S2S Precipitation Forecasting

Background, S2S Coalition & Congressional Activities

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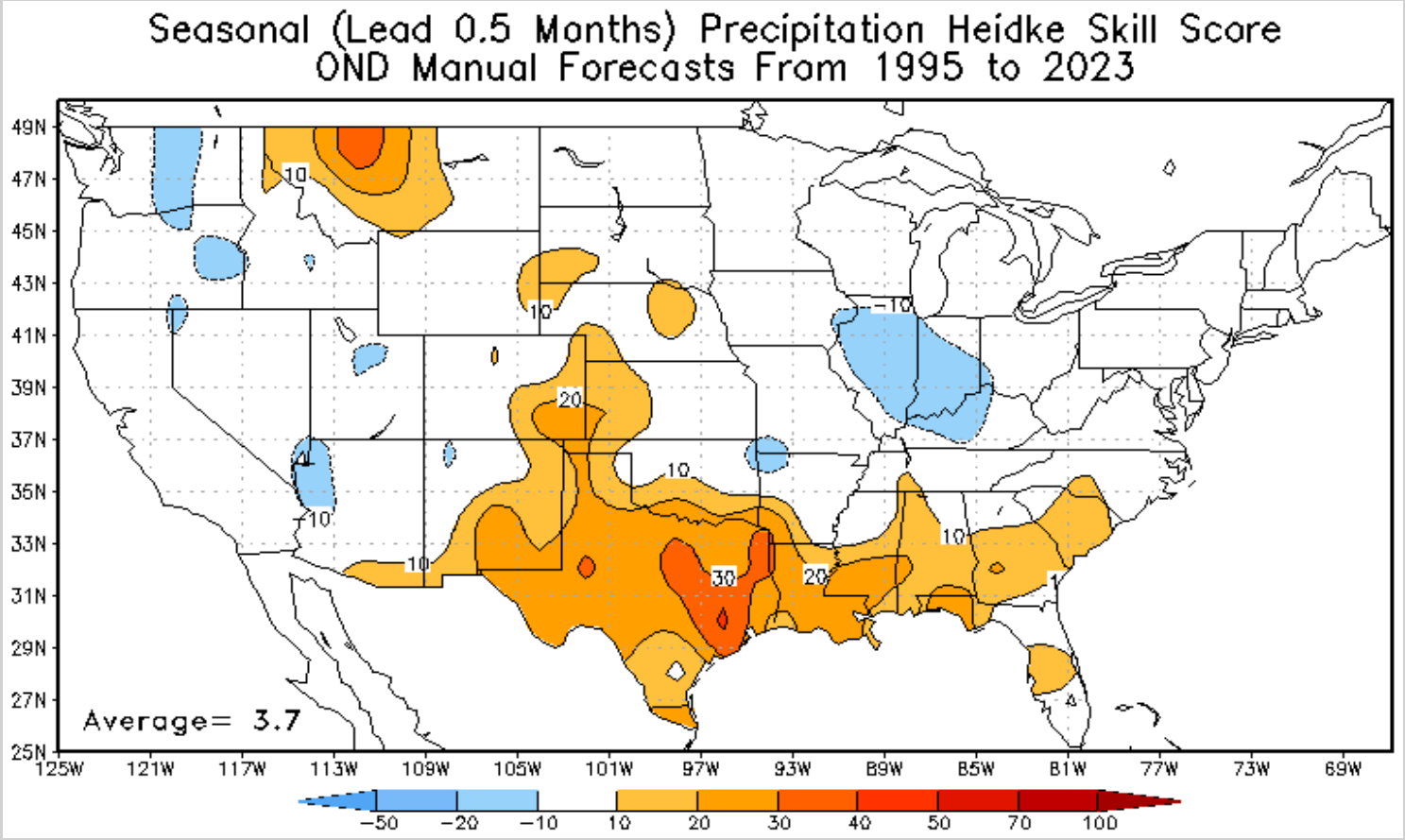
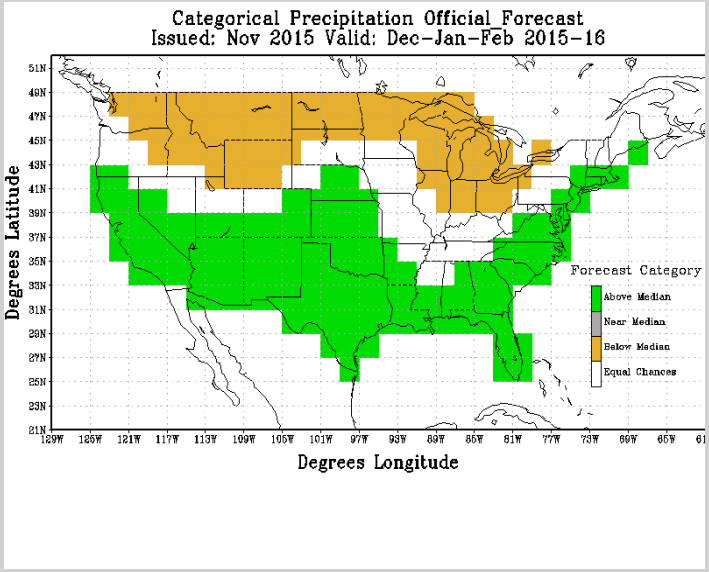
Subseasonal to Seasonal (S2S) Precipitation Forecasting

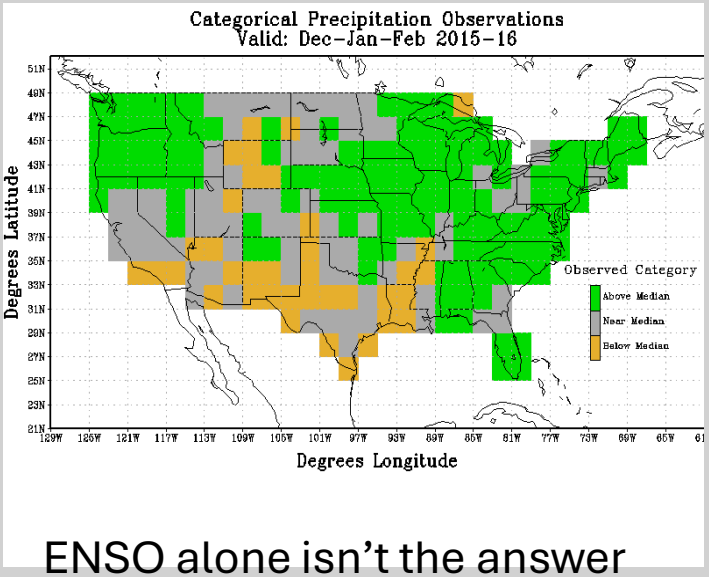
- NWS weather forecasts – issued out to 2 weeks, most of skill is in first week
- Subseasonal forecasts -- 2 weeks out to about 60 days, no usable skill
- Seasonal forecasts -- out to 12 months, no usable skill

Historical Skill of NOAA Seasonal Outlooks – Not Usable for Water Management



Big Misses in Important Water Years: WY 2016 (Year 5 of a California drought, Godzilla El Niño year)



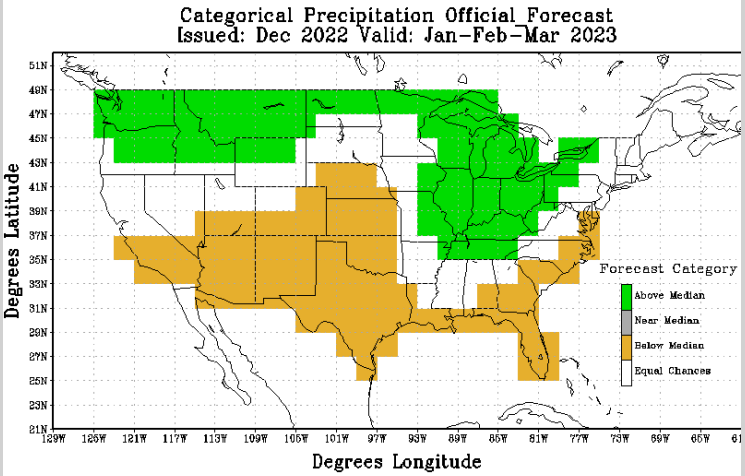


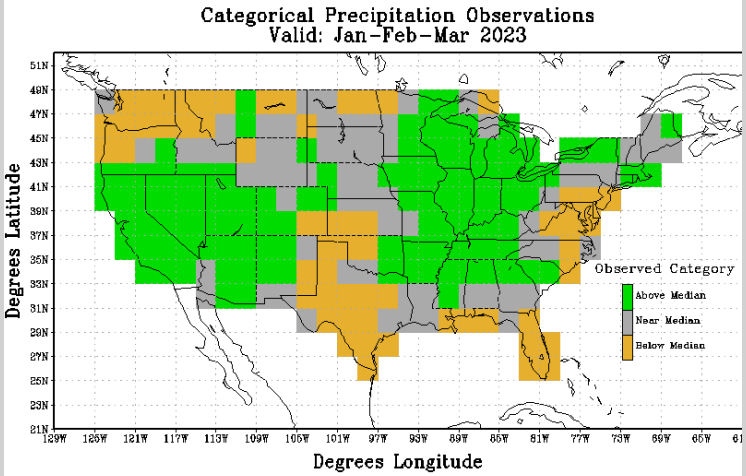
ENSO alone isn't the answer

https://doi.org/10.1175/JCLI-D-21-0775.1
https://doi.org/10.1175/BAMS-D-21-0252.1


ENSO

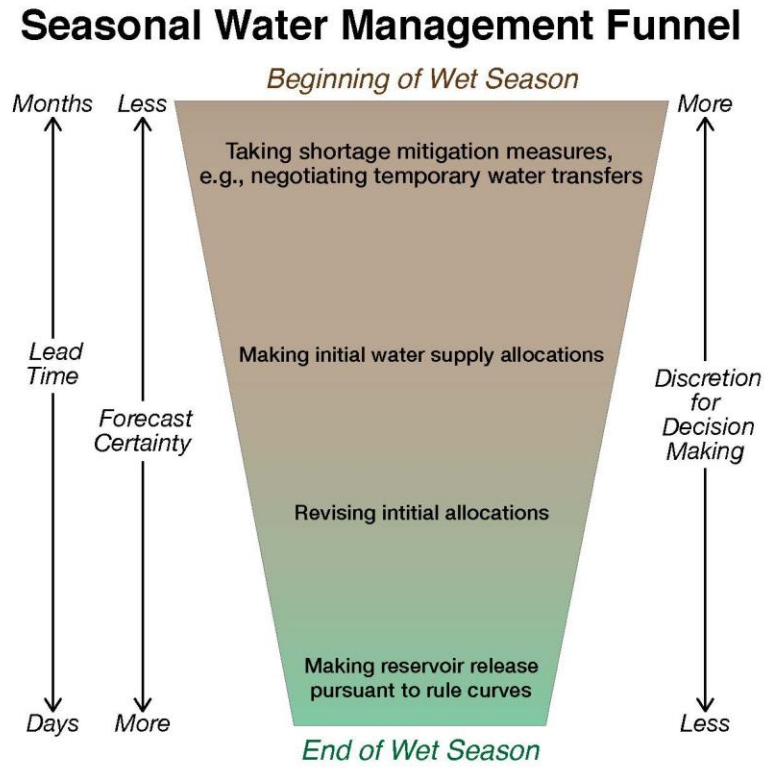
Big Misses in Important Water Years: WY 2023
(Weather whiplash, from extreme drought to flood)



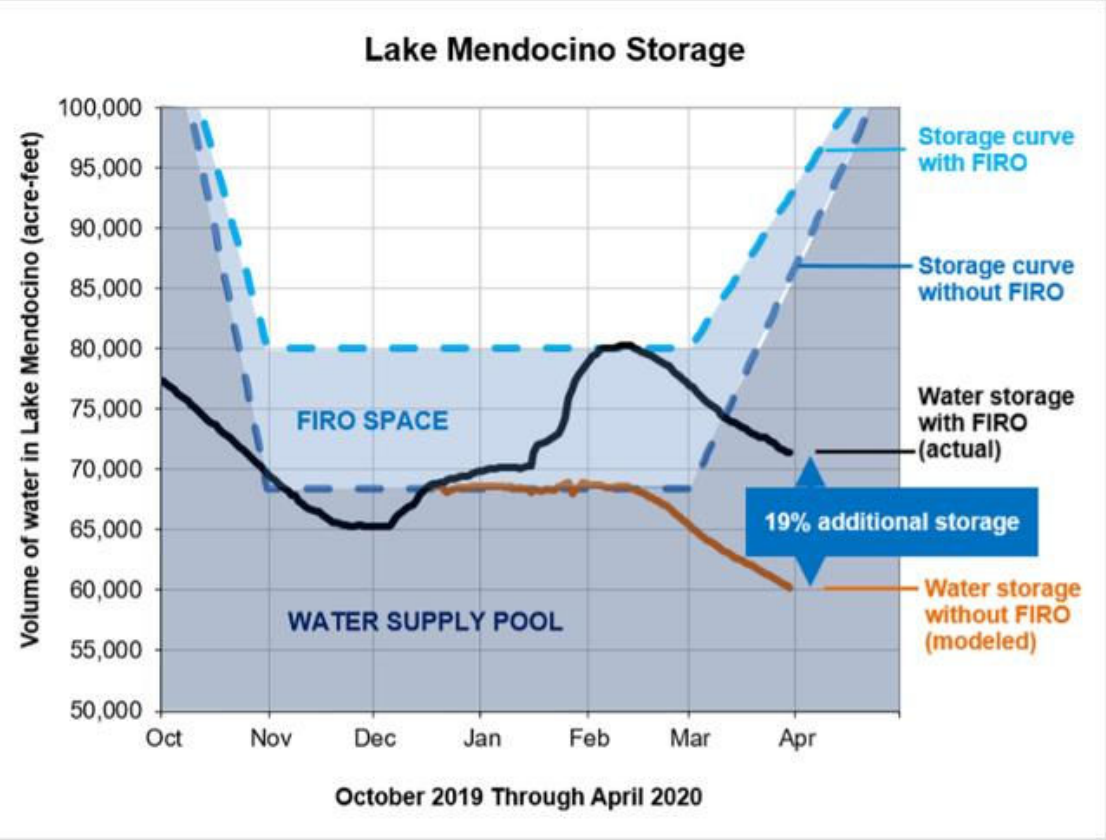


Good forecasts are most important in extreme years

Lead Time & Forecast Certainty



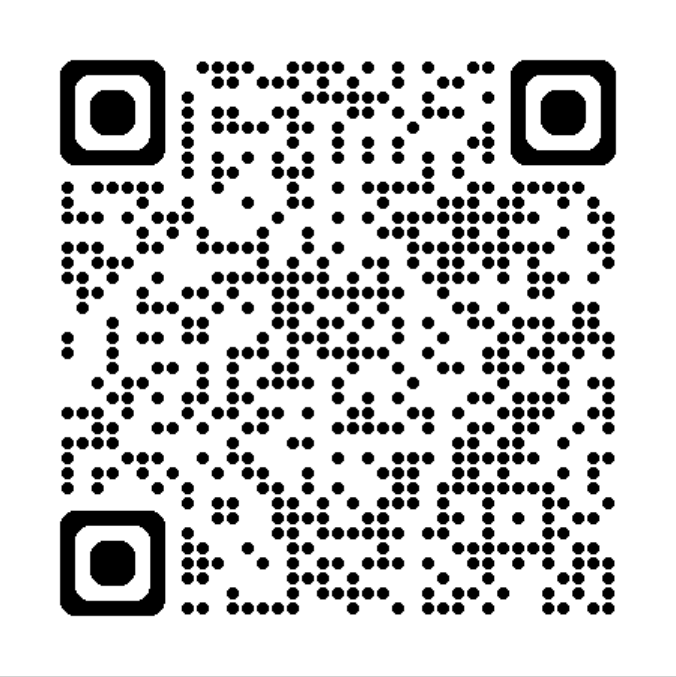
S2S Could Support More Efficient Water Management – FIRO & FloodMAR



Timeline – Congressional Action

- Weather Research and Forecasting Innovation Act of 2017 (PL 115-25)
- NOAA report to Congress pursuant to Act in 2020 recommended pilot projects
- Weather Act reauthorization introduced in 118th Congress, bill passed out of House, not taken up by Senate
- Now seeking reauthorization in the 119th Congress

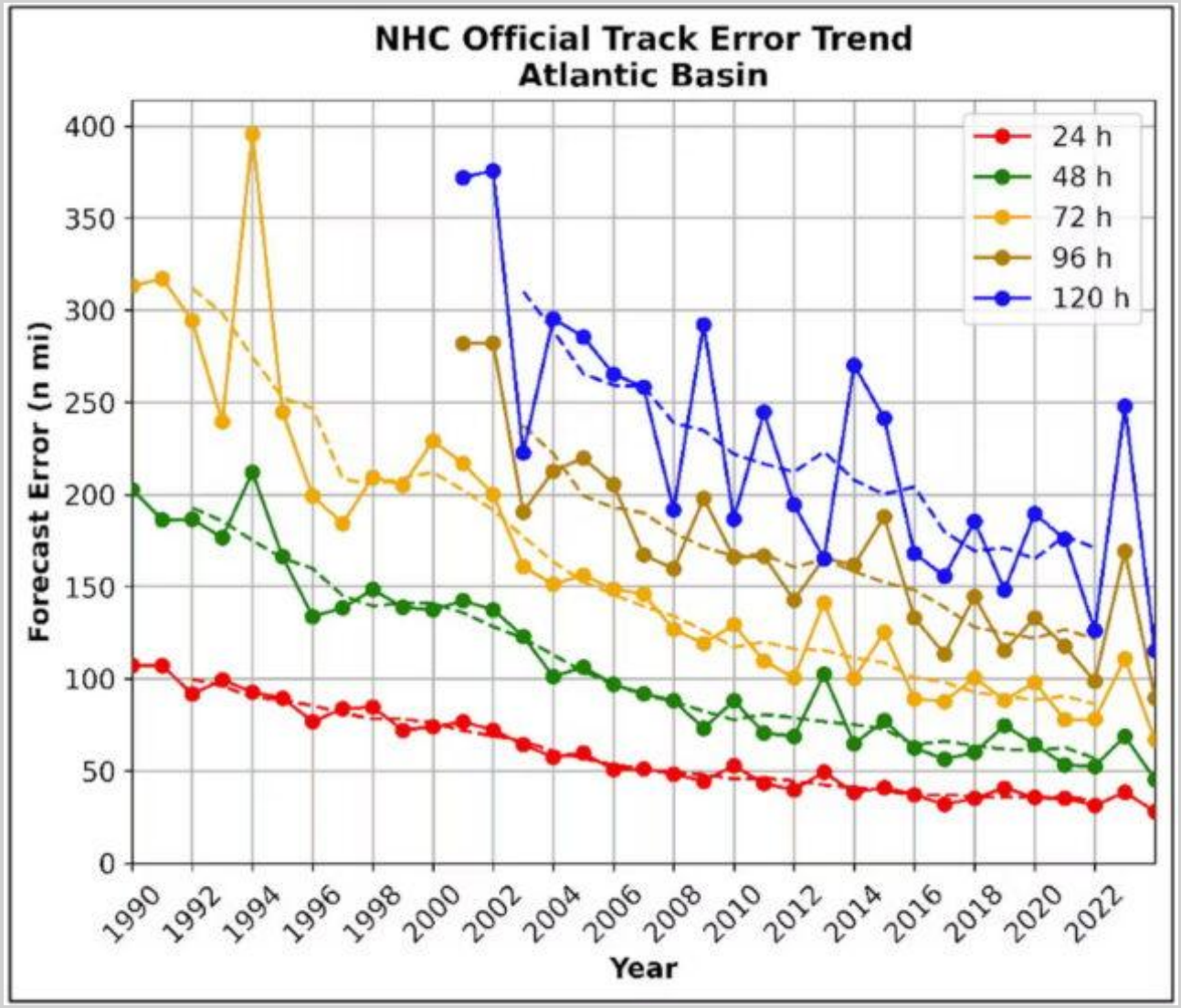
S2S Forecasting Coalition



www.s2sforecasting.org

Forecasting Improvement -- What's Needed

- Dedicated and sustained federal research funding
- Pilot projects recommended in NOAA's 2020 report to Congress
- Precedent for pilot projects in NOAA's Hurricane Forecasting Improvement Project – define specific outcome with metrics for success


NHC Official Track Error Trend
Atlantic Basin
Forecast Error (n mi)
Year
24 h
48 h
72 h
96 h
120 h
0
50
100
150
200
250
300
350
400
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022

118th Congress – Weather Act Reauthorization

Section 501 of H.R. 6093, the Weather Act Reauthorization Act of 2023, authorized $45 million for each of fiscal years 2024 through 2028 and directed NOAA to establish two pilot projects in the western and central U.S. to improve S2S precipitation. The bill was approved unanimously in November 2023 by the House Science, Space and Technology Committee. Companion spot bill for pilot projects introduced in Senate

Present Setting

- 119th Congress beginning FY26 appropriations process, after adopting FY25 continuing resolution
- OMB FY26 Passback
- “Skinny Budget” request released last week

OMB FY26 Passback

Oceanic and Atmospheric Research (OAR). Passback provides $171474 million for OAR programs, a $484.579 million reduction from 2024 enacted Passback eliminates all funding for climate, weather, and ocean Laboratories and Cooperative Institutes. It also does not fund Regional Climate Data and Information, Climate Competitive Research, Sea Grant (College and Aquaculture), or the National Oceanographic Partnership Program.

At this funding level, OAR is eliminated as a line office.

President's FY26 "Skinny Budget" Request

National Oceanic and Atmospheric Administration (NOAA)—Operations, Research, and Grants	-1,311	The Budget terminates a variety of climate-dominated research, data, and grant programs, which are not aligned with Administration policy-ending "Green New Deal" initiatives. For example, NOAA' educational grant programs have consistently funded efforts to radicalize students against markets and spread environmental alarm. NOAA has funded such organizations as the Ocean Conservancy and One Cool Earth that have pushed agendas harmful to America's fishing industries. These NOA grants were funding things such as: George Mason University's "Policy Experience in Equity Climate and Health" fellowship, a workshop for "transgender women, and those who identify as non binary," and NOAA Climate Adaptation Partnerships, which funded webinars that promoted a children's book "designed to foster conversations about climate anxiety" as therapy.

Improving Subseasonal to Seasonal Precipitation Forecasting For Water Management

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