



Synergy of Remote Sensing Data for Exploring the Complexity of the Clouds

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Message from the Guest Editors

Observations of clouds are essential for understanding the global hydrological cycle, the Earth's radiation budgets, and monitoring extreme weather events. Remote sensing technologies provide in-depth insights into the formation and development of clouds thanks to the development of a wide variety of observing instruments, such as infrared/visible and microwave sensors, radars, lidars, etc. These different instruments, carried by multiple platforms, e.g., vehicles, satellites, and ships, bring about an unprecedented opportunity to observe clouds with a synergy of observations. A large variety of algorithms have been proposed and developed for synergetic retrievals, such as remote sensing and in situ, active, and passive remote sensing, radar and lidar, and infrared and microwave, to understand the complexity of clouds.

This Special Issue will focus on recent advances in synergetic remote sensing of clouds, including algorithm development, comparison, and evaluation of cloud products. The topics include but are not limited to research on cloud physics, nowcasting, impact weather extreme events, etc.





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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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