Special Issue

Long-Term Variability of Atmospheric Precipitation

Message from the Guest Editors

Precipitation is an indicator that reflects the energy and mass exchange in land-atmosphere interactions, playing an important role in terrestrial modeling and meteorological studies. Precipitation is generally condensed into one quantity and summed at daily, monthly or annual time scales, primarily because most precipitation data are recorded daily. Precipitation is particularly vulnerable to climate change and has significant effects on runoff, groundwater levels, water resources protection, crop growth, and human life. The analysis of precipitation commonly depends on surface gauge observations, which are typically used to directly measure precipitation at the Earth's surface.

Alternatively, the reanalysis product aims to reproduce the precipitation state in a statistically optimal sense by combining model forecasts with various observation data after quality control. The long-term variability of precipitation has also not been fully addressed, and is extremely meaningful to climate studies, hydrological recycling, agricultural water usability and other related fields.

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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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