



Improving the Understanding, Diagnostics, and Prediction of Precipitation

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Message from the Guest Editors

Dear Colleagues,

Heavy precipitation has considerable impact on our society and economics, but it is challenging to predict accurately. Considerable research performed in the past decades made some incremental improvements in precipitation forecast. However, heavy precipitation remains one of the least understood meteorological phenomena in scientific and operational communities due to its involvement of multi-scale dynamic and thermodynamic processes associated with precipitating weather systems.

Understanding of physical processes, weather systems and their interactions leading to heavy precipitation at various temporal and spatial scales are fundamental to improve detection and prediction of severe precipitation. This, in turn, facilitates accurate public or severe weather warnings. Therefore, this Special Issue aims at advancing the knowledge of these processes, systems and their interactions; building a bridge between the academic and the operational in order to improve the accuracy of numerical weather prediction (NWP) in precipitation forecasting, especially heavy precipitation associated with high-impact weather.

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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