



Hydro-Climatic Trends, Variability, and Regime Shifts

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Message from the Guest Editors

Unraveling trends and variability in hydro-climatic parameters are a fundamental research problem of great importance to environmental resource management, especially under the urgent circumstance of climate change. In addition to trends and variability, hydro-climatic systems are subject to regime shifts, manifested by an abrupt change from one system state to another. This Special Issue invites diverse contributions related to better understanding such nonstationary hydro-climatic phenomena at varied spatiotemporal scales. Other topics of interest include (1) linking the regional phenomena to large-scale, remote climate oscillations; (2) developing new detection techniques for trends, variability, and regime shifts; (3) examining the recent extreme events or reviewing the historical “black swan” events that break hydro-climatic stationarity; (4) assessing the implication/impact of the nonstationary phenomena on weather and climate services and environmental resource management; (5) discussing the relationship between the nonstationary phenomena and anthropogenic activities; and (6) projections of future changes in any of the aforementioned topics.





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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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