

Hydrology Report – January 2022

- **Upper Basin precipitation and Temperature**

In December, the Upper Basin had several large storms that has improved this year's outlook. The precipitation in December was 206% of average and this year's cumulative precipitation is currently 126% of average. Although December was 3-7 degrees above average temperature in the Upper Basin, the December precipitation added significant snowpack.

- **Upper Basin Snowpack and runoff**

The snowpack is currently at 130% of the seasonal average after large storms in December. The improvement in hydrology has increased the runoff forecast for the year. The runoff from snowpack this year is forecasted at 91% of average. The next few months are going to be critical for snowpack accumulation.

- **Current reservoir status**

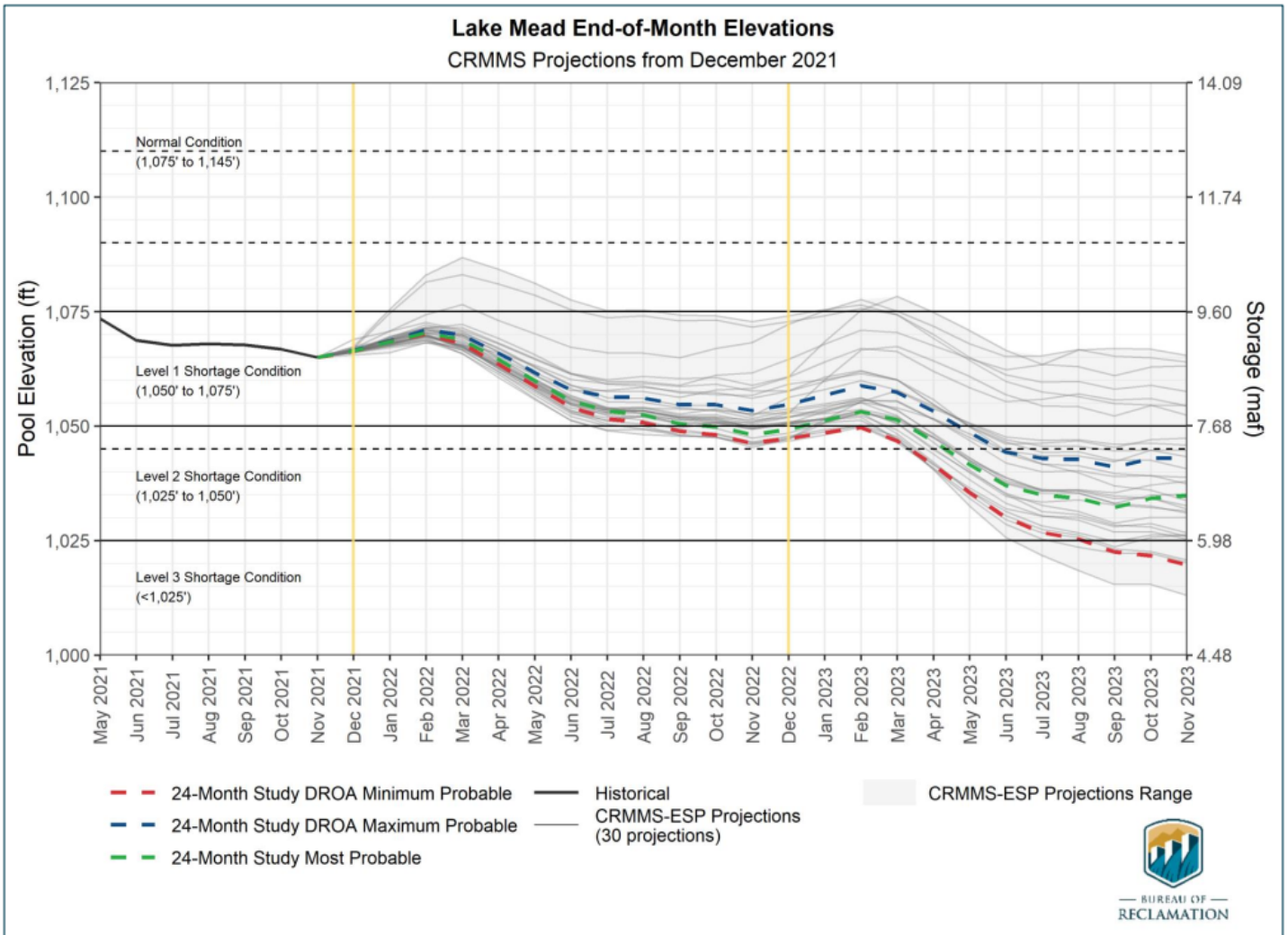
As of January 10, 2022, Lake Mead is at an elevation of 1,066.7 feet and has about 8.9 million acre-feet in storage (34% capacity). As of January 10, 2022, Lake Powell is at an elevation of 3,535.7 feet and has about 6.6 million acre-feet in storage (27% capacity). Since this time last year, Lake Mead has decreased about 18 feet and Lake Powell has decreased about 45 feet. Total system storage for the Upper and Lower Basin is around 22 million-acre-feet (37% capacity).

- **2022 Reservoir Operations**

In calendar year 2022, there will be a Tier 1 shortage under the 2007 Guidelines and there will be a required Drought Contingency Plan contribution for Nevada and Arizona. Accordingly, in 2022, Nevada will be required to reduce consumptive use by 13,000 acre-feet under the 2007 Interim Guidelines and have a Drought Contingency Plan contribution of 8,000 acre-feet. Arizona and Mexico are also required to take shortage and make a water savings contribution in 2022. Those amounts are significantly larger than Nevada's obligations. The total combined volumes for Arizona, Nevada, and Mexico are 613,000 acre-feet in calendar year 2022, which will save the equivalent of about 8 feet in elevation in Lake Mead.

- **Reclamation's Lake Mead Projection**

Reclamation uses computer models to forecast reservoir elevations based on planned water use and anticipated runoff. The most current model (December 24 month study) is forecasting Lake Mead to be at an elevation of 1,049.2 feet by the end of calendar year 2022.



- **Water Use in Southern Nevada**

Southern Nevada’s consumptive use from January through November of 2021 was 231,258 acre-feet, which is 6.7 percent less than last year. In 2020, Southern Nevada consumed less Colorado River water than it is 300,000 acre-feet entitlement: specifically, 44,432 (15%) acre feet less. The Southern Nevada Water Authority stored the unused water in Lake Mead to help maintain water levels. This stored water is accessible to the Southern Nevada in the future if necessary. The Southern Nevada Water Authority aggressively reduced consumptive uses through turf removal and conservation programs allowing over 2.1 million acre-feet in total to be stored for future use.



Colorado River Commission of Nevada

Hydrology and Water Use Update

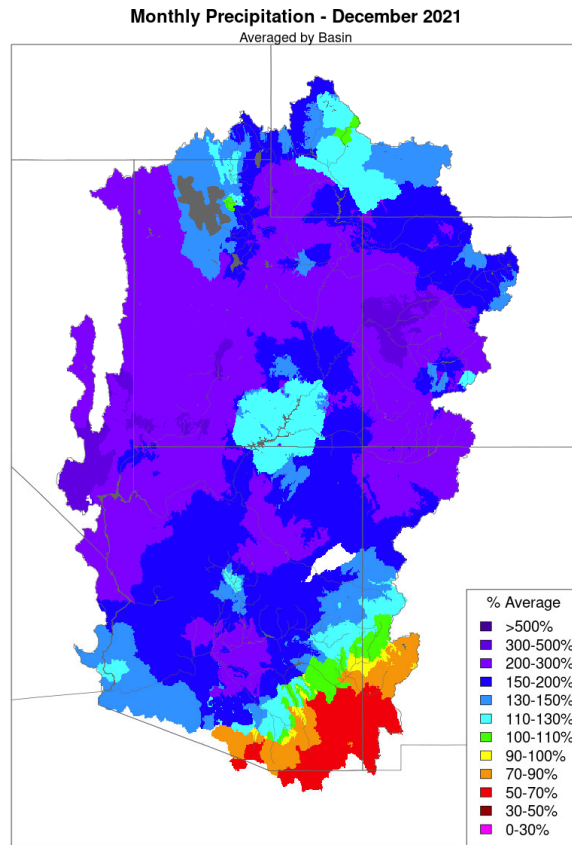
Warren Turkett

January 11, 2021

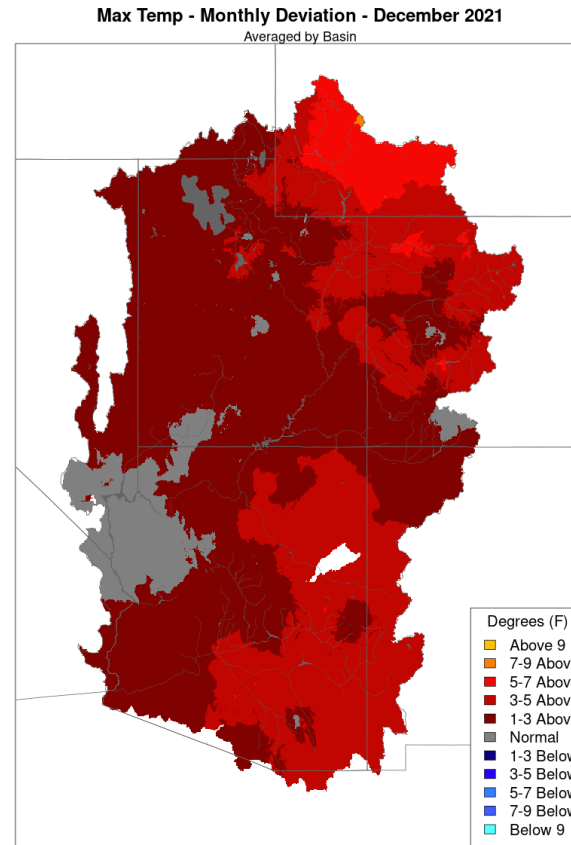




Precipitation and Temperature



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

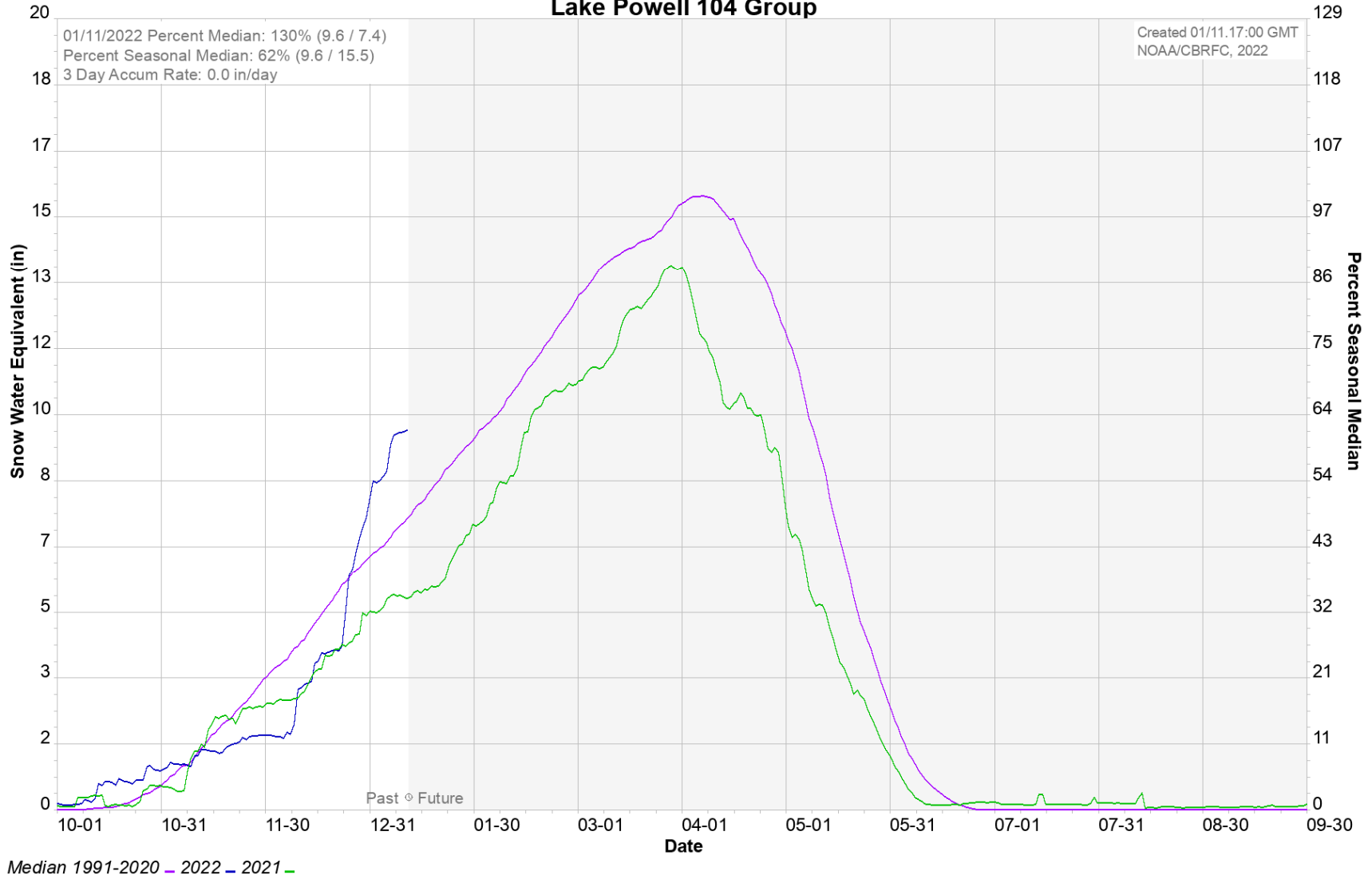


Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Above Lake Powell December precipitation: 206%
Above Lake Powell water year 2022 cumulative precipitation: 126%



Colorado Basin River Forecast Center Lake Powell 104 Group





Unregulated Inflow, Current and Projected Reservoir Status

Projected unregulated inflow to Lake Powell	Acre-Feet	% Average
Water Year 2022	8,768,000	91%
April thru July 2022	6,300,000	99%

Reservoir	Current Elevation	Current Storage Acre-Feet	Current % Capacity	Projected Elevation on 1/1/2023 ¹
Lake Mead	1,066.7	8,939,000	34%	1,049.2
Lake Powell	3,535.7	6,602,000	27%	3,511.7

Data retrieved January 10, 2022

¹ Based on Reclamation's December 2021 24 Month Study Most Probable Inflow.



Water Use In Southern Nevada

Southern Nevada Water Use

2020 Actual Use in Acre-Feet

Nevada Annual Allocation	300,000
Diversion	478,969
Return Flows	223,401
Consumptive Use	255,568
Unused Allocation Available for Banking	44,432 (15%)

Southern Nevada Water Use

Diversions

Return Flows

Consumptive Use

January - November 2021	449,272	218,014	231,258
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Banked Water (through end of 2020)

Acre-Feet

Ground Water Recharge in So. Nevada	357,643
Banked in Lake Mead	865,741
Banked in California and Arizona	944,071
Total	2,167,455



Summary

Lake Powell

- Water Year 2022¹ has above average snowpack after December storms.
- Upper Basin snowpack accumulation is currently 130% of the seasonal median.
- Unregulated inflow for water year 2022 is forecasted to be 91% of average.

Lake Mead

- In calendar year 2022, there will be a Tier 1 shortage under the 2007 Guidelines and required DCP contributions for Nevada and Arizona.
- Over the last 6 years, the Lower Basin has conserved enough water to raise Lake Mead by 65 feet.

Nevada Water Supply

- Southern Nevada has about 9 years of water supply banked. ²
- **In 2020, Southern Nevada used 44,432 af less than our annual allocation.**

Storage	Elevation (f)	% Capacity	Change since last year
Lake Mead	1,066.7	34%	-17.8 ft
Lake Powell	3,535.7	27%	-44.7 ft

Data retrieved January 10, 2022.

¹ Water year is defined as October through September.

² Based on 2020 consumptive use and storage volumes through 2020.