

1. Record Nr.	UNINA9910974257403321
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Titolo	From observations to simulations : a conceptual introduction to weather and climate modelling // Antonello Pasini
Pubbl/distr/stampa	Hackensack, New Jersey, : ill., 2005
ISBN	9786611919641 9781281919649 1281919640 9789812774699 9812774696
Edizione	[1st ed.]
Descrizione fisica	1 online resource (231 p.)
Disciplina	551.5
Soggetti	Meteorology Climatology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
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Sommario/riassunto

From Observations to Simulations leads us on a fascinating journey through the methods used for the scientific analysis of complex systems such as the atmosphere and the Earth system: from meteorology and climatology, as observational sciences, to the development of models and the use of computers as virtual laboratories. In plain, accessible language, avoiding technicalities, but highlighting the conceptually meaningful aspects, the book describes this "Copernican revolution" in meteorology and climatology, a change in methodological paradigm that rigorously tests the definition of some classical concepts, such as "causality" and "prediction." This is the first book that guides the general public (and sets the specialists thinking) through research on complex systems which is contributing to a change in our outlook on nature.
