

# Contents

List of contributors page ix

<b>Chapter 1</b>	Introduction Sarah A. Fagents, Tracy K. P. Gregg, and Rosaly M. C. Lopes	1
<b>Chapter 2</b>	Magma chamber dynamics and thermodynamics Josef Dufek, Christian Huber, and Leif Karlstrom	5
<b>Chapter 3</b>	The dynamics of dike propagation Steve Tait and Benoit Taisne	32
<b>Chapter 4</b>	Dynamics of magma ascent in the volcanic conduit Helge M. Gonnermann and Michael Manga	55
<b>Chapter 5</b>	Lava flows Andrew J. L. Harris	85
<b>Chapter 6</b>	Unsteady explosive activity: strombolian eruptions Mike R. James, Steve J. Lane, and Bruce F. Houghton	107
<b>Chapter 7</b>	Unsteady explosive activity: vulcanian eruptions Amanda B. Clarke	129
<b>Chapter 8</b>	Sustained explosive activity: volcanic eruption columns and hawaiian fountains Andrew W. Woods	153
<b>Chapter 9</b>	Modeling tephra sedimentation from volcanic plumes Costanza Bonadonna and Antonio Costa	173
<b>Chapter 10</b>	Pyroclastic density currents Olivier Roche, Jeremy C. Phillips, and Karim Kelfoun	203



<b>Chapter 11</b>	<b>Magma–water interactions</b> Ken Wohletz, Bernd Zimanowski, and Ralf Büttner	230
<b>Chapter 12</b>	<b>Deep-sea eruptions</b> Tracy K. P. Gregg	258
<b>Chapter 13</b>	<b>Volcano–ice interactions</b> Lionel Wilson, John L. Smellie, and James W. Head	275
<b>Chapter 14</b>	<b>Modeling lahar behavior and hazards</b> Vernon Manville, Jon J. Major, and Sarah A. Fagents	300
<b>Chapter 15</b>	<b>Introduction to quantitative volcano seismology: fluid-driven sources</b> Bernard Chouet	331
<b>Chapter 16</b>	<b>Volcano acoustics</b> Milton A. Garcés, David Fee, and Robin Matoza	359
<b>Chapter 17</b>	<b>Planetary volcanism</b> Rosaly M. C. Lopes, Sarah A. Fagents, Karl L. Mitchell, and Tracy K. P. Gregg	384
Index		414

*Color plates are to be found between pages 254 and 255.*