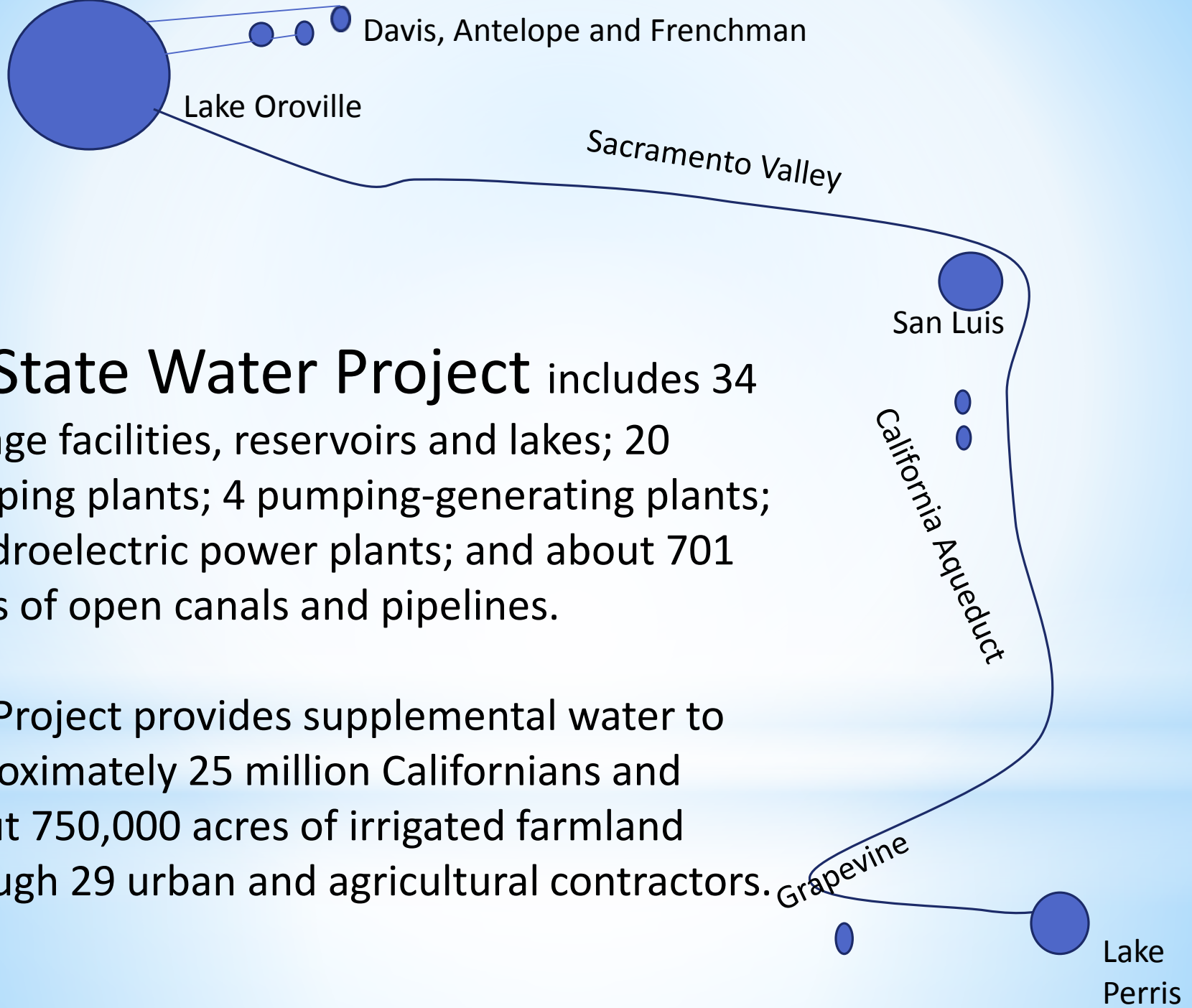


Statewide Drought Update

California Department of Water Resources

Sergio Fierro





The **State Water Project** includes 34 storage facilities, reservoirs and lakes; 20 pumping plants; 4 pumping-generating plants; 5 hydroelectric power plants; and about 701 miles of open canals and pipelines.

The Project provides supplemental water to approximately 25 million Californians and about 750,000 acres of irrigated farmland through 29 urban and agricultural contractors.

- * Federal
 - * USBR -Shasta, Folsom
 - * USACOE-Englebright
- * Energy Utilities
 - * PG&E-Spaulding, Almanor
 - * SMUD- Union valley, Ice House
- * Water and Electrical Utilities
 - * EBMUD-Pardee
 - * SCWA-Sonoma, Mendocino
- * Local lakes, rivers and creeks
- * Groundwater

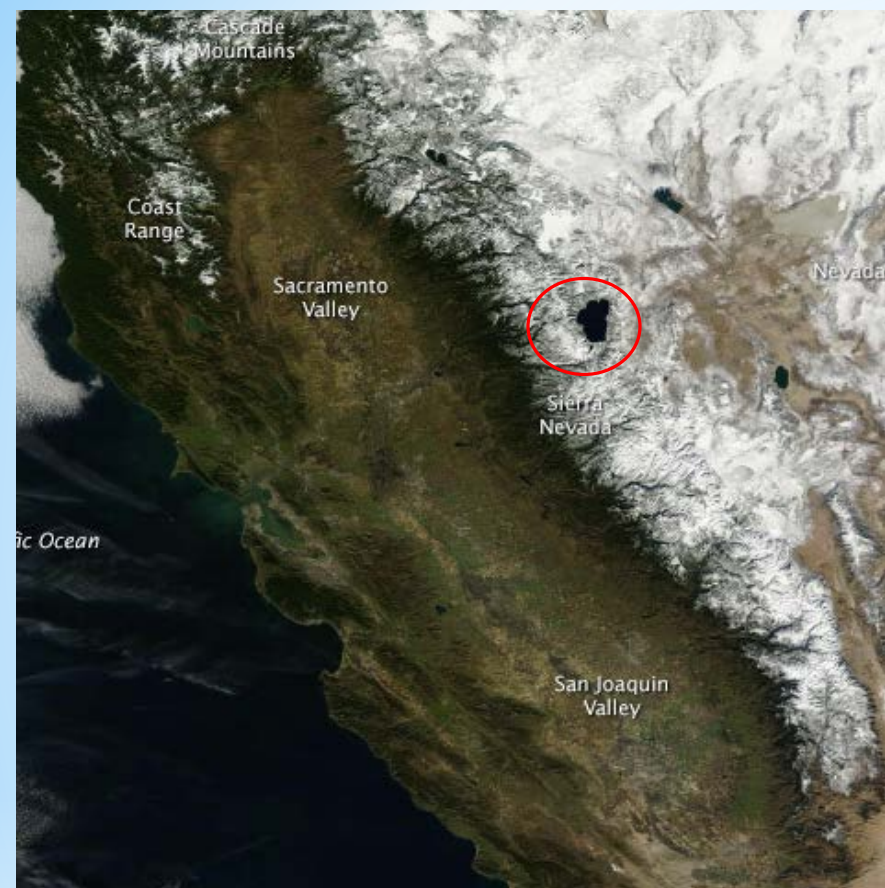
*** Other sources make
up the rest.**



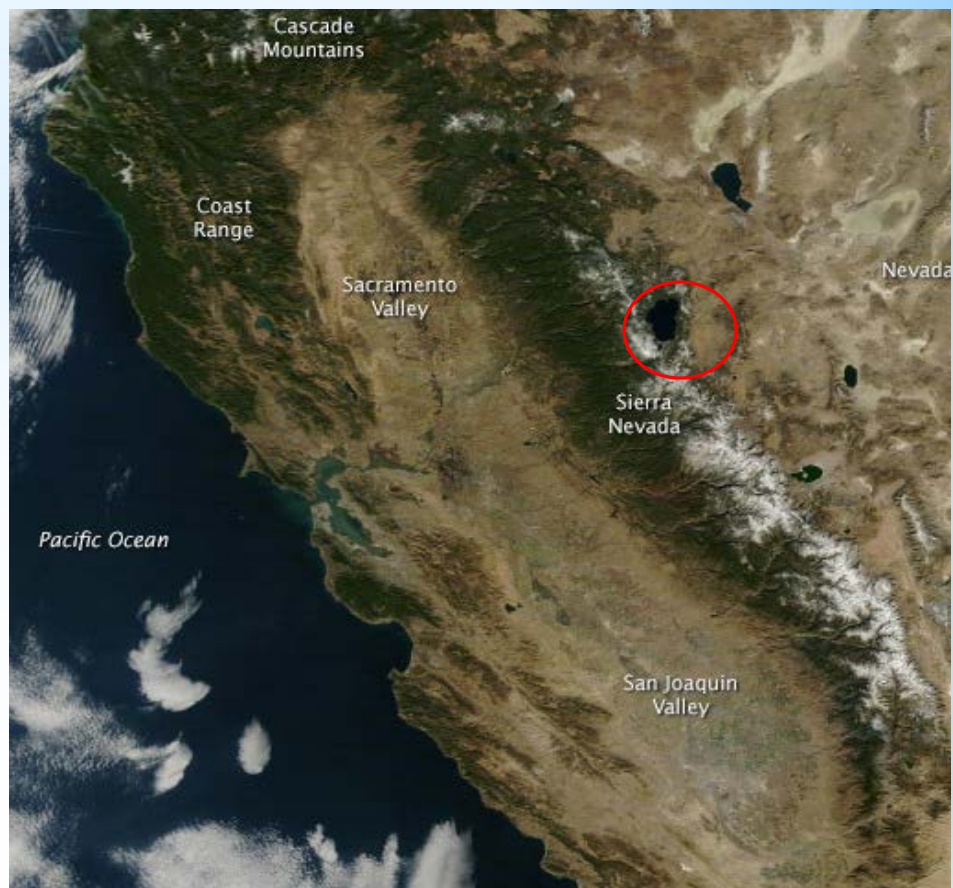
January 2014 Snow Survey Echo Summit



April 1, 2015 - Snow Survey-No Snow



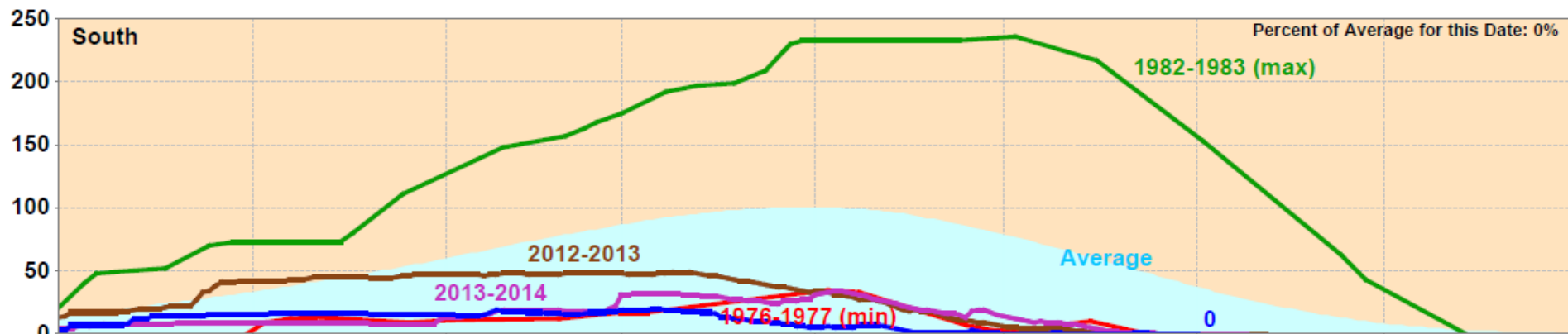
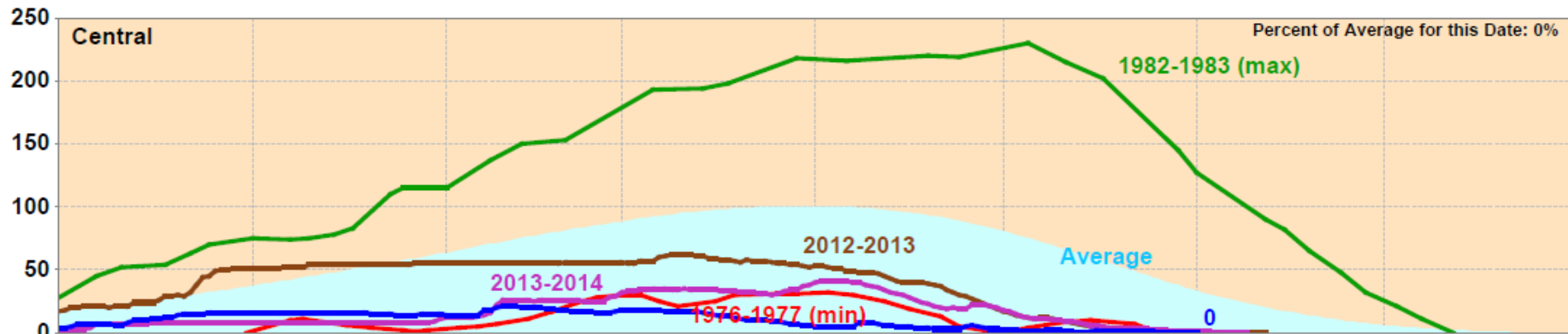
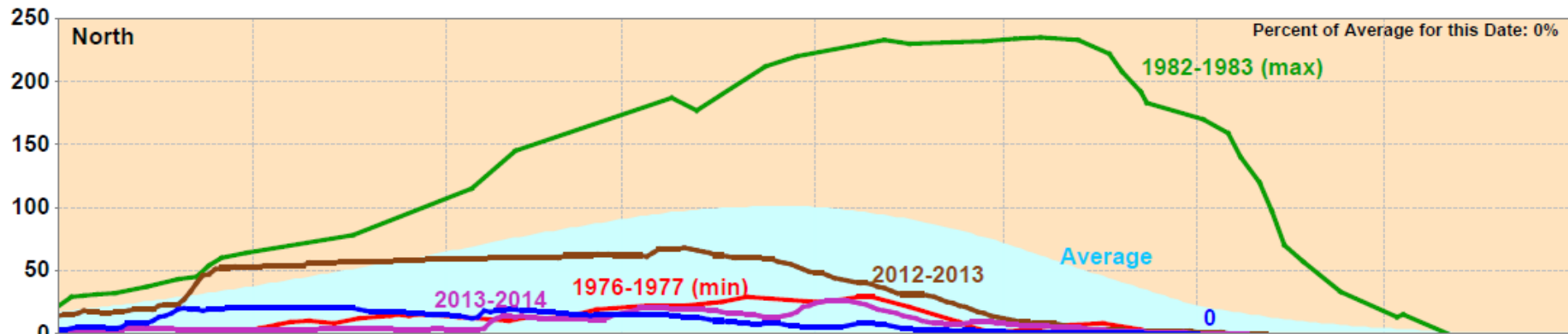
January 2013



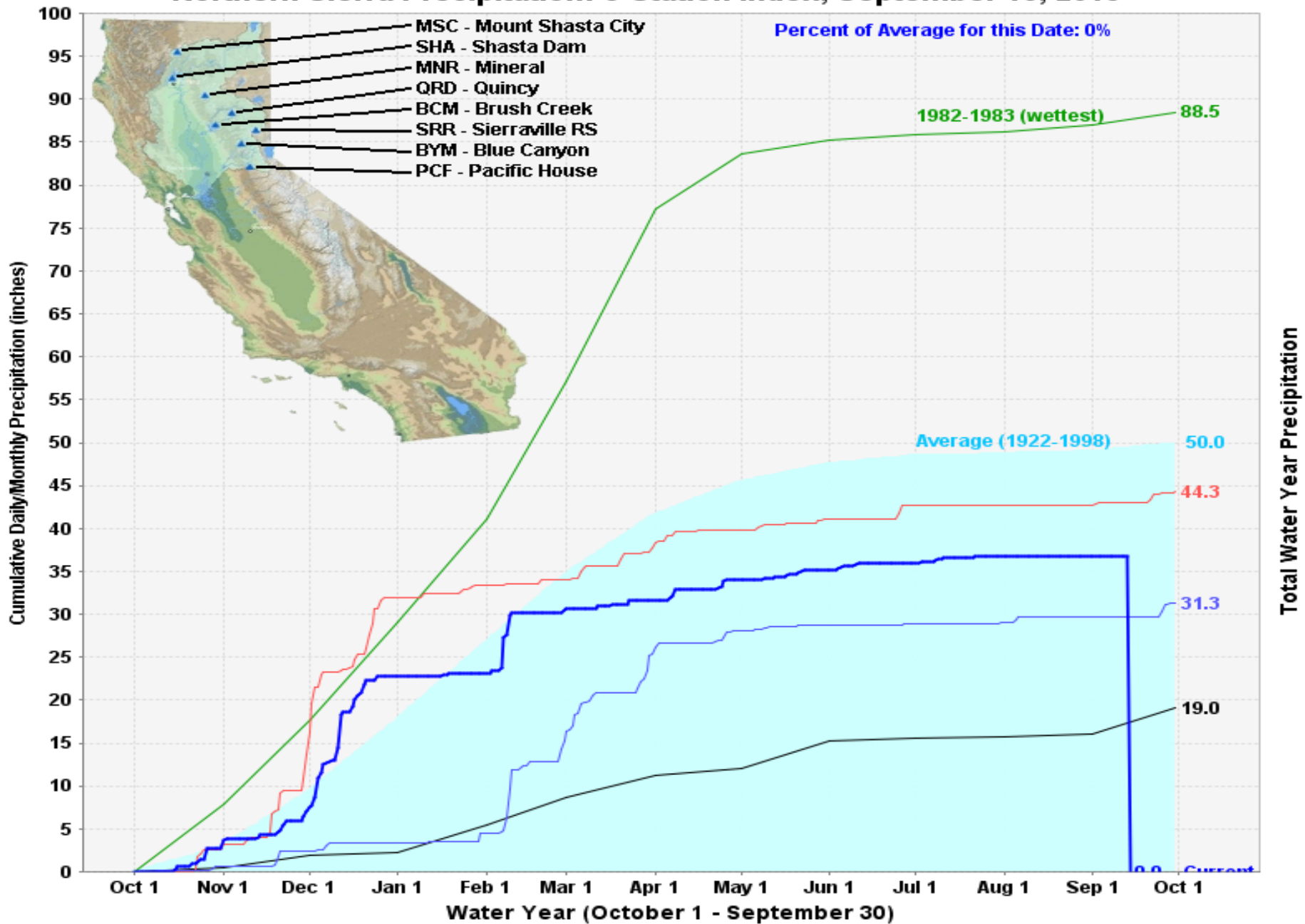
January 2014

Even though the winter of 2012-2013 was a dry year, the snowpack in January 2013 was significantly higher than January 2014. A few spring storms improved snow conditions somewhat. Lake Tahoe is circled for reference.

California Snow Water Content, June 1, 2015, Percent of April 1 Average

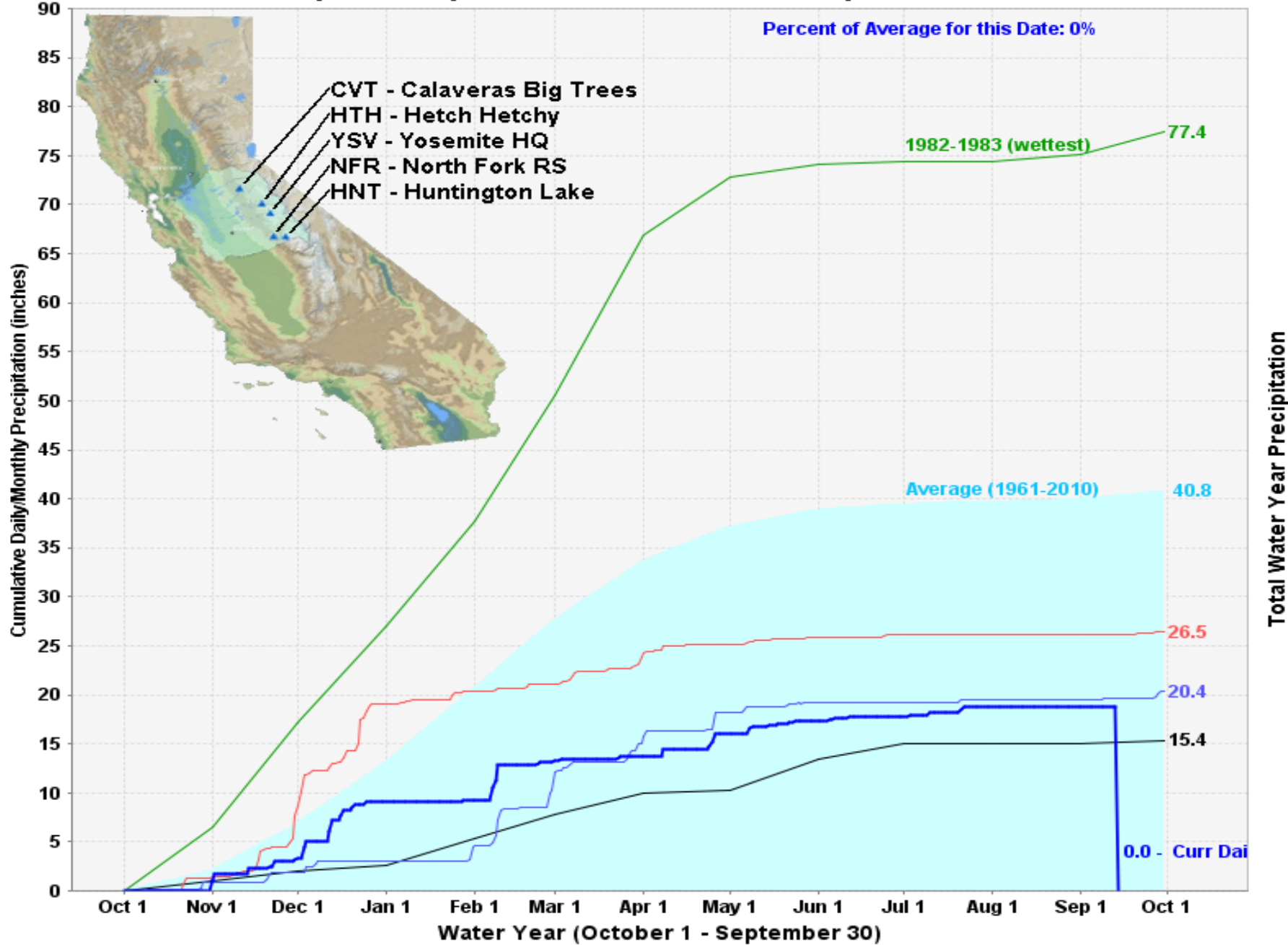


Northern Sierra Precipitation: 8-Station Index, September 13, 2015



■ Average (1922-1998)
 — 1976-1977 (2nd Driest)
 — 1982-1983 (wettest)
 — 2012-2013
 — 2013-2014
 — 2014-2015 (current)

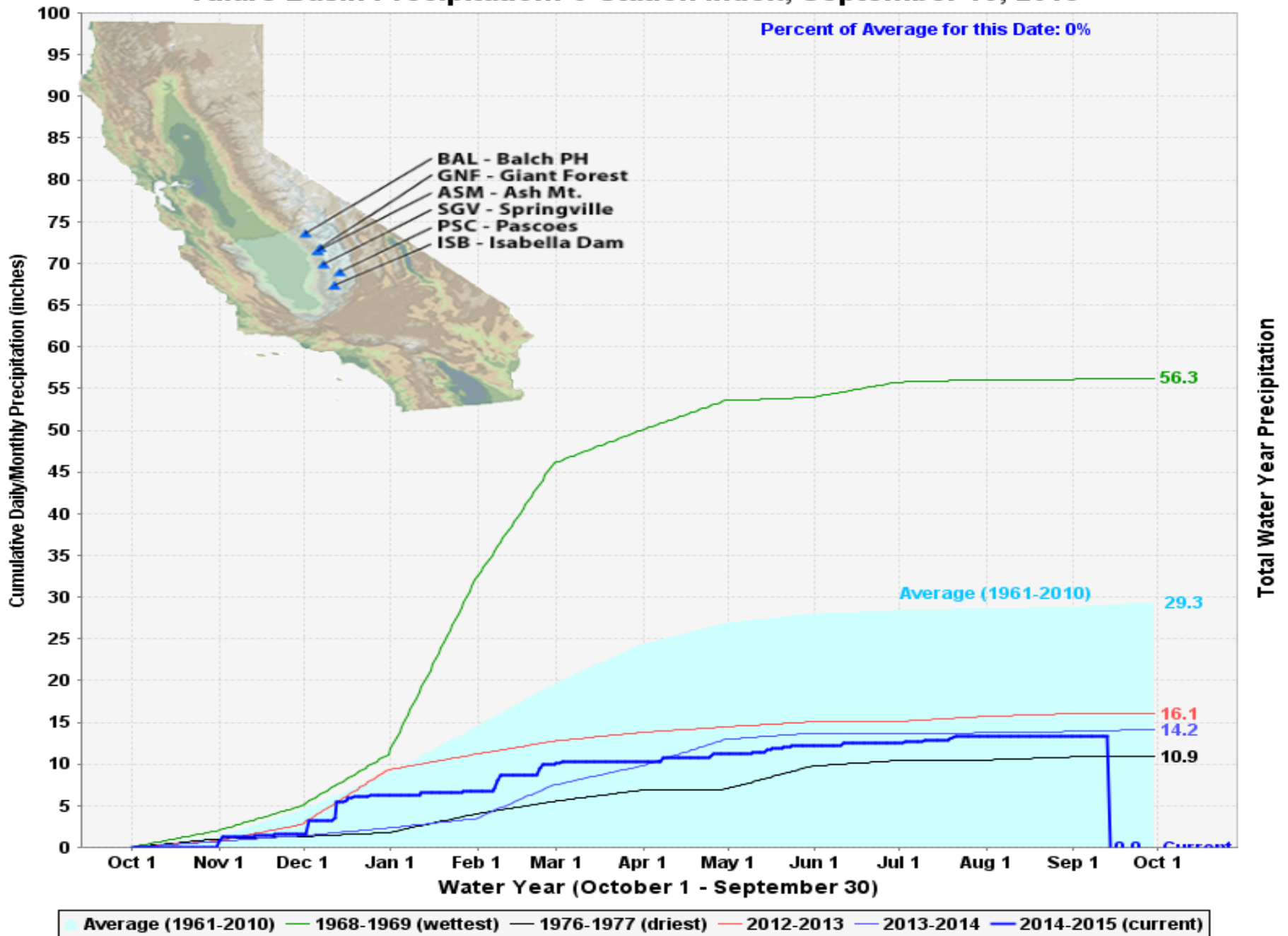
San Joaquin Precipitation: 5-Station Index, September 13, 2015



■ Average (1956-2005)
 — 1976-1977 (2nd Driest)
 — 1982-1983 (wettest)
 — 2012-2013
 — 2013-2014
 — 2014-2015 (current)

Tulare Basin Precipitation: 6-Station Index, September 13, 2015

Percent of Average for this Date: 0%



Water Year (October 1 - September 30)

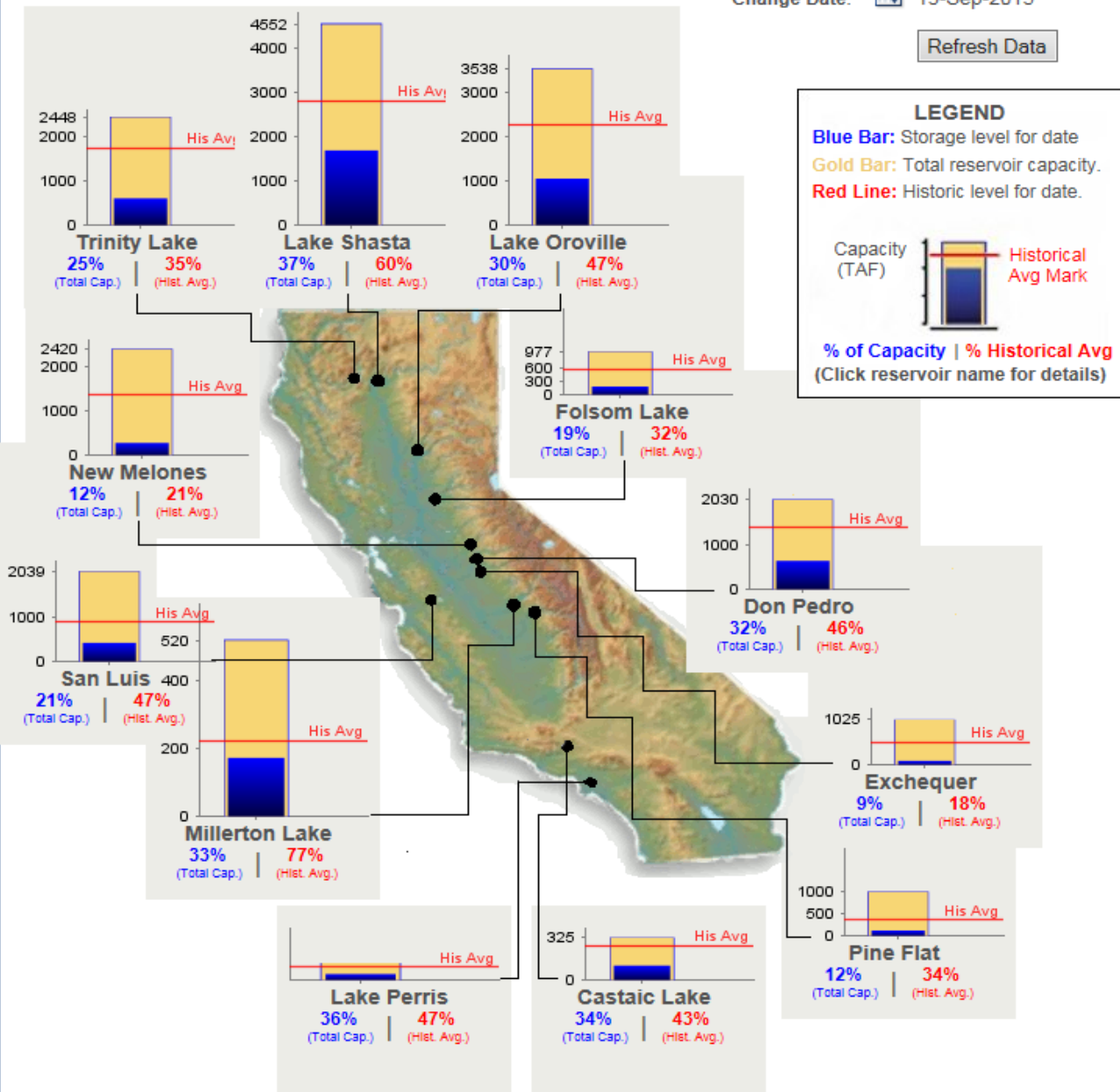
Average (1961-2010) 1968-1969 (wettest) 1976-1977 (driest) 2012-2013 2013-2014 2014-2015 (current)

CONDITIONS FOR SELECTED RESERVOIRS

Data as of Midnight: 13-Sep-2015

Change Date:  13-Sep-2015

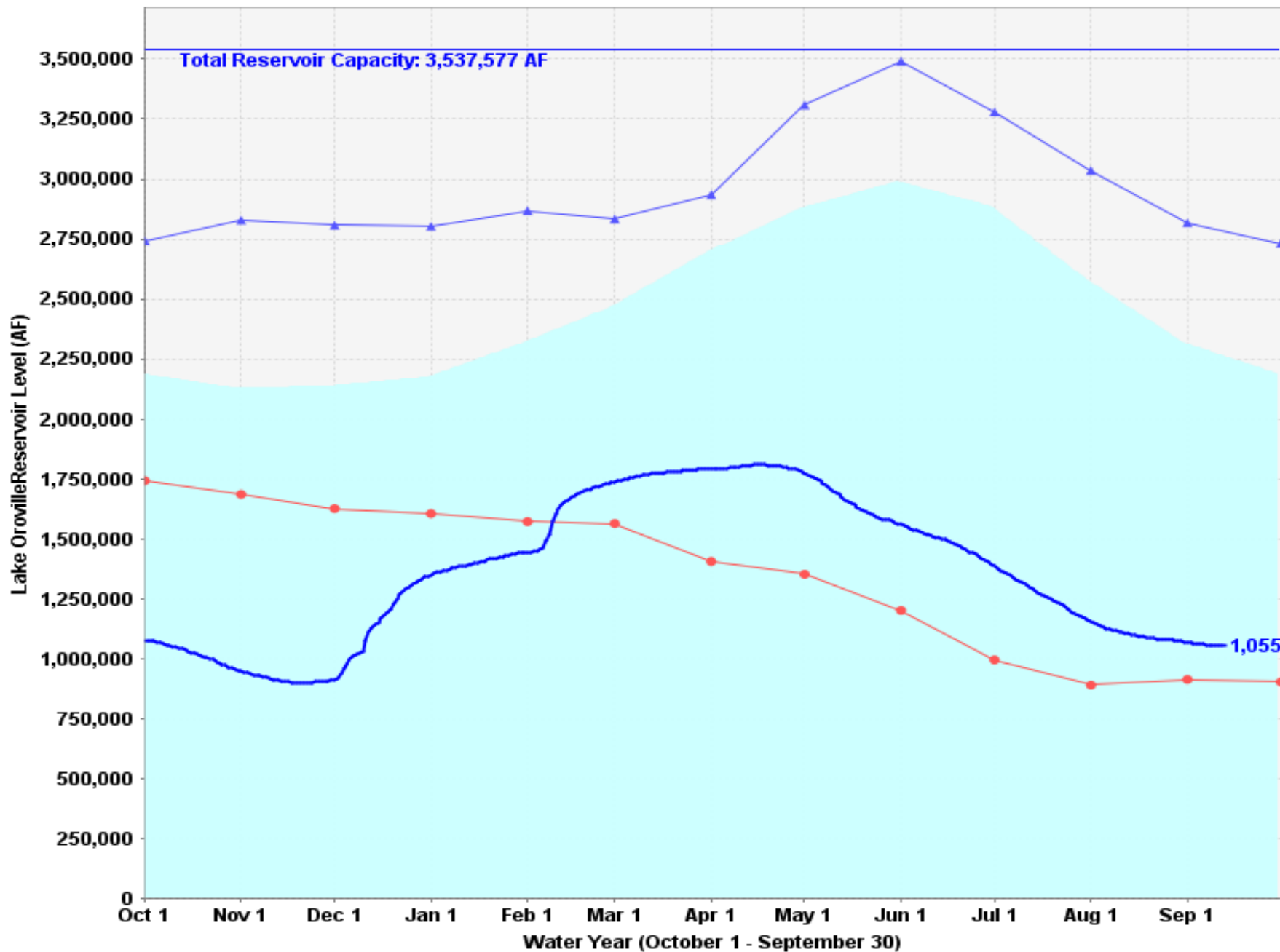
[Refresh Data](#)



[Click for printable version of current data.](#)

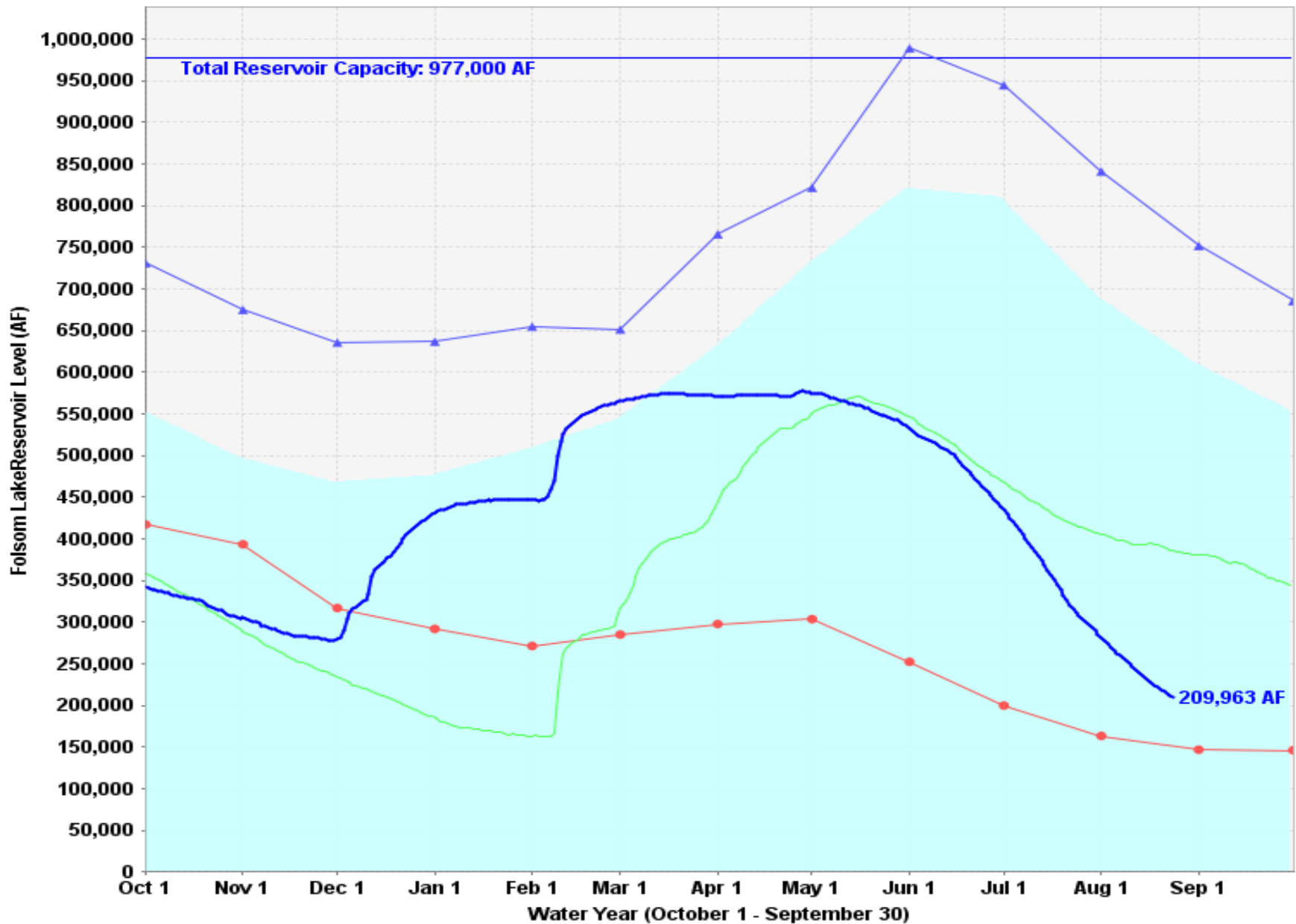
Report Generated: 14-Sep-2015 7:49 AM

Lake Oroville Storage Levels



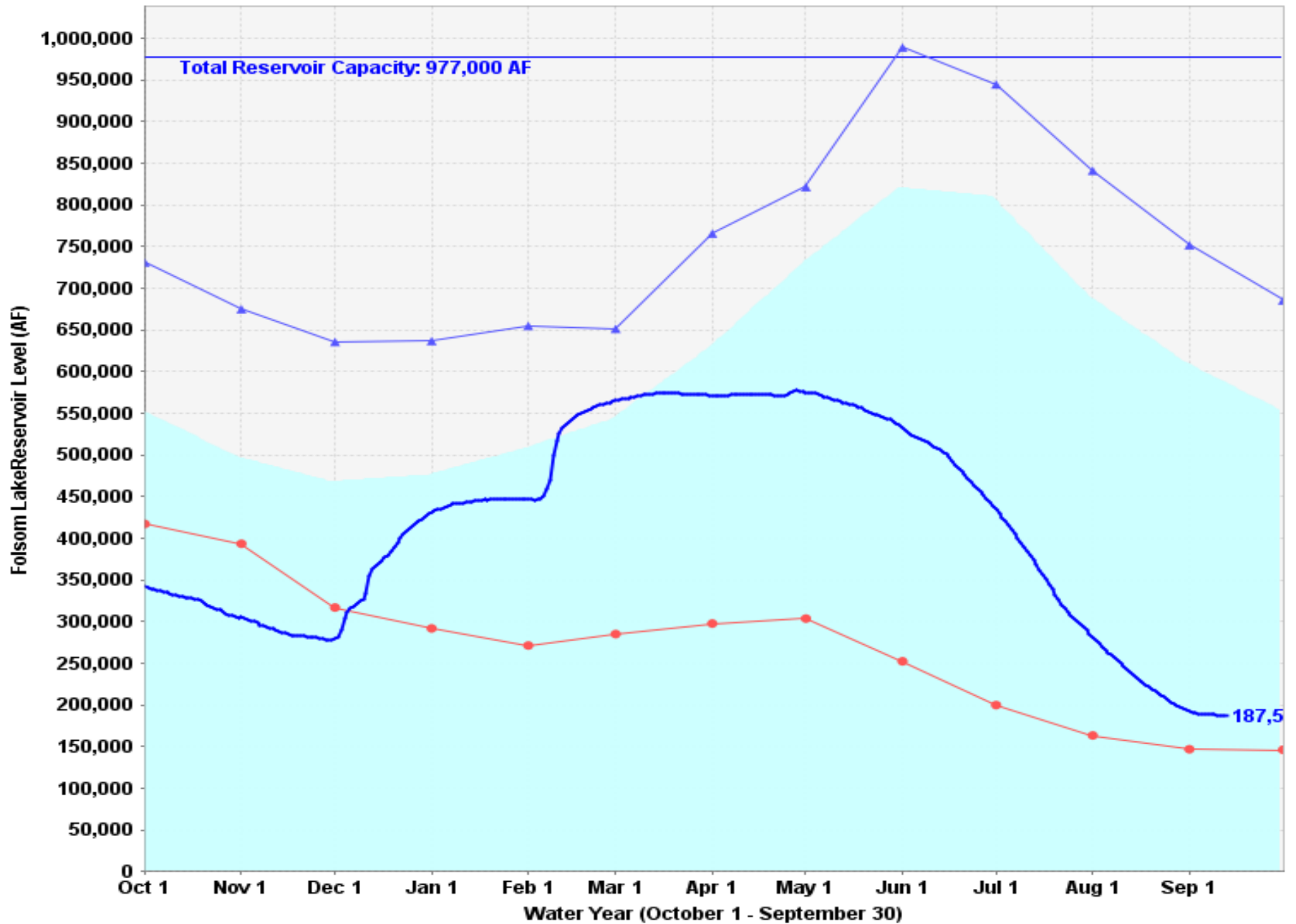
Historical Average Total Reservoir Capacity 1976-1977 (dry) 1982-1983 (wet) 2014-2015(current)

Folsom Lake Storage Levels



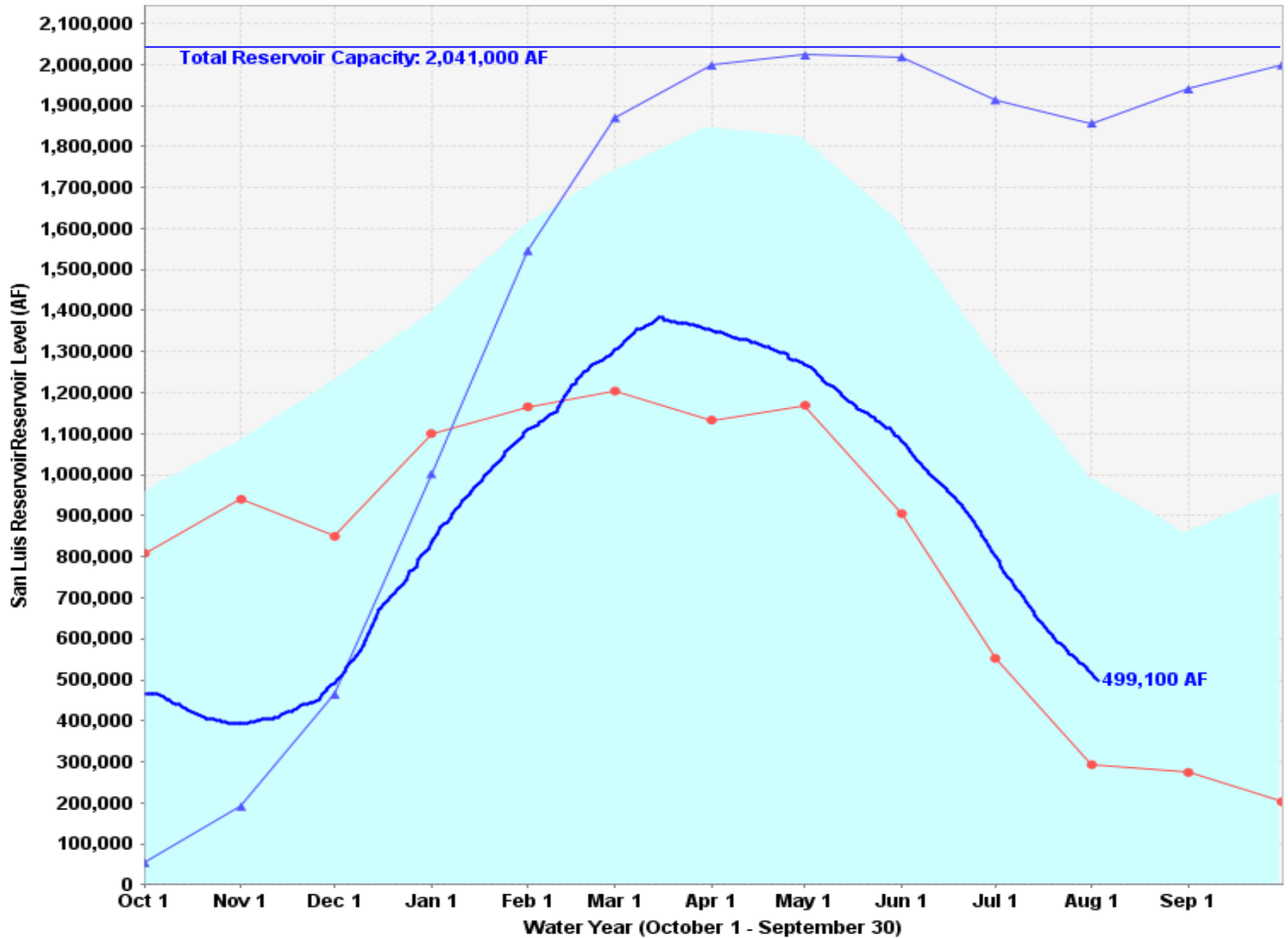
■ Historical Average
 —▲ Total Reservoir Capacity
 ● 1976-1977 (dry)
 ▲ 1982-1983 (wet)
 — 2013-2014
 — 2014-2015(current)

Folsom Lake Storage Levels



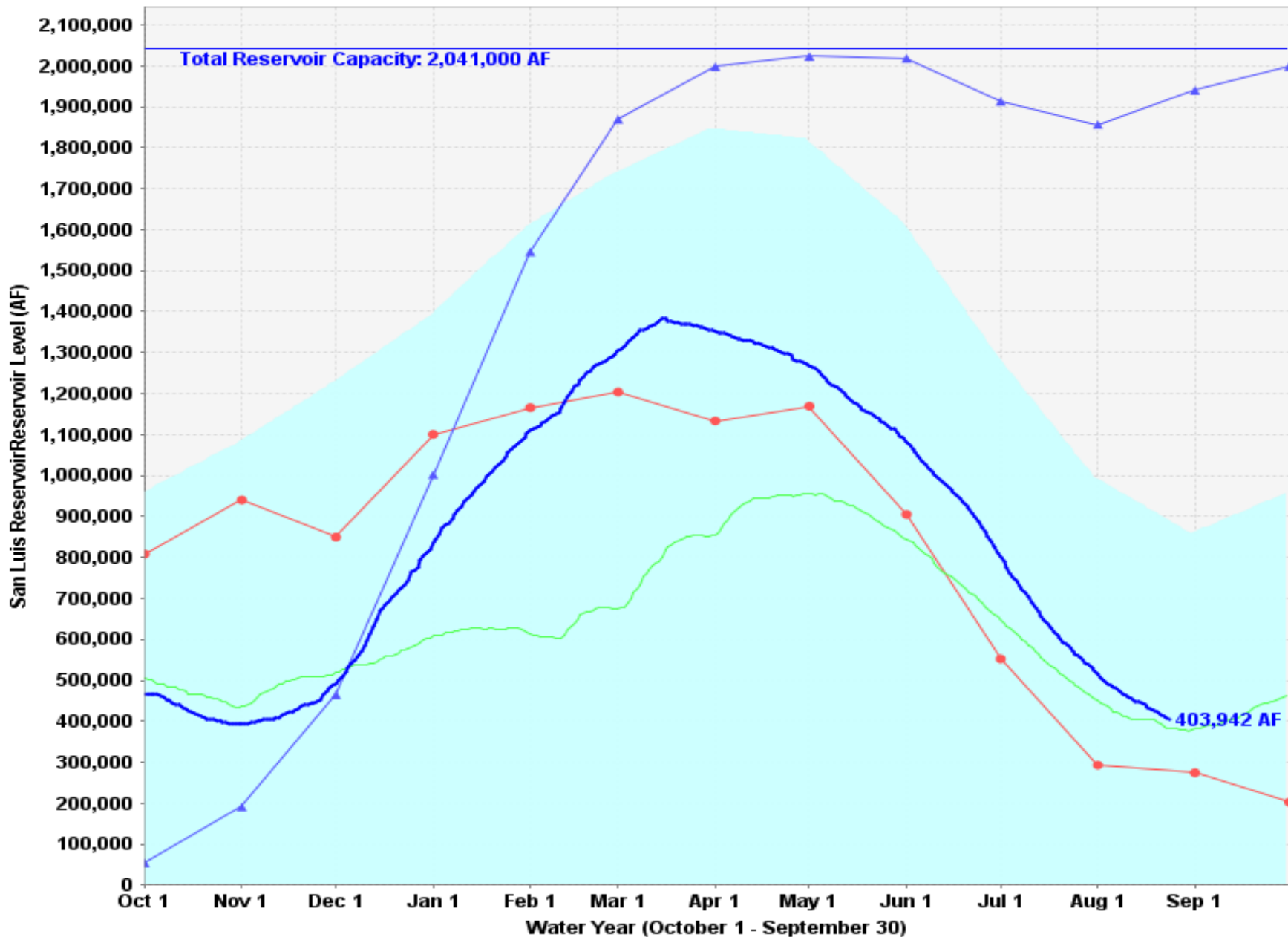
■ Historical Average
 — Total Reservoir Capacity
 ● 1976-1977 (dry)
 ▲ 1982-1983 (wet)
 — 2014-2015(current)

San Luis Reservoir Storage Levels



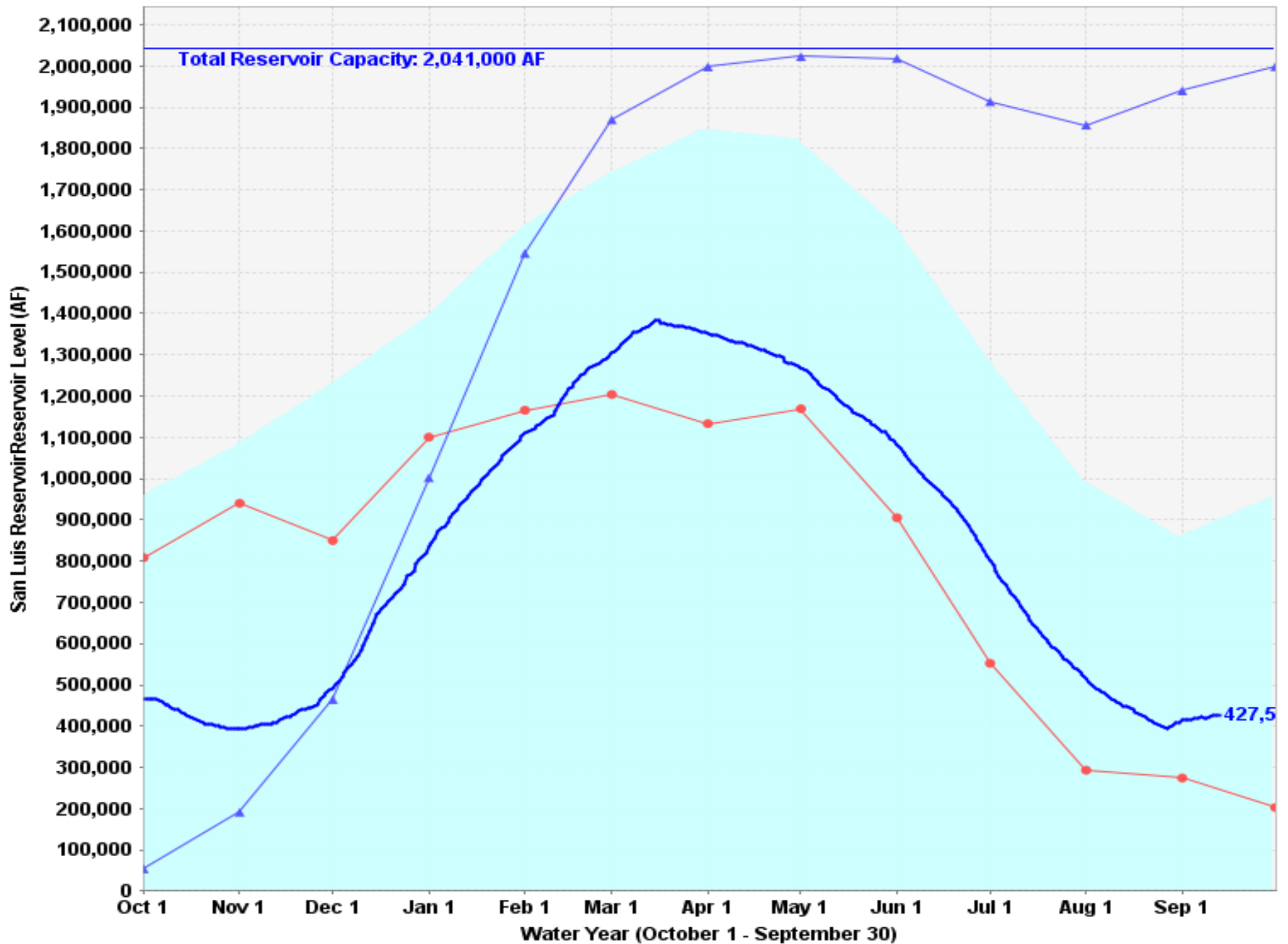
Historical Average — Total Reservoir Capacity — 1976-1977 (dry) — 1982-1983 (wet) — 2014-2015 (current)

San Luis Reservoir Storage Levels



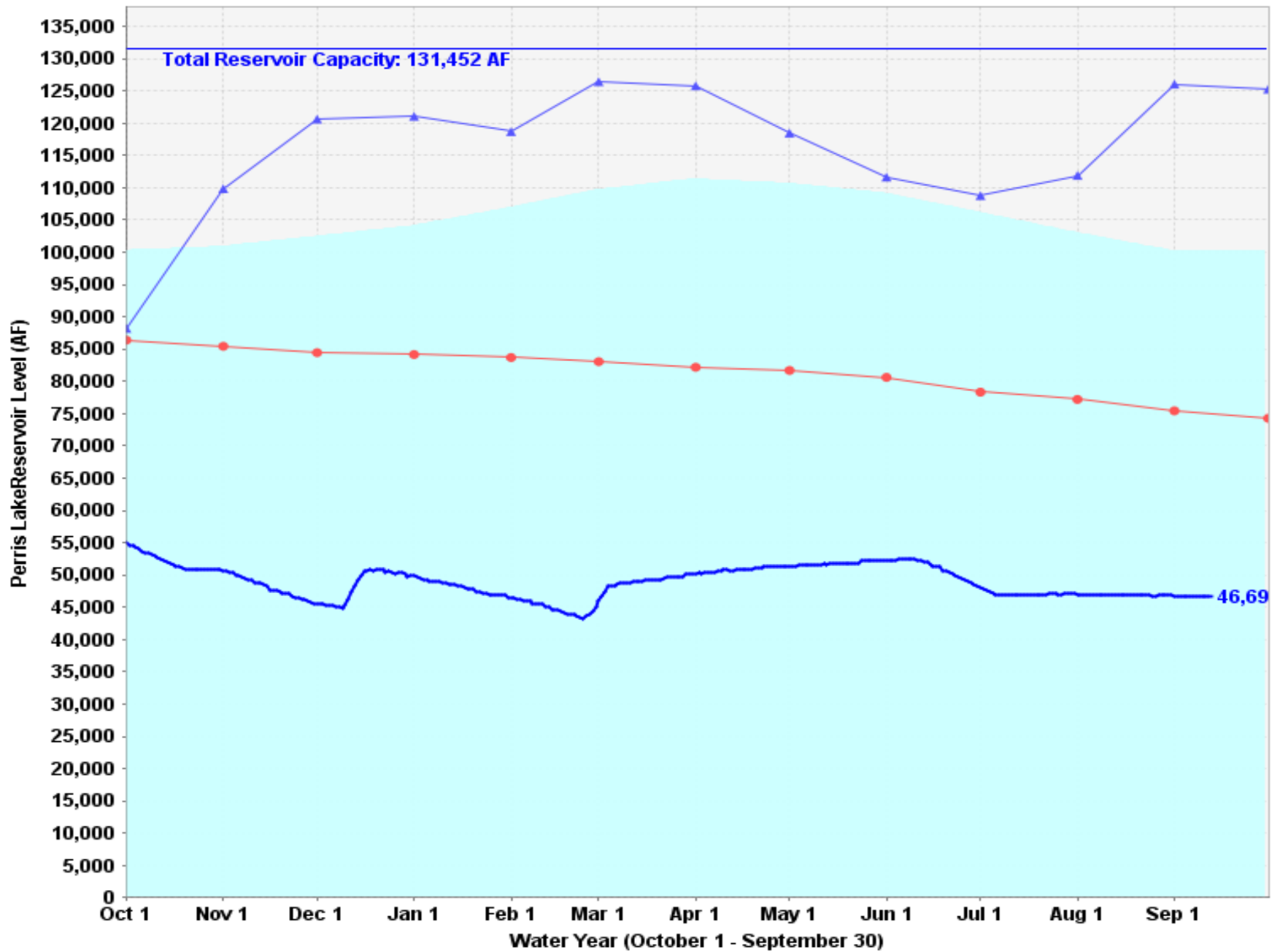
Historical Average
— Total Reservoir Capacity
 —● 1976-1977 (dry)
 —▲ 1982-1983 (wet)
 — 2013-2014
 — 2014-2015(current)

San Luis Reservoir Storage Levels



■ Historical Average
 — Total Reservoir Capacity
 ● 1976-1977 (dry)
 ▲ 1982-1983 (wet)
 — 2014-2015(current)

Perris Lake Storage Levels



Historical Average Total Reservoir Capacity 1976-1977 (dry) 1982-1983 (wet) 2014-2015(current)



Lake Oroville - July 20, 2011



Lake Oroville - September 5, 2014



Lake Oroville - July 20, 2011



Lake Oroville - September 5, 2014



Lake Oroville - July 20, 2011



Lake Oroville - September 5, 2014



San Luis Reservoir –off stream storage



* Landscapes are Important.







2014

After the Governor's drought declaration the Department of General Services cut back on lawn irrigation and stopped irrigating in areas without trees.

- * Promote water conservation, prevent waste
- * In effect after three dry years
- * Funding to local water suppliers contingent on compliance (grants and loans)
- * 500\$ fine for wasting potable water :
 - * Irrigation Runoff
 - * Washing pavement
 - * Hoses without shut off nozzles
 - * Single pass water features
- * \$10,000 fine to water suppliers that do not enforce the regulation

* SWRCB Emergency Regulation

- * State agencies ordered to reduce by 25%

- * **Many local water suppliers offering services and rebates to help customers**

- * New Graywater standards in the 2013 plumbing code makes it easier to install a graywater system-less permitting requirements

- * UC Cooperative Extension, UC Davis, local water suppliers, Master Gardeners and state agencies offering workshops for landscape professionals and homeowners-

- * **lawn replacement**

- * **new sprinklers**

- * **drip irrigation**

- * **irrigation controllers**

*** positive actions are happening:**

- * Lead an initiative to remove 50 million sq. ft. of turf
- * Prohibit potable water on medians
- * Reduce water on campuses, golf courses
- * No spray on new landscapes
- * Water rate changes
- * Update the MWELO
- * Expedite graywater systems and stormwater capture
- * CalFire- urban forest fire prevention

* Executive Order to state agencies

Model Water Efficient Landscape Ordinance: 2015 Revision



Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State's Model Water Efficient Landscape Ordinance (Ordinance) through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015.

Which Projects are Subject to the Ordinance?

New development projects that include landscape areas of 500 sq. ft. or more are subject to the Ordinance. This applies to residential, commercial, industrial and institutional projects that require a permit, plan check or design review. The previous landscape size threshold for new development projects ranged from 2500 sq. ft. to 5000 sq. ft.

The size threshold for existing landscapes that are being rehabilitated has not changed, remaining at 2500 sq. ft. Only rehabilitated landscapes that are associated with a building or landscape permit, plan check, or design review are subject to the Ordinance.

When Does the Ordinance Go into Effect?

Local agencies (cities and counties) have until December 1, 2015 to adopt the Ordinance or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance. Local agencies working together to develop a regional ordinance have until February 1, 2016 to adopt, but they are still subject to the December 2015 reporting requirements (see *Reporting Requirements* below). If a local agency does not take action on a water efficient landscape ordinance by the specified dates, the State's Ordinance becomes effective by default.

What are the Significant Revisions?

More Efficient Irrigation Systems

- Dedicated landscape water meters or submeters are required for residential landscapes over 5000 sq. ft. and non-residential landscapes over 1000 sq. ft.
- Irrigation systems are required to have pressure regulators and master shut-off valves.
- All irrigation emission devices must meet the national standard stated in the Ordinance to ensure that only high efficiency sprinklers are installed.
- Flow sensors that detect and report high flow conditions due to broken pipes and/or popped sprinkler heads are required for landscape areas greater than 5000 sq. ft.
- The minimum width of areas that can be overhead irrigated was changed from 8 feet to 10 feet; areas less than 10 feet wide must be irrigated with subsurface drip or other technology that produces no over spray or runoff.

Incentives for Graywater Usage

Landscapes under 2500 sq. ft. that are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of Appendix D, Prescriptive Compliance Option.

Improvements in Onsite Stormwater Capture

Friable soil is required in planted areas to maximize water retention and infiltration. Four yards of compost per 1000 sq. ft. of area must be incorporated. Other recommended measures for increasing onsite stormwater retention are listed in the Ordinance.

Limiting the Portion of Landscapes that can be Planted with High Water Use Plants

The maximum amount of water that can be applied to a landscape is reduced from 70% of the reference evapotranspiration (ET_o) to 55% for residential landscape projects, and to 45% of ET_o for non-residential projects. This water allowance reduces the landscape area that can be planted with high water use plants such as cool season turf. For residential projects, the coverage of high water use plants is reduced from 33% to 25% of the landscaped area. In non-residential landscapes, planting with high water use plants is not feasible. However, unchanged in the Ordinance is the extra water allowance made for non-residential areas when used for specific functional areas, such as recreation and edible gardens. Extra water allowance is also made for landscapes irrigated with recycled water, as was the case in the previous ordinance.

The irrigation efficiency of devices used to irrigate landscapes is one of the factors that goes into determining the maximum amount of water allowed. Rather than having one default irrigation efficiency for the entire site, the revised Ordinance allows the irrigation efficiency to be entered for each area of the landscape. The site-wide irrigation efficiency of the previous ordinance was 0.71; the revised Ordinance defines the irrigation efficiency of drip as 0.81 and that of overhead spray as 0.75.

Median strips cannot be landscaped with high water use plants, precluding the use of cool season turf. Also because of the requirement to irrigate areas less than ten feet wide with subsurface irrigation or other means that produces no runoff or overspray, the use of cool season turf in parkways is limited.

Reporting Requirements

All local agencies will report on the implementation and enforcement of their ordinances to DWR by December 31, 2015. Local agencies developing a regional ordinance will report on their adopted regional ordinance by March 1, 2016. Reporting for all agencies will be due by January 31st of each year thereafter.

Prescriptive Checklist Option for Landscapes under 2500 sq. ft.

Projects with landscape areas under 2500 sq. feet may comply with the performance requirements of the Ordinance or conform to the prescriptive measures contained in Appendix D. Many will find that the Appendix D checklist simplifies compliance.

How Much Water Will Be Saved?

DWR estimates that a typical California landscape will use 12,000 gallons less a year, or 20 percent less than allowed by the 2009 ordinance. Commercial landscapes will cut water use by 35%. Over the next three years, it is predicted that 472,000 new homes associated with 20,000 acres of landscape will be built in California. With proper implementation and enforcement by local agencies, the Ordinance will lead to substantial water savings.

How Can I Get Additional Assistance?

In Fall 2015, DWR will release a guidance document to accompany the Ordinance. Training workshops for local agency staff and landscape professionals will be held throughout the State.

Contact Information:

Julie Saare-Edmonds, DWR Senior Environmental Scientist at Julie.Saare-Edmonds@water.ca.gov or (916) 651-9676

Model Water Efficient Landscape Ordinance

2015 Revision

- Subject to Ordinance -- New Development w/500 sq ft of landscape (2,500 to 5,000 sq ft)
 - Rehabilitated Landscapes w/building or landscape permit, plan check, or design review
- Goes into Effect -- December 1, 2015
 - February 1, 2016 (Regional Ordinance)
- Irrigation
 - Dedicated water meter (residential 5,000+ sq ft / non-residential 1,000+ sq ft)
 - Requires pressure regulators & master shut-off valves
 - Emission devices must meet national standard
 - Flow sensors required for landscape areas greater than 5,000 sq ft.
 - Areas less than 10 ft need subsurface drip / technology no over spray or runoff.
- Graywater -- 2,500 sq ft or less are subject to the irrigation system requirements
- Stormwater Capture – Friable soil & 4 yards of compose per 1,000 sq ft of area
- Limiting Portion -- Max amount of water applied from 70% to 55% ETo residential 45% non-resident (does not affect recreation, edible gardens and recycled)
 - Irrigation efficiency devices – landscaping areas .71(old) .81 drip .75 spray
 - Median strips cannot have high water use plants
- Reporting
 - December 31 2015 all
 - March 1, 2016 Regional
 - January 31, 2017

*HOA's can't prohibit drought response

*Prohibits an HOA from imposing a fine or assessment against a member (homeowner) for reducing or eliminating irrigation during a drought emergency declared by the Governor or local government.

* **AB 2100**

* HOA's can't prohibit Cash for Grass

* An HOA's landscaping guidelines or policies are void and unenforceable if it prohibits the use of low water plants as a replacement for existing turfgrass.

* **AB 2104**

- * Prop 1 Water Bond
- * \$7.545 billion bond
 - * \$810M Regional Water Security
 - * \$100M Conservation
 - * \$200M Multi-benefit Stormwater
 - * \$510M Regional Water Management project
 - * \$725M Water Recycling
 - * \$900M Groundwater Stability
 - * \$2700M Water Storage

* Money

* Questions?



<http://www.saveourh2o.org/>

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