1. Record Nr. UNINA9910735789603321

Titolo	Atmospheric Chemistry in the Mediterranean Region [[electronic resource]] : Volume 1 - Background Information and Pollutant Distribution / / edited by François Dulac, Stéphane Sauvage, Eric Hamonou
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-12741-2
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (626 pages)
Disciplina	551.5
Soggetti	Environmental chemistry Pollution Physical geography Environment Environmental Chemistry Earth System Sciences Environmental Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. The scientific importance of atmospheric reactive gases and aerosols and the particular case of the Mediterranean region -- Chapter 3. The climate of the Mediterranean region and future projections in relation to air quality issues -- Chapter 4. The Mediterranean atmosphere under anthropogenic pressures -- Chapter 5. General atmospheric conditions and macro-scale processes -- Chapter 6. Synoptic scale circulation and mesoscale processes -- Chapter 7. Long range and vertical transport, troposphere-stratosphere exchange -- Chapter 8. Overview of Mediterranean aerosol studies -- Chapter 9. Chemical composition and levels of concentrations of aerosols in the Mediterranean -- Chapter 10. Diurnal to seasonal variability of aerosols above the Mediterranean -- Chapter 11. Inter-annual variability and long-term trends of aerosols above the Mediterranean -- Chapter 12. Anthropogenic and natural radionuclides

in the Mediterranean -- Chapter 13. Ozone in the Mediterranean atmosphere -- Chapter 14. Inorganic aerosol precursors in the Mediterranean atmosphere -- Chapter 15. Temporal and spatial variabilities of volatile organic compounds in the Mediterranean atmosphere -- Chapter 16. Summary of recent progress and recommendations for future research.

Sommario/riassunto

This two-volume set provides an extensive review of the abundant past and recent literature on the atmospheric chemistry in the Mediterranean region. -The books document the experience gained on the atmospheric composition over the Mediterranean basin and close areas after almost six decades of studies, starting from early studies of radioactive aerosol fallouts and intense desert dust events in the 1960s, aerosol samples collected during oceanographic cruises in the early 1980s and including discoveries from subsequent surface monitoring stations, intensive campaigns, satellite climatologies, laboratory studies, as well as chemistry-transport and climate models. Through ten thematic sections, the authors examine the sources and fates of atmospheric pollutants over the Mediterranean basin and what we know about their major impacts on air quality and health, on the radiative budget and climate, on marine chemistry and biogeochemistry. - This overview not only considers the full cycle of both aerosol and reactive gases including emissions, transport, transformation, and sinks, but also addresses the main impacts of the regional atmospheric chemistry.- The volumes are an initiative from the ending ChArMEx project that has federated many studies on those topics in the past decade, and update the scientific knowledge by integrating the ChArMEx and non-ChArMEx literature. The books are contributed by a large pool of well-known authors from the respective fields, mainly from France and Greece, but also from fourteen other countries. All chapters have been peer-reviewed by international scientific experts in the corresponding domains. Volume 1 provides background information on the Mediterranean atmosphere and focuses on the synoptic and dynamic conditions affecting pollutant concentrations over the Mediterranean basin, aerosol concentrations and variability, and reactive gas concentrations and variability. - The targeted audience is the academic community working on atmospheric chemistry and its impacts on climate, air quality and marine biogeochemistry, especially teams having a special interest in the Mediterranean region, which includes many countries and institutes worldwide.