



Operational forecasting and warning- 10 years of rich learning at the UK Flood Forecasting Centre

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The UK Flood Forecasting Centre, set up following the extensive flooding in 2007, is nearing its 10 year anniversary. High impact, low probability events have been a feature of the first 10 years of the Flood Forecasting Centre. Indeed, this has been the case for all natural sources of flooding, fluvial, surface water, coastal and groundwater. This period of flooding at historical extremes has included the wettest UK summer and winter on record, the most significant coastal flooding for a generation, the highest ever recorded groundwater levels and a conveyor of 12 storms which caused prolonged, widespread and severe flooding during the winter of 2013/14.

Each event has shaped the development of the centre. Operations has influenced new science, which has in turn improved flood forecasts

Collaboration and working between science and operations, and across disciplines is key to bridging and closing knowledge gaps. Our way of working has enabled us to rapidly improve the timeliness, accuracy and communication of flood forecasts.

I will share some of our recent innovations and pipeline projects such as:

- The Natural Hazards Partnership surface water hazard impact model (driven by the Met Office MOGREPS precipitation ensembles)
- Object Orientated Nowcasting
- Machine Learning Applications
- Visualisation of crowd sourced data for rapid verification and potentially to issue short lead time warnings

I will also highlight some of our current challenges that we would love to work with others to solve.