Record Nr. UNINA9910817433503321 Autore Warner Thomas T **Titolo** Desert meteorology / / Thomas T. Warner Cambridge;; New York,: Cambridge University Press, 2004 Pubbl/distr/stampa **ISBN** 1-107-14504-X 1-280-45785-6 9786610457854 0-511-18545-6 0-511-18462-X 0-511-18725-4 0-511-31342-X 0-511-53578-3 0-511-18632-0 Edizione [1st ed.] Descrizione fisica 1 online resource (xvi, 595 pages) : digital, PDF file(s) Disciplina 551.6915/4 Soggetti Meteorology Arid regions climate Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Nota di bibliografia Includes bibliographical references (p. 549-586) and index. Nota di contenuto Cover: Half-title: Title: Copyright: Dedication: Contents: Preface: Acknowledgements; 1 Introduction; 2 The atmospheric dynamics of deserts: 3 The climates of the world deserts: 4 Atmospheric and surface energy budgets of deserts; 5 Surface physics of the unvegetated sandy desert landscape; 6 Vegetation effects on desert surface physics; 7 Substrate effects on desert surface physics; 8 Desert-surface physical properties; 9 Numerical modeling of desert atmospheres; 10 Desert boundary layers; 11 Desert microclimates; 12 Dynamic interactions among desert microclimates; 13 Desert rainfall 14 Anthropogenic effects on the desert atmosphere 15 Changes in desert climate; 16 Severe weather in the desert; 17 Effects of deserts on the global environment and other regional environments; 18

Desertification; 19 Biometeorology of humans in desert environments; 20 Optical properties of desert atmospheres; Appendix A Glossary of

meteorological and land-surface terms; Appendix B Abbreviations; Appendix C Units, numerical constants, and conversion factors; Appendix D Symbols; Appendix E; Hints to solving some problems and exercises; References; Index

Sommario/riassunto

Aridity prevails over more than one third of the land area of the Earth and over a significant fraction of the oceans as well. Yet to date there has been no comprehensive reference volume or textbook dealing with the weather processes that define the character of desert areas. Desert Meteorology fills this gap by treating all aspects of desert weather, such as large-scale and local-scale causes of aridity; precipitation characteristics in deserts; dust storms; floods; climate change in deserts; precipitation processes; desertification; land-surface physics of deserts; numerical modelling of desert atmospheres; and the effect of desert weather on humans. A summary is provided of the climates and surface properties of the desert areas of the world. The book is written with the assumption that the reader has only a basic knowledge of meteorology, physics and calculus, making it useful to those in a wide range of disciplines. It includes review questions and problems for the student. This comprehensive volume will satisfy all who need to know more about the weather and climate of arid lands. It will appeal especially to advanced students and researchers in environmental science, meteorology, physical geography, hydrology and engineering.