

Evaluation of progress with delivering NERC's Earth System Science (ESS) 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 the NERC Director, Science, who is the customer for the evaluation. The evaluation report has been discussed by NERC's Science & Innovation Strategy Board (SISB) and, alongside this management response, reported to Council.

Management Response

3. The evaluation report provides valuable evidence on progress with delivering the Earth System Science (ESS) theme. I welcome the overall positive conclusions of the Evaluation Panel, including the findings that the:
 - a. ESS theme has *“taken an admirably holistic approach to the various element of Earth system research”* and that the *“continued breaking down of the barriers to cross-disciplinary working is leading to exciting research opportunities and outcomes”*;
 - b. ESS theme's *“collaborations with partners are largely highly successful”* and will *“produce products that are of high value to the ESS stakeholder community”*;
 - c. ESS theme's *“Challenge 1 is being well addressed by a wide portfolio of investments”* and *“the Panel did not identify any significant gaps in delivery of Challenge 2”*.
4. The report raised a few issues and concerns, and has made proposals to tackle them. These proposals are considered, in the light of SISB discussions, in the action plan below.
5. This section addresses the three proposals in the evaluation report. The words in italics are taken from the report.

ACTION PLAN

Proposal 1: *In order to further improve the impact of the UK's ESS research, NERC should consider means by which the outputs of NERC-funded ESS research can be applied more influentially on the national and international policy stage, for example through IGBP, Belmont Forum, and continued participation in CARBOCEAN.*

Management Response: Proposal accepted.

6. This proposal seeks to improve the influence of the UK’s ESS outcomes on the national and international research and policy agendas.
7. To date, NERC has sought to do this on a programme-by-programme basis – for example, the UK Ocean Acidification (with Defra/DECC) and the Shelf Sea Biogeochemistry (with Defra) programmes were designed so that the outcomes would have a strong influence on research and policy agendas, both nationally and internationally. NERC has also been actively considering how its portfolio of ESS investments can make major contributions to the research and policy agendas of international programmes. For example, with IGBP the QUEST programme made a strong contribution to IGBP-AIMES (i.e. an Earth System synthesis and integration project), with IODP (Integrated Ocean Drilling Programme) representatives¹ from the UK-IODP played a major role in the development of the new IODP science plan, and with new initiatives like that on Integrated Carbon Observation System (ICOS) where it is anticipated that the NERC Greenhouse Gases programme will make a strong contribution.

Action 1	During the development and delivery of ESS activities fully consider opportunities to improve the influence of outcomes on the national/international research and policy agendas.
Responsibility	Science & Innovation Managers
Deliverable	Increased research and policy engagement and impact from ESS research programmes at both a national and international level.
Due	On going

Proposal 2: *Although progress has been made, the co-ordination of cross-Council research activities and equipment-sharing in and for the Earth sciences can be improved. This is a particular issue where research is funded through other Councils’ Responsive Mode funding streams, but also applies to the use of facilities such as the Diamond Light Source, which is currently under-utilised by the Earth sciences community. The Theme Leader-type role is well positioned to influence in these areas, and the development and facilitation of multi-agency partnerships should be a more formal aspect of the position.*

Management Response: Proposal partially accepted

8. As the report highlights the theme has made some progress with integrating a human element into ESS research, although it has proved to be difficult to attract cross-Council interest in such activities. Work is on-going to bring the human element in to future actions and it is, for example, anticipated that the proposed TAP-4 action on the Valuing Nature Network will attract ESRC co-funding. It is recognised that more focus on integrating a human element in ESS research should be a priority for future research programmes working cross-Council and that this should be reflected in the new NERC science strategy.

¹ 3 out of the 15 members of the peer-elected New IODP Science Plan writing group were from the UK, one of whom was the Chairman of the group

9. Work is on-going in NERC Swindon Office and NERC Centres to improve the utilisation and, where appropriate, the equipment sharing of NERC National Capability (NC) facilities. A notable example of which is the recent Marine Geophysics partnership that NERC entered into with its Spanish partners, CSIC, that is now delivering world class geophysics data sets and has directly contributed to an up-lift in demand for NERC geophysics cruises. The sector lead for NERC National Capability is with NERC Centres and so they are best placed to influence the coordination and management of NERC's facilities. In addition, NERC will continue to support, via RCUK, equipment sharing/pooling activities in the University sector that are required to respond to the Wakeham efficiency agenda.

Action 2	Improve the coordination and, where appropriate, the equipment sharing of facilities.
Responsibility	Science & Innovation Managers, Head of National Capability
Deliverable	More efficient use and sharing of NERC-funded equipment and facilities.
Due	On-going

Proposal 3: *In order to add value to its wide variety of investments, NERC should consider options for support of 'big picture' syntheses of ESS research outcomes. This could include Marie Curie-type fellowships combining synthesis and communication activities. This is a Knowledge Exchange issue, and will be better addressed once NERC's KE role is finalised; the Panel recommend that NERC consider the issue of these fellowships within the KE strategy.*

Management Response: Proposal partially accepted

10. NERC already recognises the value of such synthesis activities with, for example, the funding of TAP-3 scoping reports on two potential areas of Deep Earth research, both of which could be used as the basis of future research programmes. In addition, Swindon-Office managed research programmes do hold back funding to commission Knowledge Exchange synthesis-type activities at the latter end of programmes.

11. One of the tasks of the Director, Innovation and Communications is to develop NERC's Knowledge Exchange strategy and this proposal will be taken into account in 2013.

Action 3	To take account of proposal 3 (from the ESS Review Report) in the development of NERC's Knowledge Exchange strategy
Responsibility	Director, Innovation and Communications
Deliverable	Consideration of options to support of 'big picture' synthesis for Knowledge Exchange
Due	By the end of 2013