Special Issue

Machine Learning Applications in Soil Water and Groundwater Assessment

Message from the Guest Editors

This Special Issue would like to explore and showcase the diverse ways in which machine learning techniques are being utilized to improve the assessment, monitoring, and management of soil water and groundwater resources. There are numerous potential topics that can be intertwined with this proposed theme, such as the following:

- Predictive modelling of groundwater levels and quality using machine learning algorithms.
- Estimation and monitoring of soil moisture content at various spatial and temporal scales.
- Detection and prediction of groundwater contamination using advanced machine learning techniques.
- Optimization of irrigation scheduling and water use efficiency through machine learning-based decision support systems.
- Development of sensor networks and data-fusion approaches for real-time monitoring soil water and groundwater dynamics.
- The best use of geophysical covariates to assess the soil water content.
- Integration of remote sensing data with machine learning for improved characterization of hydrological processes.
- Assessment of climate change's impacts on soil water and groundwater resources using machine learning-driven modelling frameworks.

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Guest Editors

Dr. Emanuele Barca
Istituto di Ricerca Sulle Acque, Consiglio Nazionale delle Ricerche, Viale De Blasio 5, 70132 Bari, Italy

Dr. Minxue He
California Department of Water Resources, 1416 9th Street, Sacramento, CA 95814, USA

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Hydrology
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
hydrology@mdpi.com

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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

Prof. Dr. Ezio Todini
Italian Hydrological Society, Piazza di Porta San Donato 1, 40126 Bologna, Italy

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