



Advances in Flash Flood Forecasting

Guest Editor:

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Message from the Guest Editor

Flash flooding remains one of the most deadly and costly natural hazards for urban, highly populated cities and regions around the world. Although challenges remain in enhancing the timing, accuracy, and reliability of flash flood forecasts, significant advances have been achieved over the last decade. This Special Issue will welcome innovative contributions on the following major topics related to flash flood forecasting:

- 1) The understanding, modeling, and prediction of key drivers of flash floods, such as extreme meteorological events, snowmelt, ice jam, and dam or levee failure.
- 2) Methodologies for taking advantage of (i) emerging real-time or near-real-time products from mesoscale numerical models, radars, satellites, and in situ sensor networks, (ii) data fusion products, (iii) quantitative precipitation estimations, and (iv) land surface products, flood inundation maps, and LiDAR data.
- 3) Integrated modeling systems including hydrologic–hydraulic models, artificial intelligence-based forecasting systems, and new hybrid forecasting systems including sequential data assimilation, Bayesian processors, and information theory.





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