

## **Southern Africa's hydro-economy and water security (SAHEWS)**

**Call:** Freshwater Security

**NSF code:** G8MUREFU3FP-2200-024

**Lead PI:** Declan Conway, Water Security Research Centre, United Kingdom

**Partners:**

Tim Osborn, University of East Anglia, United Kingdom

Claudia Ringler, International Food Policy Research Institute, USA

Willem Landman, Council for Scientific and Industrial Research, South Africa

**BF/G8HORC sponsors:** NRF, NERC & ESRC, NSF

**Amount:** €679

**Time period:** 24 months

The proposed collaboration addresses important knowledge gaps in water supply, demand and sharing, and in the application of research to the effective management of water security. Hydro-meteorological variability is large and spatially extensive such that prolonged floods and droughts cause macro-scale socioeconomic impacts yet these are poorly understood. Seasonal forecasts show greater skill for southern Africa relative to many other regions but reliability and skill remain important constraints as do scale, legitimacy, cognitive capacity, procedural and institutional barriers and available choices.

This project will assess and refine seasonal forecasts for water supply and demand, model the socioeconomic consequences of hydro-meteorological variability and develop knowledge transfer techniques, such as Info-Gap Decision Theory for supporting water management. Management case studies will apply these techniques and exchange experiences in water allocation with a drought-prone region in the UK (East Anglia). The case studies will focus on the water-energy nexus and catchment and trans-boundary water allocation taking into consideration the application of forecast knowledge at different spatial scales.