Special Issue

New Trends in Hydrology and Integrated Water-Resource Management Utilizing AI and ML Potentials

Message from the Guest Editors

The goal of this Special Issue is to collect papers (original research articles and review papers) to give insights about new trends in hydrology and integrated water-resource management utilizing AI and ML potentials. Additionally, selected papers from the **6th International Conference on Efficient Water Systems (EwaS6)**, entitled *"Safeguarding Water and Health in a Financially, Socially, and Environmentally Fragile Era*," will be published in this Special Issue, further enriching its scientific and practical relevance. This Special Issue will welcome manuscripts that link the following themes: - AI- and ML-enabled hydrological modelling and prediction - Data-driven analysis for surface water and groundwater systems - AI-supported flood, drought and water-availability forecasting - Integration of digital tools in IWRM planning and optimization - Remote sensing and geospatial data analytics supported by ML methods - Decision-support systems combining physical models with AI components - Real-time monitoring, anomaly detection and sensor network analytics - Hybrid approaches linking process-based modelling with data-driven methods

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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indexed within Scopus, ESCI (Web of Science), PubAg, GeoRef, and other databases.

Journal Rank:

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

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.9 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).