



Stochastic Modelling of Hydrometeorological Processes for Engineering Applications

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Message from the Guest Editors

Dear Colleagues,

Hydrometeorological inputs are a key ingredient and simultaneously one of the main sources of uncertainty of every hydrology-related study. This type of uncertainty is referred to as hydrometeorological uncertainty, and is of utmost importance in risk-based engineering works. This is highlighted by the profound relationship that exists between climate and water-related engineering works and operations, with human life and security. Therefore, embracing the existence of stochasticity can be regarded as a first step towards the development of uncertainty-aware, Monte Carlo-based methodologies and frameworks for the design, management, and operation of hydrological and water resources engineering works.

Considering hydrometeorological observations (i.e., time series) as realizations of stochastic processes allows their analysis, modelling, simulation, and forecasting as such. This is an assumption that essentially enables the use of statistical concepts, probability laws, and stochastics in an effort to describe their spatiotemporal evolution and dynamics.

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