

Uncertainty Communication Of Probabilistic Flood Mapping: A Stakeholder Driven Approach

Globally floods pose an ever-present hazard to human life and infrastructure. Consequently, structural and non-structural measures are implemented to mitigate the effects of flood hazards. Flood mapping is applied to show the extent of potential flood hazards and assists greatly in spatial planning (EU Flood Directive, 2007, Merz et al., 2007). The derivation of flood maps can be achieved using flood inundation models. However, the acknowledgement of uncertainty inherent in modelling is an established fact and efforts are focussed on the communication of this uncertainty to the users of the end products (Krzysztofowicz, 2001, Montanari, 2007). In these endeavours, the depiction of uncertainty in the model output has been hampered by challenges such as perceived miscommunication (Joslyn and LeClerc, 2012, Ramos et al., 2010). However, efforts are still being applied to overcome the miscommunication (e.g. Leedal et al., 2010).

This study is part of an ongoing study taking a stakeholder driven approach to flood inundation modelling and consequent communication of probabilistic flood maps for the river Ubaye; Barcelonnette -South France. This involves taking into account roughness parameter and peak flow uncertainty in a 2D hydraulic model to generate probabilistic maps based on a devastating flood experienced in 1957 (Lecarpentier, 1963). The study is a bid to test and study pragmatic challenges faced in a bid to involve stakeholders and gauge their perception of probabilistic flood maps. Preliminary interaction with the stakeholders has been done by a series of presentations and meetings. Initial interaction with the stakeholders in the region has shown good understanding of the issues involved and the need for a continuous cyclic interaction (Refsgaard et al., 2007).