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Nota di contenuto	Chapter 1 Unravelling the Complex Relationships between Aerosol Optical Depth and Temperature -- Chapter 2 Impact Assessments of Aerosol Optical Depth and Lightning on Thunderstorm over the Region of Uttarakhand, India -- Chapter 3 Aerosol Variability and its Impact on Cloud-Precipitation Interaction in Urban Areas of Maharashtra, India -- Chapter 4 Comparative Health Risk Assessment of Black Carbon and Particulate Matter Emissions in East India during the COVID-19 First and Second Waves -- Chapter 5 Source and Risk Assessment of Polychlorinated Biphenyls (PCBs) in Ambient Air and its Human Health Implications -- Chapter 6 Air Pollution in the Southern Part of Iraq and Its Health Risks -- Chapter 7 Optical Characteristics and Radiative Effects of Anthropogenic and Natural Aerosols over an Urban Area -- Chapter 8 Innovative Air-Purifying Mask -- Chapter 9 Atmospheric Particulate Matter in Bangladesh -- Chapter 10 Review of the Role of Aerosols in the Spread of COVID-19 -- Chapter 11 Aerosol-Social-Health Nexus -- Chapter 12 Aerosol Optical Depth vs. PM2.5 --

Chapter 13 Monsoon Shifts and Their Impact on Air Quality and Weather -- Chapter 14 Evaluation and Scientometric Analysis of Aerosols and Associated Implications -- Chapter 15 Anthropogenic Influence on Aerosol Optical Depth -- Chapter 16 The Effect of Additives on Particulate Matter Emissions from Biomass Combustion.

Sommario/riassunto

This volume uses aerosol optical depth (AOD) analysis through mapping and remote sensing techniques to derive the relationship between aerosols and hazardous precipitation events, primarily in the form of flooding. Attention is also given to pollution caused by an abundance of particulate matter in the atmosphere and its impacts on human health, which is also assessed via the study of AOD. Background is given on how AOD is retrieved, and why it is a useful tool for estimating atmospheric particle concentration, but also the challenges associated with using this approach. Different aerosol types are introduced to perform a comparative analysis of the most common associations between pollution impacts on temperature and resulting precipitation events. These analyses will help to provide an overview of the best strategies to make informed and sustainable disaster risk management practices and policies. The target audience for the work is students, researchers, and scientists working with a vision towards sustainability, public health safety and air pollution mitigation measures. It will also be a useful text for climate change policy makers, environmental engineers and stakeholders in social development sectors.
