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Managing Water Resources for Drought: Insights from California

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Droughts bring great opportunities to better understand and improve water systems. California's economic power-house relies on highly engineered water systems to fulfill large and growing urban and agricultural water demands. Current and past droughts show these systems are highly robust and resilient to droughts, as they recover promptly. However, environmental systems remain highly vulnerable and have shown less resilience to drought, with each drought bringing additional native species closer to extinction, often with little recovery following the drought. This paper provides an overview of the economic and ecosystem impacts of the recent multi-year drought in California in the context of a global economy. We explore the potential of water markets, groundwater management and use of remote sensing technology to improve understanding of adaptation to drought. Insights for future management of water resources and scientific work are discussed.