



Mineral Dust: Sources, Atmospheric Processing and Impacts

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Message from the Guest Editor

Airborne mineral dust is a primary natural aerosol and an essential component of biogeochemical processes. Natural dust is often associated with hot, subtropical deserts, but significant dust events have been reported from cold, high latitudes. Source of mineral dust originating at high latitudes are important and expected to increase due to the enlargement of deglaciated areas in the Northern hemisphere.

The impact of dust in the atmosphere is mainly related to its optical properties. Once transported to receptor sites, dust may affect human health as well as the natural ecosystems. Even if Saharan dust is classified as a natural aerosol, it affects human health as much as anthropogenic aerosol due to the high mass concentrations during the intrusion events. Furthermore, mineral dust can be deposited on snow and ice and affect the albedo of the cryosphere. Also, alien bacteria caught at dust source regions can survive the long-range travel and colonize remote ecosystems, such as mountains and possibly polar environments.

The characterization of novel dust sources, atmospheric processing, the presence of anthropogenic pollutants as well as the characteristics of the bacterial community transported with the dust and their relationships with chemistry are challenging subjects and represent the targets of the present Special Issue.

