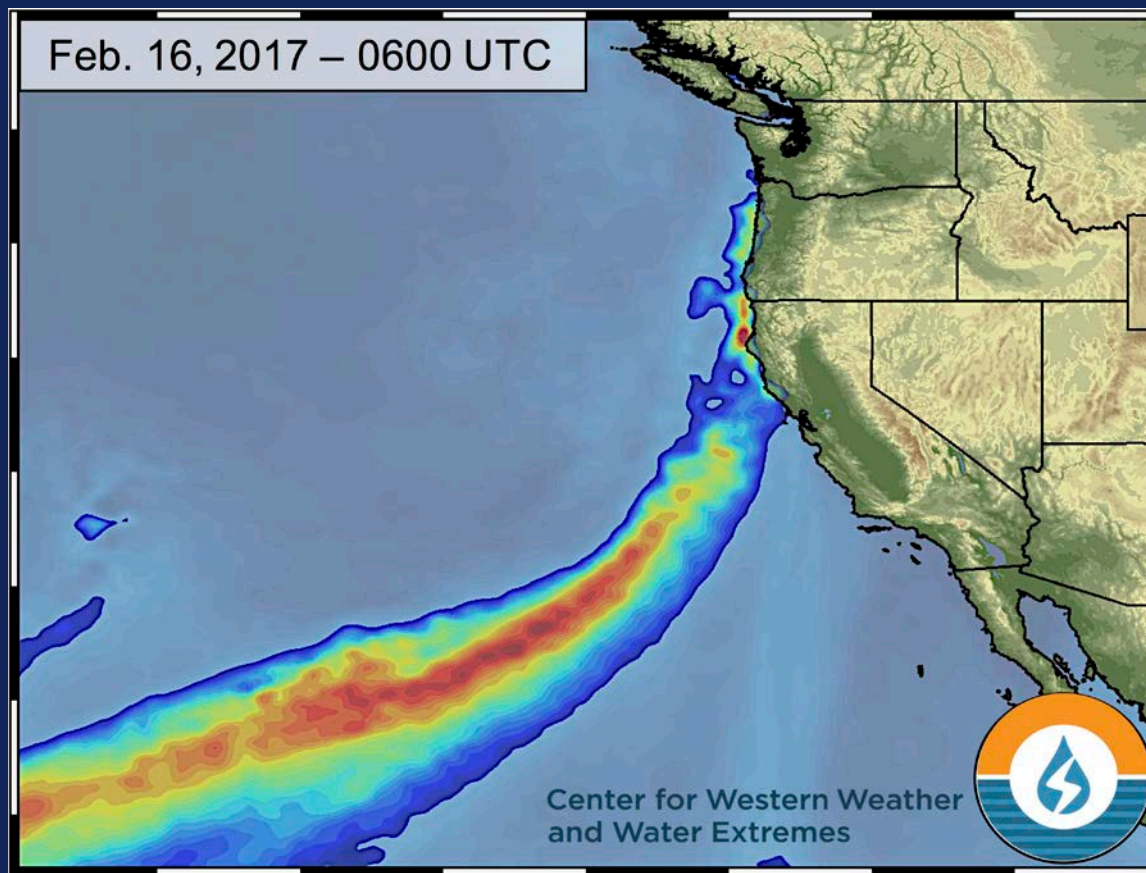




**Sonoma  
Water**

Grant Davis  
General Manager  
August 14, 2018

## Building Science for Informed Adaptation



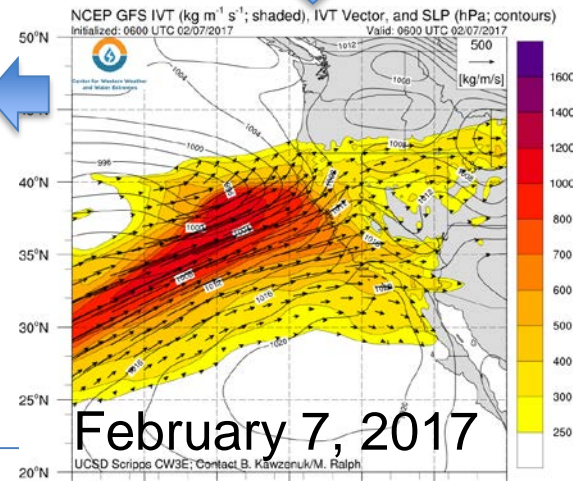
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Academies of*

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ENGINEERING  
MEDICINE**

## Making Climate Assessments Work

Learning from California and Other Subnational Climate Assessments

# The Lake Oroville Story



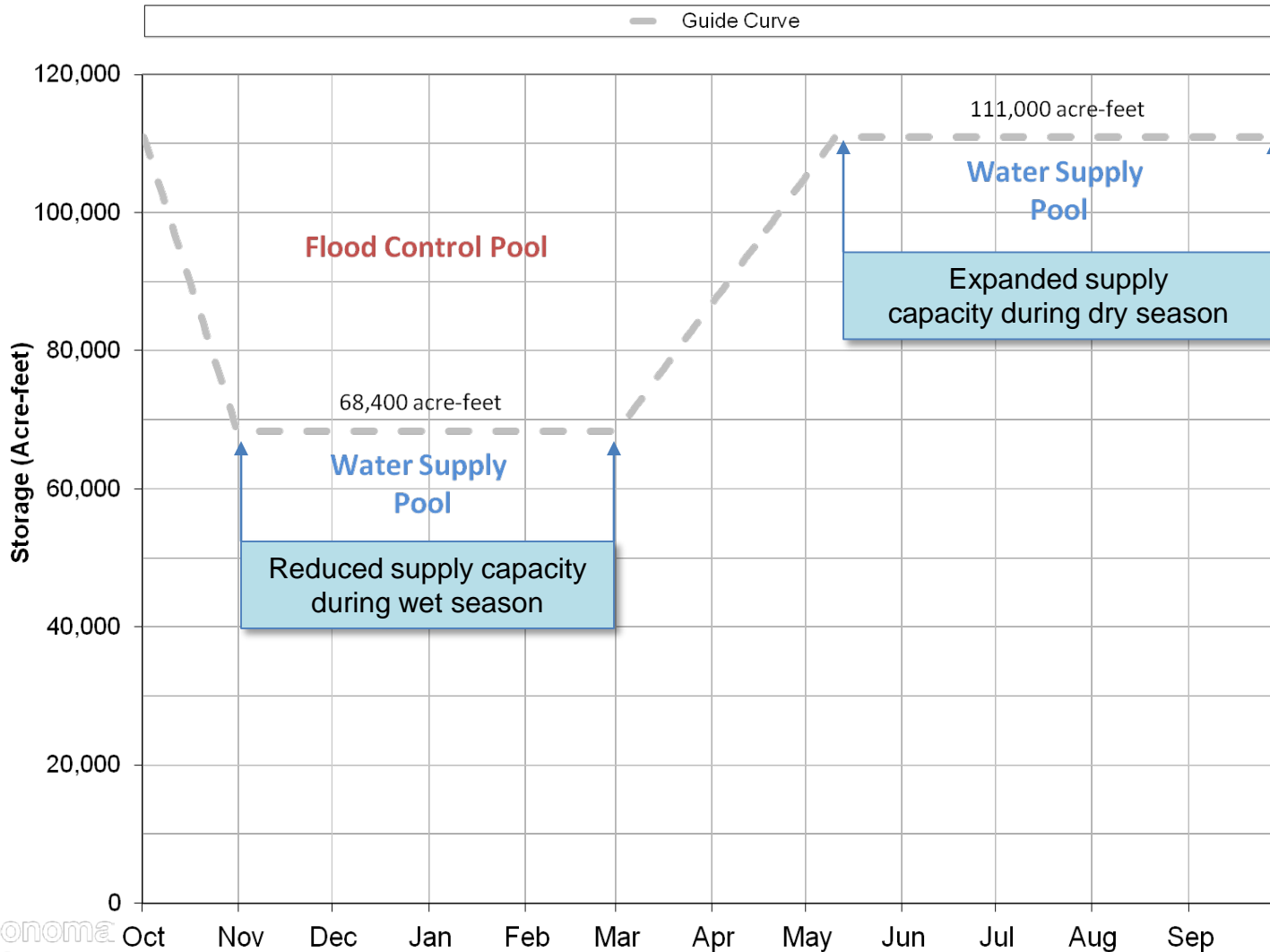
# Sonoma Water and the Russian River

- Coastal watershed in the North Bay Area
- 2 USACE Reservoirs
  - Flood Protection → USACE
  - Water Supply → Sonoma Water
    - Water for +600,000 residents
  - Lake Mendocino – 111,000 AF
  - Lake Sonoma – 245,000 AF
- Why the Russian River?
  - Not connected to Bay-Delta System



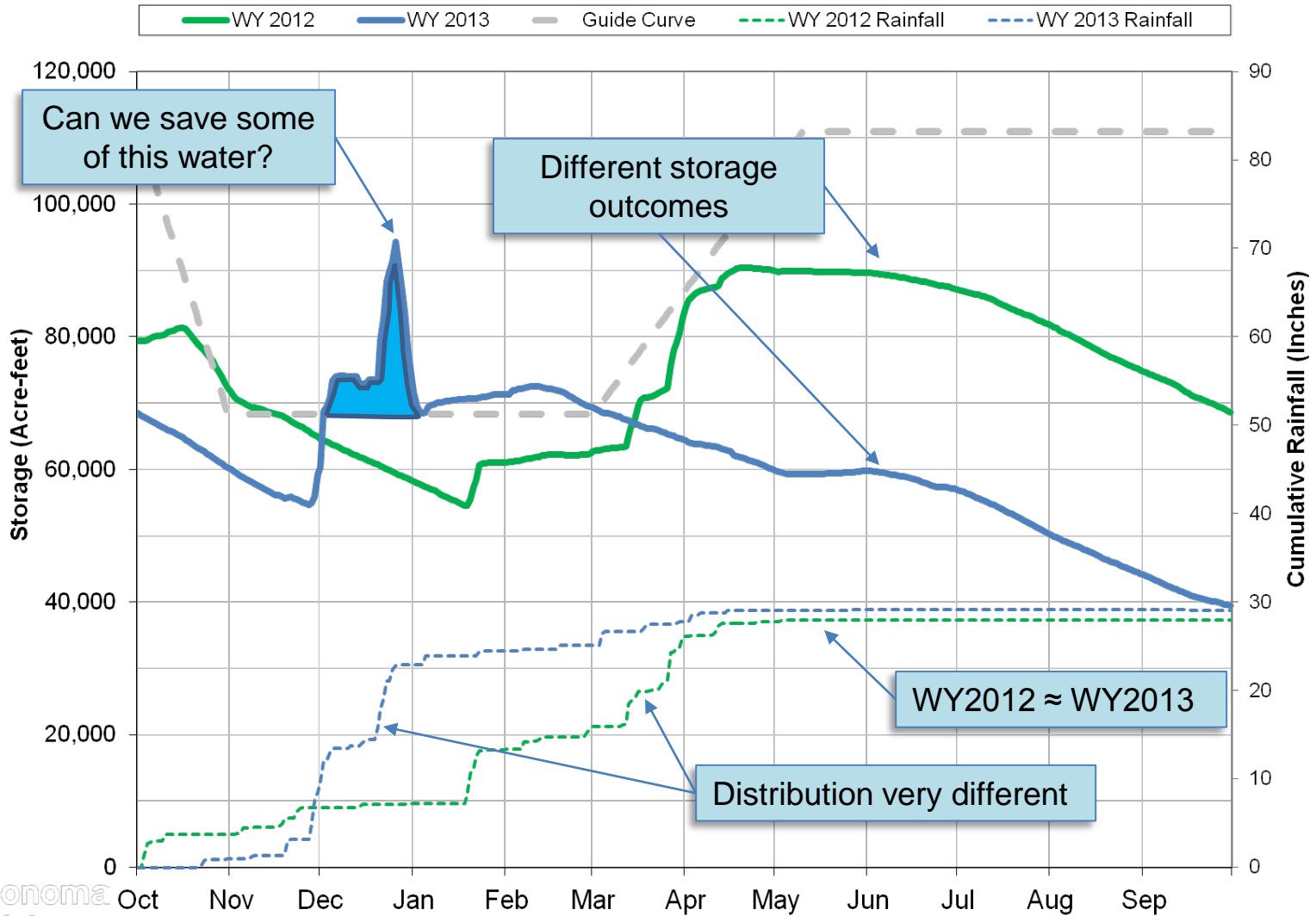
# Lake Mendocino Guide Curve & Water Supply Challenges

Lake Mendocino Storage Water Years 2012 & 2013



# Lake Mendocino Guide Curve & Water Supply Challenges

## Lake Mendocino Storage Water Years 2012 & 2013



# Forecast Informed Reservoir Operations (FIRO) for Lake Mendocino

- Hydrologic forecasts inform reservoir releases
- Lake Mendocino FIRO Demonstration Project
- Steering Committee
  - Co-Chairs:
    - Jay Jasperse, Sonoma Water
    - Marty Ralph, Center for Western Weather Water Extremes (CW3E)
- Preliminary Viability Assessment – August 2017



US Army Corps  
of Engineers®

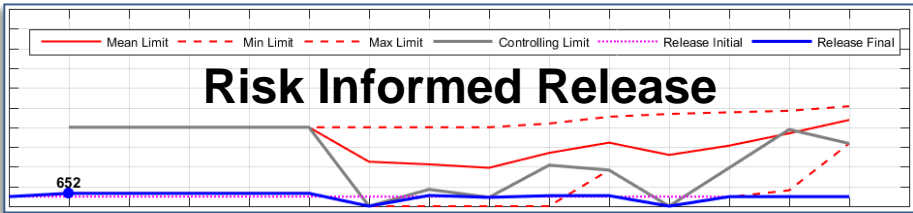
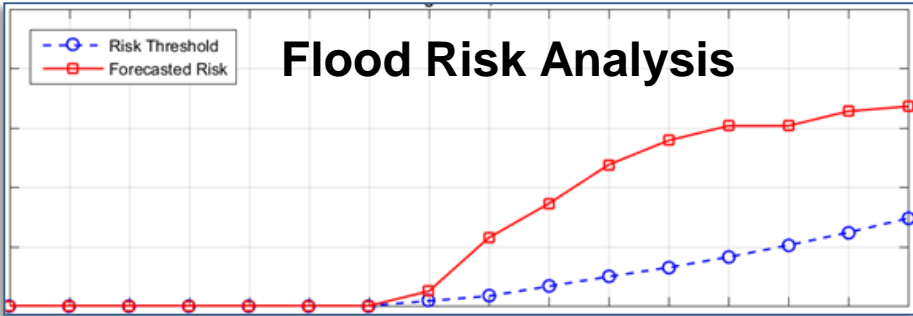
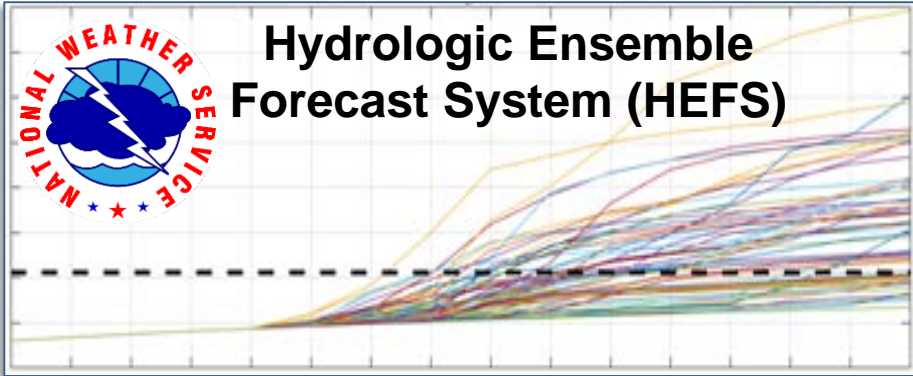
Sonoma Water



CW3E

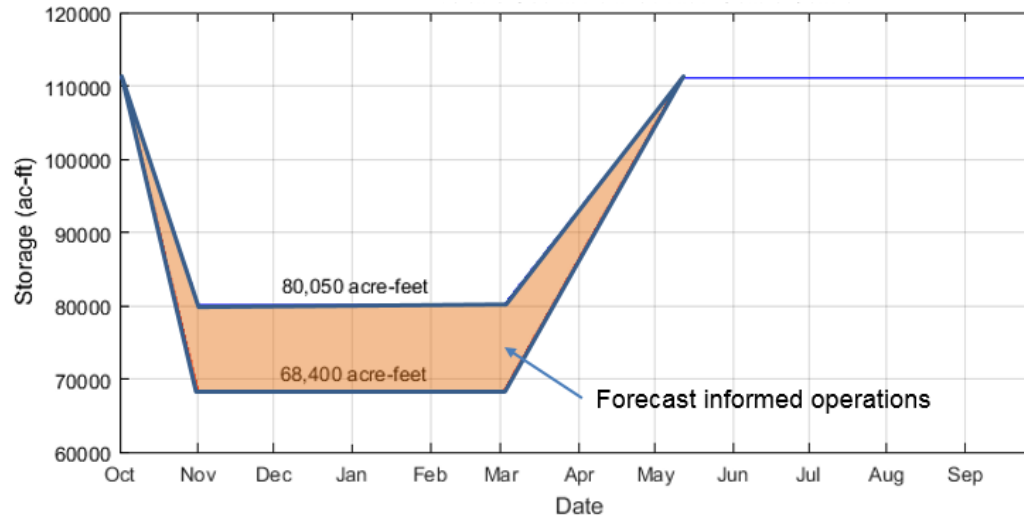


# Lake Mendocino FIRO Ensemble Forecast Operations



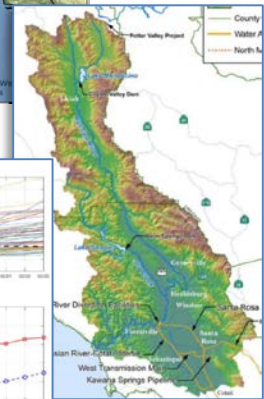
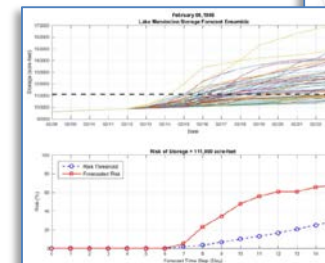
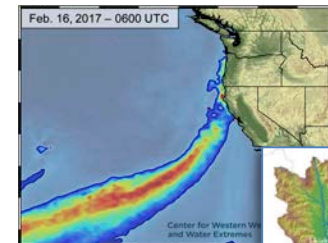
# Lake Mendocino FIRO Next Steps

- 2019 Major Deviation to Water Control Manual



- **Final Viability Assessment (FVA)**

- Multi-disciplinary study
  - Meteorology (AR research)
  - Hydrology & Hydraulics
  - Reservoir Operations



# Climate Vulnerability Assessment through Threat-Asset Pairing

## Climate Threats



Temperature



Sea Level Rise



Precipitation



Drought



Wildfire



River Flooding

## Asset Classes

Water Supply



Flood Control



Sanitation

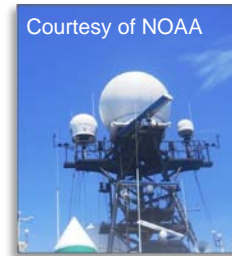


# Sonoma Water Looking Ahead

- Investment in science is the foundation

## to informed adaptation

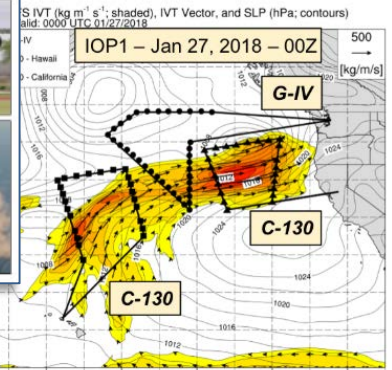
- Improvements in on-the-ground monitoring



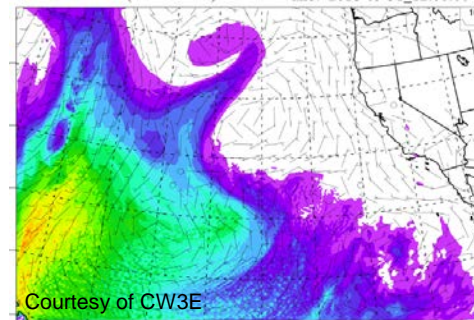
- Investments in AR research



Courtesy of CW3E



- Improvements in weather and water forecasting models





**Sonoma  
Water**

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