

1. Record Nr.	UNINA9910958543503321
Titolo	Clouds in the perturbed climate system : their relationship to energy balance, atmospheric dynamics, and precipitation / / edited by Jost Heintzenberg and Robert J. Charlson
Pubbl/distr/stampa	Cambridge, Mass., : MIT Press, c2009
ISBN	9780262293693 0262293692 9780262255448 0262255448
Edizione	[1st ed.]
Descrizione fisica	1 online resource (615 p.)
Collana	Strungmann Forum reports
Altri autori (Persone)	HeintzenbergJ (Jost) CharlsonRobert J
Disciplina	551.57/6
Soggetti	Cloud physics Clouds - Dynamics Climatic changes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Forum held June 2-7, 2008 in Frankfurt, Germany.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Contents; The Ernst Strungmann Forum; List of Contributors; 1 Introduction; 2 Trends in Observed Cloudiness and Earth's Radiation Budget; 3 Climatologies of Cloud-related Aerosols; 4 Cloud Properties from In-situ and Remote-sensing Measurements; 5 Clouds and Precipitation; 6 Temporal and Spatial Variability of Clouds and Related Aerosols; 7 Laboratory Cloud Simulation; 8 Cloud-controlling Factors; 9 Deep Convective Clouds; 10 Large-scale Controls on Cloudiness; 11 Cloud-controlling Factors of Cirrus; 12 Cloud-controlling Factors; 13 Cloud Particle Precursors 14 Cloud-Aerosol Interactions from the Micro to the Cloud Scale15 Weather and Climate Engineering; 16 Air Pollution and Precipitation; 17 What Do We Know about Large-scale Changes of Aerosols, Clouds, and the Radiation Budget?; 18 The Extent and Nature of Anthropogenic Perturbations of Clouds; 19 Global Indirect Radiative Forcing Caused by Aerosols; 20 Simulating Global Clouds; 21 Observational Strategies from the Micro- to Mesoscale; 22 Observational Strategies at Meso-

and Large Scales to Reduce Critical Uncertainties in Future Cloud Changes

23 Aerosols and Clouds in Chemical Transport Models and Climate Models24 Current Understanding and Quantification of Clouds in the Changing Climate System and Strategies for Reducing Critical Uncertainties; Abbreviations; Name Index; Subject Index

#### Sommario/riassunto

Here, experts consider the many roles that clouds play in the changing climate - one of the least understood and most puzzling aspects of atmospheric science.