

Monthly Climate Report



NWS Reno Issued: 12/12/2023 Includes previous Drought update (DGT) and Hydro Report (E5)

Synopsis:

November 2023 finished with a mix of slightly above to below average temperatures (Figure 1) and overall below average precipitation (Figure 2). The month started mild, with early Fall-like temperatures as we soared well into the 60s to 70s. We then followed this period with more seasonal conditions along with the first of two storm systems to impact the region on the 6th and 7th. The second system to impact the area occurred between the 18th to 19th, which provided the region with additional rain and higher elevation snow showers in the eastern Sierra. November finished dry with a return to early winter as we experienced the coldest temperatures during this 2023-24' winter.

Weather Events:

November started off with continued dry weather along with well above average temperatures (8-12 degrees) through the 5th. Low to mid 70s were common in western NV along with mid 60s for much of the Sierra. Reno set a new record for the all-time daily average temperature for November on the 4th and 5th at 60.5 degrees. Also, Reno had an usually warm night on the 5th at 54 degrees, which is actually the average low temperature for late August! This was a record maximum low temperature for the 5th and a tie for the month of November.

The first system of the month moved into the area on the 6th into the 7th. Winter weather advisories were issued for Lake Tahoe and Mono County, and snowfall led to chain controls and highway closures in the Sierra (Photo 1). Several inches of snowfall fell throughout the mountains, with snow levels around 7,000-8,000 feet. Precipitation amounts totalled 0.20-0.50" in Surprise Valley, Lassen with local amounts to 1.0" near Susanville. Most of the eastern Sierra received between 0.5"-1.0" with locally between 1.5"-2.5" in the greater Lake Tahoe area and higher peaks. Western NV varied from 0.01-0.25". Winds also ramped up across the region, with wind gusts upwards of 55 mph in western NV, northeast CA, and much of the eastern Sierra.

Cool temperatures continued on through the 10th, followed by a brief warmup through the 15th. Light showers returned to the region on the 15th and 16th, with minor precipitation accumulations in the Sierra, northeast CA, and far western NV. A much stronger storm system impacted the region on the 17th through the 19th, prompting winter weather advisories in the eastern Sierra and wind advisories in western NV. Most of the snow accumulation occurred higher in the Sierra above 7,000 to 8,000 feet where Mount Rose received 10" with 7" at Mammoth Mountain. Precipitation amounts totalled 0.50"-1.0" in Surprise Valley, northern Washoe County, and northeast CA. The eastern Sierra finished

with around 0.5" at lake level in Tahoe, while higher elevations had between 1.5"- 2.5". The more impressive part of this system were very strong winds that impacted the entire service area. A majority of western NV, northeast CA, and the Sierra experienced wind gusts upwards of 50 to 60 mph. The eastern Sierra had typical wind gusts of 70 to 90 mph, while the top of Palisades Tahoe at Alpine Meadows recorded a wind gusts of 154 mph, and a wind gust of 144 mph at the top of Mammoth Mountain!

We finished off the remainder of November with a cold return toward winter. Western Nevada struggled into the mid-40s while a majority of the Sierra communities only managed to get into the mid 30s. We also experienced the coldest temperatures of the current 2023-24' winter, with low temperatures dropping into the single digits in the Sierra with teens to low 20s for western NV and northeast CA. Inversions also returned to the area (Photo 2), which led to degraded air quality throughout the region.

Hydrology:

No flooding occurred during November in the NWS Reno service area. November streamflows are near normal (Figure 3). The snowpack is off to a slow start in the Sierra (Figure 4), and a good start in northeastern Nevada, but it's still early in the winter and a lot can change (Figure 5). Mountain soil moisture measured by NRCS SNOTEL are near normal for the eastern Sierra (Figure 6), and above normal for the Humboldt (not pictured). End of November reservoir storage is above average in all major reservoirs in the area with the Tahoe, Lahontan and the Walker River reservoirs all above 200% of average (Figure 7).

Drought/Climate Update:

There were no changes to the drought monitor status in November (Figure 8). Despite a dry November and a dry Fall season for most of the service area (Figure 9), there remains longer-term (> 6 months) precipitation surpluses due to last winter's record precipitation as well as the remnants of Hurricane Hilary back in August. As mentioned in the hydrology section above, other reasons for no re-introduction of drought to Reno's service area is due to the average streamflows, near normal soil moisture, and above average water storage in our local reservoirs and lakes.

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 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: Snowfall over Donner Summit on the 7th prompting chain controls for several mountain passes and highway closures in Alpine and Mono counties. Photo courtesy of Caltrans.



Photo 2: Strong inversions with poor mixing and degraded air quality were common during November. Photo courtesy of NWS Reno.



Figure 1: Nevada (left) and California (right) departure from normal temperatures for November 2023. Data courtesy of WestWide Drought Tracker. (<u>WWDT</u>)



Figure 2: Nevada (left) and California (right) departure from normal precipitation for November 2023. Data courtesy of WestWide Drought Tracker. (<u>WWDT</u>)



≊USGS

Figure 3: November <u>Monthly USGS streamflow</u> Note, the only red dot in western NV is the Truckee Canal which is closed for construction.



Figure 4: <u>NRCS SNOTEL soil moisture</u> for the combined Tahoe, Truckee, Carson and Walker basins indicated in dark black for water year 2024. Water years 2023 and 2017 are plotted in orange and purple for additional perspective.



Figure 5: <u>NRCS SNOTEL snow water equivalent (SWE</u>) for the combined Tahoe, Truckee, Carson and Walker basins indicated in dark black for water year 2024. Water years 2023 and 2017 are plotted in green and red for additional perspective.



Figure 6: NRCS SNOTEL basin snow water equivalent as percent of median for 12/10/23.



Figure 7: End of month reservoir storage relative to capacity and average for this month and last month.

U.S. Drought Monitor Reno, NV WFO



December 5, 2023

(Released Thursday, Dec. 7, 2023) Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 11-28-2023	100.00	0.00	0.00	0.00	0.00	0.00
3 Month s Ago 09-05-2023	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calend ar Year 01-03-2023	0.00	100.00	100.00	60.41	16.14	0.00
Start of Water Year 09-26-2023	100.00	0.00	0.00	0.00	0.00	0.00
One Year Ago 12-06-2022	0.00	100.00	100.00	100.00	16.72	0.00
Intensity:						
None			D2 Severe Drought			
D0 Abnormally Dry			D3 Extreme Drought			
D1 Moderate Drought			D4 Exceptional Drough			

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

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Figure 8: End of November Drought Monitor Status (no drought!) for NWS Reno Service area.(<u>Drought</u> <u>Monitor</u>).

California - Precipitation

Nevada - Precipitation

September - November 2023, Percent of 1991-2020 Computed Average(s) September - November 2023, Percent of 1991-2020 Computed Average(s)



Figure 9: Nevada (left) and California (right) departure from normal precipitation for Fall 2023. Data courtesy of WestWide Drought Tracker. (WWDT)