

Special Issue

Effects of Atmosphere and Ocean on Tropical Precipitation

Message from the Guest Editors

Precipitation largely determines the occurrence of floods and droughts and is also a major energy source for atmospheric circulation. In particular, tropical precipitation has received much attention as a substantial component of the hydrological cycle and a key influencer of global weather and climate patterns. While advancements in modeling and observation have vastly improved our understanding of tropical precipitation, there remain several fundamental challenges. Many difficulties remain in estimating and simulating rainfall, especially in the tropical area, such as difficulties in assimilating synoptic rain data, to highly selective parameterization schemes for convection and microphysics, up to the correct description of the entire water cycle, there are many open problems for both local and synoptic scale applications, and from a short to a long term approach. The goal of this Special Issue is to improve the understanding and prediction of tropical precipitation at all timescales and at a wide range of geographical scales. We invite reports on both observational and modeling studies of the effect of ocean and atmosphere on tropical precipitation.

Guest Editors

Dr. Xijie He

Dr. Antonio Ricchi

Dr. Giovanni Liguori

Deadline for manuscript submissions

closed (15 December 2021)



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About the Journal

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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