





Special Issue Reprint

# Flood Early Warning and Risk Modelling

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Extreme hydrological phenomena are one of the most common causes of human life loss and material damage as a result of the manifestation of natural hazards around human communities. Climatic changes have directly impacted the temporal distribution of previously known flood events, inducing significantly increased frequency rates as well as manifestation intensities. Understanding the occurrence and manifestation behavior of flood risk as well as identifying the most common time intervals during which there is a greater probability of flood occurrence should be a subject of social priority, given the potential casualties and damage involved. However, considering the numerous flood analysis models that have been currently developed, this phenomenon has not yet been fully comprehended due to the numerous technical challenges that have arisen. These challenges can range from lack of measured field data to difficulties in integrating spatial layers of different scales as well as other potential digital restrictions.

The aim of the current book is to promote publications that address flood analysis and apply some of the most novel inundation prediction models, as well as various hydrological risk simulations related to floods, that will enhance the current state of knowledge in the field as well as lead toward a better understanding of flood risk modeling. Furthermore, in the current book, the temporal aspect of flood propagation, including alert times, warning systems, flood time distribution cartographic material, and the numerous parameters involved in flood risk modeling, are discussed.



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