

Colorado River Summary & Update

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The Colorado River is a critical water resource for the western United States and Mexico, and it has become increasingly stressed in the past few decades. The Colorado River extends approximately 1,450 miles and drains 244,000 square miles. The river serves portions of seven U.S. states, two nations, and more than 40 million (M) people, including 30 American Indian Tribes. It also supports more than six million acres of farmland. The Colorado River has long-term 20th-century average flow of about 14.8 million acre-feet (MAF) per year.

More than 90% of the 40M people depending on the river are in the Lower Basin and do not live on or close to the river mainstem. Large canals and transfer systems (i.e., the Colorado River Aqueduct and the Central Arizona Project) lift and transport Colorado River water over large distances to urban centers in southern California and central Arizona.

Water allocation on the river is governed by the “Law of the River,” which is anchored by the Colorado River Compact of 1922. The Mexican Water Treaty was made in 1944 (Minute 319). Together, these agreements allocated a total of 16.5 MAF annually with 7.5 MAF each to the Upper and Lower Basins and 1.5 MAF to Mexico.

Central to the “Law of the River” and the legal framework are “present perfected rights” (PPRs), which prioritize older water rights on a first-in-time, first-in-right basis. Based on a 1964 Supreme Court ruling, PPRs are generally defined as those established and appropriately ratified prior to the enactment of the Boulder Canyon Act as of 25 June 1929. For example, PPRs were established for the Palo Verde Irrigation District in 1877, the Imperial Irrigation District in 1901, and the Yuma County Water Users Association in 1903.

River allocations in 1922 were based on overestimated flow assumptions during an unusually wet period, creating a structural imbalance that has become more severe under recent climate conditions. In the 21st century, the river’s hydrology has shifted markedly. Average flows since 2000 have declined to roughly 12.4 MAF per year, about 16% lower than the 20th-century average.

Recent years have been even more alarming, with flows as low as 8.5 MAF in water year 2024–2025. This decline has led to critically low reservoir levels, particularly in Lake Mead and Lake Powell, threatening water supplies, hydropower generation, and system reliability.

The onset of severe drought and a decline in reservoir levels stimulated a series of interim agreements and emergency measures have been implemented, beginning with the 2007 Interim Guidelines, followed by Minute 323 with Mexico, and the Lower Basin Drought Contingency Plan (DCP) that was ratified by all seven basin states in 2019.

These programs impose tiered water reductions based on Lake Mead's elevation, with Arizona, Nevada, California, and Mexico all facing escalating cutbacks as reservoir levels decline. Arizona has borne the largest proportional reductions, with Tier 1 shortages alone reducing its allocation by approximately 18% (512 MAF).

All existing shortage-sharing agreements expire in 2026. So, for the past several years the basin states and Mexico have been engaged in a continuous process of renegotiations.

Progress has been slow due to several major sticking points that include how long a new agreement should last, which reservoirs should be managed, how to rebuild storage, how to account for water use, and how much additional water must be conserved. Long-standing legal ambiguities from the 1922 Compact, deep distrust between Upper and Lower Basin states, and complex in-state political pressures have further complicated the negotiations.

Agriculture remains central to these debates since approximately 70% of all Colorado River allocations are diverted to agriculture. While the Upper Basin uses less water overall, the Lower Basin supports far more irrigated acreage and significantly higher agricultural economic output per acre-foot or per acre of irrigated land. As a result, proposed reductions raise difficult questions about equity, efficiency, and the economic consequences of reallocating scarce water from productive and valuable uses (i.e., Lower Basin) to undeveloped areas.

The Colorado River Basin is facing a fundamental reckoning. Stabilizing the system and bringing inputs and consumption into balance will require reductions well beyond historical norms, a reassessment of long-standing assumptions. Current conditions require a new management framework that reflects current demographic realities and permanent hydrologic change rather than temporary drought.

NOTE: A breakout session at the 2026 SW Ag Summit in Yuma, AZ on Thursday, 19 February will provide a review and update on Colorado River conditions and the prospects for a negotiated settlement for the new conservation and operational guidelines.

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