

# STATE WATER PROJECT JUNE 2014 DROUGHT BRIEFING



John Leahigh  
Department of Water Resources  
June 4, 2014

- ◎ State Water Project Overview
- ◎ California Hydrologic Uncertainty
- ◎ 2014 Hydrology
- ◎ Drought Response
- ◎ Preparation for 2015



# California Water Systems

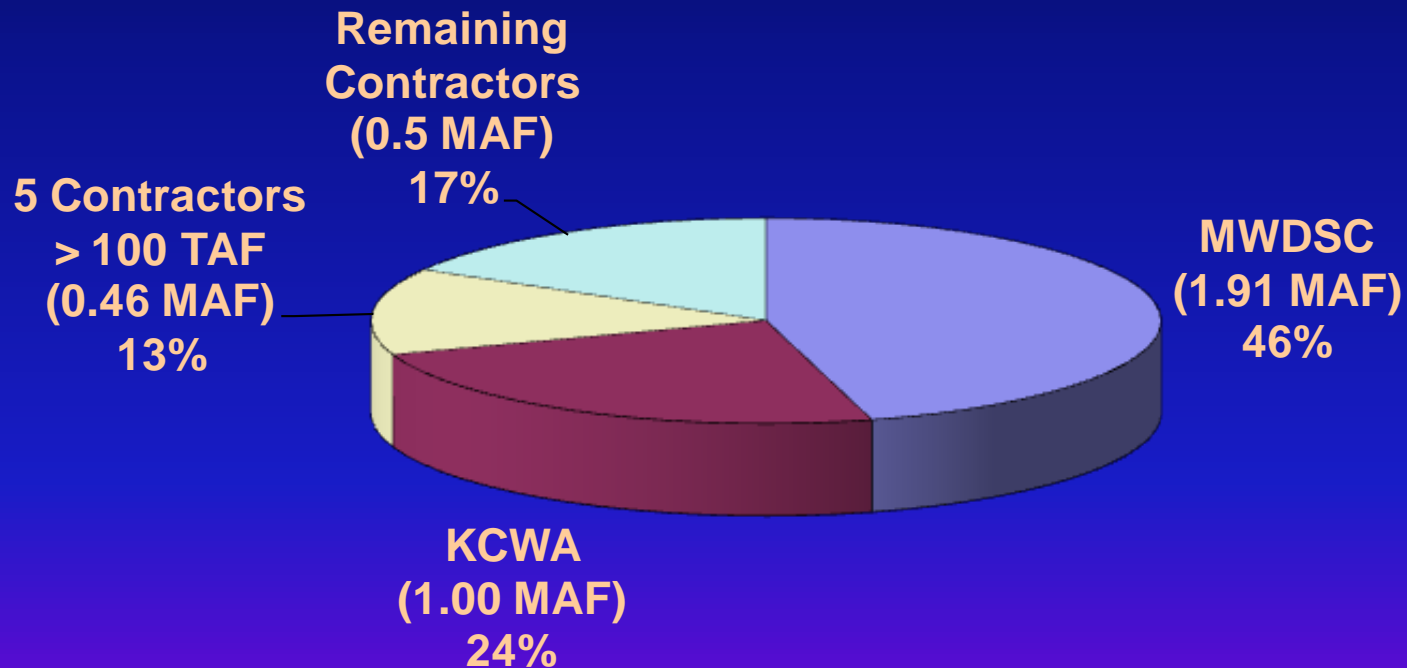




### State Water Project Contractors Service Areas

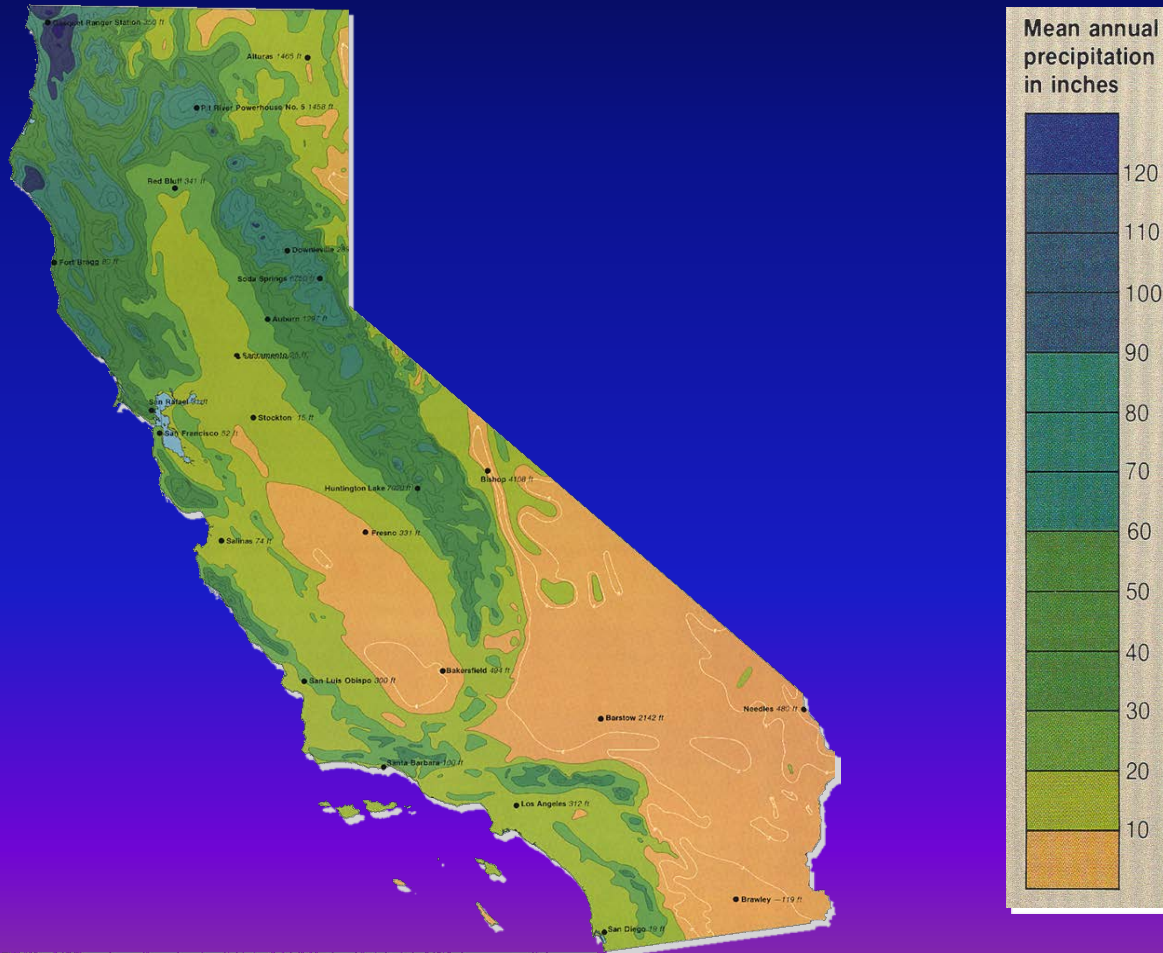
- 1 Plumas County Flood Control and Water Conservation District
- 2 County of Butte
- 3 City of Yuba City
- 4 Napa County Flood Control and Water Conservation District
- 5 Solano County Water Agency
- 6 Alameda County Flood Control and Water Conservation District - Zone 7
- 7 Alameda County Water District
- 8 Santa Clara Valley Water District
- 9 Oak Flat Water District
- 10 County of Kings
- 11 Empire West Side Irrigation District
- 12 Tulare Lake Basin Water Storage District
- 13 Dudley Ridge Water District
- 14 San Luis Obispo County Flood Control and Water Conservation District
- 15 Kern County Water Agency
- 16 Mojave Water Agency
- 17 Antelope Valley-East Kern Water Agency
- 18 Santa Barbara County Flood Control and Water Conservation District
- 19 Ventura County Watershed Protection District
- 20 Castaic Lake Water Agency
- 21 Littlerock Creek Irrigation District
- 22 Palmdale Water District
- 23 Crestline-Lake Arrowhead Water Agency
- 24 San Bernardino Valley Municipal Water District
- 25 San Gabriel Valley Municipal Water District
- 26 San Geronio Pass Water Agency
- 27 Desert Water Agency
- 28 Coachella Valley Water District
- 29 Metropolitan Water District of Southern California

# SWP Contract Amount "Table A" (4.18 MAF)

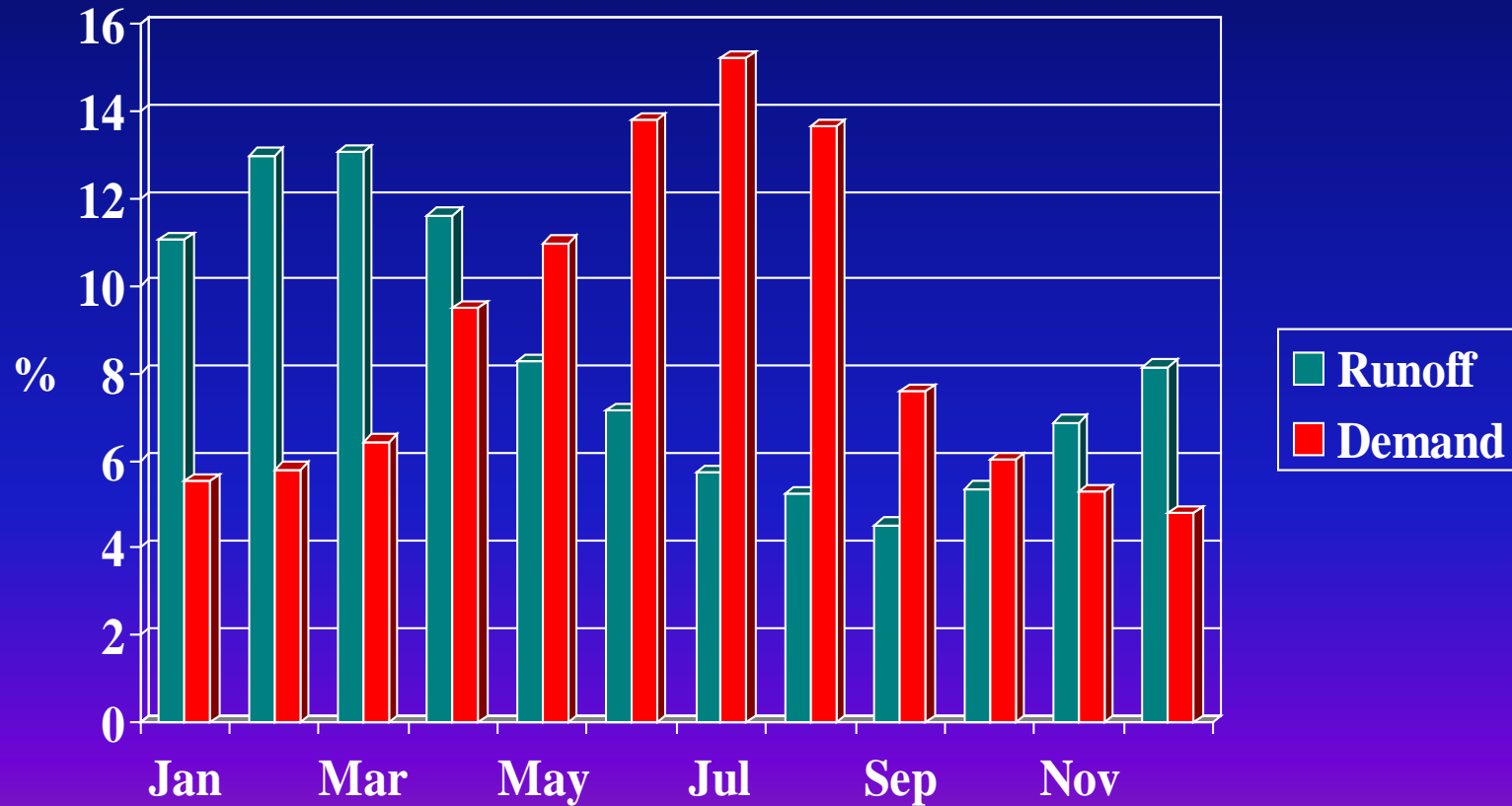




# Project Conveyance Resolves the Geographic Disparity

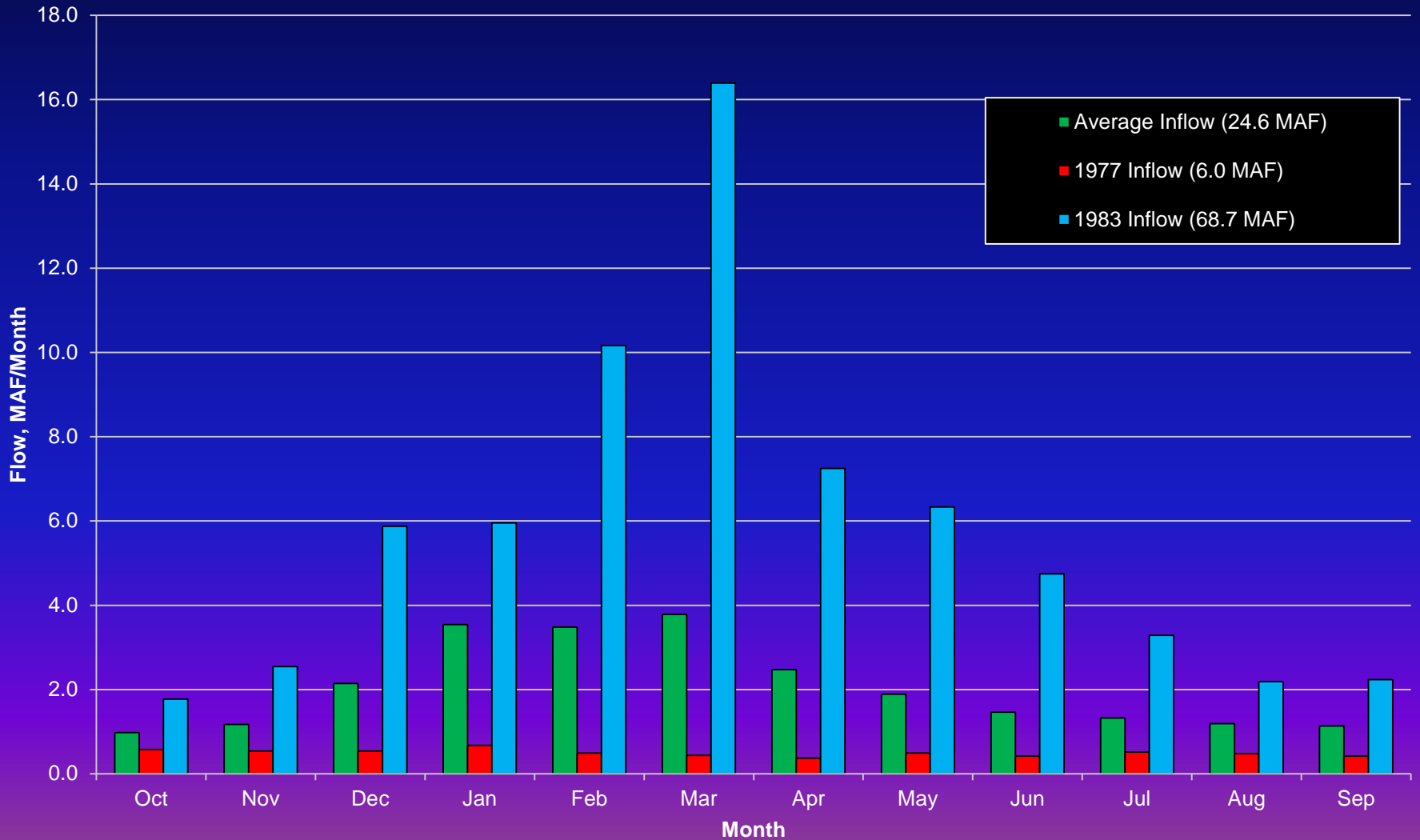


# Project Storage Resolves the Seasonal Disparity



# Seasonal Variation of Runoff

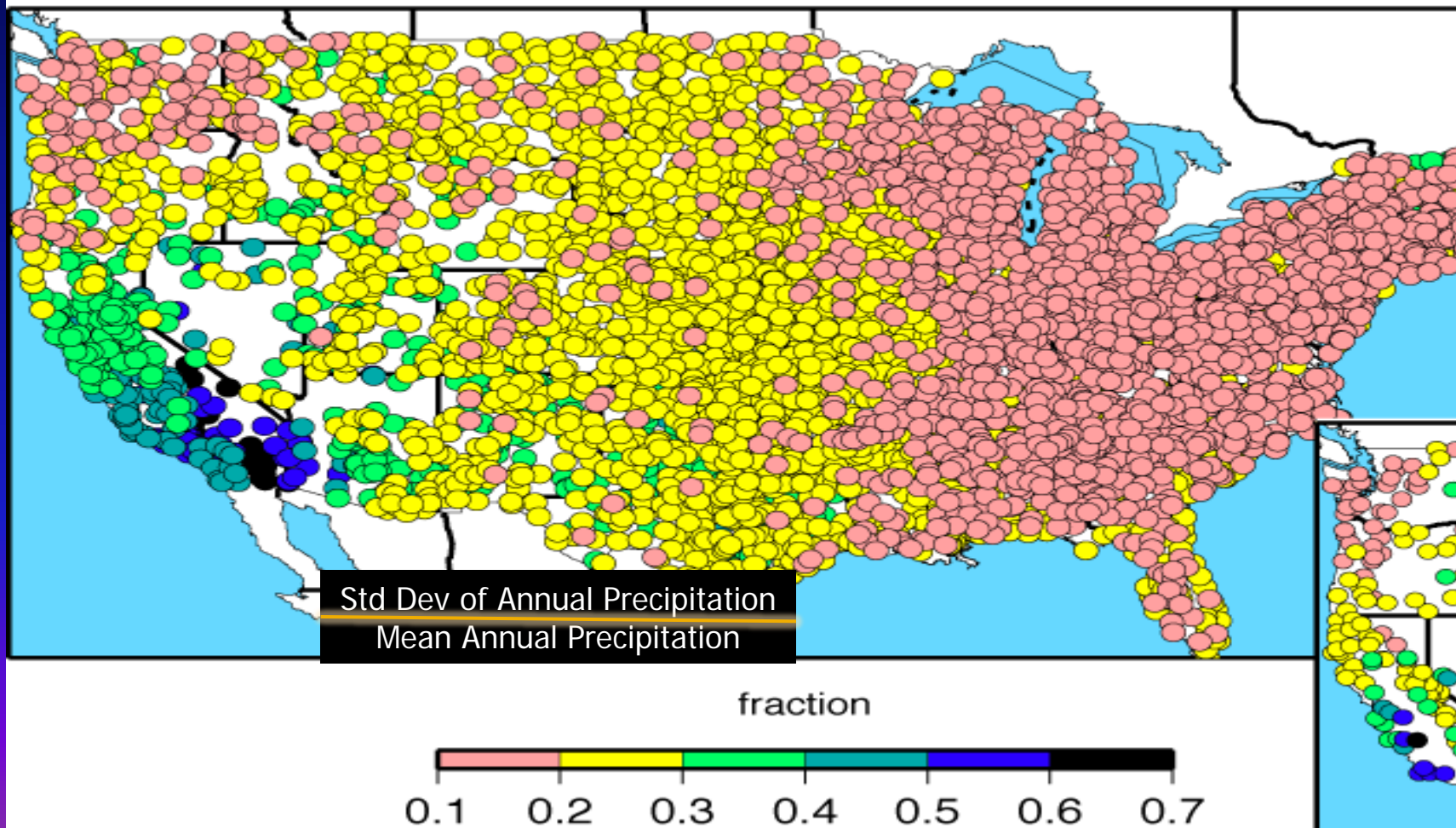
## Delta Inflow (WY 1970-2011)



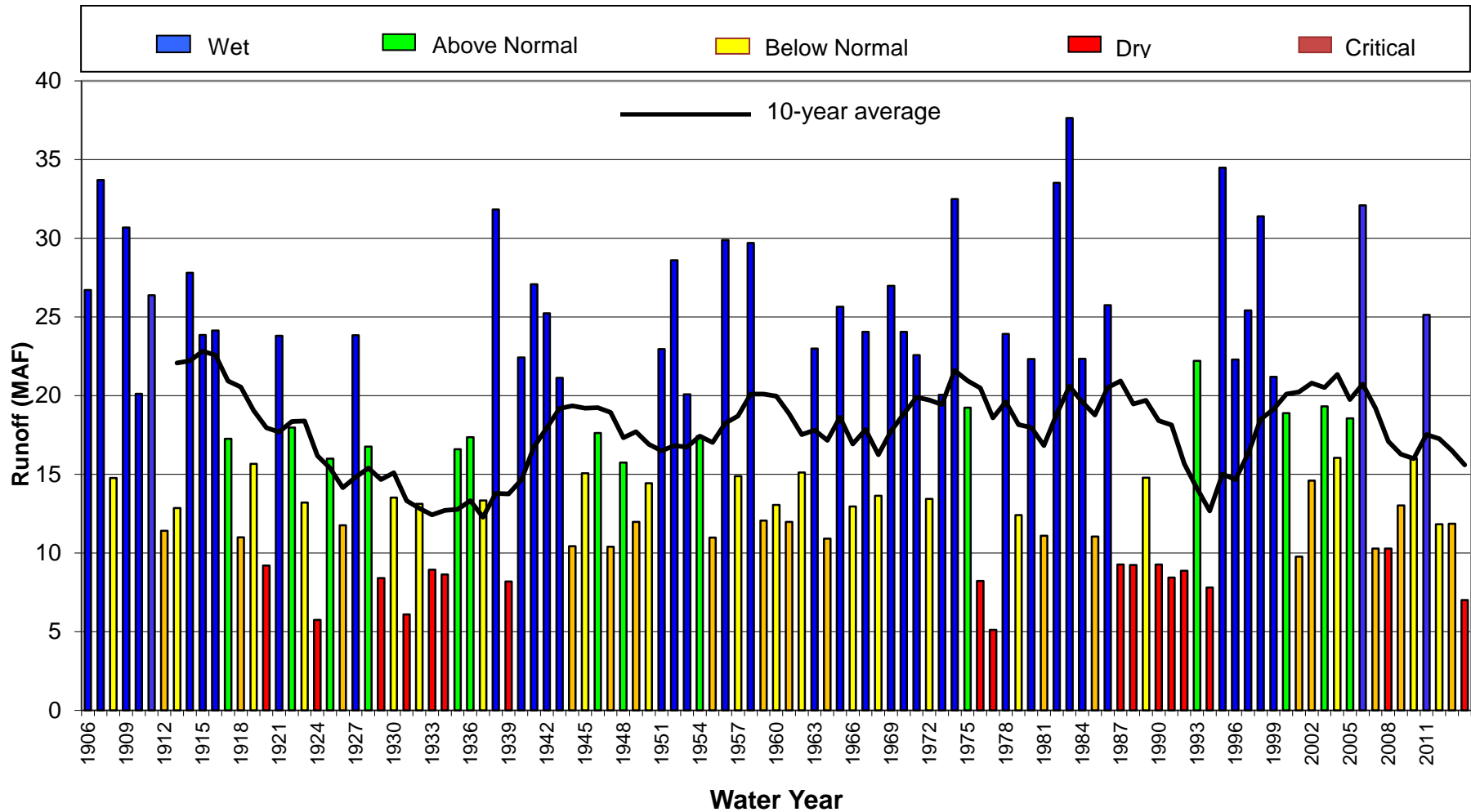


# California's Precipitation is Uniquely Variable

a) COEFFICIENTS OF VARIATION OF TOTAL PRECIPITATION, WY 1951-2008



# Sacramento Valley Water Year Types







CALIFORNIA AQUEDUCT

LOS ANGELES AQUEDUCT

COLORADO RIVER AQUEDUCT

LOS ANGELES

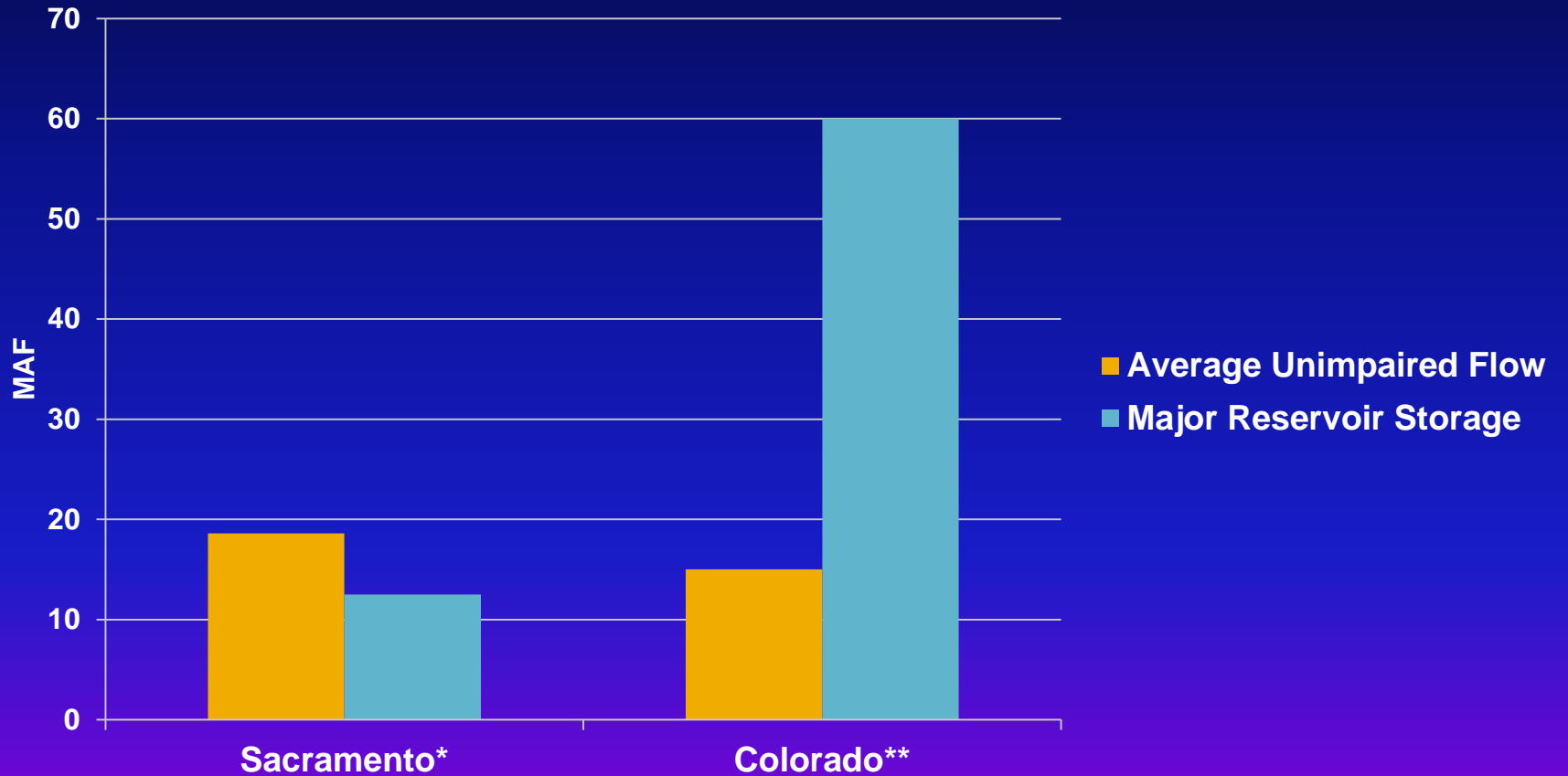
SAN DIEGO

Original watershed of Southern California metropolitan area outlined in red

About 2,000 miles (3,219 km) across

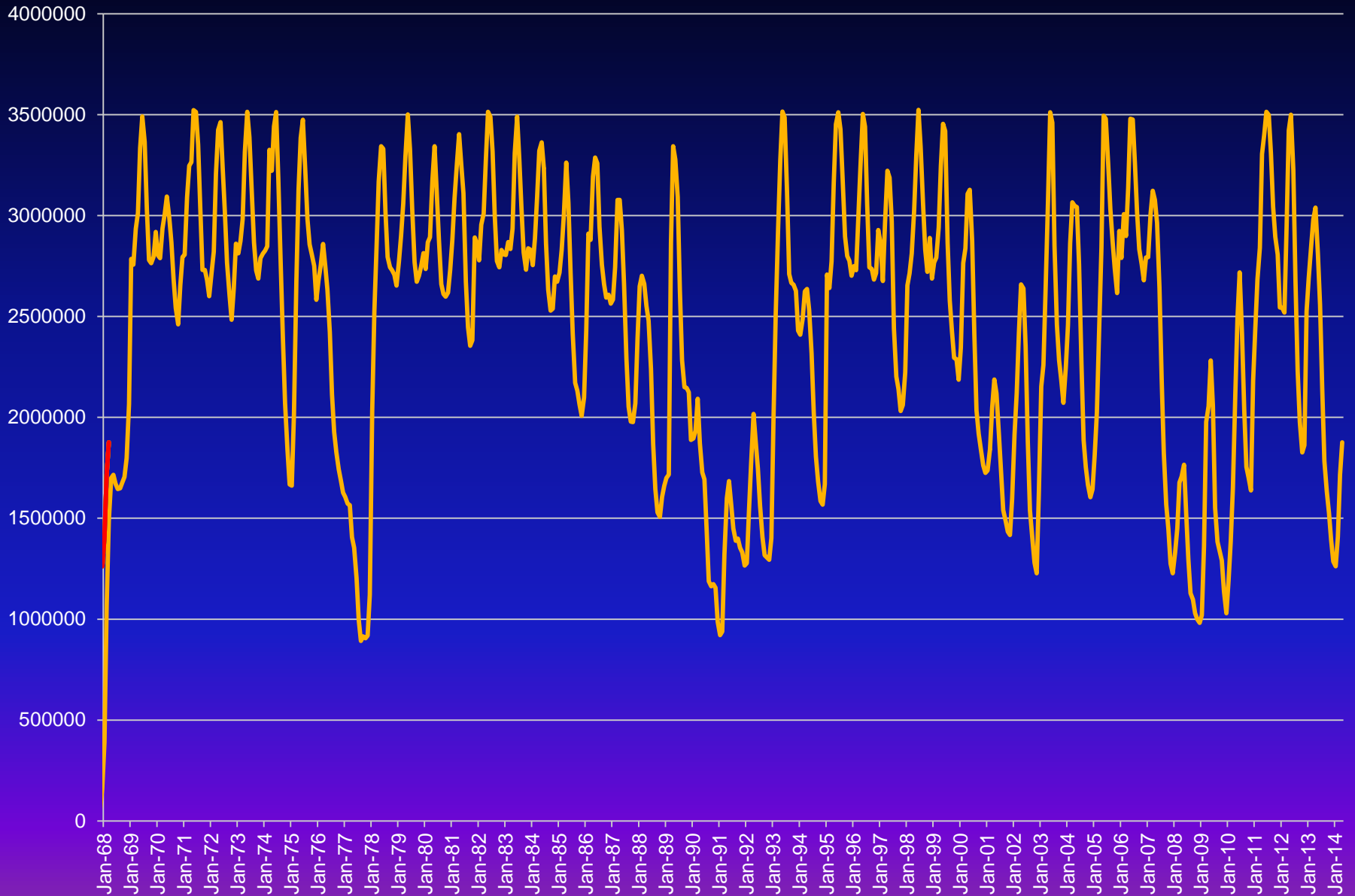
# California Storage

## Insufficient for Annual Variation

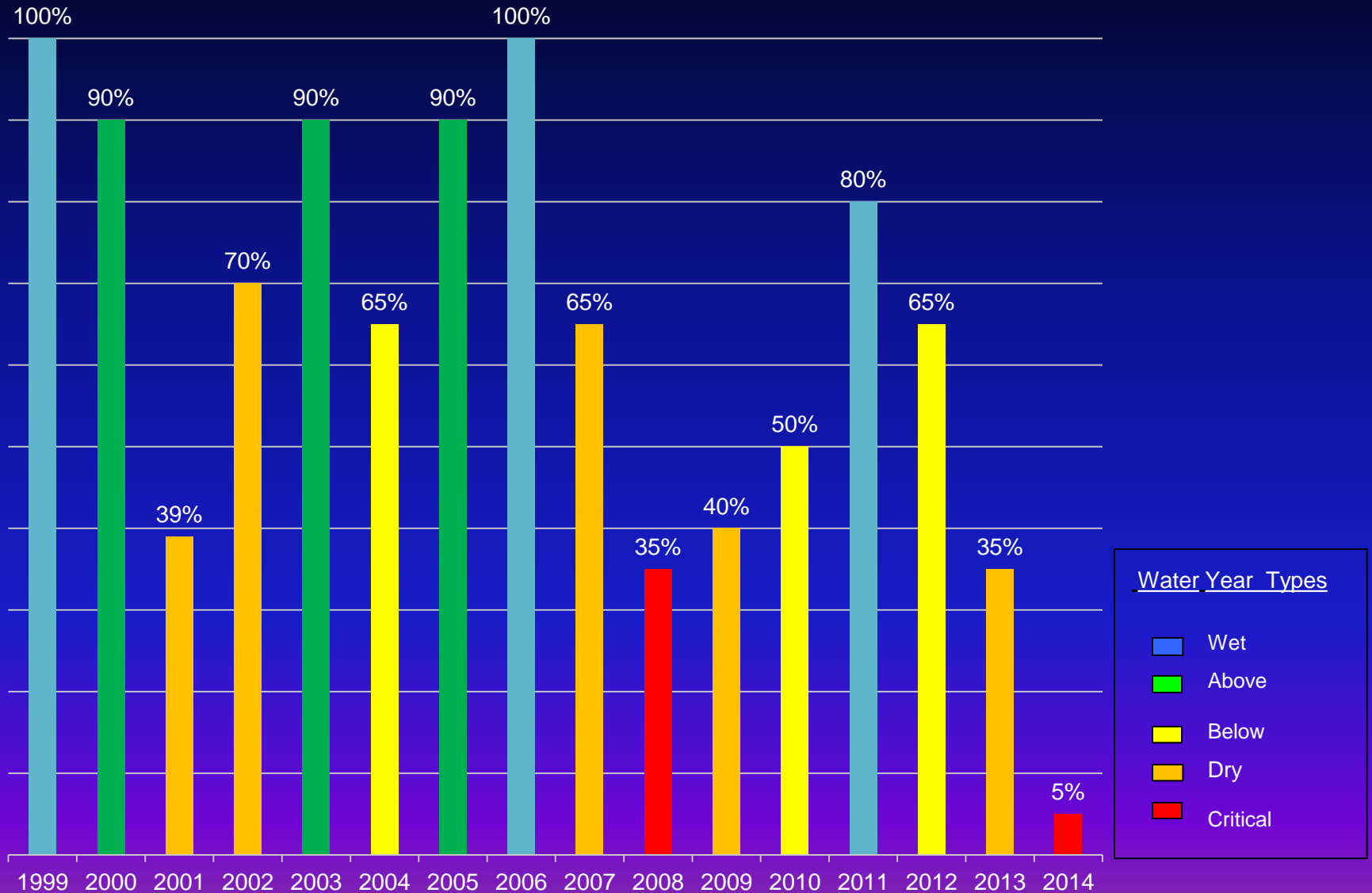


\* Trinity, Shasta, Oroville, and Folsom  
\*\* Mead, Powell, and Flaming Gorge

# Historical Lake Oroville Storage



# SWP Allocation by Year Type

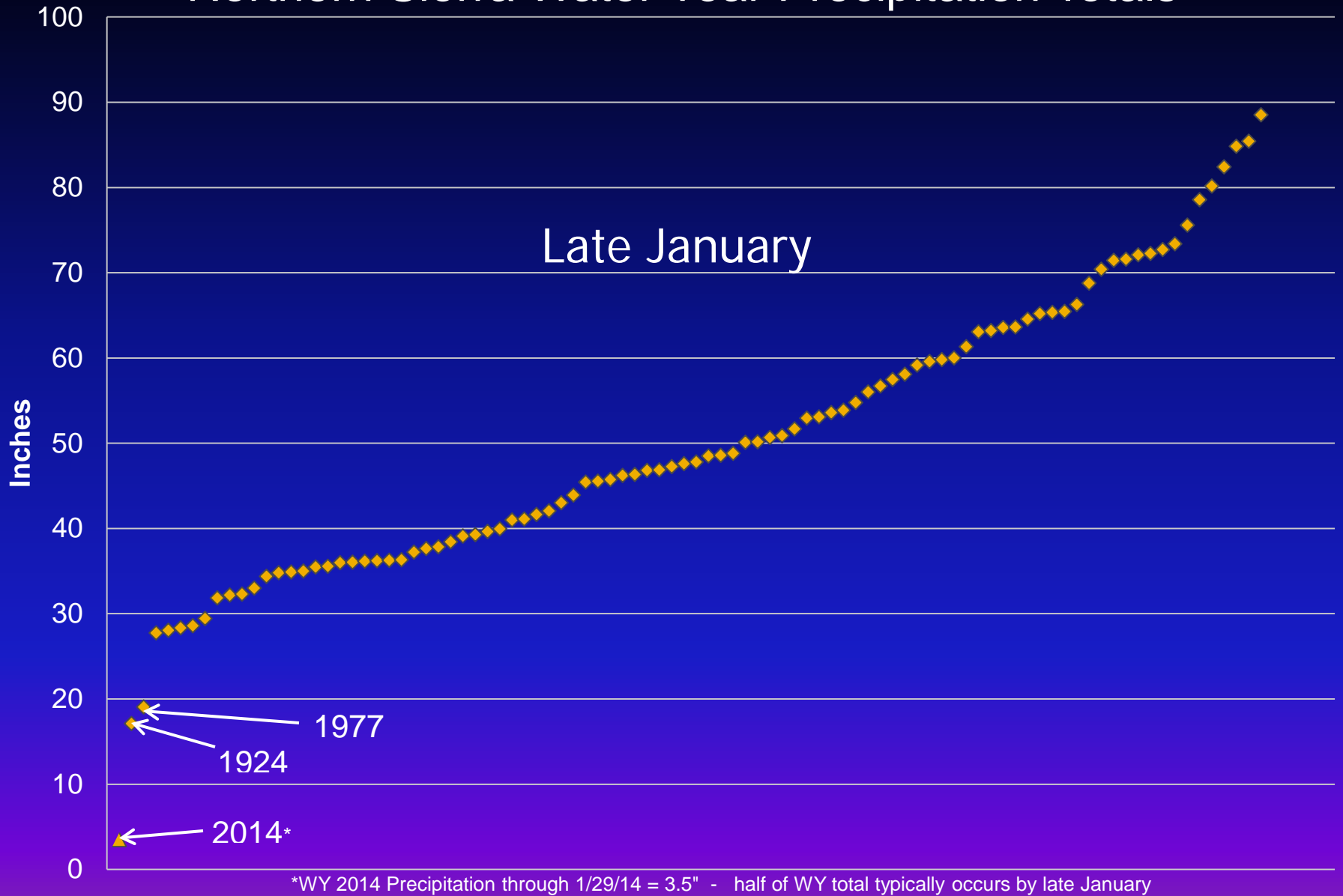




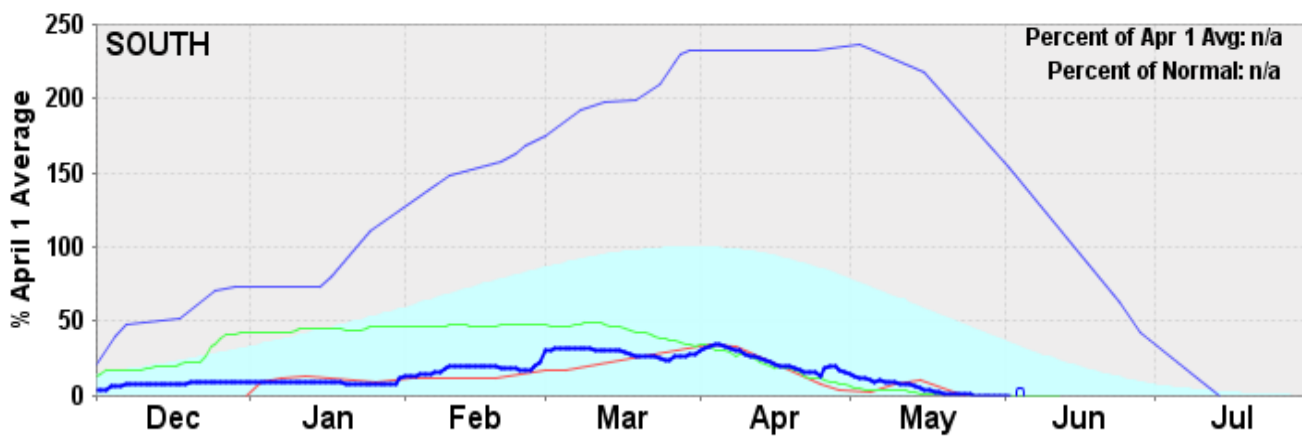
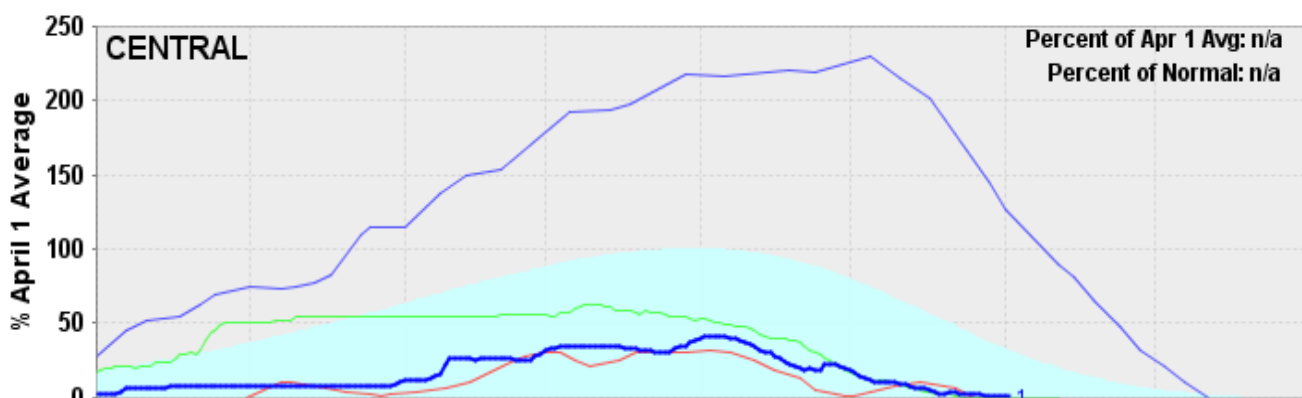
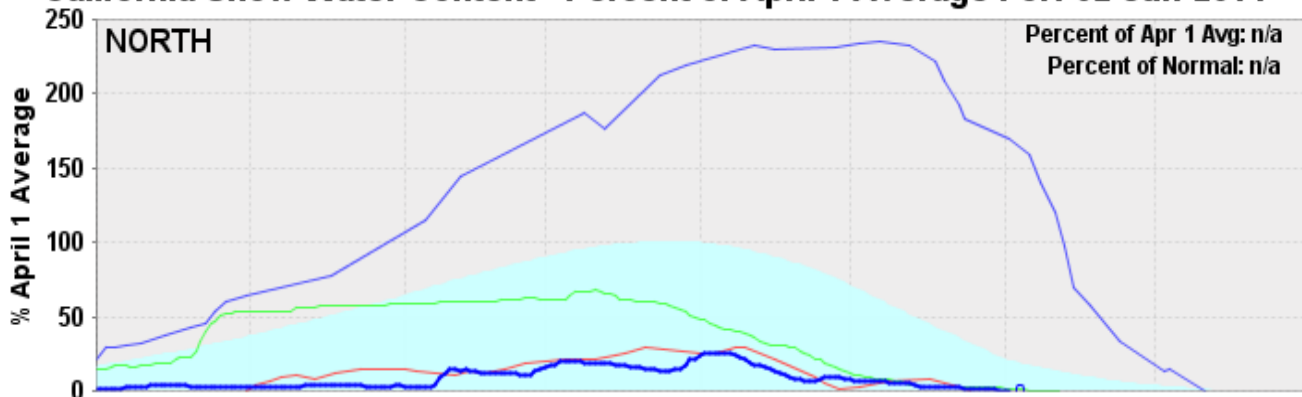
# 2014 Hydrologic Progression



# Northern Sierra Water Year Precipitation Totals



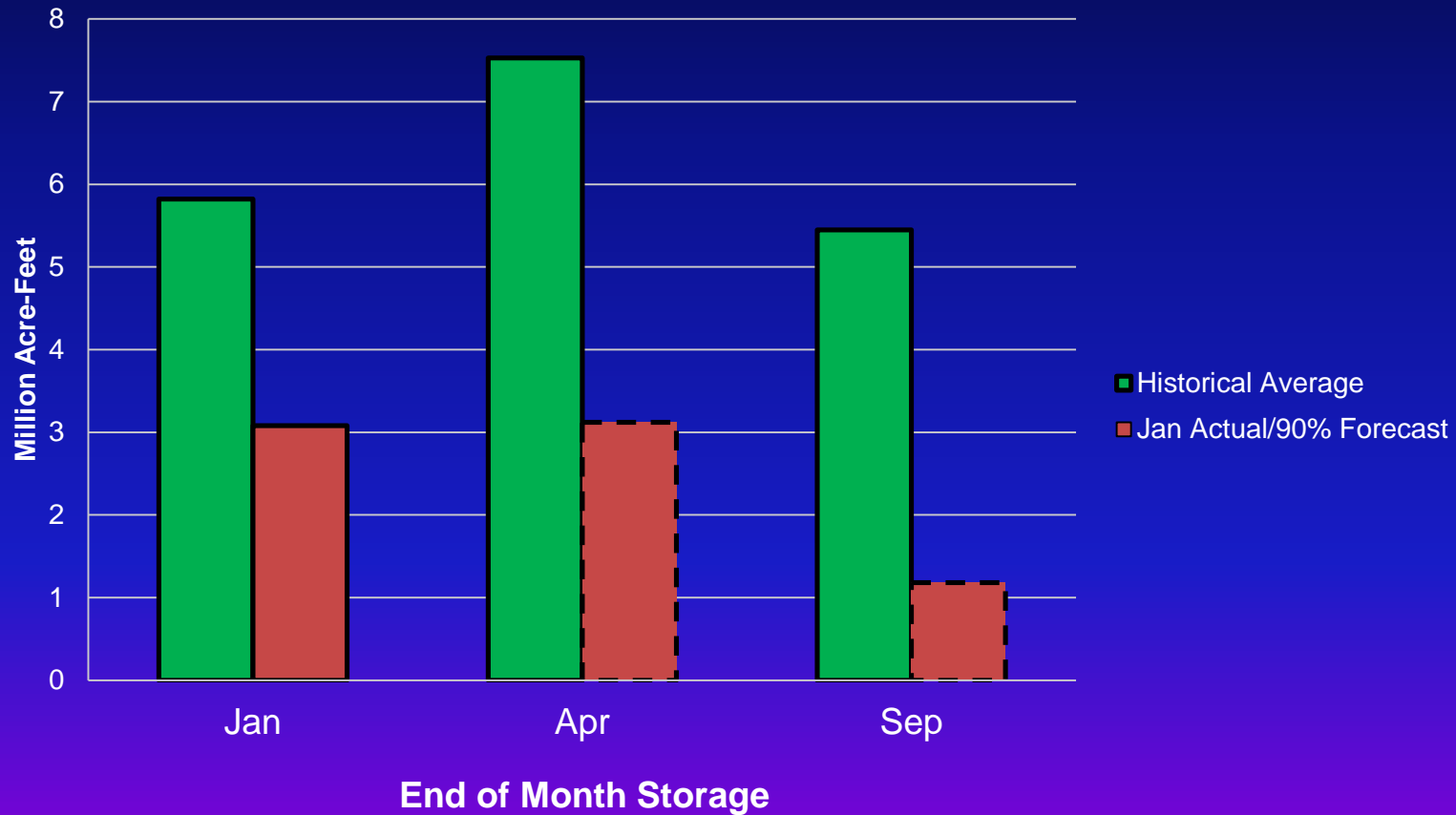
# California Snow Water Content - Percent of April 1 Average For: 02-Jun-2014



— Average 
 — 1976-1977 (min) 
 — 1982-1983 (max) 
 — 2012-2013 
 — 2013-2014 (current)

# Insufficient Storage Gains in the Winter/Spring for Salinity Control in the Summer/Fall

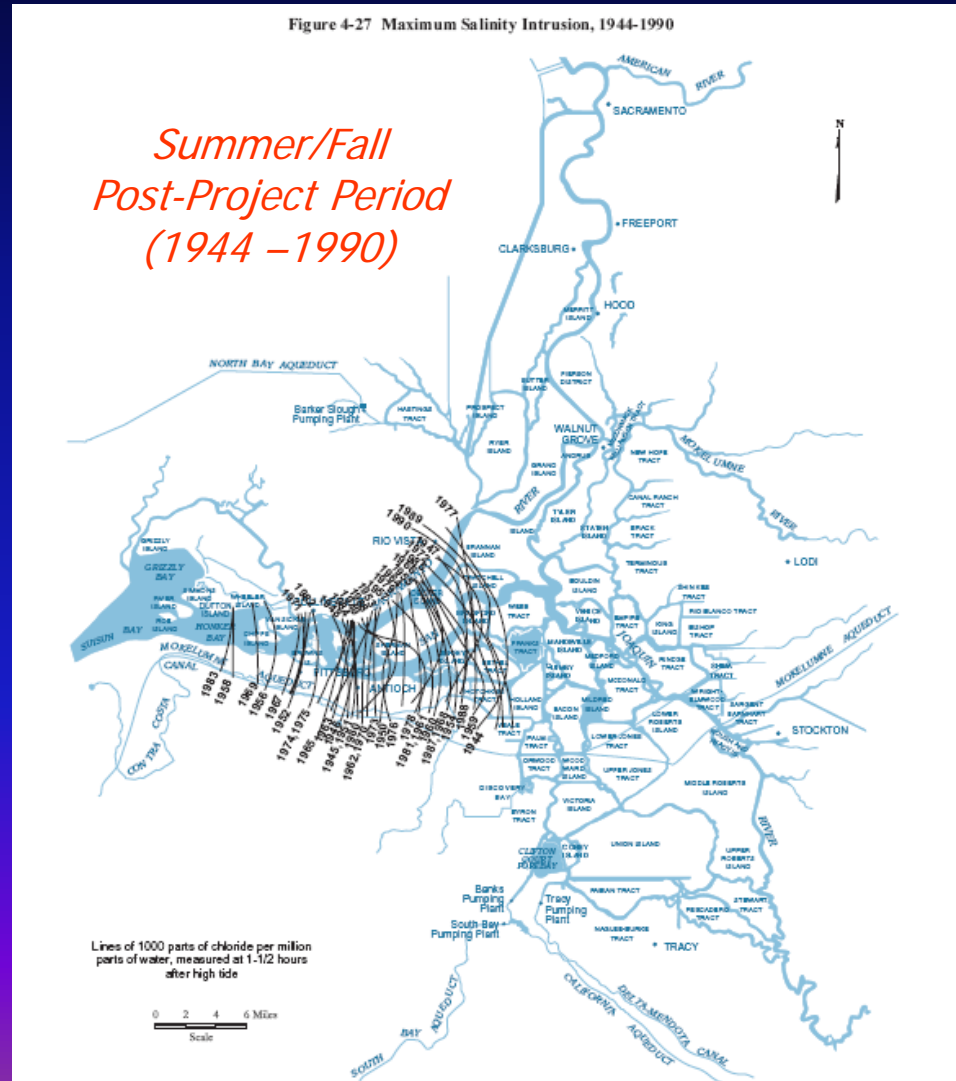
## Combined Shasta/Oroville/Folsom Storages



# Return to Normal Precipitation Pattern Project Controlled Salinity

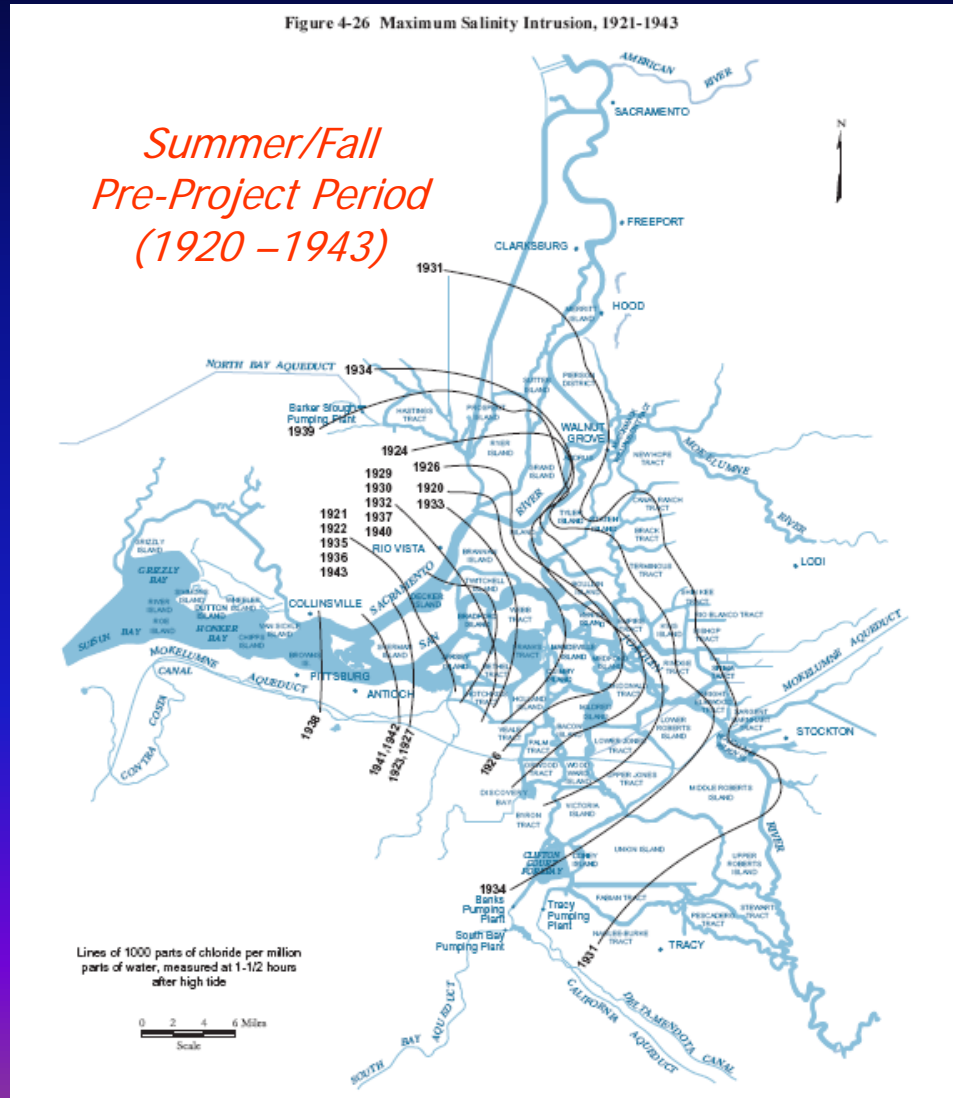
Figure 4-27 Maximum Salinity Intrusion, 1944-1990

*Summer/Fall  
Post-Project Period  
(1944 - 1990)*



Source: Department of Water Resources, Sacramento - San Joaquin Delta Atlas, 1903

# Continued Dry Conditions Loss of Delta Salinity Control



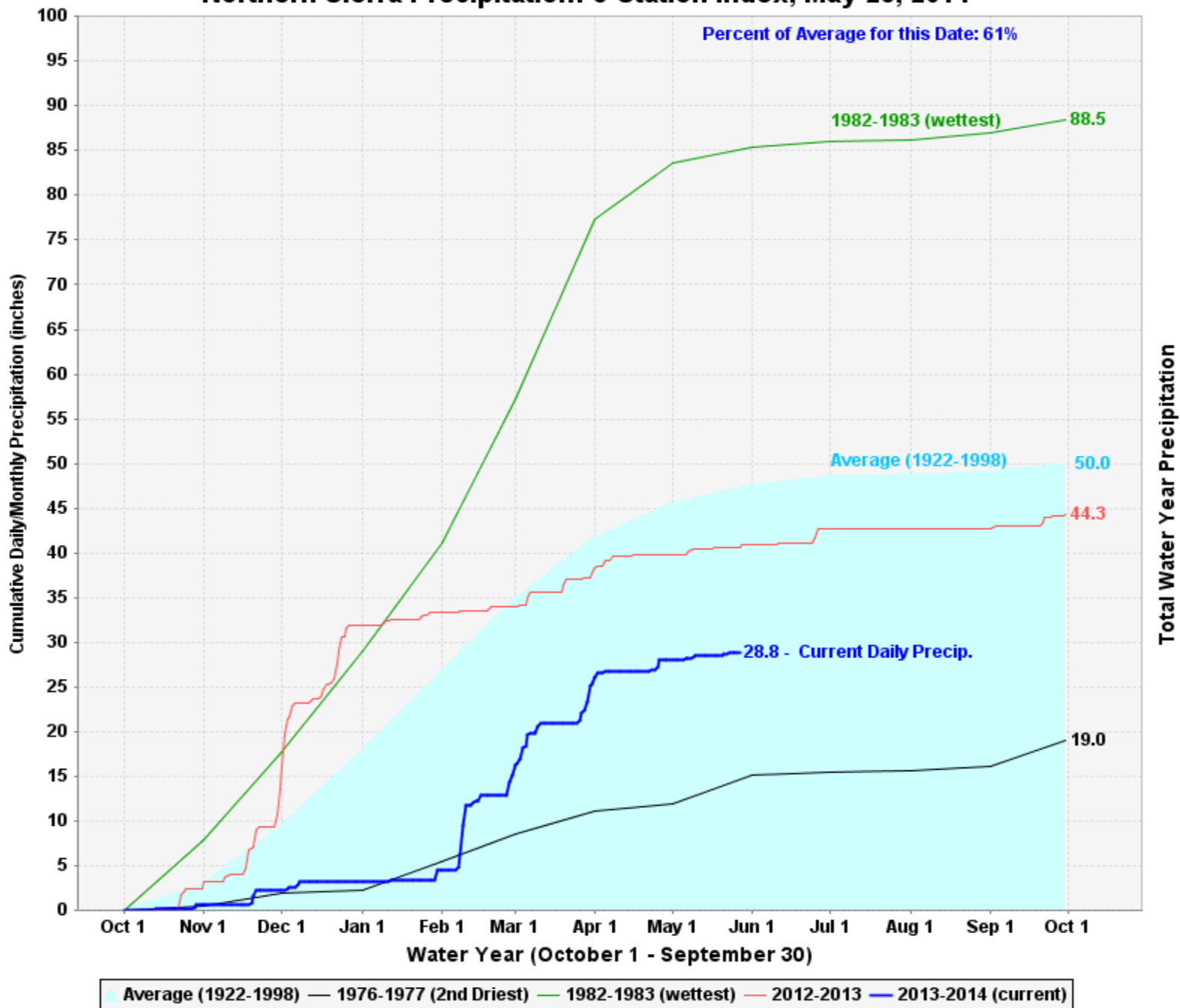


# Preparing for the Worst

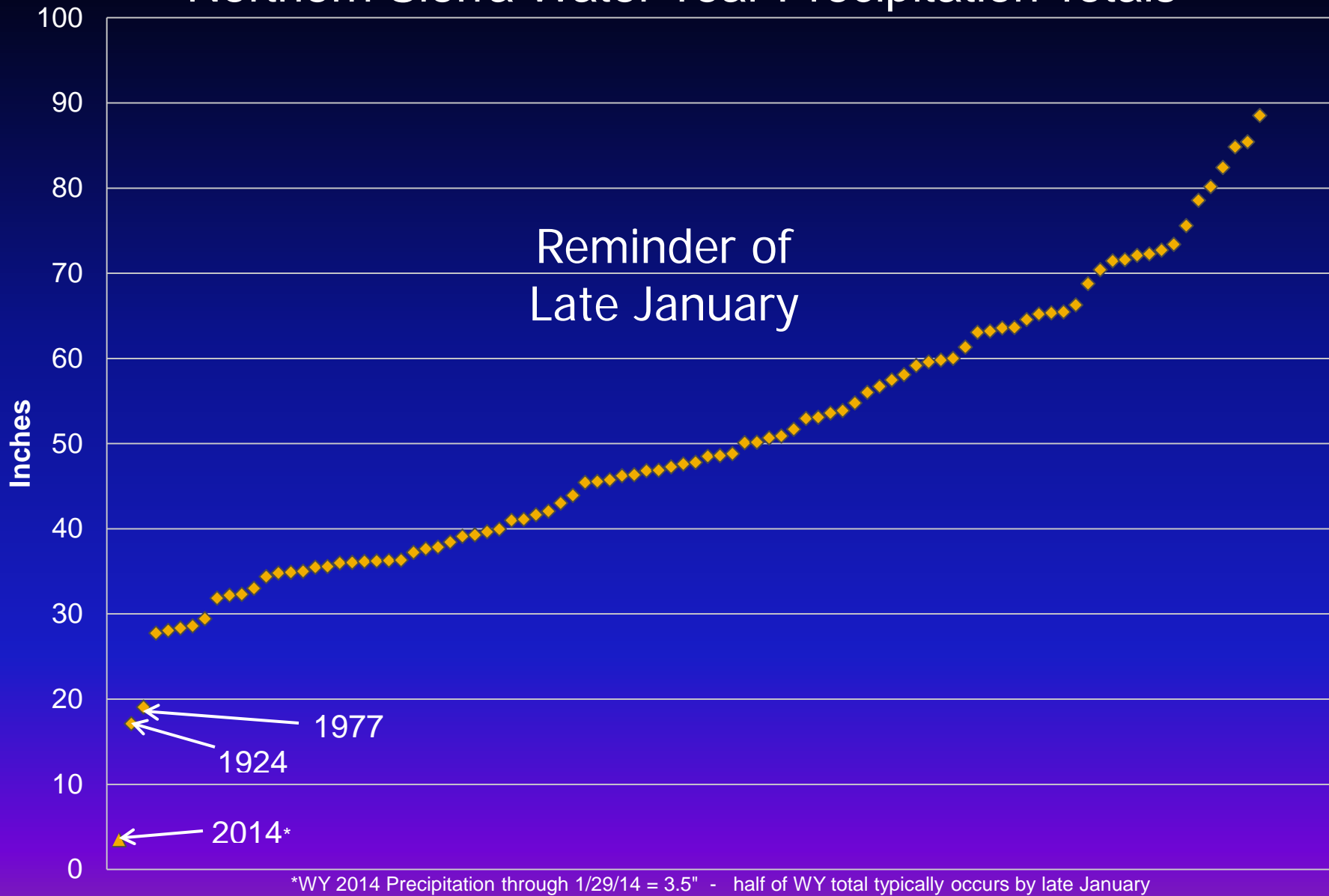
- ⦿ Allocation Reductions
- ⦿ Petition the Water Board to Modify Delta Standards
- ⦿ Plan for Emergency Drought Rock Barriers
- ⦿ Begin Development of the Drought Operations Plan

# February/March Improvements

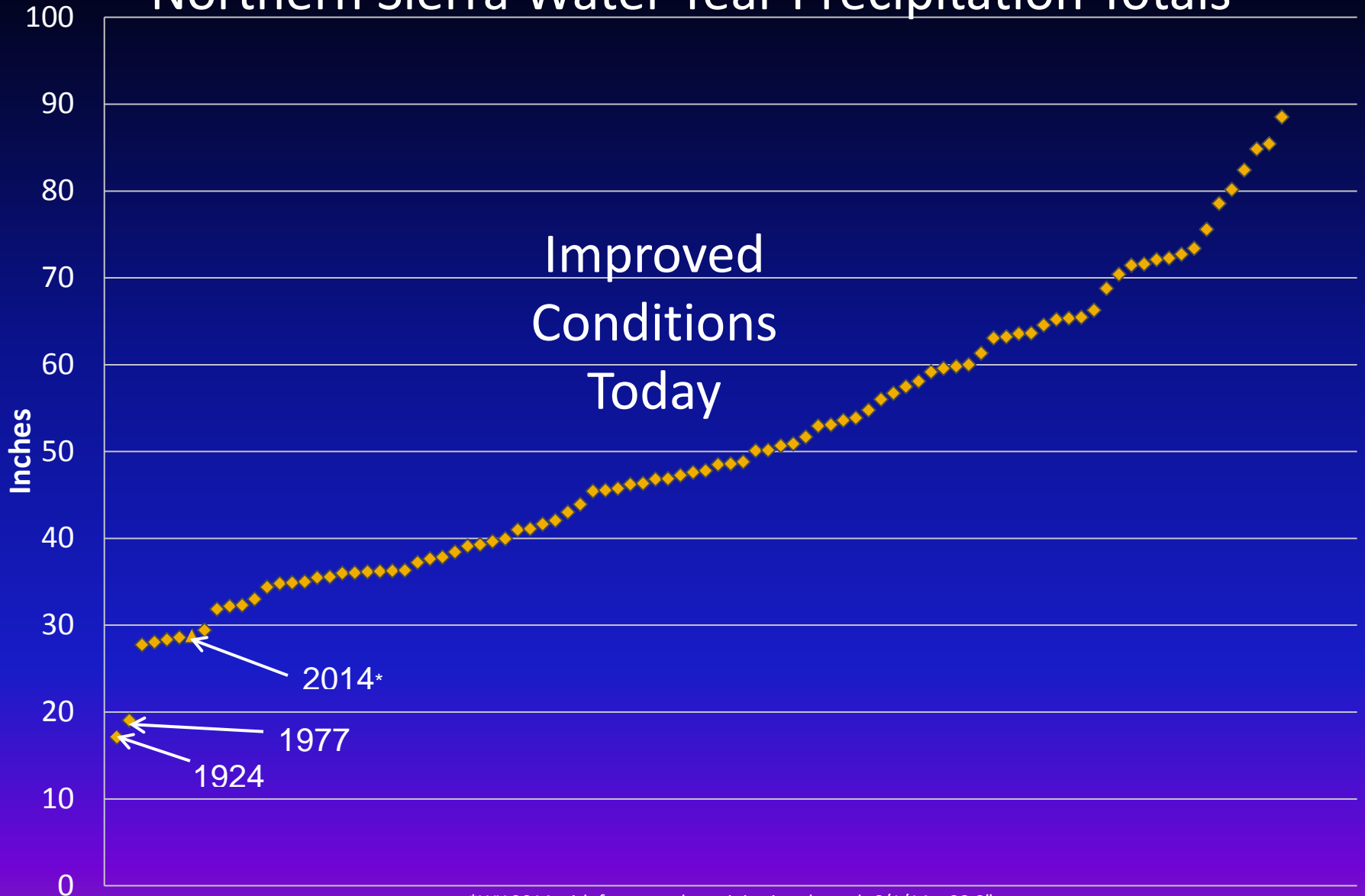
# Northern Sierra Precipitation: 8-Station Index, May 28, 2014



# Northern Sierra Water Year Precipitation Totals



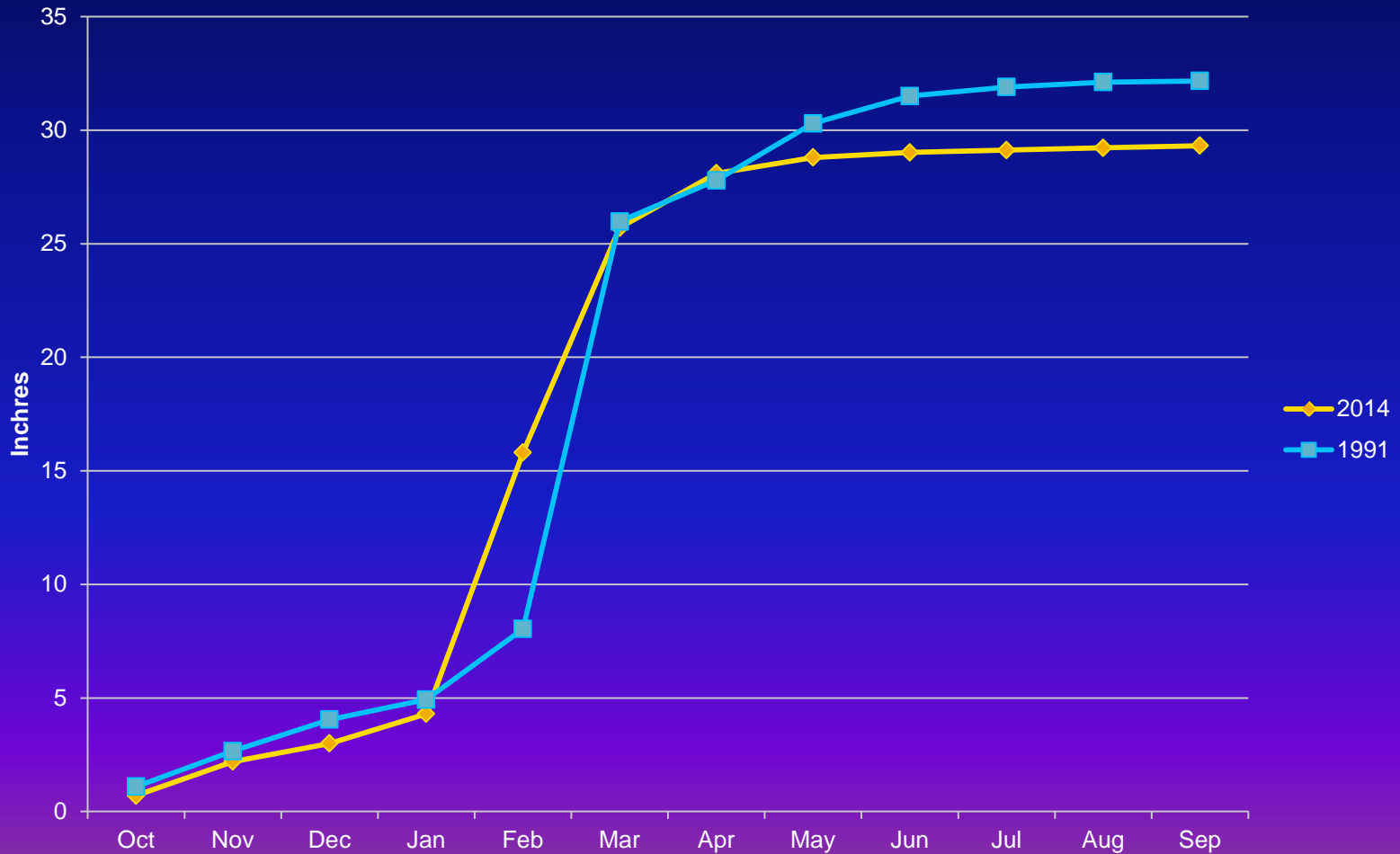
# Northern Sierra Water Year Precipitation Totals



\*WY 2014 with forecasted precipitation through 6/1/14 = 28.8"

# “Miracle March February/March”

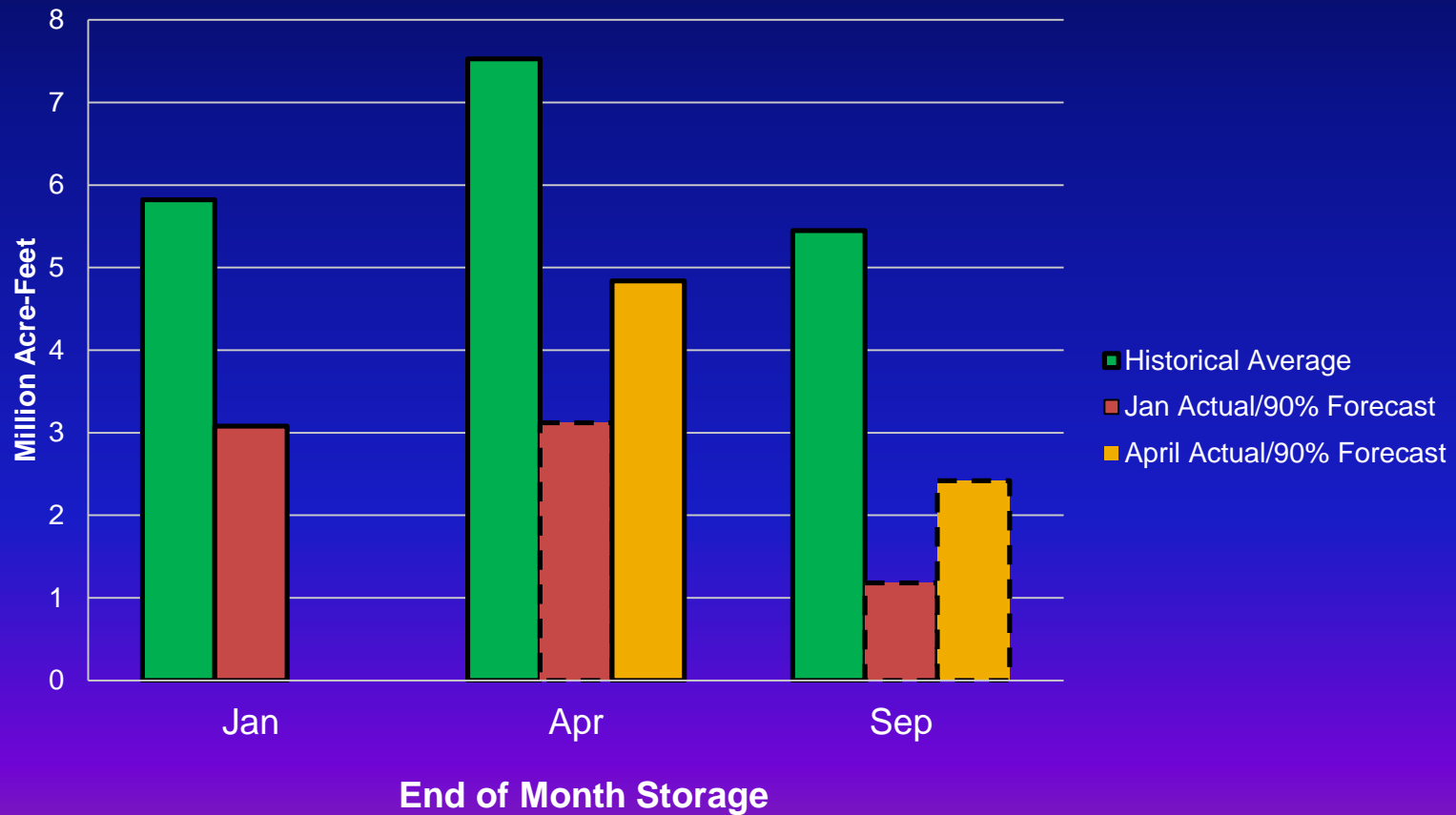
## Water Year Precipitation





# Improved Storage

## Combined Shasta/Oroville/Folsom Storages



# Improved Conditions

- ⦿ Some Increased Supply
- ⦿ Scaled Back Requests for Modified Delta Standards
- ⦿ Emergency Drought Barrier Installation on Hold

# Drought Actions for 2015

1 Thessalonians 5:17

**PRAY  
FOR  
RAIN**  
1 THESS. 5:17

modbee.com

# Possible Drought Management Actions for 2015

- ⦿ Reduced SWP Supply
- ⦿ Modified Delta Flow/Salinity Standards
- ⦿ State Water Board Curtailments
- ⦿ Drought Barrier Installation



# El Nino?



# Questions?



State Water Project  
Operations Control Office  
<http://www.woco.water.ca.gov>