



## **A Water Grid for the UK**

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Anthropogenically aggravated climate change associated with intensive expansion of the global economy has increased the demand for water whilst simultaneously altering natural variability in its distribution, straining water resources unsustainably and inequitably in many parts of the world, increasing drought risk, and encouraging decision-makers to reconsider the security of water supply. Indeed, in the absence of additional resource development, contemporary planning forecasts imply increased water stress across much of the United Kingdom.

The regulatory authorities of the UK currently promote increased efficiency of water delivery and consumption combined with a portfolio of financial instruments as a means of reducing water stress, maintaining present levels of consumer service without significant further exploitation of the environment. Despite an increasingly sophisticated understanding of climate change and its effects, significant uncertainty remains in the quantification of its impacts on the water sector, and questions persist as to the effectiveness of such demand management measures compared to that of more traditional infrastructure improvements.

Faced with possible futures provided for by detrimentally over-stressed resources, what opportunities remain for future strategic development in the UK? Is there a single national strategy that is both politically and socially acceptable?

This ongoing study aims to evolve robust national adaptation strategies by quantifying the projected impacts of climate change across mainland UK using multi-model and perturbed-physics ensembles of projected future climate, encapsulating uncertainties in a scenario-driven integrated water resources model incorporating socio-economic elements.