

Evaluation of progress with delivering NERC's Natural Hazards Theme

Management Response

Background

1. NERC Commissioned this evaluation in order to meet the need for evidence on progress with implementing the science themes set out in NERC's strategy.
2. This document provides the management response to the evaluation report from NERC's Director for Science Delivery (DSD), who is the customer for the evaluation. The evaluation report has been discussed by SISB and, alongside this management response, reported to Council.

MANAGEMENT RESPONSE

3. The evaluation report provides valuable evidence on progress with delivering the Natural Hazards theme. This evidence is reinforced by NERC's SISB discussion of the panel's findings. This discussion culminated in SISB being assured that good progress has been made in delivering the theme, and that the new investments — if implemented as designed — will make major contributions towards delivering this theme.
4. The Panel's observation that natural hazards and their consequences are inherently interdisciplinary in character supports the approach taken so far that work with and by other research communities, funders, agencies, businesses and NGOs is crucial to delivering the theme. I welcome the finding that theme action investments to date have successfully generated and strengthened engagement with many of these parties, and the benefits of these partnerships are already apparent. In particular I welcome the recognition that the Increasing Resilience to Natural Hazards programme (addressing challenges 8 and 9) is a good NERC and ESRC partnership, building partly on the relationship and interdisciplinary capacities fostered through the NERC-ESRC studentship programme.
5. The panel observed that challenges 1 and 2 are innovative challenges that have great potential to deliver widespread benefits across the whole natural hazards area, yet currently lack significant activity. NERC must ensure that the primary investment in this area — the Probability, Uncertainty and Risk programme and the planned approach to it — interacts with and supports other relevant programmes to further address these challenges.
6. The report raised a number of specific issues and concerns, and made proposals to tackle them. These proposals are considered, alongside actions to address them, in the action plan below.
7. SISB discussions emphasised three areas:
 - (i) The importance of focusing effort on securing critical partnerships, with design and delivery of programmes that ensure outputs are used;
 - (ii) The balance between UK and international focus;

- (iii) The breadth of the theme, and benefits of integrated, cross-cutting actions where appropriate.

Action Plan

8. This section addresses the seven proposals made on pages 8-12 of the evaluation report. The words in italics are taken from the report.

Proposal 1: Given the wording of Challenge 1, Challenge 2 is misleading. 'Uncertainty in Forecasting and Hazard Assessment' would be more appropriate.

Management response: proposal accepted

9. This advice will be taken into account during the 2011 NERC strategy refresh..

Action 1	Feed advice on proposed change to challenge wording into NERC strategy-refresh process.
Responsibility	Portfolio Planning Manager
Deliverables	Proposed change to challenge 2 wording is explicitly considered in NERC strategy-refresh process
Due	Autumn 2011

Proposal 2: NERC should consider ways in which the Probability, Uncertainty and Risk programme could interact with and support other programmes, for example through testing 'real-life' examples, and initiating short-term postdoctoral researcher exchanges to build interdisciplinary awareness and capacity

Management response: proposal accepted

10. The PUR programme has recently launched a Network hosted by the Maths and Financial Services KTNs which will act as a focal point for bringing together researchers and programmes addressing elements of challenges 1 and 2 for different natural hazards. Natural Hazards programmes will be encouraged to interact with the network by the relevant Science and Innovation Managers.

Action 2	NERC Science & Innovation Managers to identify NH-related programmes and explore links with PUR network.
Responsibility	Head of Research
Deliverables	NH programme activities influenced by PUR research.
Due	Initiate summer 2011

Proposal 3: NERC should consider ways of addressing current gaps in delivery of the theme:

- *Challenge 3 Storms – storm surges and extreme winds;*
- *Challenge 4 Floods – interactions between pluvial, fluvial & groundwater flooding;*
- *Challenge 5 Droughts, heatwaves & floods – ecological resilience, and heatwaves;*
- *Challenge 6 Coastal flooding & coastal erosion – storm surges;*
- *Challenge 7 Landslides & subsidence – co-ordination required for landslide, subsidence and heave research;*
- *Challenge 8 Volcanoes – cascading effects of large volcanic events, including climate change.*
- *Challenge 9 Earthquakes – find ways to involve the UK's world-class earthquake engineering community with input from EPSRC. Consider focus on improving knowledge on seismic cycles and hazard in the developing world.*

Management response: proposal accepted

11. This advice will be conveyed to the NH Theme Leader for consideration in future TAPS. The TAP3 actions on Floods and Droughts recently approved by Council will address some of these areas.

Action 3	Consider identified gap areas in developing future actions.
Responsibility	Natural Hazards Theme Leader
Deliverables	TAP4 that addresses identified gap areas
Due	TAP4

Proposal 4: NERC's efforts to involve research users throughout the course of user-oriented research programmes, although sometimes time-consuming, have yielded significant benefits and should continue.

Management response: proposal accepted

12. Continued efforts will be focused on critical user partners, guided by NERC's Impact Plan priority areas, with early engagement and programme design and delivery oriented to ensure that research outputs are implemented by users. The new actions in the areas of coastal sediments, droughts and flooding — working with LWEC — will provide tests of this way of working.

Proposal 5: To ensure delivery of the more applied aspects of the theme, NERC should build on recent progress and continue to prioritise engagement with a broader range of research communities and funders, particularly in the engineering and medical areas. This should include programmes, training and knowledge exchange.

Management response: proposal accepted

13. Collaboration with the MRC has grown substantially over the past five years with two major new programmes under the Environment, Pollution and Human Health

theme (EHEI and ESEI). These programmes will include interdisciplinary training of a new cohort of students and young researchers. The Probability, Uncertainty and Risk programme has funding from EPSRC for Knowledge Transfer Partnerships and will encourage further links to engineered infrastructure for future hazards programmes. The NH Theme Leader and relevant NERC Science & Innovation Manager will build on these links to MRC and EPSRC going forward, including in current TAP actions and new LWEC programmes.

Action 4	Consider routes to further engage MRC and EPSRC in current and future NH TAP actions
Responsibility	Theme Leader
Deliverables	Selected current and future research programmes will have stronger links to relevant MRC and EPSRC communities
Date	Ongoing and TAP4

Proposal 6: NERC should consider the potential impact on delivery of this theme arising from the Research Centre funding rampdown, and ways in which risks to delivery could be minimised.

Management response: *proposal accepted*

14. Funding to centres has been monitored since introduction of the new funding model in 2008, and is discussed as part of the Centre Annual Resource Plan (CARP) process includes consideration of the extent to which areas of science investment continue to support NERC's overall strategic aims. The current development of a single NC strategy as part of NERC's overall strategy will streamline these discussions.

Action 5	Centres to alert Theme Leaders and NERC Science & Innovation Managers to major changes in science due to funding rampdown when CARPs submitted.
Responsibility	Portfolio Planning Manager
Deliverables	CARP discussions include impacts of rampdown areas on theme delivery.
Date	2011 CARP process

Proposal 7: Where new interdisciplinary and user relationships need to be established, and where target communities might not habitually view the NERC website (both particularly relevant to this theme), NERC should consider ways in which it could provide improved early warning, relationship-building, and advertising of forthcoming calls.

Management response: *proposal accepted*

15. Recognising the need to balance the competing drivers for call timetables (e.g. time for consortia or team formation and idea generation; meeting financial spend

profiles; logistical constraints (such as ship or facility availability); staff resources; and external administrative constraints), NERC is moving in the direction proposed. The PUR programme, for example, issued a pre-call on the NERC website and listservers, and the KTNs used these to alert the community to the pending call. This issue has been raised concurrently as part of the NERC Commissioning Evaluation, and is addressed in the management response to it.