

Water security

## WHY: DO WE NEED TO UNDERSTAND THE THREATS TO WATER SECURITY?

### BECAUSE: WATER IS FUNDAMENTAL TO HUMANITY AND THE ENVIRONMENT

Water resources are likely to become more limited because of the additional demands that an increasing global population will place on this finite resource. Water availability for food, health and sanitation and industry is further constrained by pollution.

Additionally, there is some uncertainty regarding potential climate change impacts on drought frequency and location.



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## DELIVERING IMPACT

CEH has developed models and is delivering an atlas of future river flows in the UK under differing climate change scenarios.

CEH's water quality risk assessments enable regulatory and environmental management of a wide range of pollutants.

CEH's 1980 Low Flow Studies informs regulatory environmental management of water abstraction from rivers and ground water, and is now embodied in the LowFlows software delivered by Wallingford HydroSolutions.

CEH coordinates WATCH, an EU FP6 Project, to analyse, quantify and predict the components of the current and future global water cycles.

CEH's National River Flow Archive provides over 50,000 individual years of daily and monthly flow data, derived from 1,300 gauging stations. This underpins the UK's research into sustainable exploitation and management of water resources.

## FUTURE CHALLENGES

Developing techniques for rapid, cost-effective monitoring of water quality.

Applying detailed models of natural catchments to broader geographic scales under different scenarios to inform water storages, transfers and demand management.