

## Special Issue

# Advances in Calibration, Sensitivity and Uncertainty Analysis of Hydrological Models

### Message from the Guest Editors

Hydrological models play an important role in developing improved understanding and managing water resources in a changing world. Accurate predictions of changes in run off, river flow, groundwater recharge and levels and other hydrological variables and processes like surface water – groundwater interaction are essential for informed decision-making in water resource management, and climate change impact assessment. Process-based and data-driven models of different kinds and complexities are used for such purposes these days. Reliability of predictions made by such models depends on how well they honour data and/or simulate the underlying processes that are important for making the predictions of interest. This special issue invites submissions that focus on advances in methods and application of calibration, sensitivity analysis, and uncertainty quantification in hydrological modeling. Novel approaches and applications of local and global sensitivity analysis for improving model structure and parameters, computationally efficient approaches for model calibration and data assimilation including the use of Machine Learning based techniques are of interest.

---

### Guest Editors

Dr. Sreekanth Janardhanan

Water Security Program, CSIRO Land and Water, Brisbane, QLD 4001, Australia

Dr. Stephanie Clark

Water Security Program, CSIRO Environment, Sydney, NSW 2015, Australia

---

### Deadline for manuscript submissions

closed (25 May 2024)



## Water

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.0  
CiteScore 6.7



[mdpi.com/si/191465](https://mdpi.com/si/191465)

*Water*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[water@mdpi.com](mailto:water@mdpi.com)

[mdpi.com/journal/  
water](https://mdpi.com/journal/water)





# Water

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.0  
CiteScore 6.7



[mdpi.com/journal/  
water](https://mdpi.com/journal/water)



## About the Journal

### Message from the Editor-in-Chief

In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

---

### Editor-in-Chief

Dr. Jean-Luc PROBST

Centre de Recherche sur la Biodiversité l'Environnement (CRBE) UMR CNRS/UPS/INPT/IRD, Centre National de la Recherche Scientifique (CNRS), University of Toulouse, Campus ENSAT, Auzeville Tolosane, Toulouse, France

---

### 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, GEOBASE, GeoRef, PubAg, AGRIS, CAPlus / SciFinder, Inspec, and other databases.

#### Journal Rank:

JCR - Q2 (Water Resources) / CiteScore - Q1 (Aquatic Science)