



New developments at the Flood Forecasting Centre: operational flood risk assessment and guidance

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Abstract

The Flood Forecasting Centre (FFC) is a partnership between the UK Met Office, the Environment Agency and Natural Resources Wales. The FFC was established in 2009 to provide an overview of flood risk across England and Wales and to provide flood guidance services primarily for the emergency response community. The FFC provides forecasts for all natural sources of flooding, these being fluvial, surface water, coastal and groundwater. This involves an assessment of possible hydrometeorological events and their impacts over the next five days. During times of heightened flood risk, the close communication between the FFC, the Environment Agency and Natural Resources Wales allows mobilization and deployment of staff and flood defences.

Following a number of severe flood events during winters 2013-14 and 2015-16, coupled with a drive from the changing landscape in national incident response, there is a desire to identify flood events at even longer lead time. This earlier assessment and mobilization is becoming increasingly important and high profile within Government. For example, following the exceptional flooding across the north of England in December 2015 the Environment Agency have invested in 40 km of temporary barriers that will be moved around the country to help mitigate against the impacts of large flood events. Efficient and effective use of these barriers depends on identifying the broad regions at risk well in advance of the flood, as well as scaling the magnitude and duration of large events.

Partly in response to this, the FFC now produce a flood risk assessment for a month ahead. In addition, since January 2017, the 'new generation' daily flood guidance statement includes an assessment of flood risk for the 6 to 10 day period. Examples of both these new products will be introduced, as will some of the new developments in science and technical capability that underpin these assessments. Examples include improvements to fluvial forecasting from 'fluvial decider', and downscaled hydrometeorological data that generates probabilistic river flows at 6 days lead time using the Delft-FEWS / Grid-to-Grid modelling system. Advances in coastal forecasting from surge and wave ensembles and also the longer range 'coastal decider' approach will also be presented.