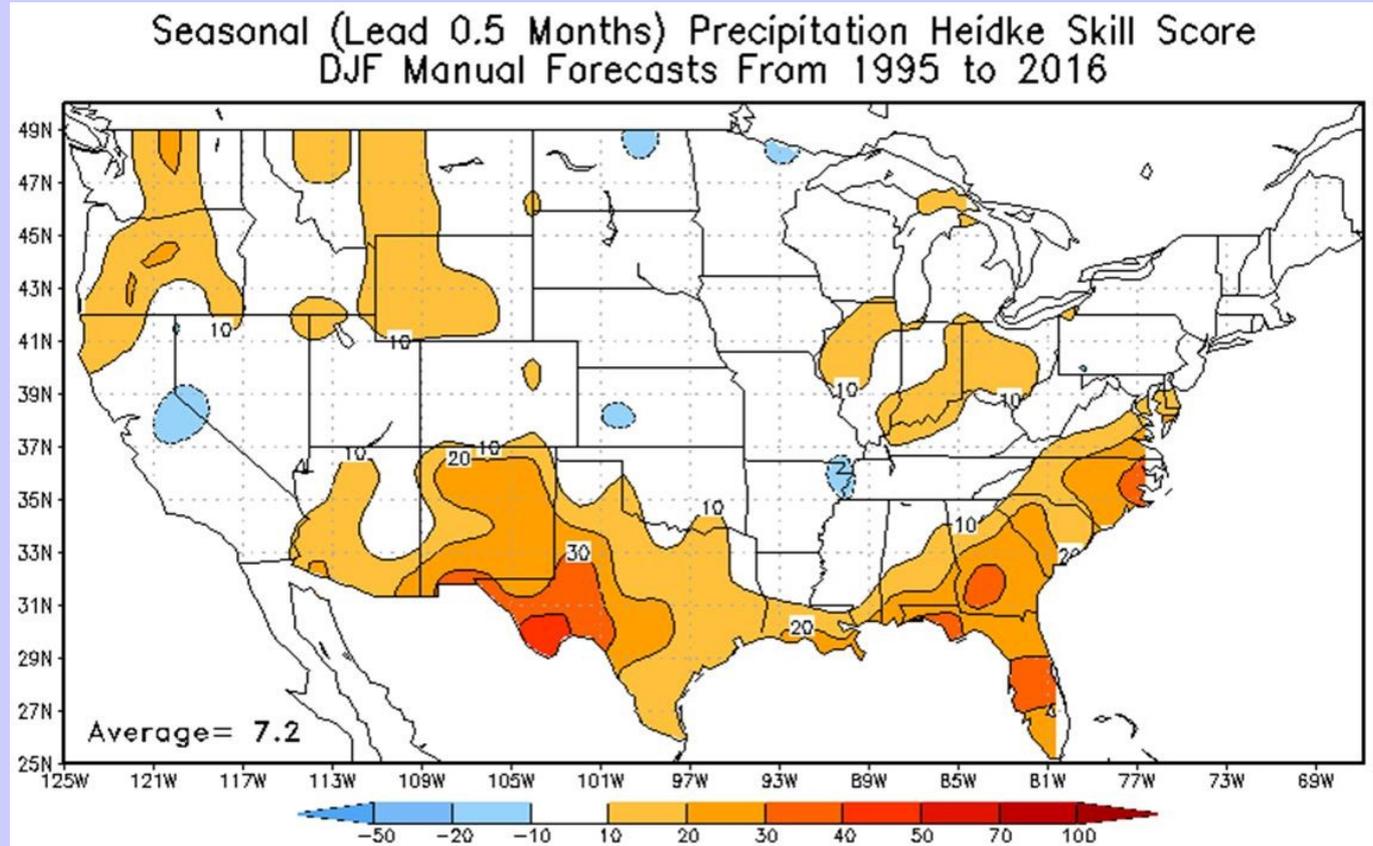
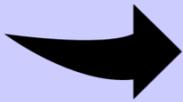


Improving S2S Precip Forecasting for Water Supply Management

Insufficient Skill!



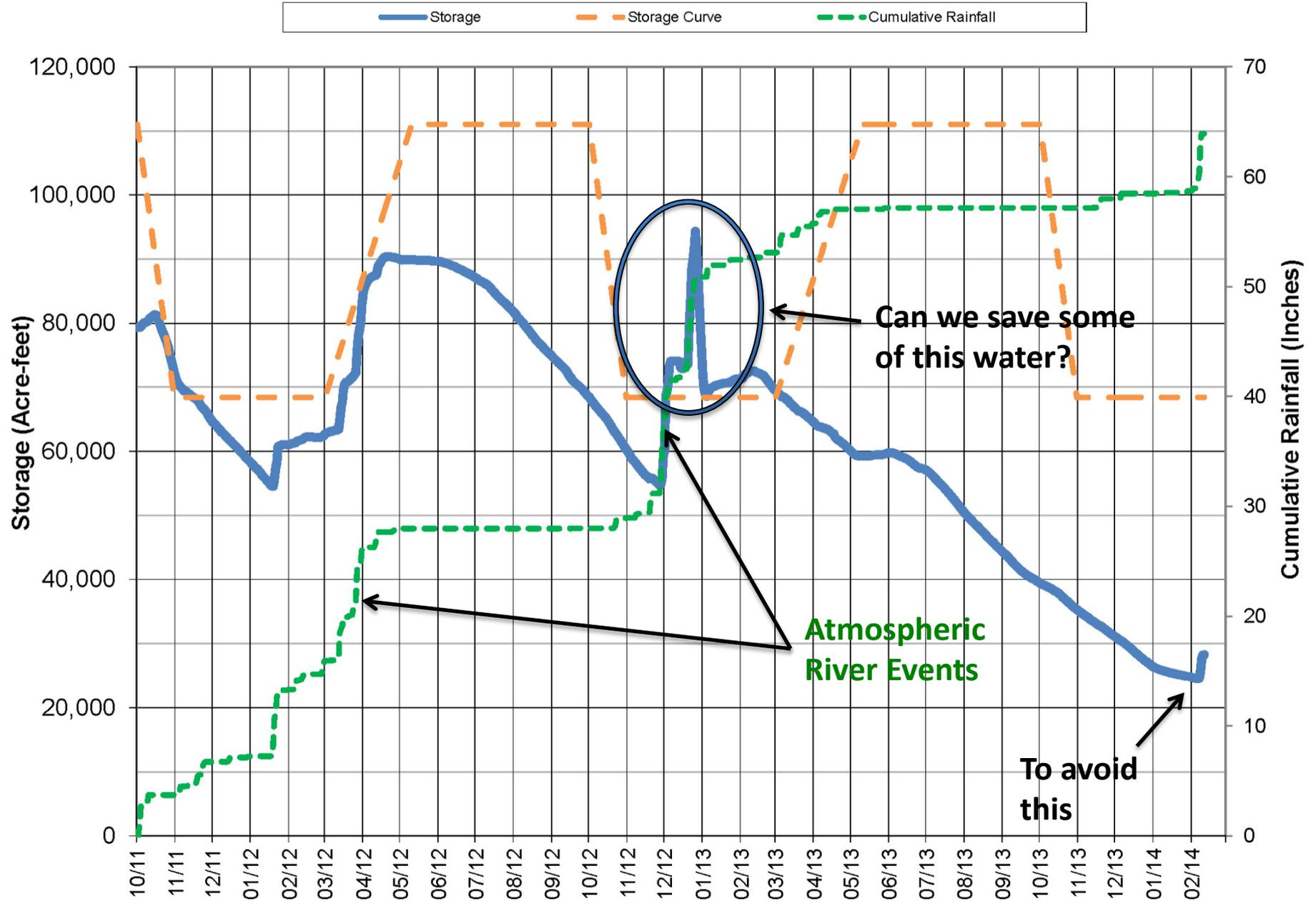
Jeanine Jones, Western States Water Council & CDWR

Lead Time Very Important for Water Management

- Public health & safety decisions
- Balancing risk/cost trade-offs
- Increasing water management efficiency
- Optimizing water infrastructure operations
- Operating within legal & regulatory frameworks, administering water rights
- Reducing impacts of extreme events



Lake Mendocino Water Years 2012 - 2014

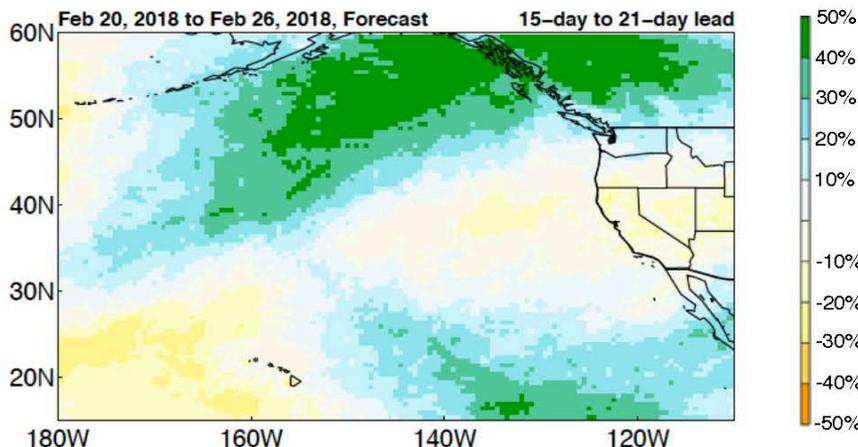
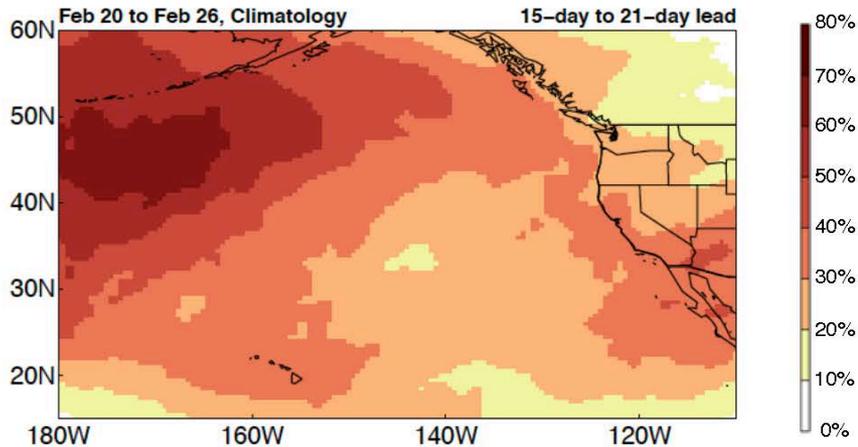


It's November 15th, will this winter be wet or dry? It's January 15th, will the rest of this winter be wet or dry?

State of California investment of >\$40M in extreme precip obs & research

EXPERIMENTAL AR FORECAST

February 5, 2018 forecast: probability of AR occurrence during week-3
(chance of an AR occurring **at any time** during week-3)



Week-3

(Combined 15-day to 21-day lead)

Top row: **hindcast climatology** (ECMWF 1996-2015 data)
Bottom row: **real-time forecast minus climatology** (ECMWF 51-member ensemble)

Experimental AR forecast issued on Monday, February 5, 2018 by M. DeFlorio, A. Goodman, D. Waliser, B. Guan, A. Subramanian, and M. Ralph using 51-member real-time ECMWF data for an **Experimental AR Forecasting Research Activity** sponsored by California DWR



Jet Propulsion Laboratory
California Institute of Technology



Center for Western Weather and Water Extremes

Contact: M. DeFlorio
(michael.deflorio@jpl.nasa.gov)

Schematic illustration of regional variations in the primary weather phenomena that lead to extreme precipitation, flooding and contribute to water supply in the Western U.S.

