



Augmenting the direct use of remote sensing in flood management

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On December 12 2006 both the ERS-2 and ENVISAT satellites recorded a high magnitude flood event on the Dee River in Wales (UK) only 28 minutes apart and close to flood peak. This unique opportunity enables the creation of a very rare but extremely useful observed data set for flood inundation studies. This paper illustrates how this unique set of space-borne radar images can be used in combination with a number of widely applied image processing techniques to generate an event-specific weighted possibility map of flood area observations. We also demonstrate that this can be further augmented to a fuzzy vulnerability map by fusing the possibility of inundation map with Ordnance Survey vector data in a Geographic Information System environment. This leads to an unprecedented and powerful data set for direct use in flood management.