

Hydrology Report – October 2023

UPDATE ON DISCUSSIONS

Draft Environmental Impact Statement (DEIS)

Reclamation is still on track to release a new draft SEIS this fall regarding actions through 2026 to address and respond to near term risks of declining hydrology on the river.

Post-2026 Guideline Negotiations

Reclamation is scheduled to release the post-2026 scoping comments this month. Thereafter, Reclamation will move into the development phase for preparation of a preferred alternative in collaboration with the Basin States and other stakeholders. Negotiations in the Basin States towards this effort have begun.

HYDROLOGY UPDATE

Upper Basin Precipitation and Temperature

- In September, the upper basin received 69% of average precipitation bringing the cumulative precipitation to 108% of average for the year.
- Temperatures in September were above average to normal for most of the upper basin.

Upper Basin Snowpack and runoff

- Upper basin snowpack peaked on April 7, 2023, with 24.1 inches of snow water equivalent or 155% of the seasonal median.
- The April through July runoff from snowpack was 166% of average and the full year's inflow into Lake Powell was observed at 140% of average.

Current reservoir status

- As of October 2, 2023, Lake Mead is at an elevation of 1,065.8 feet and has about 8.9 million acre-feet in storage (34% capacity).
- As of October 2, 2023, Lake Powell is at an elevation of 3,573.6 feet and has about 8.8 million acre-feet in storage (38% capacity).
- Total system storage for the upper and lower basin is around 25.3 million acre-feet (43% capacity).

2024 reservoir operations

- Lake Powell will be operated in the Mid-Elevation Release Tier with a release of 7.48 million acre-feet in water year 2024.
- Lake Mead will operate in a Level 1 Shortage Condition in calendar year 2024.

- Accordingly, in 2024, Nevada’s consumptive use will be reduced by 13,000 acre-feet under the 2007 Interim Guidelines and Nevada will make 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 2024. 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 2024, which will save the equivalent of about 8 feet in elevation in Lake Mead. The reductions and contributions for calendar year 2024 are highlighted in Figure 1.

**2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan,
and Binational Water Scarcity Contingency Plan
Total Volumes (kaf)**

Lake Mead Elevation (feet msl)	2007 Interim Guidelines Shortages		Minute 323 Delivery Reductions	Total Combined Reductions	DCP Water Savings Contributions			Binational Water Scarcity Contingency Plan Savings	Combined Volumes by Country US: (2007 Interim Guidelines Shortages + DCP Contributions) Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)					Total Combined Volumes
	AZ	NV	Mexico	Lower Basin States + Mexico	AZ	NV	CA	Mexico	AZ Total	NV Total	CA Total	Lower Basin States Total	Mexico Total	Lower Basin States + Mexico
1,090 - 1,075	0	0	0	0	192	8	0	41	192	8	0	200	41	241
1,075 - 1050	320	13	50	383	192	8	0	30	512	21	0	533	80	613
1,050 - 1,045	400	17	70	487	192	8	0	34	592	25	0	617	104	721
1,045 - 1,040	400	17	70	487	240	10	200	76	640	27	200	867	146	1,013
1,040 - 1,035	400	17	70	487	240	10	250	84	640	27	250	917	154	1,071
1,035 - 1,030	400	17	70	487	240	10	300	92	640	27	300	967	162	1,129
1,030 - 1,025	400	17	70	487	240	10	350	101	640	27	350	1,017	171	1,188
<1,025	480	20	125	625	240	10	350	150	720	30	350	1,100	275	1,375

→
Tier 1

Figure 1. The reductions and contributions for calendar year 2024.

Water Use in Southern Nevada ¹

- Southern Nevada’s consumptive use in January through August of 2023 was 141,096 acre-feet, which is a 16% decrease in water use compared to 2022.

Reclamation's Lake Mead Projection ²

- Reclamation uses computer models to forecast reservoir elevations based on planned water use and anticipated runoff. Figure 2 shows that the September 24 Month Study is forecasting Lake Mead to end the calendar year between 1,065.4 and 1,065.0 feet in elevation.

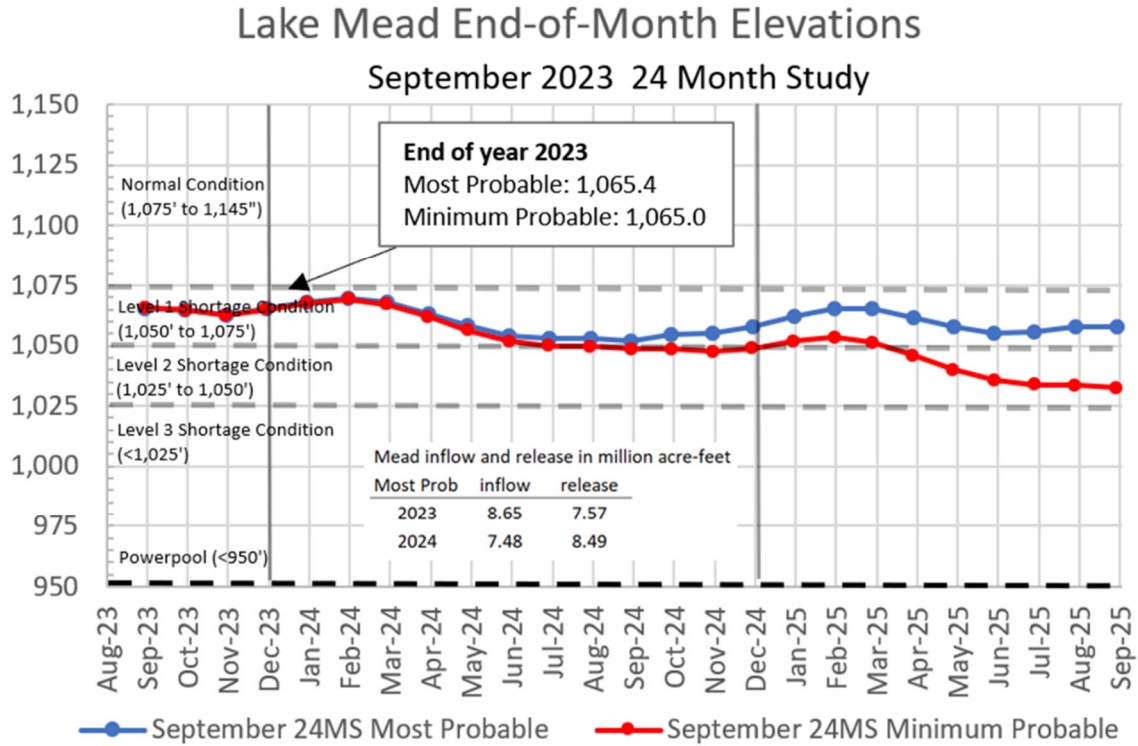


Figure 2. Reclamations September 24 Month Study projections for Lake Mead.

Reclamation's Lake Powell Projection ²

- Reclamations September 24 Month Study is forecasting Lake Powell's elevation to be between 3,574.3 and 3,572.2 feet by the end of the year (Figure 3).

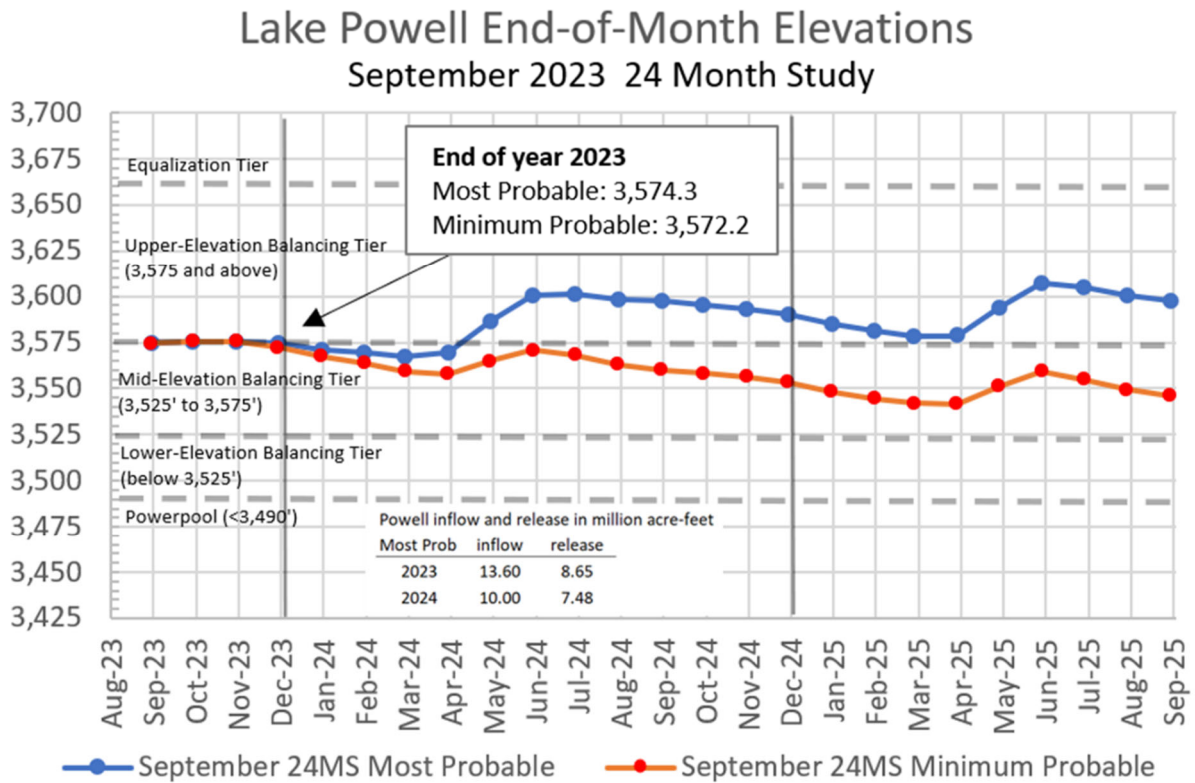


Figure 3. Reclamations September 24 Month Study projections for Lake Powell.

¹ 2023 consumptive use data is preliminary.

² Reclamation modeling assumes the current operational guidelines and planned conservation activities. Forecasts could improve by implementing additional actions.



Colorado River Commission of Nevada

Hydrology and River Updates

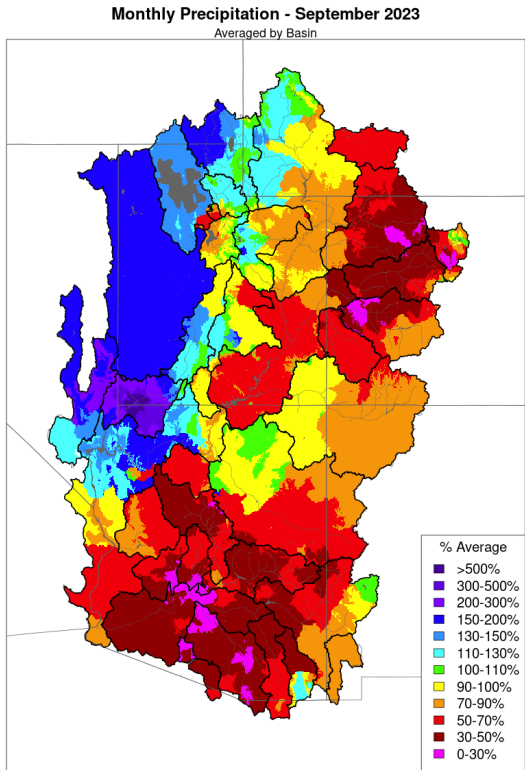
Warren Turkett

October 10, 2023

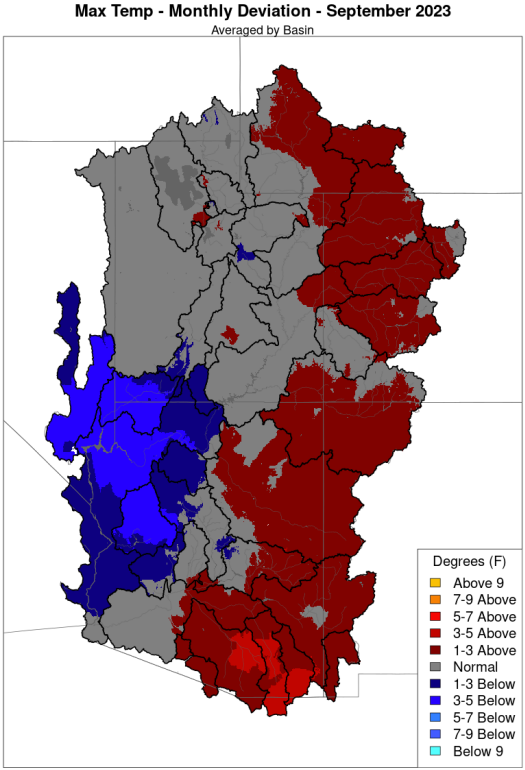




Precipitation and Temperature



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



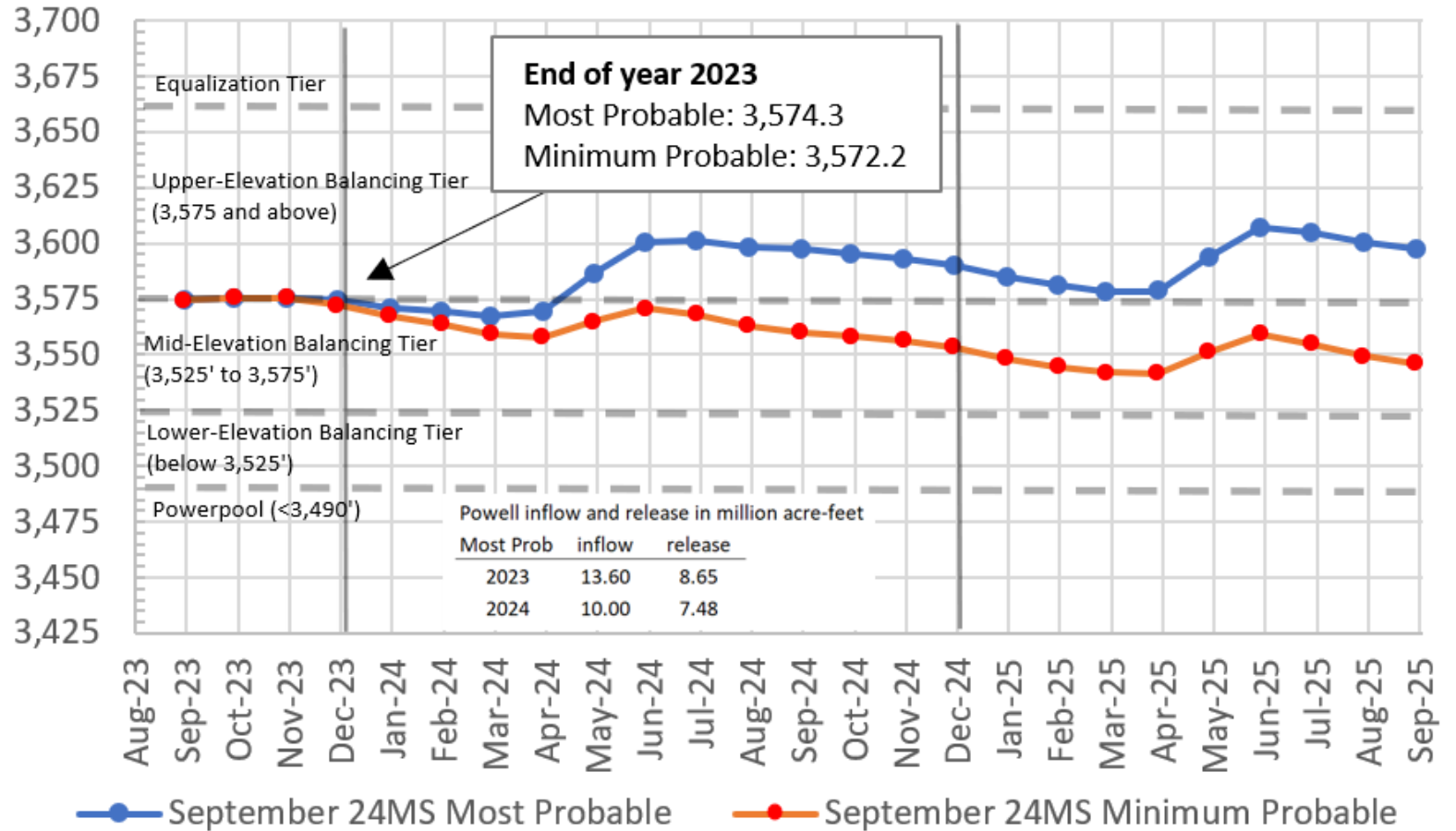
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Lake Powell %Average Precipitation Water Year 2023

Area	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Water Year
UC-Powell	84	82	152	170	102	183	67	67	136	47	124	69	108



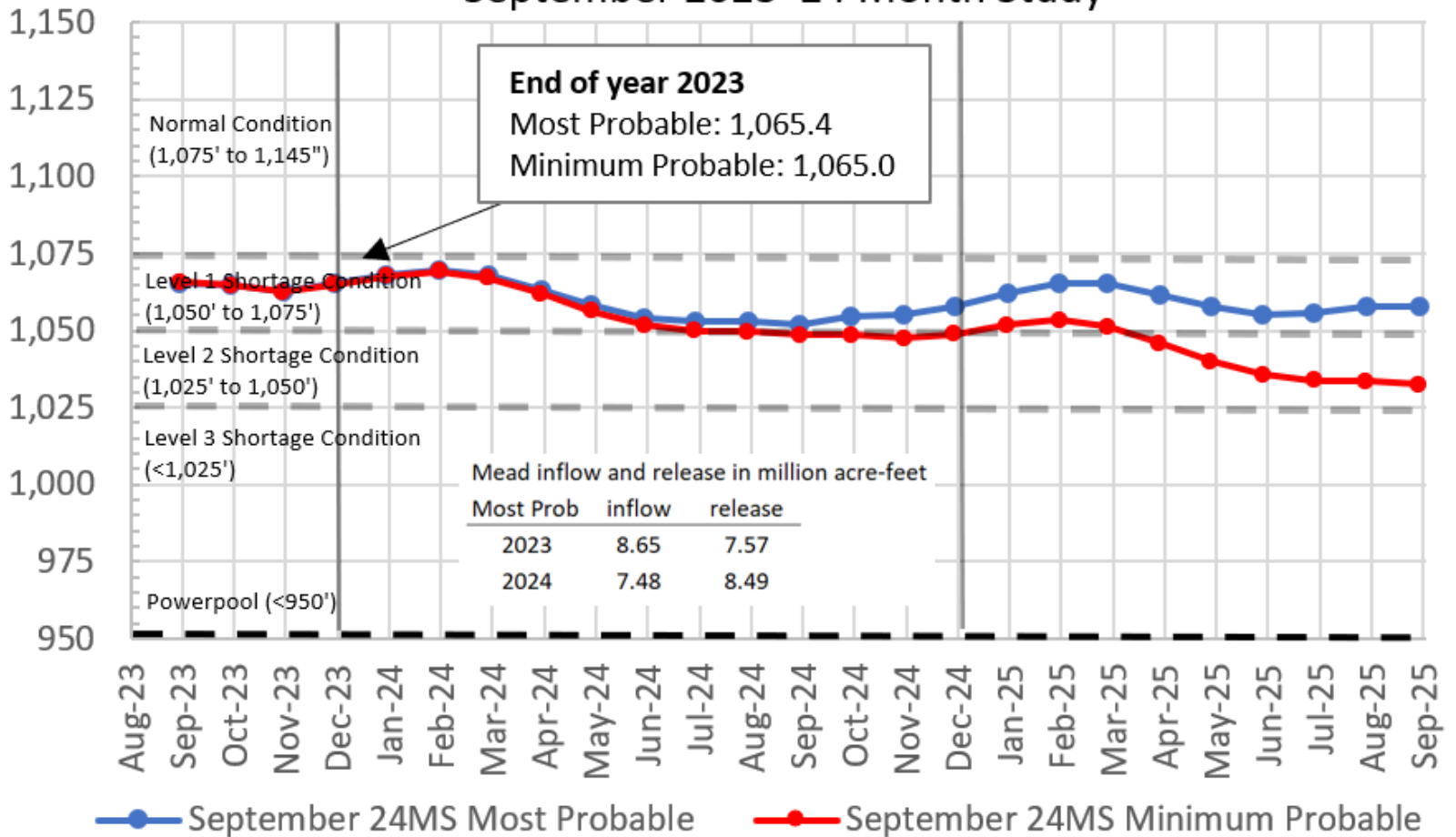
Lake Powell End-of-Month Elevations September 2023 24 Month Study





Lake Mead End-of-Month Elevations

September 2023 24 Month Study





Water Use In Southern Nevada

2023 January - August Southern Nevada Water Use¹

Acre-Feet

Nevada Annual Allocation	300,000
Drought Contingency Plan contribution	-8,000
Interim Guidelines Shortages	-17,000
Diversions	302,081
Return Flow Credits	160,984
Consumptive Use	141,096
	(-16% compared to last year)

¹ 2023 Consumptive use data is preliminary.



Negotiations and Updates

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Post-2026 Federal Register Notice

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