



Challenges of the 2015 Drought

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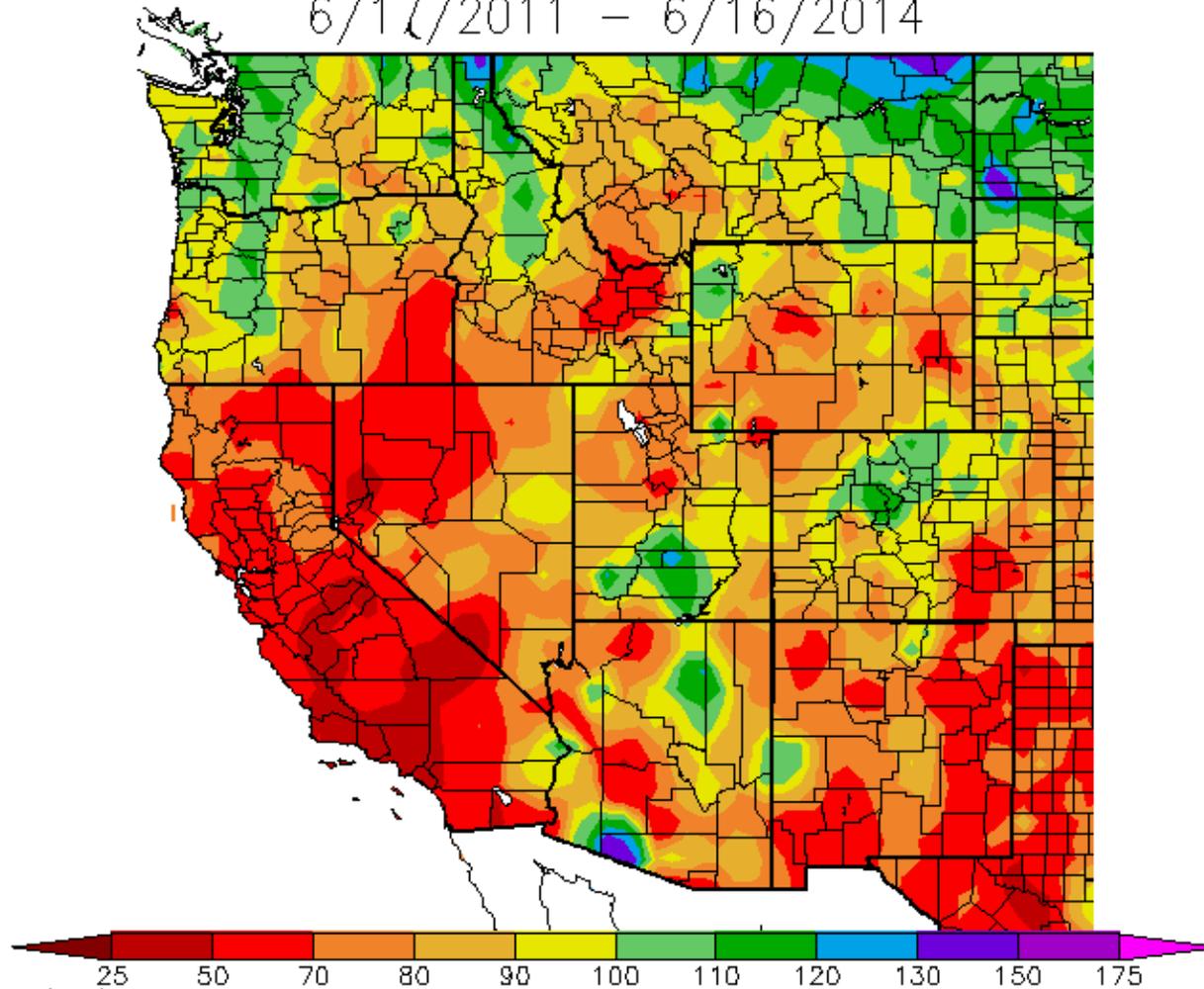
Outline

- Water conditions
 - Where we've been
 - Where we are
- Drought status & preparing for 4th dry year



Water Years 2012-14

Percent of Average Precipitation (%)
6/17/2011 – 6/16/2014



Generated 6/17/2014 at WRCC using provisional data.
NOAA Regional Climate Centers

Driest Three Consecutive Water Years, Based on Statewide Precipitation

Years	Total Statewide Precipitation, inches
2012-14	44.5
1922-24	45.1
1918-20	46.1
1924-26	46.5
1929-31	46.7
1923-25	46.9
2007-09	48.2
1917-19	49.6
1975-77	49.8
1931-33	50.1

Data from Western Regional Climate Center

USGS Computed CA WY Runoff

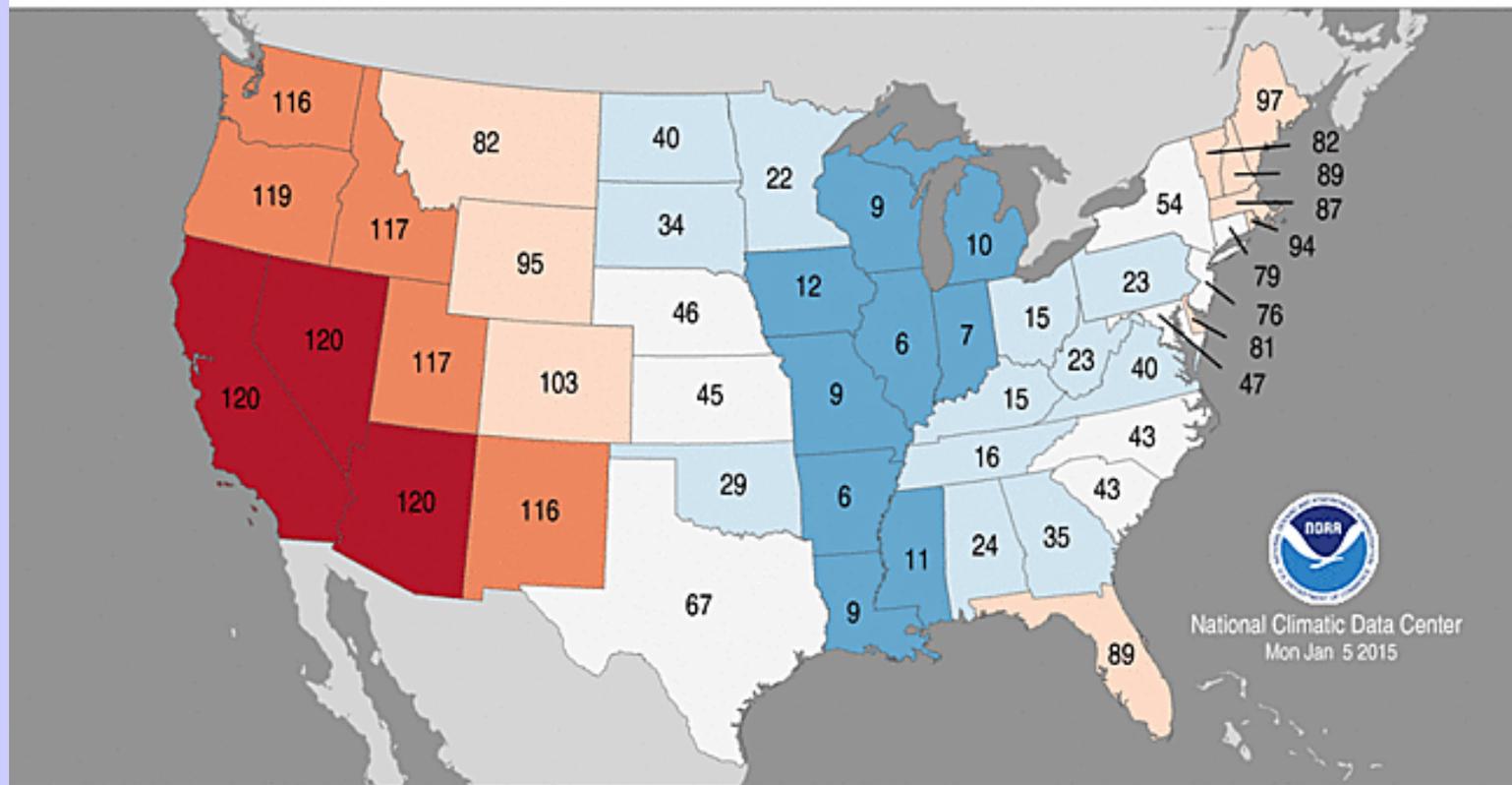
Dozen Driest years -- (rank out of 114)

1. 1977	114 th	7. 1990	108 th
2. 1931	113 th	8. 2001	107 th
3. 1924	112 th	9. 1934	106 th
4. 2014	111 th	10. 1992	105 th
5. 1991	110 th	11. 1976	104 th
6. 1994	109 th	12. 1929	103 rd

Statewide Average Temperature Ranks

January–December 2014

Period: 1895–2014



National Climatic Data Center
Mon Jan 5 2015

Record
Coldest
(1)

Much
Below
Average

Below
Average

Near
Average

Above
Average

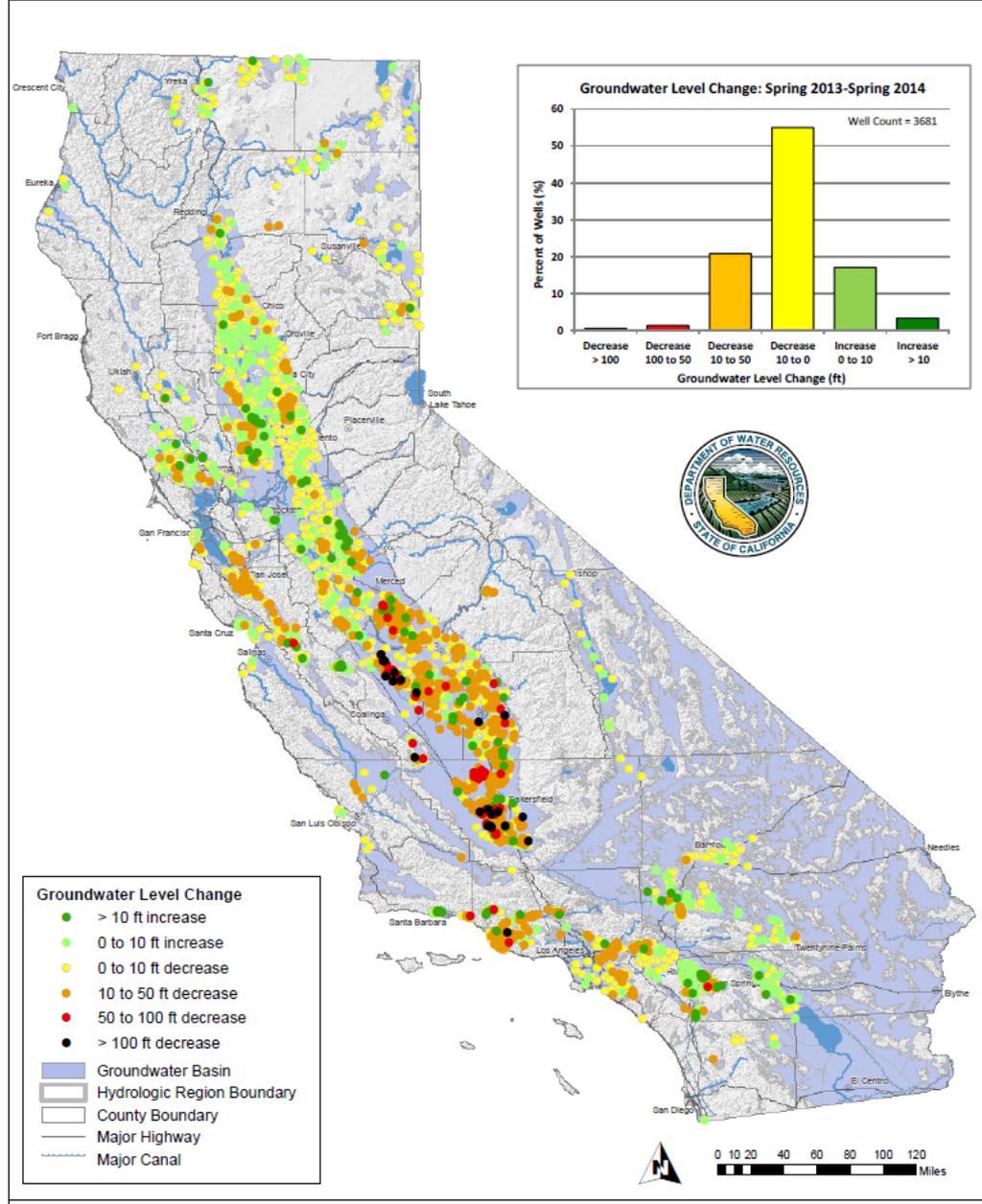
Much
Above
Average

Record
Warmest
(120)

Comparison of Water Project Allocations in Dry Years

	1991	2009	2014
SWP	30% / 0%	40%	5%
SWP water rts	50%	100%	100%
CVP N of Delta Ag	25%	40%	0
CVP S of Delta Ag	25%	10%	0
Friant	100%	100%	0
CVP Sac water rts	75%	100%	75%
CVP SJ water rts	75%	100%	65%

Groundwater Level Change* - Spring 2013 to Spring 2014

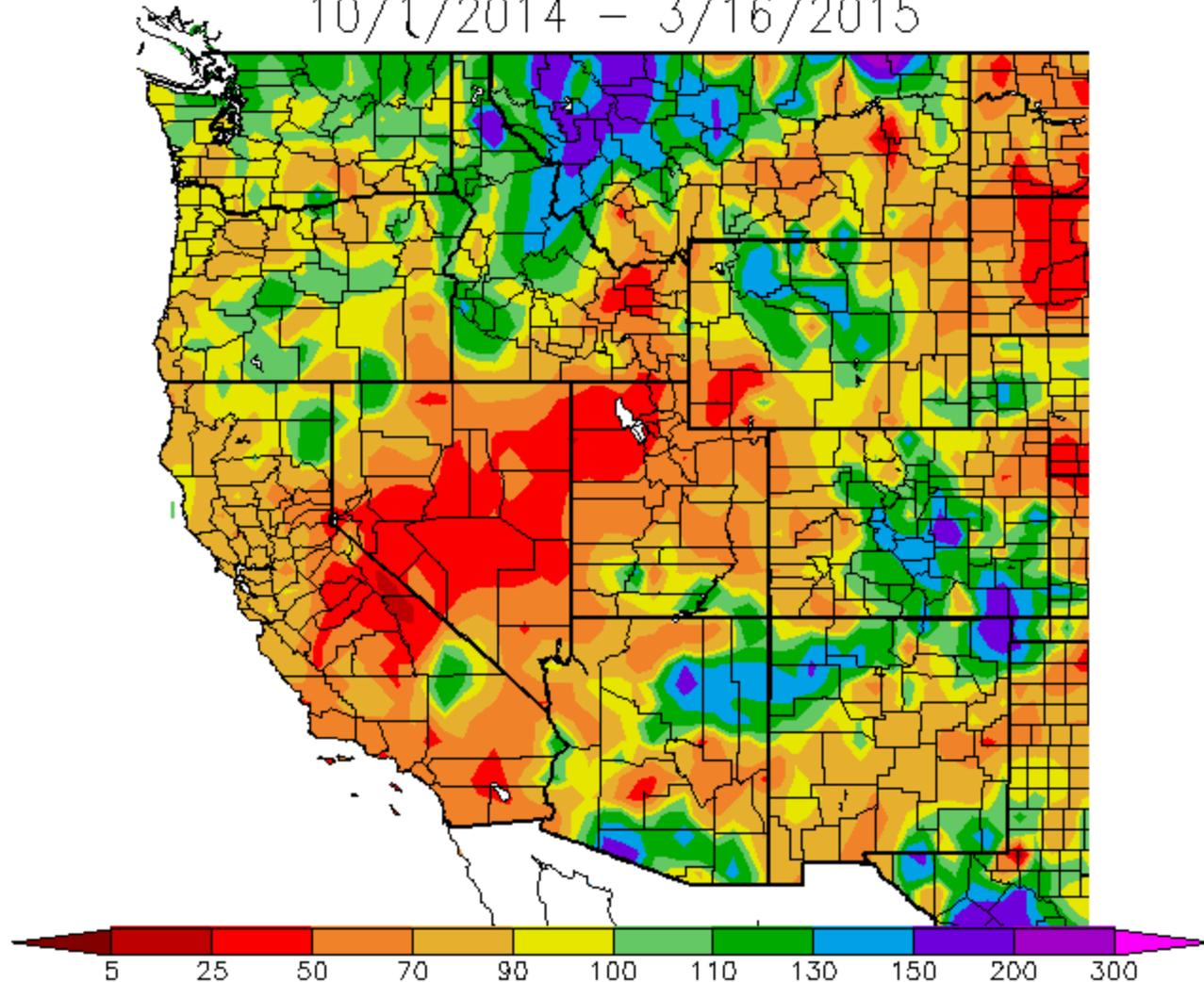


Private Wells Going Dry



Water Year 2015 to Date

Percent of Average Precipitation (%)
10/1/2014 - 3/16/2015

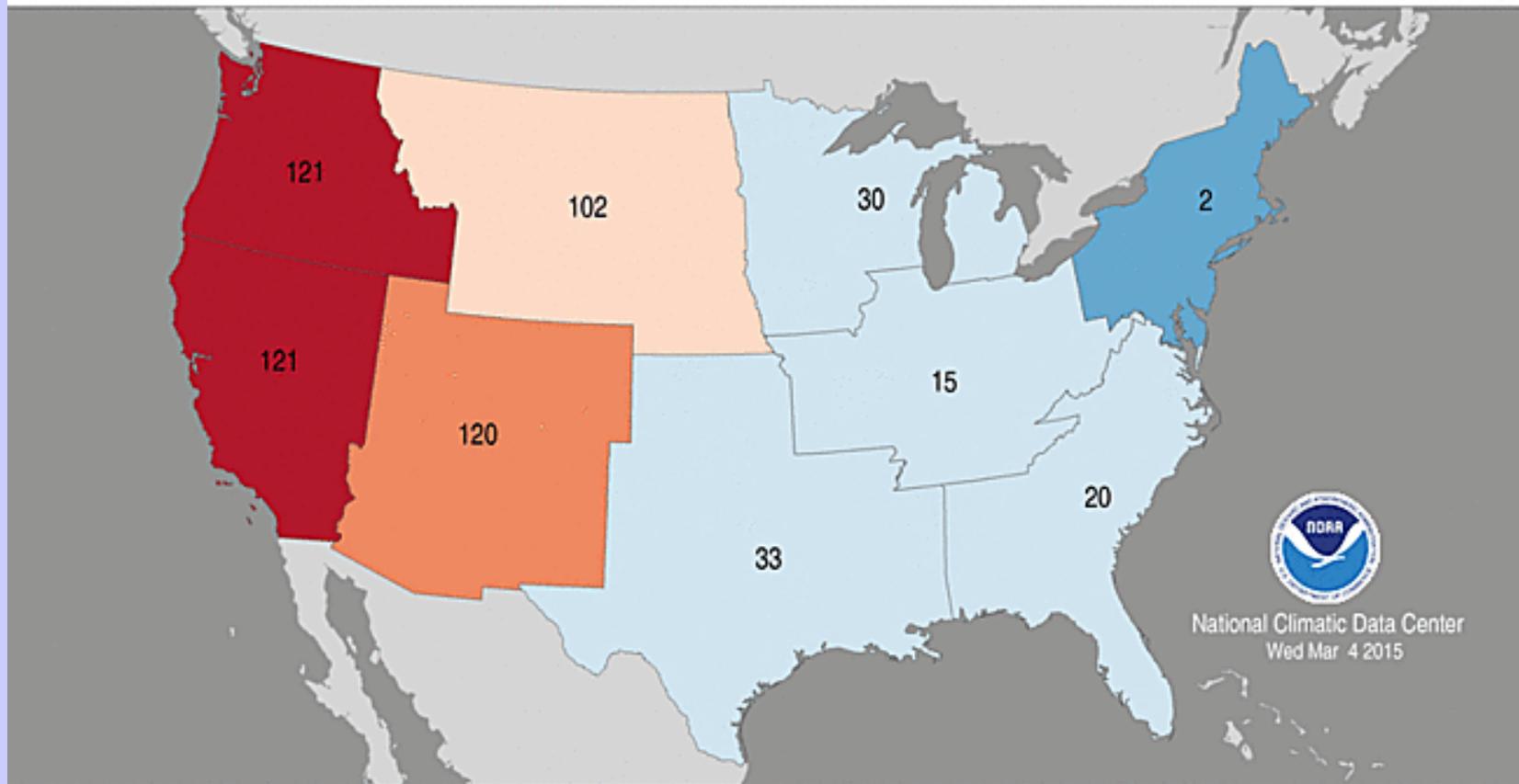


Generated 3/17/2015 at WRCC using provisional data.
NOAA Regional Climate Centers

Regional Average Temperature Ranks

January–February 2015

Period: 1895–2015



Record
Coldest
(1)

Much
Below
Average

Below
Average

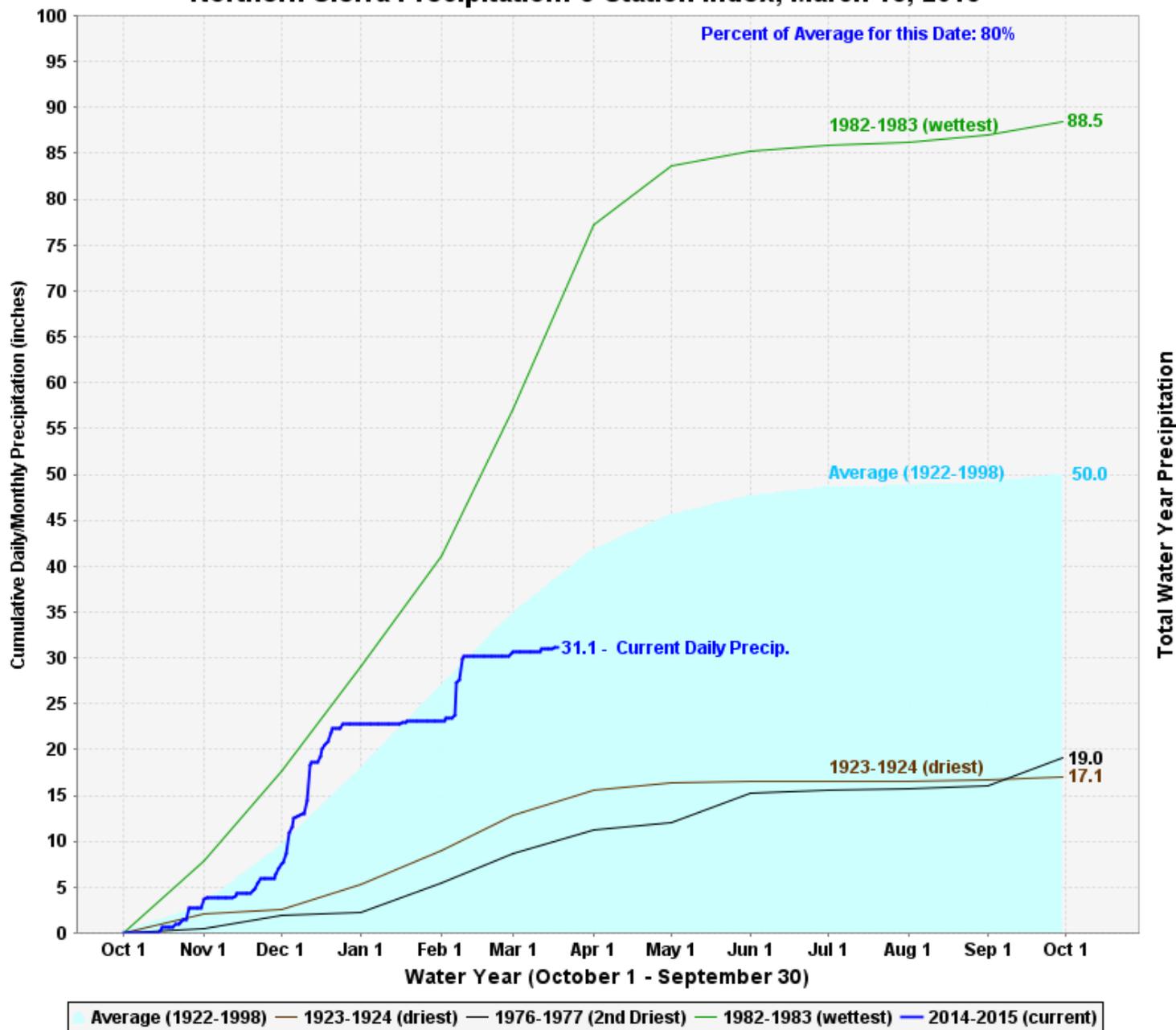
Near
Average

Above
Average

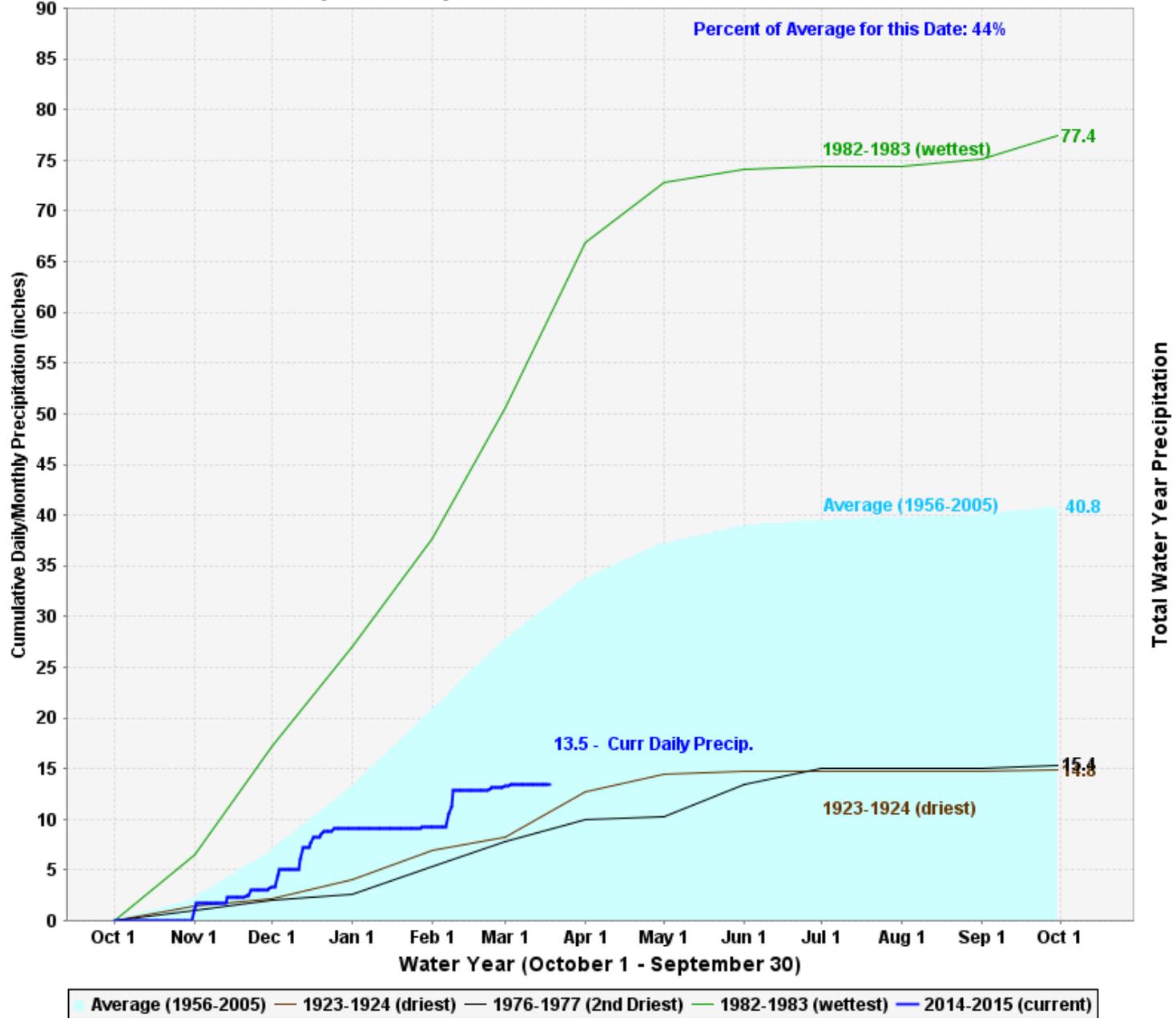
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(121)

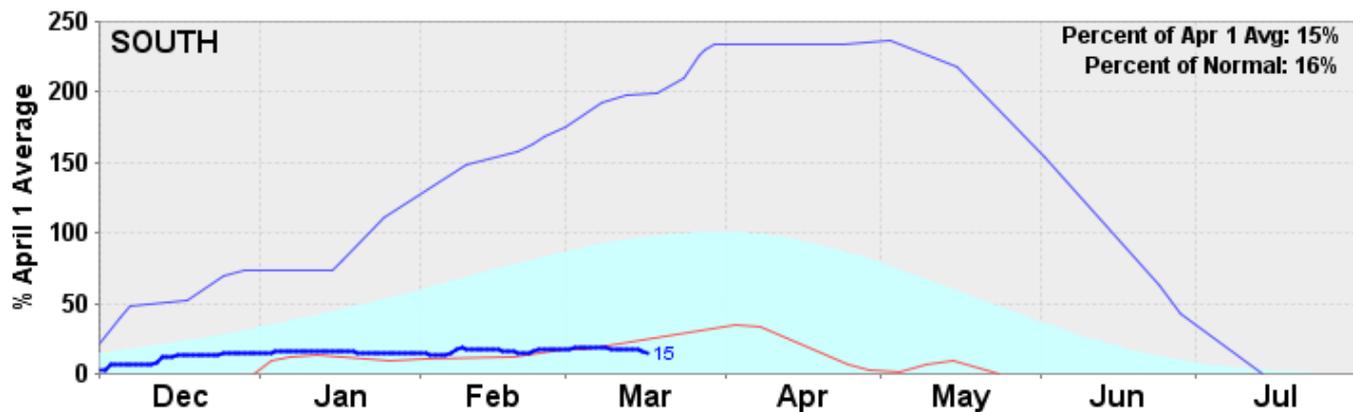
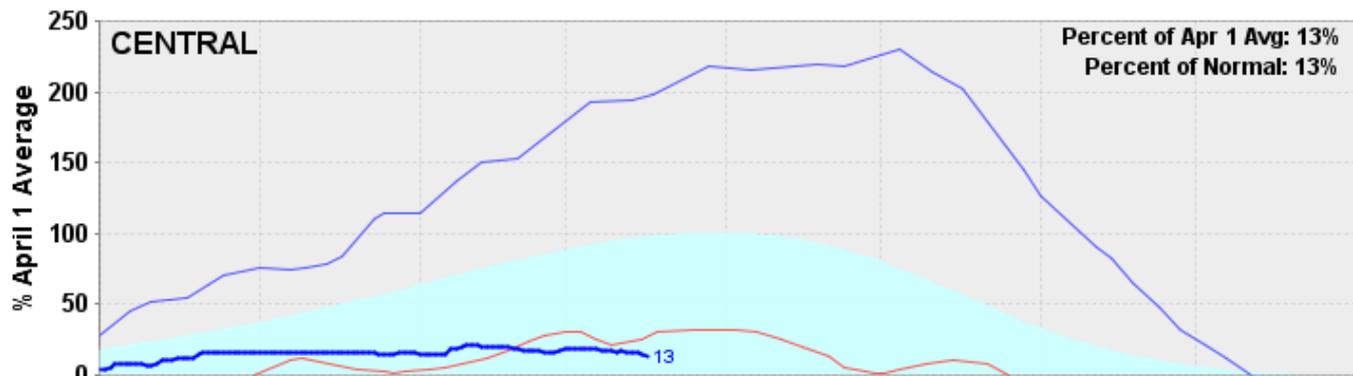
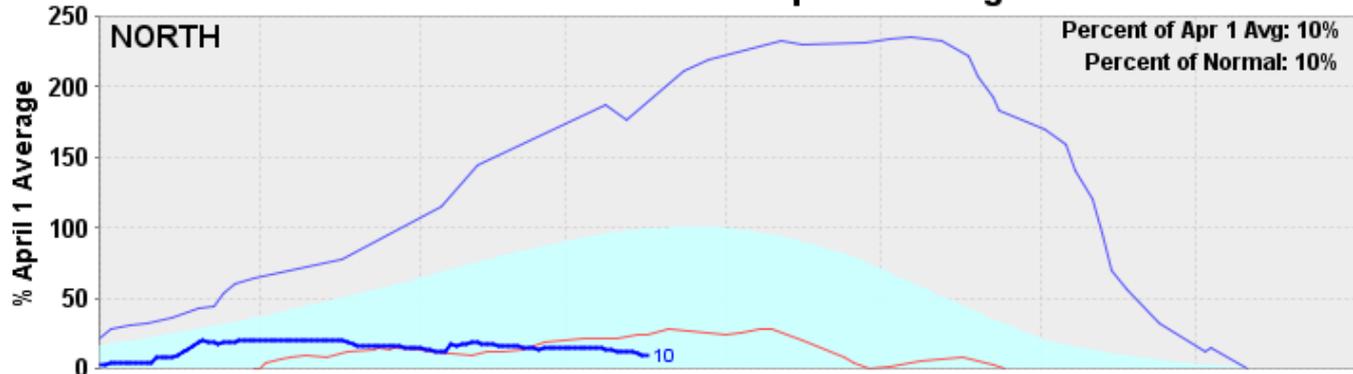
Northern Sierra Precipitation: 8-Station Index, March 18, 2015



San Joaquin Precipitation: 5-Station Index, March 18, 2015



California Snow Water Content - Percent of April 1 Average For: 17-Mar-2015



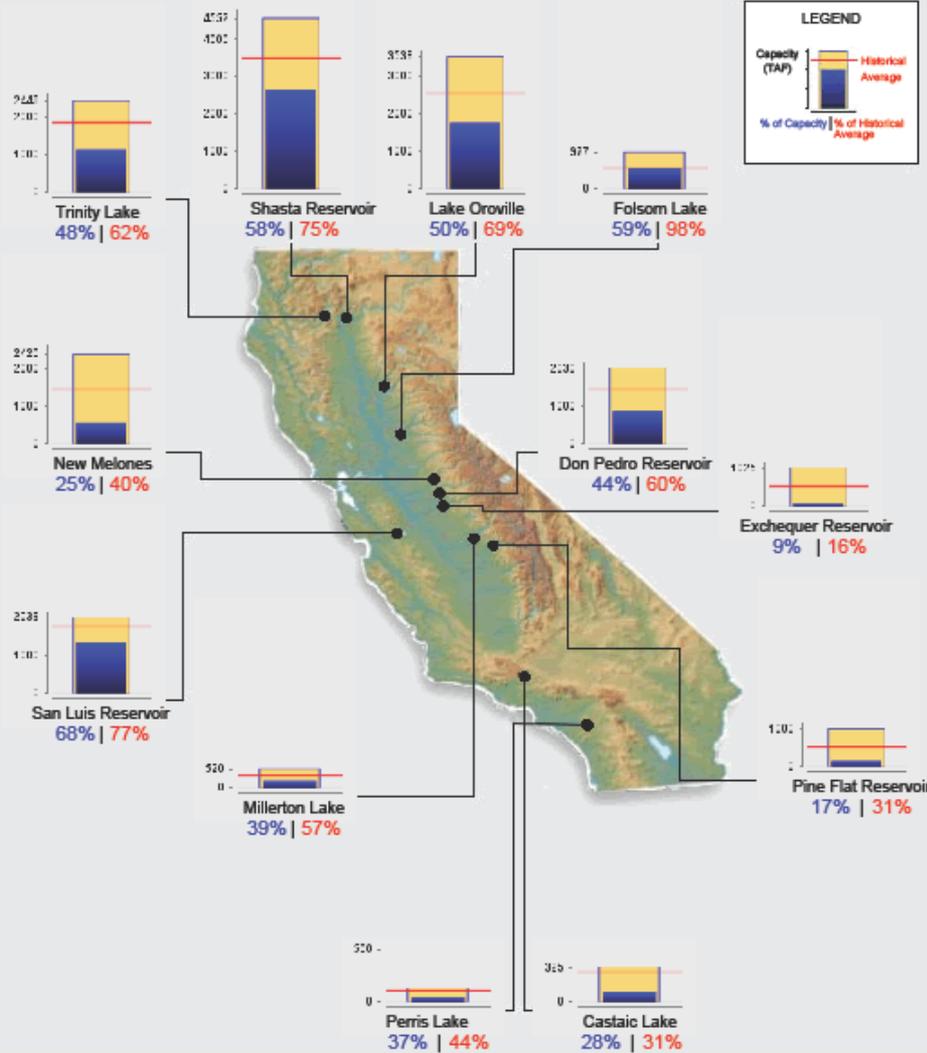
Average — 1976-1977 (min) — 1982-1983 (max) — 2014-2015 (current)



Reservoir Conditions

Ending At Midnight - March 17, 2015

CURRENT RESERVOIR CONDITIONS



April-July 2015 Runoff Forecasts as of March 12th

(50% exceedance)

- Lake Shasta inflow – 56% of historical avg.
- Feather River at Oroville – 35%
- American River below Folsom Lake – 27%
- Tuolumne River below Don Pedro – 34%
- Merced River below McClure – 21%
- San Joaquin River below Millerton – 22%
- Kern River inflow to Isabella – 19%

Water Supplies

Big Projects

- SWP allocation: 20%
- CVP allocation:
 - 0% Ag N and S of Delta
 - 0% Eastside & Friant
 - 25% American & in-Delta
 - 75% wildlife refuges
 - 75% water rts/settlement
- Colorado River: full apportionment

Small Water Systems

- Continuing challenges
- Also, private well owners

Drought Response Actions

- May 2013 Executive Order on water transfers
- Dec 2013 formation of Governor's Drought Task Force
- Jan 2014 Governor's emergency proclamation
- March 2014 drought relief legislation
- April 2014 proclamation of continued state of emergency
- Sep 2014 Executive Order for emergency drinking water assistance
- Dec 2014 Executive Order continuing CEQA waiver for specified actions



2015 Activities

- SWP/CVP drought contingency plan
- Emergency assistance for small water systems & private well owners
- SWRCB regulatory actions
- Increased focus on groundwater conditions (CASGEM & SGMA)
- Impact monitoring (followed ag land, Central Valley land subsidence)
- Ongoing financial assistance programs



Expected Impacts of Multi-Year Drought – Lessons Learned

- **Unmanaged systems**
 - **Risk of catastrophic wildfire** (health & safety, economic)
 - Non-irrigated agriculture (livestock grazing)
 - Fish & wildlife (e.g., salmonids)
- **Managed systems**
 - **Small water systems** (health & safety)
 - Irrigated agriculture
 - Green industry (urban water supplies)
 - Fish & wildlife (e.g., wildlife refuges, salmonids)
 - Other environmental (e.g., land subsidence)

