April 25, 2025

Re: FY 25/26 Stable Funding for Hydrology Observation Systems and Forecasting

Dear Governor Newsom, Speaker Rivas, & Protem McGuire:

The above and undersigned organizations are sending you this letter to request that critical tools needed for managing extreme events are fully funded statewide and available for use by State and local agencies and the public. Among other things, this includes observation and forecasting systems such as the Airborne Snow Observatories (ASO), implemented as the Airborne Remote Sensing of Snow (ARSS) Program, and the critical stream gage network, as well as improvements to the decision support tools and databases that rely on products from those observation systems, such as the California Data Exchange Center (CDEC).

At the beginning of California Flood Preparedness Week 2024, the Secretary of the Department of Water Resources Karla Nemeth remarked that, “California must be ready by continuing our investments in flood infrastructure, advancing the science and tools to forecast storms, and encourage all Californians to be prepared.” We agree

wholeheartedly and believe such investments are needed to maintain and expand even during California's periodic budget crises, such as we've experienced since 2023.

ASO flights and runoff forecasts provide water and flood managers with information that is 98% accurate weeks or months in advance as to where snow will melt and water will run off and accumulate in our reservoirs, creeks, and streams – critical inputs to operating our infrastructure more efficiently and effectively in the face of relentless climate whiplash. ASO operations in the State Water Project's Feather River source area in 2022 demonstrate that if the program had been implemented in that basin in 2021, the failure to predict that year's drought occurrence and impacts – a failure resulting in the 2021 Surface Water Audit of DWR – could have been avoided.

Snowpack is California's largest reservoir, providing up 75-80% of water for the state, and the ASO program is the only source to accurately determine the volume of water stored in that snowpack. Giving water managers the tools to adapt to a changing snow pack **is essential. By providing current and timely information about water stored as snow in the upper watersheds, ASO helps water managers adapt to an uncertain future while still meeting human and environmental needs.**

Since the State of California began investing in and using ASO related tools more than a decade ago, the technology and the related information developed have proved to be instrumental to the California Department of Water Resources (DWR) and others in pursuing climate-resilient water supplies, **saving billions of dollars in potential flood damages, and maximizing groundwater recharge opportunities during wet years**. As each of these and other benefits revealed themselves, California steadily increased its support in the State Budget for ASO since 2013, while also expanding the number of watersheds served by the program. Until last year, DWR had plans to expand ASO flights and forecasting to all of California's snow-covered areas at a cost of more than $35 million annually, reflecting the immense value of these efforts for current and future weather and climate resilience. When the budget crisis materialized in early 2023, funding for this work at DWR was cut to $4 million. We request that this funding be restored to levels that would provide critical snowpack and runoff data statewide– **$35 Million annually.** Budget crises are temporary, but California's need for highly accurate hydrology and runoff data is permanent and growing under a rapidly changing climate. The avoided costs and benefit to California's water supply far outweigh this small investment of the state.

Some of these benefits include:

Water Supply

- *Turlock Irrigation District, 2018*: TID used the ASO data that deviated from the US Army Corp of Engineers, which saved 150,000 acre feet and allowed the district to make releases that were better for the environment and public safety.

-*Hetch Hetchy Reservoir, 2022:* ASO runoff forecast enabled San Francisco Public Utilities to meet in-stream flow targets late in an extreme drought year while maintaining water supply & hydropower resources
-Complementary with Governor's Executive Order encouraging groundwater recharge and streamlining floodflows

Flood Management

- *Kings River, 2019:* ASO was able to detect greater-than-forecasted snowpack – enabling immediate response to avoid flooding & saving over $100M in avoided water losses
- *CA State Water Project 2022:* ASO provided early warning of low snowpack and wildfire-hastened snowmelt above Lake Oroville that was missed by all other forecasts, initiating drought response.
- *Statewide, 2023:* It has been estimated that ASO saved billions of dollars in potential flood impacts one of the biggest snowpack years on record.

Environmental Benefit

- USBR FishRecovery Program uses ASO data to refine runoff forecasts & make earlier, accurate water year type determinations
- San Joaquin River Restoration Program depends on ASO data to make critical allocations to the river to support the restoration of Spring run Chinook Salmon.
- *Hetch Hetchy Reservoir, 2022:* ASO runoff forecast enabled San Francisco Public Utilities to meet in-stream flow targets late in an extreme drought year

Greenhouse Gas Emission Avoidance

- By providing 98% accurate snowpack and runoff forecasts, ASO allows hydroelectric facilities to plan optimal generation schedules where water managers can time releases to maximize power generation during peak demand periods vs relying on fossil fuel resources.
- Each acre-foot of water that passes through hydroelectric facilities instead of being released without generation prevents approximately 1-2 MWh of fossil fuel-generated electricity. For major reservoirs, this can amount to hundreds of thousands of MWh of avoided GHG emissions annually
- Optimized water management reduces energy used in water treatment and conveyance systems via reduced pumping costs and associated emission. Each acre foot that travels through the state water project is equal to 2-3,000kWh in energy use.

California's water supply will only grow more scarce as demand continues to surge. We **must** accurately account for every last drop. Improved snowpack and water measurement, monitoring, and forecasting are critical needs for California's long-term climate resilience, and **we urge you to restore and expand those investments in the CA state budget, Greenhouse Gas Revenue Funds, and/or Proposition 4 funding allocations at the $35 million level.**

We appreciate your efforts to ensure a safe and reliable water supply across the state and look forward to working with you to fund critical programs like the Airborne Snow Observatories Program.

Sincerely,

Alexi Rodriguez, Almond Alliance
Tricia Gerringer, Agricultural Council of California
Ivy Brittain, Northern California Water Association
Katie Duncan, Friant Water Authority
Austin Ewell, Water Blueprint for the San Joaquin Valley Advocacy Fund
Mauricio Guardado, General Manager, United Water Conservation District
Federico Barajas, Executive Director, San Luis & Delta Mendota Water Authority
Mike Jensen, Merced Irrigation District
David Merritt, Kings River Conservation District
Jimi Netniss, Modesto Irrigation District
Peter Rietkerk, South San Joaquin Irrigation District
Steve Haugen, Watermaster, Kings River Water Association
Alex Biering, CA Farm Bureau
Gail Delihant, Western Growers
Brad Koehn, General Manager, Turlock Irrigation District
Jacob J. Westra, Tulare Lake Basin Water Storage District

CC:
Wade Crowfoot, Secretary for Natural Resources
Karla Nemeth, Director of Water Resources