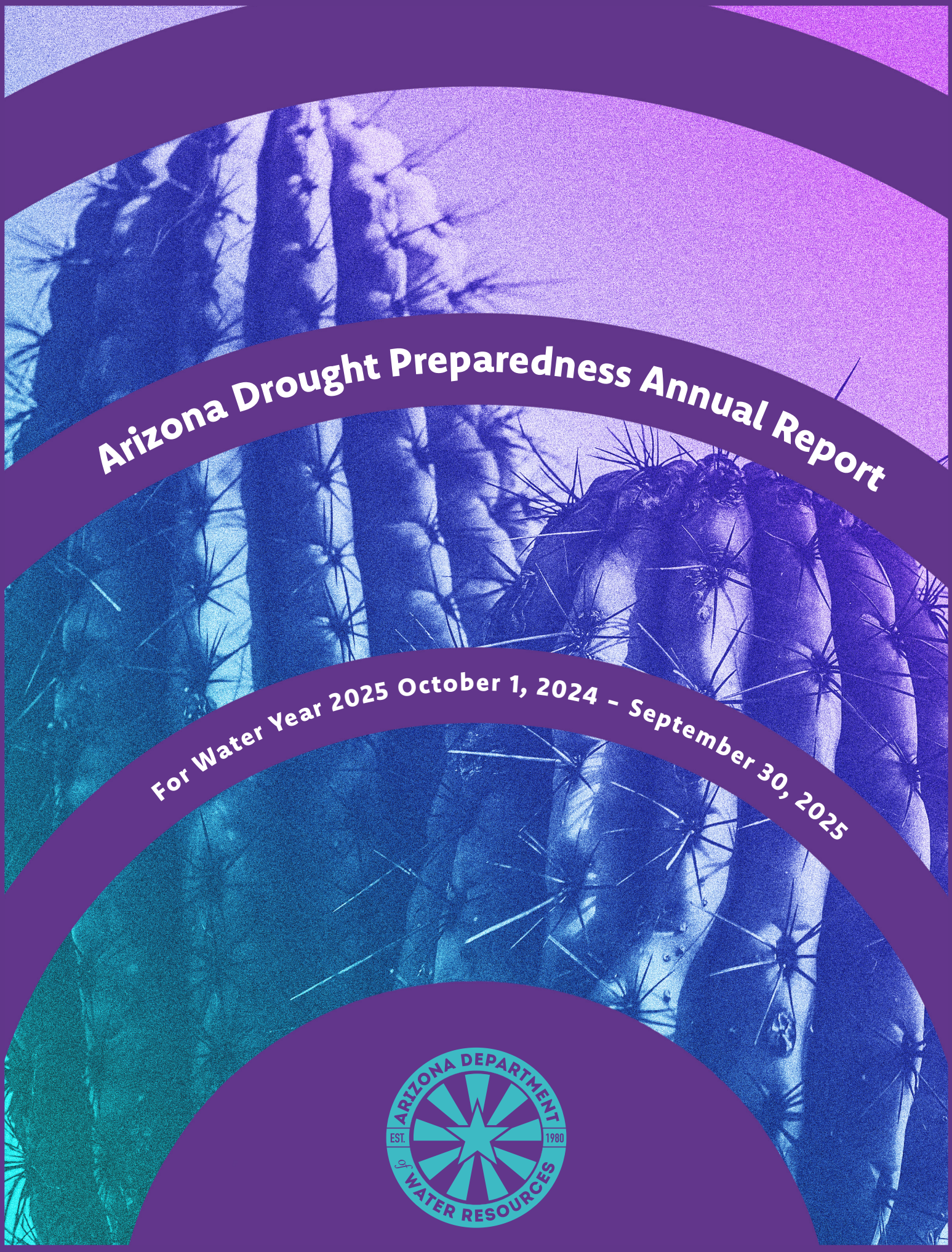


Arizona Drought Preparedness Annual Report

For Water Year 2025 October 1, 2024 – September 30, 2025

ARIZONA DEPARTMENT of WATER RESOURCES
EST. 1980

2025 Arizona Drought Preparedness Annual Report

Acknowledgments

The Arizona Drought Preparedness Plan was adopted in 2004 and its continued implementation was ordered in 2007 (Executive Order 2007-10). The Arizona Department of Water Resources (ADWR) prepares an annual report based on drought updates from the Drought Monitoring Technical Committee (MTC), Governor's Drought Interagency Coordinating Group (ICG), Local Drought Impact Groups (LDIGs), and others. The 2025 Arizona Drought Preparedness Annual Report covers the drought conditions and preparedness activities for Water Year 2025, from October 1, 2024, through September 30, 2025.

Andrew Muniz, ADWR

Brian Powell, Pima County CLR

Colby Bowser, Pima County

Eleonora Demaria, Pima County

Erin Boyle, NWS-Tucson

Erinanne Saffell, ASU

Ian Murray, Pima County CLR

James Heffner, ADWR

James Taylor, ADWR

John Glueck, NWS-Tucson

Kristen Johnson, ADWR

Kurt Schonauer, USGS

Laney Meeker, ADWR

Maggie Martin, ADWR

Matt Roach, ADHS

Mark O'Malley, NWS- Phoenix

Mead Mier, PAG

Melanie Alvarez, PAG

Mitch Basefsky, CAP

Niki Lajevardi-Khosh, ADHS

Nicholas Matthews, ADWR

Ryan Hunt, USDA Farm Service Agency

Shauna Evans, ADWR

Stephen Flora, SRP

Travis Kolling, NRCS

Trent Blomberg, ADWR

Viridiana Quinonez Nevarez, DFFM

Contents

1. Introduction

Water Year (WY) 2025 marks the 32nd year of Arizona's long-term drought, where 22 of the last 32 water years have been below the long-term average statewide precipitation. The climate of Arizona is arid and semi-arid which produces significant yet highly variable precipitation events. Consequently, long-term drought in Arizona operates as a series of dry years with intermittent wet years.

The long-term average water year precipitation for Arizona is currently 12.22 inches (WY1896-2025) (**Figure 1**). The average statewide precipitation for WY2025 was 7.34 inches (60% of the long-term average statewide precipitation).

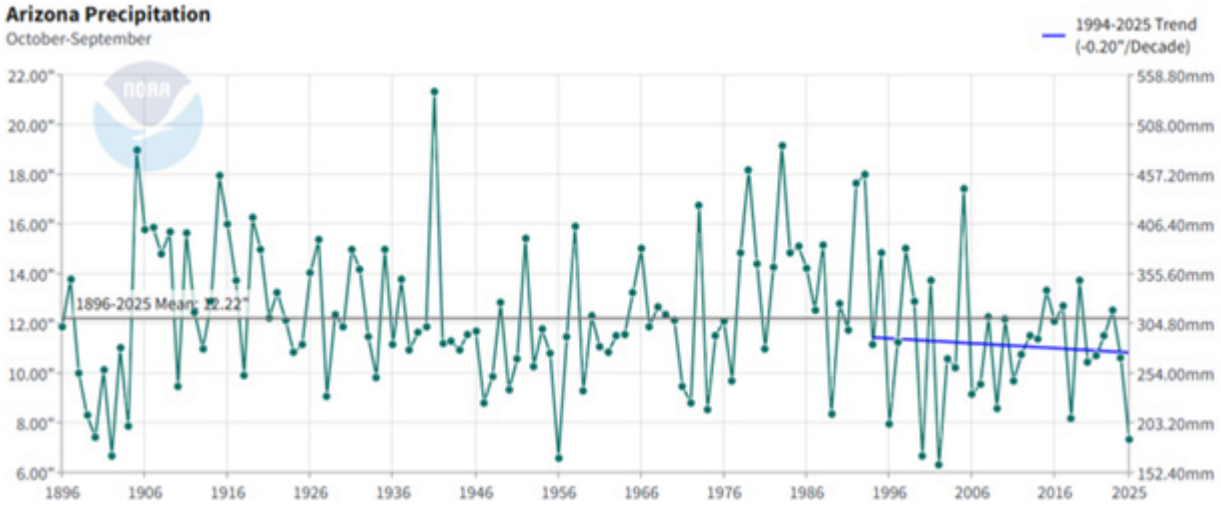


Figure 1. The long-term average water year precipitation for Arizona is 12.22 inches (WY1896-2025), with 7.34 inches received statewide in Water Year 2025.

Water Year 2025 started with a strong and persistent ridge of high pressure across the Southwest, ending October as the hottest on record and tying as the 43rd driest October on record statewide. An early trough and cold front in November slightly cooled the state and brought near average amounts of precipitation along eastern counties. December was the hottest on record for the state. Weak systems and zonal flow limited precipitation in December, bringing only 0.01 inches of precipitation to the state and ranking as the 2nd driest December on record. While January slightly cooled the state, it ranked as the 5th driest January on record.

With only one storm system in February, the state ended the month as the 2nd hottest and 20th driest on record. March and April brought a few more systems, including the largest snowpack for the water year in mid-March. May and June are statistically the driest months for Arizona but ended as the 38th wettest May and the 20th wettest June on record for the state. Monsoonal flow largely stayed to the east of Arizona, limiting storm activity in July (14th driest on record) and August (16th driest on record). Additional tropical moisture and then a strong low-pressure system brought above average precipitation in September.

Overall, Water Year 2025 ended warmer and drier than average (**Figure 2**).

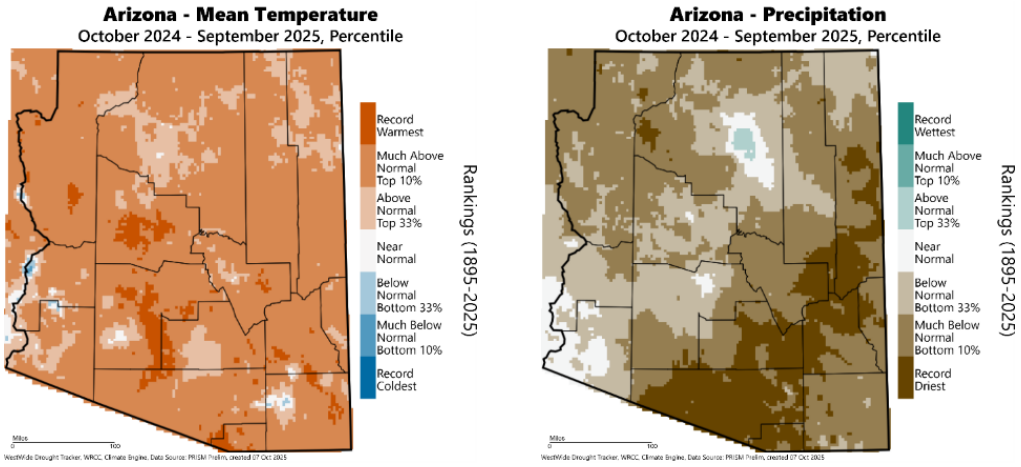


Figure 2. Temperatures were warmer than normal across the state and most counties received below average precipitation for the water year.

A very hot and dry Fall 2024 was followed by a warm and dry Winter 2025, degrading short-term drought across the state. A wetter May and June allowed some short-term drought mitigation through July 2025, but a hot and dry Summer 2025 expanded short-term drought by the end of WY2025 (**Figure 3**).

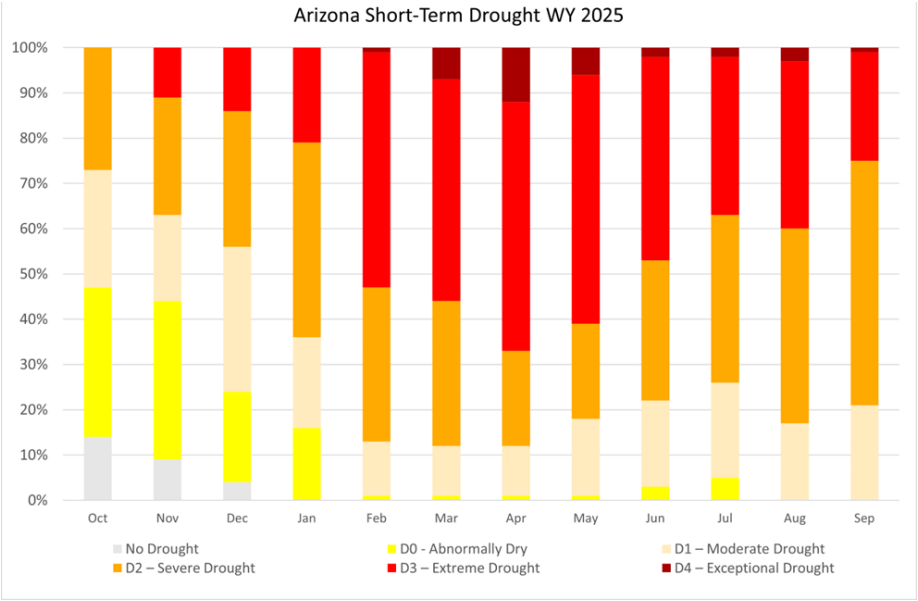


Figure 3. Short-term drought expanded in Winter 2025 and continued through Summer 2025. Data from USDA, NDMC, NOAA, DOC. From the Arizona State Climate Office, September 2025.

At the end of Water Year 2025, pool elevation water levels in the Lake Mead reservoir were 99% of the previous water year levels and 93% of the 30-year average (1,057 ft as of 9/30/2025); pool elevation water levels in the Lake Powell reservoir were 99% of the previous water year levels and 98% of the 30-year average (3,544 ft as of 9/30/2025). Storage in the Salt and Verde system at the end of WY2025 decreased by approximately 31% from WY2024 (decline of 547,243 acre-feet at the end of WY2025).

The Arizona Drought Preparedness Plan provides the framework to improve drought-resiliency across the state and communities of the state by monitoring drought conditions, increasing understanding of drought impacts, and determining mechanisms for limiting future drought vulnerability.

2. Drought Status Summary for the Water Year

2.A. Winter precipitation October 2024–April 2025

For the state, Arizona started Water Year 2025 with the hottest October on record and the 43rd driest October, with 0.43 inches of precipitation statewide. A cold front in November cooled statewide temperatures and brought the wettest November since 2019 to Cochise, Graham, Pima, and Santa Cruz counties. Statewide precipitation was 0.32 inches in November (40% of average statewide precipitation). December ranked as the 2nd driest and hottest December on record for the state, with only 0.01 inches of precipitation statewide.

January received only 0.11 inches of precipitation statewide, tying with 1924 as the 5th driest January on record for the state. Statewide, February was the 2nd hottest and 20th driest February on record, with 0.29 inches of precipitation statewide. By the end of February, snowpack was significantly below average across the state, with the Little Colorado basin at 16% of median snow water equivalent (SWE), Verde basin at 8% of median SWE, and Salt basin with no measurable SWE.

In March, several storm systems slightly increased the average statewide precipitation for the month (0.95 inches in March), with March 16 bringing the largest amounts of SWE for the state basins (**Figure 4**).

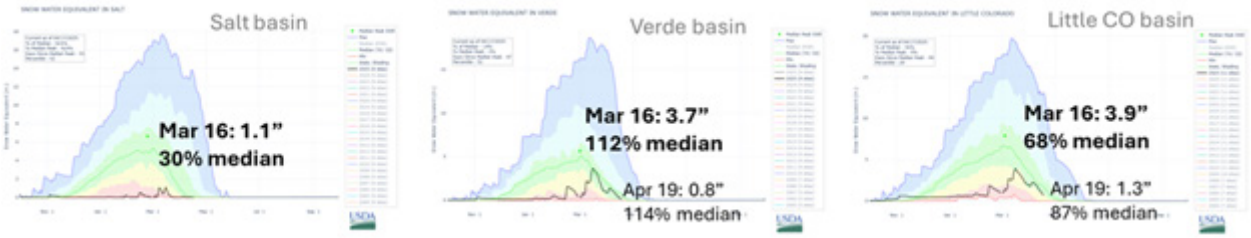


Figure 4. Salt, Verde, and Little Colorado basins reached peak snow water equivalent in mid-March.

The Lower Colorado Basin also measured peak snow water equivalent on March 16 (3.7 inches) at 69% of median (**Figure 5**).

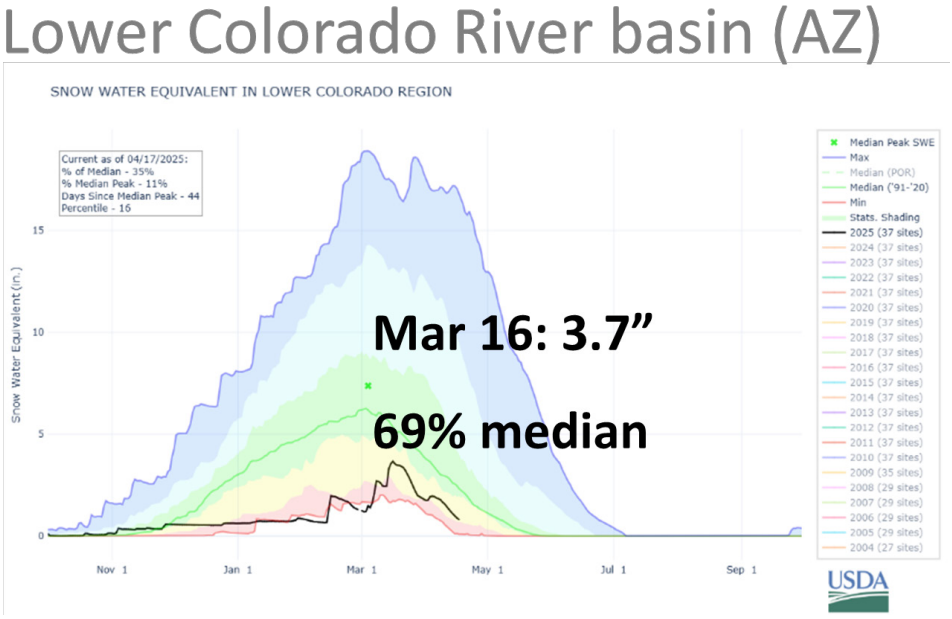


Figure 5. The Lower Colorado River Basin reached peak snow water equivalent in March

April was another marginally active month, bringing 0.37 inches of precipitation statewide. Slight amounts of snow in mid-April contributed small amounts of SWE in the Verde and Little Colorado basins.

By the end of April, October to April precipitation ranged from 70% to 130% across the Upper Colorado River basin, and from 0% to 90% across the Lower Colorado River basin (**Figure 6**).

Overall, statewide, October to April was the 7th hottest and 4th driest October to April (**Figure 7**). Statewide precipitation for October to April was 2.50 inches, with 38% of average statewide precipitation.

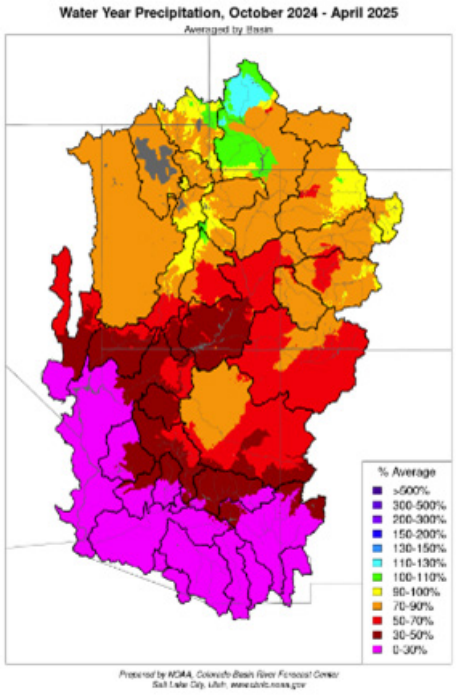


Figure 6. Water year precipitation from October 2024 to April 2025.

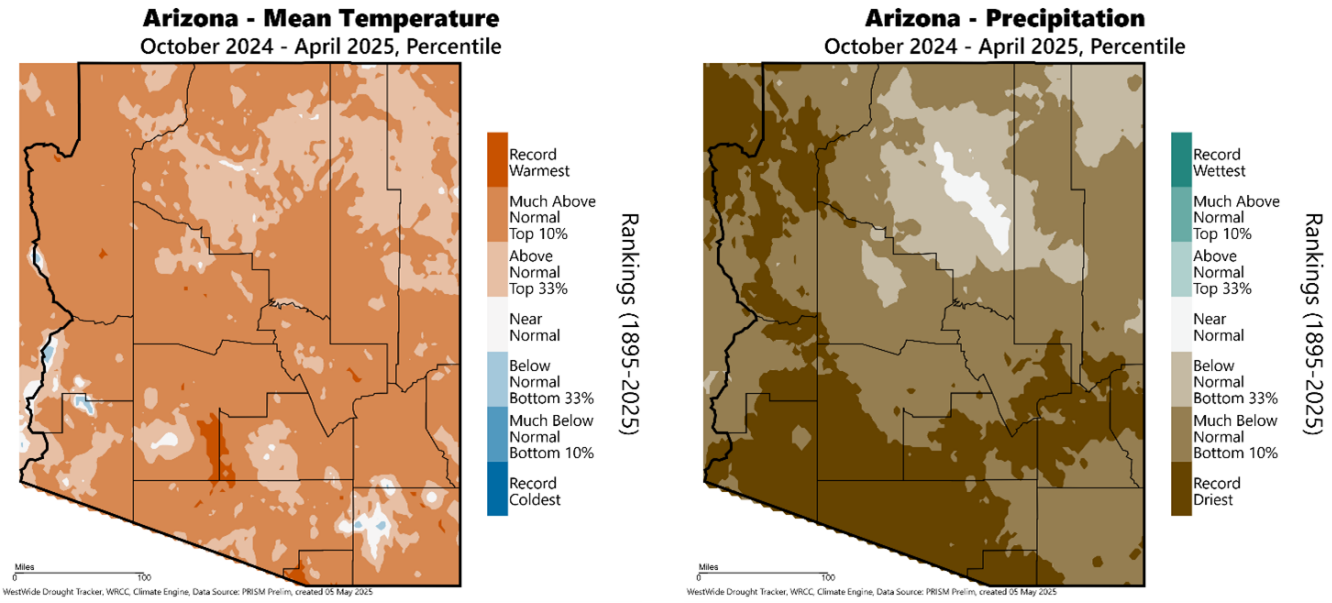


Figure 7. Statewide, October to April was the 7th hottest and the 4th driest October to April on record.

2.B. Monsoon Precipitation: June–September 2025

Monsoon activity started in early July with significant moisture streaming into the state. However, thunderstorm activity was limited that month, with the state ending July with below average precipitation.

By mid-August, most areas across the state had only received limited thunderstorm activity and below average precipitation. The last week in August brought significant activity to Yuma County, where Yuma ended the month with 580% of normal amounts of August precipitation (total 1.16 inches of precipitation). Eastern and southern counties ended August much below average precipitation for the month.

Mid-September saw tropical moisture returning to the state, bringing larger amounts of precipitation to western and central counties. At the end of the month, a slow-moving low pressure system brought significant precipitation across the state, and areas in central counties experienced flash flood activity. The system allowed locations like Globe and Phoenix to end the monsoon season slightly above average. Tucson ended the monsoon season close to 50% of normal monsoon precipitation (2.82" total), while Flagstaff ended with 66% of normal monsoon precipitation (5.08" total) (**Figure 8**).

Statewide, the monsoon season (June–September) brought mostly below average precipitation and largely warmer than normal temperatures across the state (**Figure 9**).

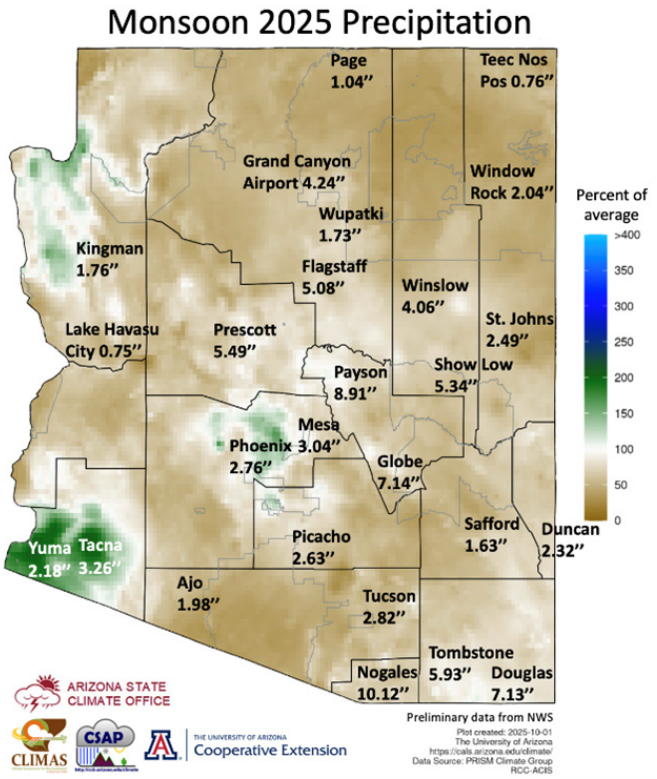
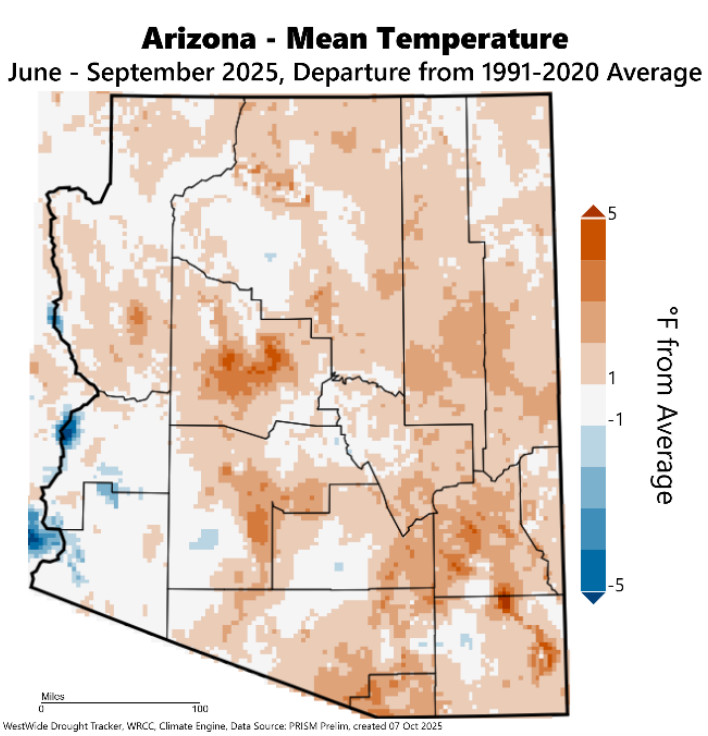


Figure 8. Portions of Yuma, Mohave, and Maricopa counties received above average precipitation for the monsoon season.



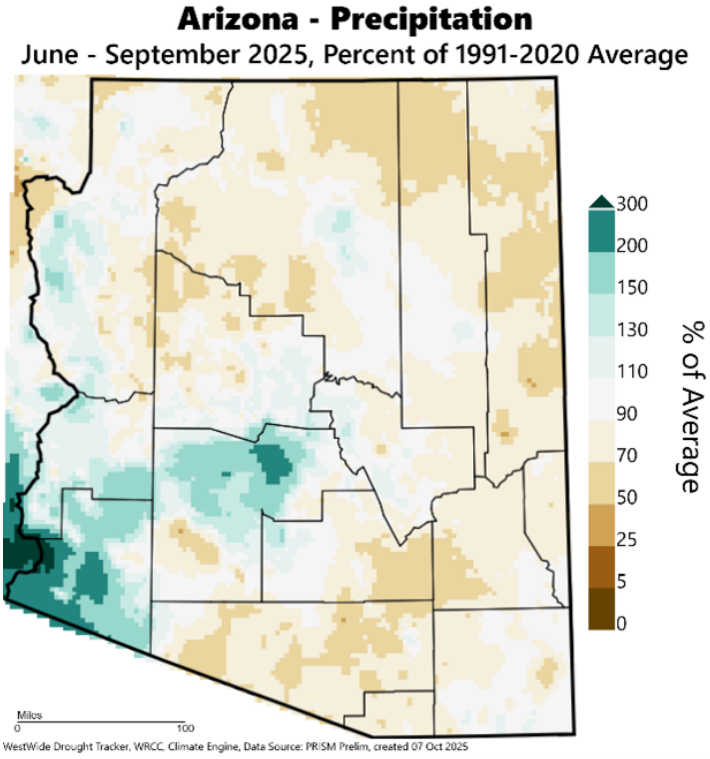


Figure 9. June to September 2025 was warmer across most of the state but wetter in western and central counties.

2.C. Cumulative Precipitation and Streamflow Summary

Precipitation

Data from NRCS SNOTEL sites and NWS Cooperator gages indicate cumulative precipitation for water year 2025 was well below median across the mountainous areas of Arizona, ranging from 57% to 70% of median in the major river basins. A lack of precipitation during the late winter months, combined with below-median monsoon precipitation, contributed to these conditions (**Table 1**).

Table 1. Water Year 2025 Mountain Precipitation (as of September 30, 2025)

Major Basin	Percent of 30-year Median Precipitation
Salt River Basin	57%
Verde River Basin	70%
San Francisco-Upper Gila River Basin	63%
Little Colorado River Basin	70%

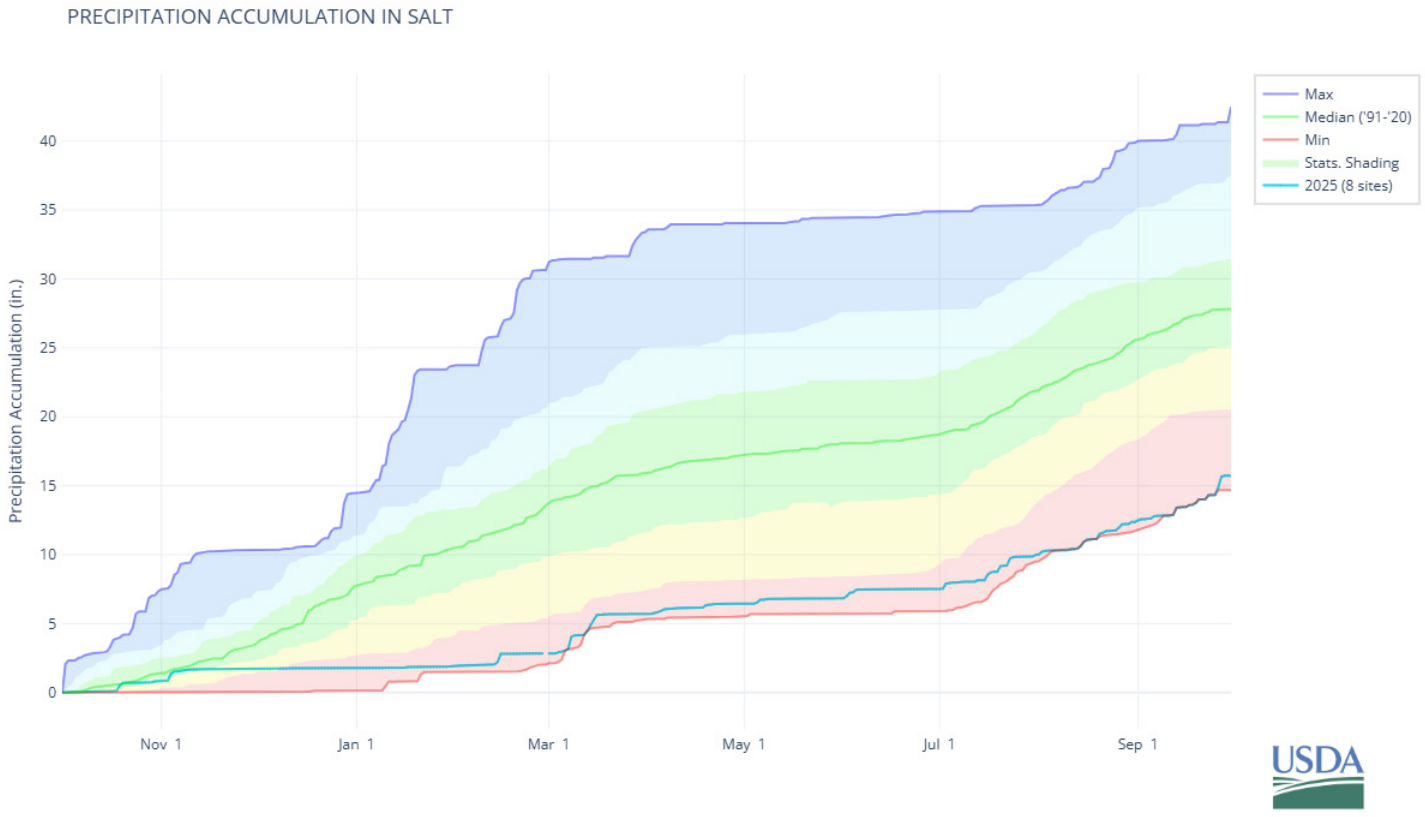


Figure 10. Precipitation accumulation in the Salt River Basin.

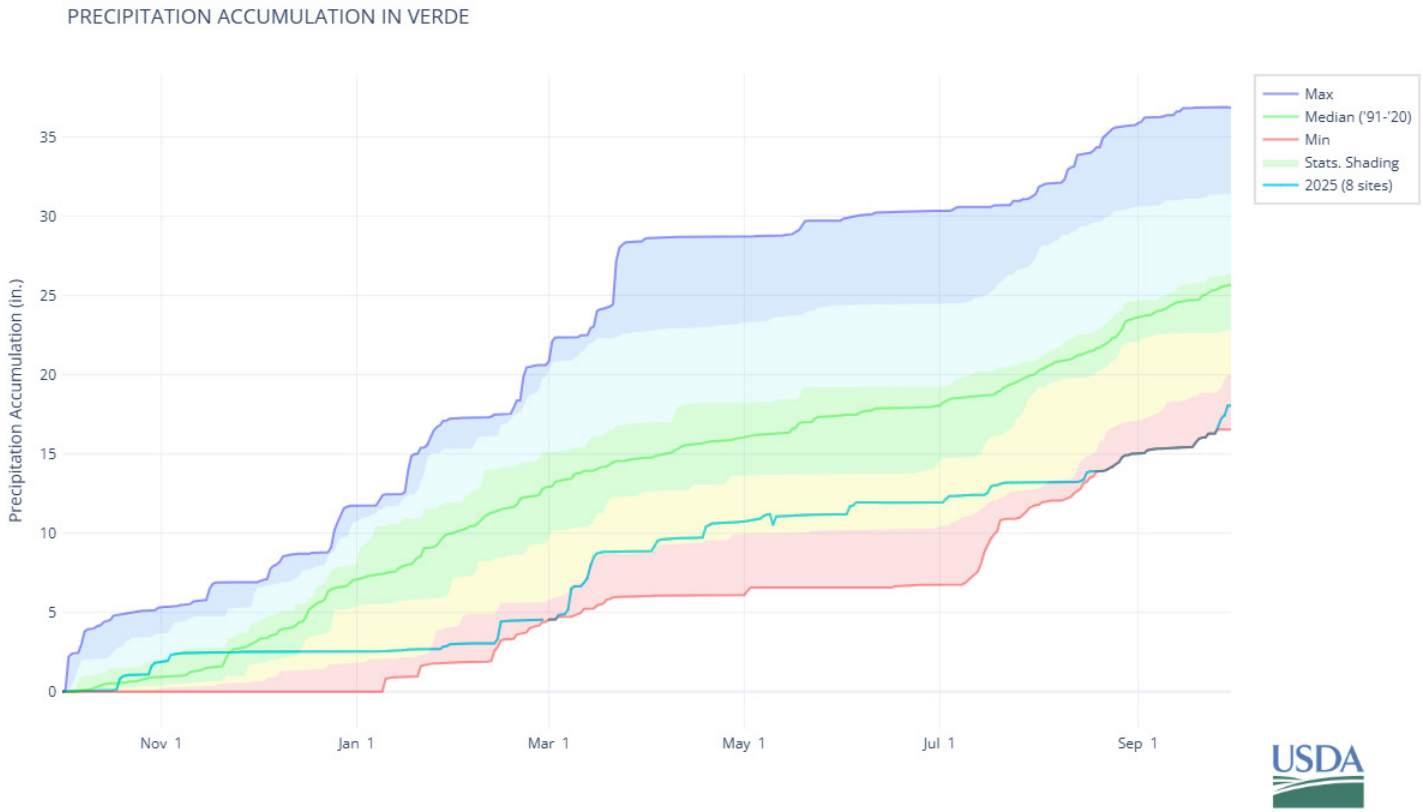


Figure 11. Precipitation accumulation in the Verde River Basin.

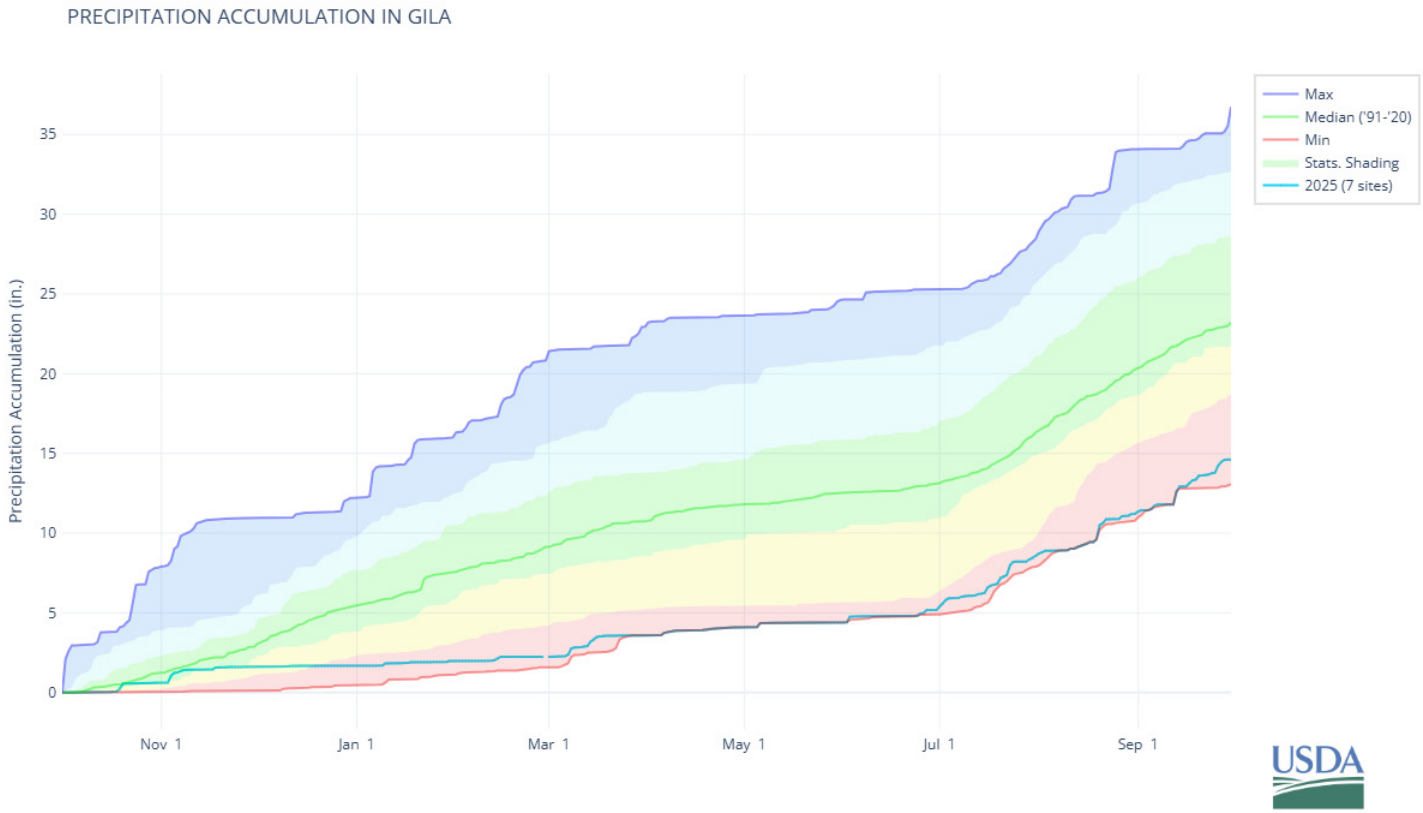


Figure 12. Precipitation accumulation in the San Francisco-Upper Gila River Basin.

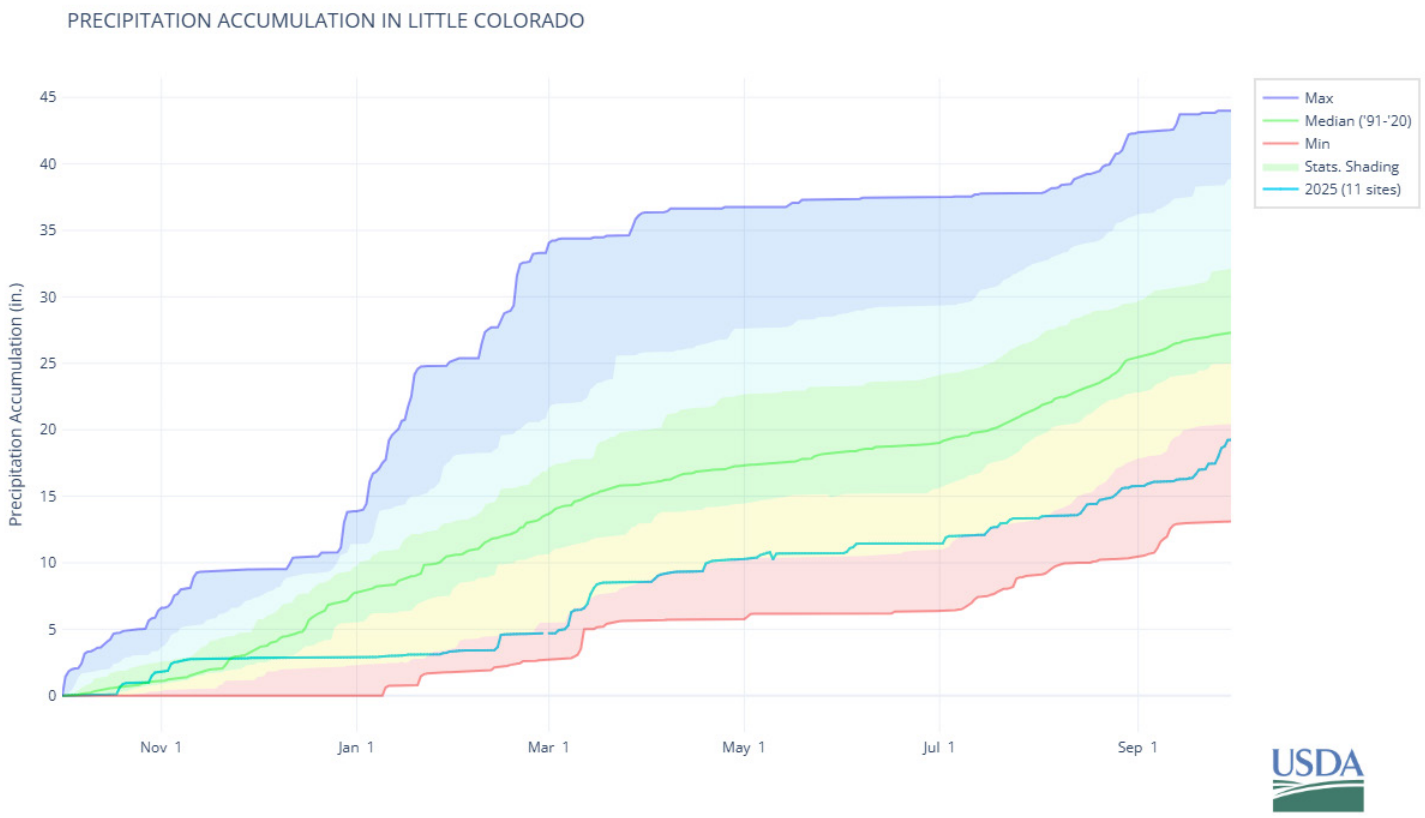


Figure 13. Precipitation accumulation in the Little Colorado River Basin.

Streamflow

During the entire 2025 water year drought status, as indicated by streamflow data shows below normal drought conditions throughout Arizona. During the period from December through June streamflow was characterized by record low flow. Storm events during 2025 either lacked intensity or frequency resulting in low runoff. This lack of runoff continued to increase the severity of drought conditions. Streamflow during the 2025 water year showed a decrease from 2024, especially during the spring.

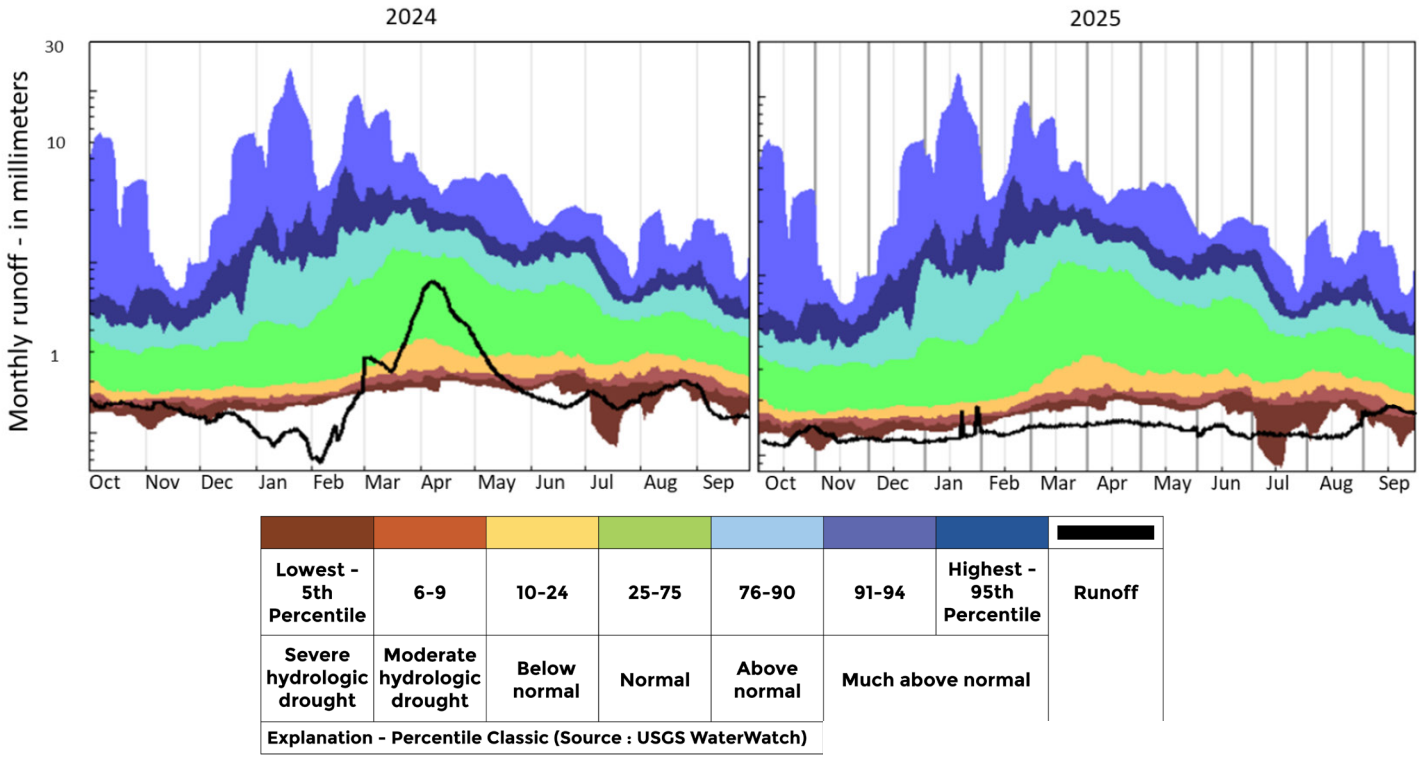


Figure 14. Area-based monthly runoff as determined by USGS streamflow gages representing the entire state of Arizona. The hydrograph (black line) represents runoff per unit area and is plotted over the long-term statistics of runoff for each month. The statistics include the maximum runoff during the period of record for each month of the year (top of the dark blue area); the 90th percentile runoff for each month (top of the light blue area); the interquartile range (the green area bounded by the 75th percentile on top and 25th percentile on the bottom); the 10th percentile runoff for each month (the bottom of the orange area); and the minimum discharge for each month (bottom of dark brown area). The plot covers a period of one year with the statistics being identical for each year. Some provisional data was used in this figure.

2.D. Water Supply Status

Colorado River Basin and Reservoir Status[1]

Colorado River total system storage was 43% of capacity at the beginning of the water year, and by the end, it was at 37% of capacity. Reservoir storage in Lake Powell decreased by 2.39 MAF, and reservoir storage in Lake Mead decreased by 0.491 MAF.

Precipitation in the Upper Colorado River Basin (CRB) was below average during WY2025. On September 30, 2025, the cumulative precipitation received within the Upper CRB for WY2025 was 83% of median. Snowpack conditions trended near average to above average across most of the CRB throughout the snow accumulation season. The basin-wide snow water equivalent peaked at 92% of the median peak on March 23, 2025, which is twelve days earlier than the peak date (April 4) for the total seasonal accumulation period. On April 1, 2025, the snow water equivalent for the Green River, Upper Colorado River Headwaters, and San Juan River Basins were 104%, 90%, and 61% of median, respectively.

Much below average streamflow was observed throughout much of the CRB during WY2025. Unregulated inflow into Lake Powell was 4.69 MAF, or 49% of the 30-year average. During the Spring 2025 runoff period, inflows to Lake Powell peaked on June 8, 2025, at approximately 22,500 cubic feet per second (cfs). The April through July unregulated inflow volume for Lake Powell was 2.63 MAF (41% of average). Unregulated inflow for WY2025 into Flaming Gorge, Blue Mesa, and Navajo Reservoirs was 59%, 73%, and 39% of average, respectively.

Lower CRB tributary inflows above Lake Mead were much below average for WY2025. Tributary inflow measured at the Little Colorado River near Cameron gage totaled 0.009 MAF, or 8% of average. Tributary inflow measured at the Virgin

[1]This section and associated footnotes are from the Bureau of Reclamation's October 30, 2025, draft "Annual Operating Plan for Colorado River Reservoirs 2026."

River at Littlefield gage totaled 0.075 MAF, or 44% of average. Below Hoover Dam, tributary inflow for WY2025 measured at the Bill Williams River, below Alamo Dam gage, totaled 0.020 MAF, and tributary inflow measured at the Gila River near Dome gage totaled 0.008 MAF.

Lake Powell peaked on June 8, 2025, at approximately 22,500 cubic feet per second (cfs). The April through July unregulated inflow volume for Lake Powell was 2.63 MAF (41% of average). Unregulated inflow for WY2025 into Flaming Gorge, Blue Mesa, and Navajo Reservoirs was 59%, 73%, and 39% of average, respectively.

Lower CRB tributary inflows above Lake Mead were much below average for WY2025. Tributary inflow measured at the Little Colorado River near Cameron gage totaled 0.009 MAF, or 8% of average. Tributary inflow measured at the Virgin River at Littlefield gage totaled 0.075 MAF, or 44% of average. Below Hoover Dam, tributary inflow for WY2025 measured at the Bill Williams River, below Alamo Dam gage, totaled 0.020 MAF, and tributary inflow measured at the Gila River near Dome gage totaled 0.008 MAF.

Salt & Verde Reservoirs

Water Year (WY) 2025 started with drier antecedent watershed conditions following a dry 2024 summer monsoon season across the Salt and Verde watershed. The dry weather continued into the fall of 2024 with well below normal precipitation observed between October and December with only 0.87" (22% of normal) and 0.00" observed in the month of December 2024. As of January 1, 2025, the watershed had effectively no snowpack accumulation across the watershed (<1% of median) with dry soil moisture conditions and lower than normal streamflow along the Salt River (125 cfs) and Verde River (260 cfs) leading to moderate to severe short term drought conditions. From January 1 through March 31, only a few precipitation events occurred (primarily in March 2025) and total winter precipitation (December to March) on the Salt and Verde watershed was well below normal at 3.00 inches (42% of normal). March storms led to peak snowpack in mid-March that was near normal but due to well below normal snowpack and dry soil conditions prior to March 2025, there was little to no increased runoff response observed across the watershed. The watershed observed a total inflow of 96,692 acre-feet (AF) into Salt River Project (SRP) reservoirs (21% of median) throughout the entire 2025 winter runoff season (January 1 to May 31) and is the new lowest inflow on record for this period (previous low was 2018). Roosevelt Lake saw a decrease in storage during the winter runoff season going from 70% full to 61% full between January 1 and May 31. Horseshoe and Bartlett Reservoirs, on the Verde River, started 2025 at a combined 50% full and remained near 52% capacity by May 31.

The 2025 monsoon season started off with above normal precipitation in June but was below normal in July/August before observing above normal precipitation again in September. Streamflow along the Salt and Verde Rivers observed only minimal increases in runoff due to drier conditions across the watershed until late September when the highest peak flow of the year was observed at Salt River near Roosevelt reaching approximately 12,500 cubic feet per second (cfs). The extreme late September precipitation events also produced significant local runoff below SRP reservoirs resulting in Granite Reef Diversion Dam spilling 3,000 AF into the Salt River (no reservoir spill occurred). The 2025 monsoon season (June 15 to Sept 30) observed 5.64" of total average watershed precipitation (94% of normal) but with severe to extreme short term drought conditions across the watershed, SRP reservoir inflow (Salt River, Tonto Creek, and Verde River) for

[2] Snowpack, snow water equivalent, and precipitation statistics are provided by the Natural Resources Conservation Service and are based on the median for the 30-year period 1991-2020. Hydrologic conditions are described in the following manner: much above average/median (greater than 130%), above average/median (111%-130%), near average/median (90%-110%), below average/median (70%-89%), and much below average/median (less than 70%). Reservoir specific ROD descriptions are used in place of this terminology where applicable.

[3] Streamflow statistics are provided by the National Water Service's Colorado Basin River Forecast Center and are based on the average/median for the 30-year period 1991-2020. Hydrologic conditions are described in the following manner: much above average/median (greater than 130%), above average/median (111%-130%), near average/median (90%-110%), below average/median (70%-89%), and much below average/median (less than 70%).

[4] Unregulated inflow adjusts for the effects of operations at upstream reservoirs. It is computed by adding the change in storage and the evaporation losses from upstream reservoirs to the observed inflow. Unregulated inflow is used because it provides an inflow time series that is not biased by upstream reservoir operations.

[5] All unregulated inflow, precipitation, and snowpack statistics are based on the 30-year period 1991-2020. The average for this 30-year period is 9.60 MAF.

July through September was the second lowest inflow on record (behind 2020) with approximately 41,874 AF (45% of median). Overall, for the entire WY2025, total SRP reservoir inflow was well below median with approximately 205,083 AF (30% of median) and is a new record low volume for WY inflow (previous low WY inflow was 2018). WY2025 total average precipitation was also below normal with 11.28" (69% of normal). Total storage of the Salt and Verde reservoir system has declined to 53% (1,208,077 AF) as of September 30, 2025, compared to 77% at the same time last year.

2.E Drought Index Wells

ADWR maintains groundwater index wells throughout the state (**Figure 15**). Using criteria established by the USGS, nine wells in Arizona have been utilized as qualitative supplements to existing drought indicators. Depth-to-water measurements are collected at these sites, multiple times per day, by means of a pressure transducer. Automated, or transducer, measurements are later verified with less frequent discrete measurements taken by ADWR field staff.

Figures 16 through **24** are hydrographs showing the groundwater level record and the historical daily median. Automated groundwater levels for each well site are plotted in blue, the historical daily median is plotted in green, and provisional data is plotted in red. The gray area on the right-hand side of the graph indicates the extent of WY2025, beginning on October 1st, 2024.

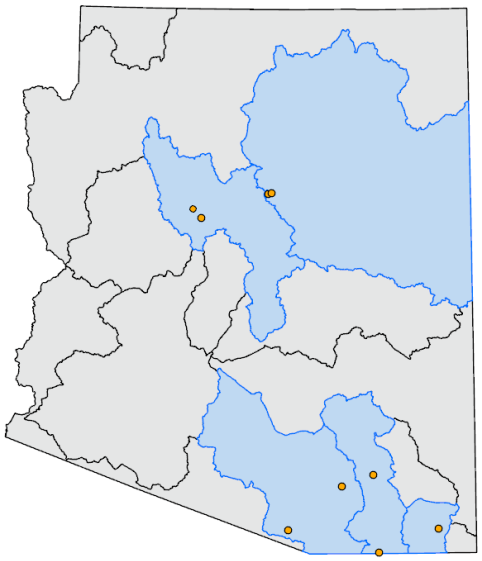


Figure 15. Location map of drought monitoring index wells in Arizona.

Little Colorado River

ADWR Monitoring Site 'A-20-07 25DCB1'

ADWR Index Well "A-20-07 25DCB1" is located within the Little Colorado River Watershed. Situated in Priest Draw, this well is completed in the deeper Coconino Sandstone.

Field staff installed a transducer to begin collecting daily water level measurements in April 2022. After reviewing the data, the well was established as a drought monitor well in 2023. Response to the melting of winter snowpack can be observed during the spring months on the hydrograph. However, spring 2025 saw no significant response from winter snowpack and water levels continued to decline.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 35° 04' 54.54", W 111° 36' 13.34"	1200 feet	6842 feet	174.62 feet	169.72 feet	171.43 feet

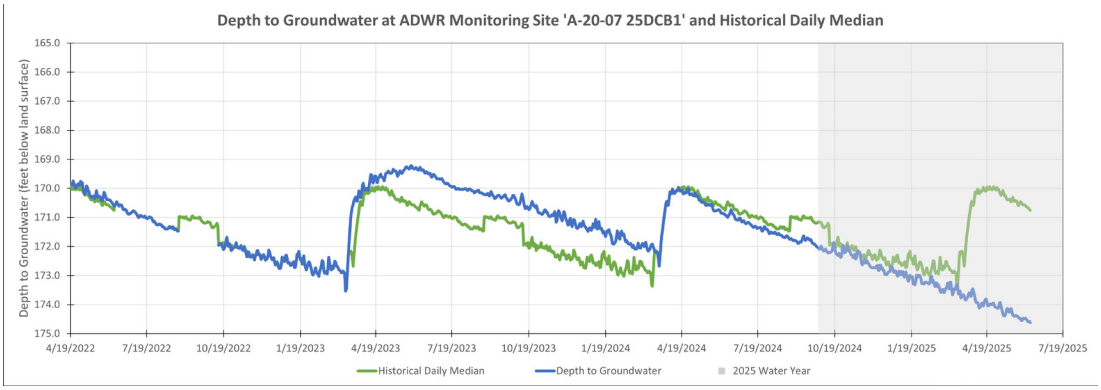


Figure 16. Automated groundwater level data for ADWR drought index well 'A-20-07 25DCB1' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=354541111361701.

ADWR Monitoring Site 'A-20-07 25DCB2'

ADWR Index Well "A-20-07 25DCB2" is located within the Little Colorado River Watershed. Situated in Priest Draw, this well is completed in the shallow Kaibab Formation.

Field staff installed a transducer to begin collecting daily water level measurements in May 2022. After reviewing the data, the well was established as a drought monitor well in 2023. Similar to monitoring site A-20-07 25DCB1, there was no response from snowmelt spring 2025. Water levels have continued to decline, however the rate of decline has decreased throughout the water year.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 35° 04' 54.6", W 111° 36' 12.77"	100 feet	6841 feet	83.49 feet	21.47 feet	72.39 feet

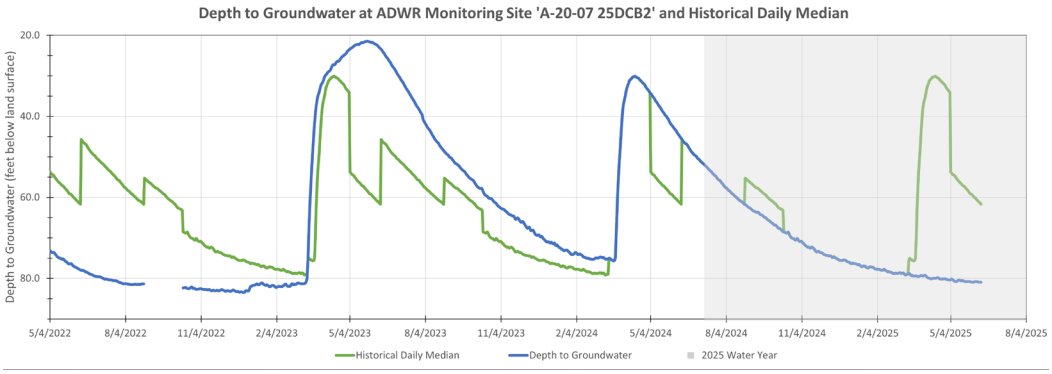


Figure 17. Automated groundwater level data for ADWR drought index well 'A-20-07 25DCB2' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=354541111361701.

San Pedro River Watershed

ADWR Monitoring Site 'D-15-20 09AAB2'

ADWR Index Well 'D-15-20 09AAB2' is located within the San Pedro River Watershed and in the Lower San Pedro Groundwater Basin. Situated on the bank of the San Pedro River, this well is completed in a shallow alluvial aquifer system and is in the rivers floodplain.

Water levels at this monitoring site have remained below the historical daily median for the entirety of the 2025 water year. Consistent winter precipitation resulted in water levels steadily increasing during the first half of water year 2025. However, water levels remain nearly three feet below normal due to drier than normal monsoon precipitation the past three water years. As a result, a new record maximum depth to water was observed on September 6, 2025, of 36.30 feet.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 32° 09' 02.74'', W 110° 17' 53.34''	89 feet	3307 feet	36.30 feet	26.53 feet	33.04 feet

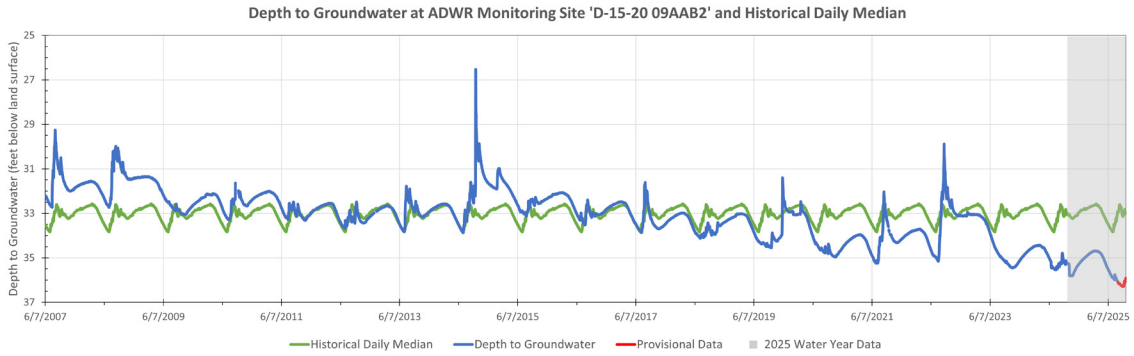


Figure 18. Automated groundwater level data for ADWR drought index well 'D-15-20 09AAB2' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=320901110175301.

USGS Monitoring Site 'D-24-21 17BCB3'

Monitoring well 'D-24-21 17BCB3' is operated through USGS and is located to the southeast of the Huachuca Mountains in the San Pedro River Watershed.

Water levels remained below the historical daily median for the entire 2025 water year and have remained below since September 2020. No significant increases have been observed since water year 2023. Since then, water levels have steadily declined and have resulted in another record maximum depth to water, which was observed on August 28, 2025, of 38.69 feet.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 31° 20' 43.98'', W 110° 14' 20.14''	123.6 feet	5100 feet	38.69 feet	30.05 feet	33.72 feet

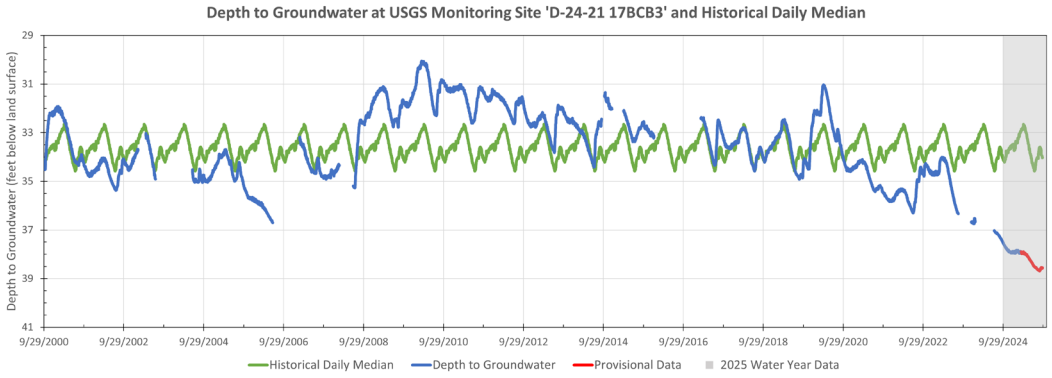


Figure 19. Automated groundwater level data for USGS drought index well 'D-24-21 17BCB3' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through USGS, located here: https://waterdata.usgs.gov/nwis/uv?site_no=312044110141901&legacy=1.

Santa Cruz River Watershed

ADWR Monitoring Site 'D-16-16 14CAC'

ADWR Index Well 'D-16-16 14CAC' is located along Pantano Wash within the Santa Cruz River Watershed. This monitor well is completed in a shallow alluvial aquifer system.

Water levels over the first half of this water year, water levels remained near their respective historical daily median values. Typically, this monitoring site receives a majority of its recharge during the monsoon months, but this water year there was little recovery observed during the monsoon. As a result, water levels closed out the water year five feet below normal.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 32° 02' 16.17'', W 110° 40' 58.77''	105 feet	3179 feet	60.49 feet	18.48 feet	51.16 feet

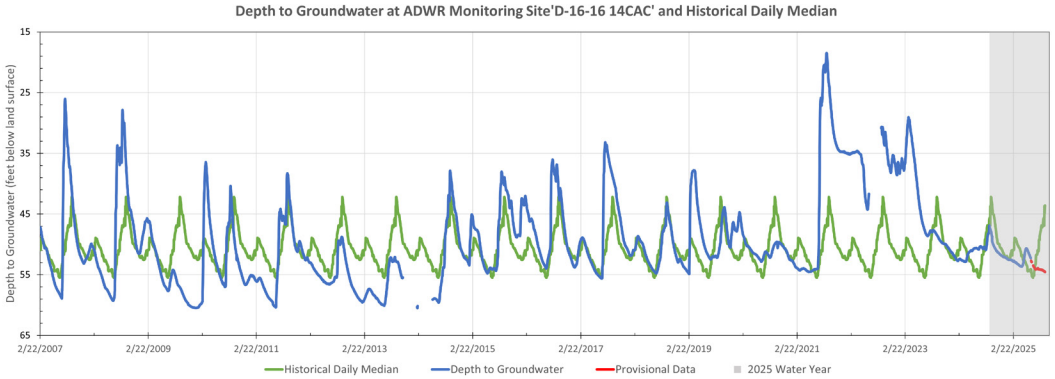


Figure 20. Automated groundwater level data for ADWR drought index well "D-16-16 14CAC" plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=320216110405901.

ADWR Monitoring Site 'D-21-10 29ADB'

ADWR Index Well 'D-21-10 29ADB' is situated along Arivaca Creek in the Santa Cruz River Watershed. This well is completed in shallow alluvial materials.

This monitoring site typically receives most of its precipitation during the winter months as was observed this water year. A large recovery was observed between October and April before water levels began to decline through the end of the water year. However, due to below normal precipitation in previous years, water levels remained below the historical daily median for the entirety of 2025. A new record maximum depth to water was observed on September 13, 2025, of 17.63 feet.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 31° 35' 32.74'', W 111° 20' 13.63''	38 feet	3609 feet	17.63 feet	5.44 feet	10.30 feet

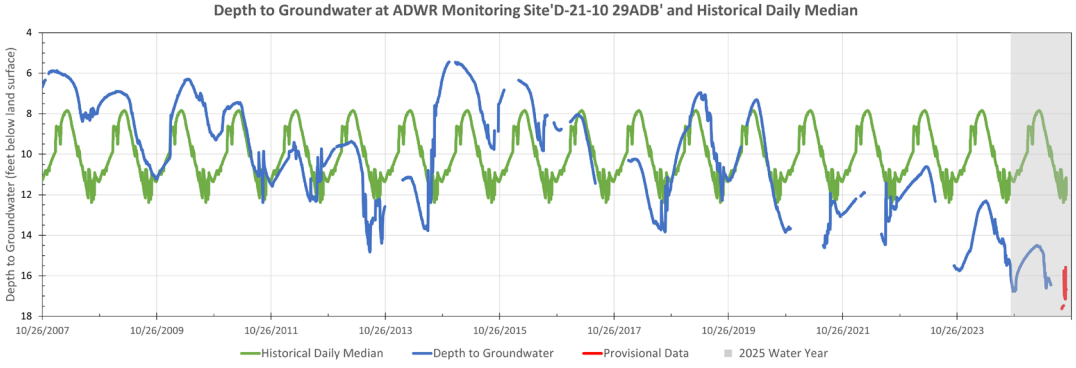


Figure 21. Automated groundwater level data for ADWR drought index well 'D-21-20 29ADB' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=313433111201601.

Verde River Watershed

ADWR Monitoring Site 'B-18-03 26BDD'

ADWR Index Well 'B-18-03 26BDD' is situated along Big Chino Wash in the Verde River Watershed. This monitoring well is completed in a shallow conglomerate unit.

This well was introduced to the drought program in October 2021. This site shows a significant response to precipitation and winter runoff events. Water levels remained unchanged in the first half of water year 2025. There was no significant response observed during monsoon 2025 as water levels slowly declined during the second half of the water year. A new record maximum depth to water was observed on September 21, 2025, of 20.13 feet.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 34° 55' 02.03", W 112° 32' 55.99"	609 feet	4403 feet	20.31 feet	11.92 feet	18.44 feet

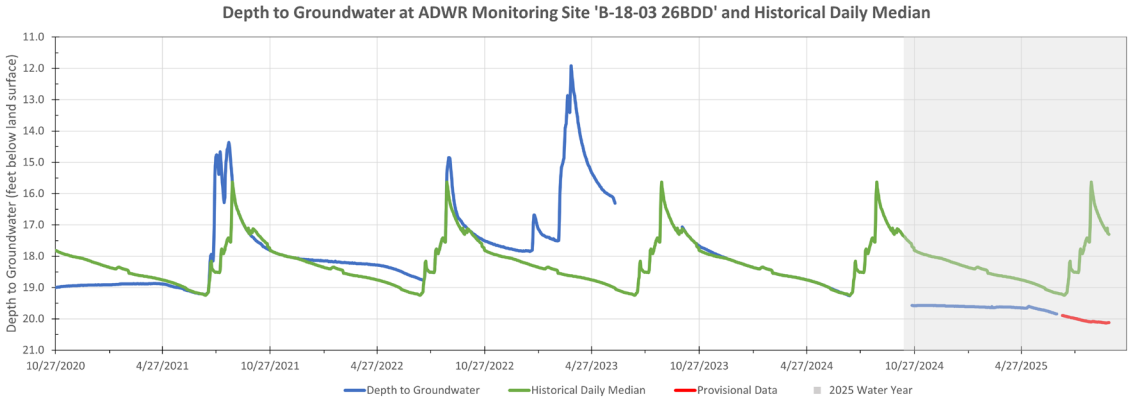


Figure 22. Automated groundwater level data for ADWR drought index well 'B-18-03 26BDD' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=345500112324501.

ADWR Monitoring Site 'B-17-02 26CCD3'

ADWR Index Well 'B-17-02 26CCD3' is located at Del Rio Springs in the Verde River Watershed. This monitoring well is completed in a shallow conglomerate unit.

Seasonal fluctuations continue to be observed at this monitoring site. Water levels remained near historical daily median values for much of the water year. However, a drier than average monsoon saw water levels continue to decline the last few months of water year 2025 and are currently four tenths of a foot below average.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 34° 49' 11.86", W 112° 26' 40.83"	206 feet	4457 feet	15.35 feet	13.06 feet	14.09 feet

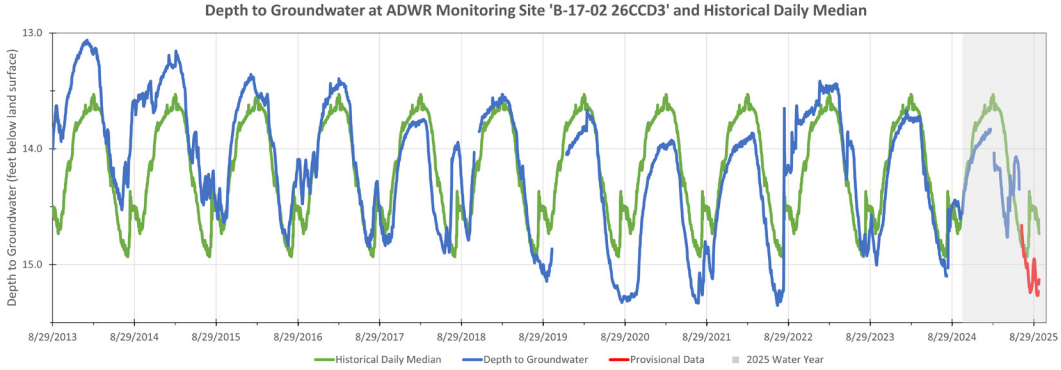


Figure 23. Automated groundwater level data for ADWR drought index well 'B-17-02 26CCD3' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=344912112264101.

Whitewater Draw Watershed

ADWR Monitoring Site 'D-21-28 21BCB1'

ADWR Index Well 'D-21-28 21BCB1' is located within the Whitewater Draw Watershed and in the Willcox Groundwater Basin. Adjacent to the Leslie Creek drainage, this well is completed in shallow alluvial material.

Water levels quickly began to recover to their historical daily median values and held steady through May 2025. A drier than average monsoon resulted in water levels declining once again to end out the water year. Water levels remain nearly four feet below normal.

Location (NAD 27)	Depth of Well	Altitude (above sea level)	Record Maximum Depth to Water	Record Minimum Depth to Water	Median Depth to Water
N 31° 35' 29.87", W 109° 30' 18.00"	25 feet	46.48 feet	18.34 feet	1.47 feet	9.84 feet

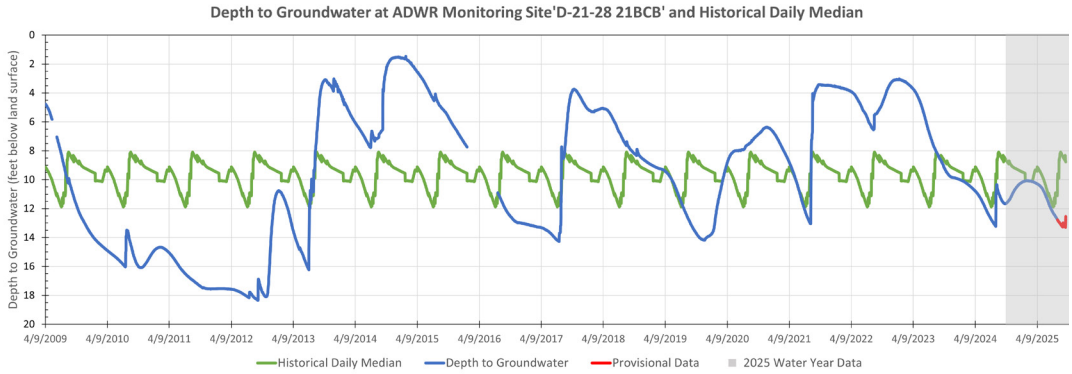


Figure 24. Automated groundwater level data for ADWR drought index well 'D-21-28 21BCB1' plotted with historical daily median groundwater levels. Water level data and additional information for this site are available through ADWR's GWSI web application, located here: https://azwater.gov/gwsi/Detail.aspx?SiteID=313533109301801.

ADWR Drought Index Wells

ADWR's Field Services Section collects groundwater levels statewide from approximately 1,700 index wells, including the state's nine drought index wells. ADWR also maintains a statewide network of roughly 130 automated groundwater monitoring sites and an ORACLE database that contains field-verified data including discrete water level measurements, location, and other well specific information.

ADWR staff developed a Monitoring Well Network Optimization Plan in 2015, which in part focuses on the identification of additional drought monitoring index wells within the state. Water level data from continuous monitoring sites statewide are being reviewed and evaluated with respect to meeting criteria for the USGS Climate Response Network.

2.F. Forest Health

Every year the Arizona Department of Forestry and Fire Management (DFFM) partners with the USDA Forest Service to conduct annual aerial detection surveys across Arizona. These landscape level surveys record changes in forest health conditions and determine the primary causal agents of tree mortality for the given year. This data and information are provided to land managers and the public through the DFFM's annual Forest Health Conditions Report.

Drought conditions directly influence forest health conditions in Arizona. Drought is a key stressor in trees, the lack of water coupled with increased temperatures causes stress in trees that make them more susceptible to insects and diseases and can lead to drought related tree mortality. Stressed and weakened trees produce and collect more ethanol and terpenes that many insects, in particular bark beetles, can detect.

Overall, in the summer of 2025 we saw increased tree mortality due to drought stress, when compared to 2024. The low precipitation and record heat waves increased tree stress and as a result, insect related tree mortality was also high throughout Arizona. These increases were seen on a variety of tree species including Ponderosa pine, juniper, pinyon, and oak. Specifically, extensive tree mortality was mapped in the Prescott, Apache-Sitgreaves, and Coronado National Forests. Forest health conditions are always changing, and with drought being an ongoing issue in Arizona, we expect to continue seeing frequent fluctuations in drought related tree mortality and stress.

Ponderosa pine mortality on the Clifton RD

Juniper dieback on the Coronado NF

2.G. Drought Declarations

A Drought Emergency Declaration has been in effect in Arizona since 1999. The current declaration, PCA 99006, was issued by the Governor in June 1999 and continued by Executive Order 2007-10. The declaration maintains the state's ability to provide an emergency response if needed and enables farmers and ranchers to obtain funding assistance through the Farm Service Agency (FSA) if they experience significant production losses due to drought.

The Governor's Drought Interagency Coordinating Group (ICG) is responsible for providing recommendations to the Governor regarding drought declarations based on presentations and discussions at the spring and fall ICG meetings (see **Section 3.B**).

2.H. Disaster Designations

A disaster designation from the Secretary of the U.S. Department of Agriculture (USDA) is necessary for farm operators in both primary and contiguous disaster areas to be considered for assistance from the FSA.

The USDA uses the U.S. Drought Monitor to determine designations. Extreme (D3) or Exceptional (D4) drought qualify as automatic designations, while Severe (D2) drought for eight consecutive weeks during the growing season qualifies for nearly automatic designation. This "Fast Track" authority designation process delivers fast and flexible assistance to farmers and ranchers. The disaster designations by the USDA in Table 2 occurred during WY2025:

Date of Designations	Primary Disaster Counties	Contiguous Disaster Counties (AZ)
November 4, 2024	Imperial | Clark | Kane	Coconino | Maricopa | Yavapai Yuma
November 18, 2024	Yuma	La Paz | Maricopa | Pima
December 9, 2024	Clark | Lincoln | Nye	Mohave
December 9, 2024	Washington	Mohave
March 25, 2025	Garfield | Iron | Kane | Washington	Coconino | Mohave
March 25, 2025	Catron | Chaves | Dona Ana | Eddy | Grant Hidalgo Lea | Lincoln | Luna | Oterro | Sierra	Apache | Cochise | Greenlee
March 25, 2025	Imperial | Inyo | Kern | Los Angeles | Mono Orange Riverside | San Bernadino | San Diego	La Paz | Mohave | Yuma
March 25, 2025	Apache | Cochise | Coconino | Gila | Graham Greenlee | La Paz | Maricopa | Mohave | Navajo Pima | Pinal | Santa Cruz | Yavapai | Yuma	
March 31, 2025	Rio Arriba | San Juan | Socorro	Apache
March 31, 2025	Beaver | San Juan	Apache | Coconino | Navajo
May 6, 2025	Montezuma	Apache

2.I. Drought Status Changes

Following directives within the Arizona Drought Preparedness Plan, Arizona's drought status is continuously evaluated and updated throughout the water year. The short-term drought status is monitored on a weekly basis, and the Arizona Drought Monitoring Technical Committee provides weekly recommendations to the U.S. Drought Monitor authors. The long-term drought status is monitored monthly and updated quarterly by the Arizona Drought Monitoring Technical Committee.

The U.S. Drought Monitor categorizes drought based on precipitation and environmental impacts. Different aspects of drought (hydrological, meteorological, and agricultural) are encapsulated within the U.S. Drought Monitor categories. The U.S. Drought Monitor began reporting on short-term drought in January 2000 (**Figure 25**). The largest expansion of Exceptional (D4) short-term drought in Arizona occurred in WY2021.

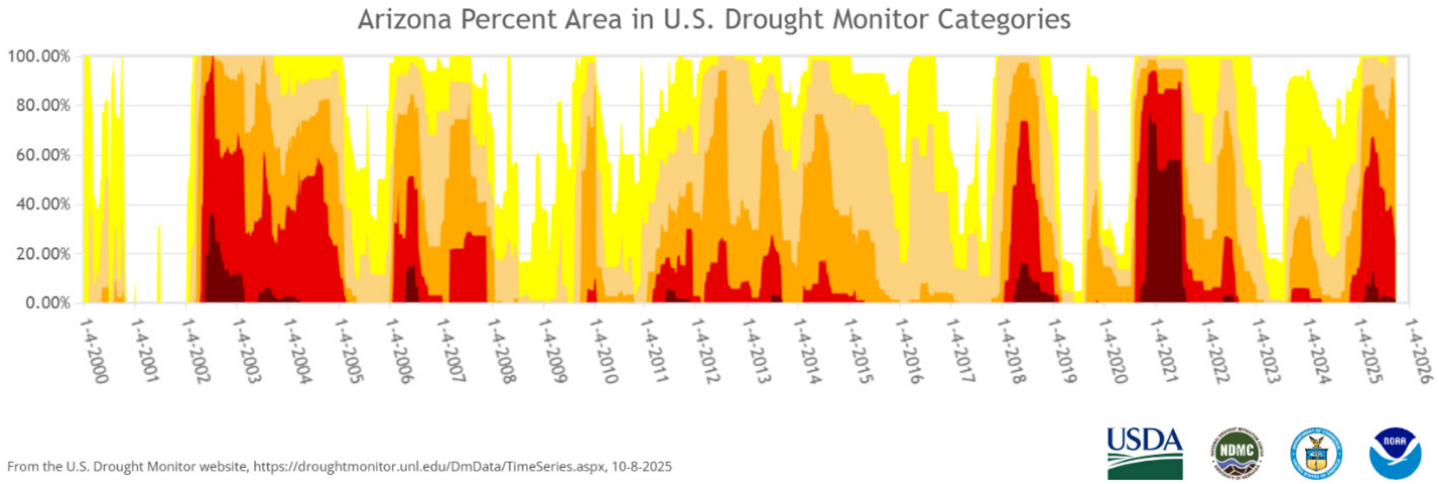


Figure 25. Short-term drought has been reported by the U.S. Drought Monitor since 2000.

During WY2025, short-term drought built in winter and summer, with Exceptional (D4) short-term drought returning to the state in February and continuing through the end of WY2025 (Table 3).

Table 3. Percentage of change in short-term drought from previous water year.

Category	End of WY2024	End of WY2025	Change from previous WY
No Drought	28	0	-28
D0 – Abnormally Dry	32	0	-32
D1 – Moderate Drought	35	21	-14
D2 – Severe Drought	5	54	+49
D3 – Extreme Drought	0	24	+24
D4 – Exceptional Drought	0	1	+1

Short-Term Drought Status

Following a dry and exceptionally hot summer, Water Year 2025 started with 40% of the state in Moderate (D1) or Severe (D2) short-term drought across western, central, and southeastern counties. Northern and southern counties were Abnormally Dry (D0) or without short-term drought (60% of state).

A drier fall caused Moderate to Extreme (D1-D3) short-term drought to expand to 76% of the state by the start of January. Exceptional (D4) short-term drought returned by the end of April after a dry winter, covering 12% of the state largely in west-central and southeastern counties and northwestern Mohave County, with Moderate to Extreme (D1-D3) short-term drought expanding to 87% of the state.

With a somewhat wetter monsoon along western and central counties, Exceptional (D4) short-term drought improved to only 1% of the state along eastern Cochise and Greenlee counties. Extreme (D3) short-term drought covered 24% of the state, with Moderate (D1) to Severe (D2) short-term drought covering 76% of the state by the end of Water Year 2025 (**Figure 26**).

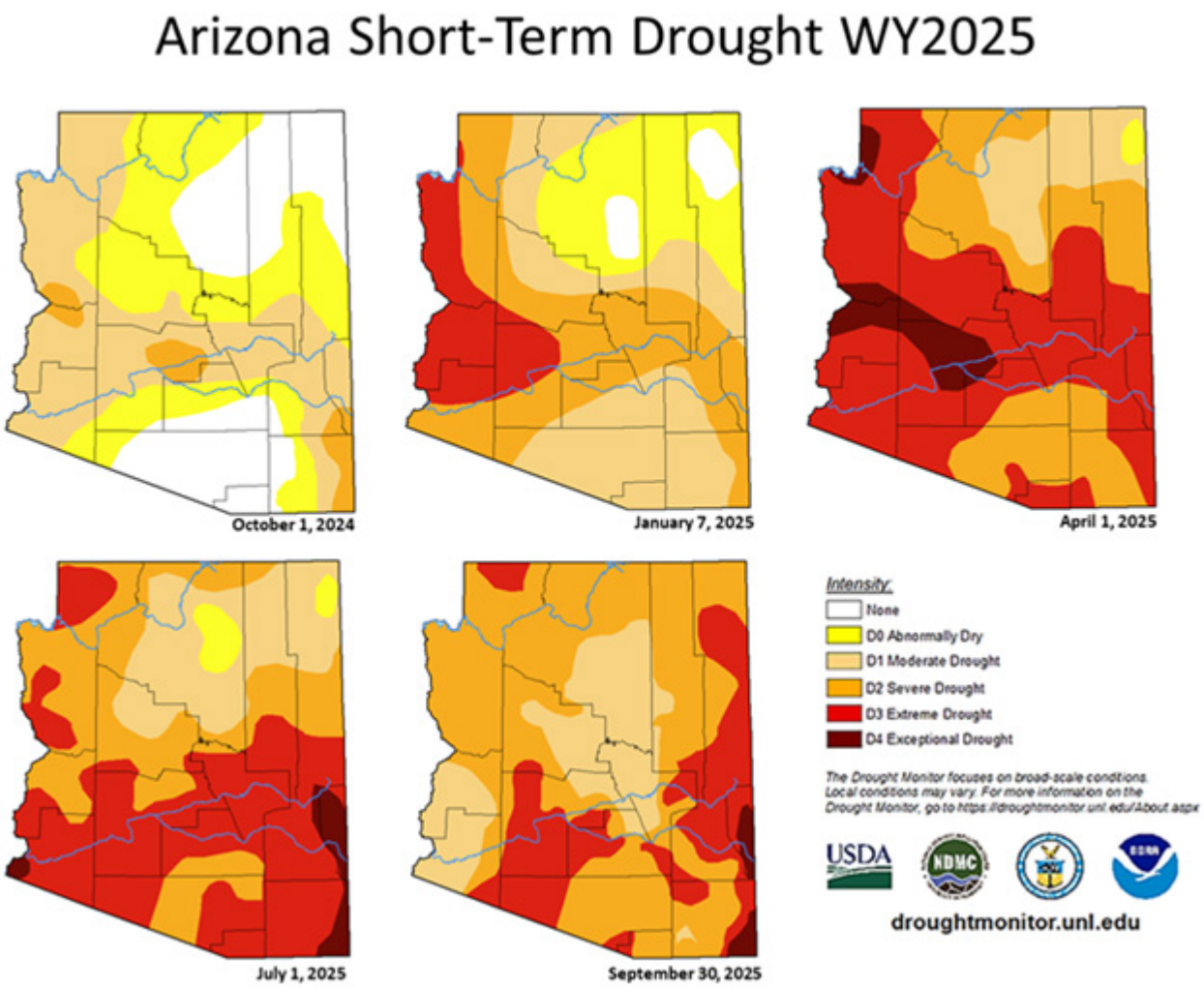


Figure 26. WY2025 began with 40% of the state in Moderate (D1) or Severe (D2) short-term drought and ended the water year with 76% of the state in Moderate (D1) or Severe (D2) short-term drought.

Long-term Drought Status

Arizona evaluates long-term drought with the Standardized Precipitation and Evapotranspiration Index (SPEI). The SPEI incorporates precipitation and potential evapotranspiration as a tool for evaluating drought. Long-term drought is analyzed from the previous 24-, 36-, 48-, 60-, and 72-month periods that are updated and evaluated quarterly.

At the start of Water Year 2025, Severe (D2) and Extreme (D3) long-term drought was found in most counties, while northern portions of Mohave, Coconino, Navajo, and Apache counties maintained areas with Moderate (D1) or Abnormally Dry (D0) conditions, as well as small areas without drought.

After a hot and dry fall, Exceptional (D4) long-term drought expanded in western, central, and southern counties, and eastern Coconino and southern Navajo counties. A dry and warm winter continued expanding Exceptional (D4) long-term drought in Mohave, La Paz, and Coconino counties, with Extreme (D3) long-term drought covering most counties across the state.

Following a warm and mostly dry monsoon, Water Year 2025 ended with Exceptional (D4) and Extreme (D3) long-term drought in every county, covering approximately 85% of the state. Severe (D2) long-term drought was largely in Apache County and northern Navajo County. Moderate (D1) long-term drought was only found in central Coconino County and small areas of northwestern Cochise, southern Maricopa, and northern Yavapai counties (**Figure 27**).

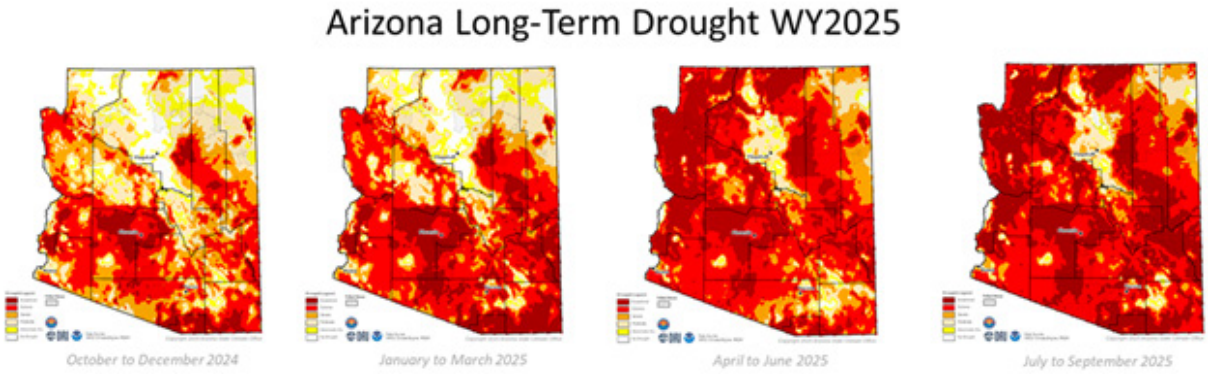


Figure 27. Long-term drought expanded at the end of WY2025.

2.J. Outlook for 2025-2026

Winter 2025-2026

A brief, weak La Niña episode should develop over the tropical Pacific by the start of winter 2025-26, with odds favoring neutral conditions quickly returning by early spring. This evolution may be similar to last year where La Niña barely materialized and its downstream influences were limited across the United States. Historically, a large majority of the driest winters recorded in Arizona since 1950 (**Figure 28**) have been observed during a La Niña event. While the presence of La Niña favors a drier than average winter season, a few of these La Niña winters (i.e., winter 2022-23) have resulted in wetter than normal conditions with other sub-seasonal patterns becoming more dominant.

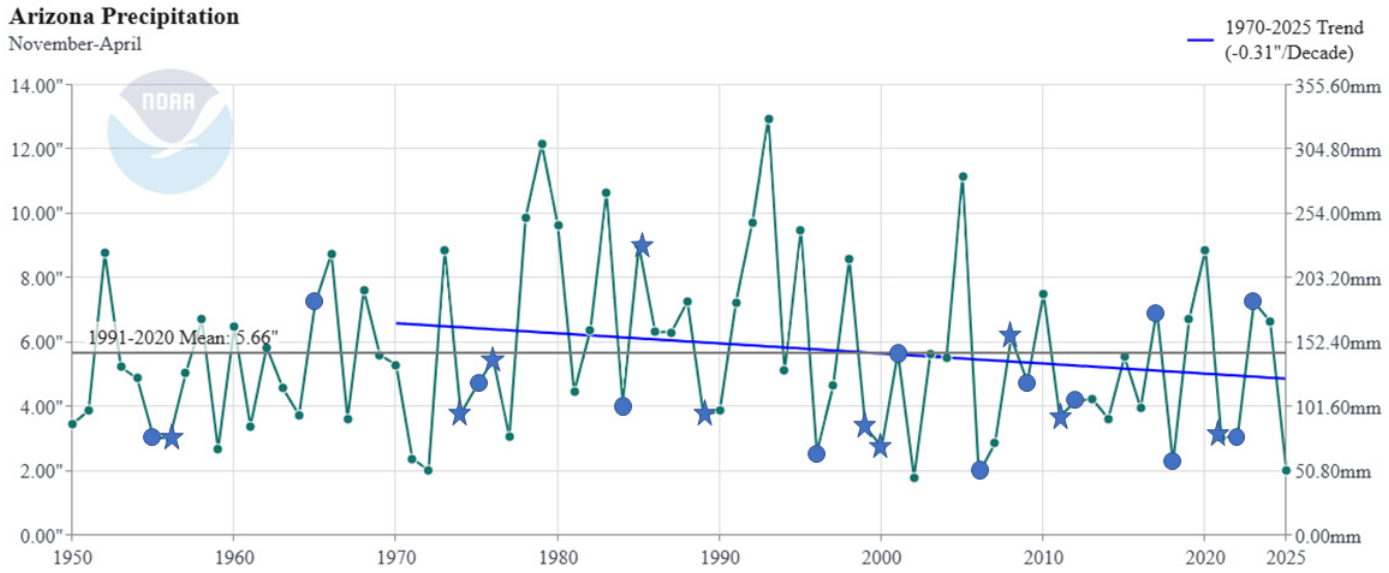


Figure 28. Historical Nov-Apr precipitation in Arizona since 1950. Blue dots are weak La Niña winters. Blue stars indicate moderate and strong La Niña events. Blue line defines the 50-year trend.

Arizona winters over the past 40 years have been steadily warming (**Figure 29**) due to a rapidly changing regional climate. The observed warming trend of +0.5oF/decade has frequently been detrimental towards water resources across the Southwest United States in the form of lessened reservoir recharge stemming from drier soil moisture profiles, snow levels higher than historical averages, and earlier than usual spring runoff.

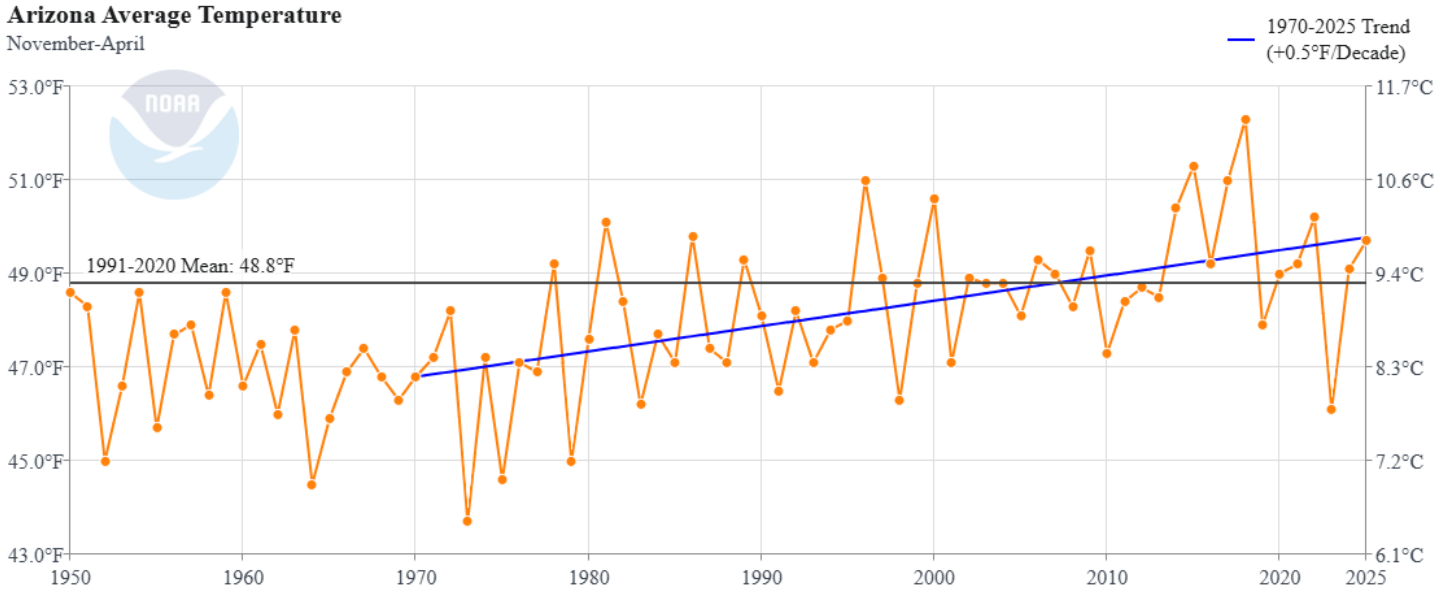


Figure 29. Historical November-April average temperature in Arizona since 1950. Blue line defines the 50-year trend.

The outlook from NOAA's Climate Prediction Center for January-March 2026 (**Figure 30**) depicts a slightly increased chance that the average 3-month temperature will fall into an above normal category and total precipitation ends in a below normal range. These forecasts are based on a consensus of dynamic and seasonal climate models, long term temperature trends, and historical climate composites during La Niña winters.

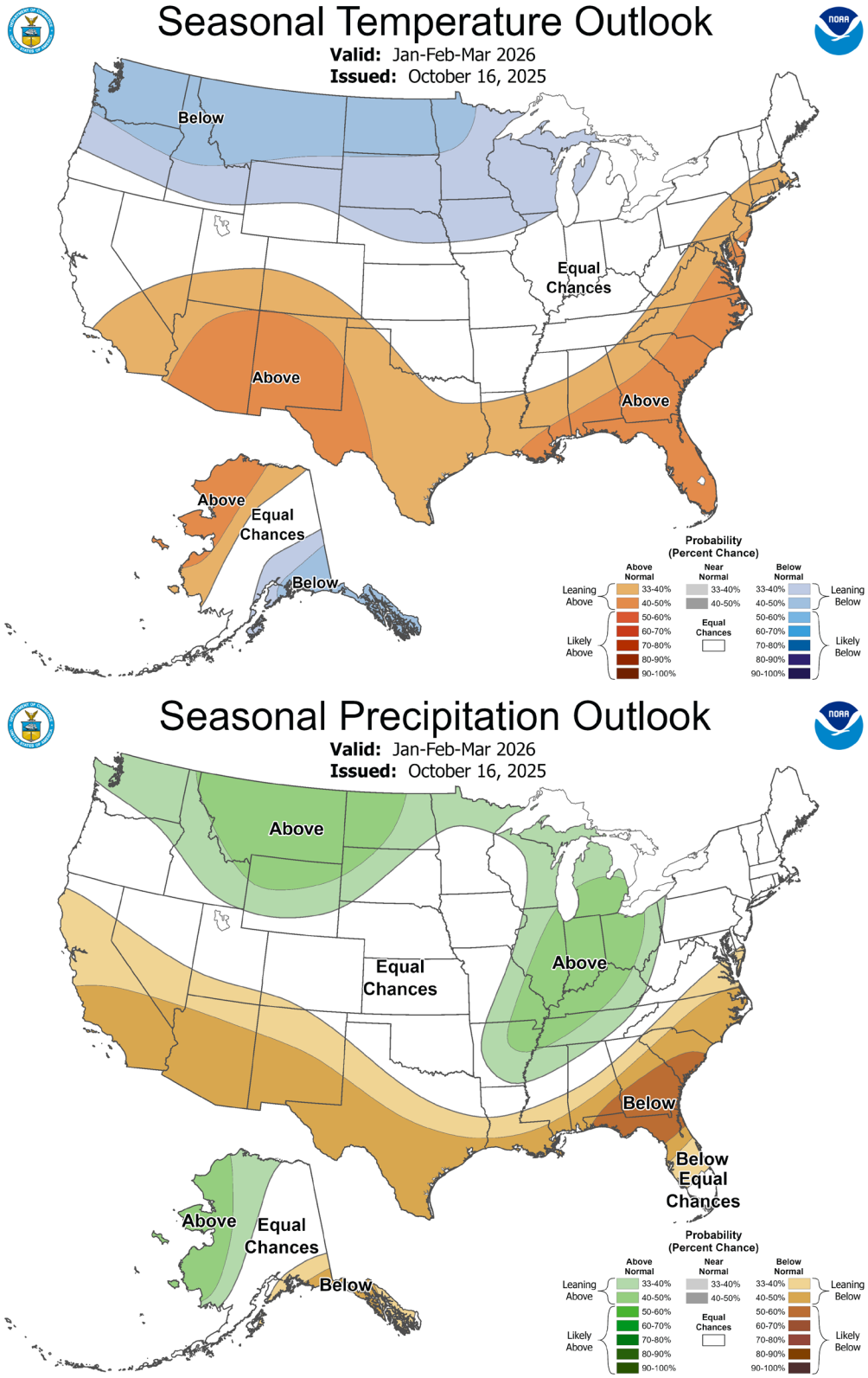


Figure 30. Climate Prediction Center outlook for temperature (left) and precipitation (right) for January – March 2026. Shading indicates a tilt in odds towards being above or below normal. Unshaded areas indicate equal chances of above, below, or near normal temperatures and precipitation.

Summer 2026

The Climate Prediction Center's outlook for July-September 2026 (**Figure 31**) indicates the average 3-month summer temperature has much better odds of falling in an above normal range. This outlook is based primarily on long term climate trends with prolonged regional warming over the past several decades as compared to the climatological average. The precipitation outlook shows no discernible signal during summer 2026 over Arizona; that is, there are equal chances for the 2026 monsoon season having above, below, or near normal rainfall. This is typical for the North American monsoon where thunderstorm coverage and intensity are generally not influenced by larger scale climate patterns. Rainfall amounts during the monsoon are typically quite varied over both local and region scales.

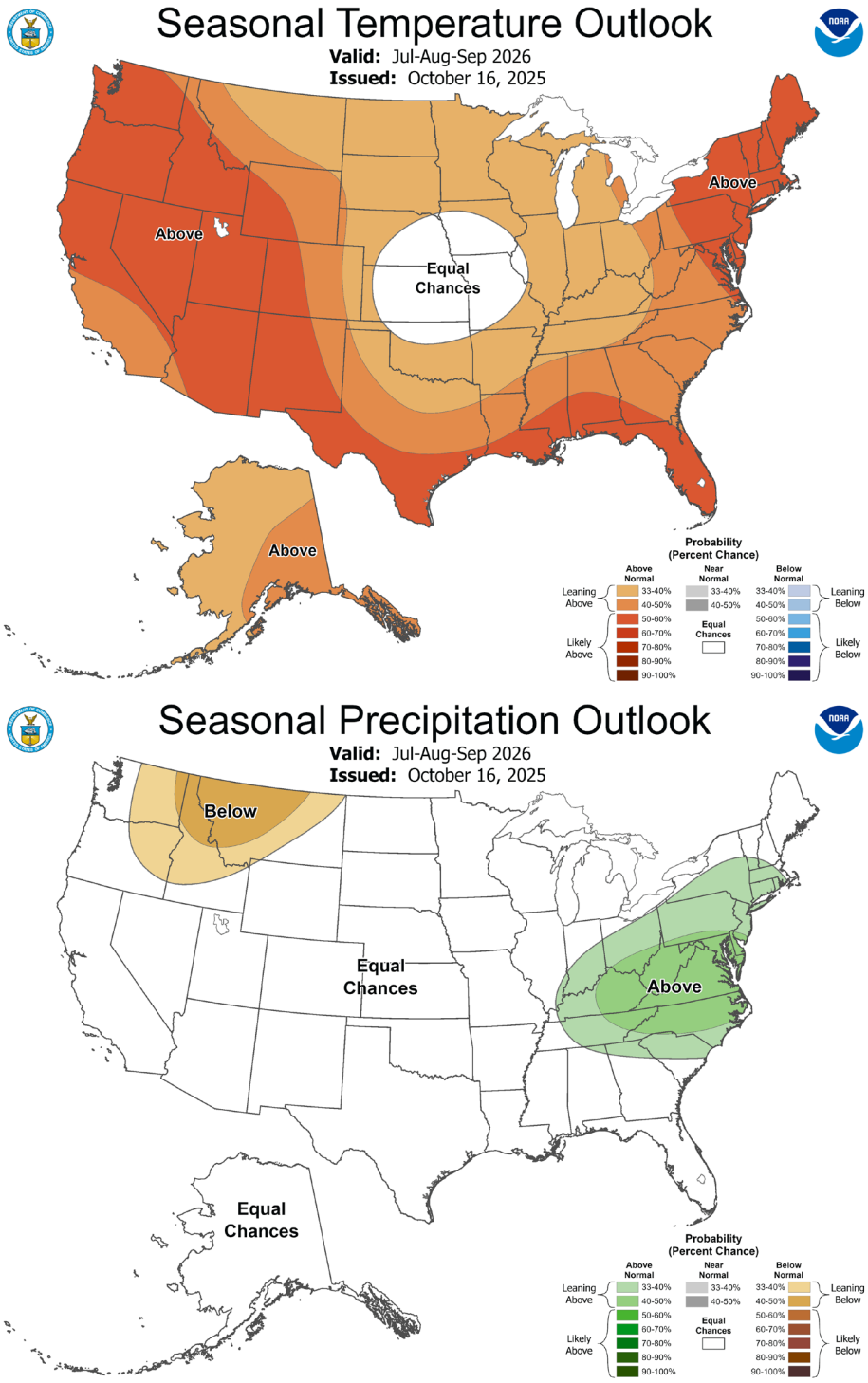


Figure 31. Climate Prediction Center outlook for temperature (left) and precipitation (right) for July – September 2026. Shading indicates a tilt in odds towards being above or below normal. Unshaded areas indicate equal chances of above, below, or near normal temperature and precipitation.

3. Drought Preparedness Plan Implementation Highlights

3.A. State Drought Monitoring Technical Committee (MTC) Efforts

The MTC is responsible for gathering drought, climate, and weather data, then interpreting and disseminating that information to water and land managers, policymakers, and the general public. Specifically, the MTC prepares short- and long-term drought status reports, facilitates multi-agency conversations regarding drought impacts, briefs the ICG on drought conditions, and provides assistance to Local Drought Impact Groups (LDIGs). The current two co-chairs of the MTC are State Climatologist Dr. Erinanne Saffell and National Weather Service Lead Forecaster Mark O'Malley.

Communicating Drought Status

In accordance with the ADWR mission to safeguard the health, safety and economic welfare of the public by protecting, conserving and enhancing Arizona's water supplies, the MTC and ADWR coordinate to improve the accessibility of drought information to resource managers, state decision-makers, and the general public. To enhance communication, information is updated on the ADWR Drought Status webpage on a weekly, monthly, and quarterly basis as follows:

Weekly - The MTC confers weekly with the National Weather Service offices that cover Arizona, Flood Control Districts, LDIGs, water and rangeland managers, agricultural extension offices, and others who observe and report drought impacts. This is done to advise the U.S. Drought Monitor authors on the state's current drought conditions and provide recommendations on drought designation in Arizona. The U.S. Drought Monitor is the official record of drought for federal drought relief claims. Information used by the MTC in advising the U.S. Drought Monitor authors includes, but is not limited to, numerous drought indices, precipitation and streamflow data, and impacts data. Every Thursday, ADWR's Drought Status webpage automatically updates with the latest U.S. Drought Monitor map of Arizona.

Monthly - At the end of each month, the MTC produces a web-based, short-term drought status update based on the U.S. Drought Monitor's maps for the past four weeks, with an explanation of how drought conditions have changed in Arizona over the preceding month. An email with the latest map and summary is sent to stakeholders, partners, and MTC members.

Quarterly - The MTC meets every quarter with numerous federal, state, and local partners to discuss drought conditions and impacts across the state. Objective climate data such as SPI and SPEI are analyzed as an initial proxy for drought conditions. Vegetation indices, snowpack, temperature anomalies, reservoir levels, and county-scale drought impact information are used to verify or modify the initial estimates of the objective data. The long-term drought status reports are posted on the ADWR Drought webpage and disseminated via email quarterly: in April (for January-March), July (for April-June), October (for July-September), and January (for October-December).

Supplemental Tools Supporting MTC Efforts

Arizona DroughtView

DroughtView, a University of Arizona program, is an online tool for collecting drought impact data incorporating remote sensing and climate monitoring products. The tool can be used to track high-resolution (~250 meters) changes in remotely sensed 'greenness' using Normalized Differenced Vegetation Index (NDVI) data collected on a bi-weekly basis from the National Aeronautical and Space Administration's (NASA) Moderate Resolution Imaging Spectroradiometer (MODIS) satellite. This index can be particularly useful for tracking changes in rangeland conditions related to livestock forage production and forest drought stress. These measures can indicate long-term drought impacts and wildfire risk. For more information, visit the University of Arizona DroughtView website at http://droughtview.arizona.edu/.

Community Collaborative Rain, Hail, and Snow (CoCoRaHS) Network

The CoCoRaHS network is a crowd-sourced observing system where citizens report daily precipitation. A drought impact reporting tool called "Condition Monitoring" is part of the CoCoRaHS interface where some of the observers in Arizona add weekly observations of the condition of vegetation, water bodies, and wildlife that reflect drought impacts. Since the observers simply note the conditions they detect, they do not require extensive training to provide useful information. In addition to the drought reports, the CoCoRaHS precipitation reports are incorporated into the products used by the U.S. Drought Monitor authors and by the Parameter Elevation Regression on Independent Slopes Model (PRISM) group who generate gridded SPI and SPEI data. For more information, visit the CoCoRaHS Network website at https://www.cocorahs.org/.

Drought Detection for Ranch-Scale Tools

Drought creates both production and legal risks to ranchers as they typically rely on federal lands for 50-90% of their forage. Policies for these rangelands dictate responses regarding herd reduction, reduced access to forage, and a lengthy approval process to change infrastructure and management. In many cases, patchy spatial distribution of drought in Arizona means that some ranches experience drought while others do not. However, the spatial resolution of most objective drought information is too coarse to represent this difference among ranches.

Dr. Mike Crimmins, University of Arizona faculty and MTC member, and his team developed two online tools to support the deployment of rain gauges for ranchers and federal managers in Arizona to detect drought more precisely at the ranch-scale. These precipitation monitoring tools help reduce production and legal risk by focusing responses only on drought-affected ranches. View a specific example of the tool here: https://myraingelog.arizona.edu/.

Standardized Precipitation Index (SPI) Explorer

SPI is a widely used drought index that has several strengths including the ability to calculate precipitation anomalies at different timescales and interpret SPI units (standard deviations) in probabilistic terms. This tool was created to explore SPI values at specific locations by using a gridded PRISM climate database to estimate local precipitation time series. Data are accessed through the Applied Climate Information Web Service and analyzed and plotted using several R-based packages. This version of the tool includes the calculation of the SPEI, as well. For more information, visit the SPI tool website at https://uaclimateextension.shinyapps.io/SPItool/.

Grassland Productivity Forecast

The "Grass-Cast" Grassland Productivity Forecast was released for the Southwest in Spring 2020. Grass-Cast is an optional tool that managers can use to develop well-informed expectations about grassland productivity. The model provides three "what-if" scenarios that show how much grass might grow during the upcoming season depending on whether precipitation is above, near, or below-normal. Grass-Cast can be used in the design of proactive drought management plans, trigger dates, stocking dates, and grazing rotations.

Grass-Cast is the result of a collaboration between the USDA Research Service, USDA's "Climate Hubs," and the Natural Resource Conservation Service (NRCS). Visit the Grass-Cast website for more information: https://grasscast.unl.edu/.

Interactive Drought Dashboard

ADWR's Drought Program developed an Interactive Drought Dashboard (**Figure 32**) that depicts short-term drought conditions in Arizona from 2000 to the present. This tool utilizes U.S. Drought Monitor maps and allows users to explore drought conditions for the entire period or for specific time frames. Viewers can access drought data for the state as a whole or a selected county. Visit the Interactive Drought Dashboard on the ADWR Drought website for more information: https://www.azwater.gov/drought/drought-dashboard.

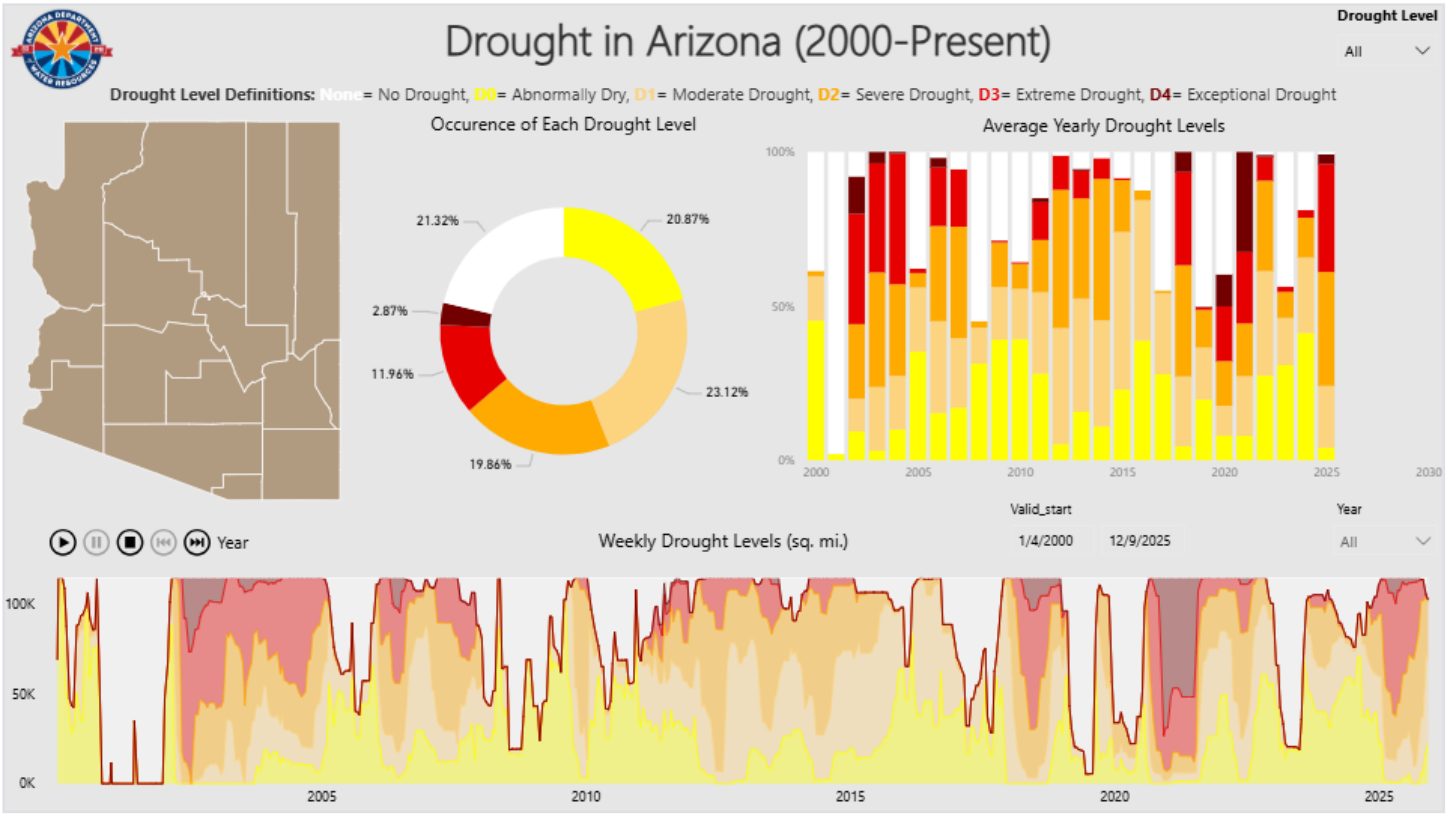


Figure 32. ADWR Drought Interactive Dashboard.

Drought Impact Reports from State and Federal Agencies

Drought impact data is used by the MTC in its efforts to correlate on-the-ground drought conditions with precipitation and streamflow data. Impact information is received from hydrologists, researchers, and other field staff from the Bureau of Land Management (BLM), USGS, USDA, NRCS, DFFM, Arizona Game and Fish Department, Arizona State Parks, Native American communities, and other state and federal groups.

MTC Presentations and workshops

Report: NIDIS North American Monsoon Special Edition Drought Status Update, June 30, 2025

https://www.drought.gov/drought-status-updates/north-american-monsoon-drought-status-update-2025-06-30

3.B. Governor's Drought Interagency Coordinating Group (ICG) Efforts

The ICG has met biannually since 2006 and advises the Governor on drought status, impacts, and any necessary preparedness and response actions.

The Fall 2024 meeting included a review of 2024 drought status, winter 2024-2025 weather outlook, a 2024 wildfire season update, impacts of drought wildlife, impacts of drought and extreme heat on public health and water supply updates for the Colorado River and Salt River and Verde River Watersheds.

The Spring 2025 meeting included a review of 2024-2025 winter precipitation, summer and winter 2025 weather outlook, a 2025 wildfire outlook, a 2024-2025 forest health update, impacts of drought on hydropower, as well as water supply updates for the Colorado River and Salt River and Verde River Watersheds.

At both the Fall 2024 and Spring 2025 meetings, the ICG recommended the continuation of the Drought Emergency Declaration (PCA 99006) and the Drought Declaration (Executive Order 2007-10) for the State of Arizona. The presentations and subsequent decisions are on the ADWR ICG webpage: https://www.azwater. gov/drought/interagency-coordinating-group.

3.C. Drought Planning for Community Water Systems

Drought planning requirements and water use reporting regulations for Community Water Systems (CWSs) were recommended in the Arizona Drought Preparedness Plan and established by the State Legislature in 2005 to help CWSs reduce their vulnerability to drought and water shortages. These reports provide a means for the state to gather water-use data and offer assistance to CWSs where needed. ADWR aids water providers in meeting these requirements through web-based resources, online reporting tools, and phone or in-person consultations. For more information, see the ADWR CWS webpage: https://azwater.gov/cws.

All CWSs in the state are required to submit a Drought Preparedness Plan to ADWR every five years. The Drought Preparedness Plan is part of the required System Water Plan (SWP), which also includes a Water Supply Plan and a Conservation Plan. The Drought Plan requires water systems to describe their drought stages and triggers, emergency sources of water, customer communication strategies, and other planning actions.

Data reported within CWS Drought Preparedness Plans, such as drought stage declarations or emergency water supply plans, are displayed on the CWS Data Dashboard online and can be filtered to highlight specific criteria or timeframes (**Figures 33** and **Figure 34**). The dynamic nature of the dashboard allows the user to rapidly identify communities that have experienced drought conditions or those that have an increased risk of experiencing a shortage event in the future. For more information, see the CWS Data Dashboard online: https://www.azwater.gov/cws/community-water-systems-data.

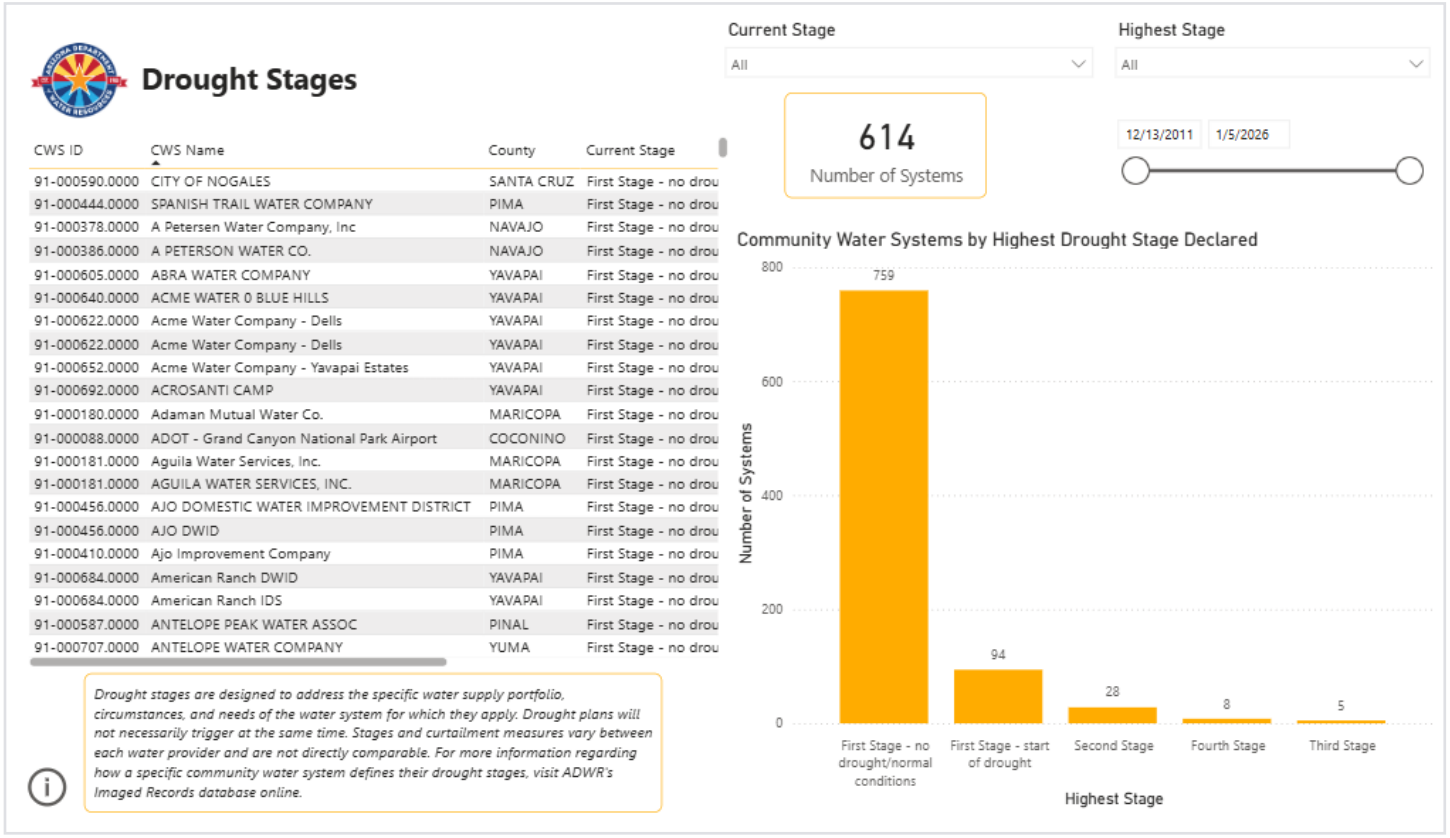


Figure 33. CWS Data Dashboard, Drought Stages

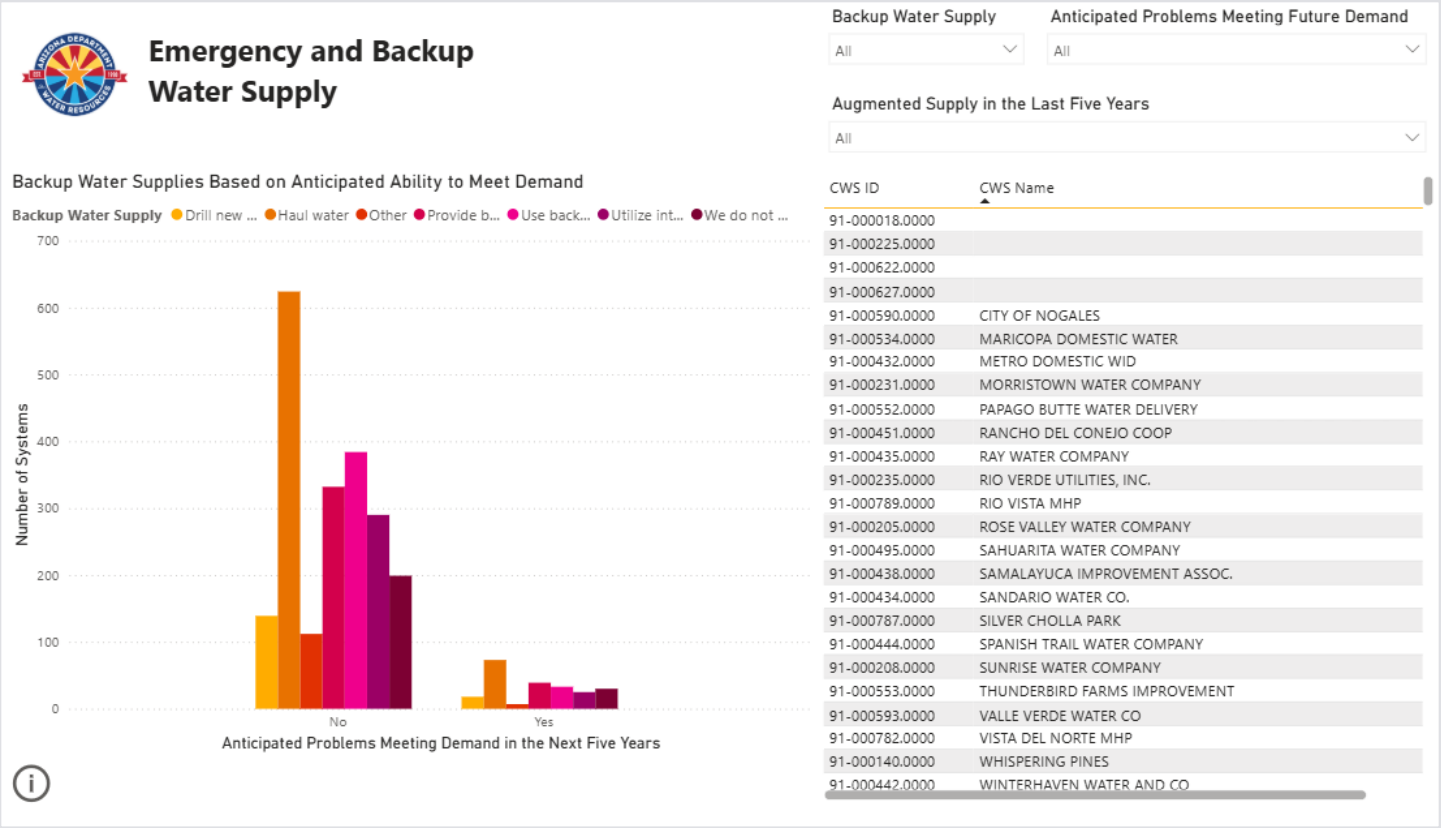


Figure 34. CWS Data Dashboard, Emergency and Backup Water Supply

To date, the CWS program has received 544 SWPs out of 751 active systems which is a 72.44% compliance for the 2023-2024 year. This is an improvement from previous years, such as 2022-2023 in which 512 SWPs were received out of 753 active systems or a 67.99% compliance rate, or such as 2017-2018's 61.76% compliance rate, as seen in (**Figure 35**).

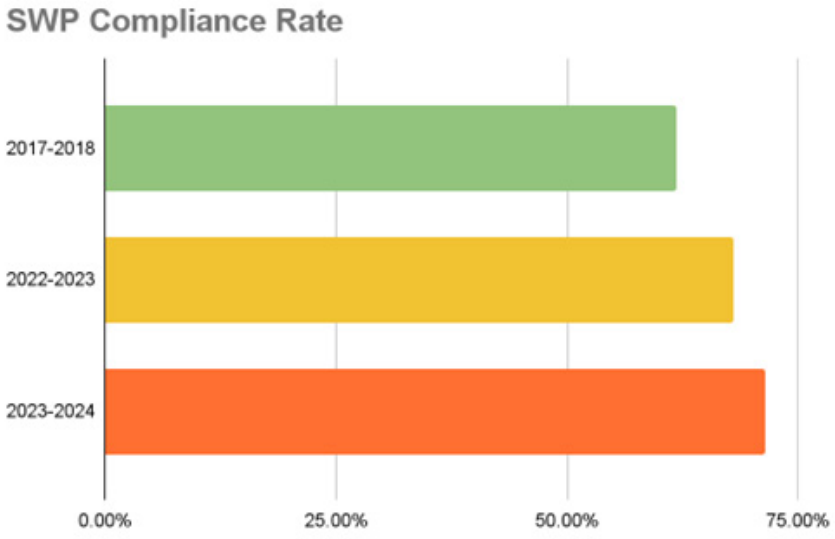


Figure 35. Compliance Rate for System Water Plans submitted by Community Water Systems

In 2025, the CWS Program continued to strengthen relationships with water providers and improve compliance through new online tools, dashboards, and updated data queries available to the public. The program also expanded its outreach by hosting three in-person workshops in Yavapai, Mohave/La Paz, and Pinal/Pima counties, reaching over 76 water providers. These workshops, supported by ADEQ, WIFA, local watershed groups such as the Friends of the Verde River and the Santa Cruz Watershed Collaborative, and the Rural Community Assistance Partnership Incorporated, provided training on compliance, drought, conservation, and funding opportunities. Feedback from participants was overwhelmingly positive, with participants reporting increased knowledge, new resources, and stronger regional collaboration. Looking ahead to 2026, the program plans to add virtual workshops, broaden partner involvement, and target additional regions across the state.

3.D. Local Drought Impact Group (LDIG) Efforts

LDIGs participate in monitoring, education, and local mitigation, mainly through Cooperative Extension and county emergency management programs. Initial planning efforts included ten LDIGs, and as many as eight LDIGs have been active in the past. Since 2008, in response to local fiscal and staffing limitations, the focus of the LDIGs has been entirely on drought impact monitoring and reporting. Currently, only Pima County has an active LDIG program. It is inclusive of many stakeholders, from water providers to ranch and creek managers. See **Appendix B** for the full Pima County LDIG WY2025 Annual Report.

3.E. Colorado River Drought Response Efforts[2]

The Colorado River is a highly variable system, subject to dramatic change in runoff from year to year. In general, the average annual natural flow of the Colorado River at Lee's Ferry has averaged around 15 MAF over a 115-year period (WY1906 through 2020) but has ranged from as little as 5.5 MAF to as much as 24.2 MAF in a single year. The Colorado River Basin is experiencing a prolonged period of drought resulting in historically low reservoir levels at Lake Powell and Lake Mead. The period from 2000 through 2022 is the lowest 23-year inflow in the historic record and one of the driest in the past 1,200 years. As a result of the exceptionally low runoff conditions over the three recent years (2020, 2021, and 2022), drought response operations have been triggered at Lake Powell and Lake Mead, consistent with the 2007 Interim Guidelines, 2019 DCPs, Minutes 323 and 330, and the 2024 Interim Guidelines SEIS Record of Decision (2024 Interim Guidelines SEIS ROD).

2007 Interim Guidelines

In December 2007, the Secretary of the U.S. Department of the Interior adopted the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead[3](2007 Interim Guidelines). The 2007 Interim Guidelines created a novel approach to Colorado River operations that incentivized conservation and augmentation through the creation of Intentionally Created Surplus (ICS). In addition, the Guidelines defined the criteria for shortages in the Lower CRB based on elevations in Lake Mead, implemented closer coordination of operations of Lake Powell and Lake Mead, and preserved flexibility to deal with further challenges such as climate variability and deepening drought.

Pilot System Conservation Program (PSCP)

More recent drought mitigation planning efforts include the PSCP and the Lower Basin Drought Memorandum of Understanding (MOU) agreements. The PSCP involves water agencies from both the Upper and Lower CRBs that agreed to jointly fund water conservation projects in both the Upper and Lower Basin to benefit the Colorado River system. The purpose of the Lower Basin Drought MOU was to generate additional water to be left in Lake Mead to reduce the risk of reaching critical reservoir elevations. Both programs were voluntary and were initiated in 2014. The Pilot Program in the Lower Basin is expected to create 175,347 AF of system conservation in Lake Mead by 2035 for a cost of approximately $29.8 million or $170.14/AF. The Federal/Non-Federal cost share is 47/53%, respectively. The majority of the conservation was completed by 2019, with the exception of Bullhead City and the City of Needles continuing through 2025.

[2] Substantial portions of this section and associated footnotes are from the Bureau of Reclamation's October 30, 2025, draft "Annual Operating Plan for Colorado River Reservoirs 2026."

[3] Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead: https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf

Drought Contingency Plan (DCP)

In 2013, the seven CRB States, the United States, and the Republic of Mexico started drought contingency planning discussions in response to the ongoing historic drought on the CRB.

Arizona's participation in this effort proceeded along two tracks: one was the intra-Arizona pursuit of a plan to implement the DCP within Arizona and to authorize the Director of ADWR to sign the DCP on behalf of the state. That effort became known as Arizona's DCP Implementation Plan. The other track involved negotiations among the CRB States and Interior to finalize the DCPs.

The agreements include an Upper CRB DCP and a Lower CRB DCP. They are designed to help reduce the risk of Colorado River reservoirs, particularly Lake Powell and Lake Mead, declining to critical elevations.

Following enactment of federal authorizing legislation, the Lower CRB DCP agreement was made and entered on May 20, 2019, by and among the United States, represented by the Secretary of the Interior; the State of Arizona, acting through the Director of the ADWR; the Metropolitan Water District of Southern California (Metropolitan); the Coachella Valley Water District (CVWD); the Palo Verde Irrigation District (PVID); the City of Needles, California; the Colorado River Commission of Nevada (CRCNV); and the Southern Nevada Water Authority (SNWA).

The Lower CRB DCP is designed to protect Lake Mead from declining to critically low elevations by requiring water delivery reductions at higher elevations than specified in the Interim Guidelines and providing enhanced incentives for conservation of water to be stored in Lake Mead by Arizona, California, and Nevada. Adoption of the Lower CRB DCP is important to Arizona, which is at risk of potentially catastrophic reductions in water deliveries if elevations in Lake Mead continue to fall to critically low elevations. To adopt and implement the Lower CRB DCP, Arizona established a Steering Committee, comprised of key water leaders, water users, and representatives from various sectors across Arizona in a way that is acceptable to Arizona water users.

Upper Basin Drought Response Operations Agreement (DROA)

Hydrologic projections in early 2021 indicated that Lake Powell could decline to below the Drought Response Operations Agreement's (DROA) Target Elevation of 3,525 feet, prompting the Bureau of Reclamation (Reclamation) to work with DROA[4] parties to develop the 2022 Plan (i.e., a Framework document and attachments identifying operations).

In July 2021, Reclamation initiated an emergency release of 0.161 MAF from Flaming Gorge, Blue Mesa, and Navajo reservoirs in accordance with the DROA.

After consultation and coordination with the Upper Division States, Reclamation initiated a second DROA action in January 2022. Pursuant to DROA, the first drought response that is considered is the modification of monthly release volumes from Lake Powell while maintaining the annual release volume pursuant to the 2007 Interim Guidelines.

Reclamation modified Lake Powell release volumes by reducing the monthly releases from January through April 2022 by a total volume of 0.350 MAF. This volume was scheduled to be added back into releases scheduled for June through September 2022; however, in May 2022, the Department of the Interior modified the annual release volume from Lake Powell from 7.48 MAF to 7.00 MAF, in accordance with Sections 6 and 7.D of the 2007 Interim Guidelines.

[4] See: https://www.usbr.gov/dcp/docs/final/Attachment-A1-Drought-Response%20Operations-Agreement-Final.pdf.

[5] Drought Response Operations Framework and Plan: https://www.usbr.gov/uc/DocLibrary/Plans/20220420-2022DroughtResponseOperationsPlan-Signed-508-UCRO.pdf.

[6] Department of Interior Approval Memo: https://www.usbr.gov/uc/DocLibrary/Plans/20220429-2022DroughtResponseOperationsPlan-ApprovalMemo-508-DOI.pdf.

In April of 2022, the DROA parties finalized the 2022 Plan for the duration of May 2022 through April 2023[5]. The Secretary of the Interior, through her designee, approved the 2022 Plan on April 29, 2022[6], as summarized and including the following key operational elements:

1. Drought Response Operations releases approximately 0.500 MAF from Flaming Gorge Dam
2. Possible Drought Response Operations releases from Blue Mesa Reservoir in Fall 2022 and Winter 2023, contingent upon available release volumes
3. Possible Drought Response Operations releases from Navajo Reservoir in Fall 2022 or Winter 2023, contingent upon available release volume
4. Possible operational adjustments at Glen Canyon Dam in Winter 2023
5. No anticipated recovery of DROA release volumes through the term of the 2022 Plan

Based on projections of Powell elevations in the November 2022 24-month study, Reclamation adjusted monthly release volume patterns for Glen Canyon Dam under the 2022 Plan to hold back a total of 0.523 MAF in Lake Powell from December 2022 through April 2023. The 0.523 MAF was subsequently released from Glen Canyon Dam in May through September of 2023.

Due to the improved hydrologic conditions in the Colorado River Basin in WY2023DROA releases from Flaming Gorge were suspended on March 6, 2023. At the time of the suspension, the total 2022 DROA release from Flaming Gorge was 0.463 MAF. On March 16, 2023, Reclamation reduced releases from Flaming Gorge even further to initiate recovery of previous DROA releases and continued recovery operations through the end of DROA year 2022 , resulting in 0.135 MAF in recovered volume in Flaming Gorge.

On May 26, 2023, the DROA Parties agreed to the 2023 Plan. The 2023 Plan did not include any DROA releases, but rather provided for recovery of prior DROA releases from the units upstream of Powell. The Secretary of the Interior through her designee approved the 2023 Plan, as summarized in the following key operational elements:

1. Anticipate full recovery of DROA release volumes at Flaming Gorge and Blue Mesa through the term of the 2023 Plan.
2. No additional action is anticipated during the 2023 Plan; the DROA Parties will continue to monitor hydrological conditions and, if needed, will make adjustments at Glen Canyon Dam, and then the upstream initial units (Flaming Gorge, Aspinall, and Navajo).

Recovery of Blue Mesa and Flaming Gorge was completed on December 29, 2023, and 15 February 28, 2024, respectively. Accounting and recovery of DROA releases from Flaming 16 Gorge and Blue Mesa were completed in accordance with the definitions and processes 17 outlined in Section 6 of the 2023 Plan.

Upper Colorado Conservation Program

In December 2022, Congress authorized the System Conservation Pilot Program (SCPP) in the Upper Division States. Reclamation executed a SCPP funding agreement with the Upper Division States acting through the UCRC in January 2023. Under this program, it is estimated that 104,000 acre-feet was conserved through 2024. Legislation has been introduced to extend the program.

[7] A DROA operational year spans from May through April

Lower Colorado Conservation and Efficiency Program

In September 2022, the Department of Interior announced additional steps to address drought in the Colorado River Basin. Subsequent guidance was released in an October 12, 2023, Letter to Interested Parties.

The LC Conservation Program is intended to provide new opportunities to fund system conservation and efficiencies in the Lower Colorado River Basin that lead to additional conservation and bridge the immediate need while moving toward improved system efficiency and more durable long-term solutions for the Colorado River system. The LC Conservation Program has three components:

1.a. Proposals for system conservation resulting in additional volumes of water remaining in Lake Mead at a set price of:

One-year agreement: $330 per acre-foot
Two-year agreement: $365 per acre-foot
Three-year agreement: $400 per acre-foot

1.b. Proposals describing lower Colorado River Basin water conservation plans that can be implemented resulting in reductions in consumptive use of lower Colorado River water having a recent history of use.

2. Proposals for long-term system efficiency improvements that will result in multi-year system conservation.

As of June 2025, agreements have been reached for a total of up to 2.47 MAF through 2026 under the 1.a. and 1.b components[8]. Additional agreements to create or conserve system water in the Lower Basin may also be implemented in calendar year 2025 and/or 2026. As of January 2025, agreements had been announced for a total of 0.630 MAF in long-term efficiency projects under the 2) component of the program[9].

Supplemental Environmental Impact Statement (SEIS)

As directed by the Secretary of the Interior, on November 17, 2022, Reclamation published a Federal Register Notice indicating its intent to prepare a Supplemental Environmental Impact Statement (SEIS). The purpose of the SEIS is to supplement the Environmental Impact Statement completed in 2007 for the 2007 Interim Guidelines to modify operating guidelines for the operation of Glen Canyon and Hoover Dam to address the historic drought and low runoff conditions in the Colorado River Basin. The need for the revised operating guidelines is based on the potential that continued low runoff conditions in the Colorado River Basin could lead to critically low reservoir conditions at Lake Powell and Lake Mead that impact both water delivery and hydropower operations from 2023 through 2026. The 2024 Interim Guidelines SEIS Record of Decision, which includes modifications to Sections 2, 6, and 7 of the 2007 Interim Guidelines, was signed on May 6, 2024.

[8] Summary table of executed Bucket 1 agreements is available online at: https://www.usbr.gov/lc/region/programs/LCBConservation&EfficiencyProgram/Phase1_SCIA.pdf

[9] Summary table of announced Bucket 2 agreements is available online at: https://www.usbr.gov/lc/region/programs/LCBConservation&EfficiencyProgram/Jan%202025%20-%20SCIAs%20announced%20table.pdf

Arizona's Reconsultation

Arizona continues to build on the success of the DCP process by utilizing the same approach at the intrastate level to develop an Arizona consensus on the "reconsultation" of the 2007 Interim Guidelines.

On June 25, 2020, Arizona reconvened Arizona's Lower Basin DCP Steering Committee delegates to form the "Arizona Reconsultation Committee" or ARC.

In all, the ARC set out four primary goals for itself:

- Establish a process for continued engagement within Arizona throughout the Reconsultation process.
- Provide a venue for developing and sharing stakeholder perspectives and values to guide Arizona's perspectives in the Reconsultation process.
- Identify risks and benefits to inform Arizona's input to the Reconsultation process.
- Continue the transparency that was established during the successful DCP Steering Committee effort.

With the publication of the Notice of Intent in 2023 to prepare an Environmental Impact Statement for the development of "Post-2026 Operational Guidelines and Strategies for Lake Powell and Lake Mead," the ARC has and will continue to provide guidance to the co-chairs as requested.

3.F. Drought and Health Efforts

Prolonged periods of drought are a growing concern with significant and complex consequences for public health. This section explores how drought intensifies a range of health risks, often through a cascading effect on environmental factors. The direct and indirect impacts of drought, including its role in degrading water quality and quantity, increasing the spread of zoonotic diseases, and intensifying heat waves all have negative health impacts. Furthermore, drought-related conditions, such as wildfires and dust storms, can lead to poor air quality and widespread respiratory distress.

Water Quality

In Arizona, drought poses a significant threat to public health by compromising the safety and availability of potable water. As the state relies heavily on groundwater for both public and private water systems, dropping water table levels during a drought can increase the concentration of naturally occurring contaminants like arsenic, fluoride, and uranium. The Arizona Environmental Public Health Tracking (EPHT) Data Explorer monitors these contaminants in drinking water, providing crucial data from 2006-2024.[10] to track how drought conditions may be affecting water quality.

Beyond its direct impact on groundwater, drought creates conditions that make private wells particularly vulnerable to contamination from other events. Wildfires, often intensified by drought, can damage well infrastructure and introduce pollutants into aquifers. Conversely, drought-induced dry soil can lead to flooding when heavy rains eventually return. These floods can carry contaminated surface water, including sewage and agricultural runoff, directly into wells. With approximately 120,000 registered private wells in Arizona, this makes a substantial portion of the population susceptible to these risks.

To combat these public health threats, the Arizona Department of Health Services (ADHS) has launched a series of initiatives. The well water website offers private well owners guidance on where to test for key contaminants like bacteria, nitrates, arsenic, fluoride, and uranium. In collaboration with the Arizona Department of Water Resources (ADWR), ADHS also distributes educational materials. These resources include a well owner guide that details the health impacts of drought and offers vital information on testing, treatment, and general water safety.[11]

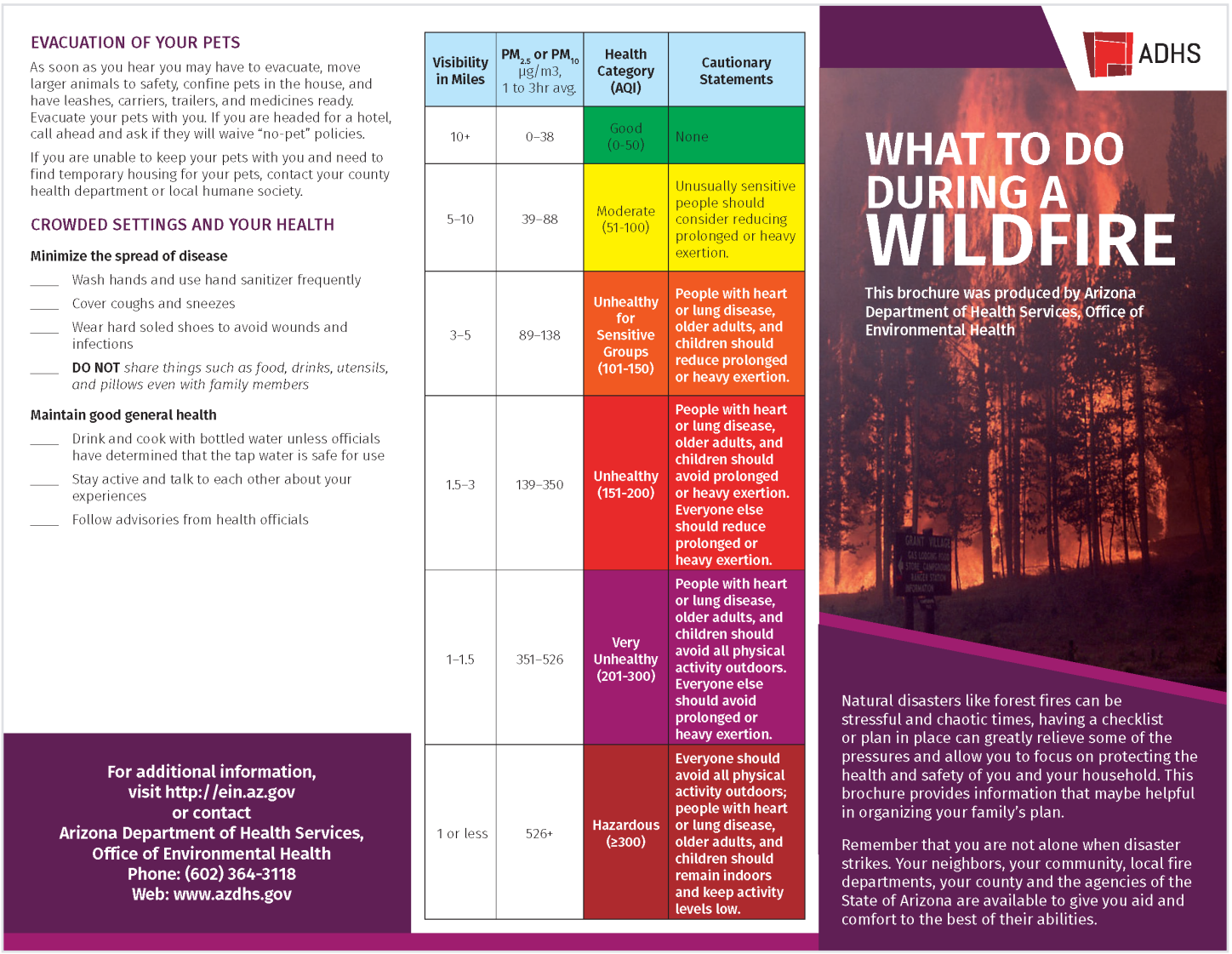
[10] https://gis.azdhs.gov/ephtexplorer/

[11] https://www.cdc.gov/drought-health/health-implications/?CDC_AAref_Val=https://www.cdc.gov/nceh/drought/implications.htm

Air Quality

In Arizona, drought can compromise air quality, posing a serious threat to public health. Prolonged dry conditions and intense heat waves transform vegetation into fuel for wildfires, leading to an increase in smoke and airborne pollutants. Additionally, drought intensifies and increases the frequency of dust storms, further reducing air quality. These conditions introduce harmful particles into the atmosphere, directly impacting respiratory health.

In 2024, Santa Cruz and Maricopa Counties, experienced 1.95% and 2.46% of days of particulate matter 2.5 (PM2.5) levels above the National Ambient Air Quality Standards (NAAQS). Additionally, Maricopa and Pinal Counties also experienced 2.73% and 14.75% of days of particulate matter 10 (PM10) levels above the NAAQS. Provisional data show chronic lower respiratory diseases were found to be the cause of 3,644 deaths among Arizonans in the same year.10 In response to these challenges, ADHS has published bilingual brochures on what to do during (español and after (español) (**Figure 35**) a wildfire as well as launched health safety pages on dust storms and air quality.



EVACUATION OF YOUR PETS

As soon as you hear you may have to evacuate, move larger animals to safety, confine pets in the house, and have leashes, carriers, trailers, and medicines ready. Evacuate your pets with you. If you are headed for a hotel, call ahead and ask if they will waive "no-pet" policies.

If you are unable to keep your pets with you and need to find temporary housing for your pets, contact your county health department or local humane society.

CROWDED SETTINGS AND YOUR HEALTH

Minimize the spread of disease

- ____ Wash hands and use hand sanitizer frequently
- ____ Cover coughs and sneezes
- ____ Wear hard soled shoes to avoid wounds and infections
- ____ **DO NOT** *share things such as food, drinks, utensils, and pillows even with family members*

Maintain good general health

- ____ Drink and cook with bottled water unless officials have determined that the tap water is safe for use
- ____ Stay active and talk to each other about your experiences
- ____ Follow advisories from health officials

For additional information, visit http://ein.az.gov or contact Arizona Department of Health Services, Office of Environmental Health Phone: (602) 364-3118 Web: www.azdhs.gov

Visibility in Miles	$PM_{2.5}$ or PM_{10} µg/m3, 1 to 3hr avg.	Health Category (AQI)	Cautionary Statements
10+	0–38	Good (0-50)	None
5–10	39–88	Moderate (51-100)	Unusually sensitive people should consider reducing prolonged or heavy exertion.
3–5	89–138	Unhealthy for Sensitive Groups (101-150)	People with heart or lung disease, older adults, and children should reduce prolonged or heavy exertion.
1.5–3	139–350	Unhealthy (151-200)	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion. Everyone else should reduce prolonged or heavy exertion.
1–1.5	351–526	Very Unhealthy (201-300)	People with heart or lung disease, older adults, and children should avoid all physical activity outdoors. Everyone else should avoid prolonged or heavy exertion.
1 or less	526+	Hazardous (≥300)	Everyone should avoid all physical activity outdoors; people with heart or lung disease, older adults, and children should remain indoors and keep activity levels low.

ADHS

WHAT TO DO DURING A WILDFIRE

This brochure was produced by Arizona Department of Health Services, Office of Environmental Health

Natural disasters like forest fires can be stressful and chaotic times, having a checklist or plan in place can greatly relieve some of the pressures and allow you to focus on protecting the health and safety of you and your household. This brochure provides information that maybe helpful in organizing your family's plan.

Remember that you are not alone when disaster strikes. Your neighbors, your community, local fire departments, your county and the agencies of the State of Arizona are available to give you aid and comfort to the best of their abilities.

Figure 36. Arizona Department of Health Services, Office of Environmental Health What to Do During a Wildfire Brochure

Extreme Heat

Drought and extreme heat are intertwined. Unusually high temperatures and dry spells can contribute to drought severity. In addition, drought can intensify extreme heat health effects, such as heat exhaustion or heat stroke. In 2024, there were 5,285 heat-related illness emergency department visits and 977 heat-related deaths recorded in Arizona, occurring predominantly in Maricopa, Mohave, Pima, Pinal, and Yuma counties.[12] The number of heat-related deaths in 2024 was 977. This is almost 7 times the amount seen 10 years ago in 2015 (140). In the last 5 years, heat-related deaths have exceeded more than 500 deaths per year in the state.

To address the impacts of extreme heat ADHS collaborates with universities to update heat vulnerability assessments for Arizona. These assessments identify the impacts of extreme heat among vulnerable populations, such as Native Americans (3.8%) and the Hispanic population (33.0%) in Arizona, based on 2024 ADHS population denominators. Additionally, ADHS partnered with ASU and other community partners to create an Arizona Social Vulnerability Index Tool to inform communities and equitably address health disparities. Several of the Arizona specific features touch upon drought related issues such as heat vulnerability, tree cover, water cost, and air quality.

The figure below (**Figure 37**) illustrates water costs across Arizona. Many of the areas with the highest water costs are rural and may be experiencing various health-impacting challenges in addition to drought conditions.

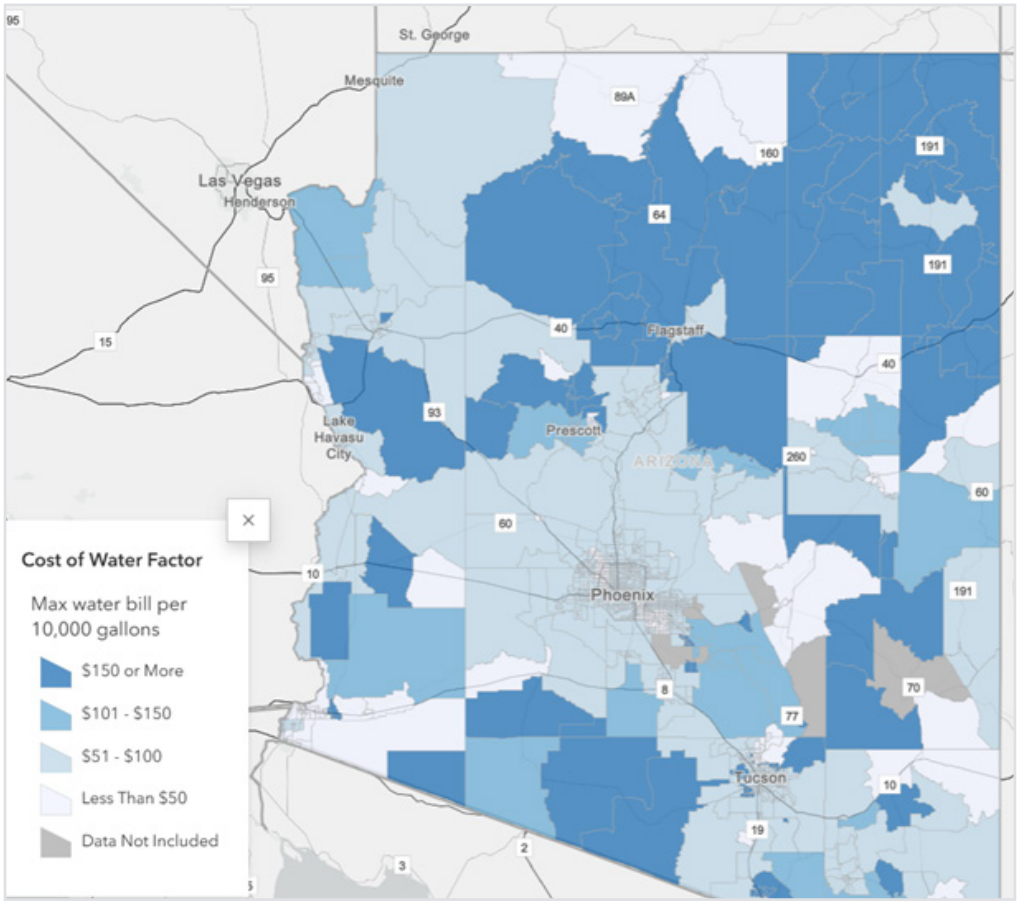


Figure 37. Water costs across Arizona.

Beyond tracking heat illness and vulnerabilities, ADHS promotes heat safety through several communication channels, including the Heat Safety website. On the website you can find a cooling center map that can easily be accessed by the public to find information on cooling centers. A heat-related illness dashboard that uses syndromic surveillance data to provide near real-time trends in emergency department heat-related illness visits during May-Oct. On this dashboard you can visualize the near real time impacts of heat on community health. Agencies can use this information to coordinate and respond to extreme heat events during the summer. During the heat season ADHS sends out excessive heat warnings to promote heat safety prevention strategies during extreme heat days. Anyone can sign up for heat alerts to stay informed on extreme heat days and strategies to stay safe during the hot summer months. In addition to heat alerts we promote heat safety messages through social media. In the beginning of the heat season through a partnership with National Weather Services we promote heat safety messages through HEAT Awareness Week. Additional resources can be found via the Arizona Heat Preparedness Network and heat.az.gov, a comprehensive hub for all statewide heat-related information.

Zoonotic Diseases

Drought conditions can create an environment ripe for transmission of zoonotic diseases, including Valley fever and West Nile virus (WNV).[13] Dust that is blown by dust storms throughout the year can carry the fungal spores, Coccidioides, which are the source of infection for coccidioidomycosis, also known as Valley fever. It is a fungus that is commonly found in the southwestern United States. People can acquire Valley fever by breathing in the microscopic fungal spores from the air, although most people who breathe in the spores don't get sick. [14] Symptoms are similar to the flu and include fatigue, cough, fever, shortness of breath, headache, night sweats, muscle aches, and rash.

In 2024, Valley fever was reported in 15,024 people in Arizona.[15] Drought increases the opportunity for WNV transmission by reducing the size of water bodies, causing them to become stagnant; this provides additional breeding grounds for certain types of mosquitoes.[16]WNV disease symptoms include acute febrile illness with headache, myalgia or arthralgia, and gastrointestinal issues. WNV disease is reported mostly in Maricopa, Pima, and Pinal counties, where the majority of WNV cases occurred in 2024 to date.[17]

AZ Environmental Public Health Tracking (EPHT)

The ADHS EPHT program monitors population health status during moderate to extreme drought conditions. Public health partners are able to access and track environmental and health indicators in one location at different spatial scales, such as county, sub-county, and public water system levels. Drought-related environmental topics tracked include drought indices, extreme precipitation, flood vulnerability, temperature, heat vulnerability, wildfires, hazard losses, water quality, and air quality. Drought-related health topics tracked include asthma, heat-related illness, chronic obstructive pulmonary disease (COPD) hospitalizations, heat-related deaths, and social vulnerability factors. Data is visualized in an online interactive Data Explorer in maps, tables, graphs, and charts and can be viewed at https://gis.azdhs.gov/ephtexplorer/.

[13] http://azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/pubs/projections-climate-impacts-vector-borne.pdf

[14] https://www.cdc.gov/fungal/diseases/coccidioidomycosis/symptoms.html

[15] https://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/disease-data-statistics-reports/data-statistics-archive/2024/yearly.pdf?v=20250113

[16] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5310598/

[17] https://www.azdhs.gov/documents/preparedness/epidemiology-disease-control/mosquito-borne/west-nile/data/west-nile-virus-az-2024.pdf?v=20230929

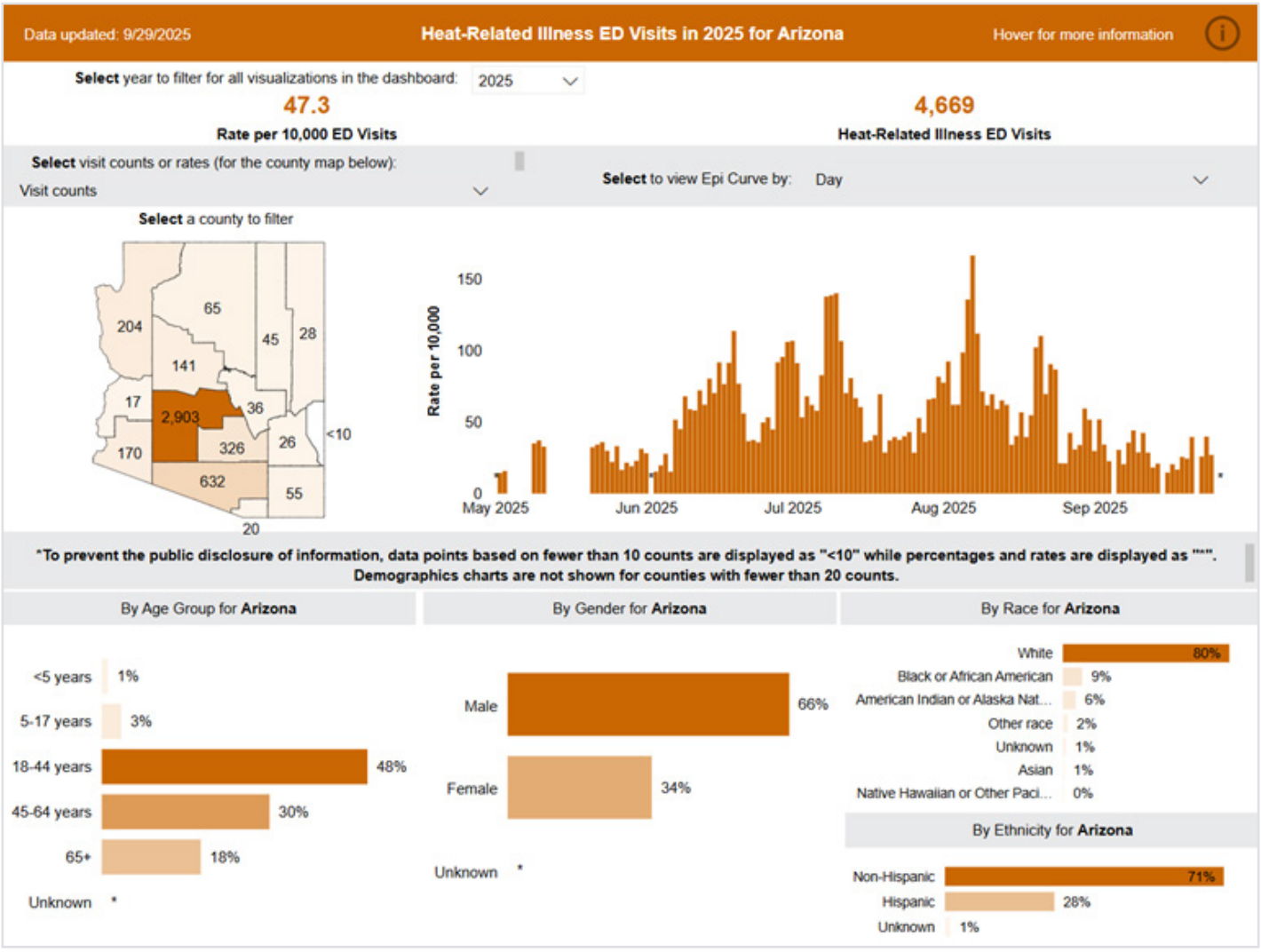


Figure 38. ADHS heat-related illness dashboard that uses syndromic surveillance data to provide near real-time trends in emergency department heat-related illness visits during the heat season.

The ADHS EPHT program also partnered with the ADHS Syndromic Surveillance Program to monitor health impacts and trends in near-real-time during wildfire and extreme heat events in the last year. ADHS EPHT monitored respiratory illnesses, like asthma or COPD, air quality indicators, like PM 2.5, and wildfire-related emergency department visits in wildfire-prone areas of the state to support public health decision-makers and respond to public health emergencies.

Figure 39. CDC BRACE Framework

Climate and Health

ADHS incorporates the CDC's Building Resilience against Climate Effects (BRACE) Framework (Figure 38) and partners with organizations to implement public health interventions aimed at protecting Arizonans against climate-sensitive hazards.

ADHS partnered with Arizona State University and the University of Arizona to produce reports such as a Profile on Extreme Weather, Climate and Health, Climate and Health Adaptation Plan, and an Assessment of Climate and Health Impacts on Vector-Borne Diseases and Valley Fever in Arizona.[18]

3.G. ADWR Outreach & Assistance

ADWR Leadership Drought Activities

During WY2025, ADWR Director Tom Buschatzke and ADWR Deputy Director Clint Chandler actively promoted drought preparedness efforts and activities around the State of Arizona, not only by leading many of these efforts, but also by discussing and presenting these activities to a wide array of stakeholders, groups, and organizations, as those listed below. Their discussions included topics such as Post-2026 Colorado River Operations negotiations; the Alternative Path to Designation of a 100-year Assured Water Supply; the Ag-to-Urban program; Arizona's water resource challenges; and the Tier 1 Shortage declared for Colorado River operations in 2025. ADWR is committed to transparency and is passionate about providing water information to interested parties.

- Colorado Water Officials Association Annual Conference, *October 3, 2024*
- Flinn-Brown Academy - 2024 Fall Academy, *October 10, 2024*
- Arizona-Mexico Commission: Environment & Water Committee, *October 25, 2024*
- 2024 Colorado River Water Users Association Annual Conference, *December 4, 2024*
- Greater Phoenix Chamber Committee Meeting, *December 17, 2024*
- 2024 Colorado River Water Users Association Annual Conference, *December 4, 2024*
- West USA Realty Group of Chandler Water 101, *January 7, 2025*
- Rural Water Working Group Meeting Agenda, *January 10, 2025*
- 2025 Irrigation & Electrical Districts Association Annual Meeting, *January 14, 2025*
- 2025 Arizona Groundwater Policy Conference, *January 22, 2025*
- 2025 SW Ag Summit, *February 20, 2025*
- Leadership West Water Panel, *March 6, 2025*
- Arizona-Mexico Commission Interplenaria, *March 27, 2025*
- 2025 Arizona Agribusiness Roundtable, *March 28, 2025*
- 2025 Colorado River Conference at Colorado Law, *April 1, 2025*
- County Supervisors Association of Arizona: Board of Directors Meeting, *April 17, 2025*
- Title Services Agency of Northern Arizona Water 101, *April 28, 2025*
- Greater Phoenix Leadership - Water Task Force Meeting, *April 29, 2025*
- Arizona-Mexico Commission: Environment & Water Committee, *June 27, 2025*
- National Water Resources Association 2025 Western Water Seminar, *July 31, 2025*
- Arizona Water Law Conference, *August 7, 2025*
- Annual Business Meeting of Maricopa County Farm Bureau, *August 13, 2025*
- Arizona Chamber 2025 Summer Policy Summit, *August 27, 2025*
- 2025 ASCE ASHE State Conference, *September 11, 2025*
- Arizona Agribusiness & Water Council Annual Conference, *September 19, 2025*

[18] https://www.azdhs.gov/preparedness/epidemiology-disease-control/extreme-weather/index.php#news-publications

ADWR Communication Activities

ADWR promotes and encourages efficient use of water throughout Arizona by developing conservation tools and resources, assisting Arizona communities and water providers, presenting on drought and conservation issues and solutions, collaborating with regional and national partners, and participating in outreach activities. Staff provide materials and responds to inquiries from the public, businesses, press, water professionals, students, researchers, and others about water conservation and drought. Below are a few highlighted efforts and activities by ADWR staff during WY2025 that promoted water conservation and awareness:

Drought Status and Preparedness Presentations

The ADWR Drought Program Coordinator, Maggie Martin prepared and delivered presentations about Arizona drought status and preparedness activities, as well as weather projections in the state. During WY2025, presentations were delivered to multiple groups, committees, and agencies.

Arizona Water News

ADWR's Arizona Water News (**Figure 40**) a weekly newsletter featuring articles on Arizona and Colorado River water-related issues, was launched in March 2016. The newsletter articles help stakeholders stay up to date on the latest developments regarding Arizona water. Since its launch, Arizona Water News articles have received over 100,000 views. Visit the Arizona Water News website to read past news articles: https://www.azwater.gov/news.

Figure 40. ADWR Arizona Water News.

Below are a few drought-related WY2025 Arizona Water News articles:

- A "glimmer of hope" brightens Arizona's moisture outlook following a very dry winter season - *May 22, 2025*
- Here we go again: Drought Coordinating Group concludes we're not out of the clutches of long-term drought just yet - *November 14, 2024*

Water Awareness Month

In April 2023, Governor Katie Hobbs re-designated the month of April as Water Awareness Month, originally established through Executive Order 2008-19 in 2008. Since then, ADWR has worked with the Arizona Department of Environmental Quality (ADEQ) to have the Governor update the proclamation three years in a row. This effort further emphasizes Arizona's continued commitment to water conservation.

Arizona Water Facts Website

On June 1, 2016, ADWR launched Arizonawaterfacts.com. This website is dedicated to promoting Arizona's success in managing its water resources, presenting current water resource challenges, and planning for the future. Arizona Water Facts is intended to build confidence in our water resources – a necessity for fostering a thriving economy and communities.


OFFICE OF THE GOVERNOR
KATIE HOBBS

Proclamation

WHEREAS, water is one of Arizona's most vital and precious resources; and
WHEREAS, the State of Arizona is committed to promoting and increasing public awareness, engagement, and careful stewardship of Arizona's water supplies; and
WHEREAS, local, state, federal, and non-profit organizations across our arid State have partnered since 2008 to accomplish this by creating and implementing a statewide, annual water awareness campaign that has informed and empowered citizens and businesses to be efficient and mindful of their water use; and
WHEREAS, in this time of increasingly limited water supplies and uncertainty, more must be done by all Arizonans to conserve, protect, and secure the State's water supplies for the future; and
WHEREAS, information, education, awareness, and engagement are fundamental to ensuring that citizens, businesses, visitors, and elected officials remain mindful, committed stewards of this vitally important shared resource; and
WHEREAS, water managers and elected officials will be called upon to make difficult policy decisions to protect Arizona's water and ensure the State's water future and will need the support of all water users.
NOW, THEREFORE, I, Katie Hobbs, Governor of the State of Arizona, do hereby proclaim April 2023 as

WATER AWARENESS MONTH

calling on Arizona's water agencies and stakeholders to capitalize upon this momentum to increase awareness of water issues, promote engagement and immediate action by all water users, and build support for regional, interagency, and basin wide solutions to ensure a sustainable water future for Arizona.

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

GOVERNOR

DONE at the Capitol in Phoenix on this thirtieth day of March in the year Two Thousand and Twenty-Three, and of the Independence of the United States of America the Two Hundred and Forty-Seventh.
ATTEST:

SECRETARY OF STATE

Figure 41. April 2023 Proclamation of Arizona Water Awareness Month

APPENDIX A:

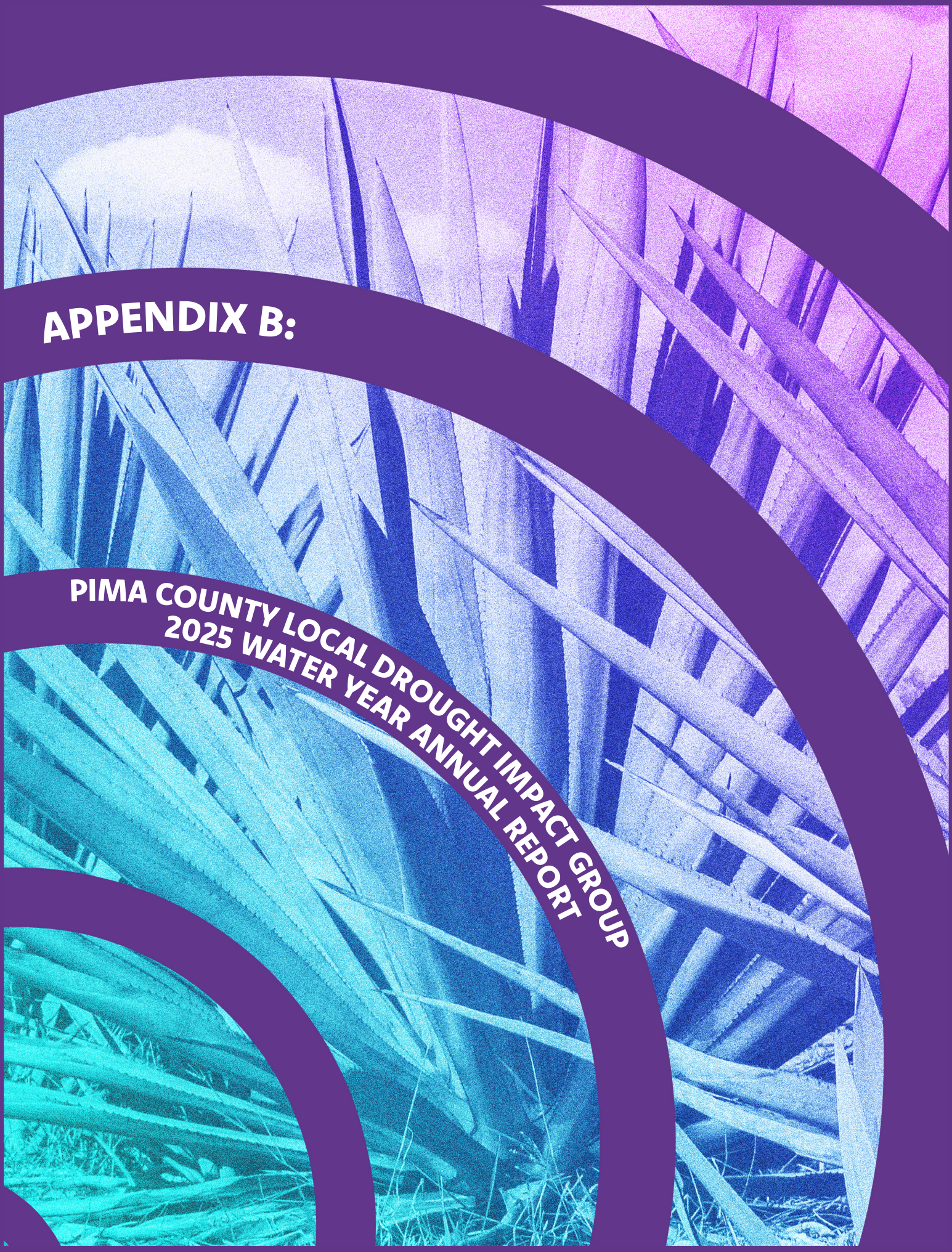
GOVERNOR'S WATER POLICY COUNCIL

Appendix A.

Governor's Water Policy Council

On January 9, 2023, Governor Hobbs issued an Executive Order to establish the Governor's Water Policy Council (the "Council"). The Council encompasses a diverse group of stakeholders with representation from agriculture, water providers, Tribes, executive agency cabinet officers, cities, the business community, industry, conservation organizations, university experts, and the Arizona Legislature. The Director of the Department of Water Resources serves as the Chair of the Council.

Based on support from the Council, five policy recommendations were sent to the Governor's Office in November 2023. In 2024, the Council met to receive updates on the status of those policy recommendations and to review other potential water policies being discussed in other venues. On December 2, 2024, the Council met to receive an update on the Alternative Pathway to Designation of Assured Water Supply (ADAWS) rulemaking process and to discuss a potential ag-to-urban program, during which the Department announced an informal ag-to-urban stakeholder process.



APPENDIX B:

PIMA COUNTY LOCAL DROUGHT IMPACT GROUP 2025 WATER YEAR ANNUAL REPORT

Appendix B.

Pima County Local Drought Impact Group
2025 Water Year Annual Report

The Pima County Local Drought Impact Group (LDIG) has been an active component of county operations since 2006 when the Board of Supervisors adopted the Drought Response Plan and Water Wasting Ordinance (Chapter 8.70).

LDIG consists of water providers and local, state, and federal agencies interested in the cause and effect of drought conditions in Pima County. LDIG meets quarterly (February, May, October and December) to monitor the short-term and long-term drought status, discuss drought impacts, and coordinate drought declarations and responses.

The county's Drought Response Plan and Water Wasting Ordinance established a four-stage trigger category corresponding to the Arizona Drought Monitor Report and their declaration of a watershed drought condition from "Abnormally Dry" to "Exceptional." With each "Stage" declaration the county can consider drought stage response measures established in the ordinance.

LDIG explores drought impacts on various sectors in Pima County, including agricultural water use, ranching, wildfire, hydrology, and flooding. Because many water providers depend on Central Arizona Project (CAP) water, LDIG also monitors the status of the Colorado River, the El Niño Southern Oscillation (ENSO), and other climate weather patterns concerning their effect on drought conditions and climate variability in the Southwest. LDIG also monitors the status of the summer monsoon season and convenes roundtable discussions of drought and water conservation outreach programs.

This report is provided for inclusion in the Arizona Drought Preparedness Annual Report and submitted to the Pima County Administrator's Office.

Weather (National Weather Service-Tucson)

In Pima County, the 2025 Water Year (WY) began after a slightly wetter than normal but very warm monsoon season in 2024 that started and ended early. An upper-level high pressure system that brought extreme temperatures in September 2024 continued into October with record setting results. The water year started with October as the driest and hottest on record, with 11 consecutive days of record high temperatures and a list of other records set or broken.

November saw some relief with weather systems cooling and providing below average precipitation and some mountain snow. In total, the fall season was warm and dry, with a rainfall deficit of 2.00".

December, and the start of the winter season, was the warmest (+10.0 °F average high temperature) and driest on record, with no rainfall and the most daily record highs set or tied since 1939.

Weather systems and cool air masses lowered temperatures in January, but precipitation was below average. At this point, the water year rainfall deficit was -2.50". High pressure systems reversed January's cooling and February was warm and dry. The winter season ended -2.39" below normal precipitation and the warmest on record with +5.0 ° above normal high temperatures, La Nina conditions being forecast prior.

March, and the beginning of spring, brought mixed conditions of warm and cooler weather but ultimately ended warm and dry. The familiar pattern repeated in April but with the notable earliest first triple digit high temperature on record. The water year rainfall deficit increased to -3.71". May was warm and dry as was the spring season.

An upper level low and a tropical storm increased moisture ahead of the monsoon, bringing widespread rainfall the first of June. In all, June was warm and slightly wetter than average. July was mostly unfavorable for monsoon but managed a below average rainfall of 1.88".

The monsoon started below average but a hot and disappointing August, with -1.87" below normal rainfall, increased the deficit to -2.38". By the end of August, the 2025 Water Year precipitation deficit increased to -5.96", the driest water year on record (Oct-Aug). The monsoon season was the 5th hottest and 12th driest on record, -2.87" below normal. September, warmer and drier than normal, added to the deficit and concluded a record driest water year, -6.45" below average rainfall.

*Precipitation (in inches, recorded at Tucson International Airport)**

WY24-25	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Precipitation	0.00	0.43	0.00	0.10	0.15	0.23	0.05	0.03	0.35	1.88	0.11	0.83
Normal Precip.	0.67	0.56	0.96	0.84	0.84	0.56	0.24	0.20	0.23	2.21	1.98	1.32
Difference +/-	-0.67	-0.13	-0.96	-0.74	-0.69	-0.33	-0.19	-0.17	+0.12	-0.33	-1.87	-0.49
Cumulative	-0.67	-0.80	-1.76	-2.50	-3.19	-3.52	-3.71	-3.88	-3.76	-4.09	-5.92	-6.45
Rank	Driest	60th Dry	Driest	25th Dry	27th Dry	34th Dry	47th Dry	61st Wet	29th Wet	64th Dry	3rd Dry	58th Dry

*Monthly Average Temperature (in °F, recorded at Tucson International Airport)**

WY24-25	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Average Temperature	78.6	59.9	59.5	51.0	61.7	63.0	69.2	77.5	88.3	89.8	90.6	84.2
Normal Temperature	72.6	61.5	53.0	53.6	56.2	61.9	68.1	76.8	86.1	88.2	86.9	82.8
Difference +/-	+6.0	-1.6	+6.5	-2.6	+5.5	+1.1	+1.1	+0.7	+2.2	+1.6	+3.7	+1.4
Rank	Hottest	48th Hottest	Hottest	61st Cool	2nd Hot	15th Warm	21st Warm	20th Warm	12th Warm	11th Warm	2nd Hot	11th Warm

*Season Ranking (NWS-Tucson)**

WY24-25	Fall	Winter	Spring	Summer	Monsoon
Precipitation Rank	11th Dry	2nd Dry	31st Dry	15th Dry	12th Dry
Temperature Rank	4th Hot	2nd Hot	13th Hot	4th Hot	5th Hot

*Period of record is from 1890 for Tucson

Pima County Drought Status (US Drought Monitor & State Monitoring Technical Committee)

Arizona's Short-Term drought status is based on the U.S. Drought Monitor and is updated monthly. Long-Term drought status is derived from the 24-, 36- and 48-month Standard Precipitation Index (SPI) and Standard Precipitation and Evapotranspiration Index (SPEI) datasets and is updated quarterly by the Arizona State Climate Office. Both are reviewed by ADWR's Drought Monitoring Technical Committee.

Short-Term

Before reviewing the 2025 Water Year (WY), it is instructive to look back at WY2024 and WY2023.

At the start of WY2023, Moderate and Severe drought was present in 47 percent of eastern Pima County, but drought conditions eased through the end of 2022 and into 2023. No drought was present in Pima County from the end of February 2023 through mid -August 2023 (abnormally dry conditions, or stage D0, is not a drought stage).

Drought severity increased at the end of WY2023 with 8 percent of southeastern Pima County in Extreme drought followed by Severe and Moderate drought radiating westward to total 51 percent of the county.

Drought remained the same through the first of WY2024, October 2023-January 2024. By the end of January 2024, drought began to ease as Extreme and Severe drought receded and eastern Pima County was in Moderate drought totaling 39 percent of the county. Conditions remained the same through mid-March but continued to improve.

From April 2024 through the first of October 2024, Pima County was drought-free.

Starting in WY2025, Pima County had no drought present across the county. Eastern Pima County would remain drought-free through the first quarter of WY2025 though Moderate and Severe drought originated in the northwest region. By the end of 2024, all of the county was in Moderate or Severe drought. Drought intensity would rapidly escalate through 2025.

By mid-February, Severe drought conditions expanded county-wide. After that, Extreme drought started from the west and expanded to the east, leaving shifting pockets of Severe drought. July ended with Extreme drought in the west and southeast parts of the county and Severe drought in central and northeast Pima County. Drought conditions remained the same through August and into September, ending WY2025.

Long-Term

At the start of WY2023, eastern Pima County was drought-free while the western portion was in Moderate drought. By June of 2023, all of Pima County was drought-free. At the end of the water year and beginning of WY2024, Pima County was in a majority of Moderate drought with scattered small patches of higher drought stages.

The first quarter of WY2024 saw some minor expansion of those higher stage patches but the county remained in majority Moderate drought. Conditions held until record heat expanded Severe, Extreme and Exceptional drought across the county. WY2024 ended with the Tucson metro area in Severe drought but surrounded by Extreme drought with some exceptional drought in southeastern Pima County. Western and south-central Pima County fared somewhat better in Moderate and Severe drought.

Water Year 2025 started with Pima County in a complex mix of abnormally dry (D0), Moderate (D1), Severe (D2), Extreme (D3) and Exceptional (D4) drought stages. The Tucson metro area was in Severe drought while north-central Pima County was in Extreme drought. The southern part of the county, near Santa Cruz County, saw Exceptional drought expand from WY2024. Across the southwest and western portions, Moderate and Severe drought persisted.

After drought conditions worsened in November and December, some improvement was seen in the Tucson metro and surrounding areas as Severe drought replaced sections of Extreme drought. The pattern of improvement expanded from the northeast corner of the county through the Tucson metro area and towards the southwestern corner during spring, though Extreme drought dominated in northwestern-central Pima County.

The water year ended with Pima County in extreme-severe long term drought.

WY24-25	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Short Term	No(90) D0(10)	D0(21) D1(45) D2(25)	D0(21) D1(44) D2(25)	D0(44) D1(25) D2(22)	D0(12) D1(34) D2(18)	D0(19) D1(38)	No(76) D0(23)	No(96) D0(3)	No(96) D0(3)	No(97) D0(2)	No(99)	No(89) D0(10)
Short-Term DSCI	10	61	114	212	263	335	335	392	361	361	339	340
Long Term	Extreme-Exceptional			Extreme-Severe			Extreme-Severe			Extreme-Severe		

D0-Abnormally Dry, D1-Moderate, D2-Severe, D3-Extreme, D4-Exceptional. (percentage)

DSCI - Akyuz, F. A. 2017. Drought Severity and Coverage Index. United States Drought Monitor. https://droughtmonitor.unl.edu/About/AbouttheData/DSCI.aspx

Colorado River Basin & Central Arizona Project (CAP)

Nine water providers in Pima County have CAP municipal water contracts with seven providers actively delivering CAP drinking water. Tucson Water has the largest annual CAP municipal allocation in the state. Agricultural and industrial users and the Tohono O'odham Nation have access to and use CAP water. The drought status of the Colorado River Basin and probabilities of shortage declarations and impacts to these sectors are monitored by the Pima County LDIG.

Lake Mead and Lake Powell

The August 2025 U.S. Bureau of Reclamation (Bureau) 24-Month Study projected Lake Mead to be above elevation 1,050' above mean sea level on December 31. Concurrent with the 2007 Operating Guidelines and the Drought Contingency Plan, Lake Mead will continue to operate in a Tier 1 Shortage beginning 2026.

This is the fifth consecutive declared shortage (excluding Tier 0 in 2021). In 2022, the first Tier 1 Shortage was declared for the Lower Basin. The basin's declared shortage increased in 2023 to Tier 2a. In 2024, the basin's shortage returned to Tier 1 and has remained at that stage for 2025 and 2026. This will continue to impact Arizona by reducing 512,000 acre-feet (af) of CAP water supplies, cutting all Excess water (not available since the initial Tier 1 determination), and eliminating mitigation for Agricultural Pool water in 2023 and mitigation water for the Non-Indian Agriculture Pool sector in 2026 as part of the Drought Contingency Plan.

Inflow into Lake Powell for the water year is expected to be approximately 50 percent of average after a cumulative 83 percent of normal precipitation. The Bureau will act, in accordance with the Supplemental EIS, to sustain an elevation of 3,525' at Lake Powell to buffer against infrastructure damage and hydropower loss. While annual releases from Lake Powell to Lake Mead, determined by the 2007 Operating Guidelines, are set for 7.48 million acre-feet, the Bureau can designate lower releases from Lake Powell to protect those elevations. A reduction in Lake Power releases (6-million-acre feet or lower) would not only negatively affect Lake Mead elevation but could reach a point where water volume delivery from the Upper Basin to the Lower Basin falls below compact requirements.

Post-2026 Reservoir Operation

The Lower Basin continues to attempt a successful negotiation with the Upper Basin on post-2026 Operating Guidelines for Lake Powell and Lake Mead. The 2007 Operating Guidelines, the Drought Contingency Plan and the Supplemental EIS currently governing reservoir operations, including shortages in the Lower Basin and releases from the Upper Basin, will expire in 2026. While the Lower Basin has submitted proposals for federal consideration that include mandatory reductions for Arizona, Nevada and California, the Upper Basin refuses any mandatory reduction, concluding instead that all water use curtailment be borne by the Lower Basin exclusively. Arizona, CAP and its water users have conserved 5.5-million-acre feet over the last decade and contributed 100 feet of elevation to protect Lake Mead and the Colorado River Basin system. However, negotiations appear stalled ahead of a November deadline, after which the federal government will continue working on the post-2026 EIS with a federally imposed alternative.

The State of Arizona has approved a $1 million legal fund to protect the state's water rights.

Drought Impacts and Response

Pima County Ecological Monitoring Program (Conservation Lands and Resources)

Pima County monitors the extent of surface water available in the perennial and intermittent streams and springs on County conservation lands. Key streams are visited annually or quarterly (in the case of Cienega Creek in Cienega Creek Natural Preserve, led by Pima Association of Governments. Monitoring efforts for streams and springs typically occurs pre-monsoon, in early June, which represents the year's minimum flow extent.

In streams on the eastern flank of the Santa Catalina Mountains, summer 2025 had the second lowest flow extent recorded, with only 2021 being worse. There was only 1 km of flow among the five streams we monitor; the average is 2.3km. Key pools in Cienega Creek Natural Preserve that are usually reliable, were dry in both June and September. The pool at the confluence with Davidson Canyon that had not dried since 2020 was 10m long in June, but dry in September. Flow length in June was only ~2.9km, about two-thirds to half of what staff recorded in 2021-2024, but still significantly more than the 1.6km and 1.0km recorded in 2020 and 2021. In September, flow length was ~4km, a bit less than 2023 and 2024 and much less than 2021 and 2022, although still 4x greater than the flow length in 2020. All the springs that are usually wet during regular monitoring were wet in 2025. However, Ruelas Spring, an important spring in the Tortolita Mountains that managed to hold water even in June 2021 and that held water in June 2025, is currently dry, as of September 2025.

Monitoring of Pima County water resources also provides staff with opportunities to record native fish observations. Gila topminnow were observed in Cienega Creek in June 2025, but not during fish monitoring or wet-dry mapping in September 2025. This was the first time that Gila topminnow were not observed in September surveys since regular monitoring began in 2020, five years ago.

Longfin dace were lost from Bullock Canyon and Upper Buehman Canyon due to nearly complete drying of those stream reaches. Longfin dace were previously lost from Bullock Canyon and Upper Buehman Canyon in 2020 due to drought and possibly severe flooding after the 2020 Bighorn Fire. They were seen again in 2023-2024 having recolonized these stretches from downstream populations during periods of connected surface flows, but were lost from these sites again this year.

Wildfire

The Pima County Board of Supervisors initiated development of the Community Wildfire Protection Plan (CWPP) to strengthen wildfire prevention, mitigation and response capacity. The CWPP will update Wildland Urban Interface/Intermix mapping. Pima County Office of Emergency Management and Information Technology are formulating an evacuation zone map to define geospatial zones for efficient evacuations during wildfire or other emergencies. The Plan includes public messaging efforts such as 82,000 brochures sent to constituents in FEMA Flood Zone watersheds that focus on invasive species and defensible space guidelines. A defensible space voucher program and an expanded brush and bulk removal initiative aid in wildfire mitigation. As for wildfire, there were no large-scale fires in Pima County during WY2025.

Living River Report WY2024

The annual Living River report, a collaboration of Pima County's Regional Flood Control District, Regional Wastewater Department and Conservation Lands and Resources, as well as Tucson Water and the Sonoran Institute, monitors the health of the Lower Santa Cruz River and improved water quality of effluent released from Pima County's water reclamation facilities that produce a 23-mile year-round river flow and associated wetland habitat.

Water quality remain high, enabling the river to sustain a stable habitat for a large population of dragonflies identified by University of Arizona researchers. The Flood Control District is undertaking projects to minimize riverbank erosion, improve flood safety and bolster wildlife habitat. Expansion of the Chuck Huckelberry Loop path added new access while volunteer beautification efforts removed 10 tons of trash from the river.

In further collaboration, Pima County, Santa Cruz County, the City of Tucson and the US Fish and Wildlife Service signed a memorandum of understanding establishing the first national wildlife partnership in Arizona, the Santa Cruz Wildlife Partnership. This is the initial step in creating an Urban National Wildlife Refuge that would protect this important wildlife corridor and ensure equitable access to the river.

Kino Environmental Restoration Project

Kino Environmental Restoration Project (KERP) covers 121-acres and detains stormwater from a 17-square mile urban watershed to reduce flooding and enhance ecosystem functions. It supports 28-acres of open water and riparian habitat, plus a 6-acre, 50-foot "Deep Pond" to retain stormwater. This has arguably been the most abysmal drought year for KERP since it was constructed in 2002. The watershed had insufficient precipitation to produce much run-off. Stormwater inflows were so scant that vandalism of the ALERT system stream gauge at the basin inlet went unrecognized for nearly 12-months; there was nothing observable to measure. Surplus stormwater is typically available to supplement Kino Sports Park Complex irrigation, but not this year. For most of the year the water levels in Deep Pond were too low to operate the pump needed to semi-routinely circulate water and irrigate the riparian vegetation. And the riparian vegetation was doubly impacted by the unseasonable warm winter, which hampered dormancy and lead to die back of the drought-stressed trees. In the final week of September, regional stormflow associated with a cut-off low pressure event increased Deep Pond elevation enough to re-initiate intermittent flow and irrigate the riparian vegetation for a few weeks.

Cienega Creek and Davidson Canyon (Pima Association of Governments)

The sustainability of creeks, riparian life, and lands with private wells relies on the monitoring of local drought conditions. It is valuable for drought reporting to represent areas that do not currently benefit from artificial recharge and water from the Central Arizona Project (CAP). Pima Association of Governments (PAG), the greater Tucson region's council of governments and metropolitan planning organization, provides quarterly wet/dry creek flow monitoring data as an indicator of local conditions in areas such as Cienega Creek and Davidson Canyon.

Recent grants awarded to Santa Cruz Watershed Collaborative will result in greater discussions about the value of monitoring ecological drought, key indicators, and coordinated responses across the Tucson watershed basin. Key lessons from PAG's riparian health assessment efforts include the need to consider seasons in monitoring and responses for natural areas and the importance of looking at cumulative impacts over time to groundwater levels and shallow groundwater-dependent ecosystems.

Monitoring within the Cienega Creek and Davidson Canyon study areas described below and the 2012 PAG Shallow Groundwater Report illustrate the importance of looking at the long-term record of creek extents and groundwater levels. These studies show that some geographies have the geology to support streamflow and riparian areas at different points in the long-term local climate cycles, and other more consistent riparian areas are essential refugia for wildlife.

A subsequent PAG inventory of regional Drought Response Plans for local water providers helped to initiate discussions about adding local condition triggers plus small well owner and creek protection responses. PAG's Regional Council passed the 2015 Green Infrastructure for Regional Vibrancy Resolution, the 2016 Regional Resilience to Climate and Weather Variability Resolution and the 2017 Resolution Supporting our Heritage of Desert Waters to support locally informed responses to drought, including coordinated drought response messaging where appropriate and focused individual solutions were needed.

Long-Term Ecological Impacts and Short-Term Extreme Flow Variation

Local drought began to be apparent across the region over two decades ago resulting in loss of mesquite bosques and many cottonwood stands, increased erosion and sediment movement that continues to impact our region today. Located in eastern Pima County, Cienega Creek continues to show the impacts of sustained drought and shifts to seasonal patterns of flow. PAG's Monitoring Year (MY) mentioned below runs from July 1 to June 30. This year the results continue to demonstrate the impact of climate extremes; in recent years, conditions swung from the driest on record in MY 2020-21 to record-high baseflows seen in two decades in MY 2021-22 and MY 2022-23. PAG's reporting depicts the localized drought impacts on a shallow groundwater-dependent system and designated Outstanding Arizona Water (OAW), representing drought conditions for local wildlife habitat and human activities dependent on shallow groundwater. It is valuable for drought reporting to represent areas that do not currently benefit from artificial recharge and CAP.

PAG and its partners have monitored Pima County's Cienega Creek Natural Preserve since the mid-1980s to provide reliable data and trend analysis for the riparian area including water quality, groundwater and streamflow. Hot and dry June conditions are valuable to track as they typically represent the minimum extent of perennial flow within a year. Following declining baseflows the previous year, MY 2024-25 saw a further decrease in flow extents. In June 2025, PAG recorded 1.69 miles of flow in the monitored stretch of Cienega Creek, down from 3.13 miles of flow in June 2024. This

translates to 18% of the 9.3-miles that flowed perennially and throughout the monitoring area in 1985. This monitoring year was unusual, as flows in September 2024 were lower than in June 2024, with a baseflow extent of 2.66 miles in September 2024. This is only the sixth time since 1999 that PAG has observed lower baseflows in September than in the preceding June. After observing the lowest perennial baseflows on record through June 2021 followed by high baseflows through June 2023, these observations demonstrate the impacts of climate extremes on shallow groundwater-dependent streams and the riparian areas that they sustain. This highlights the importance of long-term, consistent seasonal monitoring. As PAG completes annual reports for July through June, this does not reflect the monsoon season of 2025.

The moisture swing over MY 2021-22 and MY 2022-23 did provide notable improvements, and the benefits continue to be seen, despite lower baseflow extents during the two most recent monitoring years. Native aquatic species, including longfin dace, lowland leopard frogs, Sonora mud turtles, and the endangered Gila topminnow continue to thrive within the Cienega Creek Natural Preserve. Cottonwood recruitment continues to be observed along stretches of Cienega Creek, including stretches that experienced recent cottonwood die-offs due to drought conditions. This demonstrates that with protective measures, this creek can be restored and sustained despite increased heat and changes of precipitation.

Dry Conditions in Davidson Canyon

In June 2025, no flow was recorded in Davidson Canyon, a major tributary to Cienega Creek that is an OAW as well. Davidson Canyon was dry every quarter, except September 2024, when only a single five-foot-long pool was observed in the stretch of Davidson Canyon that falls within the Cienega Creek Natural Preserve and a portion of Pima County's Bar V Ranch.

Summary

Pima County experienced its driest water year (October 2024-September2025) on record after consistently hot and dry conditions for most of the year. Fall 2024 and winter 2024-2025 were hot dry leading to rapid escalation of drought conditions through 2025. Previous wetter seasons had helped Pima County to stay out of extreme drought conditions but after a dismal water year drought conditions will continue into the next water year.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