

# **Monthly Climate Report**



NWS Reno Issued: 11/02/2023 Includes previous Drought update (DGT) and Hydro Report (E5)

# Synopsis:

October featured several transitions between warm and cold periods, as is typical for the fall season. There were more warm than cold days overall, but temperatures for the month averaged 1-3 degrees above average (Figure 1). Record highs of 85 degrees were tied at Reno for both the 19th and 20th, while the warmest day was 88 degrees on the 8th (but not a record high). The main cold front passages occurred on the 1st and 10th, with three additional fronts during the final 10 days of the month. The coldest day in Reno was the 29th, with a high of only 49 degrees. While some areas saw freezing temperatures after the cold front passages earlier in the month (Photo 1), a widespread hard freeze occurred even in the urban areas during the weekend of the 28th-29th. Precipitation was generally below average in most areas (Figure 2), with the overall wettest days being the 1st and 25th. Light snow also fell in the Sierra with some of these weather systems, with the most notable snow band producing 1-4" above 6500 feet in the Tahoe basin on the 25th, leading to periods of chain controls over main passes including I-80/Donner Summit.

# Weather Events:

The cold low pressure that arrived at the end of September continued into the start of October, with areas of rain and light high elevation snow across much of the region. The heaviest precipitation occurred across parts of Mineral, Lyon, Churchill, Pershing and Mono counties, with up to 0.80" in Hawthorne being the most notable amount.

A warming trend then arrived through the first week of the month, with temperatures peaking well into the 80s for lower elevations on the 7th and 8th. The next cold front brought increased winds on the 9th and 10th with light rain showers mainly north of I-80. The coldest air with this system arrived on the 11th, along with additional high elevation snowfall (Photos 2 and 3) and rain shower bands generally producing amounts between 0.05"-0.20" across northeast CA into western NV, mainly north of US-50.

Temperatures then warmed up through the middle of the month with dry conditions prevailing. Highs reached the lower-mid 80s in western NV for most of the period between the 15th and 21st. The solar eclipse during the morning of the 14th was able to be viewed in most areas despite areas of cirrus cloud coverage, as the annular eclipse path passed across northern NV.

This warm spell ended with a cold front passage on the 22nd, which produced another round of light rain showers mainly across northeast CA, the Tahoe basin and northwest NV and gusty winds. Amounts were generally 0.10" or less, except for 0.25-0.40" in western Lassen County and areas west of Lake Tahoe. A secondary cold front on the 25th came with much colder air, gusty winds, and areas of rain and snow mainly during the afternoon. Liquid amounts ranged from 0.20-0.60" across northeast CA and far western NV near the CA border, tapering to lighter amounts farther south and east. As snow levels dropped to near 6500 feet, snow accumulations of 1-4" were reported across parts of the Tahoe basin, affecting travel over the main Sierra passes.

A final cold front passage on the 28th was dry, but brought temperatures down even further with highs only in the 40s to near 50 for the weekend of the 28th-29th. Widespread hard freezes occurred region wide for three consecutive nights, with lows in the lower-mid 20s for urban areas, teens for most other locations in western NV/northeast CA, and single digits for typically colder valley sites. Temperatures gradually warmed up to near average by month's end.

## Hydrology:

October was a fairly benign month hydrologically. Area streamflows continue to benefit from the exceptional 2023 water year, and fall flows continue to be above normal at most locations (Figure 3). A relatively dry October and late September have started to dry mountain soils moisture as measured by NRCS SNOTEL back down to near average conditions (Figure 4). Reservoir storage remains above average in most major reservoirs (Figure 5). No flooding was observed in October.

# Drought/Climate Update:

There are currently no areas of drought or abnormally dry conditions across Reno's hydrologic service area (Figure6). NWS is testing a new format for a modernized and regionally consistent Drought Information Statement (DGT). Despite the current lack of drought conditions in the NWS Reno service area, we have issued a sample DGT for early November. Typically the DGT will only be issued when part of the NWS service area is classified as extreme drought (D3) or worse. Please email any questions, comments or suggestions to rev.climate@noaa.gov

# 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. Strong morning inversions and local prescribed burns allowed for several days of smoke and haze in western NV.



Photo 2. The summit along Mount Rose on October 11th. Upwards of 2" to 4" was recorded during this storm. Image courtesy of NV Department of Transportation.



Photo 3. Snowfall on Mount Rose highway on Oct 11th, prompting the first chain requirements of the 2023-24' winter season. Image courtesy of NV Department of Transportation.

# Figures:



October 2023 Departure from 1981-2010 Normal

Figure 1. Departure from normal temperatures for October 2023. Data courtesy of WestWide Drought Tracker (<u>WWDT</u>).



October 2023 Percent of 1981-2010 Normal

Figure 2. Percent of normal precipitation for October 2023. Data courtesy of WestWide Drought Tracker (<u>WWDT</u>).

October 2023



#### ≊USGS

Figure 3: October <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.



Figure 5: End of month reservoir storage relative to capacity and average for this month and last month.

# U.S. Drought Monitor Reno, NV WFO



### October 31, 2023

(Released Thursday, Nov. 2, 2023) Valid 8 a.m. EDT

	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 10-24-2023	100.00	0.00	0.00	0.00	0.00	0.00
3 Month s Ago 08-01-2023	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar 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 11-01-2022	0.00	100.00	100.00	100.00	19.04	0.00
Intensity:						
None			D2 Severe Drought			
D0 Abnormally Dry			D3 Extreme Drought			
D1 Moderate Drought			D4 Exceptional Droug			
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Figure 6: End of October Drought Monitor Status (no drought!) for NWS Reno Service area.(Drought Monitor).