

Nevada Drought Update - December 2024

5 December 2024

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Drought intensifies in southern Nevada with abnormally dry conditions continuing across the rest of the state. Wetter conditions develop in northwestern Nevada.

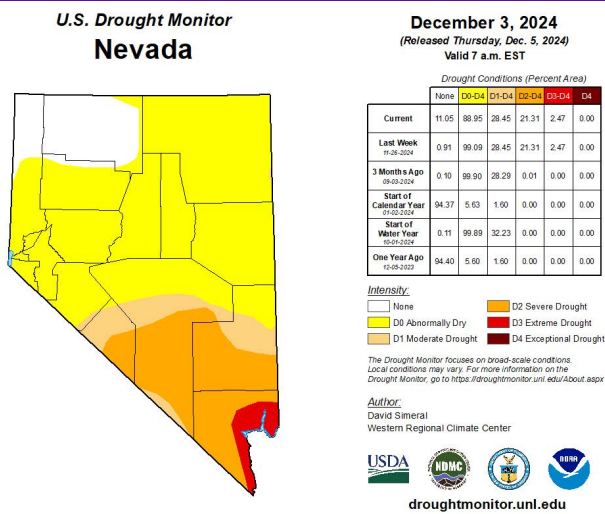


Figure 1. U.S. Drought Monitor for Nevada on 5 December 2024.

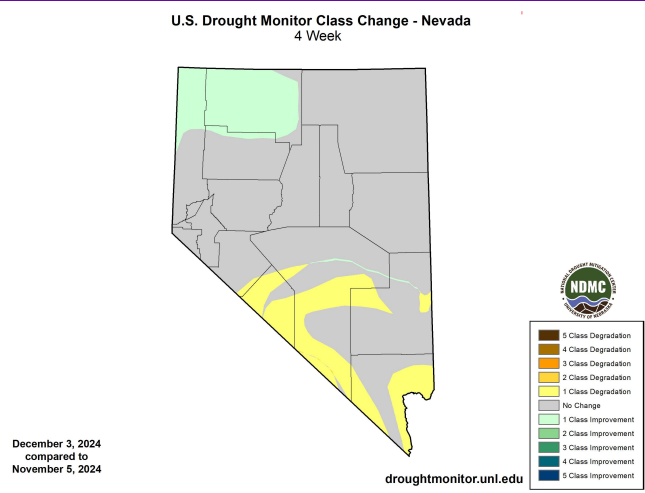


Figure 2. U.S. Drought Monitor Class Change for Nevada between 7 November and 5 December 2024.

Moderate (D1) and Severe (D2) Drought conditions have persisted in southern Nevada over the past month with Extreme Drought (D3) developing along the lower Colorado River. As of 3 December 2024, 28.5% of the state was classified in Drought (D1 to D3), with 2.5% now classified as Extreme Drought (D3) – including southeastern portions of Clark County. These areas experienced a degradation of one category from Severe Drought (D2) to Extreme Drought (D3) since the beginning of November. Meanwhile, conditions improved in extreme northern Washoe County, going from Abnormally Dry (D0) to None (Fig. 2). Drought indicators have worsened substantially since early March 2024 when they were confined to just 13% of the state in Abnormally Dry (D0) and 2% of the state in Moderate Drought (D1). In contrast, as of today, nearly the entire state is rated as Abnormally Dry (D0) or worse and Extreme Drought (D3) has reemerged (Table 1).

Below normal (bottom 33%) temperatures occurred across Nevada in November 2024 (Fig. 3), reversing a pattern of above normal temperatures since June 2024. Nye County in south-central Nevada exhibited the greatest departures (e.g., -4.0°F at Tonopah) but all reporting stations were at least 1.5°F below normal (e.g., -1.5°F at Winnemucca, -2.3°F at Las Vegas, -2.4°F at Reno). A series of storm systems in late November brought above normal (top 33%) precipitation to northwestern Nevada (Fig. 4), particularly in northern Washoe County where it was much above normal (top 10%). Wetter conditions also occurred in east-central Nevada where the Ruby Mountains and portions of Elko and White Pine counties were also much above normal (top 10%). A persistent rain/snow shadow east of the central Sierra Nevada resulted in below normal (bottom 33%) precipitation in the Reno and Carson City areas, extending to all of Churchill County. Record dry conditions persisted across lower elevations of extreme southern Nevada (Fig. 4). No measurable precipitation was recorded in Las Vegas in November which was 0.30" below normal.

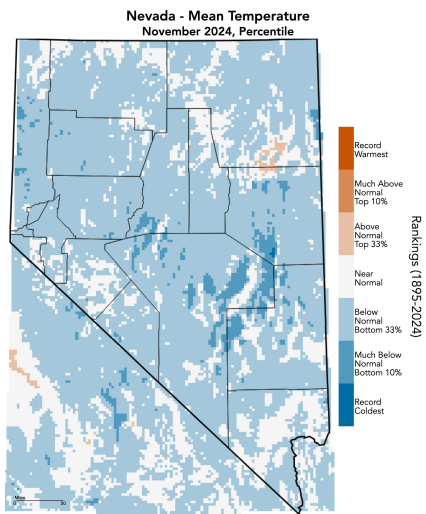


Figure 3. Average monthly temperature for November 2024 compared to all Novembers since 1895 (WestWide Drought Tracker, WRCC).

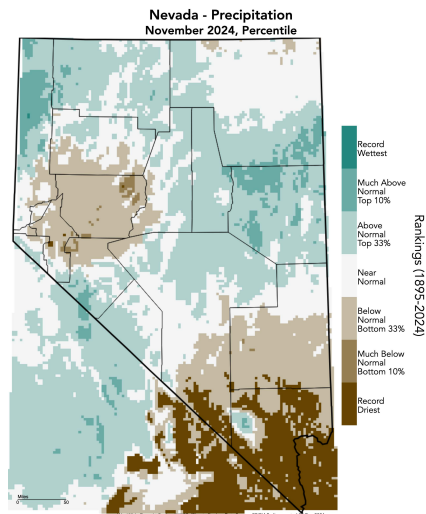


Figure 4. Total monthly precipitation for November 2024 compared to all Novembers since 1895 (WestWide Drought Tracker, WRCC).

Table 1. Percent of Nevada in each drought class from the U.S. Drought Monitor.

Date	5 March 2024	4 June 2024	3 September 2024	3 December 2024
None	85	97	0	11
Abnormally Dry- D0	13	3	72	61
Moderate Drought- D1	2	0	28	7
Severe Drought- D2	0	0	0	19
Extreme Drought- D3	0	0	0	2
Exceptional Drought- D4	0	0	0	0

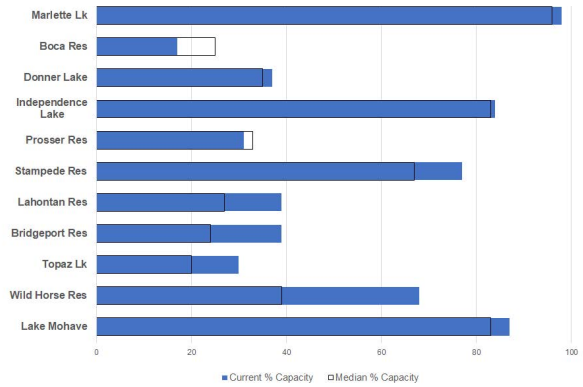


Figure 5. Reservoir storage capacity on 1 December 2024.

Reservoir storage capacity is mixed across the state. Topaz Lake and Wild Horse Reservoir were well above median percent capacity for 1 December, whereas Marlette, Donner, Independence, and Mohave lakes are slightly above, and Boca and Prosser Reservoirs were substantially below median percent capacity (Fig. 5). Below normal temperatures and an active storm track during the second half of November resulted in much above normal (>130% of median for the date) snow water equivalent (SWE) values for nearly all the basins across the state. It is important to note that early December snowpack is a small fraction of the annual peak SWE and that large variations in percent of median SWE are common early in the season.

The latest U.S. Monthly Drought Outlook for November 2024 projects drought to persist across southern Nevada (Fig. 7). No additional drought development is expected across the state during the next month. The latest U.S. Monthly Outlook for December 2024 indicates a very likely (>40% probability) of above normal temperatures, especially in the extreme south where it is very likely (>60%) (Fig. 8). Below normal precipitation is favored across nearly all the state and particularly in the south (>40%) (Fig. 9).

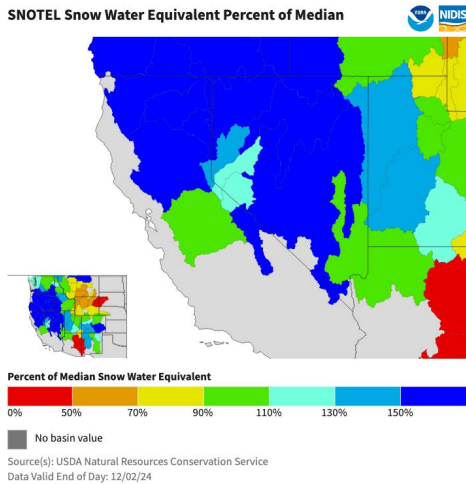


Figure 6. Snow Water Equivalent (SWE) percent of 1991-2020 median values for major watersheds on 2 December 2024 based on measurements from the Snow Telemetry (SNOTEL) network of stations. Source: USDA Natural Resources Conservation Service.

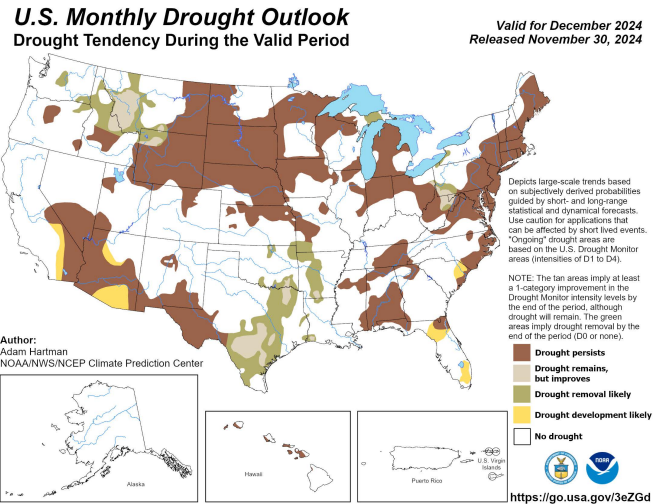


Figure 7. U.S. Monthly Drought Outlook for December 2024.

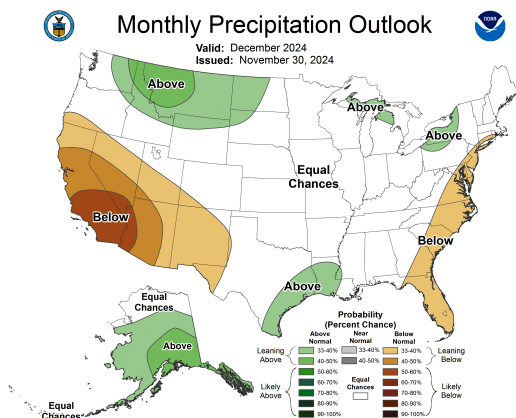


Figure 8. U.S. Monthly Temperature Outlook for December 2024.

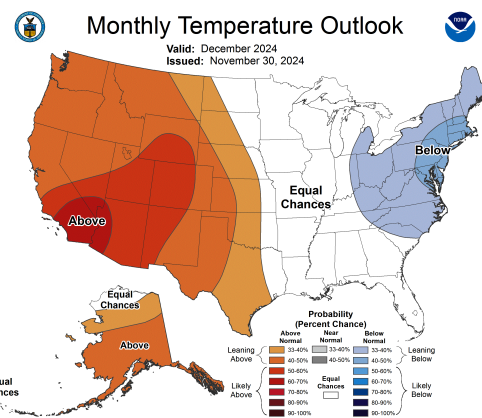


Figure 9. U.S. Monthly Precipitation Outlook for December 2024.