National Weather Service
National Oceanic and Atmospheric Administration

CA NV River Forecast Center
CNRFC - Sacramento, CA

Water Resources Update - May 13, 2022

Final Update for 2022

Summary:

- Month-to-date precipitation for May has been below normal for most areas except the north coast and parts of the Klamath and Humboldt basins.
- Overall SWE values have remained fairly consistent so far in May in the northern Sierra and Trinity basin, while continuing to decline further south.
- Little change in April-July runoff forecast compared to the end-of April forecast.

Details:

Precipitation

The first couple weeks of May have seen a variety of temperature fluctuations, and have included some rounds of cooler conditions with light snow in the higher elevations for mainly the northern half of CA and NV. Despite getting some precipitation this month and the fairly low average precipitation in the month of May, month-to-date precipitation for May has still been well below normal for most areas of CA/NV except the north coast and parts of the Klamath (far northern CA and southern OR) and Humboldt (NE NV) basins. Water Year-to-Date precipitation remains below average across almost all of CA/NV. See Figure 1 below.

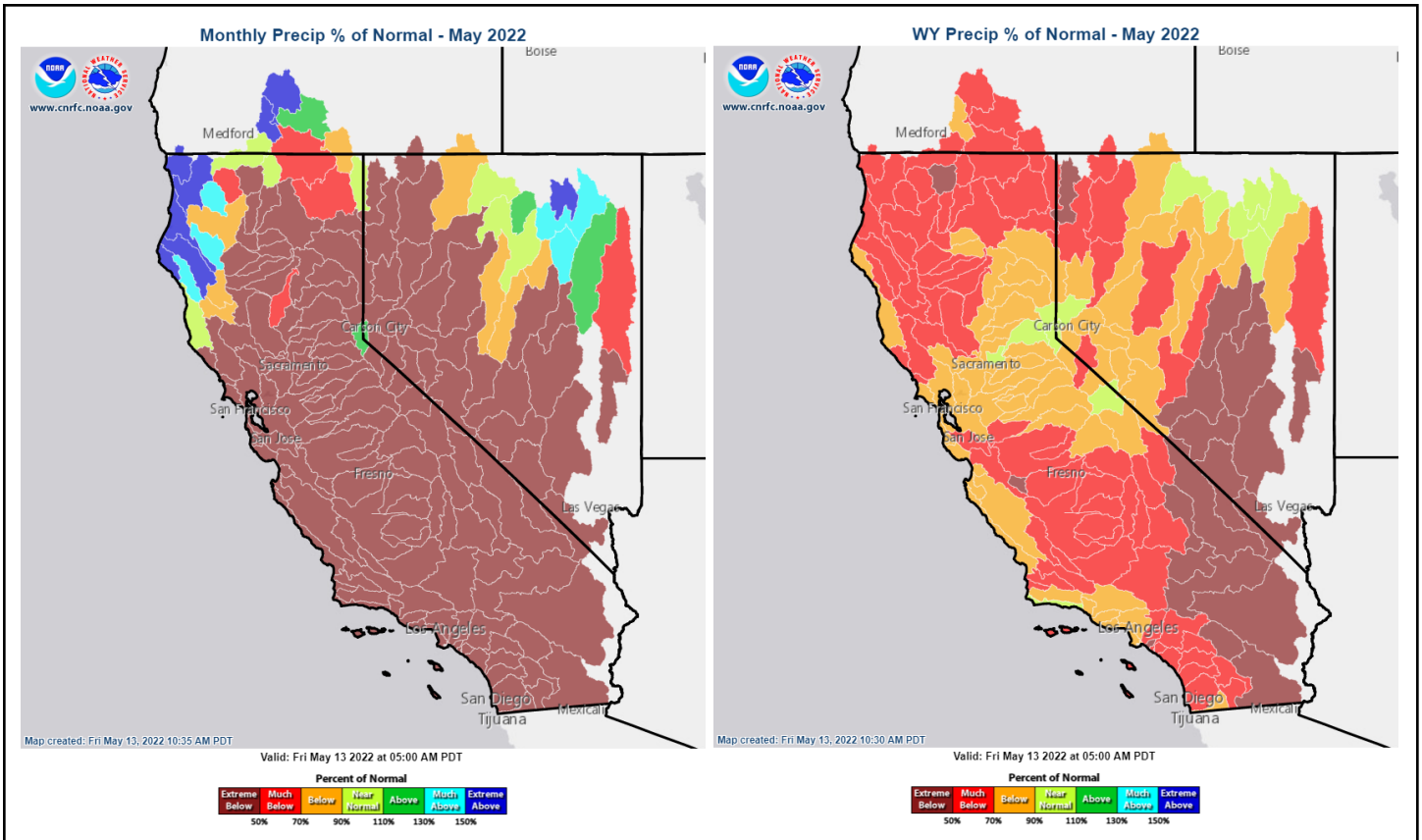


Figure 1 - Left: Month-to-Date % of Avg Precipitation for May 1-13, 2022
Right: Water Year-to-Date % of Avg Precipitation for Oct 1, 2021 through May 13, 2022

SWE Trends and Seasonal Snowmelt Peaks

With minor precipitation and cooler temperatures in portions of May, SWE stayed fairly consistent over portions of northern CA higher elevations, while snowmelt and declining SWE continued further south (Figure 2 below).

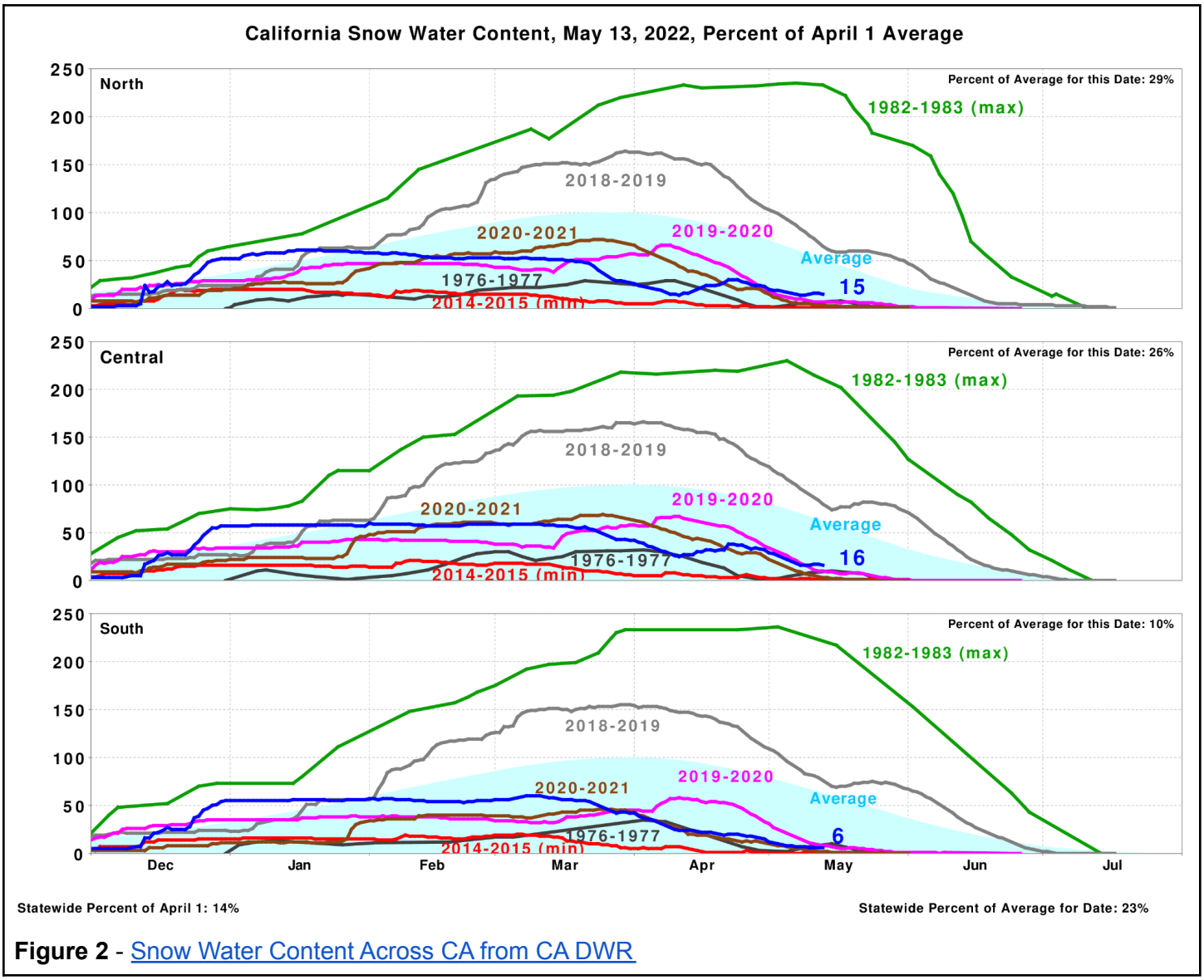


Figure 2 - [Snow Water Content Across CA from CA DWR]

With warming temperatures and dry conditions forecast into next week, expect an increase in snowmelt for Sierra basins. Sierra locations are expected to see peaks next week that are near the same magnitude as peaks earlier in May, although still below April precipitation-related peaks. In Figure 3 below, the left graphic shows an increase in flow due to snowmelt on the American River at Folsom Lake over the next few days, while the right graphic shows a bit more pronounced rise further south on the Merced River at Exchequer Reservoir.

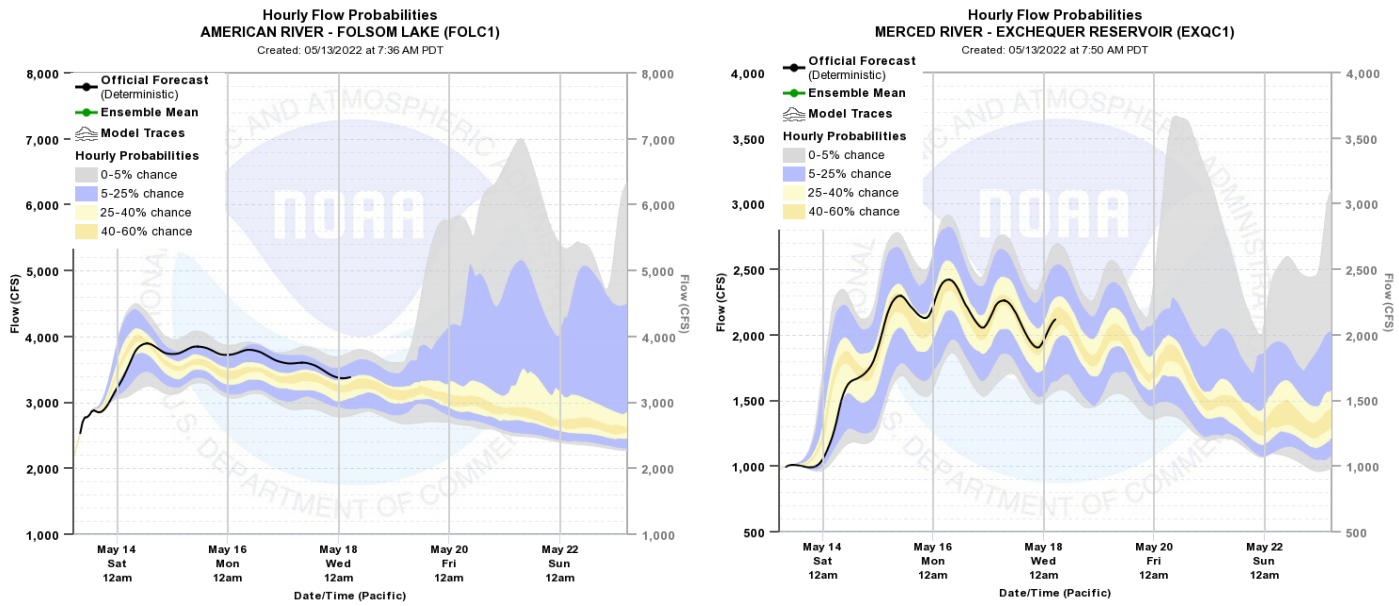


Figure 3 - Left: [American River at Folsom Lake 10-Day Hourly Flow Probabilities]
Right: [Merced River at Exchequer Reservoir 10-Day Hourly Flow Probabilities]

Flows should decrease by later next week as temperatures begin to cool. 8- to 14-day outlooks from NOAA's Climate Prediction Center lean slightly toward below-average temperatures for NV and northern CA and near-average temperatures elsewhere for June 20-26. The precipitation forecast for the same period leans slightly above average for northern NV and near average for much of the remainder of the area, except slightly favoring below-average precipitation in the southern Sierra. See Figure 4 below.

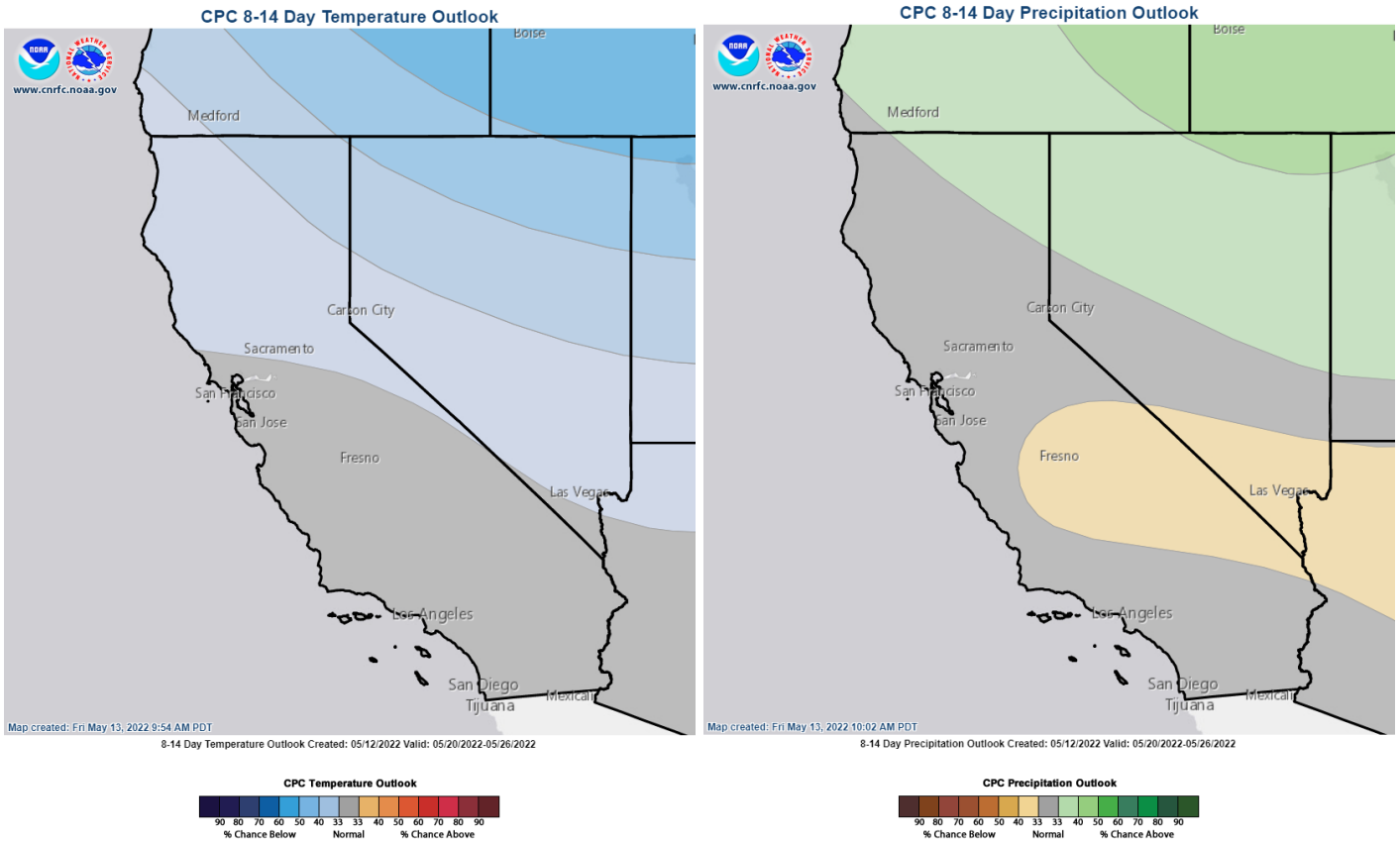
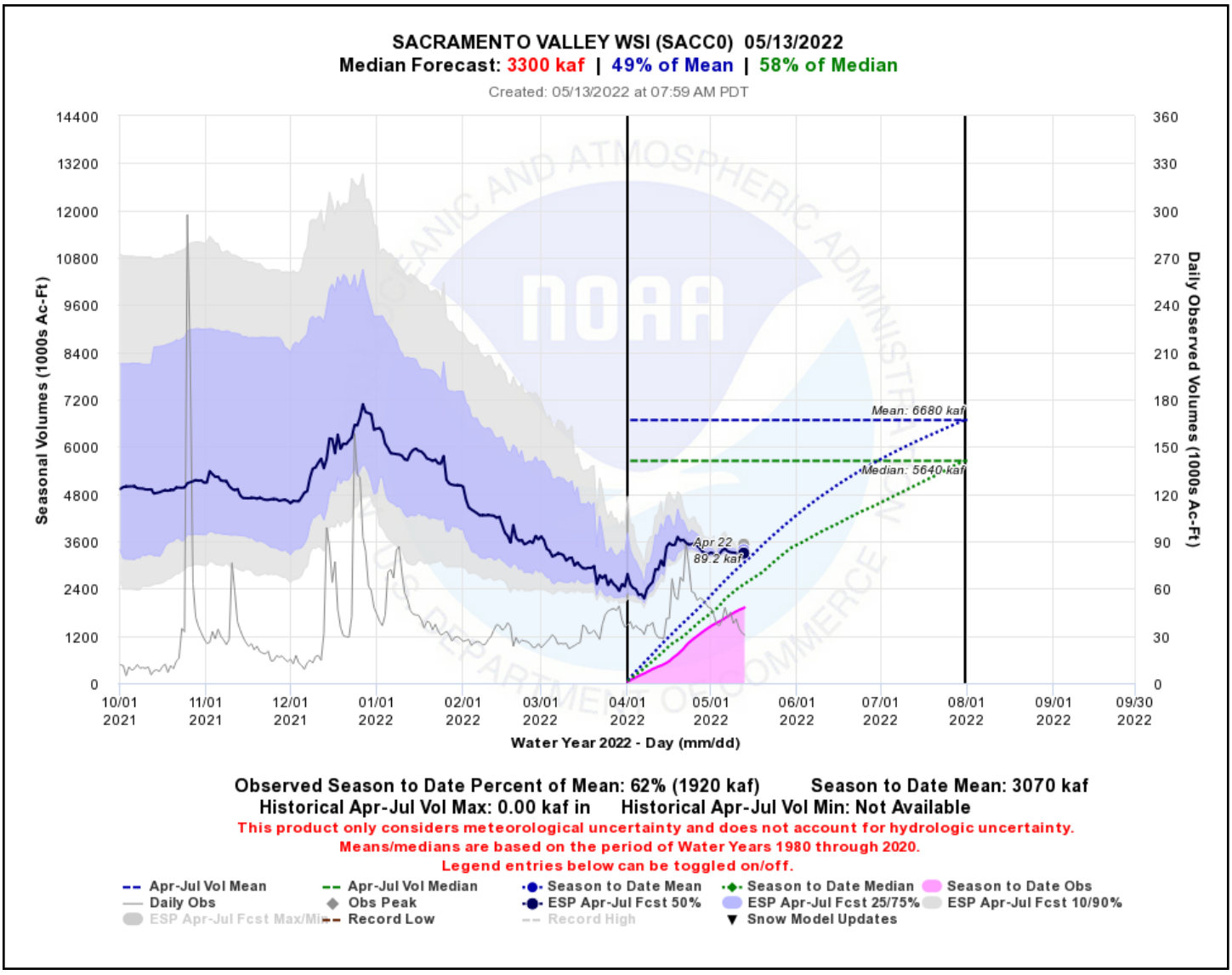


Figure 4 - [Climate Prediction Center - 8 to 14 Day Outlooks]

April-July Runoff Forecast Trends

Looking at the April-July runoff forecasts for the Sacramento Valley Water Supply Index, forecast values are nearly the same as at the end of April. Further south, the San Joaquin Valley Water Supply Index showed a slight decrease in April-July total runoff. One contributing factor is a manual snow update by CNRFC that reduced snow in this basin slightly. See Figure 5 below for the April-July trend plots for these basins. As was mentioned in our previous update, please keep in mind that as the future weather becomes less of a factor, the HEFS output has too narrow a spread between the 10- and 90-percent exceedances due to the fact that HEFS is not currently able to incorporate uncertainty in snowpack and soil conditions. Across the northern and central Sierra, overall April-July forecasts are around 45-65% of a typical season, while in the southern end of the Sierra, that figure drops to around 15-45% of normal (see Figure 6 below).



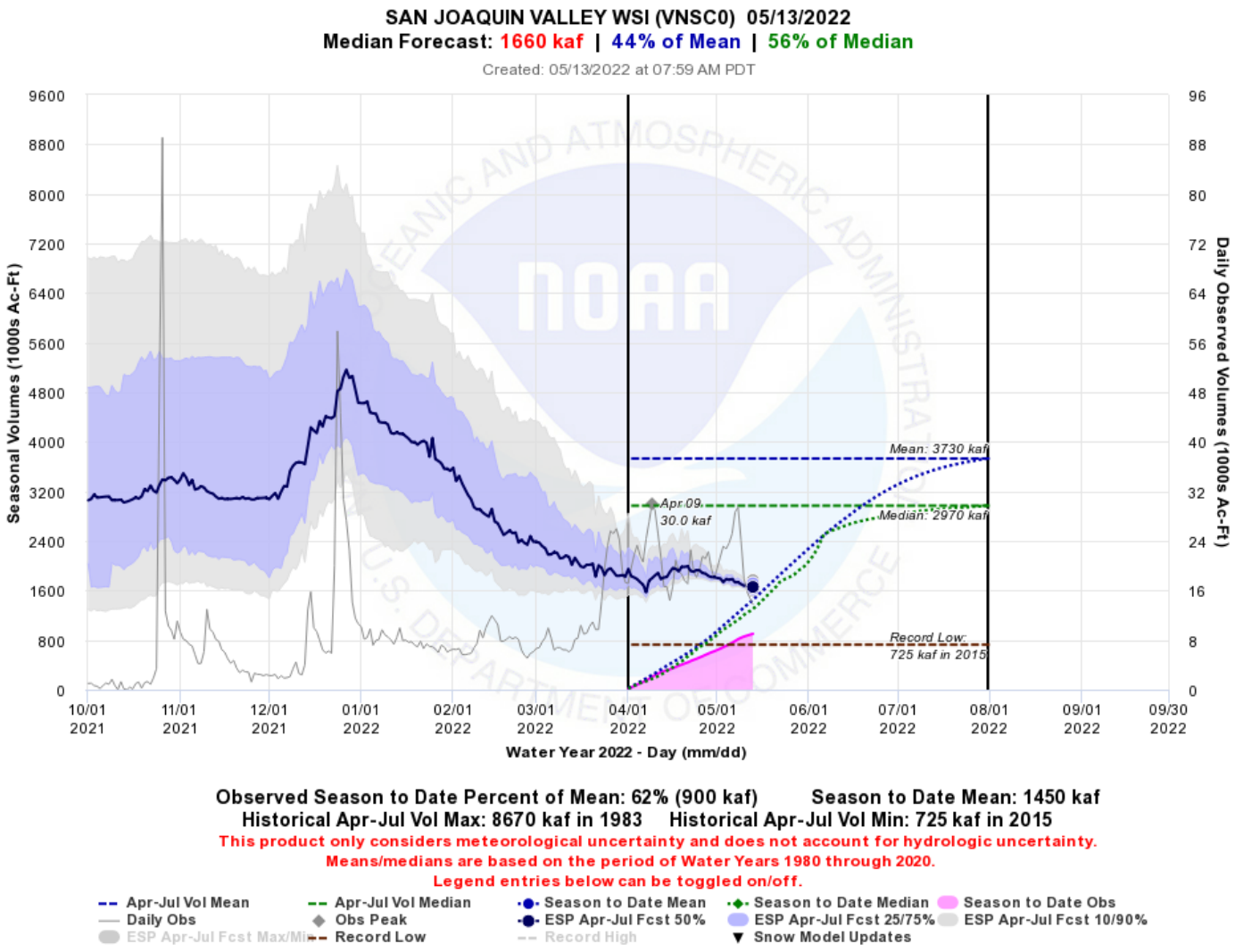


Figure 5 - Top: [April-July Trend Plot for Sacramento Valley Water Supply Index](#) (previous page)
Bottom: [April-July Trend Plot for San Joaquin Valley Water Supply Index](#)

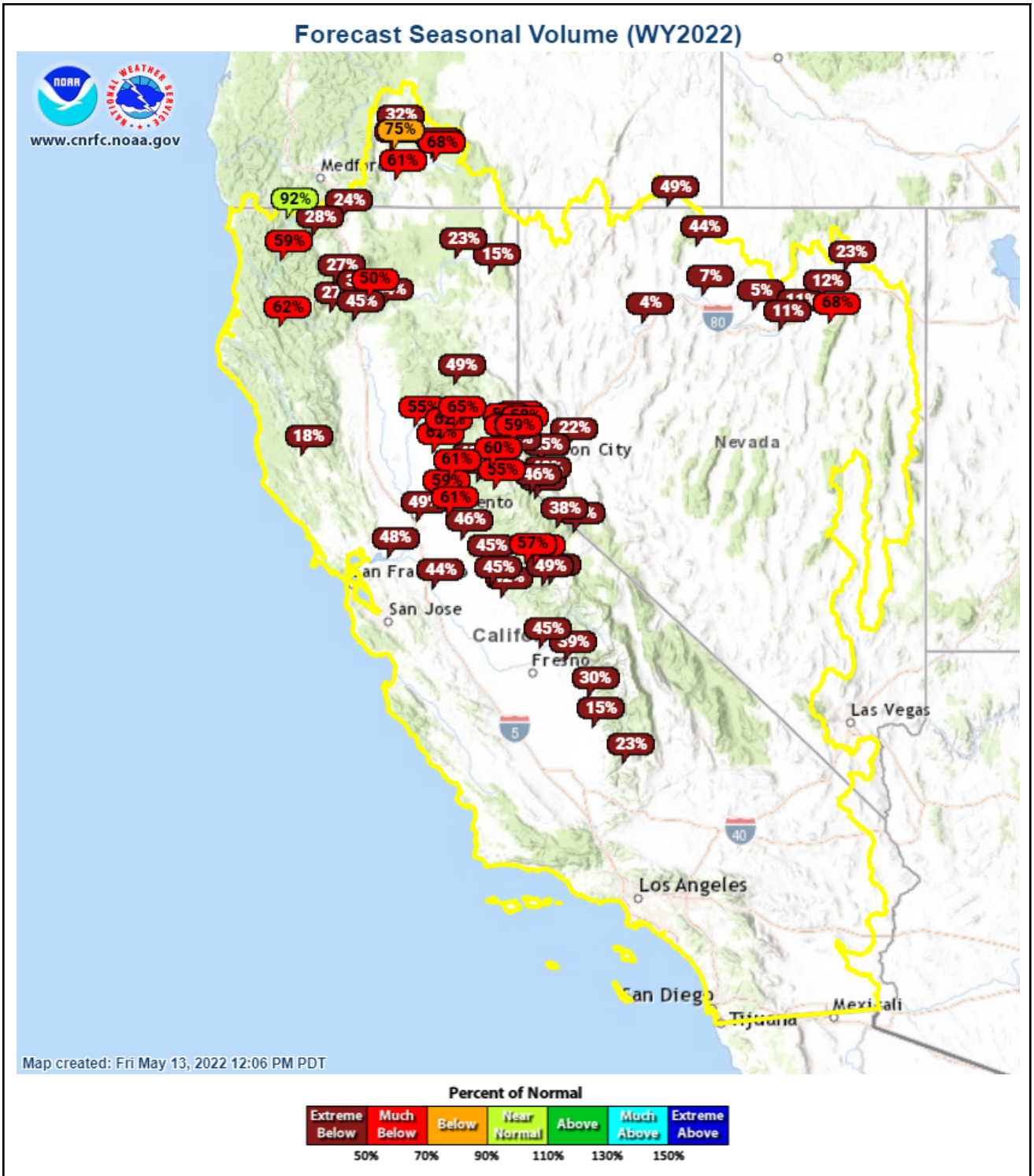


Figure 6 - [April-July forecast flow percent of mean]