



A people-centred approach for emergency communication: The case of site-specific warnings in Terrassa, Spain

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The resilience of communities depends on how their citizens react during emergencies and how authorities implement systems to support appropriate self-protection responses from the public. Past events such as the storm Gloria in Spain demonstrate that one of the main challenges in risk communication remains citizens' inappropriate understanding of the upcoming risk and its potential impact in their daily lives. The current official warnings to the population in Spain continue to be based on the exceedances of the event's physical parameters, such as rainfall intensities and accumulations, that can be difficult for citizens to understand, personalize and translate into the expected local risks. The above can create a communication gap between what authorities provide to citizens in terms of risk information and what they actually need from a flood warning to make better decisions and react appropriately during an emergency.

Society is now demanding localized, people-centred risk communication for better social comprehension and acceptance, which provides understandable information about the expected local impacts and clear guidelines for ensuring citizens' safety during emergencies.

Thus, to support citizens' understanding and decision-making process at risk, we present a people-centred approach to design and implement new site-specific warnings (SSWs), i.e. warnings at problematic points based on local vulnerability and exposure information. The proposed methodology places people and communities at the core of the early warning system process. It blends meteorological information coming from radar-based rainfall nowcasting, numerical modelling and historical flood data to translate forecasts into relevant local impacts that the citizens may experience due to the coming weather-induced events and appropriate self-protection actions to help secure their lives. In this context, an active collaboration process with civil protection authorities, stakeholders and citizens is established from the start to incorporate their detailed local knowledge to the system and target their communication needs during emergencies. New technologies, such as smartphone applications, are used to disseminate the SSWs within the area of risk.

A first pilot based on the SSWs methodology is currently at the operational stage in Terrassa, Spain, for selected vulnerable points. Besides contributing to address the current gaps in risk communication, the implemented methodology in this study can help create a proactive, dynamic society by empowering its citizens to respond appropriately during the first instances of an

emergency.