



**RESOURCE**

# Application of Remote Sensing and Geographical Information Systems in Flood Management: A Review

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**Description / Abstract**

Floods are one of the most widely distributed hazards around the world and their management is an important issue of concern among all the stakeholders. The aim of this review is to synthesize the state of art literature in the application of Geographical Information Systems (GIS) and Remote Sensing (RS) techniques in all the flood management stages (pre-flood, during flood and post-flood stages). Flood types and common concepts in flood management are precisely explained. Case studies of flood management using GIS and RS are summarized. Current challenges in using GIS and RS techniques for flood management are also given. One lesson we learn from this review is that flood management is very diverse and it requires multidisciplinary involvement. It can also be deduced that RS techniques offer cheaper and faster options of accessing spatial data about the flood event even in the physically inaccessible areas. GIS techniques on the other hand facilitate hydrological models in data collection, analysis, querying and presentation of information in a more simplified format. The present review is expected to contribute to an improved understanding of the potential applications of RS and GIS techniques in flood management, especially among scientists in the developing countries where the use of these techniques particularly in flood management has generally been limited.

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