

science summary



www.environment-agency.gov.uk

SCHO0509BQBM-E-P

Improving Institutional and Social Responses to flooding Work Package 1: Flood warning Science Summary: SC060019/SS

Currently, the flood warning system is not reaching enough people at risk, specifically those who are most vulnerable over the flood incident cycle. One type of flood warning will not suit everyone, both because of the characteristics of the flood (rapid response versus slow onset) and because of differences within communities.

In addition, there are new legislative requirements (such as the Disability Equality legislation) which require the Environment Agency to make sure they consider the needs of specific vulnerable groups when delivering flood warnings. These new guidelines are a challenge to the 'one-size-fits-all' approach and to current flood warning levels of service.

To address these issues, research has been done as part of the Improving Institutional and Social Responses to Flooding project. The aims of Work Package 1 were 'to produce flood warnings that work, so that they are more targeted, matched to the perceptions and behaviours of different social groupings, including vulnerable communities'. This work comprised the following tasks:

(1) A review of literature including:

- a review of literature and evidence on flood warnings and different flood situations, population characteristics and area characteristics,
- a review of flood warnings as risk communication and the context in which these are received, understood and acted upon by the public,
- a review of an alternative approach to segmenting the population for the purpose of targeting flood warnings based on a 'Values Modes' approach.

(2) A review of the current practice of flood warning in England and Wales to understanding how flood warnings work together with their current limitations and

opportunities. The task involved discussions with Area Environment Agency staff through a workshop, questionnaire survey and telephone interviews. Information was also obtained at various points in the project from other national, regional and area staff in order to obtain a more detailed picture of the system.

Research Results.

The research shows that flood warnings are not tailored to local situations, are not focussed on response (because they are not specific enough) and do not consider people with special needs.

We found good practice at the area level that allows flexibility in warnings, focuses on risk communication and engagement with key community members. However, these practices are not embedded in the organisation, and are often down to an individual's contacts and experience so there is a risk that when individuals move on, the knowledge and capacity will be lost.

Warnings are thought of as an 'end' and this is reflected in the Environment Agency's performance indicators that focus on targets for numbers of properties signed up to Floodline Warnings Direct and not on social targets, such as improving people's response to flood warnings.

We also found that the current service is primarily designed for slow-rising fluvial floods in predictable catchments where people are motivated to be signed up to FWD, have the technology to access more information and know how to respond. It is a service focussed on sending flood warnings out to people rather than a service focussed on encouraging effective responses from people in floods.

Recommendations

In order to improve the current system, change needs to happen in three interrelated Environment Agency areas:

The institutional framework, that refers to the way flood risk management is framed and discussed in policy, strategy and guidance documents, should see a shift in discussion from 'flood defence' and holding back the water to living with flooding and increasing resilience as signalled by Making Space for Water.

The organisation and skills base on which the Environment Agency builds its flood risk management teams, funds different flood warning activities and measures the success of its operations requires change.

On the ground - what happens in practice should explore the best warning methods to use and how area staff work with local groups and professional partners.

Proposals for improving the current system are outlined in three levels in the main report. These levels cover changes that will affect the three areas above:

- Level 1: Improving the current system based on a new flood warning strategy.
- Level 2: Improving the current system by moving towards a response-based system.
- Level 3: Developing a flood warning system that focuses on encouraging effective responses.

Each level contains proposals that cover the different aspects of a flood warning system including emergency planning and risk communication, dealing with the complexity of different types of flood, people and area characteristics, flood warning methods and messages. They are levels of progress towards a more effective flood warning service. Our research concludes that such a service is one that moves towards a system focused on encouraging better responses to flooding and is integrated with the response and recovery work as well as planning and awareness.

This summary relates to information from Science Project SC060019, reported in detail in the following output(s):-

Science Report: SC060019

Title: Improving institutional and social responses to flooding – Work Package 1: Improving Flood Warnings

ISBN: 978-1-84911-058-7

Report Product Code: SCHO0509BQBL-E-E

Internal Status: Released to all regions

External Status: Publicly available

Project manager: Jacqui Cotton, Rivers House, Leeds

Research Collaborator: Dr Clare Twigger-Ross

Research Contractor: Collingwood Environmental Planning, Unit 1E The Chandlery, 50 Westminster Bridge Road, London SE1 7QY.

This project was commissioned by the Environment Agency's Science Department, as part of the joint Environment Agency/Defra Flood and Coastal Erosion Risk Management Research and Development Programme.

Further copies of this summary and related report(s) are available from our publications catalogue or our National Customer Contact Centre T: 08708 506506 or E: enquiries@environment-agency.gov.uk.

© Environment Agency

Research and Development Programme.

Further copies of this summary and related report(s) are available from our [publications catalogue](#) or our National Customer Contact Centre T: 08708 506506 or E: enquiries@environment-agency.gov.uk.

© Environment Agency.

