

Water Talks: Preparing the Mt. Shasta Community for Drought

D R O U G H T P R E P A R E D N E S S & R E S P O N S E



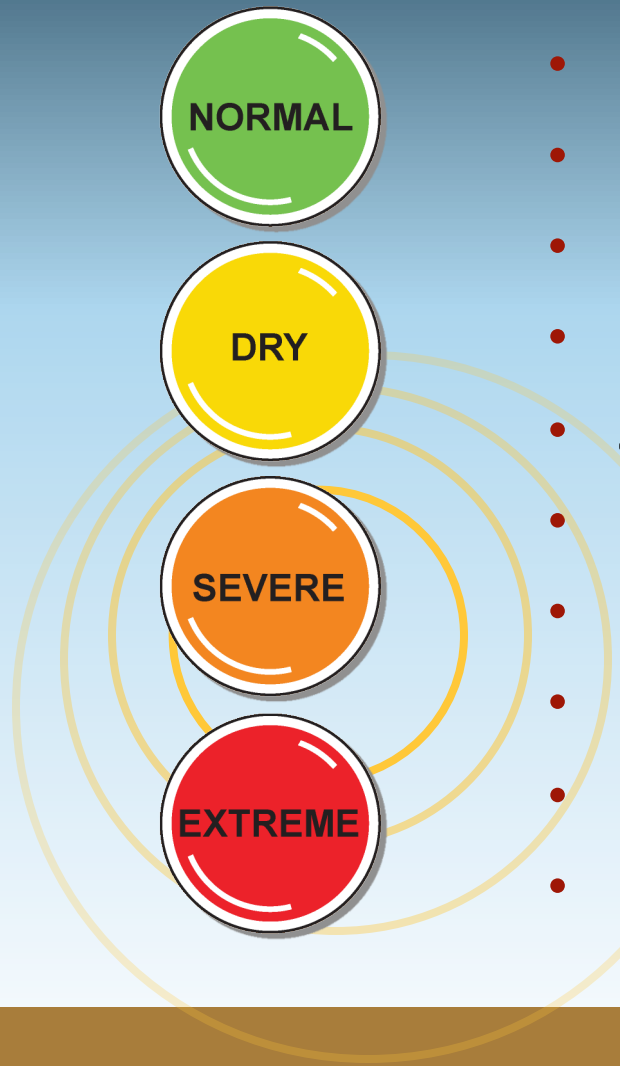
Bill Croyle, Drought Manager
Department of Water Resources
March 10, 2015

PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

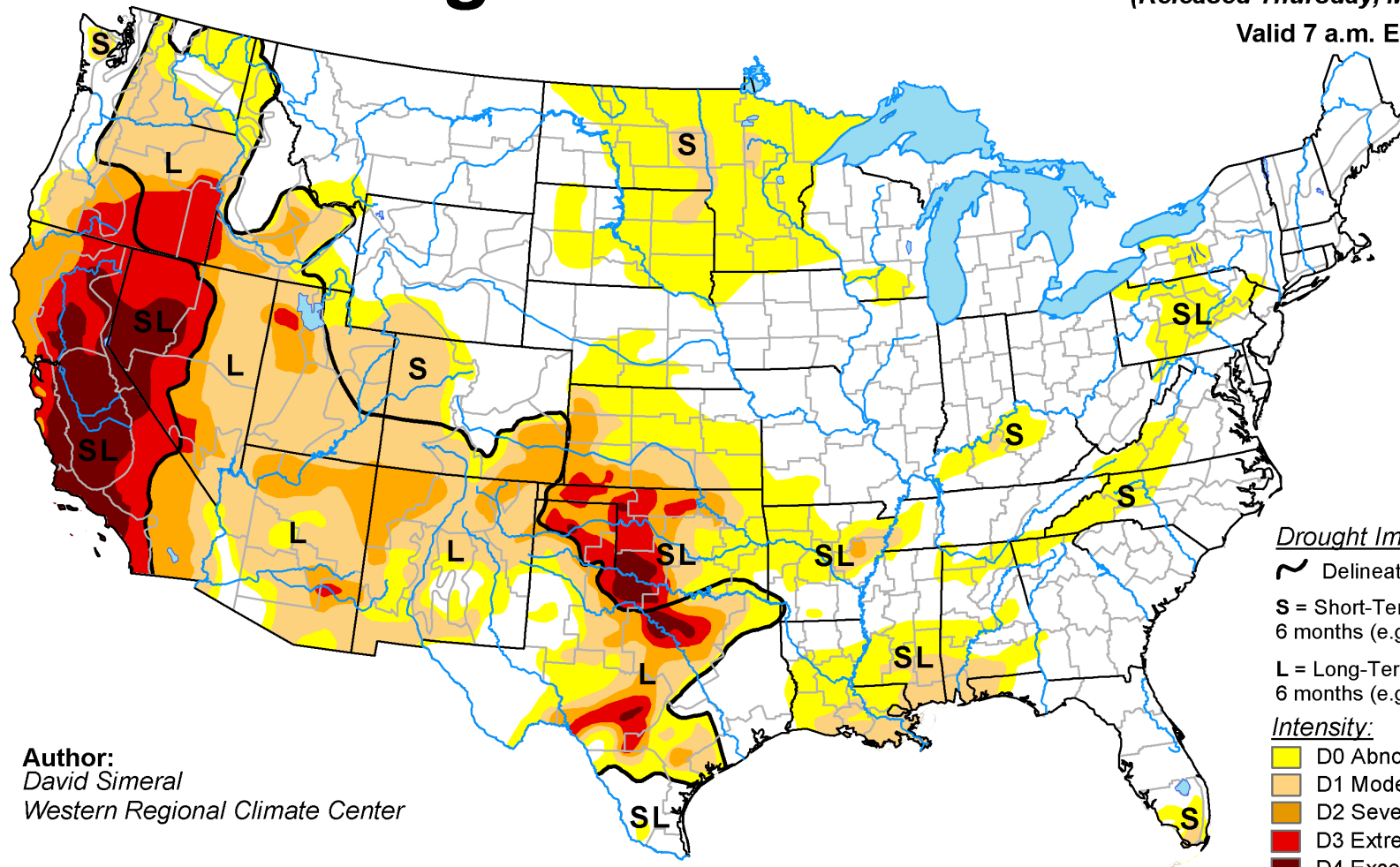
California's Drought



- Governor Declared Drought Emergency
- 2015 - Forth dry water year statewide
- 2014 - Warmest year on record
- 2012-2014 - Driest 3 years on record
- January 2015 – Driest in most areas
- 2015 - Warmer and dry
- Statewide storage below average
- Groundwater basins continue to be depleted
- Local conditions are degrading
- High level of local, State and federal coordination

U.S. Drought Monitor

March 3, 2015
(Released Thursday, Mar. 5, 2015)
Valid 7 a.m. EST



Author:
David Simeral
Western Regional Climate Center

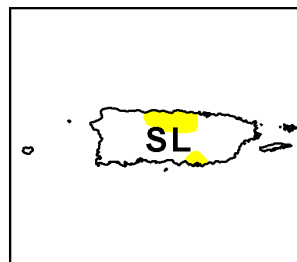
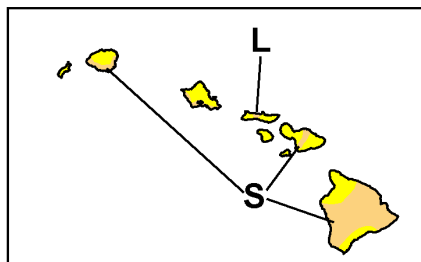
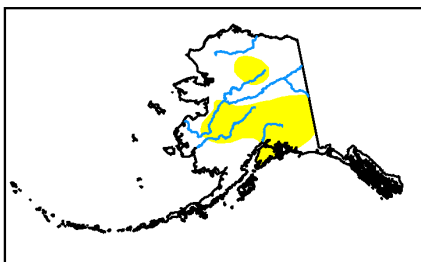
Drought Impact Types:

- ~ Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

Statewide Drought Conditions

**Official State of Emergency
Declared on
January 17, 2014**

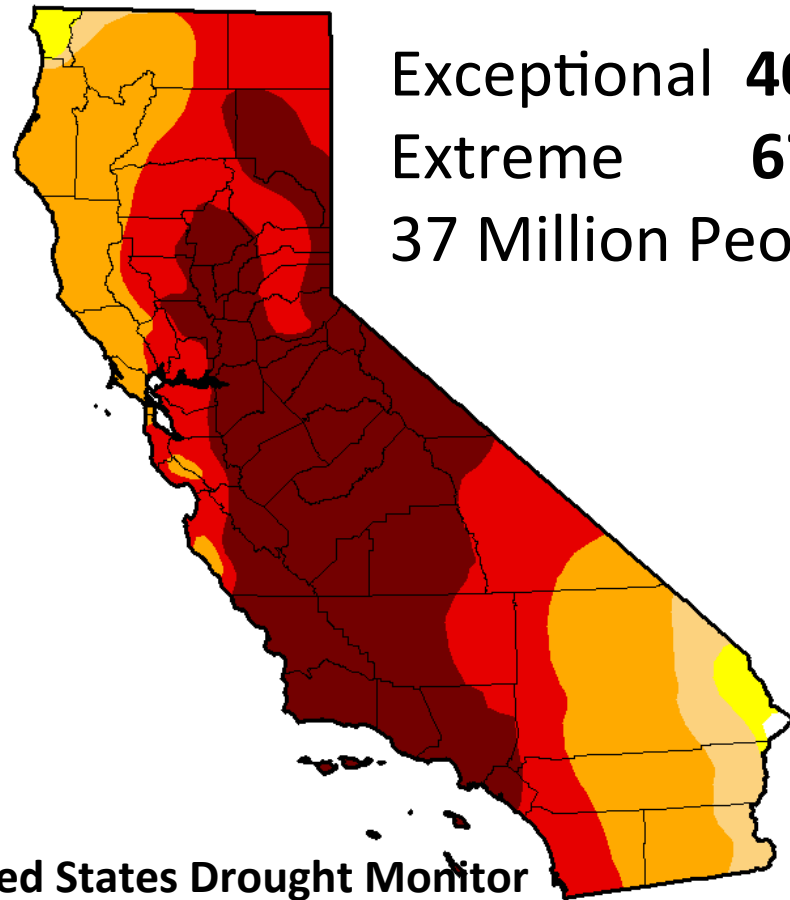
Local Emergencies Declared

- 25 Counties
- 13 Cities
- 9 Tribal Reservations
- 13 Special Districts

County & Tribal Drought Task Force

- 30 Counties
- 3 Tribes

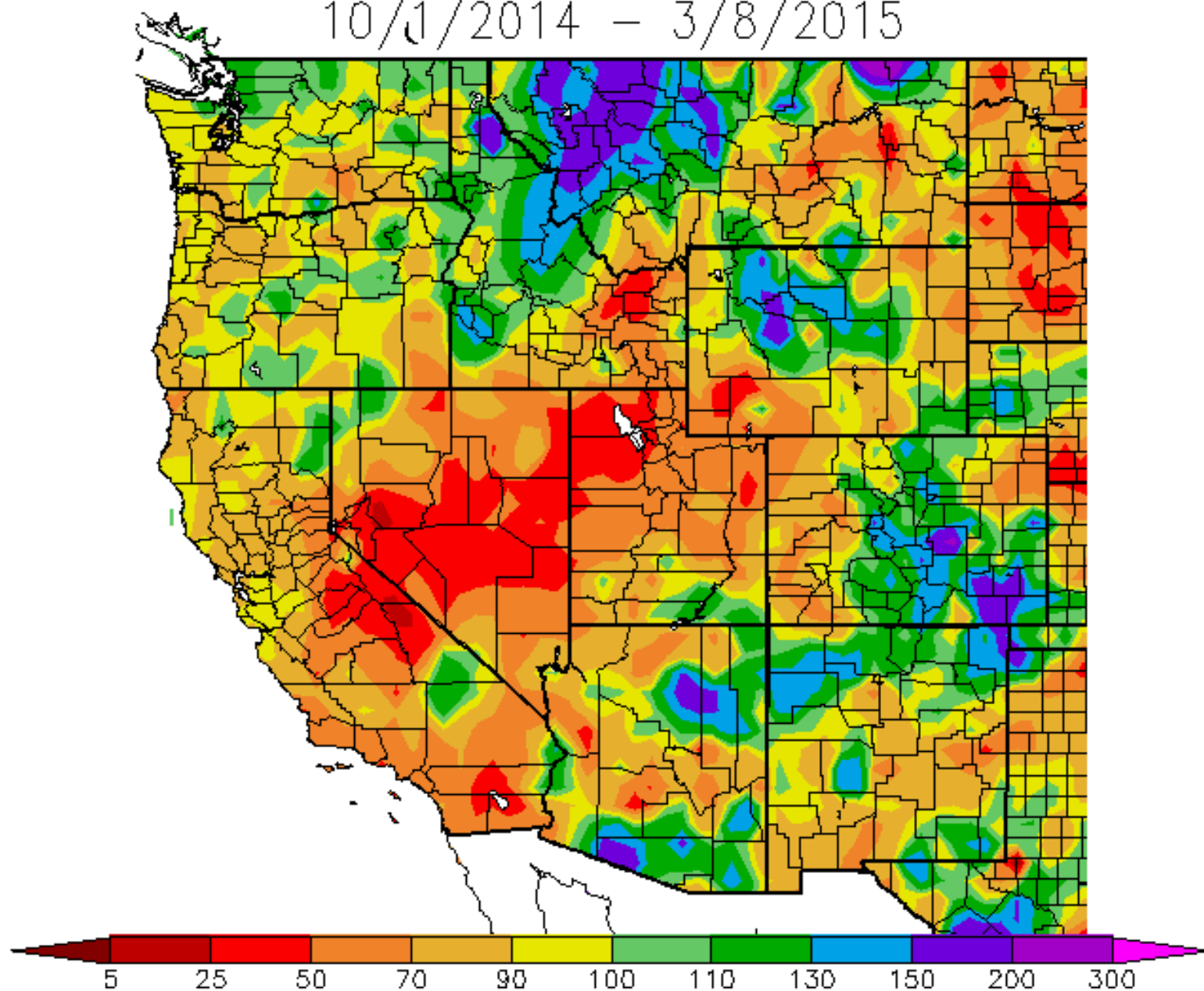
Intensity:



Exceptional **40%**
Extreme **67%**
37 Million People

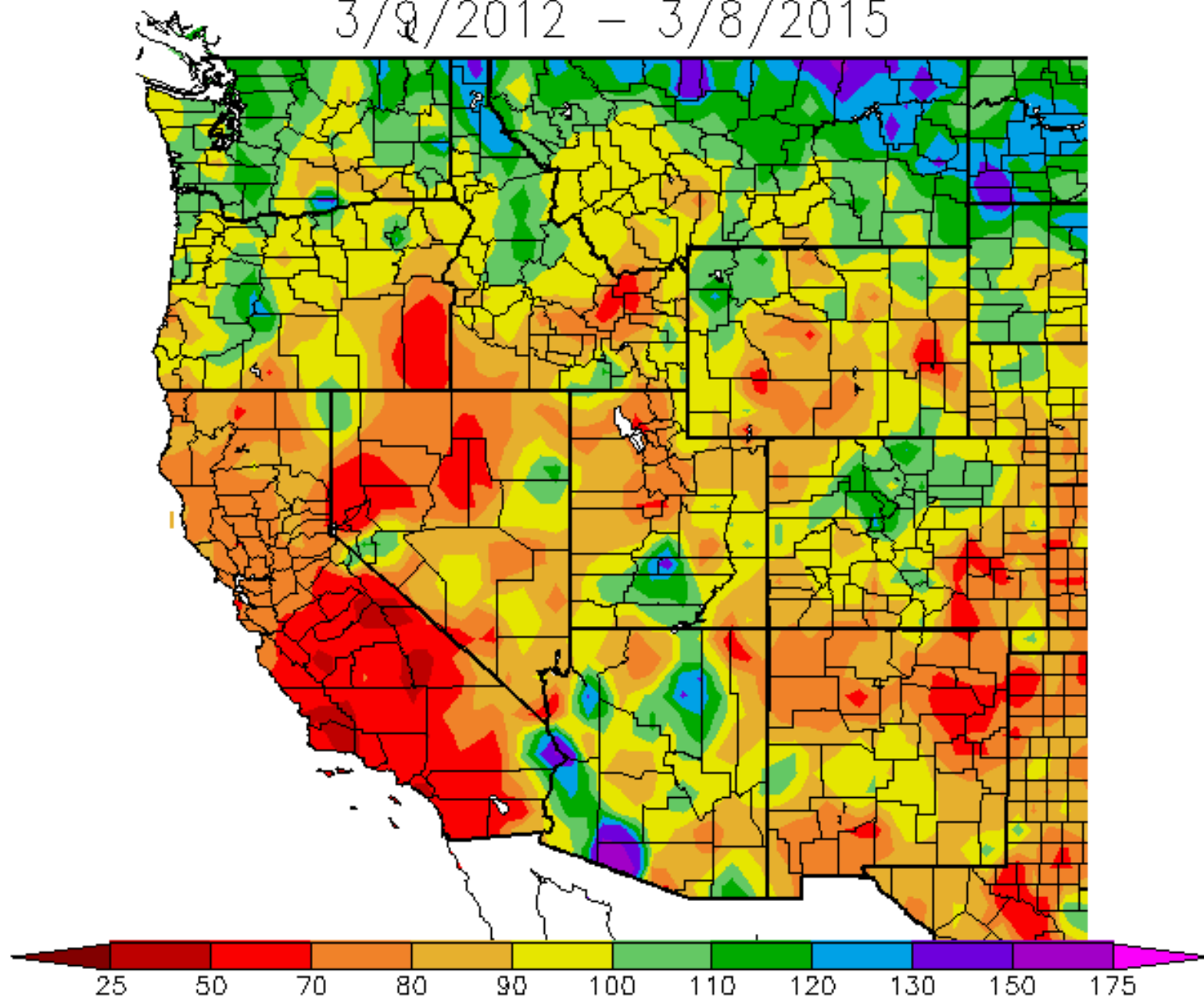
United States Drought Monitor
March 3, 2015

Percent of Average Precipitation (%)
10/1/2014 - 3/8/2015



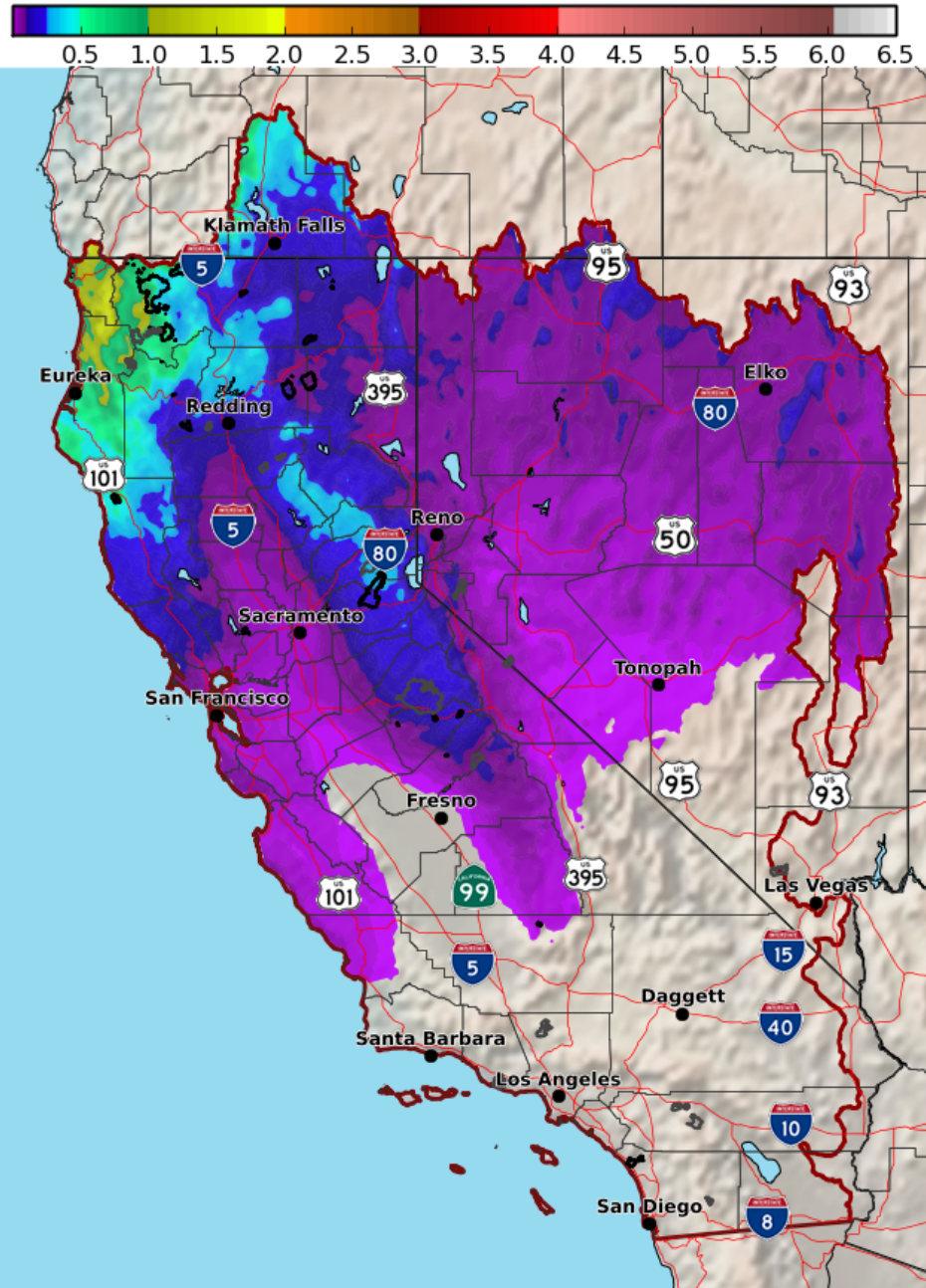
Generated 3/09/2015 at WRCC using provisional data.

Percent of Average Precipitation (%)
3/9/2012 – 3/8/2015



Generated 3/09/2015 at WRCC using provisional data.

6-Day Forecast Precipitation (Inches)
Valid: Tue Mar 10, 2015 at 05 AM PDT to Mon Mar 16, 2015 at 05 AM PDT



National Weather Service
CNRFC - Sacramento, CA

Created: 03/10/2015 06:56 AM PDT

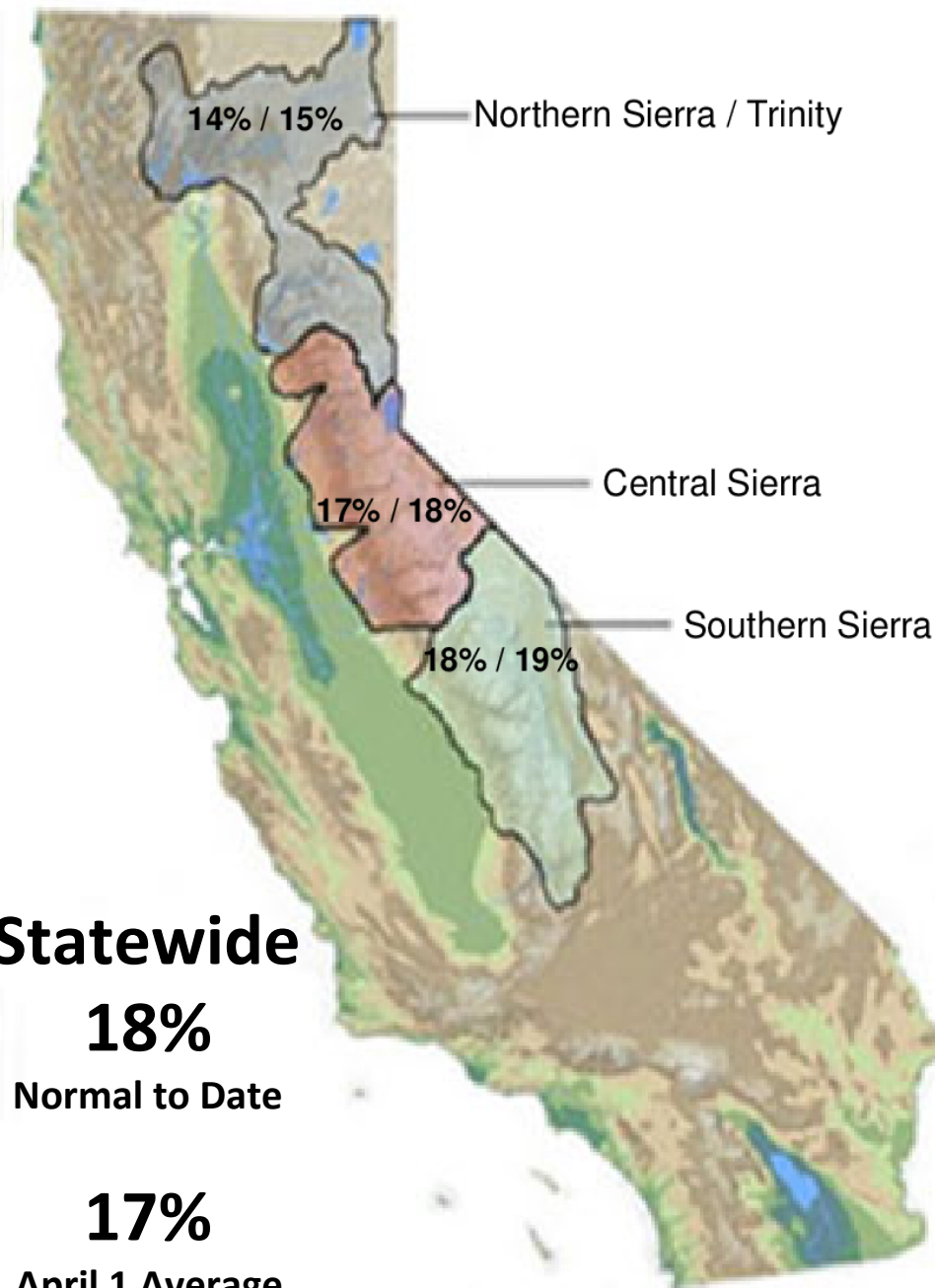
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S & R E S P O N S E

% of April 1 Average / % of Normal for This Date



Snow Water Equivalents

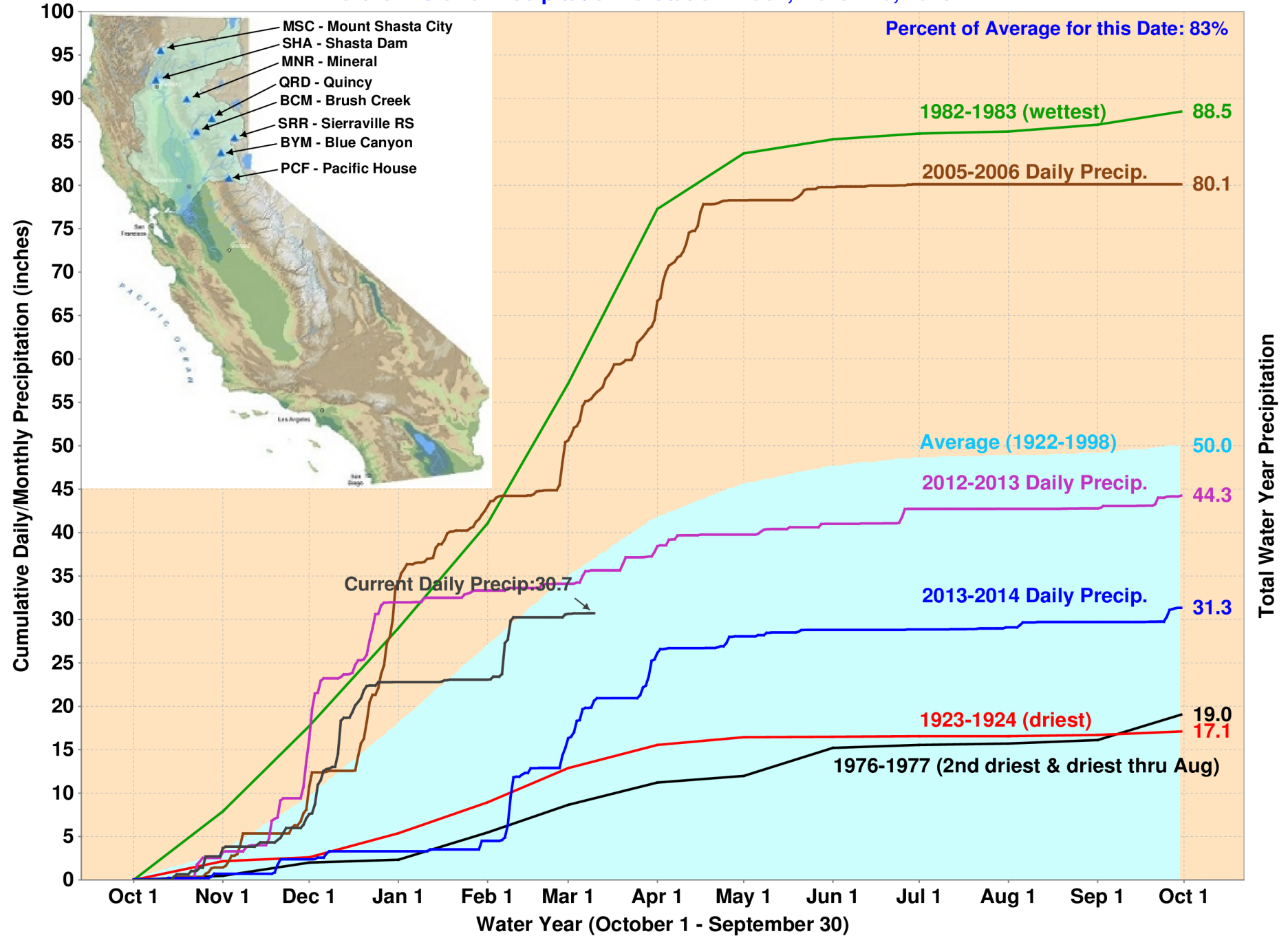
NORTH	
Data as of March 10, 2015	
Number of Stations Reporting	31
Average snow water equivalent (Inches)	4.1
Percent of April 1 Average (%)	14
Percent of normal for this date (%)	15

CENTRAL	
Data as of March 10, 2015	
Number of Stations Reporting	42
Average snow water equivalent (Inches)	5.3
Percent of April 1 Average (%)	17
Percent of normal for this date (%)	18

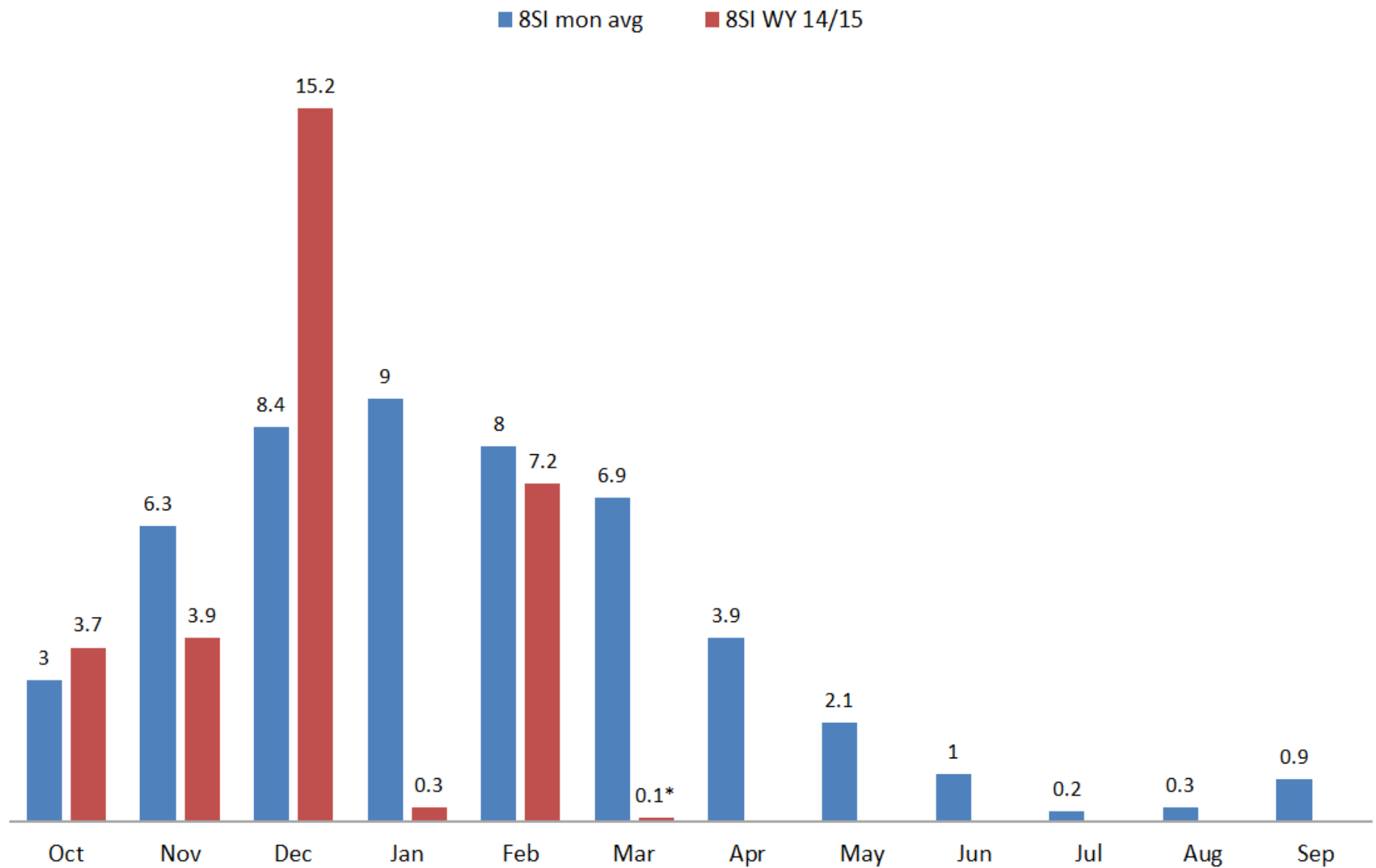
SOUTH	
Data as of March 10, 2015	
Number of Stations Reporting	29
Average snow water equivalent (Inches)	4.9
Percent of April 1 Average (%)	18
Percent of normal for this date (%)	19

STATE	
Data as of March 10, 2015	
Number of Stations Reporting	102
Average snow water equivalent (Inches)	4.8
Percent of April 1 Average (%)	17
Percent of normal for this date (%)	18

Northern Sierra Precipitation: 8-Station Index, March 10, 2015

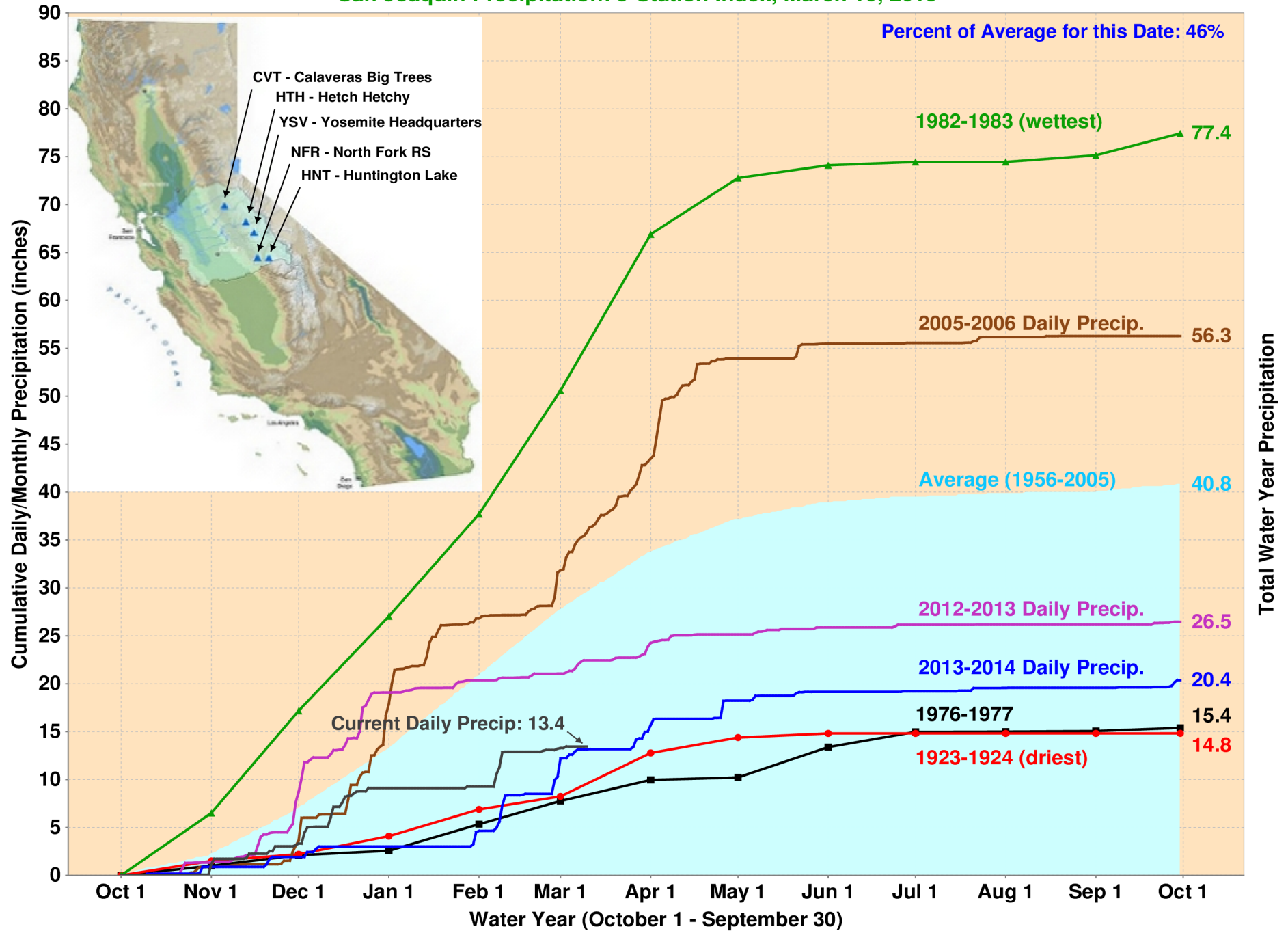


Northern Sierra Eight Station Index

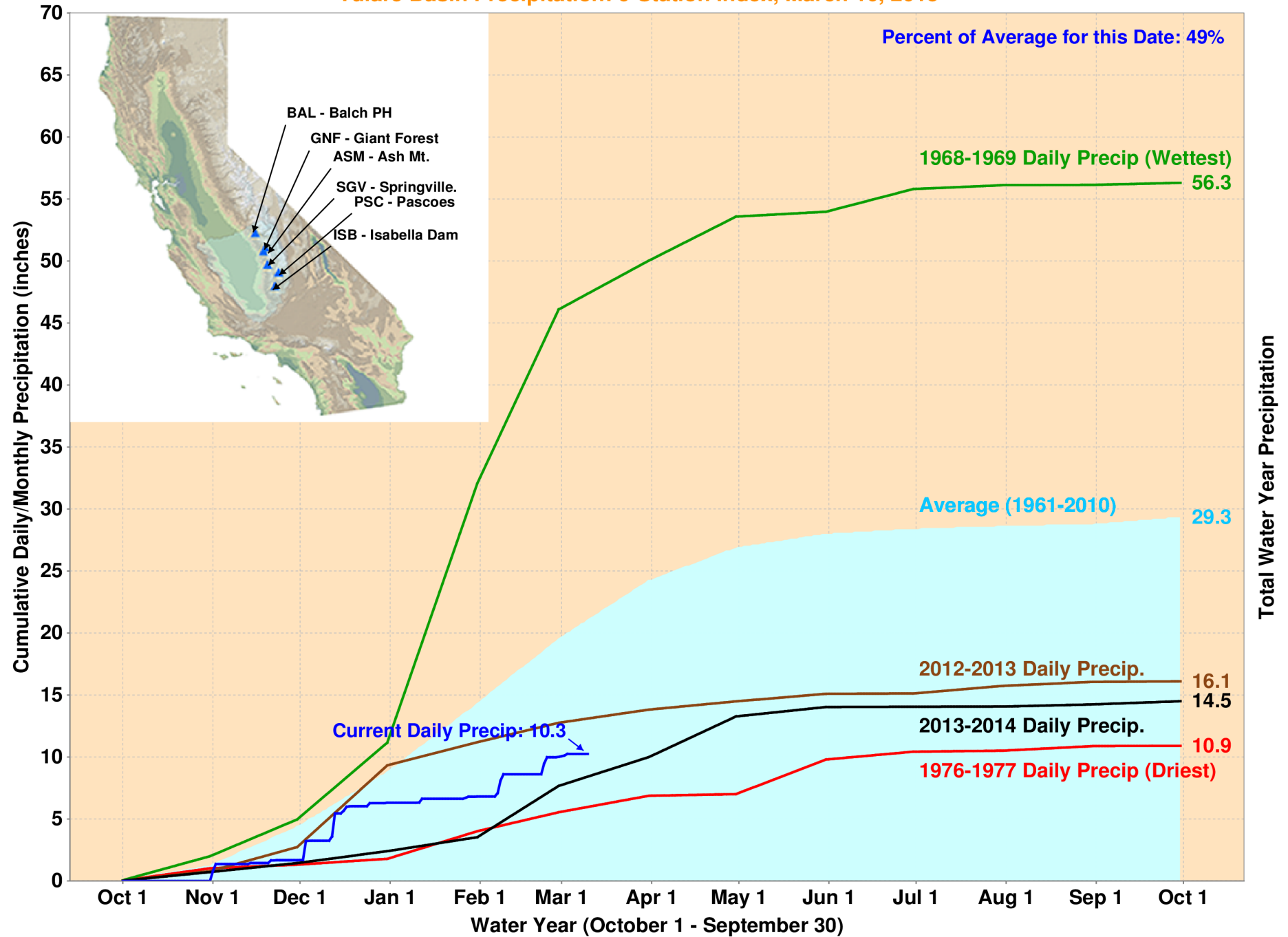


* As of March 10, 2015

San Joaquin Precipitation: 5-Station Index, March 10, 2015



Tulare Basin Precipitation: 6-Station Index, March 10, 2015

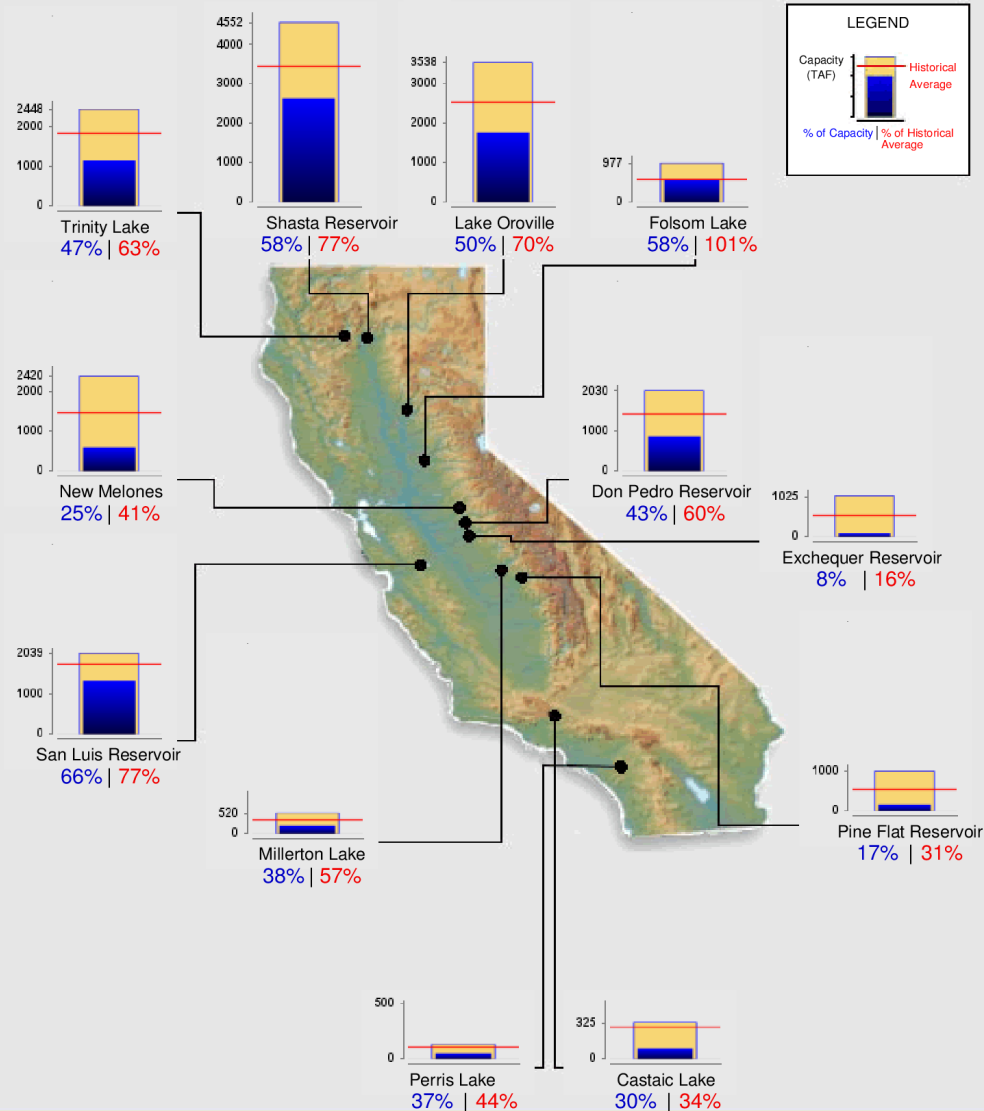




Reservoir Conditions

Ending At Midnight - March 9, 2015

CURRENT RESERVOIR CONDITIONS



Graph Updated 03/10/2015 08:15 AM



	% Cap	% Avg
Trinity	47	63
Shasta	58	77
Oroville	50	70
Folsom	58	101
New Melones	25	41
San Luis	66	77

T P R E P A R E D N E S S & R E S P O N S E

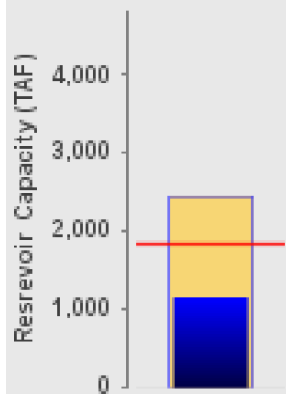


Reservoir Conditions - Trinity Lake



Trinity Lake Conditions

(as of Midnight - March 9, 2015)

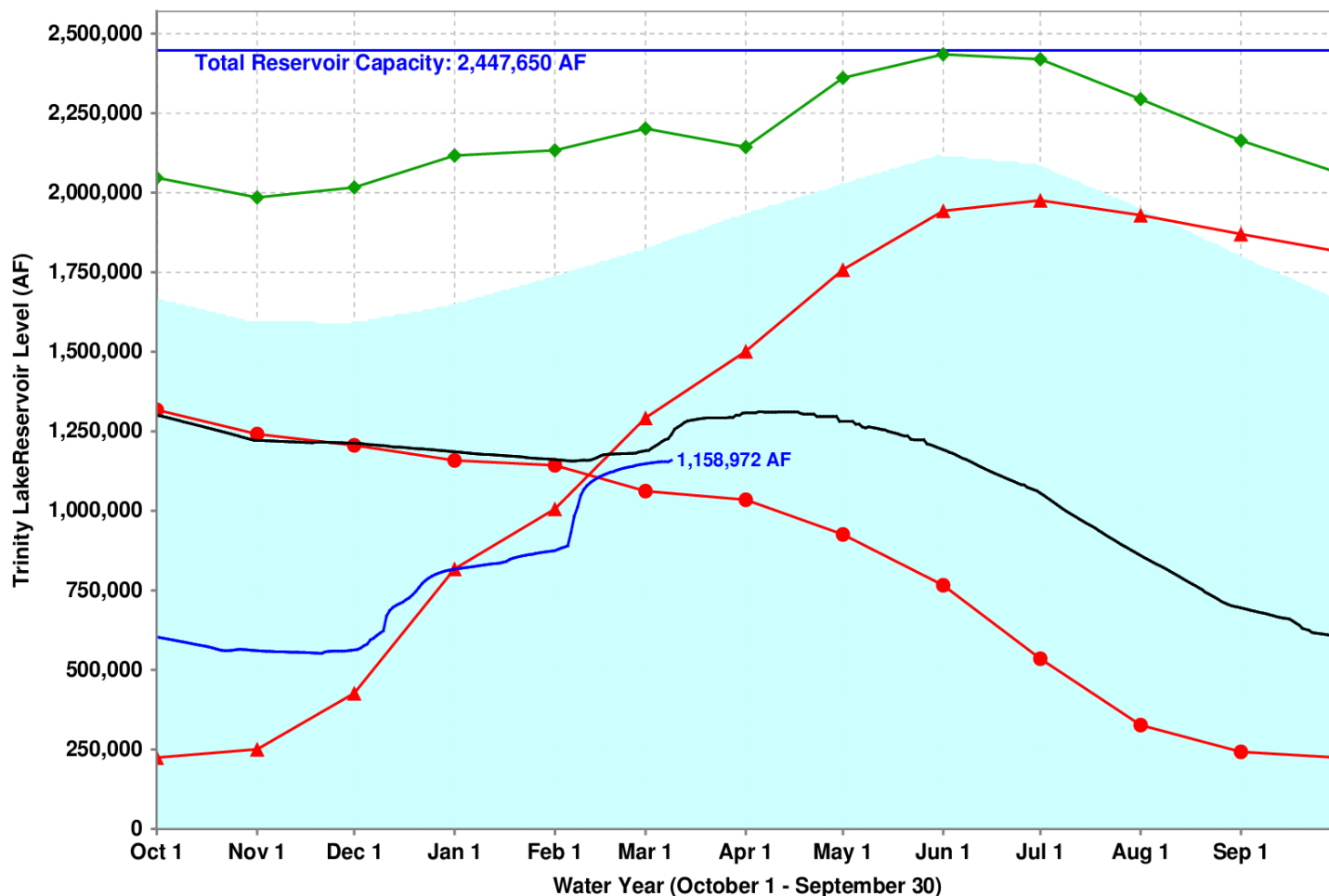


Current Level: 1,158,972 AF

47%
(Total Capacity)

63%
(Historical Avg.)

Trinity Lake Levels: Various Past Water Years and Current Water Year, Ending At Midnight March 9, 2015



Historical Average Total Reservoir Capacity 1976-1977 (Driest) 1977-1978 1982-1983 (Wettest) 2013-2014
Current: 2014-2015

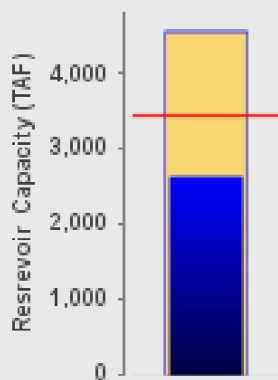


Reservoir Conditions - Shasta Reservoir



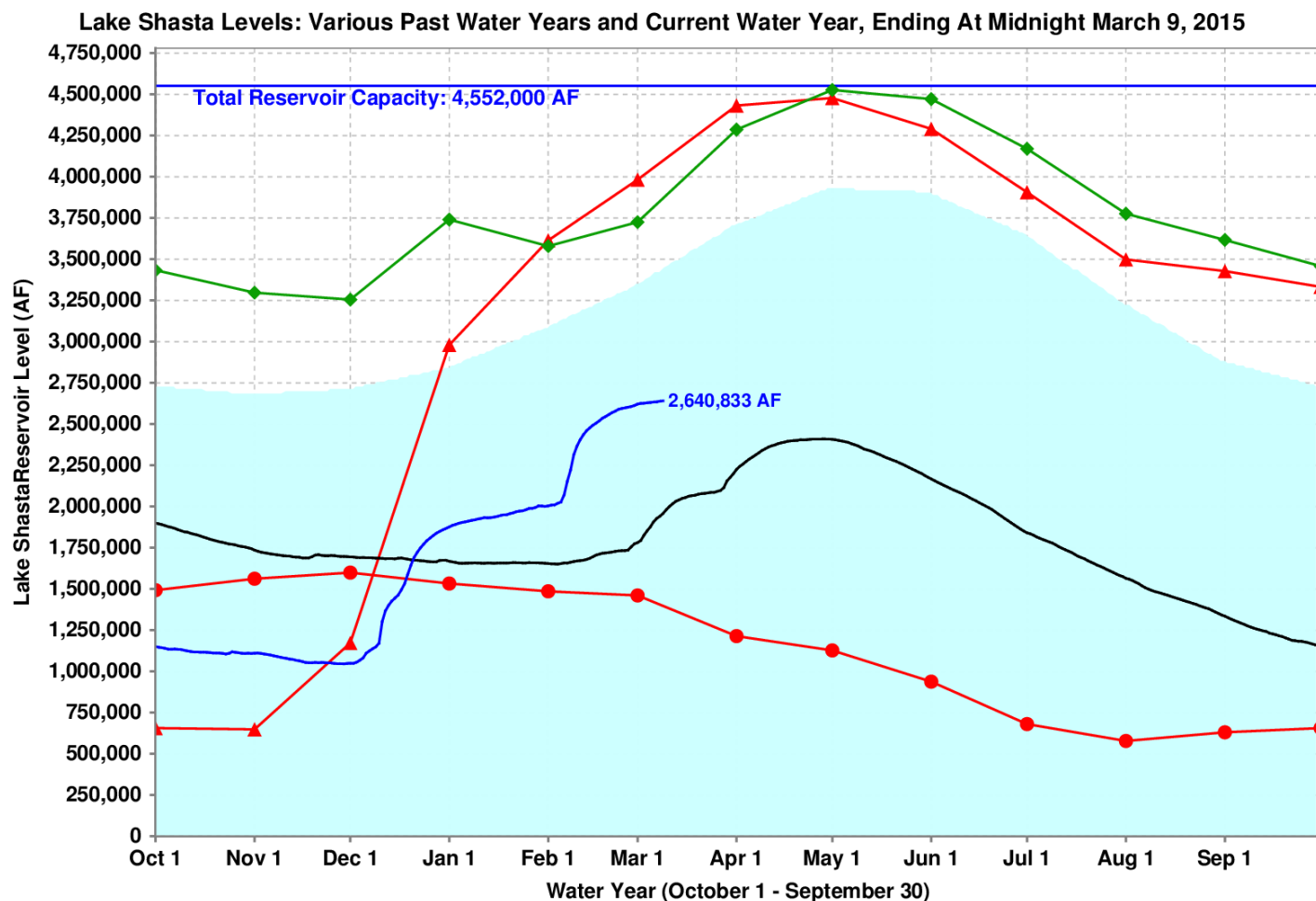
Lake Shasta Conditions

(as of Midnight - March 9, 2015)



Current Level: 2,640,833 AF

58% (Total Capacity) | 77% (Historical Avg.)



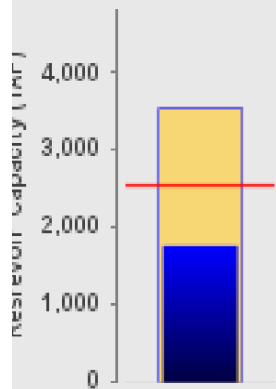


Reservoir Conditions - Lake Oroville



Lake Oroville Conditions

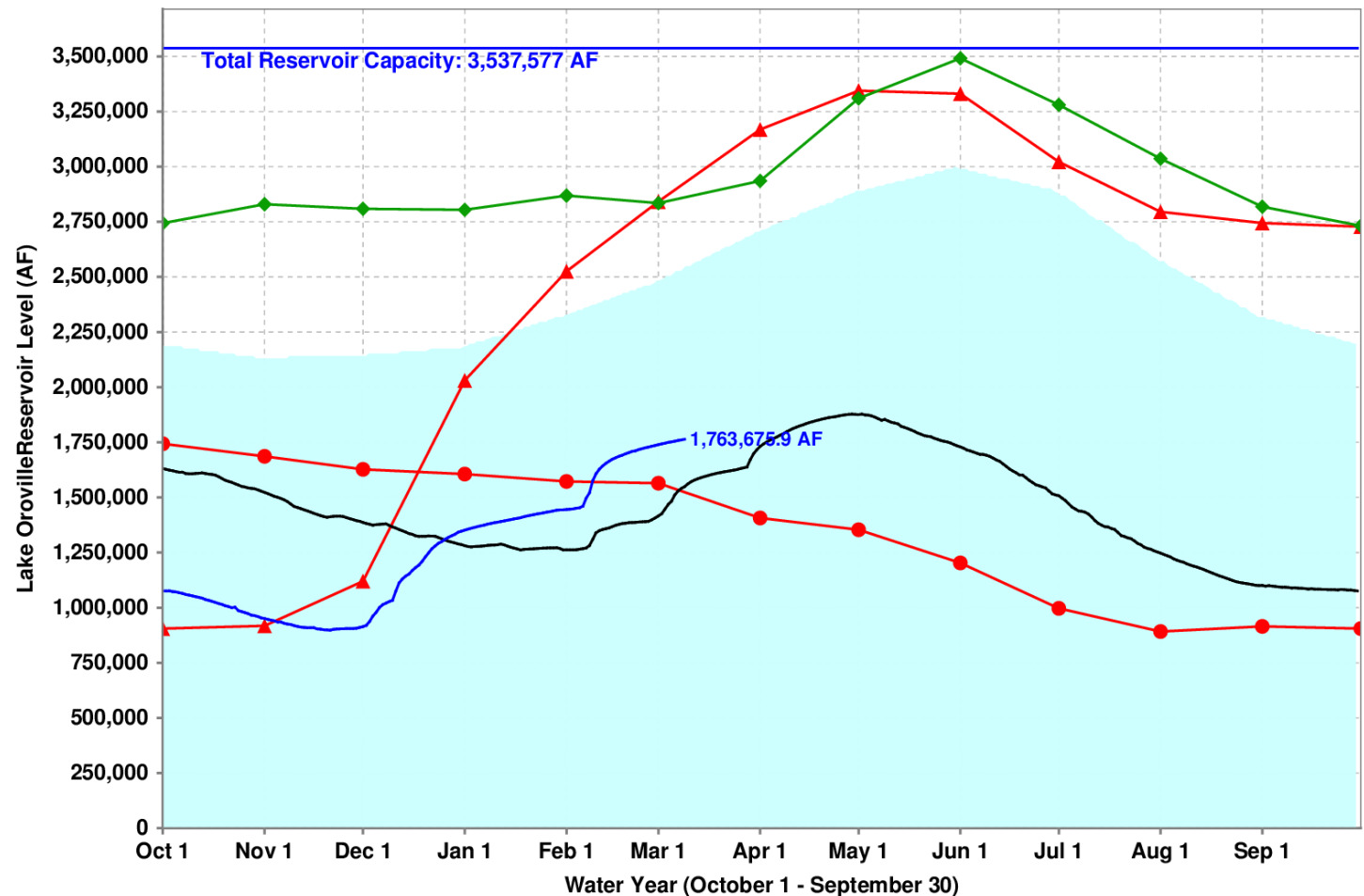
(as of Midnight - March 9, 2015)



Current Level: 1,763,675.9 AF

50% (Total Capacity) | 70% (Historical Avg.)

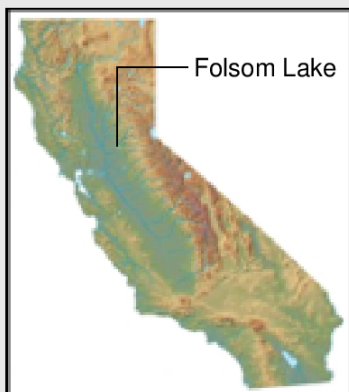
Lake Oroville Levels: Various Past Water Years and Current Water Year, Ending At Midnight March 9, 2015



Historical Average — Total Reservoir Capacity — 1976-1977 (Driest) — 1977-1978 — 1982-1983 (Wettest) — 2013-2014
— Current: 2014-2015

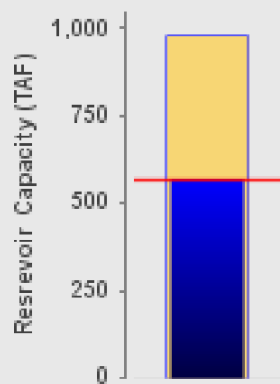


Reservoir Conditions - Folsom Lake



Folsom Lake Conditions

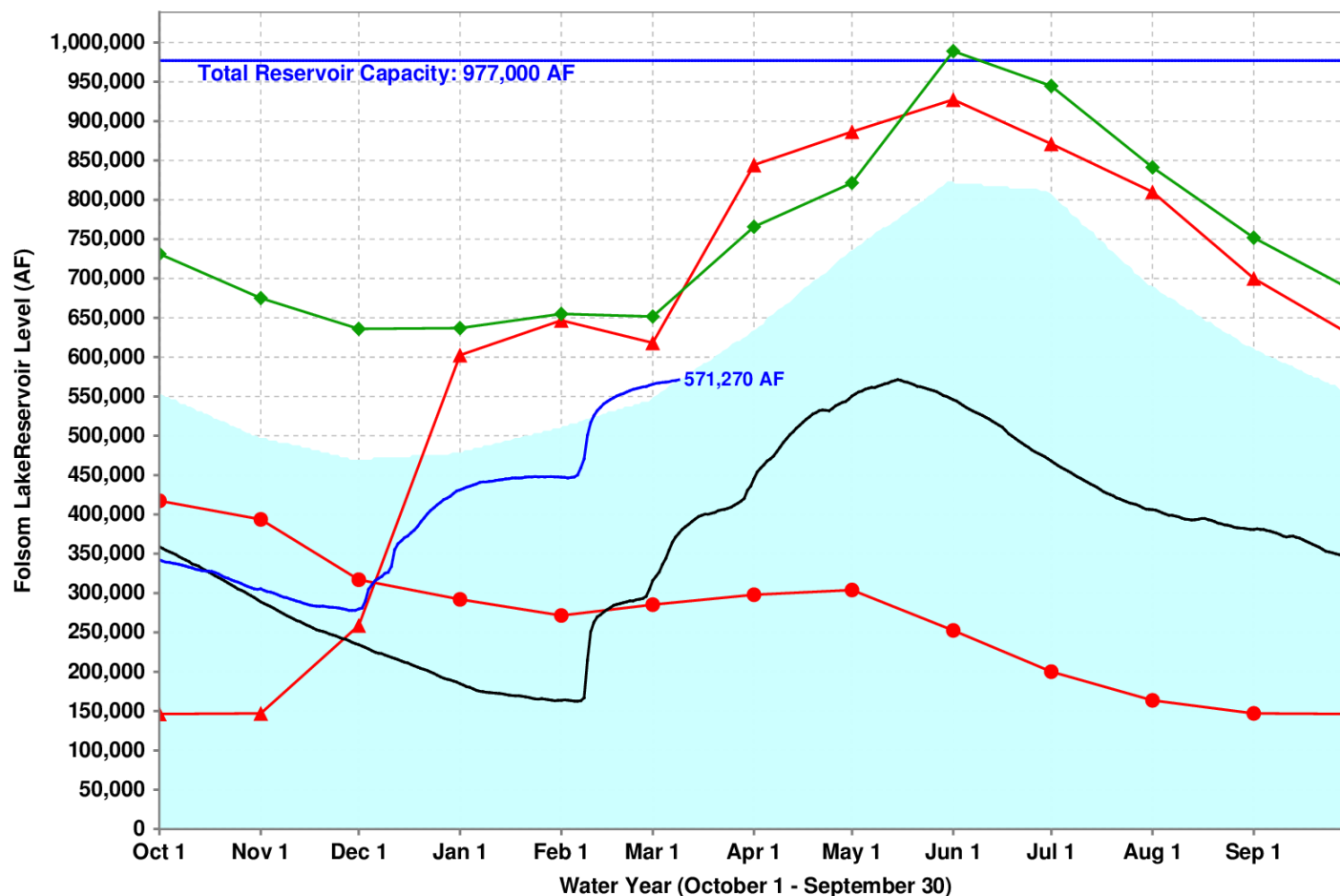
(as of Midnight - March 9, 2015)



Current Level: 571,270 AF

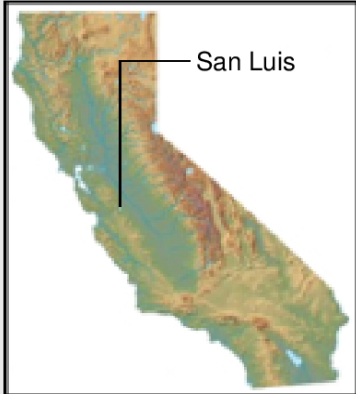
58% (Total Capacity) | 101% (Historical Avg.)

Folsom Lake Levels: Various Past Water Years and Current Water Year, Ending At Midnight March 9, 2015



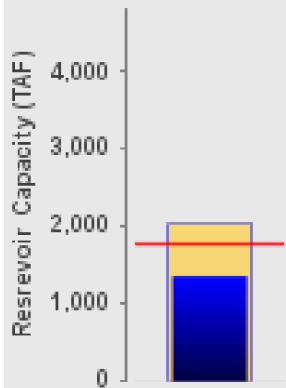


Reservoir Conditions - San Luis



San Luis Conditions

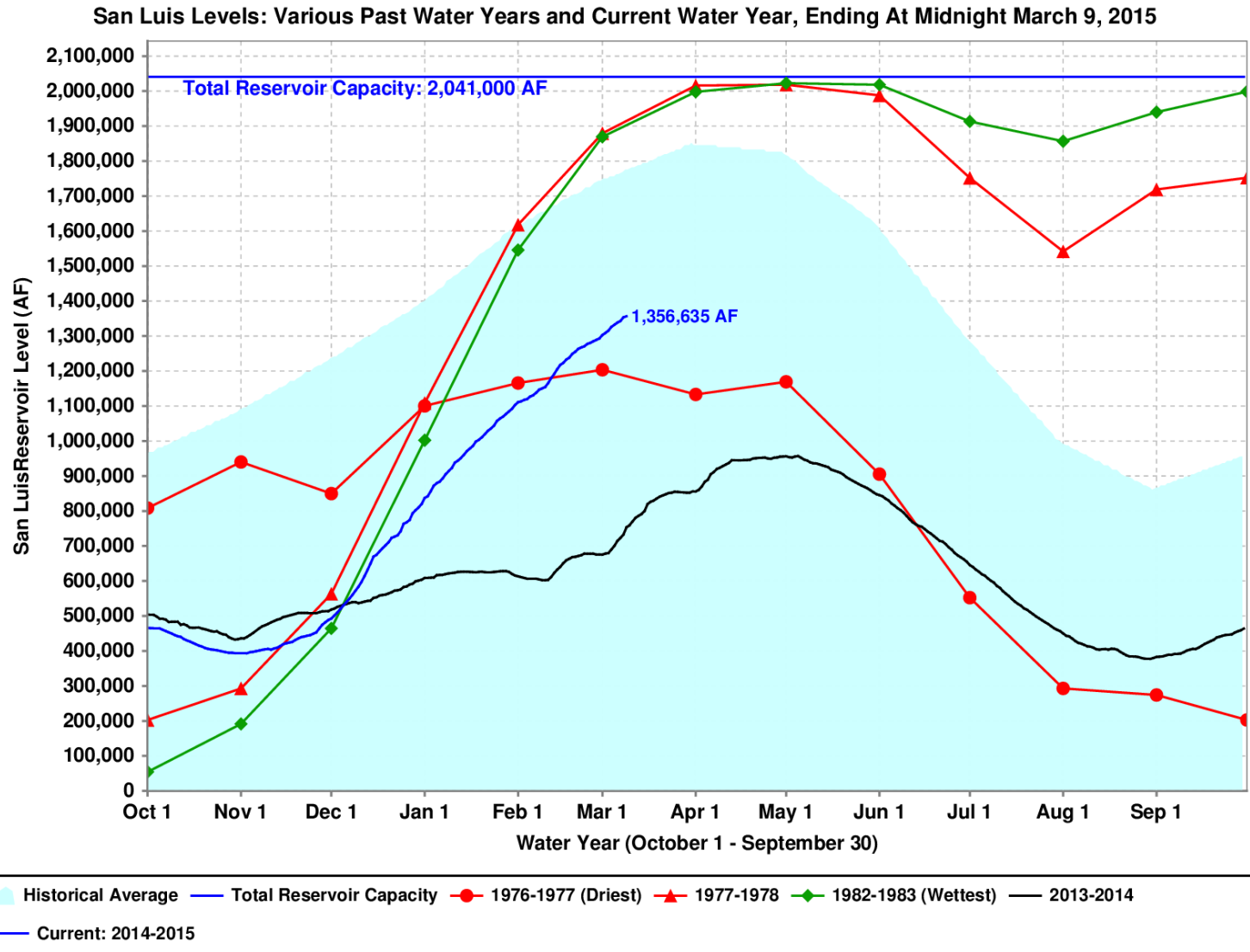
(as of Midnight - March 9, 2015)



Current Level: 1,356,635 AF

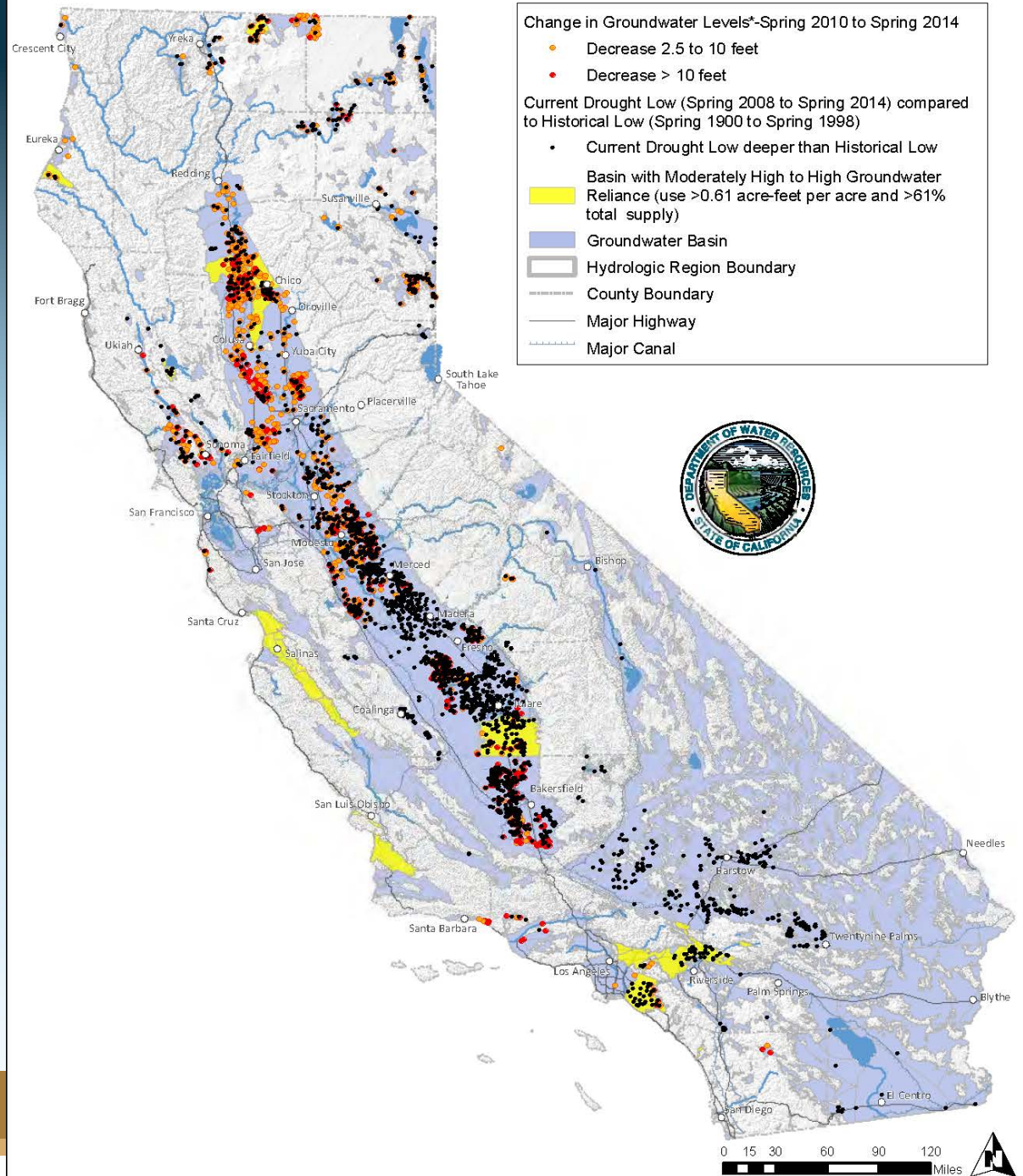
66%
(Total Capacity)

77%
(Historical Avg.)



Groundwater Conditions

**Black Dots =
Groundwater Level
at Lowest Recorded**



Possible Drought Actions for 2015

- **Mandatory Conservation (State Water Board)**
- **Increased Conservation Reporting (State Water Board)**
- **Curtailments State Water Board (Water Rights)**
- **Increased Groundwater Use Oversight**
- **Increased Real-time Data and Information**
- **IRWM Funding - Final Prop 84 Round (\$230M)**
- **Water / Energy Grants (\$9M)**
- **Small Project Emergency Funding**

California Water Action Plan

Governor Brown directed three cabinet secretaries to coordinate on an interagency effort to create a water action plan for the State.



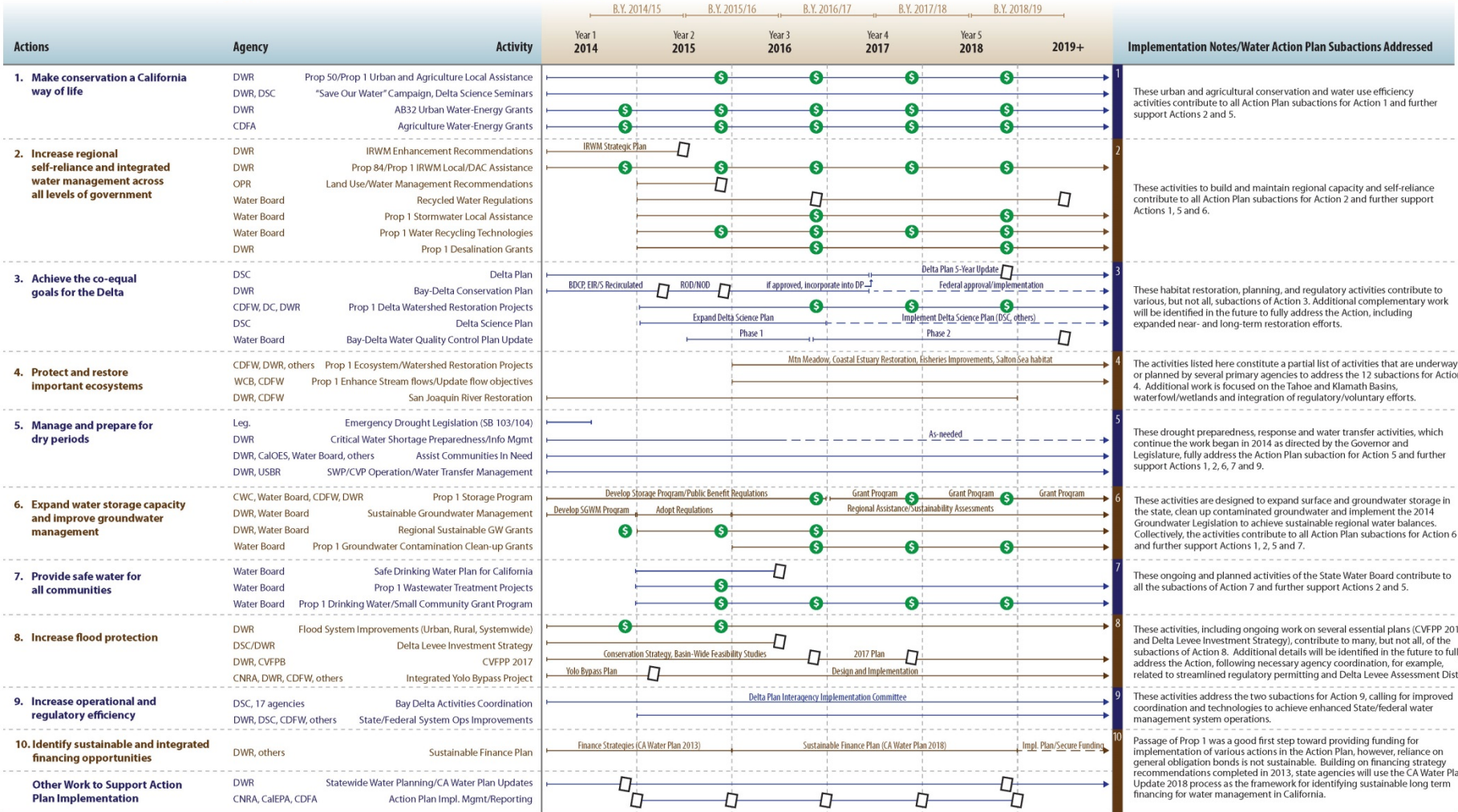
Ten Priority Actions

1. Make conservation a California way of life
2. Increase regional self-reliance and integrated water management across all levels of government
3. Achieve the co-equal goals for the Delta
4. Protect and restore important ecosystems
5. Manage and prepare for dry periods
6. Expand water storage capacity and improve groundwater management
7. Provide safe water for all communities
8. Increase flood protection
9. Increase operational and regulatory efficiency
10. Sustainable and integrated financing opportunities



Next 4 Years: Roles and Schedule

Figure 2: Schedule of Activities and Agency Roles



OPR—Governor's Office of Planning and Research
Water Board—State Water Resources Control Board
WCB—California Wildlife Conservation Board
CDFW—California Department of Fish and Wildlife
DC—Delta Conservancy

CalOES—California Office of Emergency Services
CWC—California Water Commission
CNRA—California Natural Resources Agency
CVFPB—Central Valley Flood Protection Board
CalEPA—California Environmental Protection Agency

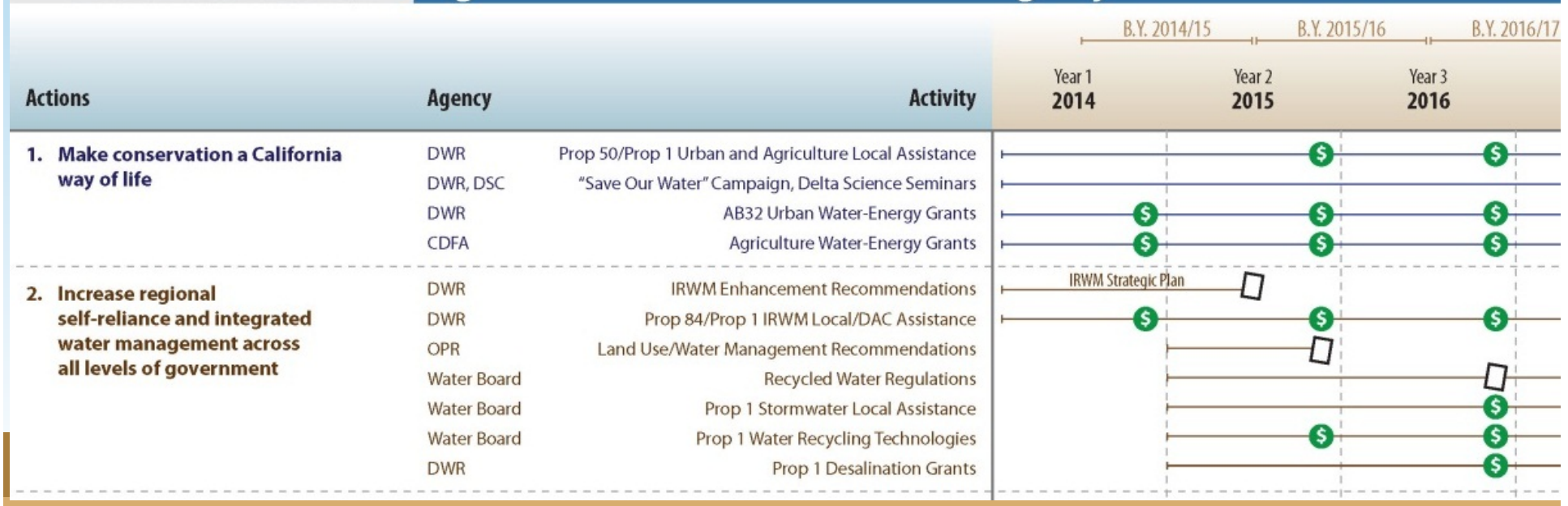
Note: This is an estimated schedule for informational purposes with selected major/representative ongoing and planned activities shown. It is subject to change based on 2015 Budget Act, Prop 1 appropriations and other Legislative directives.

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DWR and State Water Board have prominent roles in developing regulations, providing grants and local assistance

Implementing the
California Water Action Plan

Figure 2: Schedule of Activities and Agency Roles



Urban Water Meters

- AB 2572 (Kehoe) of 2004 requires water meters on all municipal/industrial service connections within their service area by **January 1, 2025**
- Nearly **97%** of those required are metered (State Water Board, 2013)
- **40** California urban water suppliers with unmetered connections



Better information on water usage helps manage water

- Advanced smart meters generate detailed information on water use and help identify leaks



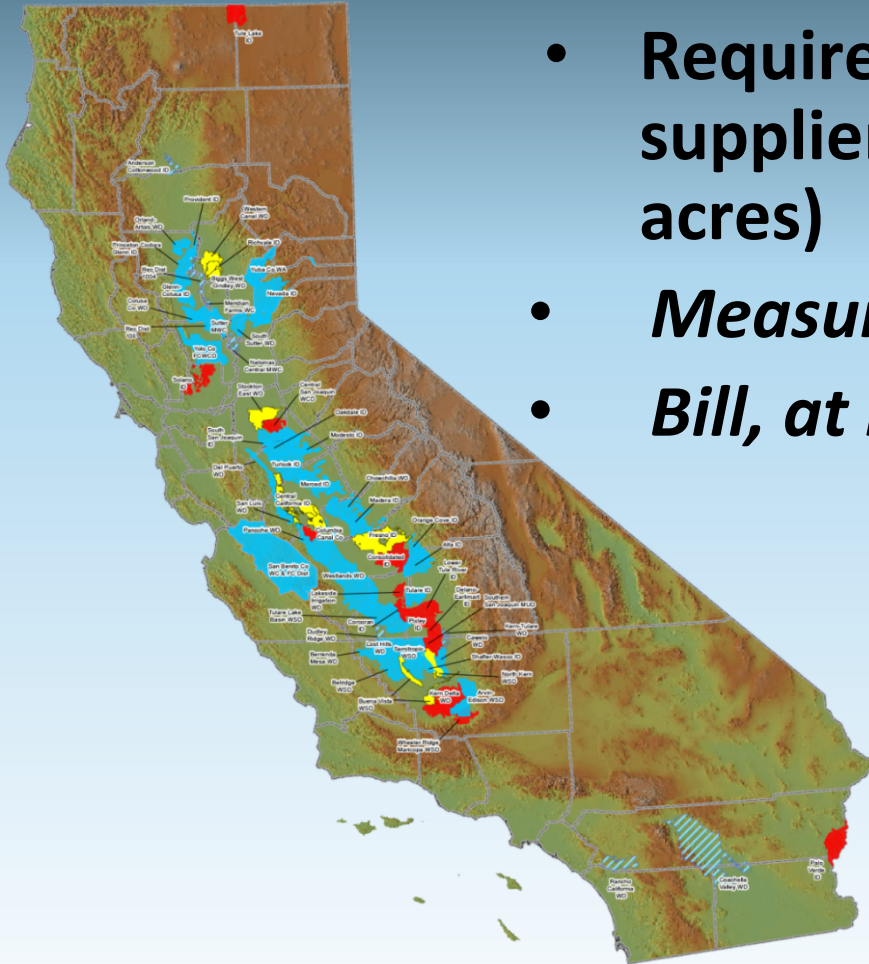
New urban landscapes are required to have dedicated meters for areas > 5,000 sq. ft. (per Updated Model Water Efficient Landscape Ordinance)



Urban Water Meter Replacement

- **On February 24th the City of Sacramento Council voted to install approximately 51,000 meters by 2020.**
 - Go to tiered rate system
 - Conservation efforts
 - Goal - use 10-percent less water
- **On March 5th, the Elk Grove Water District completed installation of water meters, a full 10 years ahead of the State's deadline.**

Agricultural Water Measurement (per SB X 7-7)



- Requires large agricultural water suppliers (with over 25,000 irrigated acres)
- *Measure volume of water delivered*
- *Bill, at least in part, on volume*

KEEP SAVING CA



KEEP SAVING  CA
saveourwater.com

Save Our
WATER



DROUGHT PREPAREDNESS & RESPONSE

Thank You

The Governor asked all Californians to reduce water consumption by **20 percent** and referred residents and water agencies to the Save Our Water campaign -- **www.saveourh20.org**

