

Changing Water Cycle: South Asia Call

Announcement of Opportunity

Closing date: 16:00 on 3rd September 2010

Summary

The Ministry of Earth Sciences (MoES), India, in collaboration with the Natural Environment Research Council (NERC), UK, jointly invite outline bid proposals for research on the changing water cycle in South Asia.

For NERC, this activity forms the second phase of its 'Changing Water Cycle' programme (Annex 1). This is a five-year, £10m research programme that directly relates to the delivery of NERC strategy (in particular the climate system, sustainable use of natural resources and natural hazards science themes) and UK Government's strategic goals with respect to adaptation to, and mitigation of, climate change.

For MoES, this activity forms part of its programme on capacity building and R&D in Earth Sciences.

Proposals are sought for collaborations between UK and Indian researchers.

Background

South Asia is an important region in understanding Changing Water Cycles at both the global and local scale. New collaborative research has the potential to make a significant contribution because of the following.

- The South Asian region has a very high level of water usage and the potential for water scarcity in the future.
- There are significant science challenges in the region relating to, for example, improved understanding of the Indian monsoon; the potential connection with weather patterns in northern Europe; and the important (and poorly understood) interactions between climate, glaciers, groundwater and water resources.
- There are excellent opportunities to build on existing links between the UK and Indian science communities in terms of both collaboration and expertise.

The programme will be fully interdisciplinary, aiming to bring science understanding across the different areas in a fully integrated way in order to deliver the outcomes specified by the programme's four goals as set out under 'scope of call'.

This programme will address the urgent need to understand the changes taking place now and predict changes that will take place over the next few decades. It aims to achieve this by working in partnership to build resilience, mitigate problems, and develop adaptive solutions.

In the UK, this programme is launched under the umbrella of the [Living With Environmental Change](#) (LWEC) partnership and will contribute to global objectives on climate change, ecosystems and human well-being.

In order to scope the areas for potential collaboration, a workshop to bring together leading researchers from both India and the UK was arranged and held in New Delhi in February 2010. A report from this workshop, including contact details of attendees, can be found [here](#).

Immediately following this workshop, the UK and Indian Governments signed a memorandum of understanding to agree to work together to support research in this area.

Scope of call

Projects will be expected to address regional issues that fit within the programme's global context and address the research themes for this call outlined below.

MOES and NERC have agreed that the following four interconnected themes of common interest will form the scope for this call.

1. *Water cycle drivers and mechanisms* with emphasis on precipitation, monsoon systems, and teleconnections from global- to regional- and local-scales.
2. *Interactions between water at the land surface and in the subsurface*, i.e. links between key components of the water cycle, including enhancing understanding of water cycle interactions with biogeochemical and fluvio-glacial processes
3. *The water cycle-anthropogenic interface*, i.e. understanding sustainability of water quality, supply and usage; impacts on land-use change, soil resource and nutrient availability, in a changing climate
4. *Society and the changing water cycle* i.e. social factors as drivers of change, water-related hazards, prolonged drought, mitigation and adaptation¹ to change.

The funds available through this call are intended to support focused, co-ordinated and collaborative research between the UK and India to address the four themes outlined above. These grants are intended to promote inter-institutional collaborations, both between and within the UK and India, and are also expected to enhance opportunities for inter-disciplinary collaboration. Proposals must demonstrate that research activities will either achieve more than the partners would have achieved if tackling an issue by working alone, or achieve outcomes at less cost or faster than if working alone. Partnerships should be genuine and reciprocal, and working together must add value to that which could be achieved by individual partners working on their own.

¹ Note that it is a requirement of this call that research projects do not focus solely on adaptation.

For each grant application a lead Principal Investigator should be nominated from both the UK and India, and they will act as focal points for contact with the funding agency in their respective countries.

Grants will be expected to be of at least 3 years duration and a maximum of 5 years, unless there is justification for short term valuable work.

Information for those interested in applying who are looking for overseas collaborators

Potential partners in the UK:

- A list of UK researchers who attended a Changing Water Cycles focussed workshop in London on 3rd February 2010 can be downloaded [here](#).
- A searchable database of all currently funded NERC research awards can be accessed at [Grants on the Web](#).

Potential partners in India:

- [Biographies](#) and [contact details](#) of those who attended the earlier UK-India workshop can be found [here](#).
- A list of Centres in India with an interest in water research can be found [here](#).
Note this is not an exhaustive list but may be a useful source of information. The names of the researchers provided in the list are only indicative and detailed information about researchers/faculty may be found in the respective websites of the centres.

Eligibility

Applications to the Changing Water Cycle programme South Asia call must include UK-Indian partnerships – i.e. include at least one researcher in India and one researcher in the UK.

For UK researchers see the NERC [Research Grants Handbook](#) for eligibility. Indian researchers from the Government institutes including Indian Institute of Technology, Indian Institute of Sciences, Government laboratories, Universities, Academic institutions etc are eligible to apply.

In addition, joint proposals will be welcomed where only one partner, from either the UK or India, is eligible for funding, provided that the other partner can provide his or her own funding/support.

We would also encourage additional partners from elsewhere in South Asia who can provide their own funding/support.

For the purpose of this call South Asia is defined as India, Pakistan, Nepal, Bangladesh, Bhutan and the catchment of the Brahmaputra.

Funding

Up to £2.5m is available from NERC for this call to fund eligible costs requested by successful grant applications by UK teams. Funding is available from the MoES to fund eligible costs requested in successful grant applications by Indian teams. We anticipate making 3 to 5 relatively large awards. These awards will not necessarily all be of the same size and we would also welcome smaller projects with more modest budgets.

Outline Bid Submission Process

NERC are managing the outline bid submission process on behalf of the NERC-MOES partnership. Applications must be submitted to the allocated NERC officer ([Sally Reid](#)) no later than 4pm GMT (8.30pm IST) on the closing date, 3rd September 2010. Please note that late submissions will not be accepted. Bids should be in the form of a single UK- Indian proposal, written jointly and including details of all UK and Indian researchers.

Applicants will be required to submit the outline bid using the proforma provided, which includes the following elements:

- a summary of the researchers involved, including contact details;
- a summary of costs involved*;
- a text based Case for Support (maximum of 2 pages for the Science Case and one to two pages for the Justification of Resources; where funds are being sought from both NERC and MoES, a separate page must be included for each breakdown and justification of the resources, bringing the maximum total for the outline bid to 4 pages of A4).

*Emoluments for Indian Researchers viz. Research Fellow, Research Associate, Research Scientist will be as per the norms of MoES/Department of Science and Technology, India

The outline bid must include information on:

- title of proposal, start date and expected duration of the grant;
- list of participants including where appropriate: lead Research Organisation, eligible partner Research Organisations, other project partners, actual and expected;
- outline of proposed research;
- scientific objectives and deliverables, specifically detailing the contribution to the delivery of the programme's four themes;
- other objectives and deliverables as relevant, for example training, capability development, facilities, products, exploitation, dissemination, user uptake;
- numbers of PhDs and post doctoral researchers who will be linked to the project, as well as their role;
- funding sought from NERC and/or MoES and details of estimated costs should be clearly defined, with separate breakdown and justification of resources included for each application;
- co-funding (proposed and secured).

Lead organisations should check the eligibility of all organisations involved before submitting the proposal. Advice will be provided on request.

Details on how to submit a full bid will be provided to those applicants who are successful in the outline bid stage and are invited to progress to the next stage.

Assessment

Outline bids will be considered as single, collaborative proposals. A small virtual panel consisting of representatives from both funding agencies and independent experts in the field will make decisions of which outline bids to shortlist. These bids will be assessed on their eligibility and fit to the call. The final decision on the selection of bids invited to progress to the next stage lies with the NERC and the MoES. NERC and MoES may also comment on the scale of resources requested if they are considered to be high in light of the overall size of the call.

Applicants successful at the outline bid stage will be invited to submit a full proposal. PIs of shortlisted proposals will receive feedback from the panel. The closing date for full bids is expected to be on 25th November 2010.

The full proposals will be internationally peer-reviewed and final funding recommendations made by a joint moderating panel, consisting of members of the UK and Indian science communities and other independent experts.

Programme Management and Reporting Requirements

Datasets collected as a result of projects are an important resource that must be adequately managed. At the end of an award, Investigators are required to offer an appropriate Data Centre a copy of any dataset generated, so that the data can be made available for other researchers.

NERC and MoES will work together post award to monitor the progress of successful grants.

Timeline

Announcement of Opportunity published: end June 2010

Outline bid deadline: 3rd September 2010

Outcome published: end September 2010

Full bid deadline: 25th November 2010

Decision Announced: TBC

Approximate budget: up to £2.5M from the UK with an equivalent level of funding available from the MoES.

Contacts

This call is being managed by NERC in the UK on behalf of both the funders.

Initial enquiries should be made to:

Dr [Sally Reid](#)

Tel: 01793 442 565

Annex 1: Further Detail on NERC's Changing Water Cycles Programme

NERC's Changing Water Cycle programme is a 5 year initiative which will address key issues under four main Programme Themes:

1. Land-Ocean-Atmosphere Interactions: Understanding how feedbacks within the water cycle directly affect hydrological stores and fluxes.
2. Precipitation: Improve our understanding, observations and modelling to underpin the prediction of ongoing and future changes in precipitation and evaporation, their variability and impacts, from global to regional and local scales.
3. Detection and Attribution: To quantify and understand causes of changes in water cycle components over periods of record; and to use this understanding to work towards delivering robust prediction of changes in water cycle components.
4. Consequences of the changing water cycle: The implication of change in climate and land use for the assessment of water related hazards to and effects on human and natural systems.

The programme will operate at two scales: global and regional. Improved understanding and representation of some aspects of the changing water cycle requires a global perspective, particularly in terms of (but not restricted to) global ocean-atmosphere-climate interactions with water and energy cycles. The regional scale focuses, within the global context, on Northern Europe, especially in relation to the UK, was the geographic focus of the first call for this programme. This second call focuses on South Asia, taking advantage of international collaboration opportunities.

Full detail of the background, science questions, partnerships and potential impacts of the programme can be found in the [Programme Science Plan](#).