

## Highlights

- UPSCAPE news
- Joint India-UK consortium meeting
- Stakeholder engagement in Karnataka and Tamil Nadu
- Ground truthing field trip
- Fieldwork in experimental watersheds
- Upcoming activities

# UPSCAPE

## NEWSLETTER

December 2018

*With approximately one year left of the UPSCAPE project, we have been busy with fieldwork, data analysis and stakeholder engagement. Find out more about our work in this newsletter...*

### What does the future hold for water in the Cauvery?

The future prospects for water resources management globally are challenged by climate and socio-economic changes. The amount of precipitation delivered to the Cauvery basin is likely to be affected by climate change between now and 2100. In addition, the water demand by people for drinking and to support the food and industries used to support modern lifestyles are also likely to increase with a growing population.

To understand how people, or socio-economic change, might affect water demand in the future, we held stakeholder events in Bangalore, Tiruchirappalli and Chennai. The aims of these discussions were: to understand what factors will affect water demand in the future and; how they might contribute to a better or worse situation for water resources management compared to the present day.

Discussions revealed that the number of people and how they live, the food grown and the use of water conservation measures are the key factors that were suggested to influence future change.



### UPSCAPE news:

- Andrew McKenzie from British Geological Survey presented a poster on UPSCAPE research at an international hydrogeology conference in South Korea from 10th-14th September (see over for more details).
- UPSCAPE joined other Indo-UK researchers at a meeting about hydrological modelling and future scenario development at ICRISAT, Hyderabad.
- Dr Pawan Wable (ICRISAT) visited the University of Dundee and Centre for Ecology & Hydrology on a two-week research visit to the UK.
- UK partner meeting took place in November 2018 at the Centre for Ecology & Hydrology in Wallingford, UK.

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### Fieldwork in the Cauvery sub-catchments

In October, UPSCAPE team members from ATREE and ICRISAT visited a watershed outside of Bangalore. Their aims were to collect information from farmers about their cropping patterns and borewell use, collect soil samples to analyse physical and chemical properties and survey check dams and tanks across the watershed. The data collected will support modelling of water movement through the Cauvery basin. It will also improve our understanding of groundwater demand for agriculture changes through time.

A similar study is due to take place in the Berambadi catchment in early 2019.



## Sustaining water resources across India

ICRISAT, Hyderabad, hosted a 'Modelling and scenario development' meeting in September 2018. Attendees were from three Indo-UK projects, including UPSCAPE, all funded by the Newton-Bhabha Sustaining Water Resources initiative. This is a joint venture from the Ministry of Earth Sciences in India and the Natural Environment Research Council in the UK. The programme included presentations from each project team and discussion sessions around modelling approaches, generation of future scenarios and communication of results to support sustainable water resources management.



### Ground-truthing remotely collected land use data

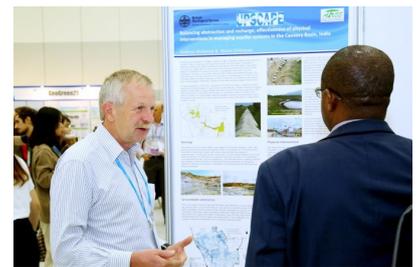
The use of satellites to remotely sense data about the Earth's surface is a major asset when studying river basins as large as the Cauvery. Land use is one such dataset which can be remotely assessed.

The data must, however, be validated by on the ground measurements to check for data accuracy. The team from ATREE collected data from across the Cauvery and results of the ground-truthing exercise were recently presented by Manju.



### UPSCAPE research presented

Andrew McKenzie (BGS) presenting "Balancing abstraction and recharge; effectiveness of physical interventions in managing aquifer systems in the Cauvery Basin, India" at the International Association of Hydrogeologists annual conference in Daejeon, South Korea. A poster co-authored with Veena Srinivasan (ATREE).



### Upcoming activities:

- UK UPSCAPE researchers to visit India in early 2019 for the final project consortium meeting
- Surface water and groundwater fieldwork in the Berambadi catchment
- ICRISAT fieldwork continues in Dindigul and Chikmagalur ...see our Facebook page for more information.

### Bangalore urban water fieldwork

Colleagues from ATREE and the British Geological Survey have been completing water quality testing in Bangalore's urban lakes and downloading logger data from groundwater wells across the city to understand how water moves between surface and ground waters.



UPSCAPE is a 3-year £2M research project. It is part of the Newton-Bhabha "Sustaining Water Resources Programme", funded jointly by the UK Natural Environment Research Council and the India Ministry of Earth Sciences. The project involves six organisations from India and the UK.