

## Satellite inspired hydrology in an uncertain future: a H SAF and HEPEX workshop



Contribution ID: 7

Type: **Poster presentation**

### **Improving Estimates of Flood Magnitude using better Information on Spatial and Temporal Variability of Rainfall**

Flood forecasting and flood estimation commonly rely on catchment-average rainfall estimates. However, rainfall variability has been identified as one of the most influential factors in shaping flood magnitude. Ignoring rainfall variability can hence cause significant bias in the resulting flood estimates for some catchments.

High spatial and temporal resolution rainfall data (e.g. radar data), are now widely available but they are not routinely used in operational hydrology. In fact, the rainfall-catchment interactions for which high resolution radar rainfall data can produce a significant improvement in flood magnitude estimates are still unclear.

In this study we analyse the impact of spatial resolutions of rainfall data on flood estimates by testing on 137 catchments across the UK with different characteristics two different rainfall datasets from the UK national weather radar network and spatially-interpolated rain gauge data, both at 1km-1hr resolutions.

This paper discusses the preliminary results of this analysis and the implications of the results in terms of hydrological modelling. The final purpose of this work is to help flood forecasters in decision making process when flood estimates computed by lumped and distributed models are both available.

#### **Which session would you like to present in?**

1. Remote sensing, hydrological modelling and data assimilation

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**Track Classification:** H SAF and HEPEX joint workshop on "Satellite inspired hydrology for an uncertain future"