Special Issue

High-Mountain Hydrology: Multiscale Catchment Dynamics and Downstream Relevance

Message from the Guest Editors

This Special Issue aims to bring together innovative research that advances our understanding of mountain hydrology across scales and enhances a holistic view of upstream–downstream connectivity. The focus is on hydrological alterations driven by climate and/or humans, novel modeling approaches, especially those focusing on model development and improvement, the integration and adoption of the newest Earth observation data and techniques, but also observational innovations. We welcome manuscripts that focus on the following:

- Novel data-driven/process-based modeling approaches, remote sensing techniques, and observational systems to improve the representation of high-mountain hydrological processes and associated disasters.
- Advancements in conceptual and physically based hydrological models that address current limitations in simulating high-mountain systems.
- Downstream linkages, including socioeconomic and ecological dimensions, of upstream hydrological processes, and the implications of their alteration due to climate and anthropogenic changes.
- Multiscale perspectives on physical and hydrometeorological conditions, highlighting scale-dependent process relevance and variability.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Hydrology is the study of the waters of the Earth. *Hydrology* has close ties with hydraulics, hydrogeology and the multiple sciences that study the atmosphere, the land surface, the soil and the subsoil, and ranges from complex problems of risk, forecasting and optimization of water resources to interactions with ecological, urban, social and economic systems.
The purpose of *Hydrology* is then to provide a journal where research results and real-world problems can be presented and discussed in order to bridge the traditional gaps between the academic world and the professionals and decision makers. Therefore, *Hydrology*, invites authors to submit their original theoretical, field, experimental, and numerical studies on hydrology with strong emphasis on multidisciplinary approaches and interdisciplinary topics, which cross the typical boundaries of our science.

Editor-in-Chief

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Author Benefits

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JCR - Q2 (Water Resources) / CiteScore - Q1 (Oceanography)

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.7 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the first half of 2025).