

We've finished the February 1, 2013 Water Supply Index (WSI) and Bulletin 120 (B120) forecasts. The forecasts include observed conditions through the end of January.

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 55 percent on the Tule River to 94 percent on the East Carson River. Forecasted median Water Year runoff ranges from 54 percent for the Tule River to 100 percent on the Feather River. After a wet November and December, the extreme dry conditions in January have dropped water year runoff forecasts as would be expected. The WSI forecast can be summarized as follows:

<b>Sacramento River Unimpaired Runoff Water Year Forecast</b> (50 percent exceedance)	<b>17.2 MAF</b> (94 percent of normal)
<b>Sacramento Valley Index (SVI)</b> (50 percent exceedance)	<b>7.5</b> (Below Normal)
<b>San Joaquin Valley Index (SJI)</b> (75 percent exceedance)	<b>2.4</b> (Dry)

The SJI has fallen into the 'Dry' water year classification as it has decreased from 2.6 to 2.4 since the January 1, 2013 WSI. The SVI dropped from "Wet" to "Below Normal".

### **Runoff:**

Variability has characterized the winter flows. During December, 11 major rivers in Northern California and the Sierra flowed at a rate greater than 200 percent of normal. This contributed to the statewide average of about 190 percent of normal. During January, however, no major Sierra rivers flowed at a rate greater than 75 percent of normal and the statewide average was about 40 percent. The January flows in the Sacramento River, San Joaquin River and Tulare Lake regions were either 45 or 46 percent of average.

### **Precipitation:**

After a wet start to Water Year 2012-13, January (and thus far February) have taken a dry turn. For the Northern Sierra 8-Station Precipitation Index, both November (206%) and December (205%) recorded over twice the monthly average precipitation. Unfortunately, January only added 1.4 inches of precipitation to the 8-Station total which amounts to just 16% of the historic monthly average and represents the sixth driest January in the historic record. The 34.3 inches recorded by the end of January in the Northern Sierra represents 128 percent of average to date and 68 percent of the average Water Year total.

The San Joaquin region reported similar results. The 5-Station Index also recorded well-above average precipitation totals for November (134%) and December (185%) but January was equally dry as in the Northern Sierra. The 1.3 inches of precipitation observed in the San Joaquin 5-Stations represents just 17% of the historic monthly average. The 20.4 inches of precipitation recorded by the end of January in the San Joaquin region represents 99 percent of average to date and 50 percent of the average Water Year total.

At the conclusion of the first four months of the water year, precipitation (based on all available reporting gauges per basin) in the Sacramento River Region was 119 percent of average to date, the San Joaquin River Region was 101 percent of average to date, and the Tulare Lake Region was 78 percent of average to date. Statewide, water year cumulative precipitation through January was 100 percent of average to date. The Statewide cumulative precipitation for the month of January was 29 percent of the historic average.

### **Snowpack:**

Snowpack is monitored using two complementary methods: automatic snow sensor (or "pillow") readings and manual snow course measurements. The snow sensors give us a daily snapshot of snow conditions while the manual snow course measurements provide a monthly verification of snow conditions in locations where snow has been measured in the same manner as far back as 100 years.

On February 1, snow sensors recorded a snow pack that was 92 percent of average in the Northern Sierra, 90 percent of average in the Central Sierra, and 85 percent of average in the Southern Sierra. Statewide, snow water equivalent based on snow pillow data was 90 percent of the historical February 1 average and 56 percent of the historical statewide April 1 average.

Results from the 213 snow courses measured this month revealed comparable snow pack conditions. Measurements in the Sacramento River Valley watersheds recorded a snow pack that is 80 percent of the historical February 1 average. Measurements in the San Joaquin Valley watersheds indicated a snow pack that is 93 percent of the February 1 average while the snow pack for the Tulare Lake region was 90 percent of the February 1 average. Statewide the snow pack was measured at 88 percent of the February 1 average and 55 percent of the historical April 1 average.

The difference between the Northern Sierra snow sensor reading of 92 percent to date and the Sacramento River Valley snow course tally of 80 percent to date has much to do with which watersheds are included in each regional value. For example, the Northern Sierra snow sensor region includes the Trinity Watershed which is currently reporting a higher percent of average snow pack than the Sacramento River region. Conversely, the Sacramento River Valley snow course region does not include the wetter Trinity snow survey results.

**Weather and Climate Outlook:**

After an extremely wet November and December, dry conditions dominated California for the entire month of January. So far in February, the unseasonably dry conditions continue. For the next six days, the weather outlook is predominantly dry with light scattered showers ending Friday and a dry outlook beyond that. Freezing elevations will be slightly below average ranging mostly between 4500 to 6000 feet before a warming trend sets in Monday. For the next six to fourteen days, the weather outlook is predominantly cool and dry with below normal temperatures and below normal precipitation expected across all of California. It appears that the predominantly dry conditions will persist into mid-February.

The NWS Climate Prediction Center's (CPC) 30-day outlook for February, last updated on January 31, 2013, suggests increased chances of below normal temperatures for Northern California with equal chances of above or below normal temperatures elsewhere. The same outlook calls for increased chances of below normal precipitation for most of Northern California, increased chances of above normal precipitation for portions of the Colorado River region, and equal chances of above or below normal precipitation elsewhere.

The CPC's three month outlook (February thru April) was last updated on January 17, 2013. This outlook suggests increased chances of above normal temperatures for portions of the Southern Sierra Nevada, the Owens River basin, and the Mojave Desert. For all other areas, this outlook calls for equal chances of above or below normal temperatures. For precipitation, this same outlook calls for increased chances of below normal precipitation for all of California except along the Oregon border.

**Next Update:**

A Bulletin 120 Update for conditions on February 12 will be available Thursday, February 14. The March 1, 2013 Bulletin 120 and Water Supply Index forecasts will be available on March 8, 2013.

If you have any questions regarding this forecast, please contact a member of the Snow Surveys staff. We are happy to help.