

California's Fourth Climate Change Assessment Supporting Research

Title: Gauging preparedness to managing drinking water quality for climate change in California

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ABSTRACT

Understanding resource managers' perceptions of climate change, analytic capacity, and current adaptation activities can provide insight into what can help support adaptation processes at the local level. In California, where a major drought currently demonstrates some of the hardships that could be regularly encountered under a changing climate, we present results from a survey of drinking water utilities about the perceived threat, analytic capacity, and adaptation actions related to maintaining water quality in the face of climate change. Among surveyed utilities (n = 259), awareness is high in regard to climate change occurring and its potential impacts on water quality globally, but perceived risk is lower with regard to climate impacts on local drinking water quality. Just over half of surveyed utilities report at least some adaptation activity to date. The top three variables that most strongly correlated with reported adaptation action were (1) perceived risk on global and local water quality, (2) surface water reliance, and (3) provision of other services beyond drinking water. Other tested variables significantly correlated with reported adaptation action were (4) degree of impact from the current drought and (5) communication with climate change experts. Findings highlight that smaller groundwater-reliant utilities may need the most assistance to initiate climate adaptation processes. Trusted information sources most frequently used across respondents were state government agencies, followed by colleagues in the same utilities. The finding that frequently used sources of information are similar across utilities presents a promising opportunity for training and disseminating climate information to assist those systems needing the most support.

Keywords: climate change impact, water utility, climate adaptation, drinking water, water quality, public water system

HIGHLIGHTS

- Degree of a water utility's climate change preparedness differs by region, utility size, and supply portfolio
- Smaller groundwater-reliant utilities may need the most assistance to initiate climate adaptation processes
- Trusted information sources most frequently used across respondents were state government agencies, followed by colleagues in the same utilities

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