Rapid flood event analyses in Germany

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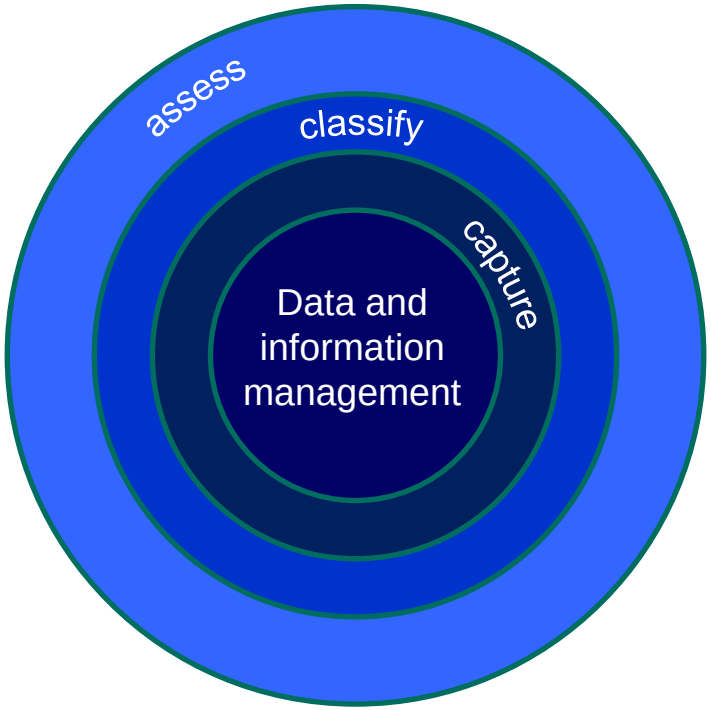
Rapid **flood** event analysis system for **Germany**



- Spatially enabled data base

  Funcitionalities:
  - Capture
  - Classify
  - Assess

    ...the current flood situation

CEDIM FDA contributions / NRT-methods

Event Task Force

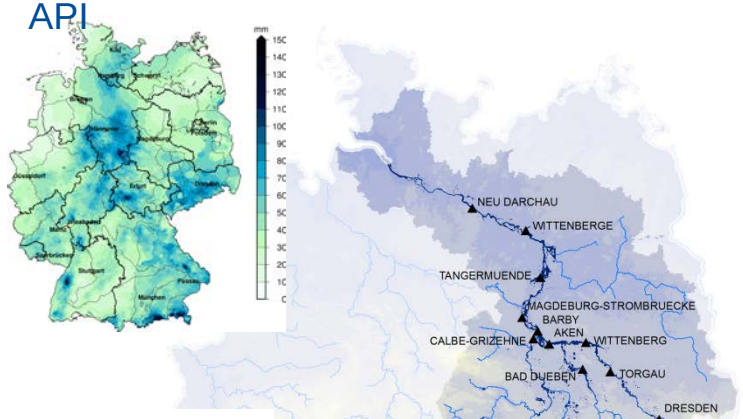
- Classify/describe flood hazard event in respect to historical event set
  - Rapid flood loss estimation (by comparison)
- Spatial picture of flood hazard distribution + intensity (depth)
  - Rapid flood loss estimation for res. Buildings using data driven flood loss models

R&D NRT-methods

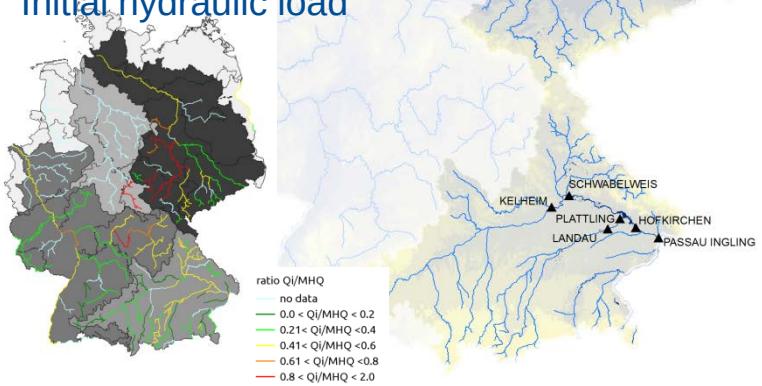
- Flood event catalogue (ca. 50 Events)
  - similarity measures (CBR)
  - input from KIT IMK needed
- Online interfaces to gauging data (gaps)
- Hazard mapping/inundation extent -> RIM (multi source data fusion, e.g. water stages, tweets, RS flood footprints)

Rapid **flood** event analysis system for **Germany**

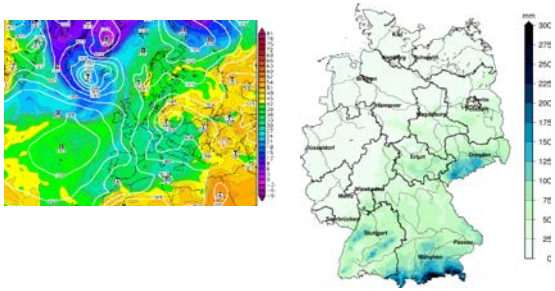
Preconditions API



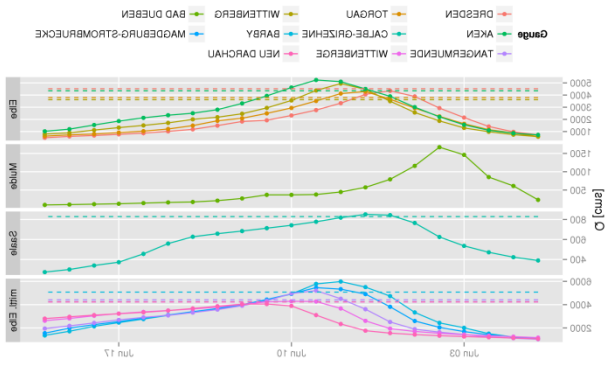
Initial hydraulic load



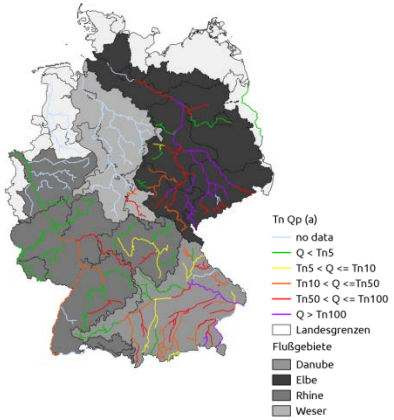
Triggering factors (CP, Precipitation)



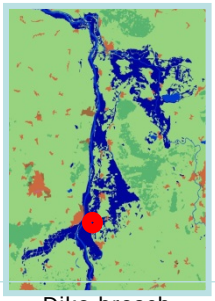
Hydrographs – return periods peak flows



Spatial extent (L) and severity (S)



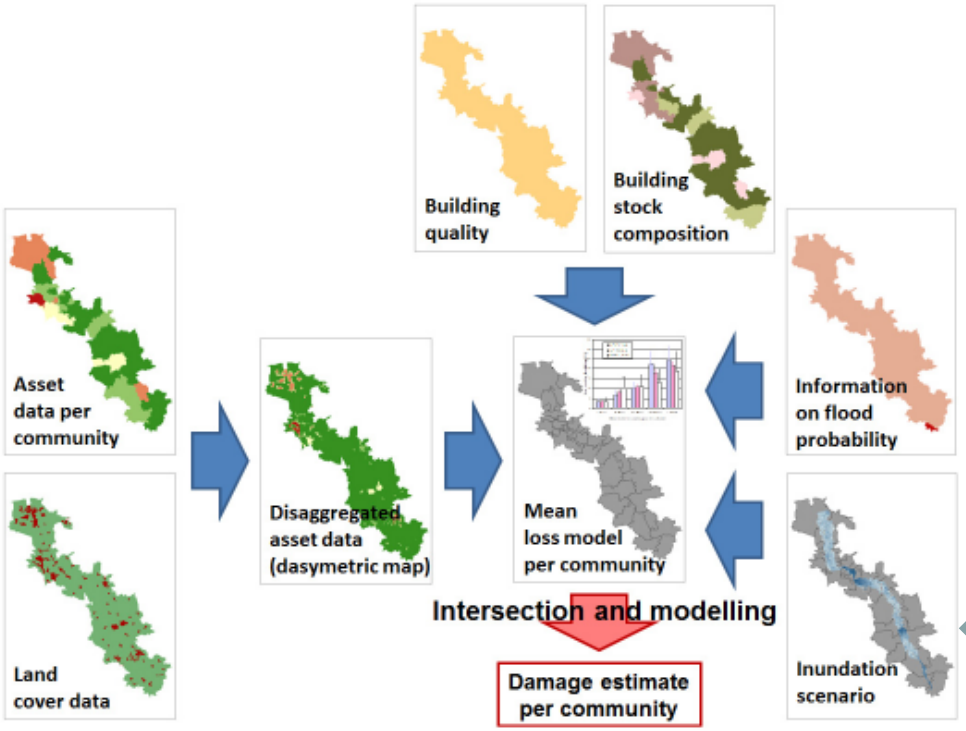
Inundations



Dike breach Fischbeck

Flood loss model – Near real time

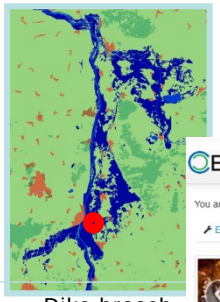
Offline



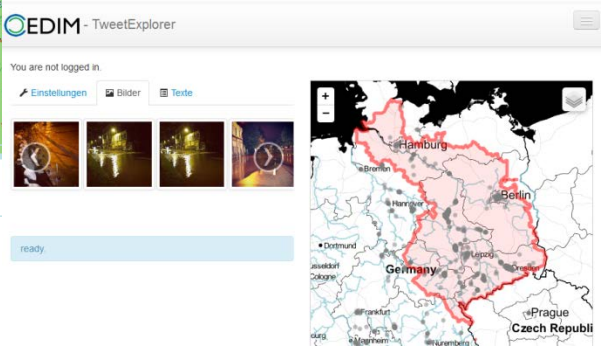
Elmer et al. 2012,
NHESS 12-1641-2012

Online

Inundations



Dike breach
Fischbeck



Rapid inundation estimate – combination of multiple data sources (water stages, remote sensing, twitter messages,…)