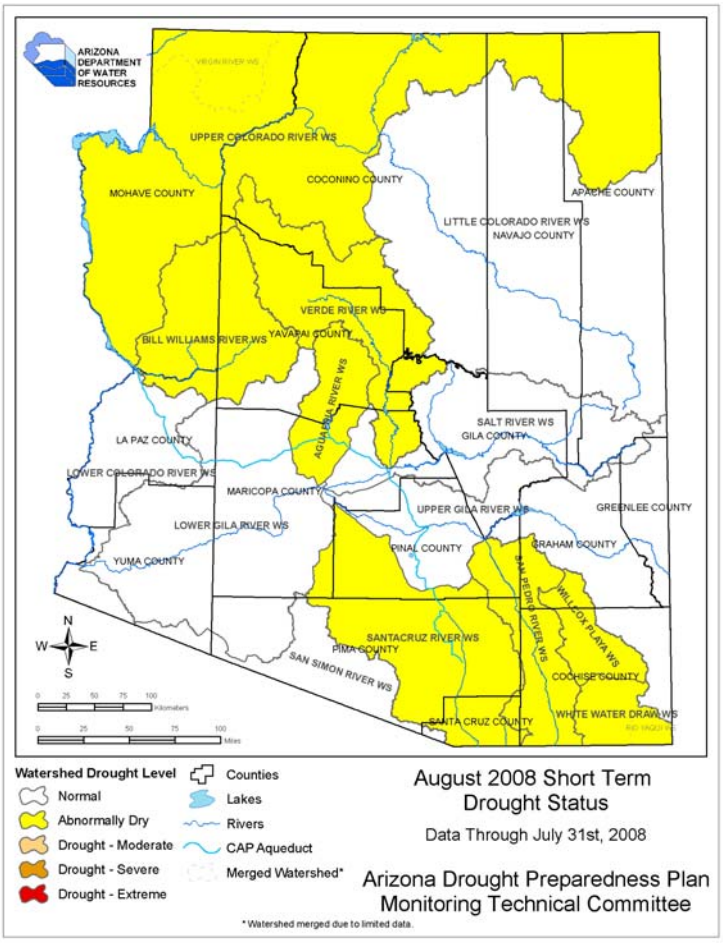
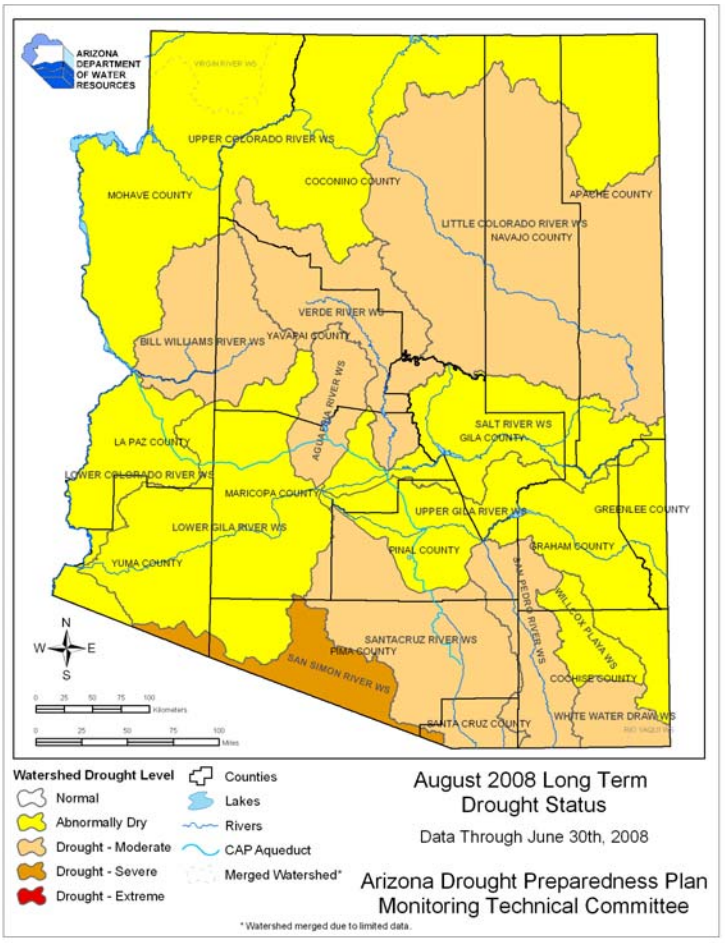
Arizona Drought Monitor Report

August 2008

Short-term Drought Status



Long-term Drought Status

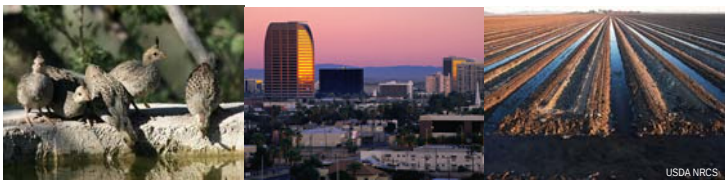


Short-term Update

Greater than average July precipitation has led to short-term drought improvement in eight watersheds, mostly in the southern half of the state. In central and southwestern Arizona, five watersheds improved from abnormally dry to no drought, and three watersheds in southeastern improved from moderate drought to abnormally dry. Last month 11 watersheds were abnormally dry, three had moderate drought and one had no drought. Now six watersheds have no drought and the other nine are abnormally dry. August precipitation has also been greater than average, so the short-term drought status should continue to improve with next month's update.

Long-term Update

The long-term status is based on the previous 24-, 36-, and 48-month periods for precipitation and streamflow, and is updated seasonally. The current 36- and 48-month precipitation maps show significant improvement in the southeastern quarter of the state. The monsoon has been very wet through July in the southeast, and the August data will also show wetter than average conditions in the southern half of the state. It is expected that this year's monsoon will lead to some improvement in the long-term drought status, based on the July-September data.



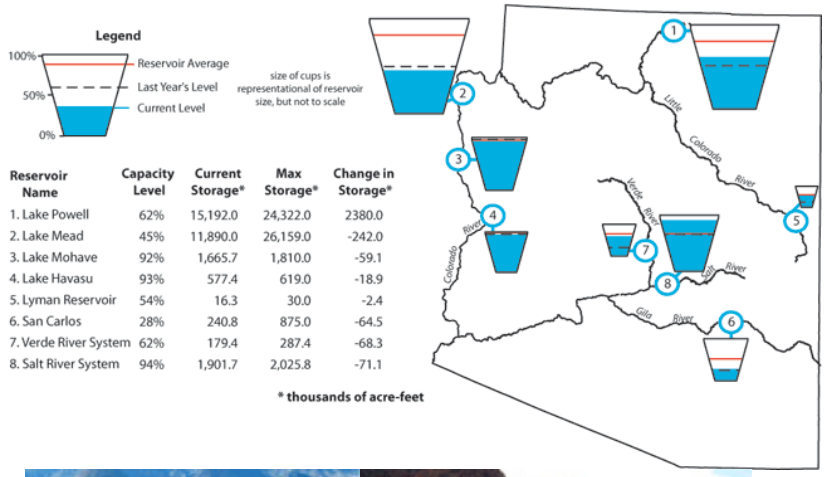
Reservoir Storage

Arizona Reservoir Status

Reservoir storage in Lake Powell increased by almost 2.4 million acre-feet (maf) during July 2008 (see figure below). Lake Powell elevation is expected to be 3,630.4 feet, more than 30 feet higher than its elevation at the beginning of the water year. The measured April through July inflow at Lake Powell was 8.4 maf, which is 111 percent of average. During July, storage in the Salt, Verde, and Gila River watersheds declined slightly, though levels are substantially higher than one year ago.

In water news, the Yuma County Water Users Association is introducing carp into the California portion of the Yuma Main Canal so that the fish will eat vegetation that limits canal water capacity (Yuma Sun, August 9). Also, the U.S. Bureau of Reclamation has proposed new rules that require people who pump water from wells in the Colorado River floodplain to acquire water rights; scientists estimate annual losses from illegal pumping at 9,000–15,000 acre feet, enough water to satisfy the demand of Lake Havasu City (Arizona Republic, July 29).

Arizona reservoir levels for July 2008 as a percent of capacity. The map depicts the average level and last year's storage for each reservoir, while the table also lists current and maximum storage levels.

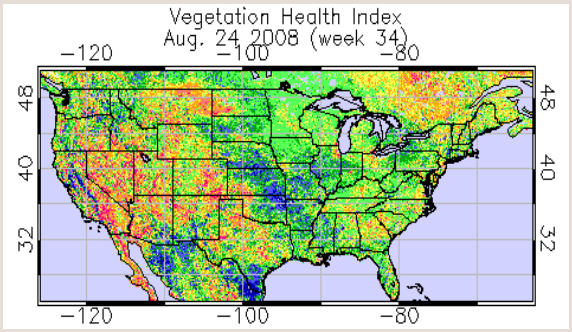


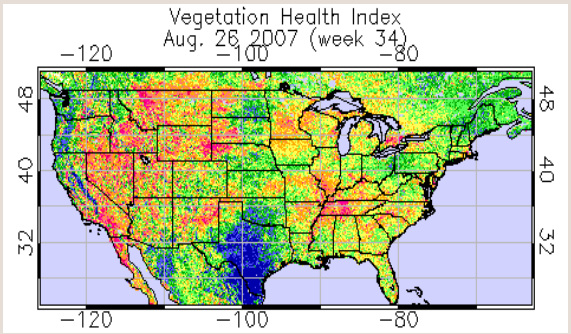
Reservoir Name	Capacity Level	Current Storage*	Max Storage*	Change in Storage*
1. Lake Powell	62%	15,192.0	24,322.0	2380.0
2. Lake Mead	45%	11,890.0	26,159.0	-242.0
3. Lake Mohave	92%	1,665.7	1,810.0	-59.1
4. Lake Havasu	93%	577.4	619.0	-18.9
5. Lyman Reservoir	54%	16.3	30.0	-2.4
6. San Carlos	28%	240.8	875.0	-64.5
7. Verde River System	62%	179.4	287.4	-68.3
8. Salt River System	94%	1,901.7	2,025.8	-71.1

* thousands of acre-feet

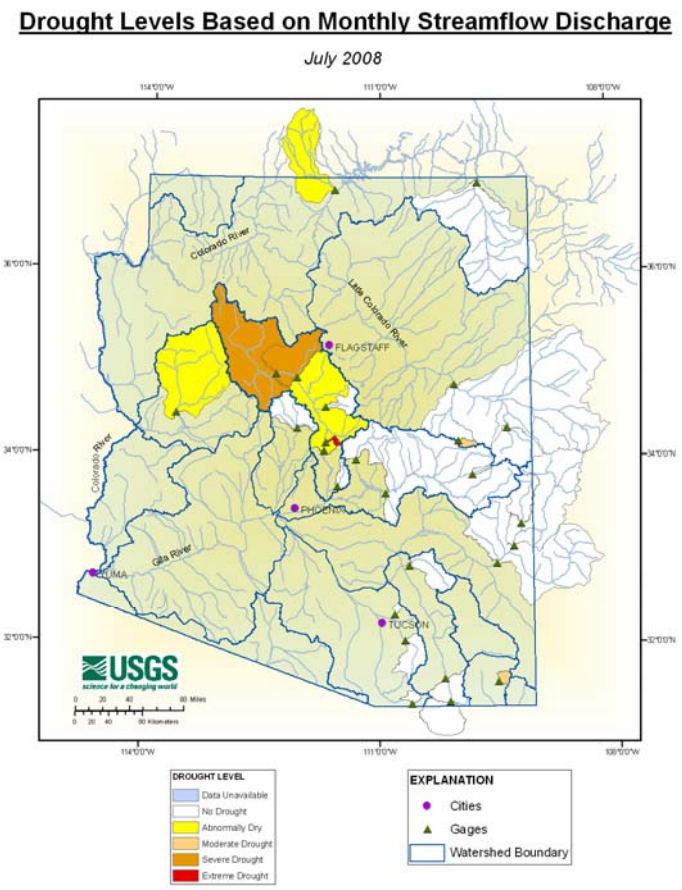
Vegetation Health

Recent vegetation health index (VHI) data from the NOAA Center for Satellite Applications and Research (top figure) shows substantial monsoon green-up in the central and southeastern parts of Arizona. In contrast to one year ago (bottom figure), the current VHI shows even more robust green-up in the southeastern quadrant of the state and northern Mexico than during the 2007 summer season. The VHI imagery agrees well with virtual cessation of Arizona wildland fire activity during the last several weeks. Most of Arizona is currently at fire preparedness level 1, the lowest of 5 levels specified in the Southwest Area Mobilization Guide (http://gacc.nifc.gov/swcc/predictive/intelligence/intelligence.htm).





Mountain Streamflow



July Streamflow

The Salt River Project reservoir system has benefited from monsoon storms during the month of July. Percent of median flow is up for two of the three basins and the combined system is nearly at 100%. Streamflow for the Little Colorado River above Lyman Lake has decreased since June but is still above normal. Runoff from the Gila River that supplies San Carlos Reservoir has increased slightly since June although the percent of median has decreased.

Water body	July Runoff in Acre Feet	% of Median
Salt River near Roosevelt	17,647	110%
Tonto Creek above Gun Creek near Roosevelt	1,783	145%
Verde River at Horseshoe Dam	8,485	83%
Combined Inflow to Salt River Project (SRP) reservoir system	27,915	99%
Little Colorado River above Lyman Lake	676	162%
Gila River to San Carlos Reservoir	1,968	80%

Streamflow Observed at USGS Gauging Stations

Mountain Precipitation

Monitoring stations show normal to above normal precipitation amounts occurring throughout the mountains of Arizona during July, ranging from 93% of average in the Verde River Basin to 143% of average in the Salt River Basin. Cumulative precipitation for the water year (Oct. 1 to July 31) remains at or above average in all basins.

Watershed	Percent of 30-Year Average Precipitation Oct 1– July 31
Salt River Basin	125%
Verde River Basin	114%
Little Colorado River Basin	133%
San Francisco-Upper Gila River Basin	97%
Other Points of Interest	
Chuska Mountains	--
Central Mogollon Rim	133%
Grand Canyon	86%
San Francisco Peaks	82%
Arizona Statewide	--

Temperature and Precipitation


July: Although July is typically one of Arizona's wettest months, due to the monsoon activity, this year was especially wet in all watersheds except the Virgin in northwestern Arizona. All watersheds, except the Virgin, were above the 63rd percentile for July precipitation. The southern half of the state was above the 85th percentile for precipitation. The San Pedro and Willcox watersheds had the wettest July since 1970. Temperatures in the southeastern counties were generally cooler than they have been in previous Julys.

The 3-month period: The monsoon activity also improved the three-month period of May through July, especially for the southern half of the state. The southern watersheds were all above the 86th percentile. The Virgin was the dry watershed, below the 6th percentile. Three-month temperatures were near or slightly above average in the eastern 2/3 of the state, and well above average along the lower Colorado River and in Maricopa and Pinal Counties.

The 6-month period precipitation, from February through July, was finally pushed above average in the southeastern watersheds and the lower Gila River watershed. The Virgin remained below the 10th percentile for the six-month period. Temperatures for the six-month period were near or slightly above average in the northern half of the state and well above average in the southern half of the state.

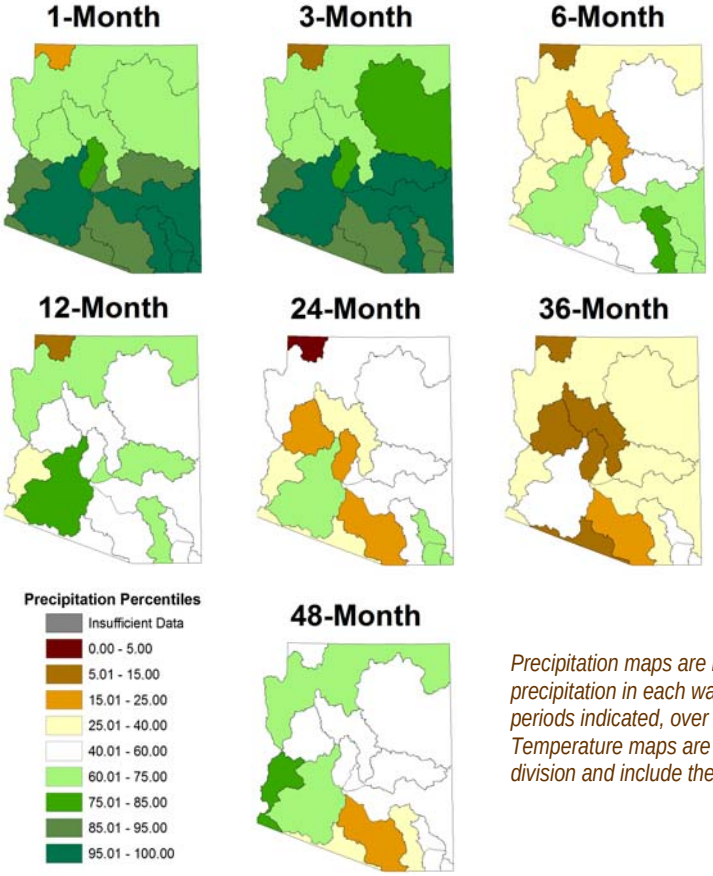
The 12-month period shows significant improvement from last month, showing how important this very wet monsoon has been to the annual precipitation. The wet summer has brought relatively cooler temperatures to the northern half of the state, below the 75th percentile. The southern half of the state remains above the 79th percentile.

The 24-month period now has only four watersheds at or below the 25th percentile, and they are scattered across the state from the north to the south. Three watersheds in the southern half of the state are above average, between the 66th and 73rd percentile. Temperatures for the 24-month period are essentially unchanged from last month's update, with all climate divisions above the 73rd percentile.

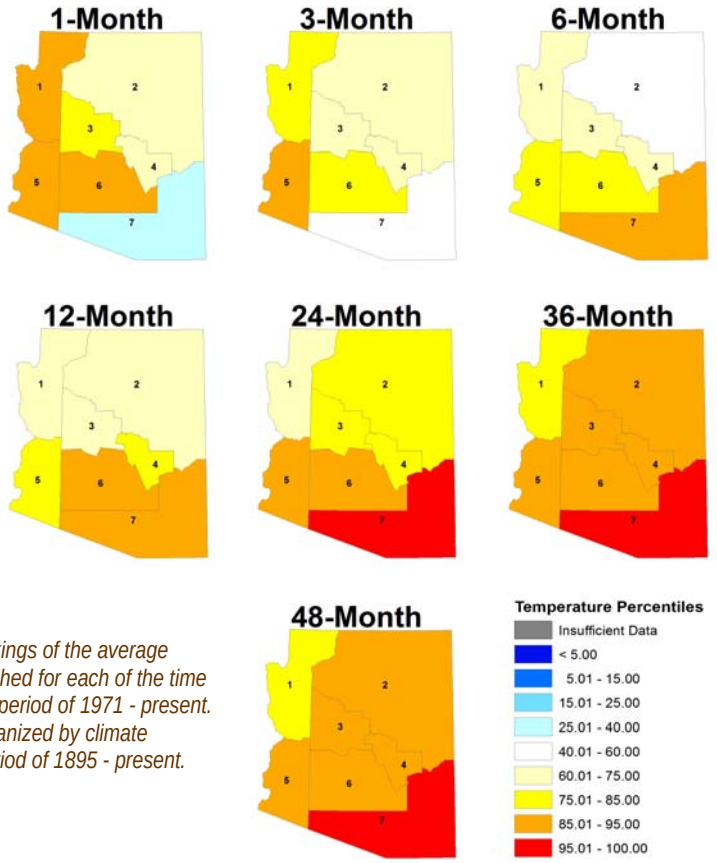
The 36-month period: Although the 36-month period remains the driest long-term period, four watersheds have moved above the 40th percentile. Climate division 7 remains the hottest 36-month period on record, and the entire state is above the 76th percentile for the 36-month temperature.

The 48-month period has only six watersheds below the 50th percentile, while six are above the 50th percentile, and three are above the 70th percentile. The three driest watersheds are in the southeast, although this wet monsoon has improved their condition significantly. Temperatures for the four-year period remain extremely high, with climate division 7 in the southeast still the hottest 48-month period on record.

Precipitation Percentiles by Watershed



Temperature Percentiles by Climate Division



Precipitation maps are rankings of the average precipitation in each watershed for each of the time periods indicated, over the period of 1971 - present. Temperature maps are organized by climate division and include the period of 1895 - present.

Weather Outlook



Arizona Drought Monitor Report - Produced by the Arizona State Drought Monitoring Technical Committee

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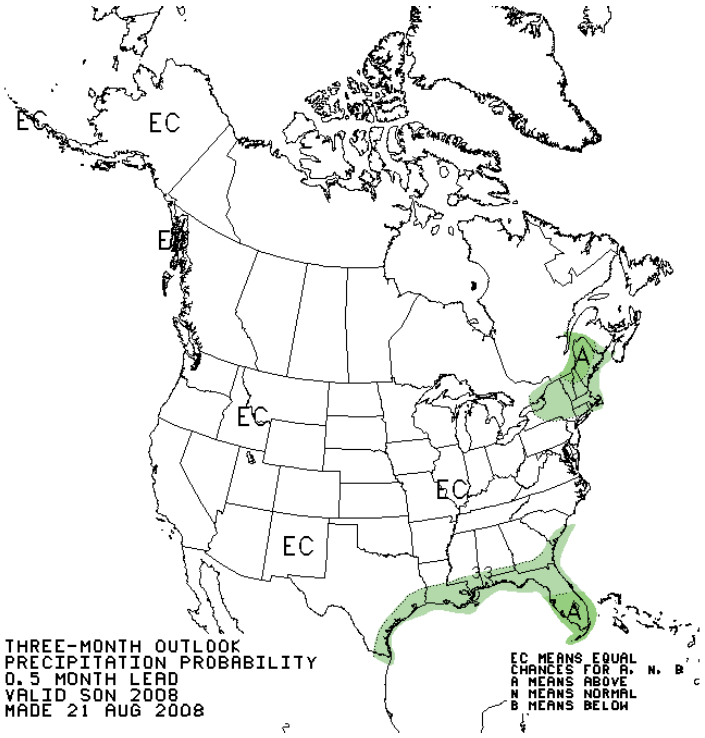
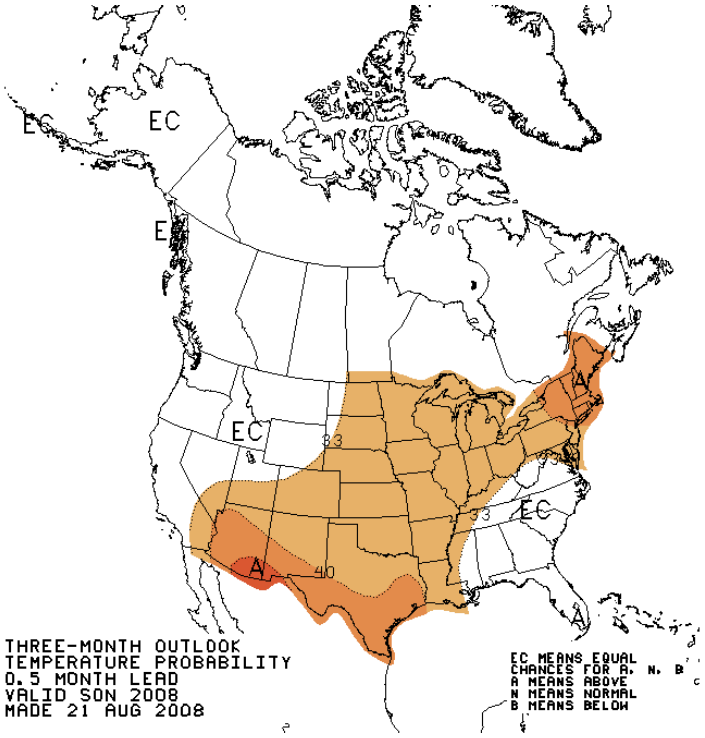
ARIZONA DEPARTMENT OF WATER RESOURCES



There is an equal likelihood of above-average, average, or below-average precipitation across the state during the 90-day period (September through November).



There is a modest to high level of confidence temperatures will be above average across the entire state during the 90-day period (September through November).