Special Issue

New Insights into Atmospheric Marine Composition: Characteristics, Processes, and Climate Effects

Message from the Guest Editors

Marine aerosols and gas precursors are critical to cloud condensation nuclei (CCN) and ice nuclei (IN) over the ocean, alongside being the interface for substance reactions and a primary factor in the global atmospheric oxidizing capacity. Global warming has augmented the sea-surface temperatures and altered marine ecosystems' acidity, nutrient inputs, and microbial communities, alongside the dramatic acceleration in marine aerosol emissions over the past four decades, changing climate outcomes via the sea–air feedback pathway. Meanwhile, the concomitant variations in marine emissions pose concerns for human health due to enhanced pollutants and bioaerosols. There is a compelling demand for a clear understanding of atmospheric marine composition under more complex scenarios than a few decades ago. This Special Issue aims to showcase new insights into atmospheric marine composition and its climate effects, as well as potential insights on human health assessments from filed observations and wave/chamber and model simulations. Novel technologies promoting our understanding of marine aerosols and their effects on climate change and human health are also needed.

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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!

Editor-in-Chief

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