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Integrating Hydrological and Hydraulic Models in Flood Risk Assessment, Prediction and Mitigation

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Message from the Guest Editors

Floods are still a serious threat to many countries, cities, and communities around the world. Advanced modeling techniques such as hydrologic and hydraulic simulations may provide the necessary support for authorities, decision makers and stakeholders.

We have decades of experience in testing different modeling approaches, collecting data, and methods for model reliable verification and validation. The development in computer power in recent decades has incredible increase to link ideas, models, and algorithms. We observe the continuous development of effective numerical methods; e.g., flexible meshes are replacing regular mesh applications, and effective finite volume schemes are competing with older finite-difference schemes and more complex finite-element methods. Therefore, hydrologic modeling, in deterministic as well as stochastic forms, is more easily combined with advanced hydrodynamic simulations including 2D processes of flow, sediment transport, and others.

The purpose of this issue is to present top-level research in the area of hydrologic and hydraulic model integration.

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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.

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