Special Issue

Recent Methodological Advances, Challenges, and Perspectives in Soil Hydrology

Message from the Guest Editors

Soil hydrology plays a pivotal role in the effective management of water resources, the mitigation of erosion, and the preservation of environmental quality. In recent years, the increased availability of high-resolution data and the development of powerful numerical models have opened new ways for the study of hydrological processes. The objective of this Special Issue is to achieve the following:

- Promote advanced experimental and analytical methods for monitoring soil water flows.
- Develop novel numerical modeling techniques and enhanced parameterization strategies to improve accuracy and reduce uncertainty in soil hydrology simulations.
- Assess the impact of climate change on soil hydrological cycles and soil water budget.
- Integrate surface modeling techniques to quantify soil loss due to water erosion, assessing impacts on fertility, infiltration capacity, and water quality
- Develop innovative technologies for sustainable groundwater resource management.
- Investigate the role of soil hydrological processes in assessing groundwater vulnerability to contamination and depletion, and propose innovative evaluation and mitigation measures.

Guest Editors

Dr. Luigi Alessandrino

Dr. Vassilis Aschonitis

Dr. Gianluigi Busico

Deadline for manuscript submissions

20 January 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/248016

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

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)