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| 1. Record Nr.           | UNINA9910254598603321  |
| Titolo                  | Air Pollution in Eastern Asia: An Integrated Perspective // edited by Idir Bouarar, Xuemei Wang, Guy P. Brasseur   |
| Pubbl/distr/stampa      | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017  |
| ISBN                    | 3-319-59489-3  |
| Edizione                | [1st ed. 2017.]  |
| Descrizione fisica      | 1 online resource (498 pages) : illustrations  |
| Collana                 | ISSI Scientific Report Series ; ; 16   |
| Disciplina              | 363.7392   |
| Soggetti                | Air - Pollution<br>Sustainable development<br>Pollution prevention<br>Environmental management<br>Atmospheric Protection/Air Quality Control/Air Pollution<br>Sustainable Development<br>Industrial Pollution Prevention<br>Environmental Management   |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Nota di bibliografia    | Includes bibliographical references at the end of each chapters.   |
| Nota di contenuto       | Part I. General Perspective -- Overview of Persistent Haze Events in China -- An Overview of Air Quality Modeling Activities in South Asia -- Sources and Chemical Composition of Particulate Matter during Haze Pollution Events in China -- Photochemical Smog in Southern China: a Synthesis of Observations and Model Investigations of the Sources and Effects of Nitrous Acid -- Connection between East Asian Air Pollution and Monsoon System -- Part II. Sources of Air Pollution -- Anthropogenic Emissions in Asia -- Biomass Burning Sources in China -- Sources and Long-term Trends of Ozone Precursors to Asian Pollution -- Source Apportionment of Tropospheric Ozone by Chemical Transport Model: From Global to City Cluster -- Part III. Analysis of in-situ Measurements -- Real-Time Characterization of Aerosol Particle Composition during Winter High-Pollution Events in China -- Chemical Composition during Severe Haze Events in Northern China -- Spatial Distributions, Chemical Properties, and Sources of |

Ambient Particulate Matters in China -- Part IV. Space Observations -- Observation of Air Pollution in Asia using UV/Visible Space Sensors -- Observation of Air Pollution over China using the IASI Thermal Infrared Space Sensor -- Monitoring Aerosol Properties in East Asia from Geostationary Orbit : GOCI MI And GEMS -- Space Observation of Aerosols from Satellite over China during Pollution Episodes: Status and Perspectives -- Space Observations of Dust in East Asia -- Part V. Modeling -- Predicting Air Pollution in Eastern Asia -- Chemical Weather Forecasting for Eastern China -- Modelling assessment of atmospheric composition and air quality in Eastern and Southern Asia -- Chemical and Meteorological Feedbacks in the Formation of Intense Haze Events -- Impact of Urbanization on Regional Climate and Air Quality in China -- Part VI. Impacts of Air Pollution -- Surface PM<sub>2.5</sub>, Satellite AOD Distribution and Related Effects on Crop Production in China -- Research Perspectives on Air Pollution and Human Health in Asia.

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### Sommario/riassunto

This book, written by an international group of experts from China, Europe and the USA, presents a broad and comprehensive analysis of the chemical and meteorological processes responsible for the formation of air pollutants in eastern Asia, and in particular for the development of severe pollution episodes observed primarily during winter in the northeastern part of China. With the rapid population growth, economic development and urbanization occurring in Asia, air pollution has become a major environmental problem in this part of the world. The book is organized around six distinct parts. The first part of the volume offers a general perspective on issues related to air pollution including persistent haze events in eastern and southern Asia. The second part presents an overview of air pollution sources (i.e., anthropogenic and biomass burning sources). The third part analyzes in-situ observations of chemical species in China, while the fourth part focuses on space observations of gas-phase and aerosol species. The modeling aspects are treated in the fifth part of the volume, which includes a presentation of several air quality forecast systems and an assessment of the role of urbanization on air pollution levels. Finally, the effects of air pollution on health and crop productivity in China are discussed in the last part of the book. The book also presents an integrated view of past and present situations in Asia and provides the scientific basis from which mitigation policies can be established and air quality can be improved. Audience: This book is written for scientists, educators, students, environmental managers, policy-makers and leaders in public administration and private corporations who wish to use science-based information to mitigate air pollution. The book should help decision-makers to design effective policies for air quality improvement and to successfully manage short-term air pollution episodes that substantially affect people's quality of life and strongly impact the economy. .

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