

Weather this Week 3/14/22

Hi Folks,

Over the past 7 days precipitation has been limited to the northern mountains (coastal and Sierra/Cascades) and limited in quantity. The observed precipitation map for the past seven days from the National Weather Service's California Nevada River Forecast Center (CNRFC) is shown in Figure 1.

CNRFC Area Observed Precipitation

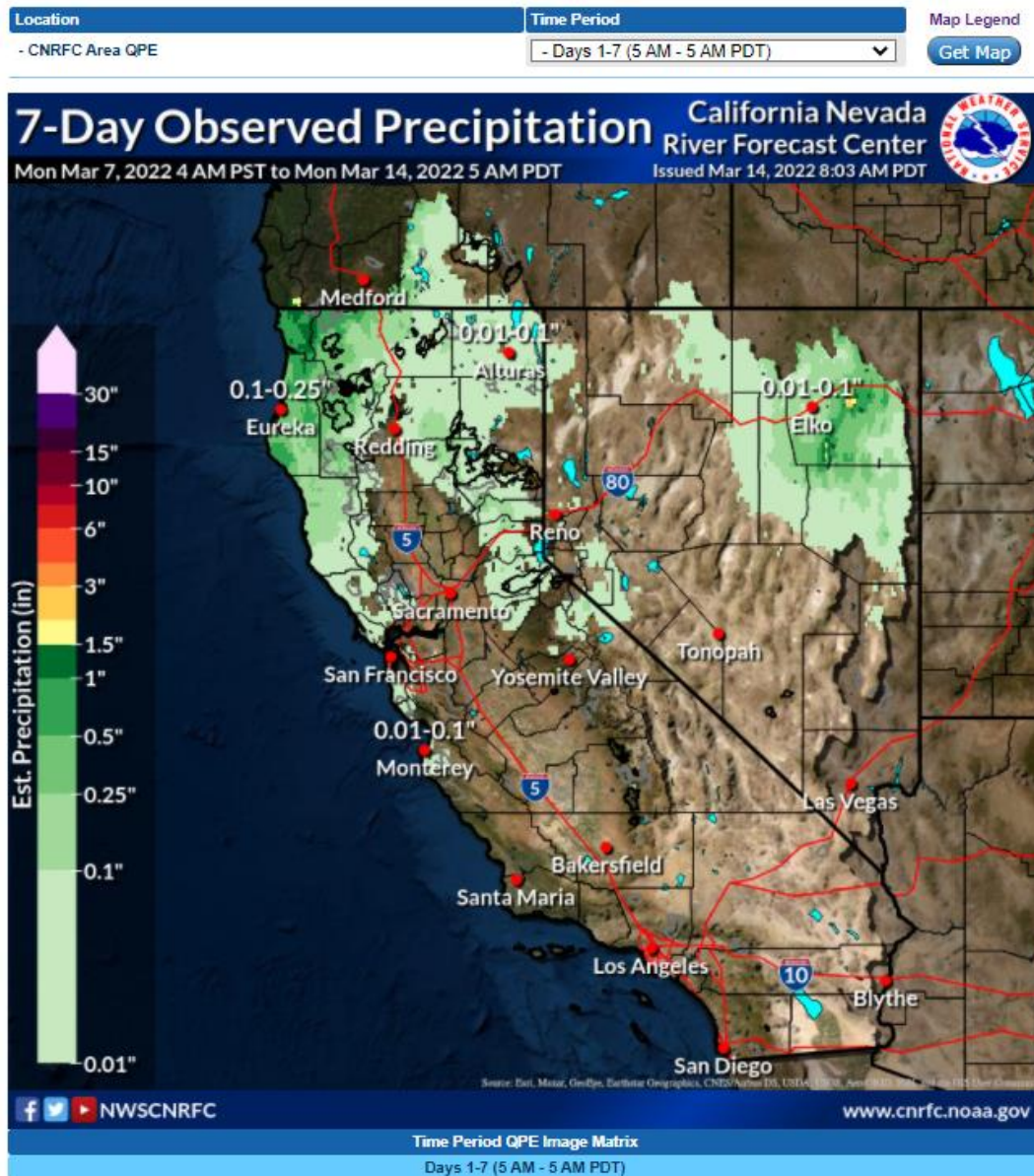


Figure 1. CNRFC map of observed precipitation over the past week.

becomes more statewide on Saturday. Accumulations in Southern California are very small totaling less than a tenth of an inch. Looking into week two, the forecast models show the high-pressure dominating weather again until the end of the month when showers may return to the far north of the State. Looking at the atmospheric river landfall tool from the Center for Western Weather and Water Extremes (CW3E) at Scripps Institution of Oceanography shown in Figure 3, we see that all the ensemble of US forecast model runs are aligned for the upcoming AR with upwards of 12 hours of AR conditions at the Golden Gate. A second AR may or may not be forming up to impact California around the 20th. This would correspond to the broader statewide showers at the end of this week. From the 21st through the 30th, the AR activity is limited but focused to the north (green to orange blob around the 22nd and 23rd).

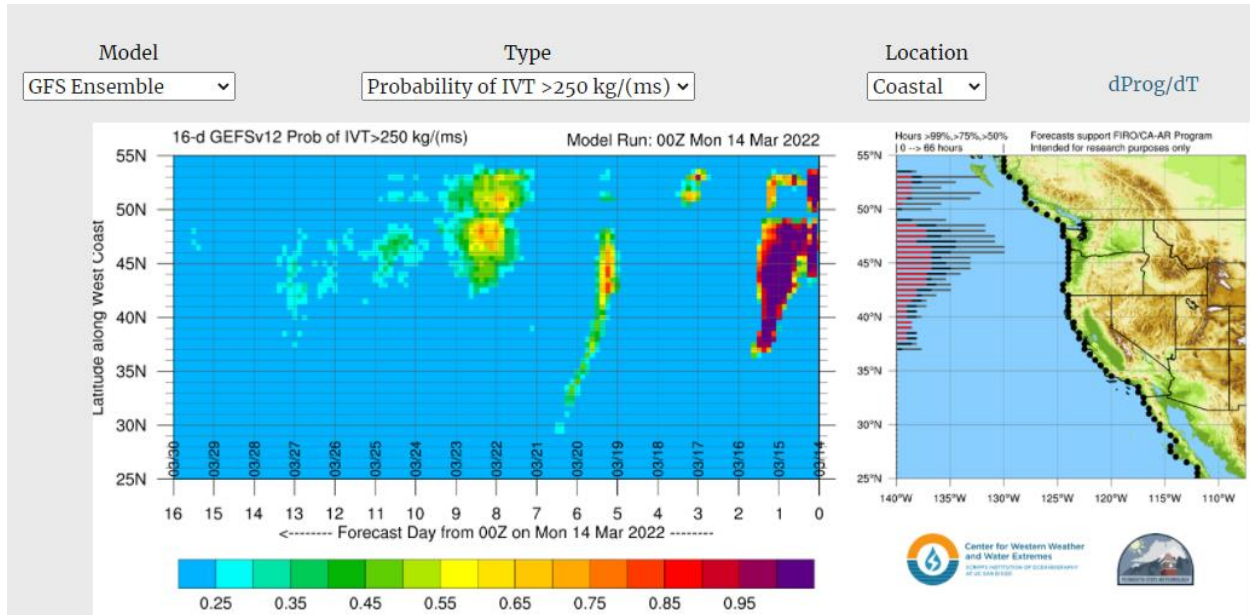
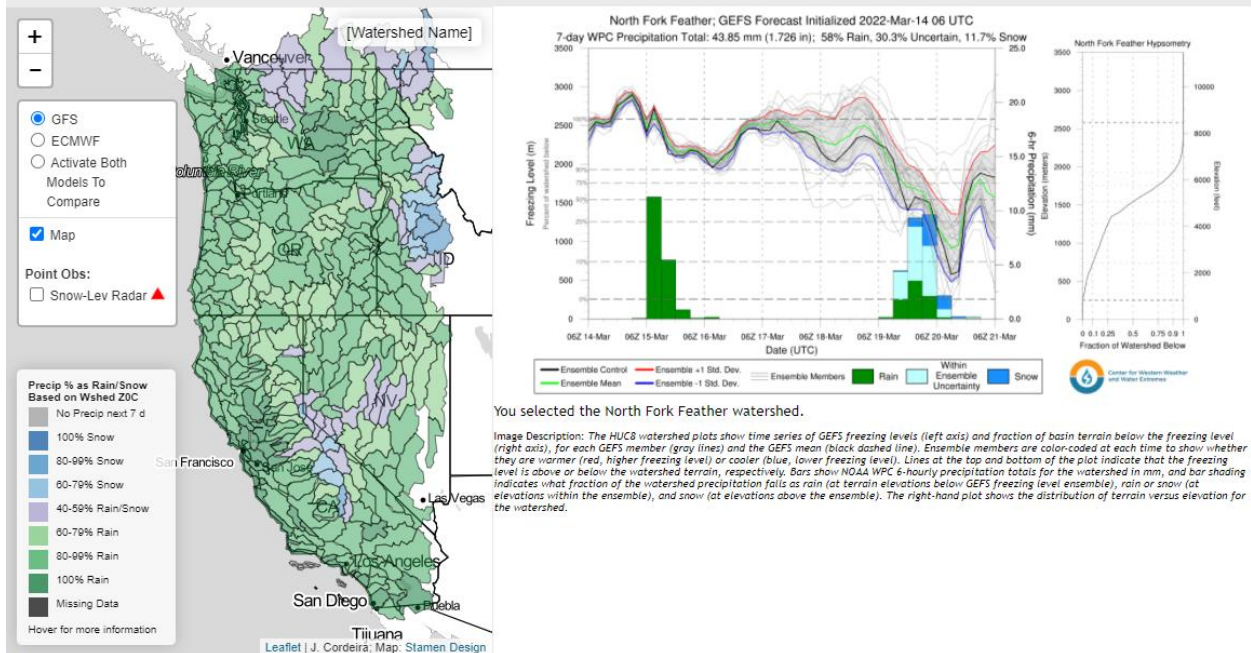


Figure 3. CW3E atmospheric river (AR) landfall tool showing model concurrence of AR conditions reaching the coast over the 16-day forecast.

A key feature of atmospheric rivers is the freezing elevation – the height in the watershed where rain turns to snow. CW3E has a tool showing expectations of rain or mixed or snow for the precipitation forecast for watersheds across California. An example of this is shown in Figure 4 for the north fork of the Feather River. It shows the freezing elevations for this week’s storm is mostly above the top of the watershed meaning most of the precipitation tomorrow will be rain which will melt some of the snowpack. Friday’s precipitation will be more mixed as the freezing elevation drops at the end of the week enabling snow to fall which will slow down the melt. Today the northern Sierra snowpack report from the automated snow sensors shows 14.8 inches of snow water equivalent. We will see what this number is at the end of the week. The next update will be posted this Friday.

Watershed Freezing-Level Forecasts - Click Watersheds For Forecasts



Map Description:
This map uses GFS and ECMWF ensemble forecasts to show the evolution of the freezing level above, within, or below a watershed's terrain, i.e., forecast near-surface temperatures being above or below freezing, and precipitation falling as rain or snow. The maps show the percent of period ensemble-mean precipitation that falls with freezing levels above/below a watershed's terrain height (i.e., near-surface temperatures below freezing) and HUC8 watershed boundaries are shown. If you click on a watershed, you will get additional information regarding the evolution of the ensemble freezing level at that watershed.

Figure 4. Watershed freezing level forecast and precipitation phase forecast from CW3E.