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Operational flood management under large-scal extreme conditions, using the example of the Mi Elbe

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Abstract. In addition to precautionary or technical flood protection measures, short-term strategies of the operational management, i initiation and co-ordination of preventive measures during and/or l flood event are crucially for the reduction of the flood damages. Th applies especially for extreme flood events. These events are rare, cause a protection measure to be overtopped or even to fail and b destroyed. In such extreme cases, reliable decisions must be mad emergency measures need to be carried out to prevent even large damages from occurring.

Based on improved methods for meteorological and hydrological m a range of (physically based) extreme flood scenarios can be deriv historical events by modification of air temperature and humidity, s weather fields and recombination of flood relevant event character coupling the large scale models with hydraulic and geotechnical m the whole flood-process-chain can be analysed right down to the l scale. With the developed GIS-based tools for hydraulic modelling and the Dike-Information-System, (IS-dikes) it is possible to quanti endangering shortly before or even during a flood event, so the de makers can evaluate possible options for action in operational mod

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