



A prototype for site-specific flood warning systems

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Previous studies have found that the majority of citizens have difficulties in understanding weather and flood warning messages as well as recognizing the potential local impacts of upcoming flood events. Traditionally, flood warnings have a hazard-driven approach where parameters, such as water levels, are giving more importance than the local impacts, information that can be difficult for citizens to understand during emergencies. Citizens are now demanding focused flood warning communication, in which people can have access to clear and relevant information on how floods might have an impact on them and what self-protection actions they should do to ensure their safety.

Impact-based Forecasts and Warnings (IBFW) are now being promoted as a solution to address the current gaps in the EWS elements. These services aim to use local vulnerability and exposure knowledge to provide information that can be of real use in the decision-making process for emergency managers and citizens during flood events. A proposed first step towards promoting IFWs is to implement and test this approach on well-known problematic points during floods and critical infrastructures inside flood extent areas. Site-Specific Warnings (SSW), are IFW developed and implemented specifically for such individual points, activities or infrastructures by using their local vulnerability and exposure information.

The aim of this work is to design and evaluate site-specific warnings to help citizens dynamically decrease their risk by performing relevant self-protection actions during potentially dangerous flood events. The combination of citizen's receiving SSW and performing self-protection actions specific to their local context, can create a proactive dynamic system during flood emergencies, in which citizens are empowered and ready to appropriately react to flood warnings and dynamically reduce their risk.

For the first stage of the work, case study sites in the Catalonia region have been selected to collect local vulnerability and exposure data. It is expected that real-time SSW will be place in operation for the winter period of 2019 in order to validate and gather success stories. The work is being currently carried out as part of the EU funded project ANYWHERE-H2020.