

## Additional Funding Needed to Increase Drought Preparedness through Expanding Next-Generation Snowpack Monitoring in the Sierra Nevada



### El Dorado Water Agency Program Will Increase Forecast Reliability, Timeliness, and Accuracy of Snowpack Conditions and Subsequent Runoff

The El Dorado Water Agency (EDWA), with the support of the U.S. Bureau of Reclamation, and other federal, state, and local agencies, has launched its Upper American River Basin Snowpack Monitoring Improvement Program to provide critical real-time data on snowpack conditions. This data is needed for water supply forecasts to help the region better prepare for droughts. The Program will modernize snowpack monitoring technology and satellite communications to provide enhanced forecast of potentially realized water supply from the largest surface water storage – the Sierra Nevada snowpack. Additional funding is needed to complete this important program which will benefit all water users and resource managers throughout the state.

### Additional Federal Funding Needed to Expand Data Collection for Efficient Water Management in American River Basin

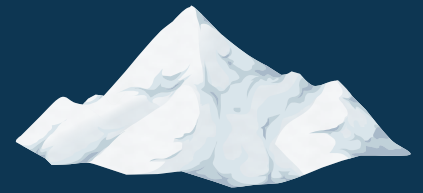
Reduced snowpack results in a significant reduction in reservoir storage throughout the state and dramatically impacts the availability of downstream water, including Central Valley Project water allocations. Improving the accuracy, timeliness, and efficiency of meteorological forecasting and hydroclimatic modeling is the foundation for improved water management and drought response.

EDWA's current program involves upgrading two of 12 experimental sensor clusters in the existing American River Basin Hydrologic Observatory wireless sensor network with permanent new technology stations, installing a dedicated system to gather and process real-time hydrologic data transmitted from the sensors via satellite, and developing an online, publicly accessible water-supply conditions dashboard to display the spatially representative data collected from the sensors.

Approximately 2.2 million acre-feet of California's useable water supply originates from snowmelt runoff where the American River Hydrologic Observatory wireless sensor network is located. Additional federal funding is needed to upgrade the remaining 10 sites and move away from older snow pillow and other single point measurement technologies, which are not sufficient, timely, or spatially representative. When complete, the full program (upgrade of 12 sites) will provide accurate data on watershed climate trends, snowpack conditions, and water availability to fully support improved water management.



# Benefits of Expanding Next-Generation Snowpack Monitoring in the Sierra Nevada



**Timely availability of real-time data with higher resolutions and accuracy** for improving the quality of day-to-day decision-making related to water delivery, reservoir operations, hydropower generation, and environmental flow determinations.



**Improved accuracy of hydroclimatic modeling and associated inferences** for drought planning and response on federal, state, and regional levels.



**Enhanced accessibility of watershed-specific data on snowpack** among regional water managers and stakeholders for a shared understanding of near and long-term water availability and variability.



**Increased alignment between regional water users and state water regulators** about drought severity reflected in the American River Basin and appropriate drought response actions.



**Improved water management decisions** for fish, wildlife, and the environment, including those associated with the Coordinated Operations Agreement between the Central Valley Project and State Water Project.



## Federal, State, and Local Collaboration and Cooperation Needed for Program Success

The current program is a partnership between El Dorado Water Agency and the University of California (UC Agriculture and Natural Resources and UC Merced Sierra Nevada Research Institute) with financial support from the U.S. Bureau of Reclamation and collaboration with stakeholders including local water purveyors, the Sierra Nevada Conservancy, the California Department of Water Resources, State Water Resources Control Board, U.S. Forest Service, and the National Oceanic and Atmospheric Administration.

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