

Hi Folks,

Over the past week, scattered showers were observed in different parts of the State as a storm system dropped down the eastern side of the Sierra Nevada Mountains. The National Weather Service California Nevada River Forecast Center (CNRFC) map of observed precipitation is shown in Figure 1. While not as extensive as forecast last week, the magnitude of the showers was forecast correctly.

CNRFC Area Observed Precipitation

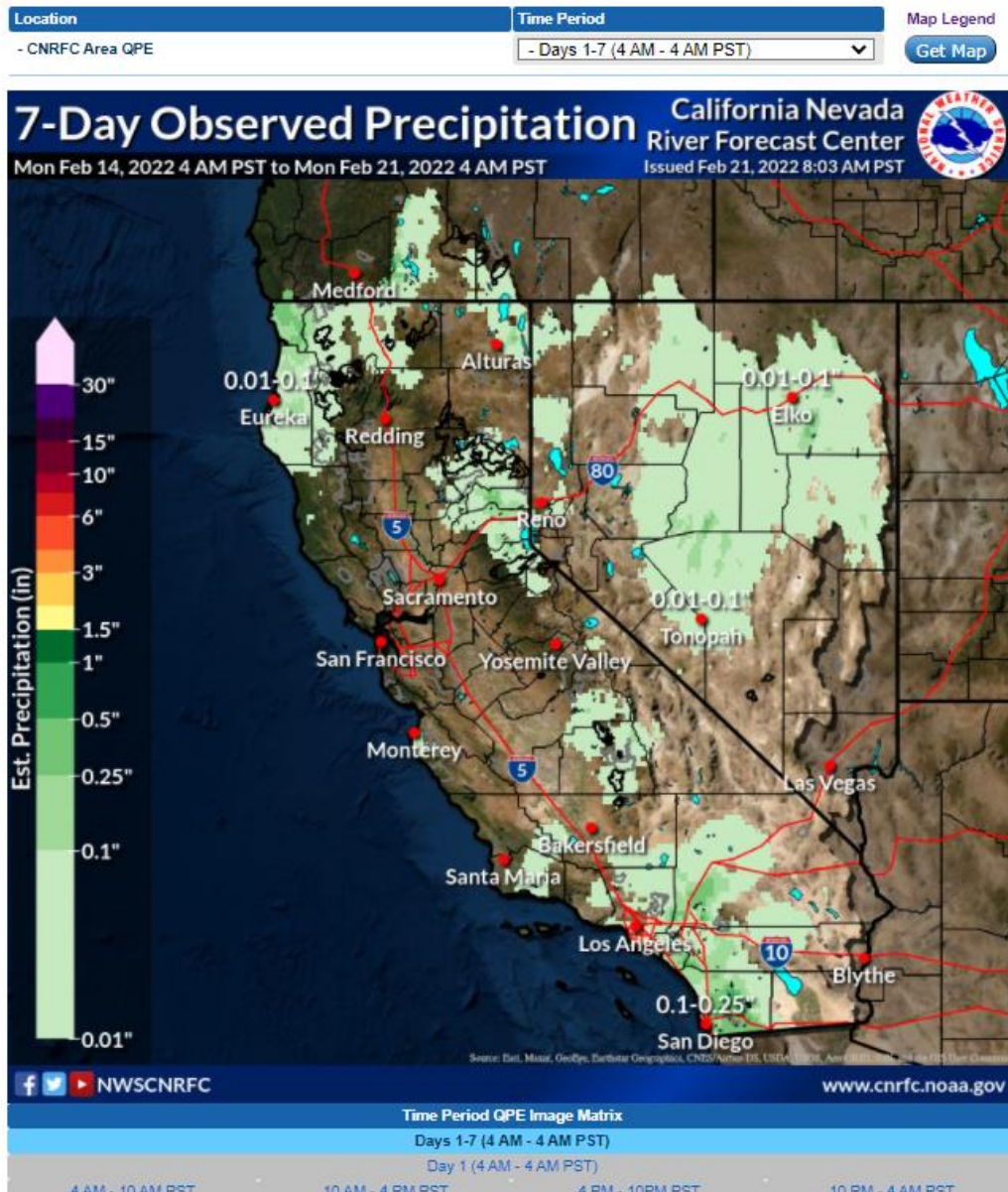


Figure 1. CNRFC map of observed precipitation over the past seven days.

Over the next six days, more precipitation is forecast as another system drops into California from the Gulf of Alaska. The CNRFC map of forecast precipitation is shown in Figure 2. Note higher amounts of precipitation are forecast as this system moves down the coast rather than down the east side of the Sierra. With access to more moisture from the Pacific Ocean, precipitation totals may reach an inch in some places. While February totals are still well below average, the moisture is needed. The cold air with the storm means that the snowpack will stop melting and maybe have some snow water equivalent added.

CNRFC Area Precipitation Forecast

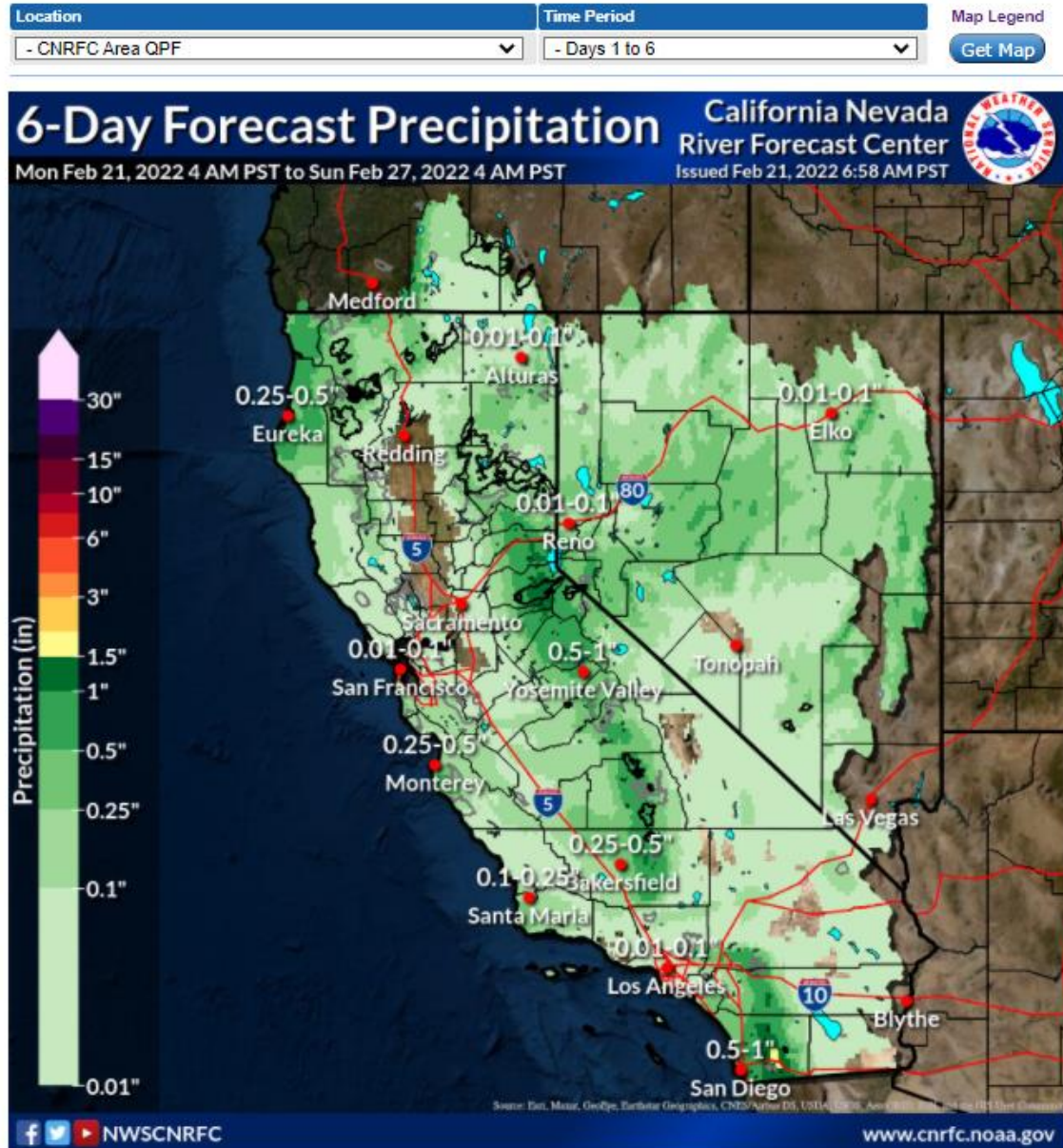


Figure 2. CNRFC map of forecast precipitation over the next six days.

A challenge associated with this week's storm is the polar air mass also moving south this week. Temperatures will be much cooler this week and frost/freeze warnings will be in place starting Tuesday night. Some areas may see some unusual snow showers with the combination of a storm and the polar air outbreak. This can create problems for plants with new growth and for the almond bloom in progress. The extent of the frost/freeze damage will have to be evaluated after the event. This can impact water management as water is sometimes used for frost protection. Overnight lows in the Russian River and Sacramento Valley are expected to drop into the upper 20's this week. The San Joaquin Valley may see sub-freezing temperatures and has a chance for snow to fall in areas that don't normally see snowfall. A CNRFC map of freezing elevations for early Wednesday morning is shown in Figure 3 and for Thursday morning is shown in Figure 4.

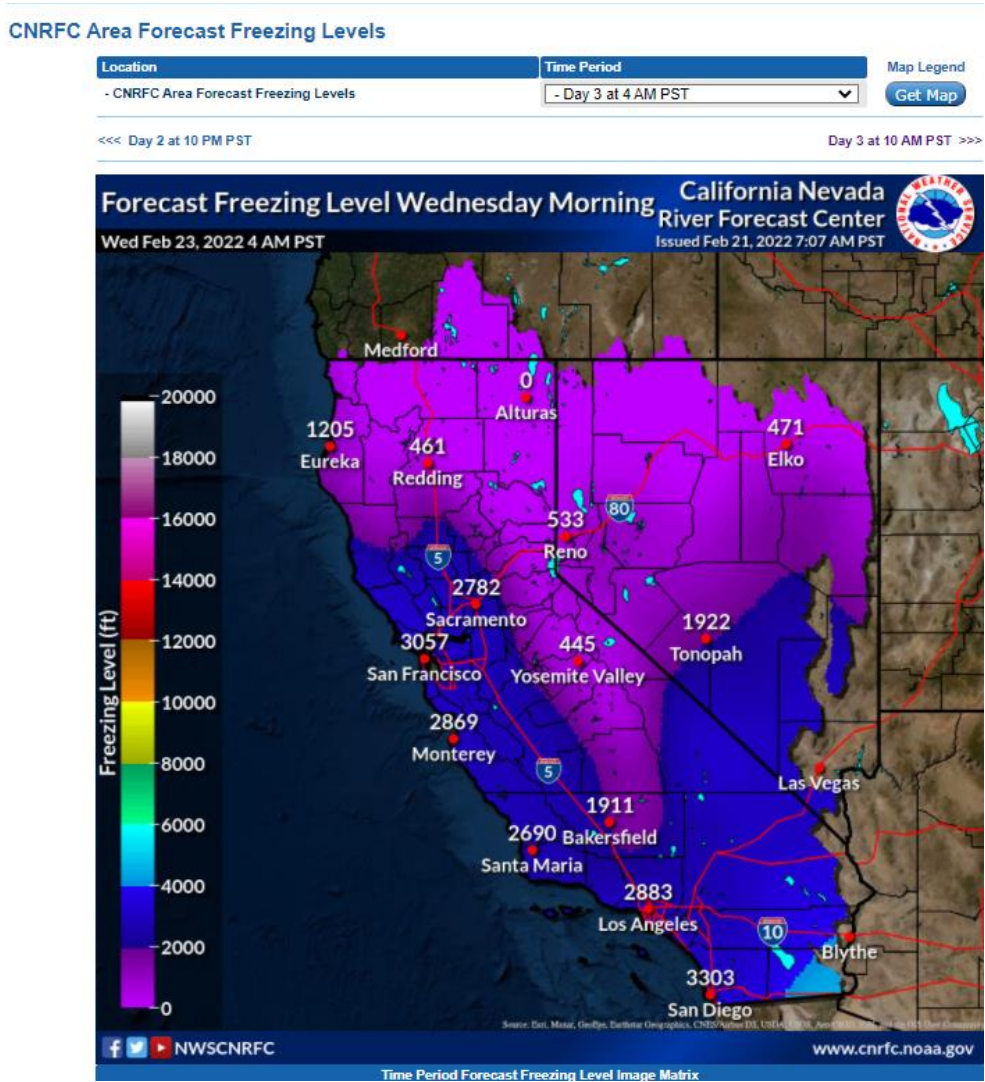


Figure 3. CNRFC map of forecast freezing elevations for Tuesday morning.

CNRFC Area Forecast Freezing Levels

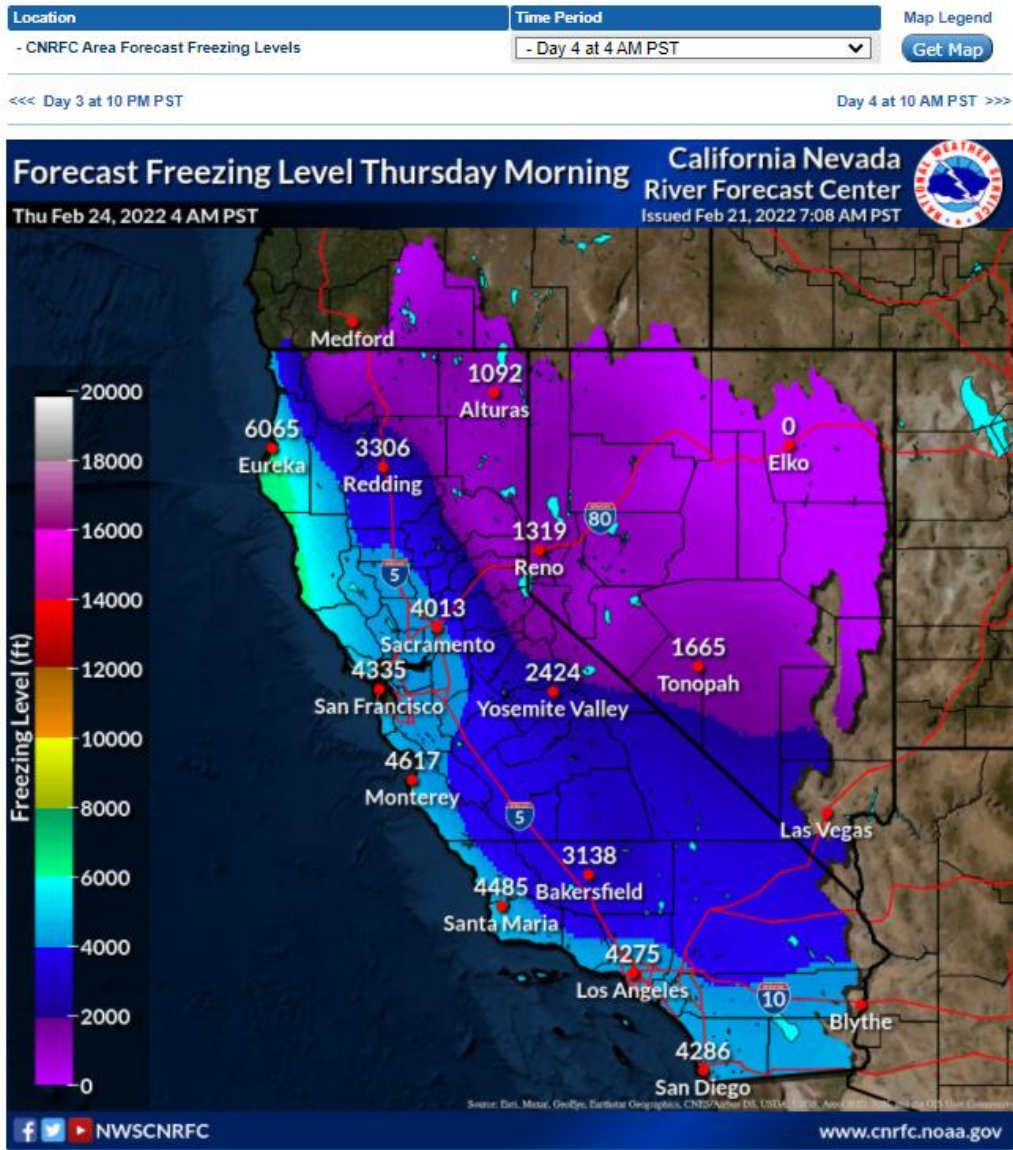


Figure 4. CNRFC map of freezing elevations for Wednesday morning.

There is strong interest in a pattern change for March where more precipitation can make it to the State offsetting the historically dry conditions of January and February. The National Weather Service’s Climate Prediction Center (CPC) released updated outlooks at the end of last week. The March precipitation outlook is shown in Figure 5 which depicts increased chances for above average precipitation for the northern part of the State. The temperature outlook favors below average outcomes for the northern part of the State and equal chances of above or below normal temperatures elsewhere.



Monthly Precipitation Outlook



Valid: March 2022
Issued: February 17, 2022

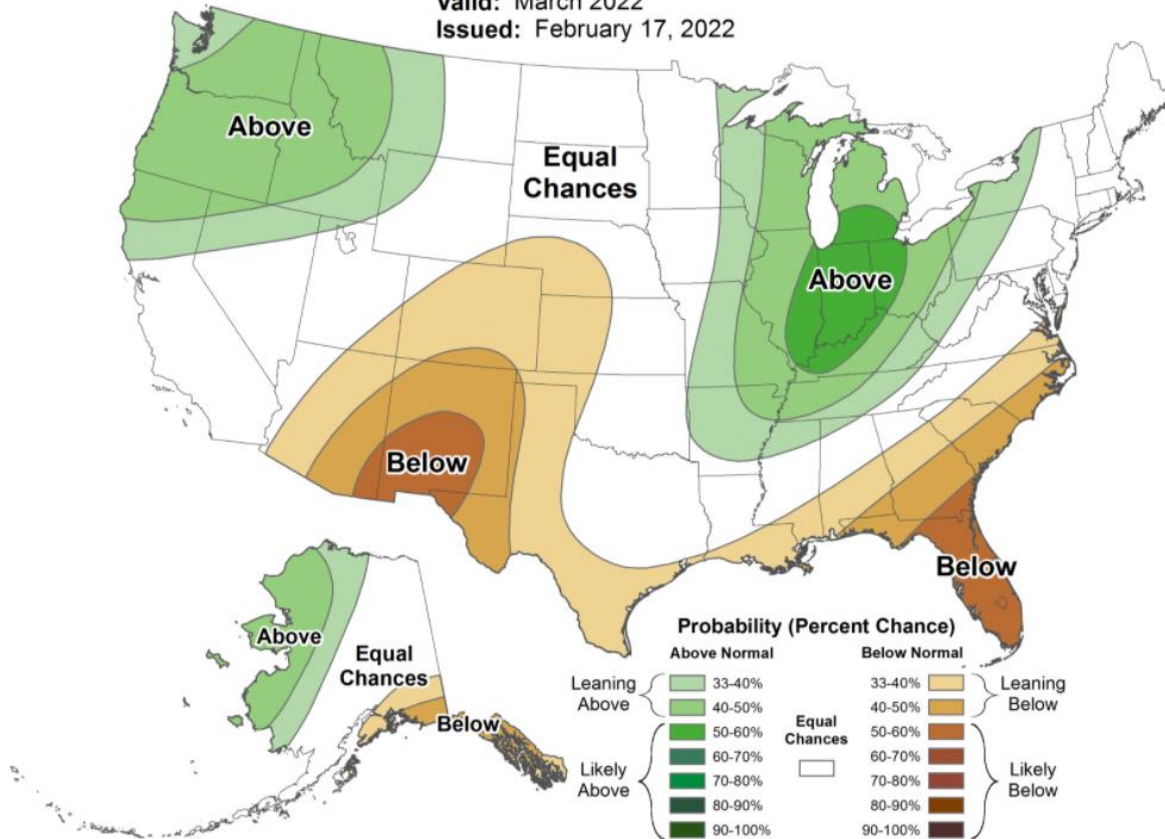


Figure 5. CPC map of monthly precipitation outlook for March.

Looking at other sources of information for March climate outlooks, Figure 6 shows the Center for Western Weather and Water Extremes (CW3E) and NASA JPL ridging outlook for weeks 5 and 6. The south and west ridging outcomes rise above climatology indicating the potential for above normal precipitation for the northern part of the State. The National Multi-Model Ensemble (NMME) outlook for March shown in Figure 7 also indicates that above average precipitation is favored for the northern mountains of California. A dry outcome is favored by the CW3E and NMME outlooks. March will also bring the arrival of Spring with the vernal equinox and day length and sun angle will increase notably while the seasonal window of California’s wet season draws to a close. The next forecast discussion will be sent out on February 28.

CW3E Subseasonal Ridging Forecast (Uses NCEP CFSv2 model)

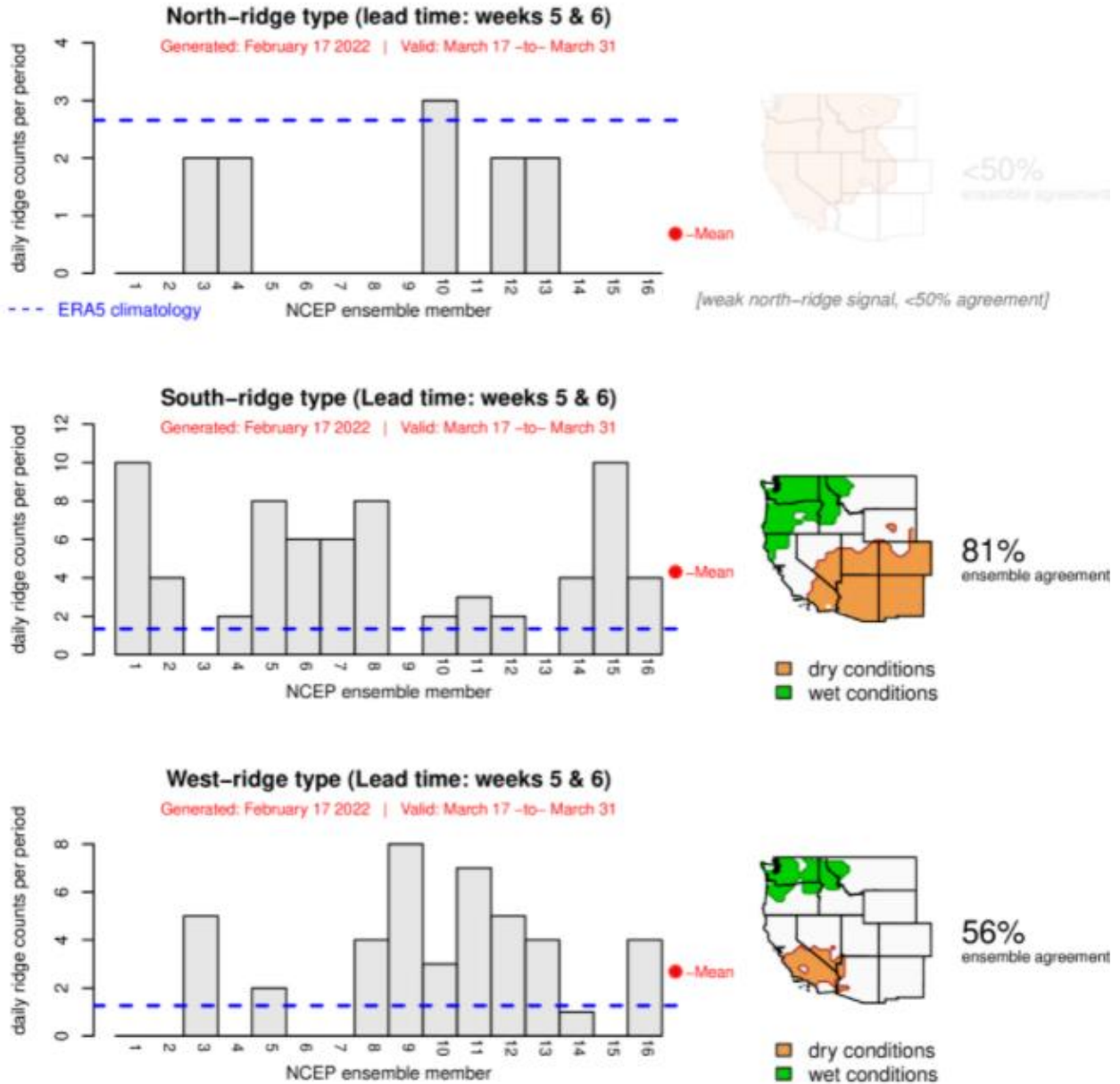


Figure 6. CW3E ridging forecast for weeks 5 and 6.

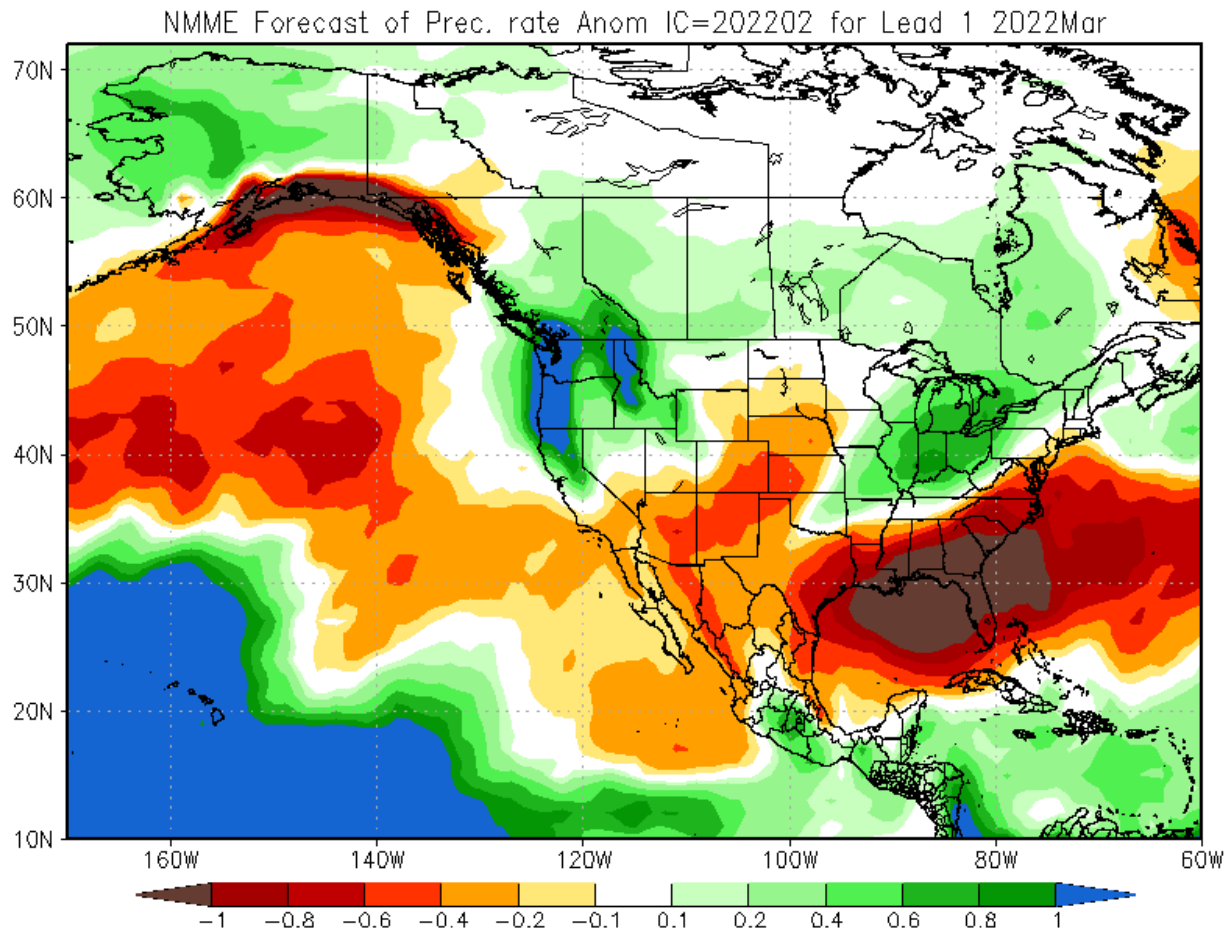


Figure 7. NMME forecast of precipitation anomalies for March.