

CONTENTS

Acknowledgements

Forewords 3

Use of the seismic atlas of the Messinian markers in the Mediterranean and Black seas 4

1. Introduction 5

2. The Messinian salinity crisis event: main facts and uncertainties 5

3. Why studying the MSC in the offshore area? 6

4. Atlas design 7

 4.1. Messinian marker nomenclature and colour code 7

 4.2. Organisation 9

 4.3. References to figures and numerotation 10

5. Description of the Messinian markers in the offshore domain 10

 5.1. Messinian salinity crisis surfaces 10

 5.1.1. Margin Erosion Surface (MES) 10

 5.1.2. Bottom Surface (BS) and Bottom Erosion Surface (BES) 12

 5.1.3. Intermediate Erosion Surfaces (IES) 13

 5.1.4. Top Surface (TS) and Top Erosion Surface (TES) 14

 5.2. Messinian salinity crisis units 15

 5.2.1. Lower Unit (LU) 15

 5.2.2. Mobile Unit (MU) 16

 5.2.3. Upper Unit (UU) 18

 5.2.4. Bedded Units (BU) 19

 5.2.5. Complex Units (CU) 19

 5.3. Limits of the offshore approach 20

6. Comparing the MSC markers at the scale of the Mediterranean area 21

7. Conclusions and perspectives 23

ILLUSTRATIONS 25

Synthesis Map

1. Algerian Margin

 1.A- Regional setting

 1.B- MSC surfaces and clastics

 1.C- MSC basinal units

2. Valencia Basin

 2.A- Regional setting

 2.B- MSC surfaces

 2.C- MSC basinal units

 2.D- MSC clastics

3. Gulf of Lions

3.A- Regional setting

3.B- MSC surfaces

3.C- MSC basinal units

3.D- MSC clastics

4. Provençal Basin

 4.A- Regional setting

 4.B- MSC surfaces and basinal units

 4.C- Salt tectonics

5. Northern Ligurian Margin

 5.A- Regional setting

 5.B- Slope MSC surfaces and units

 5.C- MSC basinal units

6. East-Corsica Basin

 6.A- Regional setting

 6.B- MSC surfaces

 6.C- MSC basinal units

7. West-Corsica Basin

 7.A- Regional setting

 7.B- MSC surfaces

 7.C- MSC basinal units

8. Western Sardinia

 8.A- Regional setting

 8.B- MSC surfaces and basinal units

9. Nile Deep Sea Fan

 9.A- Regional setting

 9.B- MSC surfaces and clastics

 9.C- MSC basinal units

10. Levant Basin

 10.A- Regional setting (1)

 10.B- Regional setting (2)

 10.C- MSC surfaces and clastics

 10.D- MSC basinal units

 10.E- Salt tectonics and fluid dynamics

11. Cyprus Arc

 11.A- Regional setting

 11.B- MSC surfaces

 11.C- MSC basinal units

12. Florence Ridge and South Antalya Basin

 12.A- Regional setting

 12.B- MSC surfaces and clastics

 12.C- MSC basinal units

13. Western Black Sea

 13.A- Regional setting

 13.B- MSC surfaces

REFERENCES

