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Nota di contenuto	The art and science of large-scale disasters / Mohamed Gad-el-Hak -- Multiscale modeling for large-scale disaster applications / Ramana M. Pidaparti -- Addressing the root causes of large-scale disasters / Ilan Kelman -- Issues in disaster-relief logistics / Nezhil Altay -- Large-scale disasters : perspectives on medical response / Jehan Elkholy and Mohamed Gad-el-Hak -- Augmentation of health care capacity in large-scale disasters / Atef M. Radwan -- Energy, climate change and how to avoid a manmade disaster / Ahmed F. Ghoniem -- Seawater agriculture for energy, warming, food, land and water / Dennis M. Bushnell -- Natural and anthropogenic aerosol-related hazards affecting megacities / Hesham El-Askary and Menas Kafatos --

Tsunamis : manifestation and aftermath / Harindra J.S. Fernando [and others] -- Intermediate-scale dynamics of the upper troposphere and stratosphere / James J. Riley -- Coupled weather-chemistry modeling / Georg A. Grell -- Seasonal-to-decadal prediction using climate models : successes and challenges / Ramalingam Saravanan -- Climate change and related disasters / Ashraf S. Zakey, Filippo Giorgi and Jeremy Pal -- Impact of climate change on precipitation / Roy Rasmussen, Aiguo Dai and Kevin E. Trenberth -- Weather-related disasters in arid lands / Thomas T. Warner -- The first hundred years of numerical weather prediction / Janusz Pudykiewicz and Gilbert Brunet -- Fundamental issues in numerical weather prediction / Jimy Dudhia -- Space measurements for disaster response : the International Charter / Ahmed Mahmood and Mohammed Shokr -- Weather satellite measurements : their use for prediction / William L. Smith.

Sommario/riassunto

'Extreme' events - including climatic events, such as hurricanes, tornadoes, drought - can cause massive disruption to society, including large death tolls and property damage in the billions of dollars. Events in recent years have shown the importance of being prepared and that countries need to work together to help alleviate the resulting pain and suffering. This volume presents an integrated review of the broad research field of large-scale disasters. It establishes a common framework for predicting, controlling and managing both manmade and natural disasters. There is a particular focus on events caused by weather and climate change. Other topics include air pollution, tsunamis, disaster modeling, the use of remote sensing and the logistics of disaster management. It will appeal to scientists, engineers, first responders and health-care professionals, in addition to graduate students and researchers who have an interest in the prediction, prevention or mitigation of large-scale disasters.
