Special Issue

Flash Floods: Analysis and Modeling from Laboratory Experiments to Large-Scale Events

Message from the Guest Editors

Dear Colleague, Flash floods are typically caused by short, high-intensity rainstorms in the presence of dam or levee breaks or mudslides, whenever the heavy rainfall exceeds the ability of the ground to absorb it, but also in urban areas whenever the heavy rainfall compromises the capability of the drainage system to convey water. These catastrophic events have been more and more frequent, producing a severe impact on the communities, with significant damage and life losses. Despite their scientific and social importance, several features of the flash-flood response are poorly understood. Reliable and efficient numerical models are required for an accurate prediction of such events in real-scale cases, for an appropriate prevention and mitigation of consequences, as also demanded by the 2030 European Agenda for Sustainable Development. The flood risk assessment is of crucial importance in enhancing resilience to the impacts of climate change. The validation and improvement of these numerical tools needs the support of laboratory experiments for data collection and a deeper understanding in controlled conditions of the physical processes.

Guest Editors

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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