	RU	EE	LV	LT	SI	HR	BA	YU*	FYM	CS*	SK	CY	REM	BAS	NOS	ATL	MED	BLS	NAT	IND	SUM	

Deposition budget matrix for Oxidised Sulphur in 1997. Unit: 100 tonnes(S)

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              ********* receiver-emitter matrix *********
                        ( provisional )

              reduced nitrogen,  tot dep.
              averaging period: 1997  1  1 12 -  1998  1  1  6
              unit =  100. tonnes

                                                                      Emitters

          AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR
    AL   105     0     0     1     0     0     1     0     5     1     0     0     6     0     0     0     0     0     1     0     0     0     0  AL
    AT     0   387     2     0     1     0    11   147     0    15     0     0    47     0     3     0     8     0     2     1     0    23     0  AT
    BE     0     0   337     0     0     0    68    27     0     0     0     1     1     3    42     0     0     0     0     1     0     1     0  BE
    BG     5     1     0   322     0     0     0     3    15     6     0     0     2     0     0     0     6     0    63     0     0     0     5  BG
    DK     0     1     3     0   356     0     6    45     0     1     0     1     0     0     9     1     9     0     0     0     5     0     0  DK
    FI     0     0     1     0     6   140     3    10     0     0     0     0     0     0     2     3    10     0     0     1    11     0     0  FI
    FR     0     4    78     0     1     0  3410   101     0     1     0    10    61    10    28     0     3     5     0   123     0    44     0  FR
   DE*     0    38    85     0    34     0   168  3287     0     4     0     5    28    13   214     1    56     1     1     5     5    64     0  DE*
    GR    13     0     0    16     0     0     0     1   268     2     0     0     4     0     0     0     2     0     7     0     0     0    11  GR
    HU     0    26     0     2     0     0     3    18     0   437     0     0    13     0     1     0    25     0    22     0     0     2     0  HU
    IS     0     0     0     0     0     0     0     0     0     0    13     1     0     0     0     0     0     0     0     0     0     0     0  IS
R   IE     0     0     2     0     0     0    10     4     0     0     0   581     0     0     2     0     0     0     0     1     0     0     0  IE
e   IT     2    18     1     1     0     0    40    48     2     7     0     0  1627     0     1     0     6     1     2    12     0    61     0  IT
c   LU     0     0     3     0     0     0     7     3     0     0     0     0     0    24     1     0     0     0     0     0     0     0     0  LU
e   NL     0     1    38     0     1     0    25    70     0     0     0     1     0     0   526     0     1     0     0     1     0     1     0  NL
i   NO     0     0     2     0    15     2     5    14     0     0     0     3     0     0     4   121     9     0     0     1    12     0     0  NO
v   PL     0    15     5     2    24     1    17   172     1    20     0     1     9     0    14     1  1772     0    10     2    12     4     0  PL
e   PT     0     0     0     0     0     0     2     0     0     0     0     0     0     0     0     0     0   345     0    51     0     0     0  PT
r   RO     3     6     1    38     1     0     2    14     4    62     0     0    11     0     1     0    34     0  1006     0     1     1     3  RO
s   ES     0     0     1     0     0     0    64     5     0     0     0     1     6     0     1     0     1    74     0  1554     0     1     0  ES
    SE     0     1     4     0    48     8     9    48     0     1     0     1     1     0     9    17    30     0     1     1   260     1     0  SE
    CH     0     3     1     0     0     0    44    36     0     0     0     0    39     0     1     0     0     0     0     2     0   318     0  CH
    TR     2     1     0    18     0     0     0     3    13     3     0     0     3     0     0     0     5     0    19     1     0     0  2377  TR
    GB     0     0    18     0     3     0    79    33     0     0     0    85     1     1    22     0     2     0     0     4     1     1     0  GB
    BY     0     3     2     1     6     2     7    36     1     7     0     1     5     0     5     1   114     0    10     1     4     1     0  BY
    UA     2     9     3    17     6     1     9    49     4    41     0     1    11     0     6     1   173     0   139     1     4     2    12  UA
    MD     0     0     0     2     0     0     0     1     0     1     0     0     0     0     0     0     5     0    25     0     0     0     1  MD
    RU     1    11     8    13    21    37    21    98     4    22     0     2    13     1    16     5   194     0    58     1    20     3    82  RU
    EE     0     0     1     0     2     3     3     7     0     0     0     0     0     0     2     1     8     0     1     0     3     0     0  EE
    LV     0     1     2     0     3     1     3    12     0     1     0     0     1     0     3     1    17     0     1     0     4     1     0  LV
    LT     0     1     2     0     4     1     3    14     0     1     0     0     2     0     3     0    38     0     1     0     4     0     0  LT
    SI     0    15     0     0     0     0     1     8     0     3     0     0    18     0     0     0     1     0     1     0     0     1     0  SI
    HR     0    12     0     1     0     0     2     9     0    19     0     0    28     0     0     0     5     0     2     1     0     1     0  HR
    BA     1     6     0     1     0     0     2     6     1    12     0     0    21     0     0     0     4     0     2     1     0     1     0  BA
   YU*     8     4     0     9     0     0     1     7     2    30     0     0    11     0     0     0     9     0    17     1     0     1     0  YU*
   FYM     9     0     0     4     0     0     0     0     8     1     0     0     2     0     0     0     0     0     2     0     0     0     0  FYM
   CS*     0    39     3     0     4     0    10   140     0     7     0     0     8     0     5     0    42     0     1     1     1     6     0  CS*
    SK     0    14     0     1     0     0     3    12     0    30     0     0     6     0     1     0    37     0     5     0     0     1     0  SK
    CY     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     4  CY
   REM     2     2     0     5     1     0    11     4     7     4     0     0    21     0     0     0     9     1     9    14     1     2   173  REM
   BAS     0     4    11     0   106    19    21   170     0     4     0     2     4     1    24     6   118     0     2     2    77     2     0  BAS
   NOS     0     5    99     0   107     1   342   296     0     2     0    55     4     2   176    16    44     1     1    10    14     4     0  NOS
   ATL     0     5    50     0    21     7   572   170     0     2     8   340     6     4    66    29    34    98     1   182     9     8     0  ATL
   MED    37    24     4    42     2     0   175    38   108    35     0     1   505     0     3     0    35     7    41   197     1    29   171  MED
   BLS     3     3     0    40     2     0     2    12    11    12     0     0     6     0     1     0    24     0    89     0     1     1   207  BLS
   SUM   194   661   771   537   780   223  5161  5183   457   797    22  1094  2533    63  1193   206  2889   535  1540  2175   453   589  3048  SUM
          AL    AT    BE    BG    DK    FI    FR   DE*    GR    HU    IS    IE    IT    LU    NL    NO    PL    PT    RO    ES    SE    CH    TR


                                                                      Emitters

          GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK    CY   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
    AL     0     0     0     0     0     0     0     0     0     0     1     7     3     0     0     0     0     0     0     0     0     0     0    19   152  AL
    AT     1     0     2     0     0     0     0     0    20     2     1     2     0    25     8     0     0     0     0     0     0     0     0    69   777  AT
    BE    11     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    15   510  BE
    BG     0     1    22     4     2     0     0     0     0     1     2    26     6     1     2     0     0     0     0     0     0     0     0    62   560  BG
    DK     7     0     1     0     0     0     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     0    15   464  DK
    FI     5    10     4     0    19    11     2     3     0     0     0     0     0     1     0     0     0     0     0     0     0     0     0   103   347  FI
    FR    44     0     0     0     0     0     0     0     1     1     0     0     0     3     1     0     1     0     0     0     0     0     0   264  4197  FR
   DE*    38     3     2     0     2     0     0     1     2     1     0     1     0    40     3     0     0     0     0     0     0     0     0   194  4295  DE*
    GR     0     0     6     1     1     0     0     0     0     0     1     8     8     1     1     0     0     0     0     0     0     0     0    63   417  GR
    HU     0     1    11     1     0     0     0     0     6    10     4    14     0    13    31     0     0     0     0     0     0     0     0    51   695  HU
    IS     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    20    38  IS
R   IE    38     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    13   651  IE
e   IT     1     0     2     0     0     0     0     0     7     7     5     6     1     3     2     0     2     0     0     0     0     0     0   154  2021  IT
c   LU     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2    40  LU
e   NL    15     0     0     0     0     0     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     0    13   695  NL
i   NO    17     1     1     0     3     1     0     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0   125   339  NO
v   PL    10    53    56     1    17     2     3    15     2     2     1     4     0    58    25     0     0     0     0     0     0     0     0   191  2520  PL
e   PT     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    20   419  PT
r   RO     1     7   138    32     6     0     0     1     1     4     5    32     2     7    13     0     0     0     0     0     0     0     0   166  1604  RO
s   ES     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     2     0     0     0     0     0     0   100  1813  ES
    SE    11     5     3     0     8     4     2     4     0     0     0     1     0     3     1     0     0     0     0     0     0     0     0   124   606  SE
    CH     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0    30   477  CH
    TR     0     4    43     4    15     0     0     0     0     1     1     6     1     2     1     0    30     0     0     0     0     0     0   711  3267  TR
    GB  1464     0     0     0     0     0     0     0     0     0     0     0     0     1     0     0     0     0     0     0     0     0     0    57  1774  GB
    BY     5  1051   126     4    43     5     9    35     1     1     0     2     0     8     5     0     0     0     0     0     0     0     0   150  1650  BY
    UA     5   172  3840    77   133     3     2    11     2     3     3    14     1    19    23     0     3     0     0     0     0     0     0   438  5238  UA
    MD     0     2    68   158     2     0     0     0     0     0     0     1     0     1     1     0     0     0     0     0     0     0     0    20   291  MD
    RU    13   279   643    18  4673    39    22    43     1     2     2    10     1    22    14     0   128     0     0     0     0     0     0  2362  8914  RU
    EE     1     5     2     0     6   107     6     4     0     0     0     0     0     1     0     0     0     0     0     0     0     0     0    27   195  EE
    LV     2    20     4     0    10    12    64    22     0     0     0     1     0     2     1     0     0     0     0     0     0     0     0    34   224  LV
    LT     3    34     6     0     9     2     7   177     0     0     0     0     0     2     1     0     0     0     0     0     0     0     0    36   354  LT
    SI     0     0     0     0     0     0     0     0    76     4     1     1     0     1     1     0     0     0     0     0     0     0     0    13   147  SI
    HR     0     0     1     0     0     0     0     0     8   105    13     5     0     4     4     0     0     0     0     0     0     0     0    32   255  HR
    BA     0     0     2     0     0     0     0     0     3    17   119    13     0     3     3     0     0     0     0     0     0     0     0    43   262  BA
   YU*     0     0     6     1     0     0     0     0     1     6    15   368     7     4     6     0     0     0     0     0     0     0     0    66   583  YU*
   FYM     0     0     1     0     0     0     0     0     0     0     1    11    57     0     0     0     0     0     0     0     0     0     0    14   113  FYM
   CS*     2     1     2     0     0     0     0     0     2     1     0     1     0   348     9     0     0     0     0     0     0     0     0    53   687  CS*
    SK     0     1    12     0     0     0     0     0     2     1     1     3     0    15   175     0     0     0     0     0     0     0     0    30   352  SK
    CY     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     7    11  CY
   REM     0    10    65     2   224     0     0     1     1     1     2     5     1     2     2     0   800     0     0     0     0     0     0   985  2368  REM
   BAS    18    18     8     0    20    26    11    17     1     1     0     1     0     9     3     0     0     0     0     0     0     0     0   160   862  BAS
   NOS   498     3     3     0     3     1     1     1     1     0     0     0     0    14     2     0     0     0     0     0     0     0     0   238  1946  NOS
   ATL   432     9     5     0    29     2     1     2     0     0     0     0     0    13     2     0     0     0     0     0     0     0     0  1522  3632  ATL
   MED     4     4    45     5     6     0     0     1    11    28    30    51    10    14    12     0    60     0     0     0     0     0     0   994  2729  MED
   BLS     0    18   401    32    89     1     1     2     1     2     3    13     2     5     4     0    17     0     0     0     0     0     0   318  1324  BLS
   SUM  2655  1715  5530   342  5326   219   133   344   150   203   215   605   104   647   355     0  1047     0     0     0     0     0     0 10122 60815  SUM
          GB    BY    UA    MD    RU    EE    LV    LT    SI    HR    BA   YU*   FYM   CS*    SK    CY   REM   BAS   NOS   ATL   MED   BLS   NAT   IND   SUM
```

Deposition budget matrix for Reduceed Nitrogen in 1997. Unit: 100 tonnes(N

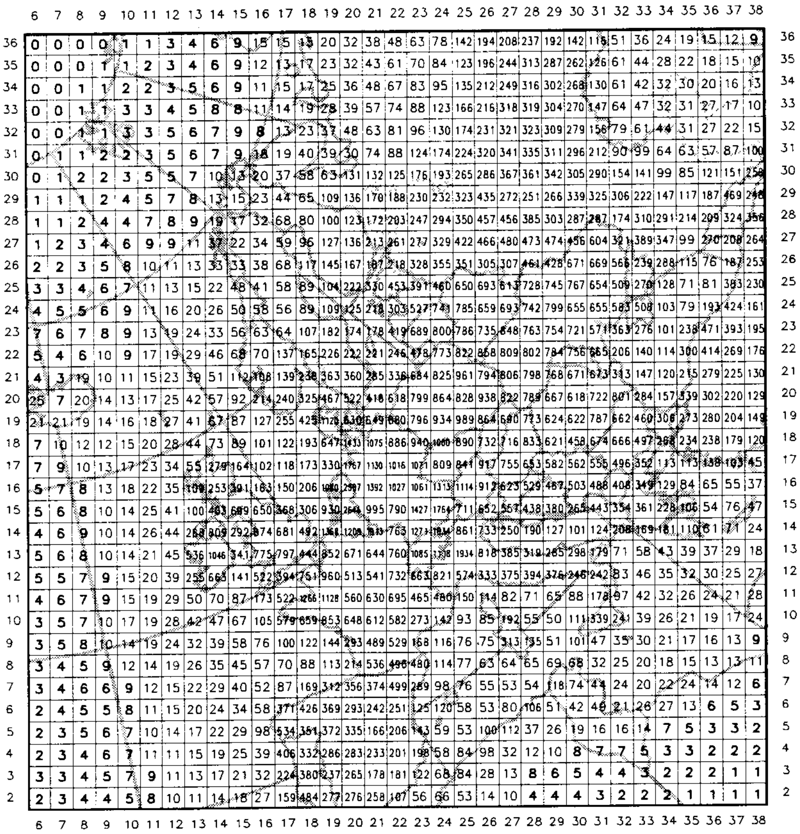
Transboundary Import-Export Budgets for 1997

Provisional

	Oxidised Sulphur						Oxidised Nitrogen						Reduced Nitrogen					
	Export		Import		to sea	in area	Export		Import		to sea	in area	Export		Import		to sea	in area
	mass	%	mass	%	%	%	mass	%	mass	%	%	%	mass	%	mass	%	%	%
AL	320	89	267	87	25	59	70	96	79	96	22	52	150	59	47	31	16	76
AT	243	81	799	93	11	70	492	92	433	91	13	62	329	46	390	50	6	92
BE	1047	87	354	70	31	79	976	96	239	85	29	75	462	58	173	34	21	97
BG	6049	85	767	42	26	62	717	91	218	75	21	56	362	53	238	43	12	79
DK	840	90	276	75	39	77	849	97	197	88	30	73	459	56	108	23	29	96
FI	374	78	773	88	18	69	694	88	388	80	14	63	115	45	207	60	11	87
FR	3793	74	2393	64	30	74	4065	81	1523	62	27	69	2091	38	787	19	20	94
DE*	6844	74	2803	54	18	78	4662	82	1679	63	22	74	2074	39	1008	23	13	97
GR	2516	91	866	77	34	54	1025	94	192	76	27	48	374	58	149	36	19	71
HU	2739	82	858	58	9	67	525	91	367	88	11	63	527	55	258	37	6	83
IS	102	85	78	81	53	59	64	91	59	91	43	54	12	47	25	66	32	89
IE	598	84	227	66	65	81	326	93	182	88	53	77	473	45	70	11	38	104
IT	5882	82	2363	64	28	61	5765	88	567	41	24	55	1577	49	394	19	16	79
LU	38	95	31	94	18	75	60	98	22	96	20	72	42	64	16	40	11	96
NL	592	87	444	83	42	78	1482	96	258	82	34	73	709	57	169	24	22	97
NO	137	78	717	95	38	77	590	87	451	84	29	70	85	41	218	64	25	100
PL	8203	70	2924	46	11	76	2888	85	1166	69	13	72	1357	43	748	30	8	92
PT	1169	86	207	52	21	40	709	92	136	68	19	41	413	54	74	18	14	71
RO	3359	74	1951	62	12	64	819	84	574	79	12	58	814	45	598	37	7	85
ES	7976	77	711	23	31	59	3060	82	475	41	23	54	1287	45	259	14	14	77
SE	370	79	1065	91	30	72	980	89	738	86	21	63	242	48	346	57	20	90
CH	113	75	289	89	15	86	362	91	194	85	20	77	267	46	159	33	8	101
TR	1258	71	3010	85	26	64	1651	78	774	63	21	54	1041	30	890	27	11	89
GB	7871	78	747	25	56	83	5717	88	552	41	48	79	1171	44	310	17	36	101
BY	1049	76	1528	82	5	71	522	88	677	91	7	68	753	42	599	36	3	95
UA	4482	69	4103	67	10	69	1133	80	1502	84	10	66	2164	36	1398	27	8	92
MD	266	90	265	90	15	65	73	96	72	96	14	62	229	59	133	46	10	88
RU	7699	58	11473	68	8	56	3441	63	4564	69	4	51	1685	26	4241	48	2	84
EE	520	89	230	78	12	70	129	96	153	97	12	66	132	55	88	45	13	92
LV	161	85	384	93	14	73	84	95	219	98	11	68	76	54	160	71	10	95
LT	438	82	463	83	9	73	193	95	232	95	10	68	185	51	177	50	6	95
SI	472	86	176	70	11	59	204	96	100	92	12	51	105	58	71	48	8	83
HR	254	88	544	94	22	64	161	95	235	96	16	57	142	58	150	59	13	82
BA	1997	83	450	53	23	73	227	93	218	93	21	61	136	53	143	55	13	84
YU*	1732	80	1028	70	12	62	156	90	297	95	14	56	373	50	215	37	9	82
FYM	472	89	201	78	16	58	114	96	50	91	17	55	83	59	56	50	9	74
CS*	4566	84	1074	55	14	78	1156	92	437	82	16	74	360	51	339	49	8	91
SK	966	85	729	81	9	70	375	95	237	92	10	65	237	58	177	50	6	86
CY	209	91	19	48	10	33	63	98	13	93	13	38	0	0	11	100	0	100
REM	13918	91	4336	77	35	57	872	79	1928	89	6	42	608	43	1568	66	5	74
BAS	244	68	2378	95	39	75	213	88	1292	98	23	68	0	0	862	100	0	100
NOS	1364	62	6381	88	52	79	1585	82	3506	91	40	72	0	0	1946	100	0	100
ATL	3091	66	12650	89	36	41	2920	74	6995	87	30	38	0	0	3632	100	0	100
MED	58	97	16609	100	3	10	38	95	5037	100	5	13	0	0	2729	100	0	100
BLS	0	0	3773	100	0	100	0	0	1045	100	0	100	0	0	1324	100	0	100

Mass in 100 tonnes of Sulphur/Nitrogen, Export is % of emission, Import is % of deposition, % of emissions deposited to sea, % of emissions retained in the model area.

Total Deposition of Reduced Nitrogen
Sum of attributable contributions



	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
36	0	0	0	0	1	1	3	4	6	9	15	15	15	20	32	38	48	63	78	142	194	208	237	192	142	116	51	36	24	19	15	12	9
35	0	0	0	1	1	2	3	4	6	9	12	13	17	23	32	43	61	70	84	123	196	244	313	287	262	126	61	44	28	22	18	15	10
34	0	0	1	1	2	2	3	5	6	9	11	15	17	25	36	48	67	83	95	135	212	249	316	302	268	130	61	42	32	30	20	16	13
33	0	0	1	1	3	3	4	5	8	8	11	14	19	28	39	57	74	88	123	166	216	318	319	304	270	147	64	47	32	31	27	17	10
32	0	0	1	1	3	3	5	6	7	9	8	13	23	37	48	63	81	96	130	174	231	321	323	309	279	156	79	61	44	31	27	22	15
31	0	1	1	2	2	3	5	6	7	9	18	19	40	39	30	74	88	124	174	224	320	341	335	311	296	212	90	99	64	63	57	87	100
30	0	1	2	2	3	5	5	7	10	13	20	37	58	63	131	132	125	176	193	265	286	367	361	342	305	290	154	141	99	85	121	151	258
29	1	1	1	2	4	5	7	8	13	15	23	44	65	109	136	170	188	230	232	323	435	272	251	266	339	325	306	222	147	117	187	469	248
28	1	1	2	4	4	7	8	9	19	17	32	68	80	100	123	172	203	247	294	350	457	456	385	303	287	287	174	310	291	214	209	324	356
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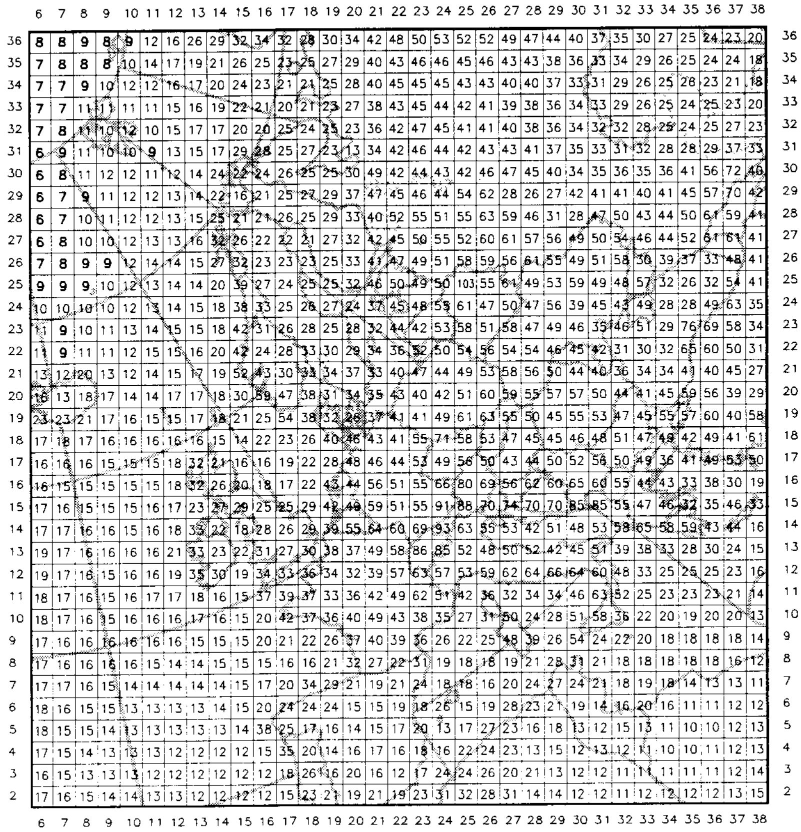
Annual average
between
1985 and 1996

Units: mg(N)/m2

Total Deposition of Reduced Nitrogen
Inattributable contributions



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Annual average
between
1985 and 1996

Units: mg(N)/m2