DESCRIPTION

In contrast to the classical books which largely focus on separate, individual physicochemical and biological aspects, this book aims to integrate the frontiers of knowledge on the fundamentals and the impact of physicochemical and biological interactions and processes of AOCs in soil, sediment, water and air. The specific objectives of this book are to address: (1) fundamental biophysico-chemical processes of AOCs in the environment, (2) occurrence and distribution of AOCs in air, water, and soil, and their global cycling, (3) the state-of-the-art analytical techniques of AOCs, and (4) restoration of natural environments contaminated by AOCs. The book also identifies the gaps in knowledge on the subject matter and as such provides future directions to stimulate scientific research to advance the chemical science on biophysico-chemical interfacial reactions in natural habitats.

By virtue of complex nature of the interactions of AOCs with different environmental components and matrixes, no single available technique and instrument is satisfactory yet for determining their fate, transport, availability, and risk in the environment. In order to fully understand the biophysico-chemical interactions and processes of AOCs in the environment, it is critical to know chemical, physical and biological properties of AOCs and their analytical techniques. The book is unique because of its multidisciplinary approach as it provides a comprehensive and integrated coverage of biophysico-chemical reactions and processes of AOCs in various environments, associated analytical techniques, and restoration of natural environments contaminated by AOCs.
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