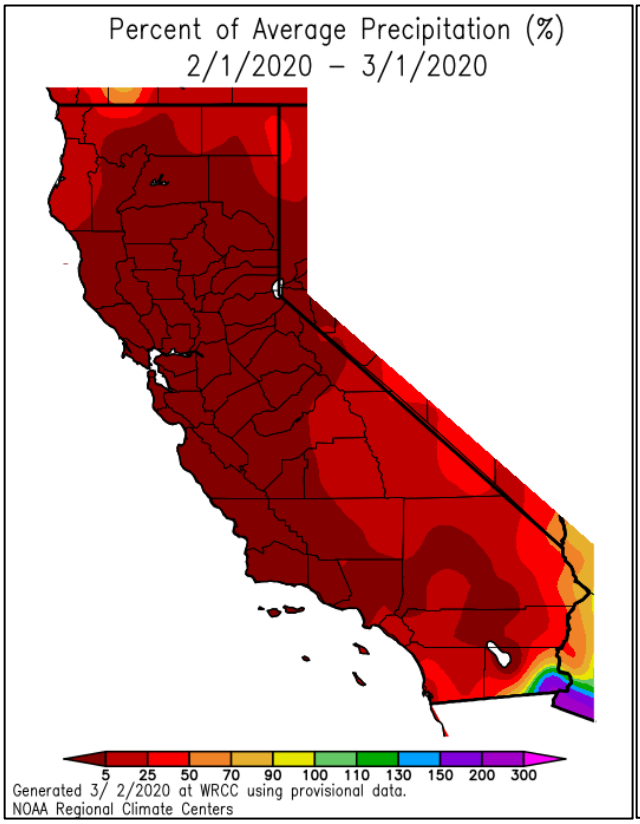
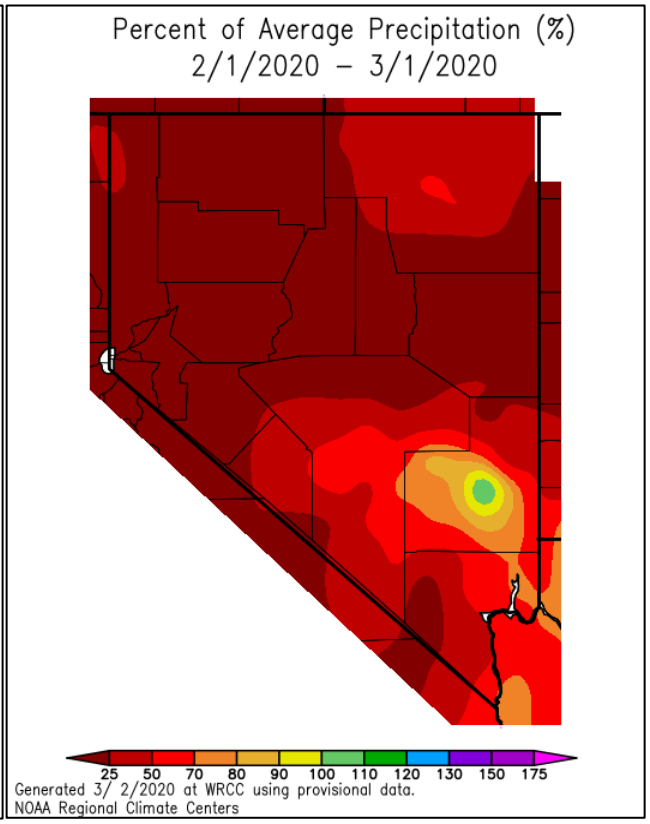
# WY2020 Water Resources Update – March 2, 2020

**Summary:**

- Record dry month of February for 8 Station Index; Snow is at 42% of average for March 1.
- Pattern **shift** likely for next week (not a pattern change) – some precipitation opportunities;
- Water Year runoff projections have leveled off.

**Details:**



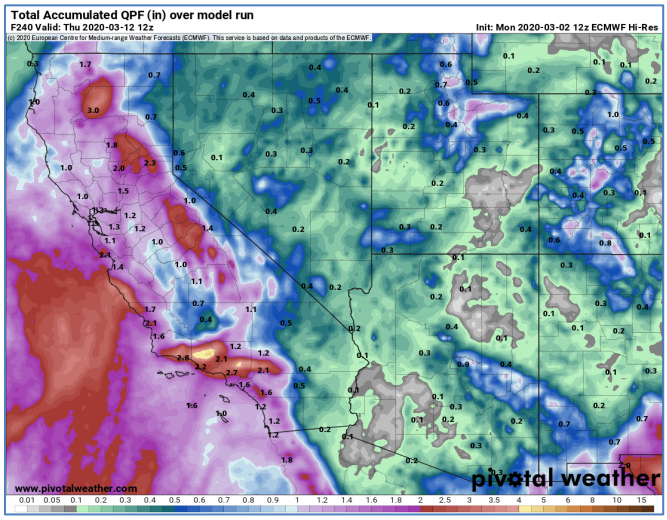




Source of graphics:
https://wrcc.dri.edu/anom/cal_anom.html
https://wrcc.dri.edu/anom/nev_anom.html

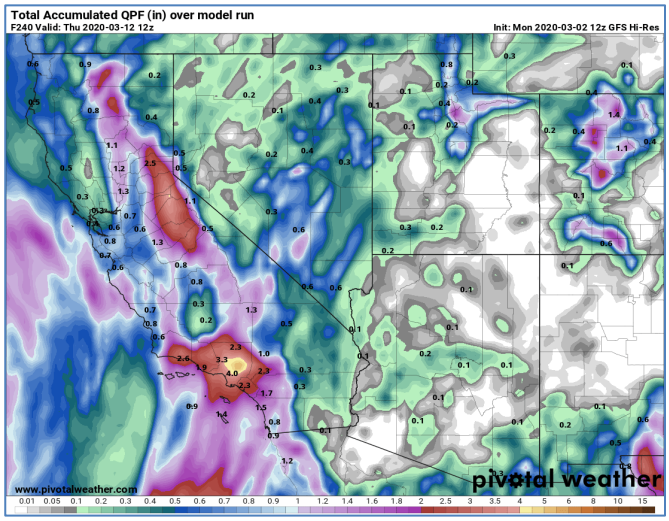
For the entire month of February, the West Coast has been under the influence of a high pressure ridge, centered around 140 West. While the storm over the Feb 22-23 weekend brought some precipitation to the southern Sierra Nevada and southern NV, most water supply basins received very little benefit. In terms of the observations for major precipitation indices, the Eight Station Index (8SI) for the northern Sierra did indeed set a record for the driest month of February.

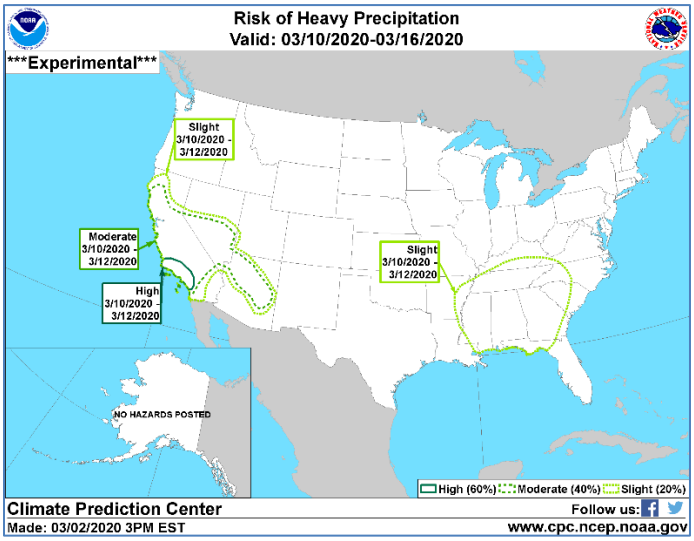
Nearly 200 snow course measurements are in, and the results are not good. Due to lower elevation snowmelt and sublimation from the dry air, the Sacramento River watershed **lost** 2.0 inches of water equivalent, and the San Joaquin River watershed lost 2.6 inches of water. Statewide in CA, the snow % of average dropped from 74% to 42% over the month of February.

**ECMWF 12Z 0302 (10-day QPF)**




**GFS 12Z 0302 (10-day QPF)**




While we finally have some much welcomed precipitation in sight, the overall weather pattern is still very similar – ridge off the coast with storms sliding from north to south. The potential difference next week is that the ridge is expected to shift westward about 20 degrees in longitude, allowing a system to drop south off the coast and pump some moisture towards CA and NV. So while we have precipitation in the forecast, the pattern is highly variable and currently favors central and southern California. The graphic on the left is the CPC Week-2 hazards forecast highlighting the agreement of both European and GFS ensembles.

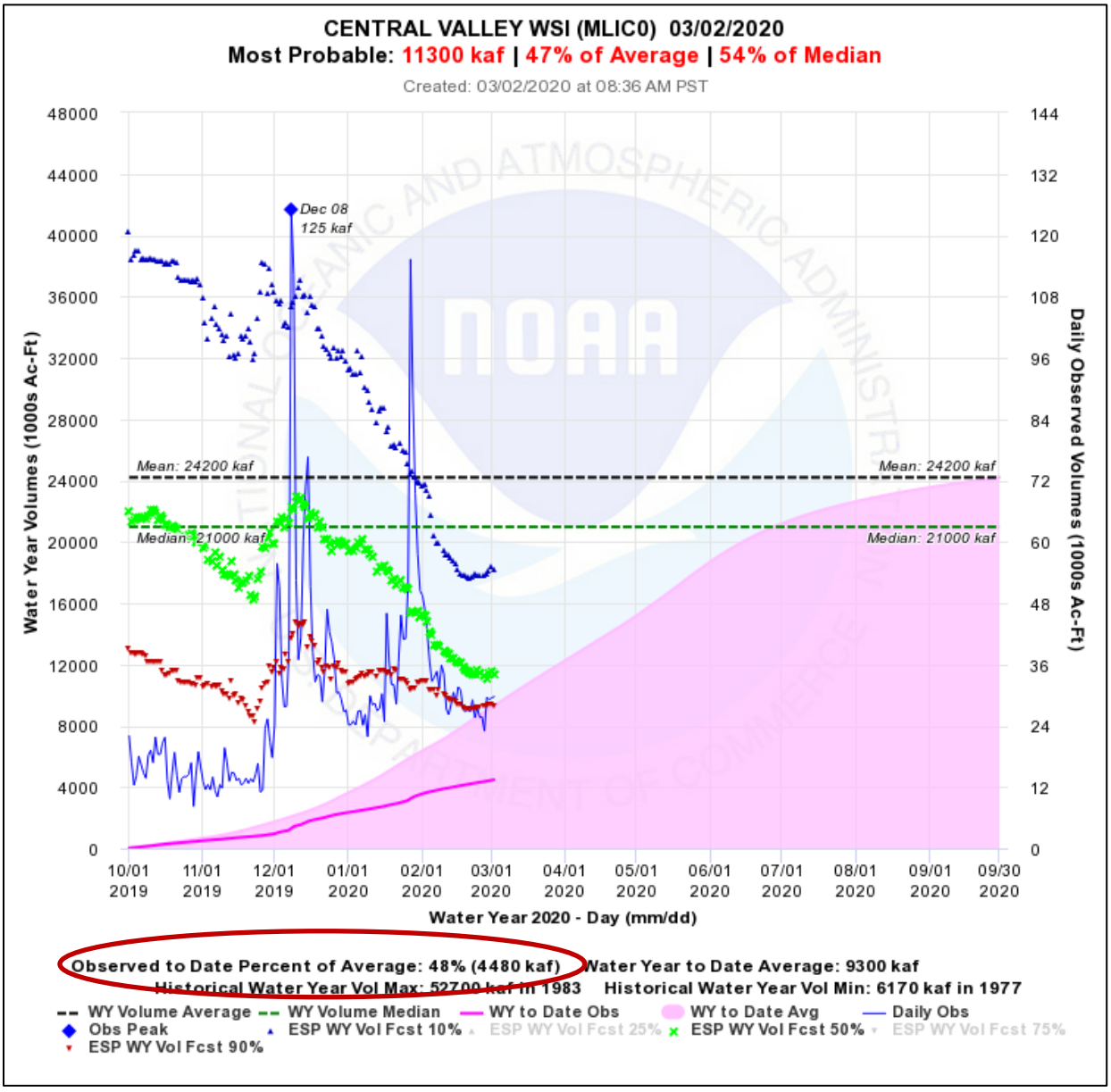
**CPC Discussion :**

"Amplified mid-level troughing is forecast to form over the Eastern Pacific off the coast of California at the beginning of the period, supporting enhanced moisture flow to parts of California and further inland. Localized higher elevation areas may receive heavy precipitation in the form of snow, while rainfall is anticipated for the majority of the highlighted area. A high risk (>60%) of heavy precipitation is posted for parts of southwestern California, towards the coast for Mar 10 to 12. A slight (>20%) to moderate (>40%) risk is identified for parts of the Central Great Basin, California, and the Southwest during the same period. There is relatively good agreement amongst the GEFS and ECMWF reforecast tools indicating this feature, with the ECMWF reforecast tool showing a broader area of higher forecast probabilities of exceeding the upper 85th percentile, compared to normal."

Source:

https://www.cpc.ncep.noaa.gov/products/predictions/threats/threats.php#haz_discussion

## Water Year Runoff Projection




Source: https://www.cnrfc.noaa.gov/ensembleProduct.php?id=MLIC0&prodID=9

CNRFC water supply forecasts have leveled off over the past 10 days and are very similar to Feb. 22 forecasts. While very little precipitation has fallen in the past week, the HEFS ensembles have been picking up on the potential for a return to more normal levels of precipitation, and are thus anticipating the forecast precipitation. The forecasts aren't going up, but at least they aren't dropping.

This week also provides us with the chance of analyzing the latest snow course measurements in comparison to our hydrology models. There may be some basin to basin shifts in AJ volume forecasts, but I don't anticipate many overall adjustments given the lack of precipitation during the month.

**Conclusion:**

Looks like our long dry stretch is coming to an end. Ideally we'd like to see a pattern change with stronger storms lined up moving east across the Pacific. But the forecasted weather pattern continues to be more disconnected from the jet stream – a pattern shift not a pattern change.

As they say, 'beggars can't be choosers.' So we'll just have to be content with what we get. At this point, though, the next couple weeks certainly do not look like a "miracle March" in terms of water supply.