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The flood event explorer - a web based framework for rapid flood event analysis

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Flood disaster management, recovery and reconstruction planning benefit from rapid evaluations of flood events and expected impacts. The near real time in-depth analysis of flood causes and key drivers for flood impacts requires a close monitoring and documentation of hydro-meteorological and socio-economic factors.
Within the CEDIM's Rapid Flood Event Analysis project a flood event analysis system is developed which enables the near real-time evaluation of large scale floods in Germany. The analysis system includes functionalities to compile event related hydro-meteorological data, to evaluate the current flood situation, to assess hazard intensity and to estimate flood damage to residential buildings. A German flood event database is under development, which contains various hydro-meteorological information - in the future also impact information -for all large-scale floods since 1950. This data base comprises data on historic flood events which allow the classification of ongoing floods in terms of triggering processes and pre-conditions, critical controls and drivers for flood losses.
The flood event analysis system has been implemented in a database system which automatically retrieves and stores data from more than 100 online discharge gauges on a daily basis. The current discharge observations are evaluated in a long term context in terms of flood frequency analysis. The web-based frontend visualizes the current flood situation in comparison to any past flood from the flood catalogue. The regional flood data base for Germany contains hydro-meteorological data and aggregated severity indices for a set of 76 historic large-scale flood events in Germany. This data base has been used to evaluate the key drivers for the flood in June 2013.