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Titolo	The Earth's Atmosphere [[electronic resource]] : Its Physics and Dynamics / / by Kshudiram Saha
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ISBN	1-281-51321-0 9786611513214 3-540-78427-6
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Descrizione fisica	1 online resource (380 p.)
Disciplina	551.5
Soggetti	Atmospheric sciences Climatology Ecotoxicology Geophysics Oceanography Atmospheric Sciences Geophysics/Geodesy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 353-358) and indexes.
Nota di contenuto	Physics of the Earth's Atmosphere -- The Sun and the Earth -- The Solar System and the Earth's Gravitation -- The Earth's Atmosphere -- Its Origin, Composition and Properties -- Heat and Thermodynamics of the Atmosphere -- Water Vapour in the Atmosphere: Thermodynamics of Moist Air -- Physics of Cloud and Precipitation -- Physics of Radiation -- Fundamental Laws -- The Sun and its Radiation -- The Incoming Solar Radiation -- Interaction with the Earth's Atmosphere and Surface -- Heat Balance of the Earth's Surface -- Upward and Downward Transfer of Heat -- Heat Balance of the Earth-Atmosphere System -- Heat Sources and Sinks -- Dynamics of the Earth's Atmosphere -- The General Circulation -- Winds on a Rotating Earth -- The Dynamical Equations and the Conservation Laws -- Simplified Equations of Motion -- Quasi-Balanced Winds -- Circulation, Vorticity and Divergence -- The Boundary Layers of the Atmosphere and the Ocean -- Waves and

Oscillations in the Atmosphere and the Ocean -- Equatorial Waves and Oscillations -- Dynamical Models and Numerical Weather Prediction (N. W.P.) -- Dynamical Instability of Atmospheric Flows – Energetics and Energy Conversions -- The General Circulation of the Atmosphere.

Sommario/riassunto

This book covers a wide area of the atmospheric science, focusing particularly on those physical and dynamical aspects of our environment which tend to create heat sources and sinks in the earth-atmosphere system and which it seeks to balance through circulation at different time and space scales. The processes of heat transfer in the atmosphere and ocean by general circulation and by waves and oscillations are discussed in detail. The heat balance of the atmosphere is considered, after taking into consideration the role of various types of greenhouse gases that may be present. In this context, the publication of the book will be very timely and will be welcomed by all those interested in knowing more about our atmosphere and the way it works, especially with regard to the contentious issue of global warming by greenhouse gases released by human activities on earth. Starting with the origin, composition and structure of the atmosphere, the physics part deals with the laws of heat and thermodynamics of dry and moist air, water vapor and its transformation into different phases and formation of cloud and rain under different stability conditions, solar and terrestrial radiation and their impact on the gaseous envelope in different layers of the atmosphere which create sources and sinks in different parts of the atmosphere especially in its boundary layers. The dynamics part highlights the various types of motion systems including the general circulation of waves and oscillations which create the heat balance in the earth-atmosphere system.

2. Record Nr.	UNISOBSOBE00079710
Titolo	1 / Ramon Llull ; a cura de Salvador Galmés
Pubbl/distr/stampa	Barcelona, : Barcino, 1982
ISBN	8472262251
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