

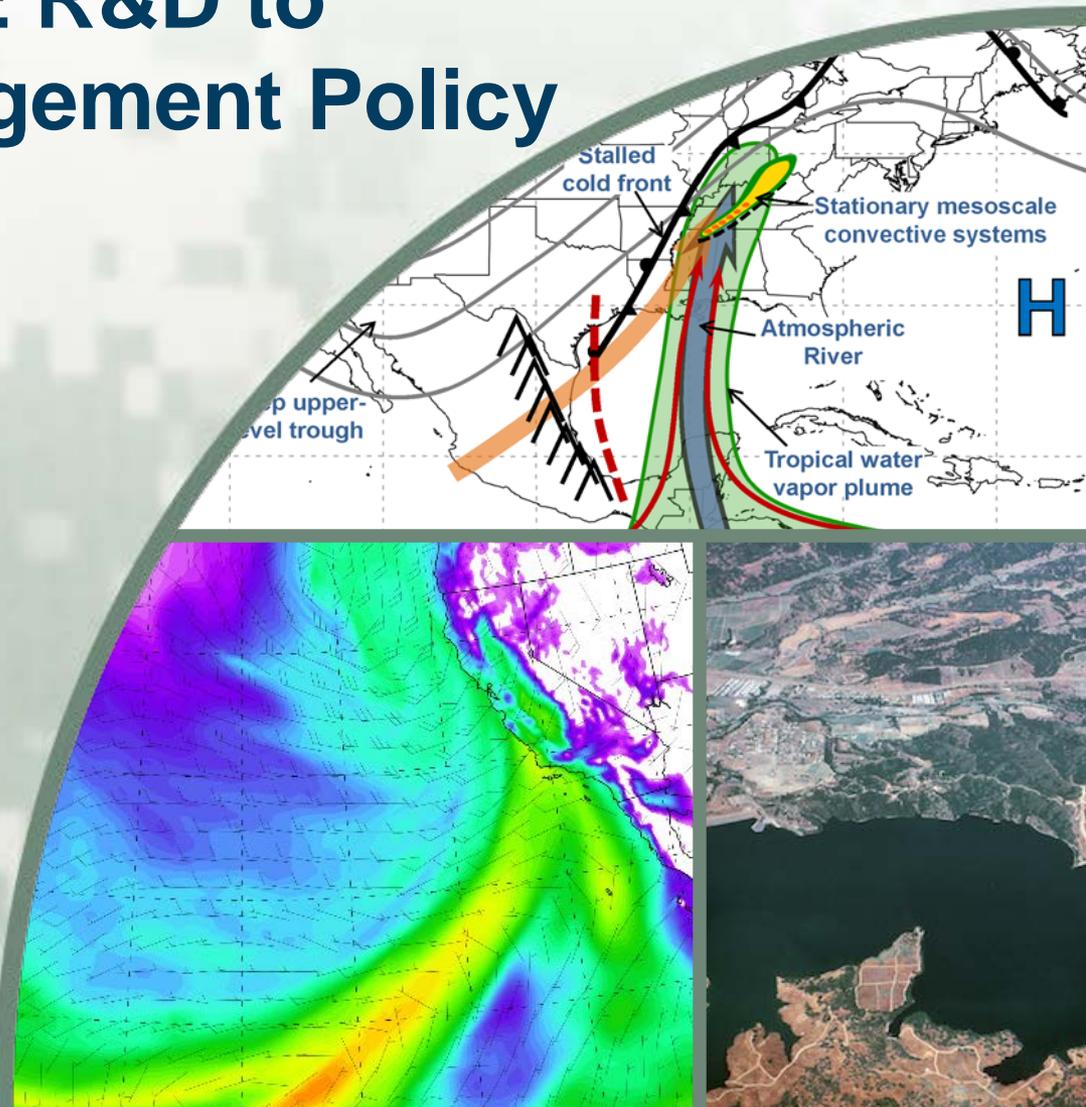
# Forecast-Informed Reservoir Operations: USACE R&D to Inform Water Management Policy

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US Army Corps  
of Engineers.

**ERDC**

Engineer Research and  
Development Center

# Purpose of Research Effort

- Forecast-Informed Reservoir Operations (FIRO)
  - ▶ Develop new hydro-meteorological forecasting skill to potentially inform water supply and flood control operations at reservoirs where atmospheric river events frequently and predictably occur
  - ▶ Assess FIRO viability by determining if application of this increased skill can be used to improve water supply, maintain or improve flood risk reduction and achieve additional ecosystem benefits

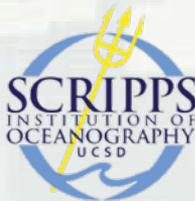


# FIRO Project Participants

Coalition of federal, state, & regional agencies comprised of scientists & water managers

## Steering Committee

- Federal: NOAA (OAR, NWS, NMFS), USGS, USACE & USBOR  
State: CA Dept. of Water Resources & Scripps Center for Western Weather & Water Extremes  
Regional: Sonoma County Water Agency  
Partnerships: NOAA Habitat Blueprint, IWRSS



# FIRO Project Scope

- Use data from watershed monitoring and improved weather and water forecasting skill to inform water management decisions to selectively retain or release water from reservoirs in a manner reflecting current and forecasted conditions
  - ▶ Research effort is in year two of an expected 5-year proof-of-concept project using Lake Mendocino as a model
  - ▶ If proven viable, effort will develop a process that can be used to test FIRO at other reservoirs in areas affected by AR events



# FIRO Expected Outcomes

**Goal of initial phase is to answer the following question:**

Is FIRO potentially viable as an operational strategy to improve water supply and environmental conditions without impairing flood protection?

**If answer is yes, then next step is to answer the following:**

What decision support system & tools are needed to deploy and operationalize FIRO?

**If answer is no, then next step is to address the following:**

What research needs to be conducted to improve science & technology to meet the needs of water managers?

**Potential tangible benefits include:**

Improved water supply reliability for downstream uses, enhanced flood risk reduction and ecological benefits

