Recent Operational Innovations and Future Developments at the Flood Forecasting Centre

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The Flood Forecasting Centre (FFC) was established in 2009 to give an overview of flood risk across England and Wales and is a partnership between the UK Met Office, the Environment Agency and Natural Resources Wales. Primarily serving the emergency response community, the FFC aims to provide trusted guidance to help protect lives and livelihoods from flooding across England and Wales from its base at the Met Office in Exeter. The flood forecasts consist of an assessment of the likelihood as well as the expected level of impacts of flood events during the next five days. The FFC provide forecasts for all natural sources of flooding, namely; fluvial, coastal, surface water and groundwater but liaise closely with meteorologists at the Met Office and local flood forecasters at the Environment Agency and Natural Resources Wales.

Key challenges include providing; forecasts with longer lead times especially for fluvial and coastal events, forecasts at shorter timescales and with more spatial focus for rapid response catchments and surface water events, and also clear communications of forecast uncertainties.

As well as operational activities, the FFC run a significant development and improvement programme and are linked in with Met Office and Environment Agency science projects in order to bring new science into operations to try and meet these challenges and improve performance.

Latest developments which are now being applied operationally to provide an enhanced flood warning service will be presented. Examples include; the use of the national hydrological model Grid to Grid (G2G) for both fluvial and surface water flooding, extended surge ensembles for coastal flooding, enhancements in the surface water forecasting tool, and improvements to products communicating these forecasts. An overview of the current projects under development will also be provided, including; improvements to data within G2G, surface water hazard impact modelling, 7 day wave ensemble forecasts, regime analysis for longer lead time coastal flood forecasting and improving products and communications.