

## **Announcement of Opportunity:**

### **The effectiveness in science and policy dialogue and interdisciplinarity of QUEST**

*\_(call launched: 16 July 2009, closing date: 8 September 2009)*

The Natural Environment Research Council (NERC), in partnership with the Economic and Social Research Council (ESRC), is seeking to commission research on **science/policy engagement** and on **interdisciplinarity** (including community building) in the context of global environmental change through its flagship programme for Earth system science: QUEST (Quantifying and Understanding the Earth SysTem). This research will observe and evaluate QUEST's own activities in these two areas, and should also engage with comparable initiatives such as the Rural Economy and Land Use Programme and the Climate Change Research Programme at the Tyndall Centre. In conjunction with QUEST's core team, the research will explore ways to enhance QUEST's effectiveness throughout the rest of the programme and draw transferable lessons of relevance to the emerging programmes of the Living With Environmental Change (LWEC) partnership. Total funding of up to £300,000 (FEC) is available for this initiative. It is anticipated that two grants with budgets of up to £150,000 (FEC) each will be funded, but cases for different allocation may be considered.

This is an exciting opportunity for scientists from the NERC and ESRC communities to advance understanding on the nature of interdisciplinarity and policy engagement in the area of global environmental change research, whilst delivering practical benefits to the QUEST programme and providing valuable guidance for future initiatives.

#### **1. Background**

QUEST ([www.quest.bris.ac.uk](http://www.quest.bris.ac.uk)) is NERC's £23M principal programme for Earth system science. QUEST was created to enable a step-change improvement in society's ability to predict environmental change and thus to inform decision-making by businesses, organisations and governments at all levels. A key aspect of QUEST is its focus on highly effective, interdisciplinary research. Since its inception in 2004, QUEST has grown into a substantial multi-disciplinary research community, with over 200 participants in over 30 nationwide research groups and with strong international connectivity.

Within the context of QUEST, NERC aims to develop and apply effective and flexible mechanisms for cross-disciplinary global environmental change research as well as engage and influence high-level policy-makers. QUEST has been committed to learning from successful approaches to user-engaged, interdisciplinary research, and to sharing its good practice so that future research activities can build on its momentum. In the context of global change science, QUEST provides a useful platform for the independent scrutiny and evaluation of activities in the two key areas covered by this proposal: science/policy engagement; and interdisciplinary interactions within a research programme and with other relevant research initiatives. Both these areas are high priorities for QUEST as it progresses towards the delivery of outputs from its now complete portfolio of projects and working groups, and towards its projected programme-end in 2010.

NERC, in partnership with ESRC, invites applications for action-oriented research into policy engagement and in interdisciplinary working, in the global change science arena, specifically through interaction with QUEST. Although methodologies for this research may be similar for both of these topics and joint working will be beneficial, we envisage two distinct projects:

- 1) QUEST's effectiveness in science and policy dialogue**
- 2) QUEST's interdisciplinarity**

Topics that both projects are encouraged to address are: 'what particular challenges in these two topic areas relate to the global nature of Earth system science?'; 'is QUEST doing the right things and doing them well?'; 'what more can QUEST do with its available resources?'; 'how can QUEST's effectiveness in these two topic areas be measured, enhanced and sustained?'; and 'how best can global environmental change research funders learn from QUEST's experience?'.

An institution or group of institutions may submit bids for both projects, more details of which are described in the following section.

## 2. Project descriptions

### **Project 1 – QUEST’s Effectiveness in Science and Policy Dialogue**

#### **Objectives and Scope**

Many research projects analysing and promoting **stakeholder engagement** have been carried out over recent years, but the available guidance tends to be generic, and often targeted at individual scientists rather than programmes. Many research outputs in this area are delivered by consultants outside of the academic domain and are retained within the knowledge bases of the research commissioners. There is still very little over-arching synthesis. Even less is based on comparative experience, and the evaluation of success tends either to be subjective and based on self-reporting, or over-objectively dependent on rigid metrics.

Over recent years, particularly since the inception of QUEST, the UK community of Earth system scientists has grown and consolidated rapidly. Given the high strategic priority of this research area for NERC and for UK and international policy, it is equally important to ensure that interactions between the science and policy communities advance along with the research. In many instances, the “component” science communities of Earth system science already enjoy productive and dynamic engagement with policy-makers, through processes that have been refined by experience and research. Nevertheless, QUEST recognises that Earth system science faces challenges and opportunities at the science-policy interface that are currently not receiving targeted research attention.

The successful proposal will meet needs that have been identified by both research and UK funder communities: Environment Research Funders’ Forum (ERFF; 2005), NERC (2005, 2007), Office of Science and Innovation (2006) and the Department for Environment, Food and Rural Affairs (2007); whose existing reports and activities must be taken into account in the development of the work programme. QUEST’s goal in its stakeholder engagement activity is to **deliver science about global environmental change that informs policy effectively and is informed by policy needs**.

The objectives of this project will be to:

- Evaluate QUEST’s coordination of its research network and communications to meet the needs of policy-makers;
- Deliver practical insights to optimise the use of QUEST resources in engaging with its policy stakeholders;
- Strengthen QUEST’s capacity for science/policy engagement by developing competencies within its community, and informing scientists, science managers/coordinators and funders of future user-engaged research programmes about how to retain and develop these competencies;
- Develop UK capability in research about the science-policy interface in the context of Earth system science.

#### **Activities and Outputs**

- Identify good practice and collate key lessons from QUEST’s experience and that of other relevant initiatives to inform the forward development and coordination of the QUEST community’s engagement with its stakeholders;
- Select or design a good-practice evaluation framework appropriate for appraising the relationships and impact on policy of environmental research at QUEST’s global scale;
- Survey science & policy mechanisms and activities across QUEST to date, and examine their impact and effectiveness;
- Define and/or devise incentives for wider participation in science-policy dialogues by researchers;
- Document key lessons and future recommendations in formats that can be used to promote organisational learning for NERC and cross-council centres/programmes;
- Produce research publications, in co-operation with experts within the QUEST community as necessary.

#### **Essential connections**

Further information about QUEST’s ethos and mode of working is summarised in QUEST’s website ([quest.bris.ac.uk](http://quest.bris.ac.uk)). The project will be expected to engage with QUEST’s evolving research synthesis process, and to maintain two-way communications with QUEST’s Core Team and its UK stakeholder group. The project should also observe and develop QUEST’s external relationships with: the UK Climate Impacts Programme; the Tyndall Centre for Climate Change Research; other NERC programme Knowledge Exchange (KE) officers (facilitators or translators); the NERC KE, Science Policy and Communications teams; ERFF; and other organisations or key individuals operating at the science-policy interface. Comparative analysis of experiences in other countries is strongly encouraged. For this project, the successful applicants must have demonstrable experience in evaluating research activities and/or programmes, or providing policy recommendations to government or government agencies, and ideally in both.

## **Project 2 – QUEST’s interdisciplinarity**

### **Objectives and Scope**

There is a growing emphasis nationally and worldwide on interdisciplinary research, particularly in global environmental change, and a concomitant increase in planned funding for more interdisciplinary research modes. Interdisciplinarity is regarded as providing a valuable arena for intellectual innovation and also for solutions-oriented research in the context of many of today’s pertinent problems. Alongside this high visibility, the real-world challenges of interdisciplinary working have been recognised and articulated in general terms in many contexts. However there is still a dearth of empirical studies of interdisciplinary initiatives, especially in the UK setting. The recent ESRC study in this area, *Interdisciplinarity and society*, looked at one UK case study in an international comparison, focusing on the interplay between “interdisciplinary” and the wider public in determining research priorities and agendas. This proposed project should be complementary to this earlier activity, addressing some similar questions from the perspective of a different range of contributory disciplinary communities, and building on the action-oriented methodologies already developed.

QUEST’s research scope allows for an investigation of interdisciplinarity across diverse research areas, a novel global-scale process perspective, and access to international researchers participating in these activities who bring greater breadth in expectations and epistemology than is found in many NERC activities. The project should take an action-oriented approach, exploring and evaluating ways to support and expand the UK’s diverse and active community of Earth system scientists; foster and enrich the development of useful and usable interdisciplinary Earth system research resources; and provide insights about the kinds of enabling infrastructure that support collaboration, information-sharing and leveraging of resources. Topics that the project should address are listed below:

- **Nature of “deep” interdisciplinarity:** Most research on interdisciplinarity to date has focused on particular, comparatively narrow research interactions. In the context of global environmental change, interdisciplinary research efforts seek to integrate elements of the widest possible range of disciplines – the physical and natural sciences, the humanities and behavioural, social and economic sciences – often including both basic and applied research in these fields.
- **Strategic and institutional aspects of interdisciplinarity:** Priority should be given to exploring the role and activities of distributed research programmes or virtual research centres, rather than “real” centres in institutions that have deliberately softened their disciplinary boundaries or created inter-institutional collaborations. However, it is in the scope of this project to explore whether such groups or centres affect the momentum and impact of interdisciplinarity in research programmes. The project should include an examination of good practice and success factors in programmes and virtual centres, paying particular attention to their contribution to the development of interdisciplinary research and the maintenance of a legacy of capability (e.g. networks of excellence).
- **The relationship between interdisciplinarity and policy-oriented research:** This strand of research would require links with the QUEST science/policy project. Engagement with research funders would also be beneficial.

The methodology for these component studies is not being prescribed, but should address the general points and specific topics indicated above. It is intended that this research should inform practical improvements to our modes of working during the remainder of the programme, and facilitate opportunities for this emergent community to continue its collaborative working in future. Applicants should note that they have access (via [quest.bris.ac.uk](http://quest.bris.ac.uk)) to documentation about QUEST’s establishment and development, including details of the portfolio of projects and working groups funded by QUEST.

### **Activities and Outputs**

- An evaluation of UK interdisciplinarity within the wider international Earth system science context;
- A report on the state and pathways for progress of UK interdisciplinarity, which should also inform the Analysis, Integration and Modelling of the Earth System Project (run by the International Geosphere-Biosphere Programme) and the UK National Committee of the International Human Dimensions Programme (IHDP);
- A workable methodology for reflexive through-life assessment of interdisciplinary programmes;
- Contributions to the outputs of QUEST’s interdisciplinary activities (e.g. guidance on multi-user communications, community-building activities);
- Research publications, in co-operation with QUEST’s own researchers into interdisciplinary working.

### **Essential connections**

Dynamic engagement is expected with the Core Team, the wider QUEST community, and Project 1 (QUEST Effectiveness in Dialogue), also in this call. This project must include a comparative dimension, engaging constructively with other interdisciplinary research programmes underway in the UK: Rural Economy and Land

Use, Flood Risk from Extreme Events, Ecosystem Services and Poverty Alleviation, the Tyndall Centre, and the developing LWEC partnership; and with relevant programmes elsewhere, particularly those that have included reflexive learning about their modes of interdisciplinary working (e.g. the EU [Matisse project](#)). The successful grant will demonstrate a strong international perspective, taking consideration of relevant activities such as those carried out within the framework of the IHDP and the wider [Earth System Science Partnership](#).

### 3. Eligibility and Funding Available

The successful applicant(s) will be awarded a grant to carry out the proposed work. Due to the requirement for research in the social sciences in this project, the opportunity is open to researchers eligible for [NERC](#) and [ESRC](#) funding.

Total funding of up to £300,000 (100% FEC) is available for this initiative. It is anticipated that up to two grants with budgets of up to £150,000 (100% FEC) each will be supported, but cases for different allocation may be considered.

Projects should aim to commence soon after the funding is announced to maximise the opportunity to interact with QUEST research, which is due for completion by the end of 2010.

### 4. Selection

NERC and ESRC are collaborating in the assessment of proposals to ensure the interdisciplinary aspects are robustly reviewed. Following submission, applications will be assessed in line with NERC's standard [pre-award assessment criteria](#).

### 5. Timeline

Call opens	23 July 2009
Call closing date	8 September 2009 (16:00 hrs)
Completion of peer review process	October 2009
Panel recommendations	November 2009
Grants to be awarded	December 2009

Late submissions will not be accepted

### 6. Proposal Submission Process

Applications must be submitted using the Research Councils Joint Electronic Submission system (Je-S). To use this system, the applicant's Research Organisation must be registered as a Je-S user. Full details are available on the Je-S website at <http://www.rcuk.ac.uk/je-s/>. Further information can also be obtained by contacting the Je-S Helpdesk by email at [JeSHelp@rcuk.ac.uk](mailto:JeSHelp@rcuk.ac.uk) or by telephone on 01793 44 4164.

Applicants must ensure that their application is received by NERC by 16.00 hrs on 8 September 2009. They should leave enough time for their application to pass through their organisation's Je-S submission route before this date. Any application that is received after the closing date, is incomplete or does not meet NERC's eligibility criteria will be returned to the applicant and will not be considered.

There is no limit to the number of proposals an individual may be named on but applicants should note that the intention is to fund up to two projects under this call, up to one in each of the specified areas, if proposals of sufficient quality are received.

The Principal Investigator must submit form Je-SRP1 (NERC), together with a Case for Support. All attachments submitted through the JeS system, including the Case for Support, must be completed in single-spaced typescript of minimum font size 11 point, Arial font, with margins of at least 2cm. References can be presented in a smaller font size provided it is sufficiently clear to ensure good quality reproductions. Applicants referring to websites should note that referees may choose not to use them. Any proposal in which the Case For Support does not comply with these specifications will be rejected. Applicants should avoid the use of colour graphs or pictures, which NERC cannot guarantee will be reproduced in colour for referees.

The Case for Support should have two parts: Part 1 – Previous Track Record, and Part 2 – A Description of the Proposed Research. The Previous Track Record must not exceed **2** sides of A4 and the Description of the Proposed Research must not exceed **8** sides of A4 (including all necessary tables, references and figures). The Justification of Resources should be completed as a separate section and up to an additional **1** side of A4

may be used for this purpose. CVs are required for all Principal and Co-Investigators, for all named research staff post and Visiting Researchers, (up to 2 sides A4 for each CV).

The Previous Track Record should:

- Provide a summary of the results and conclusions of recent work in the technological/scientific area that is covered by the research proposal. Include reference to both NERC and non- NERC funded work. Details of any relevant past collaborative work with other beneficiaries should also be given.
- Indicate where your previous work has contributed to the UK's competitiveness or to improving the quality of life.
- Outline the specific expertise available for the research at the host organisation and that of any associated organisations and beneficiaries.

The Description of the Proposed Research should address the following points:

- Underlying rationale, scientific and technological issues to be addressed, relevance to users and the potential scientific, practical and socio-economic benefits.
- Specific objectives of the project, including their potential relevance to UK and international research work in the field, relevance to the aims of this call and anticipated achievements and outputs, including datasets.
- Methodology and approach.
- Programme and/or plan of research.
- Management of both project and resources, identifying the training and career development opportunities for personnel working on the project.
- Identification of data sets that the research will produce which will be of potential long-term value and which the NERC data centres will need to manage and make available to enable re-use after the end of the research.

The Justification of Resources (JoR) should be submitted as a separate attachment in the JeS system. It should include justification for all Directly Incurred Costs, Investigator effort, use of pool staff resources and any access to shared facilities and equipment being sought. Up to **one** page of A4 is allowed for this purpose. No justification for Directly Allocated Estates and Indirect Costs is required. It should be noted that if resources are not fully justified, they will be subject to reduction by Peer Review panels. An example of a well-written JoR can be found on the NERC website at [http://www.nerc.ac.uk/funding/application/documents/justification\\_eg.pdf](http://www.nerc.ac.uk/funding/application/documents/justification_eg.pdf). This clearly shows the level of detail expected in applications.

Project Studentships cannot be included under this call.

Each Project Partner must provide a letter to confirm that support and facilities will be made available.

NERC also requires all research grant applications to submit an Impact Plan. The Impact Plan should not exceed 2 sides of A4. All costs must be included in the main research grant application. The Impact Plan should detail:

- Those who may benefit or make use of the research.
- How they might benefit and/or make use of the research.
- What will be done to ensure that they benefit from this research.

Full details of the requirements for Impact Plans can be found on the NERC website at: <http://www.nerc.ac.uk/funding/application/keplans.asp>

## 7. Contacts

Scientific queries regarding this Announcement of Opportunity should be directed to the QUEST Science Programme Manager and Core Team Scientist, Sarah Cornell ([sarah.cornell@bris.ac.uk](mailto:sarah.cornell@bris.ac.uk)). Advice on application and administrative arrangements is available from the Science Programme Officer, Melissa Lewis ([mewi@nerc.ac.uk](mailto:mewi@nerc.ac.uk)), although any queries regarding the JeS system and submission of applications should be directed to the dedicated JeS Helpdesk ([JeSHelp@rcuk.ac.uk](mailto:JeSHelp@rcuk.ac.uk)).