

QUEST Theme 3: Announcement of Opportunity

Collaborative grant proposals are invited for research projects that will address Theme 3 of QUEST. This theme aims to understand and, as far as possible, quantify the **implications of global environmental change for the sustainable use of resources**. QUEST plans to fund up to one multi-institutional collaborative projects in each of the following two areas:

- **Quantitative mapping of the risks associated with different degrees of climate change for ecosystem services related to water supply, food and fibre production, biodiversity and human health and well-being.** The analysis should be global in scope but must quantify risks and opportunities due to climate change on a geographically explicit basis, taking into account potential land use change and the adaptive capacity of different human populations. It should identify “hotspots” taking into account factors influencing the resilience or vulnerability of different populations and sectors. Large-scale ecosystem modelling will be combined with data synthesis and information derived from local case studies and meta-analyses of climate-society and ecosystem-economy-society interactions. A multi-criteria approach, with appropriate metrics for each sector (e.g. percent loss of habitat for biodiversity, economic gains or losses to farmers or fishers, ratio of water supply to minimum needs, disability adjusted life years for health impacts, etc.), will be adopted. The analysis should assess the potential for climate change to influence the attainability of the UN Millennium Development Goals, and contribute to an improved understanding of what might constitute “dangerous” climate change.
- **Quantitative analysis of the potential for biosphere management in a broad sense, including measures such as agroforestry, biofuel production and increased use of long-lived wood products, to mitigate climate change.** The analysis must consider regional economic and social constraints and incentives to land-use change in the context of current and possible post-2012 international agreements under the UN Framework Convention on Climate Change. It must also consider biophysical constraints to the efficacy of management options (including consideration of potential changes in soil carbon stocks, runoff and biodiversity, and the sustainability of the measures given potential non-mitigated changes in climate) in reducing atmospheric CO₂ content. The assessment should be global in scope, drawing on state-of-the-art land-use data sets, modelling of ecosystem services and methods for examining environment-economy-society interactions. The analysis may also involve the selection of exemplary regions for more detailed consideration, including assessment of the potential for synergy between climate mitigation and other sustainability goals. Such assessment should draw on recent experience with successful carbon sequestration projects.

Research funded in these areas will be expected to fully exploit the potential for synergy with other activities in the UK and elsewhere. The climate impacts research of the Tyndall Centre and the Hadley Centre, and Tyndall Centre research on adaptation, integrated assessment and sustainable development are directly relevant to the first research area. Proposals in this area should therefore explicitly describe proposed connections with these two Centres. Proposed QUEST research in this area should also fully take account of relevant work done by UNEP [HYPER LINK TO <http://www.unep.org/science/>], the Columbia Hotspots project [HYPERLINK TO <http://www.ldeo.columbia.edu/chrr/research/hotspots/>], the European ATEAM project [HYPERLINK TO <http://www.pik-potsdam.de/ateam/>], and the DEFRA Fast Track Assessment [HYPERLINK TO www.defra.gov.uk/environment/climatechange/pdf/cc-science-0904.pdf]. Other programmes relevant for one or both areas include the TSEC programme and UK Energy Research Centre [HYPER LINK TO <http://www.ukerc.ac.uk/content/view/26/44/>]; the ESRC Centre for Social and Economic Research on the Global Environment (CSERGE) [HYPER LINK TO <http://www.uea.ac.uk/env/cserge/>]; the UK Climate Impacts Programme [HYPERLINK TO

www.ukcip.org.uk]; the European ENSEMBLES project (HYPER LINK TO <http://www.ensembles-eu.org/>); the international Initiative on Science and Technology for Sustainability (HYPERLINK TO <http://sustsci.harvard.edu/ists/>) and the International Human Dimensions Programme (HYPERLINK TO <http://www.ihdp.uni-bonn.de/>). The QUEST core team will facilitate liaison between Theme 3 projects and various national and international programmes. Interactions with QUEST's Stakeholder Group will be important at all stages of the research.

In common with other QUEST themes, new fieldwork will generally not be supported under Theme 3 unless a strong case is made that such work would provide a major and highly cost-effective contribution to the project's goals. However, synergies with empirical research funded through other mechanisms are strongly encouraged. Projects will be required to ensure that sources and reliability of data are transparent and documented according to standards for data syntheses for the Earth System Atlas that will be developed during the course of QUEST. Any modelling activities will be expected to demonstrate compatibility with QUEST's Earth System Modelling strategy (HYPERLINK TO <http://www.nerc.ac.uk/funding/thematics/quest/esms.shtml>). Proposals will be expected to provide a well-developed management plan including provision for co-ordination activities commensurate with the scope, complexity and interdisciplinarity of the research.

Although proposals should principally address the strategic objectives of Theme 3, as stated in this Announcement of Opportunity, they should also take into account QUEST's overall strategic ambition as stated in the QUEST Science Plan [HYPERLINK TO http://www.nerc.ac.uk/funding/thematics/quest/documents/quest_science_plan.pdf] and Implementation plan [HYPERLINK TO http://www.nerc.ac.uk/funding/thematics/quest/documents/quest_implementation_plan.pdf]. Outline Proposals and Full Proposals will be evaluated according to the NERC assessment criteria [HYPERLINK TO <http://www.nerc.ac.uk/funding/preaward/criteria.shtml>] for directed programmes, and for the fitness of the proposed collaborations to achieve their goals.

Outline Proposals and Full Proposals must be costed on a full economic cost (FEC) basis (see <http://www.pparc.ac.uk/jes/DualSupport.asp> for more information). The maximum amount of funding originally allocated for this announcement of opportunity prior to introduction of FEC was £2M. Applicants should propose the same volume of research that they would have done on this pre-FEC basis, but cost the proposal according to FEC. Additional uplift funding to cover the additional cost of the research under FEC costings will be available, to allow an equivalent amount of research to be supported, but at 80% FEC. The earliest possible project start date is 1 October 2006, and the maximum project duration is 2.5 years.

It is recognized that success in achieving the Theme 3 goals will require a new level of interdisciplinary collaboration involving natural scientists, economists and social scientists. To facilitate the development of well thought-out Outline Proposals, the QUEST core team may organize and finance a small number of focused meetings, and in addition will consider requests for a modest amount of funding to hold such meetings, either independently or with core team participation if this is found helpful. Enquiries about participating in, or obtaining funding for these meetings should be e-mailed to the QUEST Office (julie.shackleford@bristol.ac.uk) **as soon as possible** so that meetings can be held in good time for planning purposes. The very latest date for receipt of such requests is **Friday, 2 December 2005** but it is strongly recommended that interested people contact the QUEST Office well before that date.

Outline Proposals and Full Proposals must be submitted electronically using the Research Councils Joint Electronic Submission (JeS) system. The closing date for receipt of Outline Proposals is **Thursday, 12 January 2006**. Further information for submitting the Outline Proposals is provided below. The Outline Proposals will be reviewed by a panel who, in addition to evaluating outlines according to NERC assessment criteria, will also examine potential for synergies and

overlap and may therefore request additions, deletions, mergers, or any other appropriate measures as part of any invitation to submit full proposals. The closing date for receipt of full proposals will be **Thursday 30 March 2006**. Further information for submitting Full Proposals is also provided below.

Further information for submitting proposals

NERC rules for institutional and investigator eligibility will apply. For example, submissions must be made via UK universities or NERC-recognised bodies. For full proposals, an individual may only be lead Principal Investigator on one proposal, plus be involved on one further proposal as Co-Investigator (or be involved in two proposals as Co-Investigator). However, at the outline proposal stage, there will be no limit to the number of times an individual can be identified as a Co-Investigator, Recognised Researcher, or Project Partner. Linkages with research users and other non-academic organisations (as Project Partners) are encouraged.

The outcome of the assessment of full proposals is expected to be known in August 2006; 1 October 2006 is therefore the earliest practical start-date for projects (later if appointment processes are involved). The duration of awards should be no greater than 2.5 years.

Prospective applicants wishing to informally discuss their ideas for involvement in the programme should contact the QUEST Leader, Prof. I. Colin Prentice (colin.prentice@bristol.ac.uk) (tel. 0117 331 5019).

For administrative queries regarding the submission of outline or full proposals, contact the Programme Administrator, Dr. Gina Adams (gadams@nerc.ac.uk) (tel. 01793 411521).

Outline Proposals:

Researchers intending to bid for funding under this Announcement of Opportunity must submit an Outline Proposal using the Research Councils Joint Electronic Submission (JeS) system by Thursday 12 January 2006. The FEC Outline Proposal Form (Je-SOP1 (NERC)) should be used. At the Outline Proposal stage, only the lead institution should submit a form, which should summarise the applicants and resources required for all institutions in the collaborative proposal. A case for support of no more than 2 pages and a CV for the Principal Investigator (PI) must be attached. See <https://je-s.rcuk.ac.uk/eforms/secure/Login.asp> for information on the JeS process. Further information, including details on Full Economic Costing, is also available in the NERC Research Grants Handbook for Full Economic Cost Grants, [HYPERLINK TO <http://www.nerc.ac.uk/funding/forms/>.] *Potential applicants are reminded that their institution must be registered with JeS, in order to submit applications. As the registration process takes several weeks, institutions that are not registered should register with JeS as soon as possible.*

The QUEST Leader will inform individuals whether outlines are suitable for development as full proposals by early February 2006.

As noted above, the QUEST core team will organize and/or finance a small number of focused planning meetings in advance of the Outline Proposal closing date. Enquiries about these meetings should be e-mailed to the QUEST Office (julie.shackleford@bristol.ac.uk) as soon as possible. The final date for such requests is **Friday, 2 December 2005** but interested people are strongly recommended to contact the QUEST Office well before that date.

Potential applicants should note that information provided on the Outline Proposal form may be made available by NERC to other applicants to this QUEST Theme, where the Outline Bid review panel request that full bids involve mergers or other collaborations involving more than one bid.

Full Proposals:

All Full Proposals must be in response to an invitation from the QUEST Leader.

Full Proposals must be submitted via the Research Councils Joint Electronic Submission (JeS) system by Thursday 30 March 2006. The FEC Research Grant Application form Je-SRP1(NERC) must be used. (See Outline Bid section above, for details of further information available on the JeS and NERC research grant application process).

For collaborative, multi-institutional proposals each organisation requesting funds must submit a separate Je-SRP1(NERC) form. This should be accompanied by a common case for support. Applicants should identify a lead organisation for the purposes of submitting the joint proposals. The other partners must use the common Je-S reference provided by the Lead. Only the lead organisation should include details of project partners and nominated referees. There is no limit to the number of institutions that can be involved in a proposal.

The project description must include a clear outline of project management planning, which must include an element for co-ordination commensurate with the scope and complexity of the project.

The page limit for the project description within the Case for Support is dependent on the number of institutions involved in the application: For proposals which involve investigators from one or two institutions, the page limit is 8 pages. For each additional institution involved in a proposal (at a Co-Investigator level), an additional 2 pages may be used, up to a maximum project description length of 16 pages (3 institutions = 10 Pages, 4 Institutions = 12 pages, etc.).

Proposals requesting funds for more than one institution must also attach an additional page to the case for support, summarizing for all institutions in the application, the individuals involved and the resources requested. This is to help reviewers of collaborative proposals identify precisely which institutions and individuals will be performing which functions and the respective resources requested. This summary should be no more than 1 page long.

Applicants may provide up to 2 pages per institution for the track record section of the Case for Support.

Requests for any associated Tied Studentship should be made using form RS1a available from the NERC **Forms and Handbooks** page. The RS1a form should be submitted at the same time as the Je-SRP1 form, as part of the Joint Electronic Submission process. Applicants are reminded that, as for all NERC studentship schemes, tied studentship projects should provide strong training elements and scope for innovation. Furthermore, **the success of other parts of the grant proposal should not depend on studentship results.**

It is expected that any computation requirements will be met in the context of QUEST's computation strategy, involving the QUEST cluster. Therefore potential projects requiring resource for computation should discuss their needs with the QUEST Leader, Prof. I. Colin Prentice when developing full proposals.