

## Joint Defra / EA Flood and Coastal Erosion Risk Management R&D Programme

### **Science Project: Achieving Technological Innovation in Flood Forecasting (ACTIF)**

Summary SC030229

Flood forecasters and researchers across Europe have completed the 3 year ACTIF Project to build awareness of EC and other relevant research by making outputs accessible and demonstrable through a series of best practice papers, European Workshops and an International Conference.

The contributions of the project to the Best Practices on Flood Prevention, Protection and Mitigation should have impact on flood management policy and practice in the medium term in all EU States. At the international conference that was attended by some 100 participants, contributions were made from practitioners in the form of organisations and consultants responsible for flood forecasting and warning. Improvements in flood forecasting is of direct socio-economic relevance, and along with the consideration of impacts possible from an increase in flood risk resulting from climate change, requires vital policy shifts to ensure that EC countries accommodate for increasing risks.

#### **Conclusions:**

The two workshops and international conference were successful in that they attracted a large number of participants and presenters from both the research, end-user and

- The use of ensemble forecasting techniques is beginning to be more widely used by operational flood forecasters throughout the world. These techniques are attractive because they allow a wide range of uncertainties and their impact on the hydrological forecast to be accounted for;
- Accurate rainfall forecasts using numerical weather prediction models can provide significant increases in forecast lead-times and thereby give

a greater opportunity for flood warning and protection measures;

- It is important to incorporate uncertainty into flood forecasting to improve the reliability and effectiveness of decisions;
- There is a general lack of real understanding of the potential benefits that may be derived from the operational use of the forecasting uncertainty in terms of an improvement in the reliability of decisions;
- There is a need to clarify the accuracy needed for precipitation measurements for flood forecasting as well a requirement to develop innovative ways to present flood forecasting information;
- The use of remotely sensed Earth Observation data provides an opportunity for flood forecasters to improve their forecasting models;
- Opportunities exist to incorporate Quantitative Precipitation Forecasts into flood forecasting to reduce the uncertainty;
- There needs to be a consensus reached over the handling data for EU related floods projects to avoid duplication of work in the future;
- The internet is becoming increasingly important for use in flood forecasting;

Inertia in the end users/practitioners and their training requirements need to be addressed in order for them to adopt new forecasting techniques.

By sharing our knowledge and contributing to best practice papers, we have played our part in shaping

the outcomes of the project, helping to build a bridge between academic researchers, applied researchers, public authorities and industry. Specifically the Agency has contributed to:

- Building awareness of the outputs of EC and other relevant national research, through sharing work on Flood Forecasting Levels of Service and the National Flood Warning Investment Strategy;
- Developing an appreciation of its mitigation of public risks by distributing and promoting Agency public awareness literature;
- Making research and development outputs accessible to the scientific and user communities by presenting a poster on the National Flood Forecasting System at the Norway conference;
- Advancing knowledge and understanding between European research groups by contributing to the best practice papers.

**This Summary relates to information from Project SC030229. Findings are reported fully on the following website:-**  
[www.actif-ec.net](http://www.actif-ec.net)

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Copies of these documents can be obtained from the Environment Agency's National Customer Contact Centre by emailing [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk) or by telephoning 08708 506506 or through Environment Agency's science publications catalogue <http://publications.environment-agency.gov.uk/epages/eapublications.storefront> on a print-on-demand basis. Alternatively, they may be downloaded from the Defra FCERM Programme website [www.defra.gov.uk/enviro/fcd/research](http://www.defra.gov.uk/enviro/fcd/research) whose search tool is located on project information and publications page.

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