Special Issue

Drought, Land Use, and Ecosystem Feedbacks Under Global Climate Change

Message from the Guest Editors

Climate change has profoundly altered the frequency, intensity, and spatial extent of drought events, subsequently impacting land surface processes and biosphere–hydrosphere interactions. This Special Issue aims to compile cutting-edge research that explores how droughts affect soil moisture dynamics, vegetation responses, evapotranspiration, and surface energy balance across various temporal and spatial scales. We welcome studies using remote sensing, in situ observations, land surface modeling, and climate simulations to improve the understanding of drought mechanisms and feedbacks in the land–atmosphere system. We particularly seek studies that emphasize the role of extreme droughts in modifying land surface conditions and amplifying climate feedbacks and how land use and land cover changes mediate these interactions. Contributions that link drought phenomena with carbon–water cycles, ecohydrological responses, or agricultural productivity are also encouraged. By integrating multidisciplinary perspectives, this Special Issue hopes to support the development of more robust drought prediction tools and climate resilience strategies under a changing climate.

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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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