

# Hydrology Report – September 2024

## Upper Basin Hydrology

- In August, the upper basin received 167% of average precipitation bringing the cumulative total to 104% for the year.
- Temperatures in the upper basin for August were 1-3 degrees above normal in some areas.
- Snowpack accumulation peaked this year at 111% of the seasonal median.
- The Basin Forecast Center is forecasting runoff this year at 84% of average.

## Current reservoir status

- As of September 5, 2024, Lake Mead is at an elevation of **1,063.5** feet and has about 8.6 million acre-feet in storage (33% capacity). The level is **23 feet higher** than the low reached in July of 2022 of 1,041.
- As of September 5, 2024, Lake Powell is at an elevation of 3,580.6 feet and has about 9.4 million acre-feet in storage (40% capacity).
- Total system storage for the upper and lower basin is around 25.6 million acre-feet (44% capacity).

## 2025 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 2025.
- Lake Mead will operate in a Level 1 Shortage Condition in calendar year 2025.
- Accordingly, in 2025, 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 2025. 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 2025, which will save the equivalent of about 8 feet in elevation in Lake Mead.

## Water Use in Southern Nevada <sup>1</sup>

- Southern Nevada's consumptive use for January-July of 2024 was 117,232 acre-feet, which is a 13% decrease compared to the average of the last 3 years.

## Reclamation's Lake Mead and Lake Powell Projections <sup>2</sup>

- Reclamation uses computer models to forecast reservoir elevations based on planned water use and anticipated runoff. The August 2024 24 Month Study is forecasting Lake Mead to be between 1,062.3 and 1,061.9 feet in elevation by the end of 2024.
- Reclamations August 2024 24 Month Study is forecasting Lake Powell's elevation to be between 3,574.1 and 3,570.9 feet by the end of 2024.

<sup>1</sup> 2024 consumptive use data is preliminary.

<sup>2</sup> 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

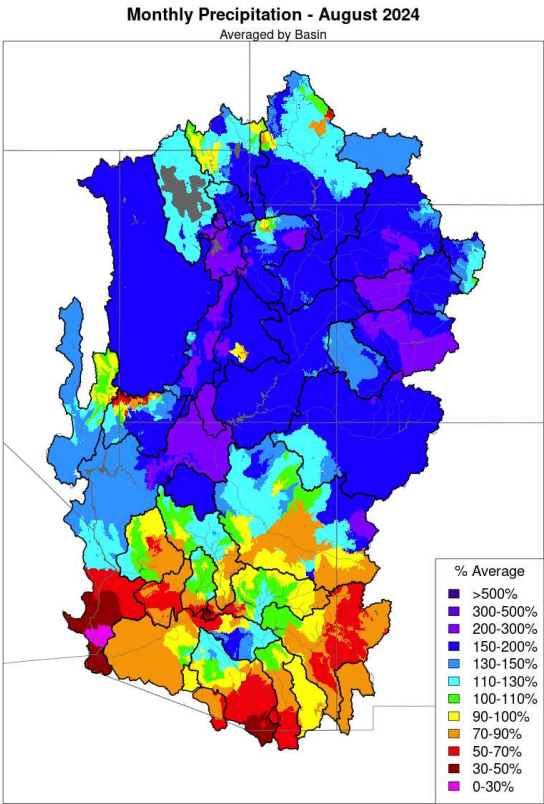
Warren Turkett

September 10, 2024

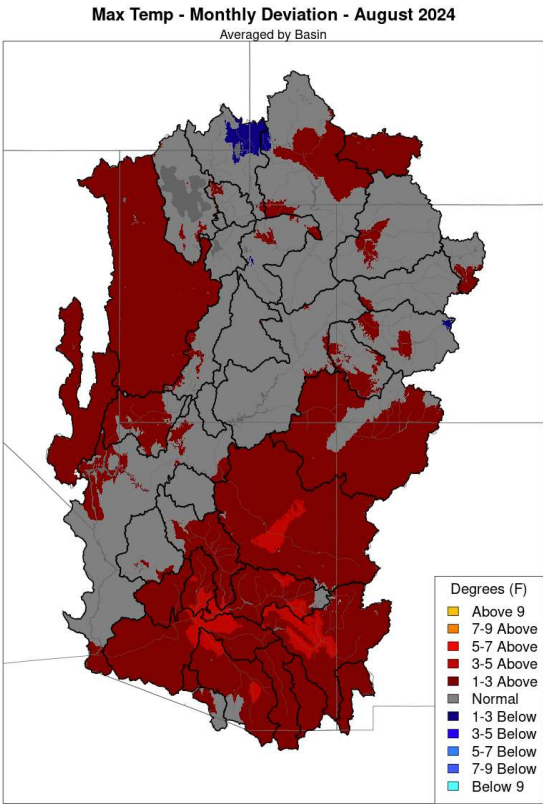




# Precipitation and Temperature



Prepared by NOAA, Colorado Basin River Forecast Center  
Salt Lake City, Utah, [www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)



Prepared by NOAA, Colorado Basin River Forecast Center  
Salt Lake City, Utah, [www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

Lake Powell %Average Precipitation Water Year 2024

Area	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Water Year
UC-Powell	92	56	76	120	137	130	69	95	153	65	167	104



# August 24 Month Study Results

- Reclamation released the results of the August 24 Month Study, which is used to determine the operating tiers for Lake Mead and Lake Powell for 2025.
- Lake Powell was projected to be in the “Mid-Elevation Release Tier” which results in a release on 7.48 million acre-feet in water year 2025.
- Lake Mead was projected to be in a “Level 1 Shortage”, which is the same operations as our current year.

Lake Powell		
Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf)
3,700	<b>Equilization Tier</b> Equalize, avoid spills, or release 8.23 maf	23.31
3,636-3,666 (2008-2026)	<b>Upper Elevation Balancing Tier</b> Release 8.23 maf	14.65-18.36 (2008-2026)
3,575	If Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	8.90
<b>3,568.99 ft</b> <i>Jan 1, 2025 Projection</i>	<b>Mid-Elevation Release Tier</b> Release 7.48 maf; if Lake Mead < 1,025 feet; release 8.23 maf	
3,525	If any minimum probable Lake Powell elevation projection shows Lake Powell < 3,500 feet, begin planning to reduce releases to no less than 6.0 maf	5.55
3,500	<b>Lower Elevation Balancing Tier</b> Balance contents with a min/max release of 7.0 and 9.5 maf	4.22
3,370	If any minimum probable Lake Powell elevation projection shows Lake Powell < 3,500 feet, begin planning to reduce releases to no less than 6.0 maf	0
	The Secretary reserves the right to operate Reclamation facilities to protect the Colorado River system if hydrologic conditions require such action as described in Sections 6 and 7(D) in the 2007 Interim Guidelines ROD	

Lake Mead		
Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf)
1,220	<b>Flood Control Surplus or Quantified Surplus Condition</b> Deliver > 7.5 maf	26.18
1,200 (approx.)	<b>Domestic Surplus or ICS Surplus Condition</b> Deliver > 7.5 maf	23.14 (approx.)
1,145	<b>Normal or ICS Surplus Condition</b> Deliver ≥ 7.5 maf	16.18
1,075	<b>Shortage Condition</b> Deliver 7.167 maf	<b>1,062.32 ft</b> <i>Jan 1, 2025 Projection</i>
1,050	<b>Shortage Condition</b> Deliver 7.083 maf	
1,025	<b>Shortage Condition</b> Deliver 7.0 maf	5.98
1,000	<b>Shortage Condition</b> Deliver 7.0 maf Further measures may be undertaken	4.48
895		0

<https://www.usbr.gov/newsroom/news-release/4934>





# August 24 Month Study Results

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

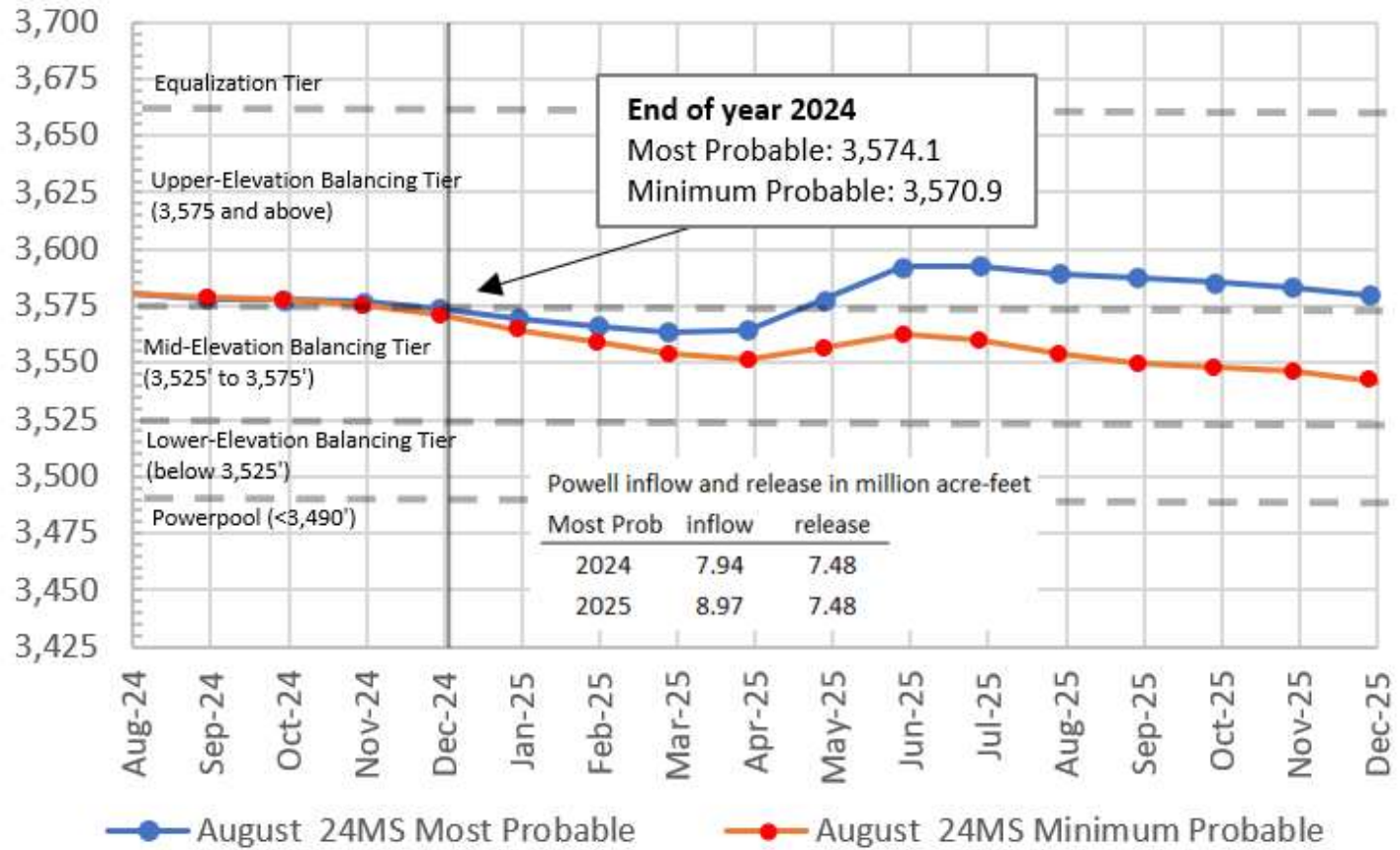
2025 Reductions + Contributions  
➔

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 <i>US: (2007 Interim Guidelines Shortages + DCP Contributions)</i> <i>Mexico: (Minute 323 Delivery Reductions + Binational Water Scarcity Contingency Plan Savings)</i>					Total Combined Volumes
	AZ	NV	Mexico	<i>Lower Basin States + Mexico</i>	AZ	NV	CA	Mexico	AZ Total	NV Total	CA Total	<i>Lower Basin States Total</i>	<i>Mexico Total</i>	<i>Lower Basin States + Mexico</i>
1,090 - 1,075	0	0	0	0	192	8	0	41	192	8	0	200	41	241
1,075 - 1,050	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

The Secretary of the Interior will take affirmative actions to implement programs designed to create or conserve 100,000 acre-ft per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the lower basin. All actions taken by the United States shall be subject to applicable law, including availability of appropriations.



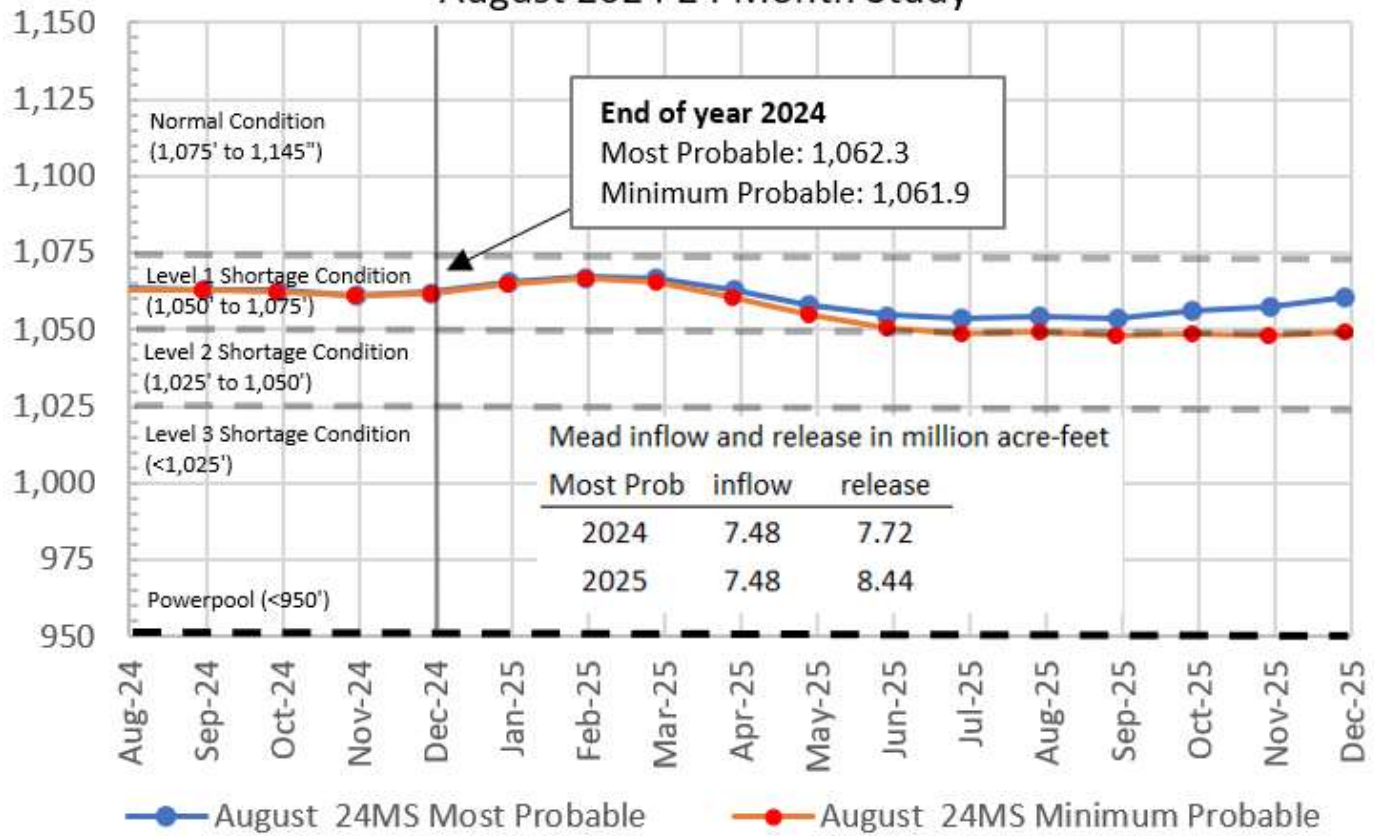
## Lake Powell End-of-Month Elevations August 2024 24 Month Study



September 5, 2024 elevation: 3,580.6 feet



## Lake Mead End-of-Month Elevations August 2024 24 Month Study



September 5, 2024 elevation: 1,063.5 feet





# Water Use In Southern Nevada

## 2024 January-July Southern Nevada Water Use<sup>1</sup>

Acre-Feet

Nevada Annual Allocation	300,000
Drought Contingency Plan contribution	-8,000
Interim Guidelines Shortages	-13,000
Diversions	261,641
Return Flow Credits	144,409
Consumptive Use	117,232
<sup>1</sup> 2024 Consumptive use data is preliminary.	(13% decrease compared to 3-year average)