Special Issue

Innovative Approaches in Flood Forecasting and Modeling for Risk Mitigation

Message from the Guest Editor

The aim of this Special Issue is to show how implementing such techniques could lead to more effective flood risk management and better protection of communities worldwide, especially in the actual context of climate change and increased urbanization. The following research directions are only a few examples in this field. Using **remote sensing satellites** for large-scale **hydrological data collection** and **drones** for localized, high-resolution data in critical areas has become very important for real-time flood monitoring and prediction. Besides traditional **hydrological** models, AI techniques are being used to predict rainfall events that lead to floods. Deep learning models can be trained to use historical rainfall data, meteorological conditions, and weather radar data to identify patterns that precede heavy rainfall. Modern **hydrodynamic models** simulate how water flows under various conditions through the 3D digital twins of the landscapes, river basins, channels or urban areas created using GIS data, satellite imagery, and LiDAR (Light Detection and Ranging).

Guest Editor

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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

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