1. Record Nr. UNISA996418277203316

Titolo	Mathematical Approach to Climate Change and its Impacts [[electronic resource]] : MAC2I / / edited by Piermarco Cannarsa, Daniela Mansutti, Antonello Provenzale
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-38669-4
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XV, 237 p. 58 illus., 40 illus. in color.)
Collana	Springer INdAM Series, , 2281-518X ; ; 38
Disciplina	551.6
Soggetti	Mathematical physics Geobiology Hydrology Statistics Ecosystems Air pollution Mathematical Physics Biogeosciences Hydrology/Water Resources Statistics, general Atmospheric Protection/Air Quality Control/Air Pollution
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	PART I - Theme: Geophysical Fluids and Climate: Ghil M. and Simonnet E., Geophysical Fluid Dynamics, Nonautonomous Dynamical Systems, and the Climate Sciences -- Cannarsa P. et al., Parameter determination for Energy Balance Models with Memory -- PART II - Theme: Hydrology: Cilli S. et al., Bedload transport processes in a coastal sand-bed river: the study case of Fiumi Uniti river in the northern Adriatic -- PART III - Theme: Glaciology: Krishna K. et al., Mathematical modeling of rock glacier flow with temperature effects -- Malek-Madani R. and R. Rajagopal K., A model to describe the response of Arctic sea ice -- Scagliarini A. et al., Modelling sea ice and melt ponds evolution: sensitivity to microscale heat transfer mechanisms -- PART IV - Theme:

	Ecology: Bianchi S. et al., Carbon dioxide time series analysis: a new methodological approach for event screening categorization -- Marangi C. et al., Mathematical tools for controlling invasive species in Protected Areas .
Sommario/riassunto	This book presents important recent applied mathematics research on environmental problems and impacts due to climate change. Although there are inherent difficulties in addressing phenomena that are part of such a complex system, exploration of the subject using mathematical modelling is especially suited to tackling poorly understood issues in the field. It is in this spirit that the book was conceived. It is an outcome of theInternational INDAM Workshop “Mathematical Approach to Climate Change Impacts – MAC2I”, held in Rome in March 2017. The workshop comprised four sessions, on Ecosystems, Hydrology, Glaciology, and Monitoring. The book includes peer-reviewed contributions on research issues discussed during each of these sessions or generated by collaborations among the specialists involved. Accurate parameter determination techniques are explained and innovative mathematical modelling approaches, presented. The book also provides useful material and mathematical problem-solving tools for doctoral programs dealing with the complexities of climate change.