Special Issue

Impact of Climate and Land-Use Change on the Earth's Critical Zone

Message from the Guest Editors

It is widely accepted that climate change is causing hydrological alterations in the magnitude and timing of catchment water balance as well as functioning of the terrestrial and riverine ecosystem in many parts of the world. Simultaneously, land use and land cover (LULC) across the globe is also likely to change in response to climatic and socio-economic changes. Although the hydrological effects of climate and LULC change have been studied extensively in isolation, their combined effect on landscape hydrology and ecosystem is not yet fully characterised. An improved understanding of how bi-directional interactions between climate and LULC affect the Earth's critical zone has the potential to enhance strategies for land and water conservation and/or specific interventions (e.g., active forest management, wetland restoration, aquifer recharge). In this special issue, we welcome research and synthesis contributions that present latest advances in measurements, analysis, and modelling of the coupled climate-LULC-water system nexus in the critical zone at scales ranging from small headwater catchments to large river basins.

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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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