What Is needed for better representation of groundwater in multi-sector integrated water resources planning to improve water supply resilience in England?

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Despite an international reputation for it always raining a lot, some areas of England could face water supply shortages in the future due to projected climate change impacts and population growth if no action is taken. Groundwater is an important source of water supply in England, accounting for approximately 30% of total water supply, but in the most water-stressed South and South-East of England this can reach approximately 70%. Several regions of England are already classed as 'water-stressed areas', and current proposals will add the majority of England to this list. Recent changes to the water resources planning process in England have included the development of a national water resources framework and regional planning groups, developed by the environmental regulator, the Environment Agency. This shifts the focus of water resources management planning from private water company areas to a more collaborative national to regional approach. The regional planning groups include key stakeholders from multiple sectors including agriculture, energy and businesses to work alongside water companies. The tiered approach, from the national framework, to regional planning, to water company areas, allows inter-regional water transfers to be considered to improve water supply resilience across the country.

The planning process itself is becoming a more integrated systems-based approach with stakeholders engaged in decision-making and assessing the risks and trade-offs for different management scenarios. It is vital that groundwater is understood by stakeholders and properly represented within this new approach to water resources management planning. Current barriers to this include a lack of understanding about groundwater processes amongst many stakeholders outside the discipline, and the need for improvements in groundwater monitoring data to better represent groundwater in integrated models. Without overcoming these barriers, the risks and trade-offs related to groundwater resources will not be properly understood. Here, we discuss what is needed to address these barriers and enable groundwater resources in England to be managed more sustainably. This includes: raising awareness of the importance of groundwater for England's water supply; improving drought risk communication regarding groundwater resources; ensuring groundwater datasets are robust; and ensuring groundwater resources are fully represented in risk-based assessments for water resources management planning.