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The policy and science supporting flash flood forecasting in Scotland

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In 2012, the Scottish Environment Protection Agency (SEPA) published its Flood Warning Strategy. The strategy aims to ensure that emerging science is at the heart of supporting its strategic aim of reducing the impact of river flooding through the provision of reliable and timely flood warnings and allowing Scotland's flood warning authority to develop forecasting approaches in areas not previously considered. One specific area of agreed commitment is in the development of methods for forecasting in rapid response or flashy catchments.

Previous policies have stated that flood warning provision would not be possible without adequate hydrological response time (greater than three hours). The particular challenge with meeting this new aim is on the reliance of increasingly uncertain flooding predictions at the shorter timescale against a more cautious and traditional approach to flood warning which relies on hydrological observations and real time verification of forecasts. This therefore places increasing demands on developing hydrometeorological forecasting capabilities.

This paper will present on some scientific developments supporting the latest policy. In particular on Grid-2-Grid, a distributed hydrological model, which has been in operation across Scotland for over a year (Cranston, et al., 2012) and on a specific assessment of its capabilities using high resolution and ensemble rainfall forecasts. The paper will focus on Comrie, a community in Scotland that has been devastated twice during 2012 by flash flooding and considers the various challenges in meeting this strategic aim.

References

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