

## Sub-seasonal to Seasonal Precipitation Forecasting for Water Management

April 18, 2023

The Honorable Jeanne Shaheen  
Chairwoman  
Senate Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States Senate  
Washington, DC 20510

The Honorable Jerry Moran  
Ranking Member  
Senate Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States Senate  
Washington, DC 20510

Dear Chairman Rogers and Ranking Member Cartwright:

On behalf of the below-signed water management agencies and organizations, we are writing to request your support for a \$15 million Fiscal Year 2024 (FY24) appropriation to support the pilot for improving sub-seasonal to seasonal (S2S) precipitation forecasting in the western U.S. The National Oceanic and Atmospheric Administration's (NOAA) [2020 report to Congress](#) under Public Law 115-25 recommended the creation of this pilot project.

The purpose of the pilot project is to improve precipitation forecasting for water management in the U.S. As the report notes, NOAA pilot projects were chosen "...based on the existence of major climate phenomena that have huge economic impacts and for which current S2S predictive skill is too low to be effectively used by many stakeholders."

For many decades the scientific community has not been able to offer dependable forecasts beyond a week or two, and S2S forecasts have the ability to provide state and local water managers with reliable extended precipitation outlooks. These sub-seasonal (2- to 6-week) to seasonal (2- to 12-month) projections fill an important gap between weather and climate forecasting and represent a central component of seamless short-term and long-term predictions that are needed to support water project operations, drought preparedness and response, and innovative water management strategies such as forecast-informed reservoir operations.

NOAA's Climate Prediction Center (CPC) has been issuing S2S precipitation outlooks since the mid- 1990s. Their skill for the western U.S. has been minimal, just slightly better than predicting average weather conditions, and has shown little improvement over time. Forecasting precipitation at S2S timescales is scientifically challenging and has historically received little federal research funding support.

Your support for a \$15 million increase in the U.S. Weather Research Program line item within NOAA's Office of Oceanic and Atmospheric Research (OAR) would begin development of reliable forecasting with longer lead times to provide water managers with critical data to operate infrastructure more efficiently and allocate resources to mitigate and manage impacts of extreme wet and dry conditions. From this amount, we support a FY24 allocation of \$3 million for the Weather Program Office (WPO) for grants, \$4 million to the OAR Labs for product development, \$2 million to the National Weather Service (NWS) CPC for product evaluation and implementation, \$2 million to the NWS Environmental Modeling Center (EMC) for implementation and evaluation of model improvements, and \$4 million for computing resources needed to support the federal efforts at OAR and NWS. The attached proposed committee report language describes how we believe this critical funding should be focused.

We appreciate your consideration and hope you will support S2S pilot project funding in FY24. Please contact Jordan Smith at [jas@vnf.com](mailto:jas@vnf.com) with any questions or to schedule a meeting to discuss this project with your staff.

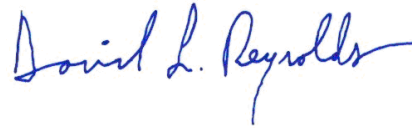
Sincerely,

*Signature Page Follows*

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



*Matthew Knudson*  
*General Manager*  
**Antelope Valley - East Kern Water Agency**



*David Reynolds*  
*Director of Federal Relations*  
**Association of California Water Agencies**



*Thomas Dobbins*  
*Chief Executive Officer*  
**Association of Metropolitan Water Agencies**



*John A. Coleman*  
*Chief Executive Officer*  
**Bay Planning Coalition**



*Karla A. Nemeth*  
*Director*  
**California Department of Water Resources**



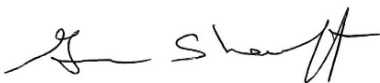
*Aaron A. Avery*  
*Senior Legislative Representative*  
**California Special Districts Association**



*Paul Hutton*  
*Executive Director*  
**California Water & Environmental Modeling Forum**



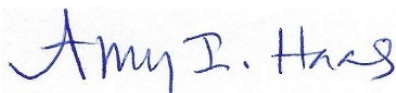
*Joseph Yun*  
*Executive Director*  
**California Water Commission**



*Gene Shawcroft*  
*General Manager*  
**Central Utah Water Conservancy District**



*J.M. Barrett*  
*General Manager*  
**Coachella Valley Water District**



*Amy Haas*  
*Executive Director*  
**Colorado River Authority of Utah**



*Andrew A. Mueller*  
*General Manager*  
**Colorado River Water Conservation District**

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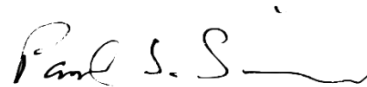
*Dan Keppen*  
*Executive Director*  
**Family Farm Alliance**



*Jason Phillips*  
*Chief Executive Officer*  
**Friant Water Authority**



*Beth Callaway*  
*Executive Director*  
**Interstate Council on Water Policy**



*Paul Simmons*  
*Executive Director*  
**Klamath Water Users Association**




*Anselmo G. Collins, P.E.*  
*Senior Assistant General Manager – Water System*  
**Los Angeles Department of Water and Power**



*Adel Hagekhalil*  
*General Manager*  
**Metropolitan Water District of Southern California**



*Matthew Chase*  
*Executive Director*  
**National Association of Counties**



*Dale Nellor*  
*Executive Vice President*  
**National Water Resources Association**



*Adam Sullivan*  
*Nevada State Engineer*  
**Nevada Department of Conservation and Natural Resources**



*David J. Guy*  
*President*  
**Northern California Water Association**

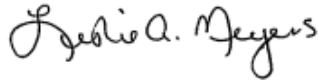


*Cathy Green*  
*Board President*  
**Orange County Water District**



*Mary-Ann Warmerdam*  
*Senior Vice President, Governmental Affairs*  
**Regional Council of Rural Counties**

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



*Leslie A. Meyers, PE*  
*Associate General Manager & Chief Water Resources Executive*  
**Salt River Project**



*Sandra L. Kerl*  
*General Manager*  
**San Diego County Water Authority**



*J. Scott Peterson*  
*Water Policy Director*  
**San Luis & Delta-Mendota Water Authority**



*Chris Harris*  
*Secretary*  
**Six Agency Committee**



*Grant Davis*  
*General Manager*  
**Sonoma Water**



*Jennifer Pierre*  
*General Manager*  
**State Water Project Contractors**



*John R. Zimmerman*  
*General Manager*  
**Truckee Meadows Water Authority**



*Lisa Wallace*  
*Executive Director*  
**Truckee River Watershed Council**



*Michelle Reimers*  
*General Manager*  
**Turlock Irrigation District**



*Tony Willardson*  
*Executive Director*  
**Western States Water Council**

Cc: The Honorable Alex Padilla