

Overview of NERC Research in India

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Partnership with MoES

- MoU with Ministry of Earth Sciences
- Enables scientific and technical collaboration in natural environmental research including meteorology, climate variability and change, oceanography, hydrology, natural hazards and biodiversity
- Currently have 4 joint programmes:
 - Changing Water Cycle
 - Sustaining Water Resources
 - Drivers of Variability in the South Asian Monsoon
 - Atmospheric Pollution & Human Health in an Indian Megacity

Changing Water Cycle

- 5 projects co-funded by MoES and NERC
- Projects looking at different aspects of water cycle in India, including feedback and fluxes, regional precipitation patterns, evapotranspiration, soil moisture and aquifer properties
- Finale event held in Delhi in May 2016

Sustaining Water Resources for Food, Energy & Ecosystem Services



- Supported by Newton-Bhabha Fund, led by NERC and MoES
- Will use a whole systems approach to develop a framework for integrated basin-wide models of water resources
- Three UK-India collaborative case studies on:
 - River Gandak, a sub-basin of the Ganga that joins the Ganga at Patna
 - Pong-Beas river system, a rural catchment in the Himalayas
 - Cauvery River, a major basin in Peninsular India that includes Bangalore

Drivers of Variability in the South Asian Monsoon

- Goal is to improve predictions of the South Asian monsoon on all timescales
- Achieve this by developing a better understanding of processes driving variability, seasonality and predictability
- 3 joint projects funded:
 - BoBBLE: Bay of Bengal Boundary Layer Experiment
 - INCOMPASS: Interaction of Convective Organization and Monsoon Precipitation, Atmosphere, Surface and Sea
 - SWAAMI: South West Asian Aerosol Monsoon Interactions



Atmospheric Pollution & Human Health in an Indian Megacity

- Programme aims to combat air pollution
- Funded by NERC, MRC, MoES and DBT
- Five projects funded:
 - Megacity Delhi atmospheric emission quantification, assessment & impacts (DelhiFlux).
 - An Integrated Study of Air Pollutant Sources in the Delhi National Capital Region (NCR).
 - Process analysis, observations & modelling - Integrated solutions for cleaner air for Delhi (PROMOTE).
 - Delhi Air Pollution: Health & Effects (DAPHNE).
 - CADTIME: Clean Air for Delhi through Interventions, Mitigations & Engagement.

Water Quality

- Joint programme with India's DST and UK's EPSRC
- Aim to improve water quality:
 - by providing a better understanding of the sources and fate of different pollutants and
 - by supporting the development of management strategies and technologies to reduce pollution levels.
- Funding decision expected in the autumn

