

We've finished the March 1, 2015 Water Supply Index (WSI) and Bulletin 120 (B120) forecasts. The forecasts include observed conditions through the end of February.

The forecasts are posted at:

WSI: <http://cdec.water.ca.gov/cgi-progs/iodir/wsi>  
 B120: <http://cdec.water.ca.gov/cgi-progs/iodir?s=b120>

**Forecast Summary:**

The projected median April-July runoff in the major Sierra river basins ranges from 9 percent on the Tule River to 58 percent on the Total Inflow to Shasta Lake and the Sacramento River above Bend Bridge. Forecasted median Water Year runoff in the Sierra ranges from 12 percent for the Tule River to 73 percent for the Sacramento River above Bend Bridge.

Through five months of this water year, the drought continues due to less than average precipitation and prevailing warm conditions. The storm window is still open for at least 80 days before summer arrives. Most statewide reservoirs remain below their historic average to date. If no precipitation occurs, reservoir levels will continue to drop below historic levels especially since there is no snowpack in the mountains above them.

The WSI forecast is based on precipitation and flows observed through February 2015 and can be summarized as follows:

<b>Sacramento River Unimpaired Runoff Water Year Forecast</b> (50 percent exceedance)	<b>11.2 MAF</b> <b>(62 percent of average)</b>
<b>Sacramento Valley Index (SVI)</b> (50 percent exceedance)	<b>4.7</b> <b>(Critical)</b>
<b>San Joaquin Valley Index (SJI)</b> (75 percent exceedance)	<b>0.9</b> <b>(Critical)</b>

**Runoff:**

Unimpaired flows for the 2014-15 water year have run at the following rates of average:

Region	October - February Runoff (%)	February Runoff (%)
Sacramento Valley Index (4 rivers)	<b>77</b>	<b>78</b>
San Joaquin Valley Index (6 rivers)	<b>40</b>	<b>64</b>
Tulare Lake Basin (4 rivers)	<b>28</b>	<b>34</b>

The Sacramento Valley unimpaired runoff was significantly greater than the San Joaquin Valley and Tulare Lake Basin due to the early February storm which was concentrated in the northern half of the State.

**Precipitation:**

Precipitation for the 2014-15 water year accumulated at the following rates of average:

Region/Index	WY accumulated Precipitation through February 28, 2015 units= percent of average
Sacramento River	<b>87</b>
San Joaquin River	<b>62</b>
Tulare Lake	<b>61</b>
Statewide	<b>81</b>
Northern Sierra 8-Station Index	<b>88 (30.7 inches)</b>
San Joaquin 5-Station Index	<b>48 (13.3 inches)</b>
Tulare Lake 6-Station Index	<b>52 (10.1 inches)</b>

Following an abysmally dry January in California, precipitation amounts rebounded to respectable levels for the Sierra Nevada. February got off to a promising start with a wet Pacific storm which soaked the Sierra Nevada over the course of a few days. However, the bounty of precipitation was short lived and the remainder of February was to be characterized by more dry and warm weather patterns. All in all, the February totals for the Northern Sierra 8-Stations (95%), San Joaquin 5-Stations (58%), and Tulare Lake 6-Stations (63%) once again came in below their monthly averages. The Statewide percent of average to date dropped slightly to 81 percent. With the three wettest months in the Sierra Nevada in the books for WY2015, there is less hope that the four year drought will end.

**Snowpack:**

The snowpack as of the morning of March 5, 2015, 2015 stands at the following (based on snow sensors):

Region	Snow Water Equivalent (inches)	% of Average (Apr. 1)	% of Average (March 5)
Northern	4.4	15	16
Central	5.4	18	20
Southern	5.1	19	21
Statewide	5.0	17	19

Despite a small increase in Statewide snowpack (in terms of % of April 1 average) during February, the snowpack conditions for March 1 rank 2<sup>nd</sup> driest in the long term record with only 1991’s March 1 snowpack being lower than this year. March 1991 is also well-known as the “Miracle March” when the snowpack was boosted significantly by major storms. So far, there does not appear to be a similar “miracle” in store for March 2015.

When looking at the manual snow course data, however, for March 2015, a drier picture is painted. The results of the March snow surveys show that the Statewide snowpack is the lowest in the historic record going back to 1950. The following table compares the March 2015 snow survey results to those in 1977 and 1991.

Region	1977		1991		2015	
	% Average April	% Average March	% Average April	% Average March	% Average April	% Average March
North Coast	23%	26%	17%	19%	14%	16%
Sacramento	22%	26%	16%	18%	7%	8%
San Joaquin Valley	19%	22%	11%	12%	13%	15%
Tulare Lake	21%	24%	21%	25%	16%	18%
North Lahontan	25%	28%	18%	21%	16%	18%
South Lahontan	24%	28%	7%	8%	18%	21%
<b>Statewide Average (weighted)</b>	<b>21%</b>	<b>25%</b>	<b>15%</b>	<b>18%</b>	<b>12%</b>	<b>13%</b>

 Lowest on record

Note that while the snowpack on March 1, 1991 was lower than observed in 1977, this year is the new record as seen above. Looking ahead, a wet March will be needed this year to avoid setting new records for all time lowest April 1 snowpack.

**Weather and Climate Outlooks:**

The 6-day weather forecast indicates precipitation on the second and third days of the forecast with totals up to 0.1 inches on Tuesday and 0.5 inches on Wednesday. Freezing levels over the Sierra are near 12,000 feet today, dropping to 8,000 feet Wednesday, and rising back up to above 12,000 feet by Saturday.

The NWS Climate Prediction Center (CPC) one-month outlook for March, issued February 28, indicates increased chances of below normal precipitation for Northern California and increased chances of above normal precipitation

along the California-Arizona border. Elsewhere, equal chances of above or below normal precipitation are expected. The one-month outlook indicates increased chances of above normal temperature Statewide.

The CPC three-month (March-April-May) outlook, issued February 19, indicates increased chances of below normal precipitation north of Lake Shasta and along the North Coast. Elsewhere, equal chances of above or below normal precipitation are expected. The three-month outlook indicates increased chances of above normal temperature Statewide.

El Niño conditions are present. Positive equatorial sea surface temperature (SST) anomalies continue across the western and central Pacific, while near average SSTs are evident in the eastern Pacific. There is an approximately 50-60 percent chance that El Niño conditions will continue through the Northern Hemisphere summer 2015.

**Next Update:**

A Bulletin 120 update for conditions as of March 10 will be available Thursday, March 12. The April 1, 2015 Bulletin 120 and Water Supply Index forecasts should be available on April 8, 2015.

If you have any questions regarding this forecast, please contact a member of the Snow Surveys staff.

**Important Links:**

**Full Natural Flow Data:**

Daily FNF

[http://cdec.water.ca.gov/cgi-progs/snowsurvey\\_ro/FNF](http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FNF)

Monthly FNF

[http://cdec.water.ca.gov/cgi-progs/snowsurvey\\_ro/FNFSUM](http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FNFSUM)

Seasonal FNF

[http://cdec.water.ca.gov/cgi-progs/snowsurvey\\_ro/FLOWOUT](http://cdec.water.ca.gov/cgi-progs/snowsurvey_ro/FLOWOUT)

**Precipitation Data:**

Latest Northern Sierra 8-Station Precipitation Index

<http://cdec.water.ca.gov/cgi-progs/queryDaily?s=8SI&d=today>

Latest San Joaquin 5-Station Precipitation Index

<http://cdec.water.ca.gov/cgi-progs/queryDaily?s=5SI&d=today>

**Snow Data:**

Latest Snow Sensor Report

<http://cdec.water.ca.gov/cgi-progs/snow/PAGE6>

Latest Statewide Summary of Snow Water Equivalents

<http://cdec.water.ca.gov/cgi-progs/snow/DLYSWEQ>

**Extended Regional Forecasts:**

California Nevada River Forecast Center 6 Day QPF and Snow Level Forecast

<http://www.cnrfc.noaa.gov/awipsProducts/RNOHD6RSA.php>

Climate Prediction Center One-Month Outlook Forecasts

<http://www.cpc.noaa.gov/products/predictions/30day/>

Climate Prediction Center Three-Month Outlook Forecasts

[http://www.cpc.noaa.gov/products/predictions/long\\_range/seasonal.php?lead=1](http://www.cpc.noaa.gov/products/predictions/long_range/seasonal.php?lead=1)

U.S. Seasonal Drought Outlook

[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/sdo\\_summary.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html)

Weather Forecast Office California Service Area-Products

<http://www.cnrfc.noaa.gov/forecasts.php>

El Niño Southern Oscillation (ENSO) Conditions and Weekly Discussion (including La Niña)

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf)

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