

Guest Editor:

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Call for Papers

Special Collection on AI/ML for
Hydroclimatic Extremes in the Context
of Hydraulic Design



Aims & Scope

An overall increase in magnitude and frequency is being noticed across the world for several hydrological variables. Research studies are being undertaken to find out the underlying processes, mostly within the broader perspectives of hydro-meteorological and hydro-climatological processes, and to assess the possible future changes in the hydrological regimes. In the recent time, availability of (i) large information through observed data and quality simulation products, (ii) improved computing facilities paved the path for the more reliable applications of Artificial Intelligence/Machine Learning (AI/ML) approaches in many areas including hydroclimatology. Such approaches are being potentially used for the analysis of hydroclimatic extremes (e.g., intense short-term precipitation, heatwaves, high streamflow, floods, droughts etc.). Another perspective is how to cope with the extreme hydrological phenomena from the hydraulic design and water management point of view. This Special Collection of JHE aims to present the studies related to the applications of AI/ML for the analysis and modelling of hydroclimatic extremes in the context of hydraulic design.

Specific Topics

Topics of interest include but are not limited to:

- Quantifying the effects of climate vulnerability on water infrastructure
- Statistical and Machine Learning approaches in hydraulic design considering hydroclimatic extremes
- Implementation of machine learning and data science in climate related issues/hazards
- Integrating statistics in AI/ML to address climate change impact analysis including extreme events
- Case studies on hydraulic and hydrologic design in the context of climate change
- Climate change informed water infrastructure design
- Implication of climate change to water related socio-economics and SDG topics

continued on reverse

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- Adaptive strategies for irrigation water demand management under climate change
- Irrigation management for specialty crops
- Advances in microirrigation management

Submission Guidelines

Prospective authors should prepare their manuscripts according to guidelines in Author Guide, <https://ascelibrary.org/doi/book/10.1061/9780784479018>.

In submitting their manuscript electronically, authors should access the journal at the Manuscript Tracking System <https://www.editorialmanager.com/jrnheeng/>

When submitting, the prospective authors should indicate in the submission questions that the paper is being submitted in response to this call for papers (Special Collection on AI/ML for Hydroclimatic Extremes in the Context of Hydraulic Design).

Please note that this is an invitation to submit papers for peer review and does not imply acceptance for publication. Acceptance of submitted papers depends on the results of the normal refereed peer review process of the journal.

The Special Collection of papers submitted through this solicitation will be published collectively in a regular issue of the journal, and will be added to a special online collection (which is similar to a print version of a special issue), and will be indexed for citations like other regular journal papers.

Proposed Timeline

December 01, 2022 to December 31, 2023