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## *Climate change and water*

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## **Abstract:**

This paper explores the potential implications of climate change for the use and management of water resources. It is based on a review of simulations of changes in river flows, groundwater recharge and river water quality. These simulations imply, under feasible climate change scenarios, that annual, winter and summer runoff will decrease in southern Britain, groundwater recharge will be reduced and that water quality – as characterized by nitrate concentrations and dissolved oxygen contents – will deteriorate. In northern Britain, river flows are likely to increase throughout the year, particularly in winter. Climate change may lead to increased demands for water, over and above that increase which is forecast for non-climatic reasons, primarily due to increased use for garden watering. These increased pressures on the water resource base will impact not only upon the reliability of water supplies, but also upon navigation, aquatic ecosystems, recreation and power generation, and will have implications for water quality management. Flood risk is likely to increase, implying a reduction in standards of flood protection. The paper discusses adaptation options.