Special Issue

Global Ocean–Atmosphere Teleconnections and Their Influence on Climate Variability and Ecological Processes: Interdisciplinary Approaches and Recent Advances

Message from the Guest Editors

Global-scale circulation patterns—such as the El Niño–Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), the North Atlantic Oscillation (NAO), the Madden–Julian Oscillation (MJO), and other phenomena—are major drivers of interannual and multiannual climate variability. These patterns influence hydrological regimes, ecological dynamics, biodiversity, forest productivity, ecosystem resilience, and disturbance processes such as wildfires, droughts, floods, pest outbreaks, and landslides. Suggested topics include, but are not limited to, the following:
Influence of ocean–atmosphere teleconnections (ENSO, NAO, PDO, MJO, IOD) on global and regional climate variability;
Ecological impacts of teleconnection-driven climate variability: productivity, biodiversity, species distribution, mortality, and ecosystem resilience;
Disturbance regimes influenced by large-scale atmospheric modes: wildfires, pest outbreaks, landslides, droughts, and floods;
Long-term statistical and climate modeling approaches;
Multi-proxy paleoclimate reconstructions (e.g., tree rings, sediments, corals);
Interdisciplinary case studies across ecosystems and regions.

Guest Editors

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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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