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Nota di contenuto	Foreword -- Preface -- Part 1: Regional Initiatives -- Chapter 1. SARI -- Chapter 2. SERVIR: Connecting Earth Observation Satellite data to local science applications -- Part 2: Greenhouse Gas Emissions, Biomass burning pollution and Impacts -- Chapter 3. Emission of toxic air pollutants and greenhouse gases from crop residue open burning in Southeast Asia -- Chapter 4. Impacts of biomass burning emissions on tropospheric NO2 vertical column density over continental Southeast Asia -- Chapter 5. Observations of Asian dust and agricultural fire

smoke episodes: transport and impacts on regional air quality in southeast China -- Chapter 6. Spatio-temporal analysis of land and forest fire in Indonesia using MODIS active fire dataset -- Chapter 7. Severe air pollution due to peat fire during 2015 Super El Niño in Central Kalimantan, Indonesia -- Chapter 8. Forest and Land Fire in Riau Province concessions: a Case study in fire-prevention policy implementation with local concession holders -- Chapter 9. Biomass burning emissions variation from satellite-derived land cover, burned area, and emission factors in Vietnam -- Chapter 10. Enhancement of Fire Early Warning System in Vietnam using Spatial Data and Assimilation -- Chapter 11. Greenhouse gas budget of terrestrial ecosystems in Monsoon Asia: a process-based model study for the period 1901–2014 -- Chapter 12. Simulations of Emissions, Air Quality, and climate contribution in Southeast Asia for March and December -- Chapter 13. Study on lower tropospheric ozone over central and eastern China: Comparison of satellite observation with model simulation -- Chapter 14. Multi-scale simulations of atmospheric pollutants using a non-hydrostatic icosahedral atmospheric model -- Chapter 15. Project MANTRA: Multi-platform ANalysis of TRace gases and Aerosols with a focus on Atmospheric CO₂ Measurements for Southeast Asia -- Chapter 16. Dry Deposition of Reactive Nitrogen species in Tropics -- Part 3: Aerosol Pollution -- Chapter 17. Aerosols and Climate Change: Present Understanding, Challenges and Future Outlook -- Chapter 18. Organic Aerosols in South and East Asia: Composition and Sources -- Chapter 19. Shortwave Radiation, Climate Change, and Anthropogenic Aerosols in China -- Chapter 20. Conceptualizing How Severe Haze Events Are Impacting Long-Term Satellite-Based Trend Studies of Aerosol Optical Thickness over Asia -- Chapter 21. Aerosol Properties Over Kuching, Sarawak from Satellite and Ground-based Measurement. Chapter 22 -- Investigating the aerosol type and spatial distribution during winter fog conditions over Indo-Gangetic Plains -- Chapter 23. Satellite Aerosol Optical Depth over Vietnam, an analysis from VIIRS and CALIOP aerosol products -- Chapter 24. Satellite remote sensing of aerosols and gaseous pollution over Pakistan -- Part 4: Land Use/Cover Change and Impacts -- Chapter 25. The impact of Land cover and land use change on the Indian monsoon region Hydroclimate -- Chapter 26. Decadal Land-cover Changes in China and Their Impacts on the Atmospheric Environment -- Chapter 27. Analyzing the influence of urban growth on thermal environment through demographic, environmental and physical parameters in Bangladesh -- Chapter 28. Ecosystem carbon stock, atmosphere and food security in slash-and-burn land use -- Chapter 29. Spatial Modeling of Land Use/Land Cover Change and its Effects on Hydrology within the Lower Mekong Basin -- Chapter 30. Land-Atmosphere Interactions In South Asia: A Regional Earth Systems Perspective.

Sommario/riassunto

This edited volume sheds new light on the impact of rapid Land Use/Cover Changes (LU/CC) on greenhouse gases (GHG's) and aerosol emissions in South and Southeast Asia. Several countries in South/Southeast Asia have the highest population growth rates in the world, which is the main cause for LU/CC. Conversion of dense forests to agricultural areas and then to residential and urban areas is most commonly observed in South/Southeast Asian countries with a significant release of GHG's and aerosols. The book showcases several case studies on the use of remote sensing and geospatial technologies to quantify biomass burning and air pollution impacts, aerosol pollution, LU/CC, and impacts on ecosystem services. The book also includes articles on regional initiatives in research, capacity building,

and training. The authors of this book are international experts in the field, and their contributions highlight significant drivers and impacts of air pollution in South/Southeast Asia. Readers will discover the latest tools and techniques, in particular, the use of satellite remote sensing and geospatial technologies for quantifying GHG's, aerosols and pollution episodes in this region.
