



Verification of Impact Based Rainfall Warnings at the UK Met Office

M. Sharpe (1), G. Robbins (2), and R. Stretton (1)

(1) Met Office, United Kingdom (michael.sharpe@metoffice.gov.uk), (2) Environment Agency, United Kingdom (gavin.robbs@metoffice.gov.uk)

Hydrometeorologists at the Flood Forecasting Centre, a collaboration between the Environment Agency for England and the UK Met Office, issue a probabilistic Heavy Rainfall Alert Service in 52 areas throughout England and Wales. A warning is issued in one of these areas whenever extreme rainfall is forecast that may cause significant impacts in that area. The Environment Agency and Natural Resources Wales have established a set of predetermined rainfall accumulation thresholds within each area. Each threshold is linked to increasing flood risk. Some areas have two sets of thresholds, one valid when the ground is saturated and another when the ground is unsaturated and the Environment Agency can switch between these thresholds at any time during the year.

The UK Met Office has developed a generic Warnings Verification System to verify any type of site specific or area based warning against observations or gridded analyses using a variety of optional fuzzy techniques. Due to its highly generic nature the Warnings Verification System is being used to verify many of the warnings issued by the UK Met Office including the probabilistic Heavy Rainfall Alert Service. This presentation gives a description of the fuzzy methodology used by the Warnings Verification System. The performance of the Heavy Rainfall Alert Service is shown during the 12 month period between January and December 2012 (the wettest year on record for England). This data is used to illustrate how the measured quality of the service changes with forecast lead time and as the warning definitions are flexed by the optional fuzzy techniques employed by the Warnings Verification System.