

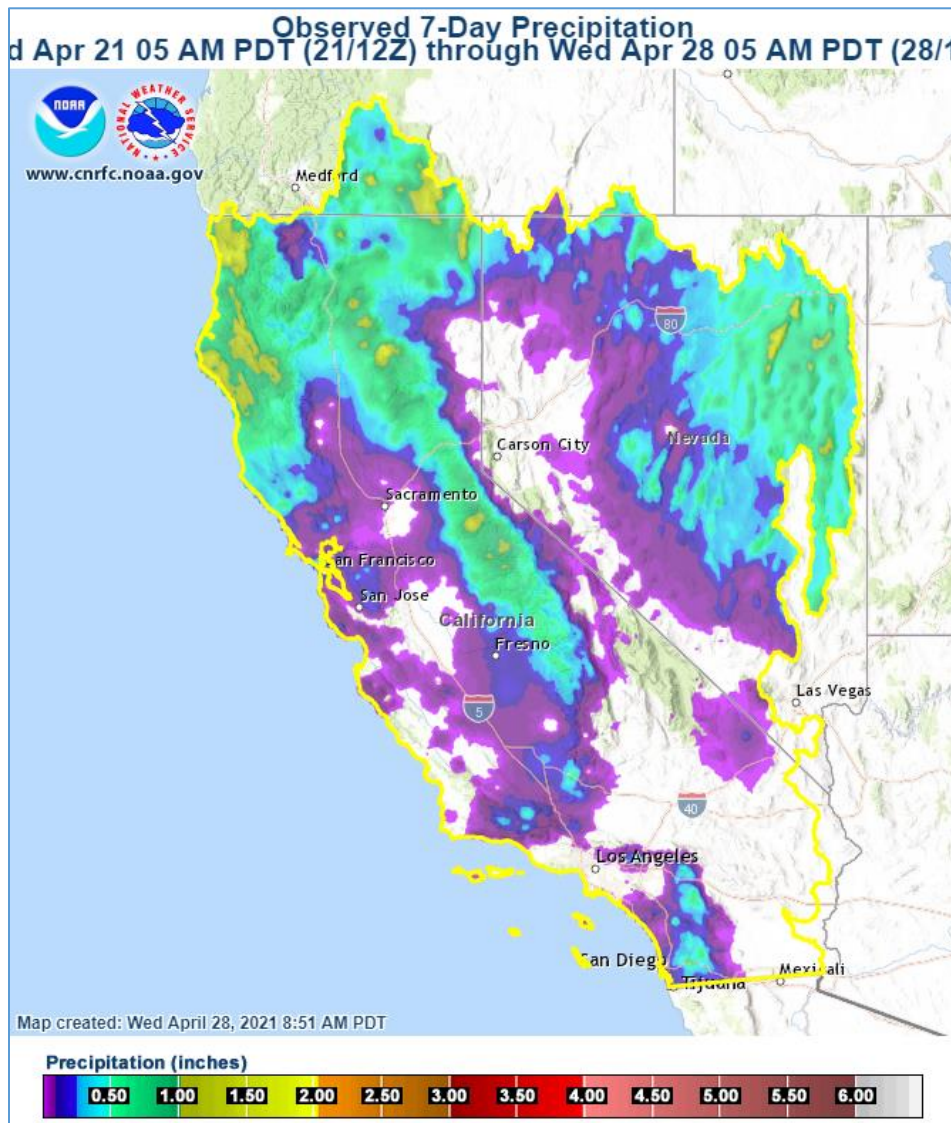
WY2021 Water Resources Update – April 28, 2021

Summary:

- 8 Station Index (8SI) 19 month accumulation is at its 2nd driest on record.
- Remaining snowpack has dropped to 2013 and 2014 levels.
- Forecasted flow on the Sacramento River is expected to be the driest since 1976-1977.

Details:

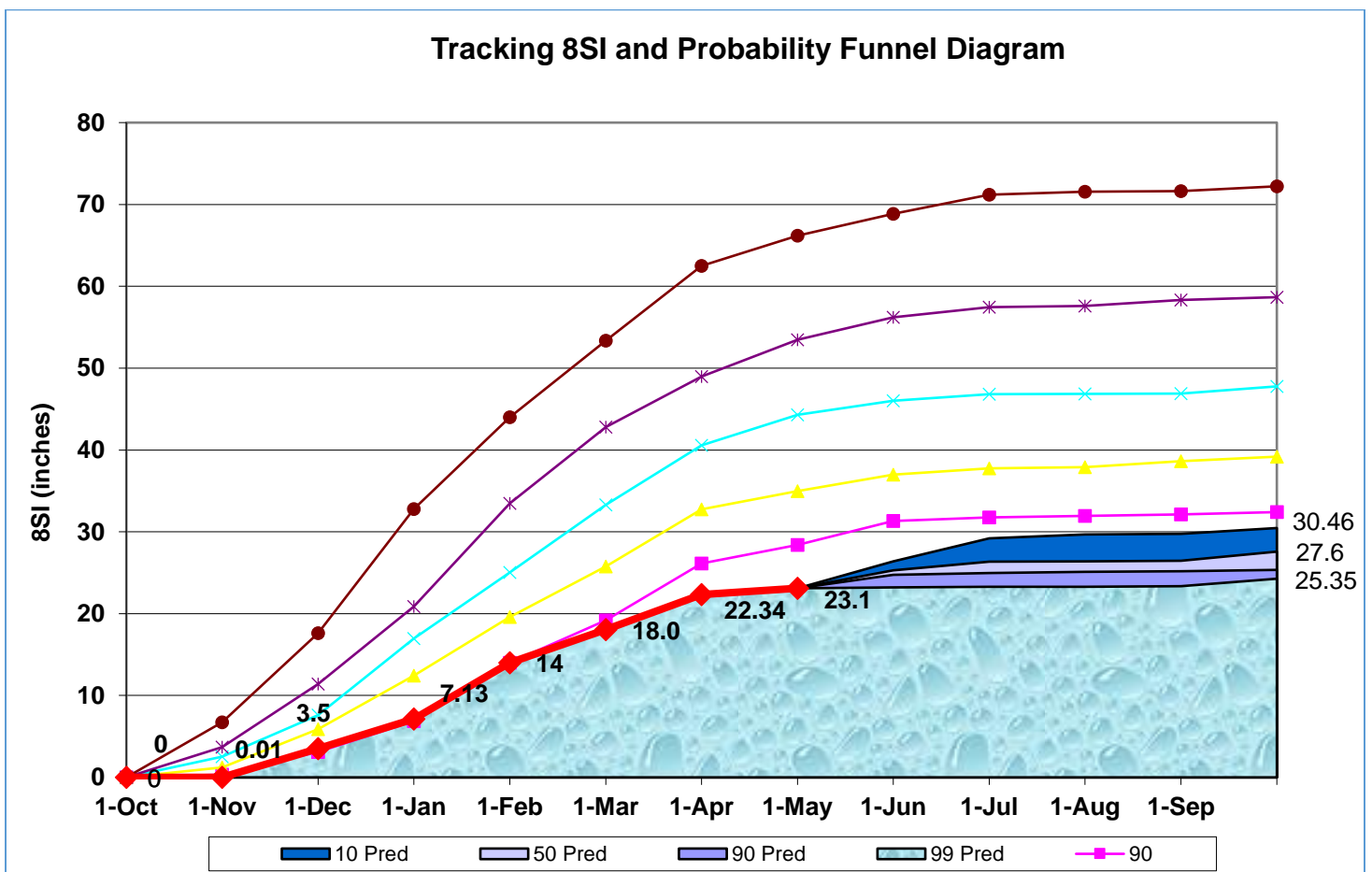
Rainfall over the past 7 days was disappointing. After numerical models were advertising decent rainfall for the end of April (sometimes as much as 2-5 inches), the reality was the 8 Station Index only managed 0.67 inch of precipitation.



Very dry in the Eight Station Index (8SI)

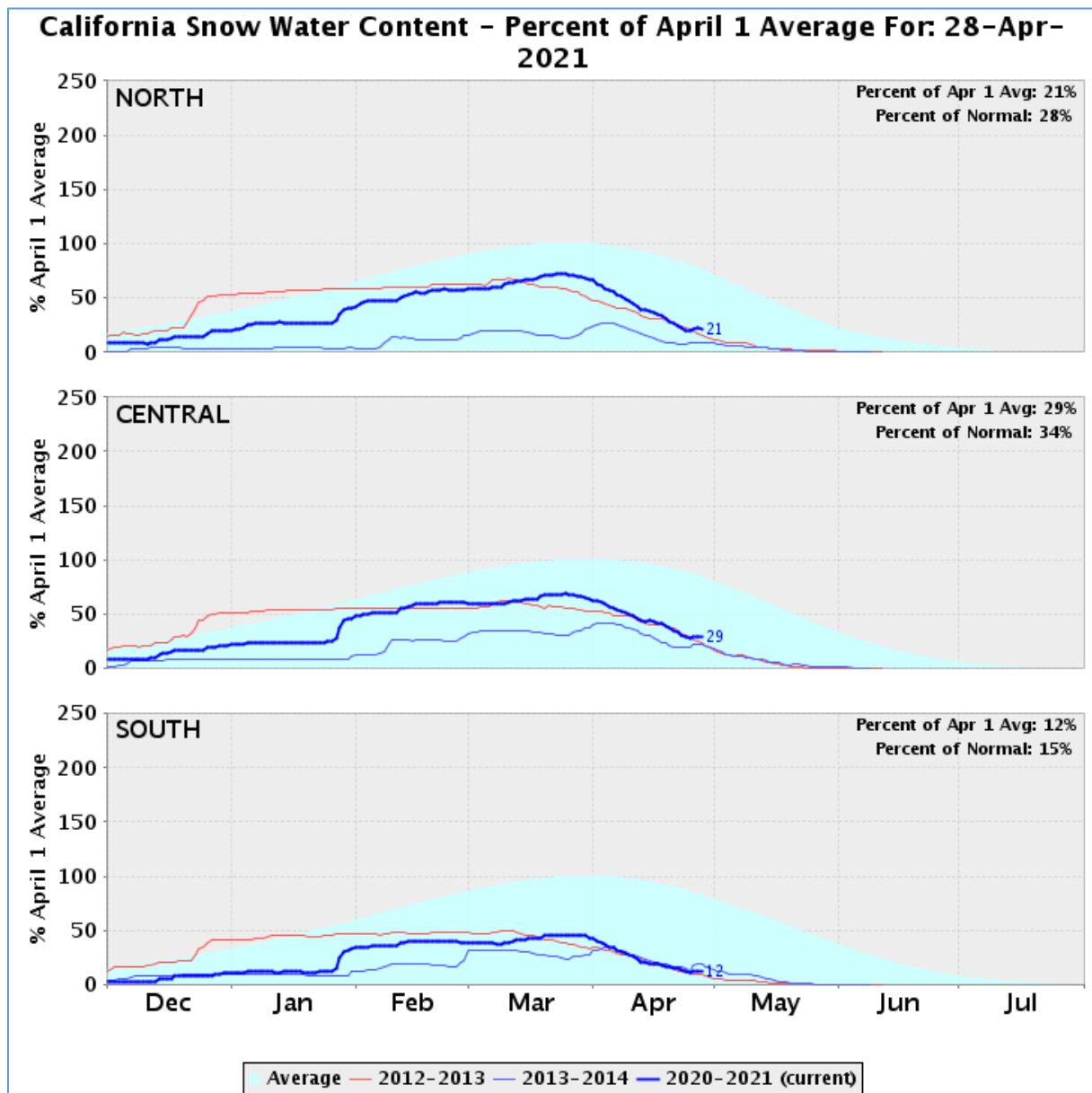
We are now over 90% of the way through the water year in terms of average accumulation of rainfall to this date. That means there's very little expectation of major changes over the next 5 months. With the 8 Station Index at 23.1 inches, there is now an 80% chance that the 8SI will remain below 30 inches, the first time since 1987. The median projection is 27.6 inches.

For the past 19 months (Oct. 1, 2019 – present) the 8SI has accumulated 54.8 inches, the second driest 19-month accumulation, second only to 1977 (which was a dismal 40.3 inches).



Snowpack will soon to be gone.

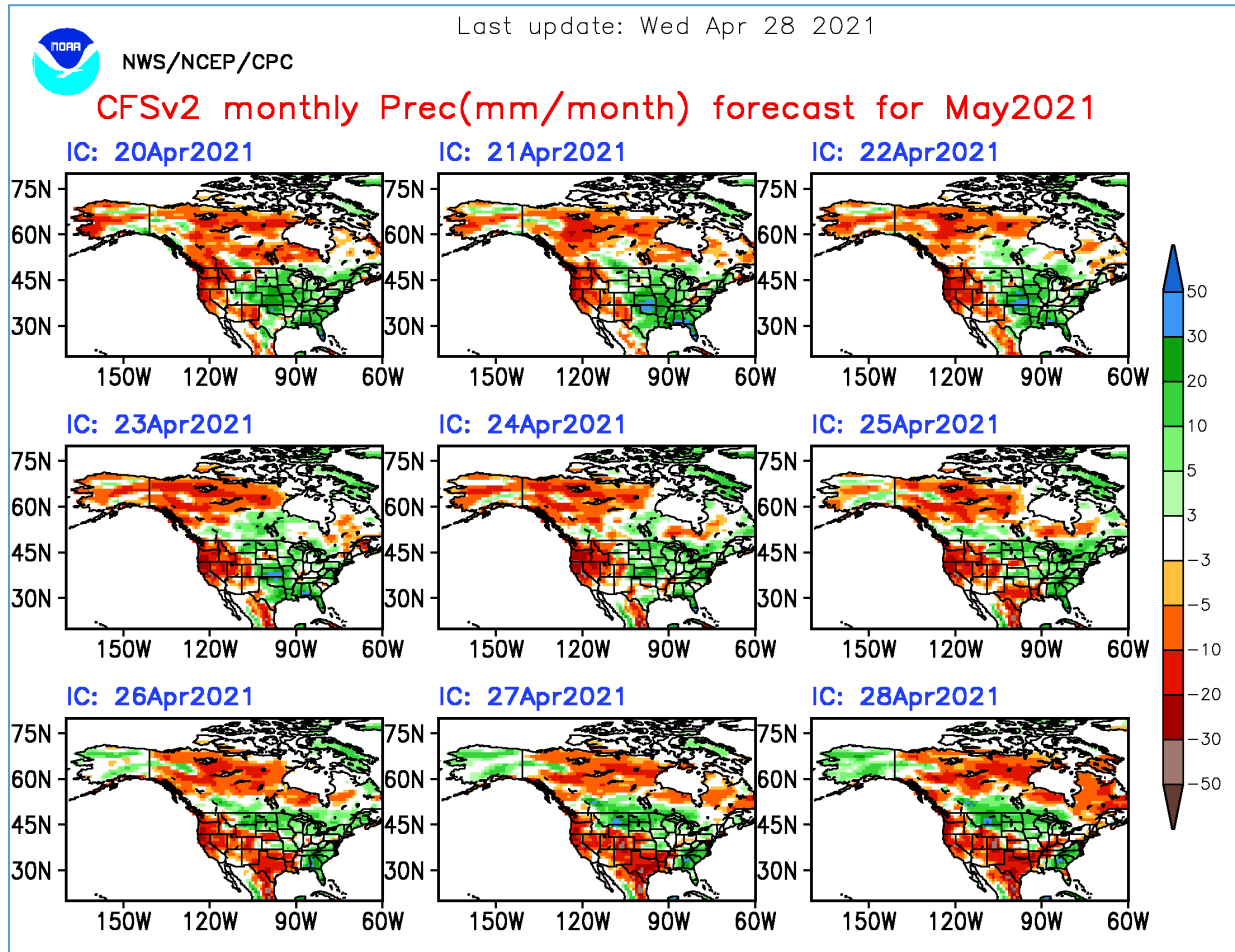
With a dry forecast and warm temperatures, much of the remaining snowpack is expected to melt over the next few weeks. Current snowpack is similar to 2013 and 2014 levels, at 27% of average overall.



Source: <https://cdec.water.ca.gov/snowapp/swcchart.action>

May Precipitation Outlook

ECMWF and CFSV2 (see below) are both looking dry for the month of May:



Source :

<https://www.cpc.ncep.noaa.gov/products/people/mchen/CFSv2FCST/monthly/images/summaryCFSv2.NaPrec.202105.gif>

Near Record low runoff on the Sacramento River

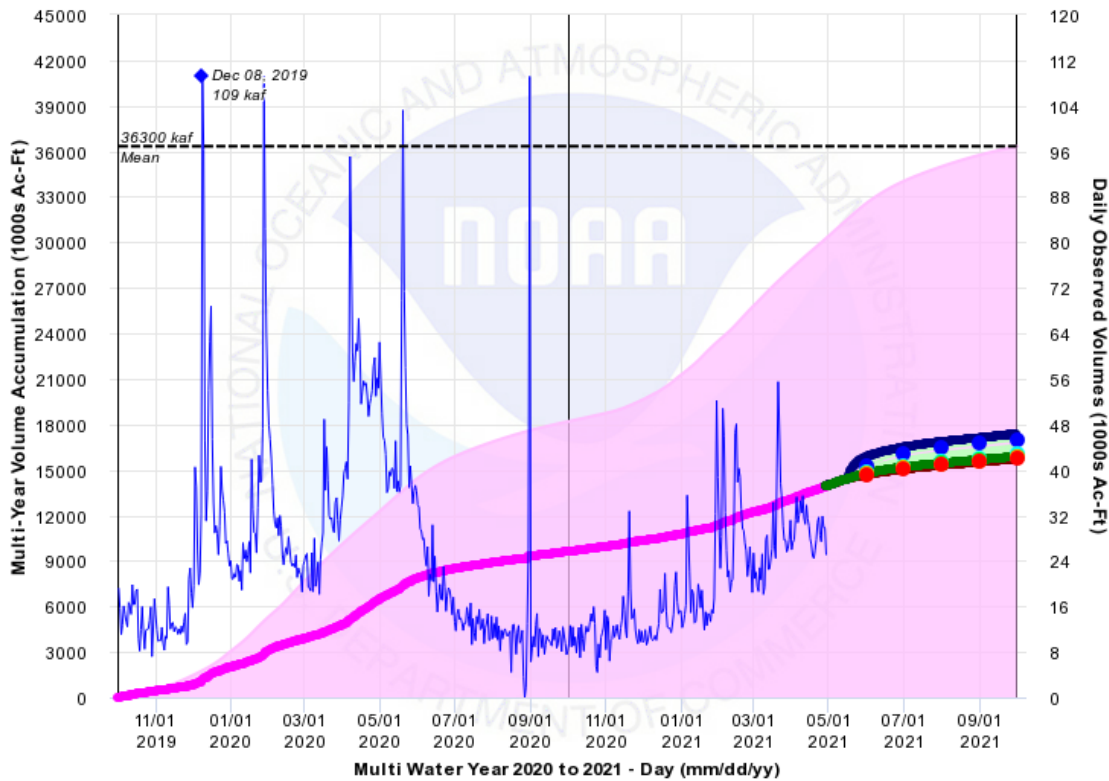
The four rivers that comprise the Sacramento River Index (Sacramento, Feather, Yuba and American Rivers) are also nearing record low levels for a two-year drought, again second only to 1976-1977.

By the end of the 2021 Water Year, the two-year projected flow accumulation is forecast to be around 15.9-17.0 MAF, ranking WY2020-2021 drier than the WY2014-2015 accumulated flow. The average annual volume of water is 18.2 MAF; so essentially, we've lost over an entire year of runoff.

SACRAMENTO VALLEY WSI (SACC0) 04/28/2021

Median Forecast: **15900 kaf** | **44% of Mean**

Created: 04/28/2021 at 09:50 AM PDT



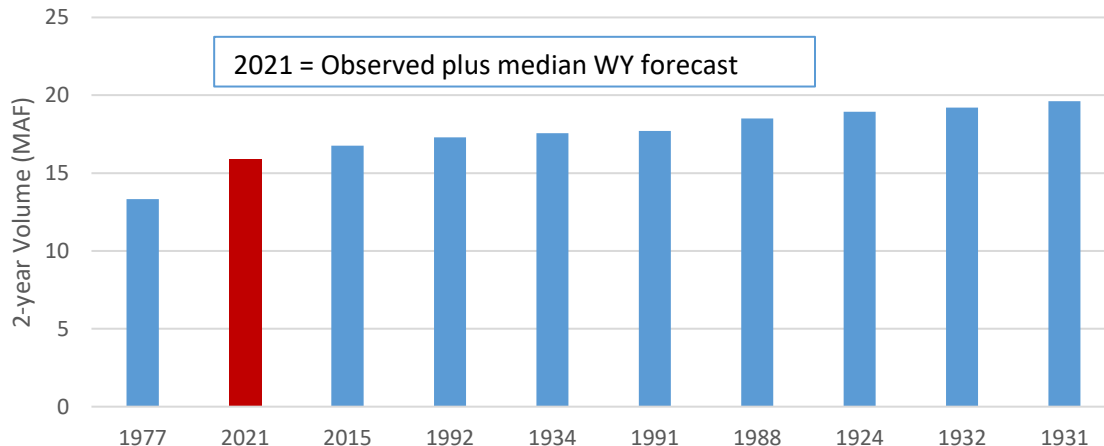
Observed to Date Percent of Mean: 46% (13900 kaf) Water Year to Date Mean: 30300 kaf

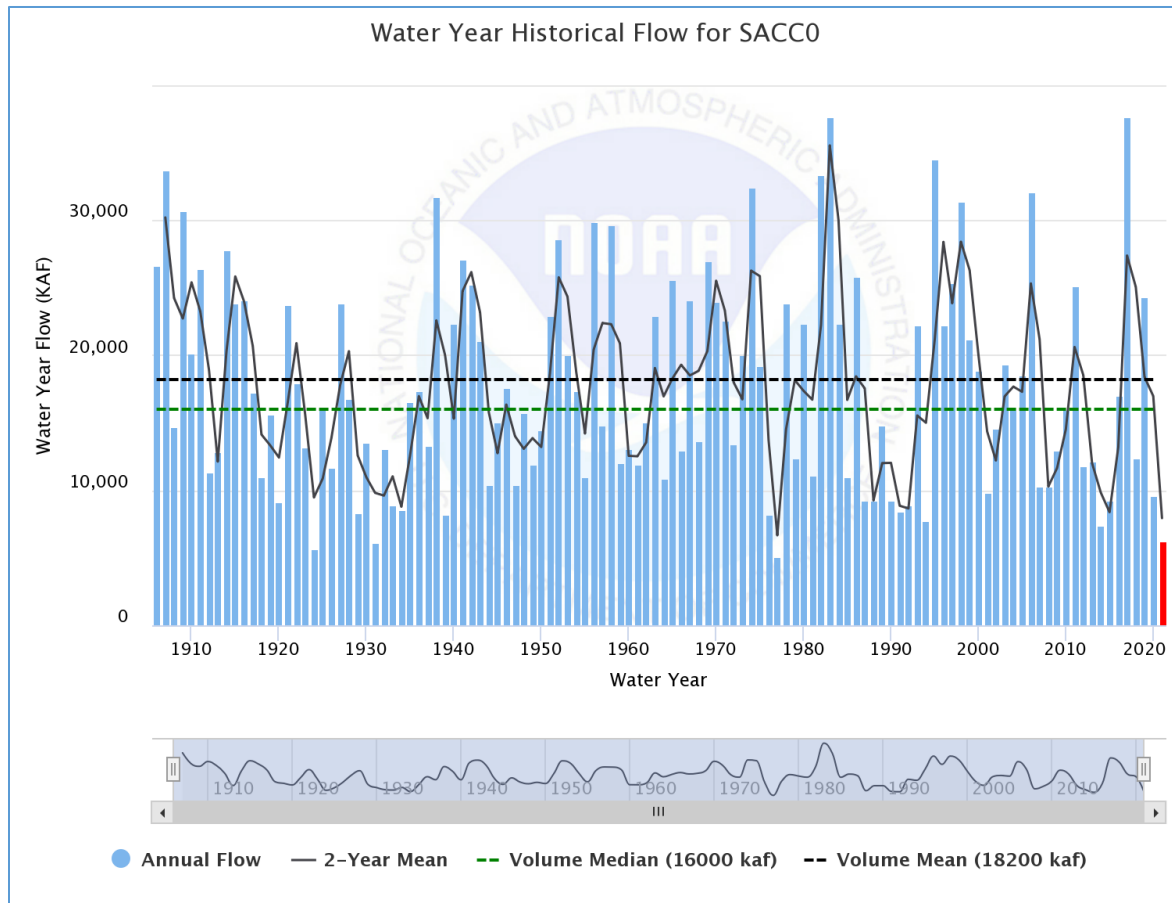
This product only considers meteorological uncertainty and does not account for hydrologic uncertainty.

Legend entries below can be toggled on/off.

- 90%: 15800 kaf
- 75%: 15800 kaf
- 50%: 15900 kaf
- 25%: 16000 kaf
- 10%: 17000 kaf
- Min Trace (2007: 15700 kaf)
- Volume Med
- Record High
- Median Trace (2018: 15900 kaf)
- Max Trace (1996: 17400 kaf)
- Accum to Date Mean
- Accum to Date Obs
- - Record Low
- Traces (1980-2018)
- Daily Obs
- ◆ Obs Peak

Driest 2-year flows on Sacramento River





Source: <https://cnrfc.noaa.gov/ensembleProduct.php?id=SACCO&prodID=12>

Conclusion:

When you have two dry years in a row like this in Northern California, you can expect that drought impacts will get progressively worse in a much broader region. Any additional rainfall in May and June would have to overcome large soil deficits to produce any runoff in most regions. It looks like we're in for our worst Northern California drought since 1976-77.

Pete Fickenscher / CNRFC