Monthly Climate Report

NWS Reno

Issued: 05/10/2024

Includes previous Drought update (DGT) and Hydro Report (E5)

Synopsis:

Typical roller-coaster type spring weather prevailed through April. While the first three days brought a warmup after the chilly March 31 Easter which brought snow to some areas, it proved to be a “fool’s spring” as sharply colder temperatures returned from the 4th-8th, along with Sierra snow and a mix of chilly rain and light snow for lower elevations. Spring tried to make another comeback from the 9th-12th, but that ended as another cold front brought gusty winds and showers followed by cooler conditions again from the 13th-15th. The region finally received a more prolonged period of warm and dry spring weather from the 16th-22nd, which also included Reno’s first 80-degree day of the year on the 21st. Cooler and wetter conditions returned from the 23rd-26th as a series of weather systems brought scattered shower and thunderstorm activity to the region, with light snowfall in the Sierra on the 26th. Finally as April ended, drier conditions returned with temperatures warming to a few degrees above average for most of the region, although cooler air hung on in areas near the OR border.

For the month of April, temperatures were generally near to slightly above average, except northeast CA-far northwest NV were about 1-3 degrees warmer than average, while parts of Mono County were 1-2 degrees below average (Figure 1). April was a dry month for much of the region, especially for the Tahoe basin and western NV from Reno southward to Carson City, Douglas and Lyon counties, where precipitation totals were only 25-50% of average for the month. For parts of northeast CA, northwest NV and into Pershing County, precipitation amounts were near or slightly above average (Figure 2).

Weather Events:

The first storm of the month impacted the area from April 3rd-5th bringing strong winds, precipitation, and much colder temperatures. Total snow accumulations of 1-2 feet were recorded along the crest in Mono County, with lesser amounts of 2-6” in the greater Lake Tahoe area. Between 3-8” was recorded in northeast CA, and between a trace to 2” for the greater Reno-Carson City-Minden area on the 5th. This system also brought strong winds, with several stations recording gusts up to 90 mph on the Sierra crest and upwards of 55-65 mph throughout much of western NV. No major damage was reported, but a semi truck was blown over in the Walker Lake area during the evening of the 4th. The colder conditions prevailed from 4th-8th with temperatures as much as 15 degrees below average. A clear sky on the 8th allowed for good viewing conditions of the partial solar eclipse across the region (Photo 1).

The next stormy period occurred from the 12th-13th, with wind gusts of 45-60 mph across parts of western NV, and gusts up to 90 mph along the Sierra crest on the 12th. While most of the winds on this day were due to conditions ahead of the approaching cold front, thunderstorm outflows produced the stronger gusts in Pershing County. Another round of gusty winds with similar speeds of 45-60 mph occurred on the 13th from west central NV southward to Mono County, including areas of blowing dust especially around the Lovelock area (Photo 2),

and gusts up to 85 mph along the Sierra crest. Precipitation was generally light with most areas receiving 0.10" or less, except a few sites in, with up to 0.50" in far northwest NV and up to 1" for northeast CA. Snowfall was light in the Sierra (2" or less), although parts of Lassen County north of Susanville received over 5" of snow on unpaved surfaces.

While the warm period after April 15 allowed for progress in clearing winter snow from the higher Sierra passes of Mono County (Photo 3), the snow wasn't quite yet done for the month for the Sierra, as another weak storm system brought up to 4" of snow to the eastern Sierra on the 26th. Liquid precipitation totals ranged from 0.05-0.30" across much of the region from showers and isolated thunderstorms between the 23rd-26th, with a few sites in northeast CA, the Tahoe basin and west central NV receiving heavier amounts between 0.30-1.0".

Hydrology:

Area snowpacks peaked in early April about a week later than normal for the east side of the Sierra, and right on schedule in the Humboldt basin (Figure 3). Current basin snow water equivalent (SWE) remains near normal for May 1st in the east side of the Sierra, and still well above normal in northern Nevada (Figure 4). April stream flows have been near to above normal thanks to fairly rapid April snowmelt (Figure 5). Mountain soil moisture conditions as measured by NRCS SNOTEL sites continue to be favorable in primary water supply basins (Figure 6). These factors have all contributed to favorable water supply forecasts, with near average spring and summer runoff expected along the east side of the Sierra, and much above average conditions along the lower Humboldt (Figure 7). Reservoir conditions are also in excellent condition throughout the area, and nearing capacity in Tahoe, Lahontan and in the Walker Basin (Figure 8). So far there has been no snowmelt flooding in the area, but there have been some high flows especially in the lower Humboldt and the west fork of the Carson. Additional high flows are expected later this spring with warmer temperatures, and some minor flooding is possible along the lower Humboldt.

Drought Update:

Favorable precipitation and seasonal peak snowpack conditions have resulted in drought-free designation by the US Drought monitor, which removed areas of abnormally dry classification from western Nevada and eastern CA in early April (Figure 9).

Additional Information on Drought and Climate:

Report Drought conditions here
Nevada statewide Drought update
NV Living with Drought
Drought Monitor
New Drought.gov
California Nevada Drought Early Warning System
NOAA CPC Drought page
CNAP Drought tracker
California Nevada River Forecast Center
WRCC Drought Tracker
WRCC Enso page
WRCC Monthly Climate Summaries
Evaporative Demand Drought Index
US Seasonal Drought Outlook

Contact NWS Reno Climate Team
rev.climate@noaa.gov 775-673-8100
https://www.weather.gov/rev/

Photos:

Photo 1: April 8th, from Virginia City, photo credit Doug Broussard via Facebook

Photo 2: Blowing dust along I-80 near Lovelock April 13th, photo credit: NDOT

Photo 3: Caltrans clearing Hwy 108 - Sonora Pass April 23rd, photo credit Mono County Tourism

Figures:

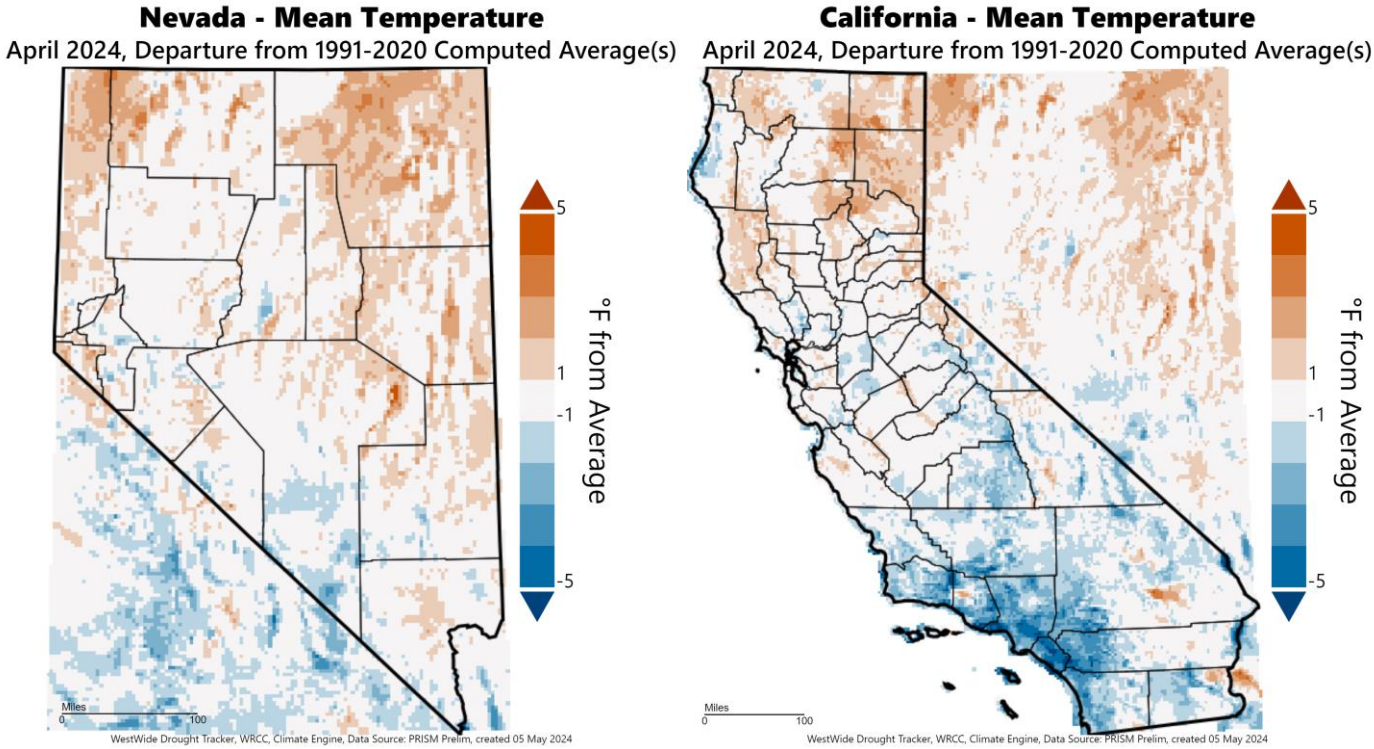


Figure 1: Nevada (left) and California (right) departure from normal temperatures for April 2024.

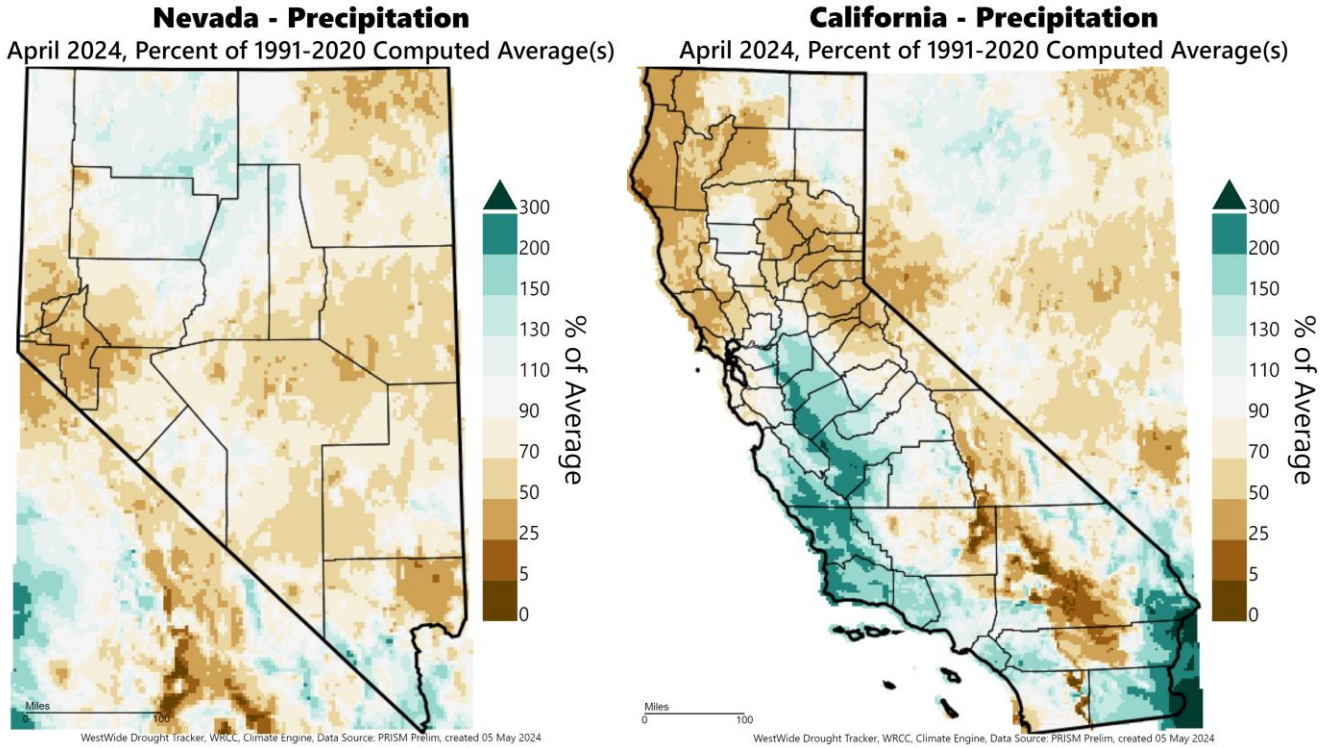
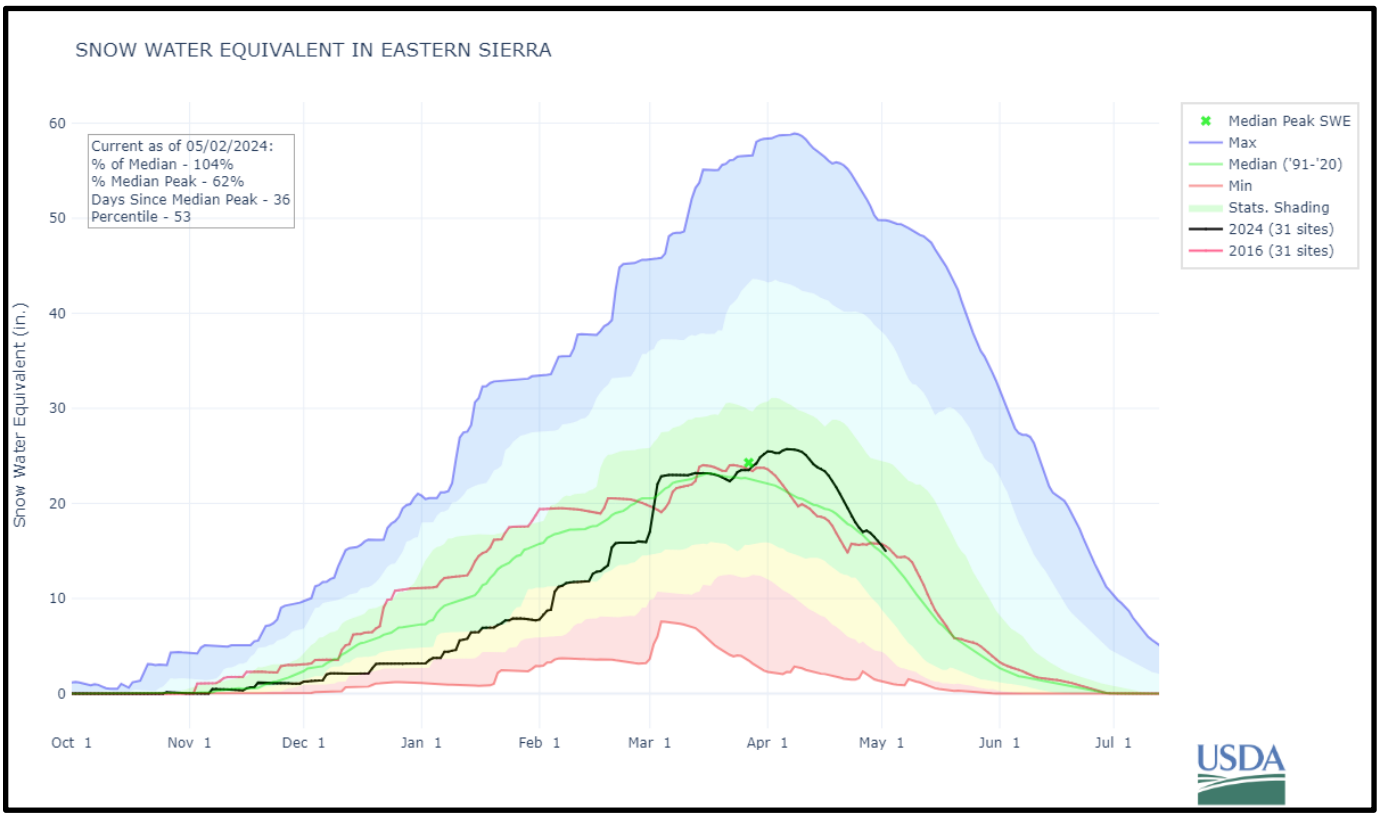


Figure 2: Nevada (left) and California (right) percent of normal precipitation for April 2024.



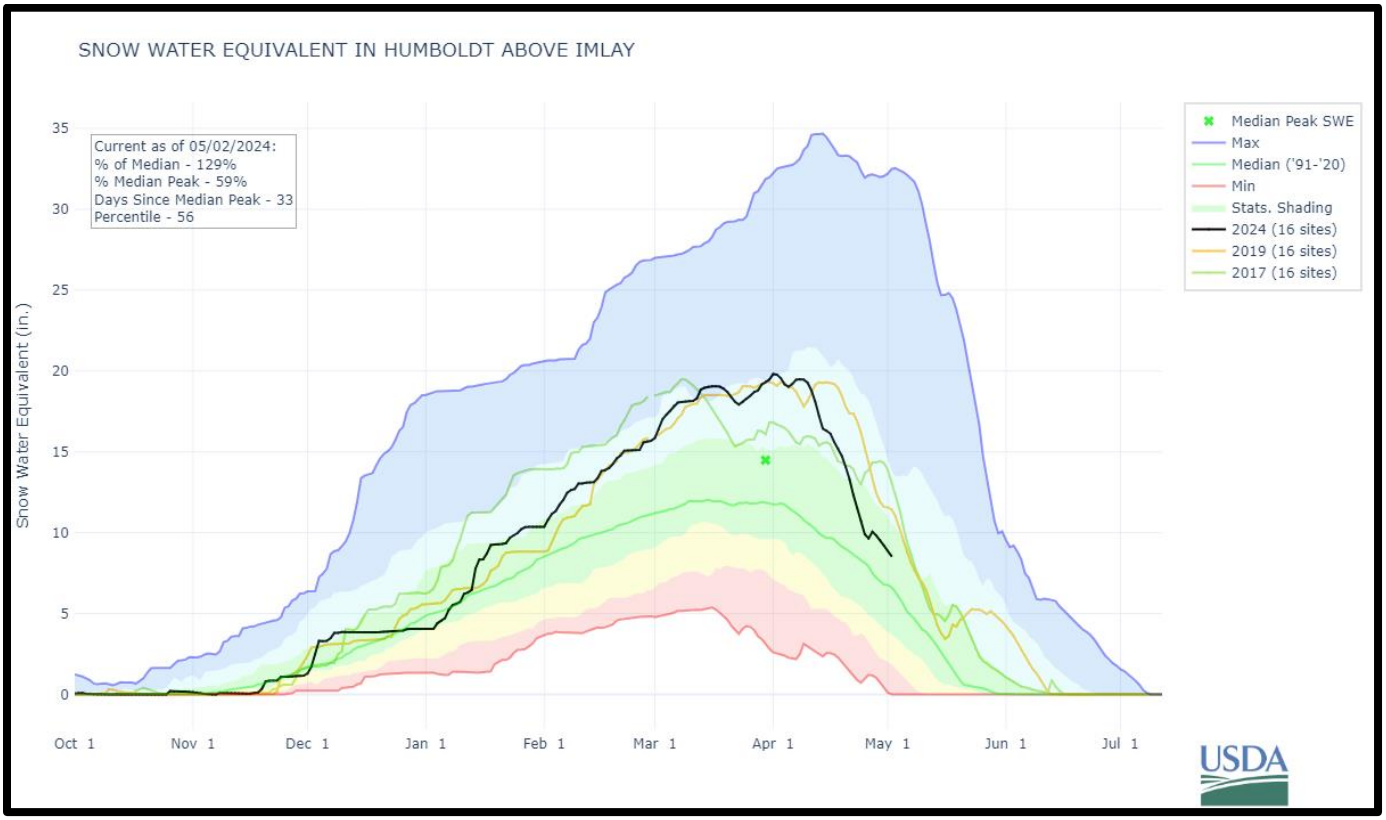


Figure 3: NRCS SNOTEL snow water equivalent (SWE) for the combined Tahoe, Truckee, Carson and Walker basins (upper plot), and Humboldt (lower plot) indicated in black for water year 2024. Most similar recent year snowpack year plotted for reference.

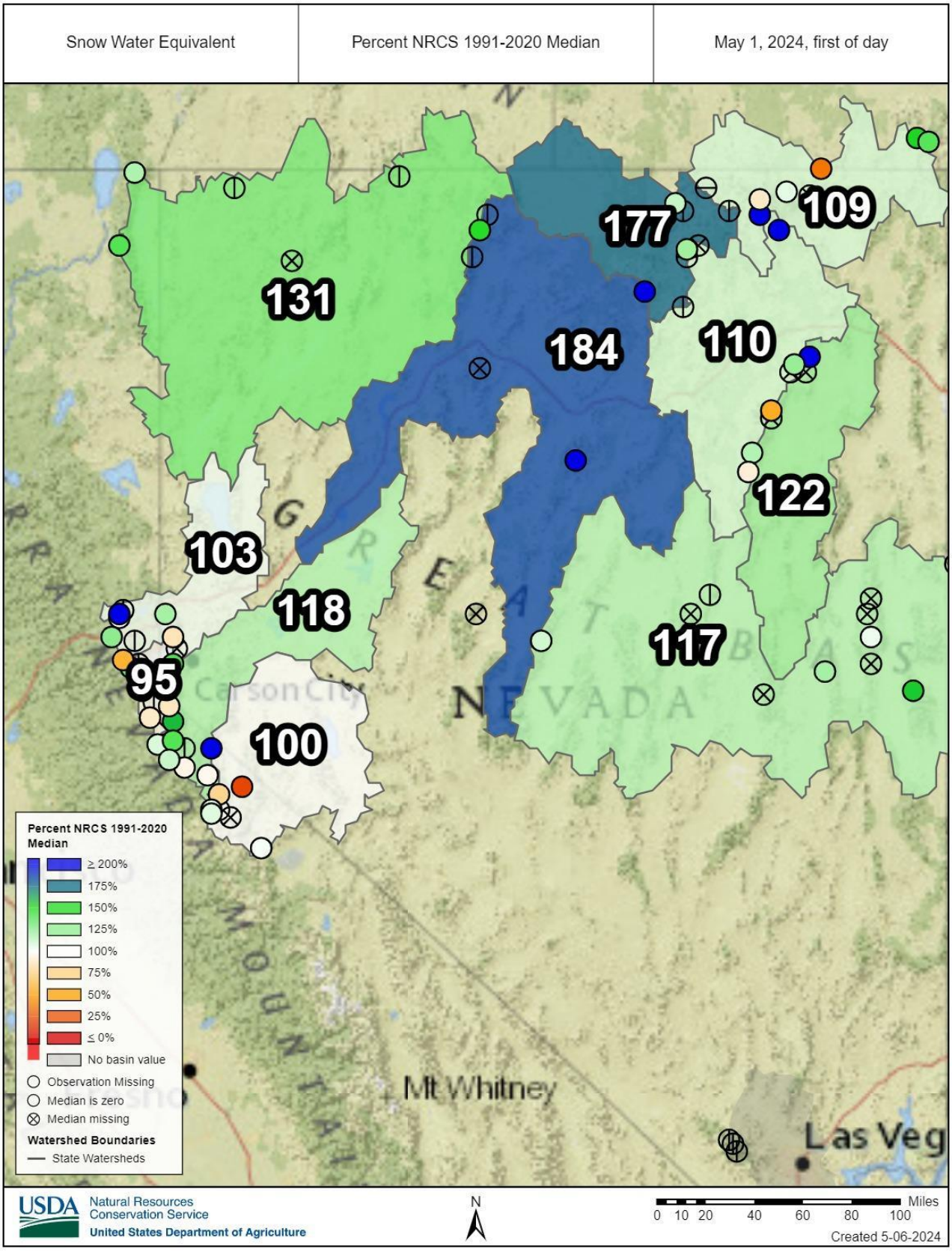


Figure 4: NRCS SNOTEL basin snow water equivalent as percent of median for 05/01/24

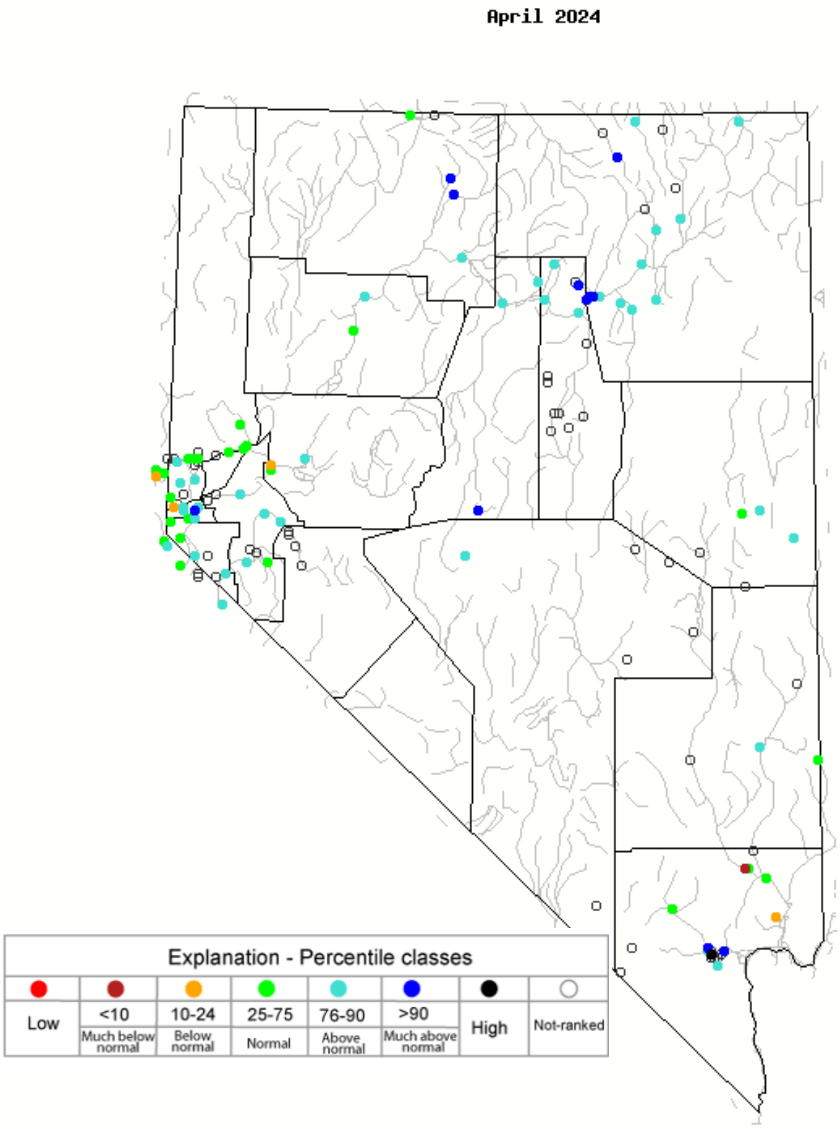


Figure 5: April [Monthly USGS streamflow]

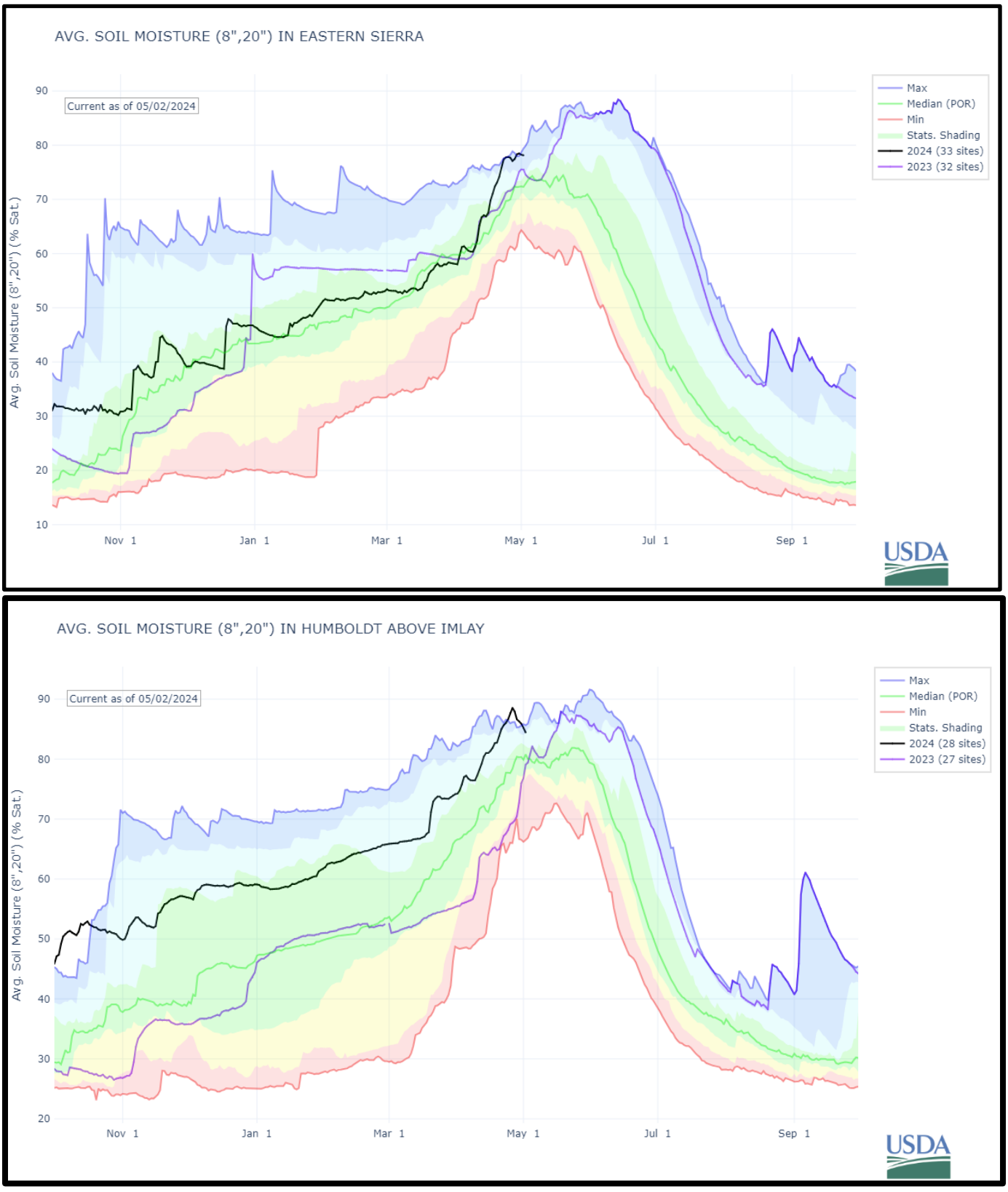


Figure 6: NRCS SNOTEL soil moisture for the combined Tahoe, Truckee, Carson and Walker basins (upper), and Humboldt basin (lower) indicated in dark black for water year 2024. Water year 2023 is plotted in purple for additional perspective.

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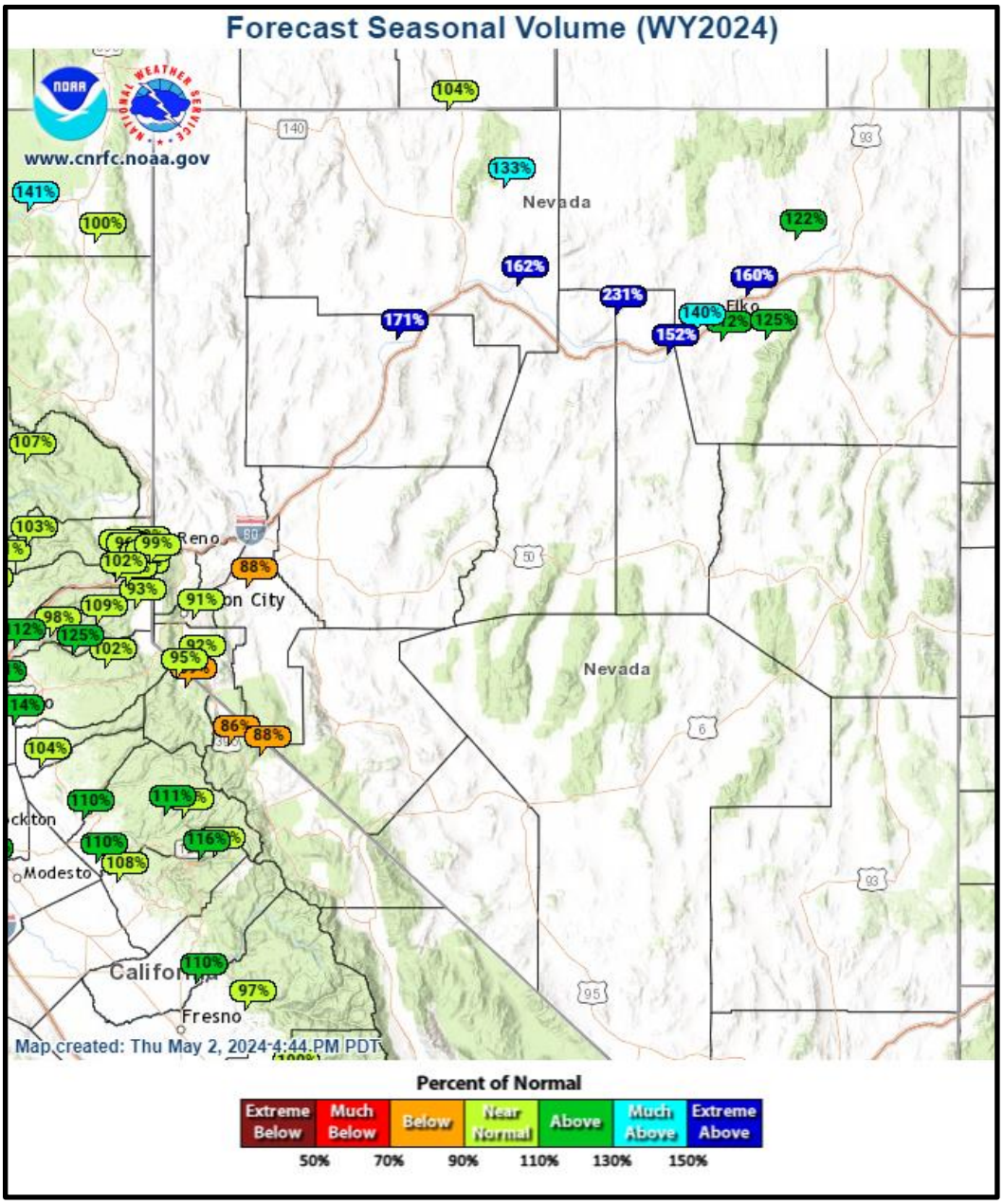

Figure 7. CNRFC median April-July forecasts. Visit the CNRFC page to view the probabilistic forecasts.

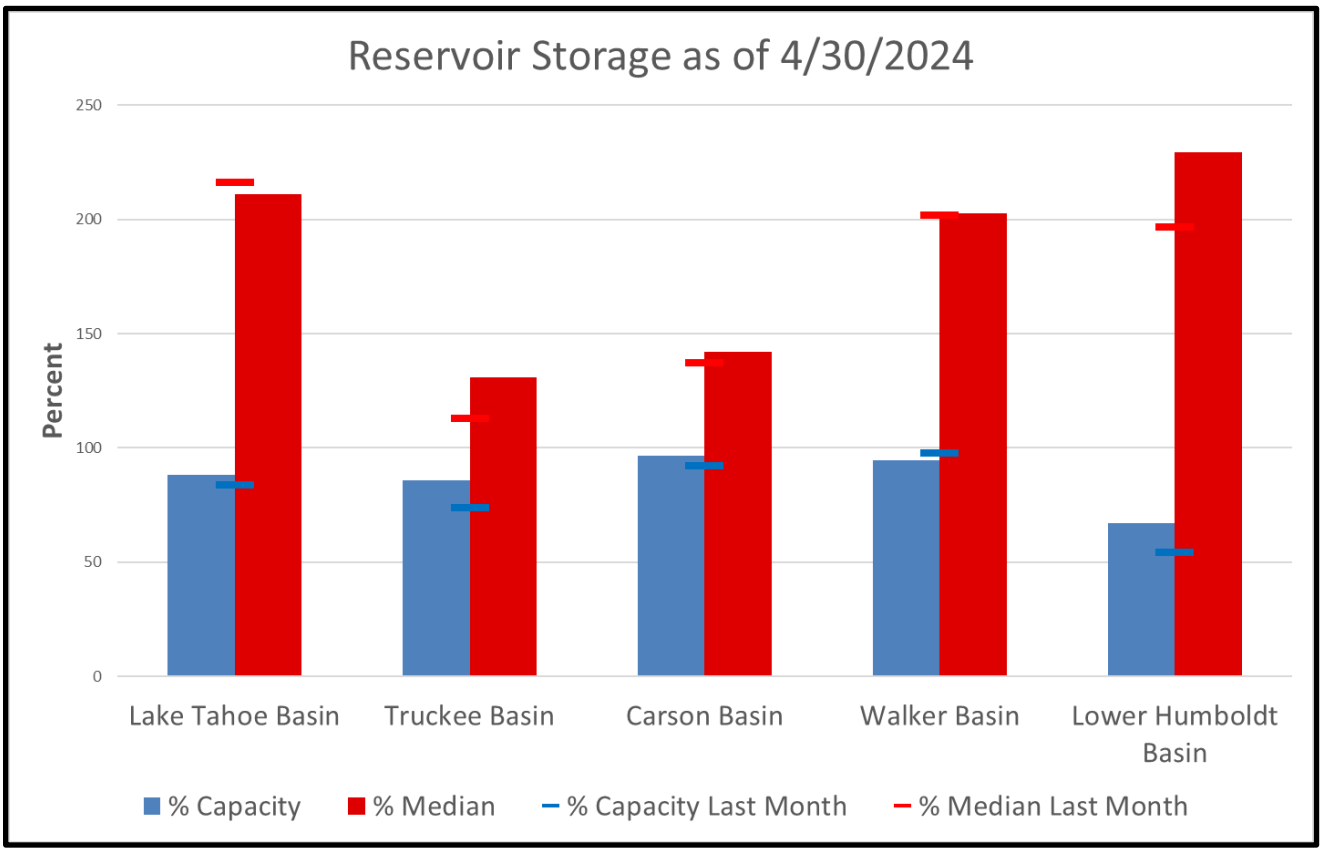

Figure 8: End of month reservoir storage relative to capacity and **median*** for this month and last month. (*note reference was recently update to NRCS 1991-2020 median values)

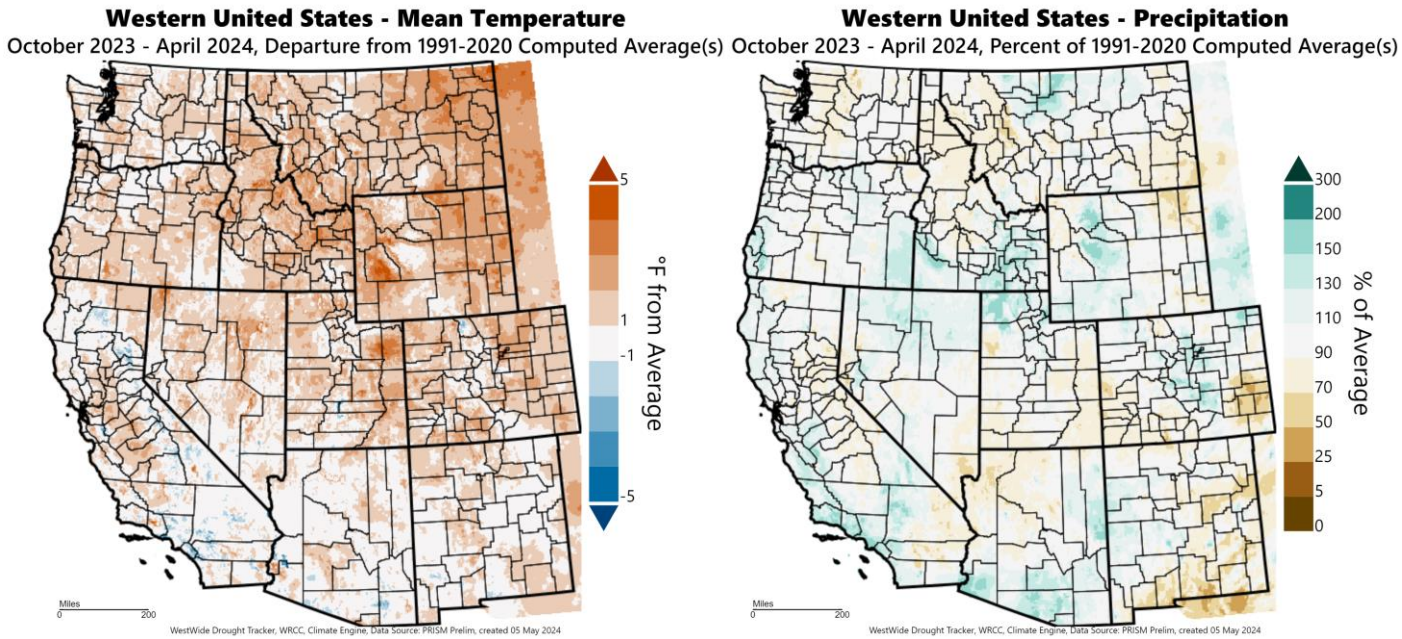

Figure 9: Current 2023-24 water year to date departure from normal temperature (left) and percent of normal precipitation (right).

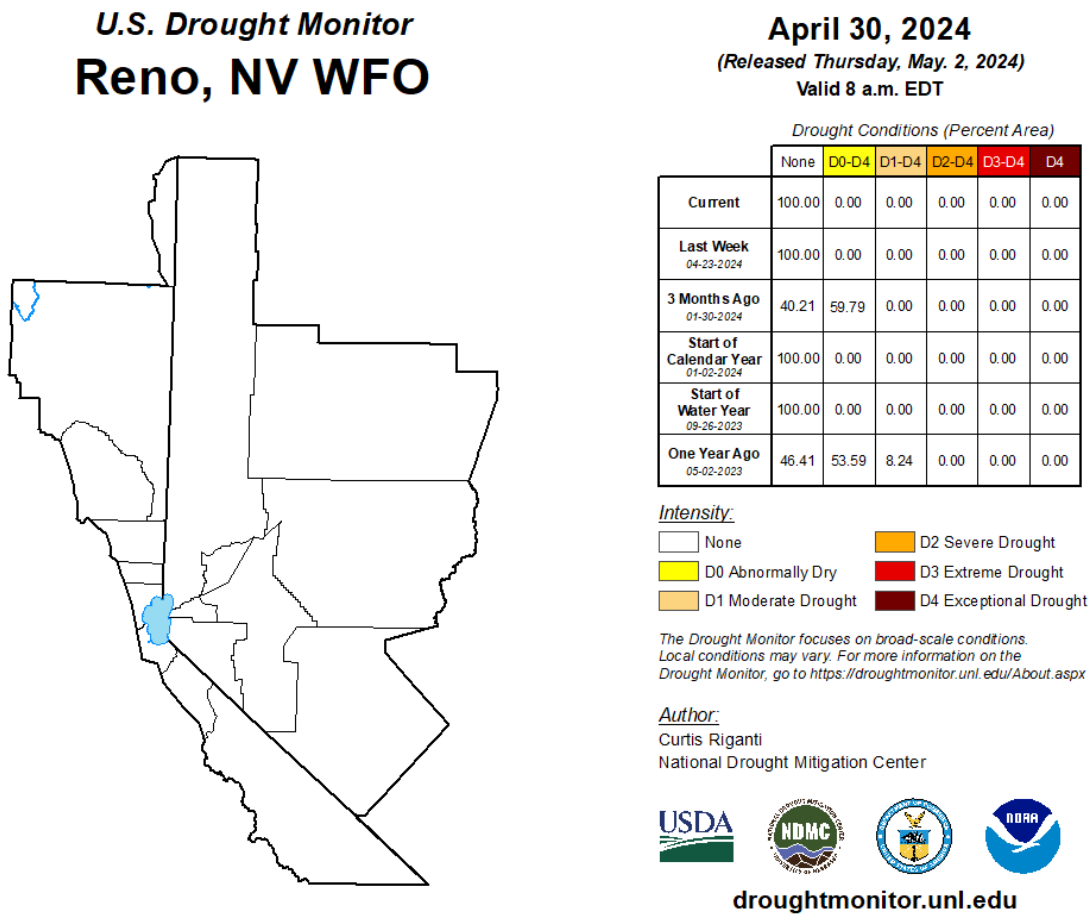

Figure 10: End of April Drought Monitor Status (no areas in D0-D4). Check for updates at: Drought Monitor.