



Physical and Chemical Properties of Aerosols and Their Role in Weather and Climate

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Message from the Guest Editors

Dear Colleagues,

Natural and anthropogenic aerosols significantly affect the weather and Earth's climate system by scattering and absorbing solar radiation, acting as cloud condensation nuclei (CCN) and ice nuclei (IN), and modifying the microphysical properties of clouds through various processes.

In the past several decades, a wide range of studies have focused on physical-chemical properties of aerosols via observations, laboratory experiments, as well as model simulations. However, the data on detailed physical-chemical properties of aerosols is still limited, and large uncertainties associated with aerosol-weather/climate interactions are still present. In this Special Issue, we welcome all studies based on ambient observations, laboratory experiments, model simulations, and theoretical approaches that investigate the physical and chemical properties of aerosols and their impacts on and/or interaction with weather and climate systems.

Guest Editors





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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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