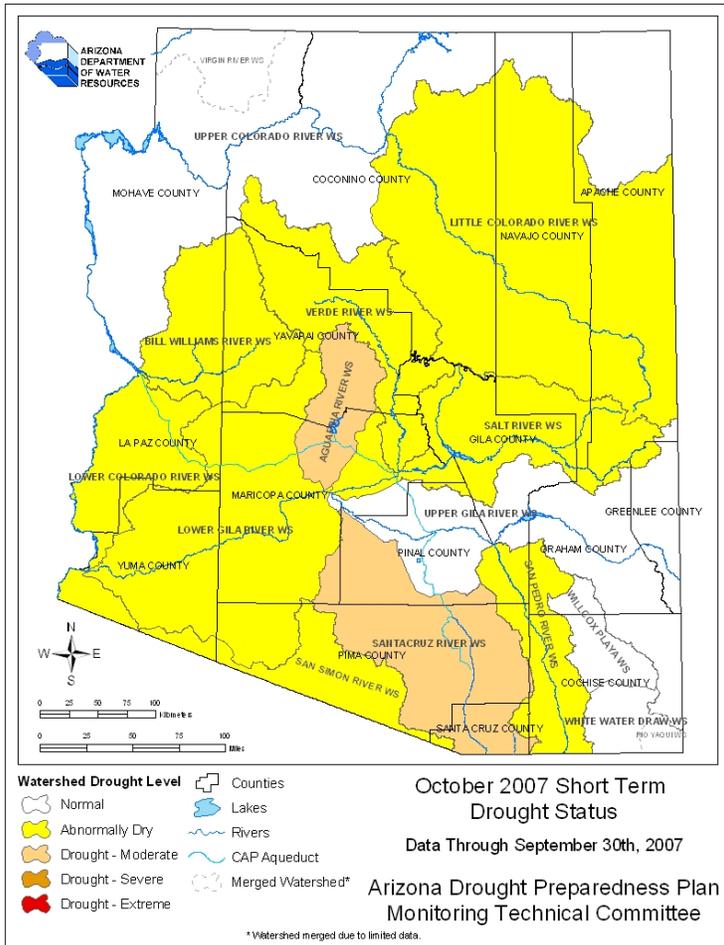
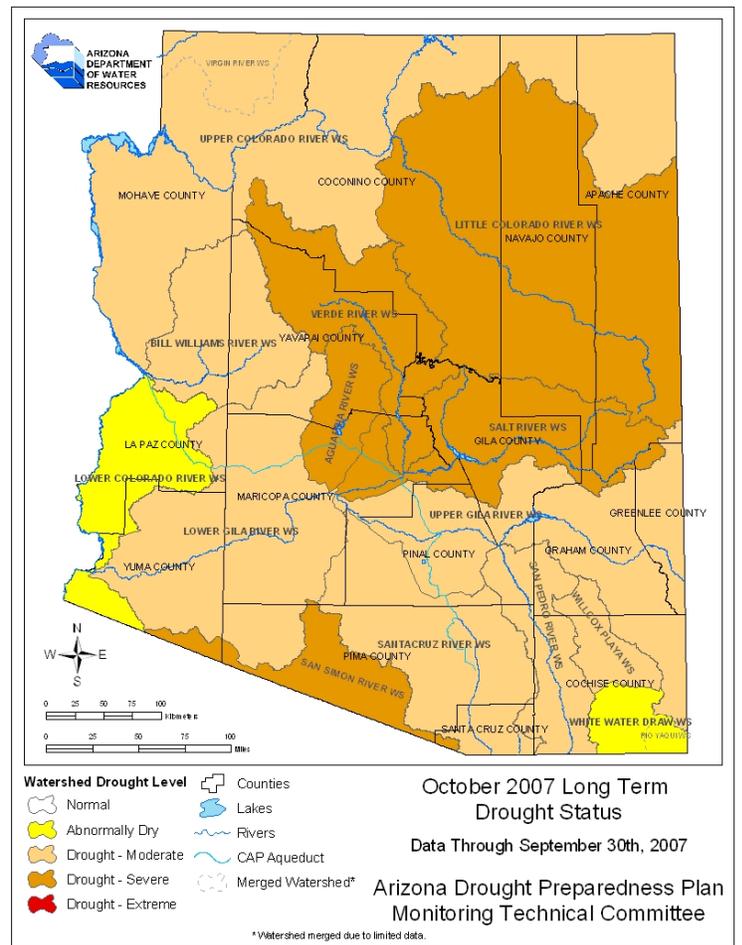


Arizona Drought Monitor Report October 2007

Short-term Drought Status



Long-term Drought Status



Short-term Update

The short-term drought status has improved for four of the 15 Arizona watersheds; the upper Colorado, Virgin, Verde, and Bill Williams, all in the northern part of the state. During the three- and six-month periods, rainfall has been above average in most of the northern and central watersheds. This improvement leaves eight watersheds abnormally dry, the Agua Fria and Santa Cruz in moderate drought, and the upper Colorado, Virgin, upper Gila, Willcox Playa, and White Water Draw with normal conditions for the short term.

Long-term Update

The long-term drought status was stable for all 15 watersheds. In the north, the upper Colorado, Virgin, and Bill Williams remain in moderate drought, and the Little Colorado, Salt and Verde remain in severe drought. The southern watersheds remain in moderate drought except the White Water Draw and lower Colorado, which are abnormally dry, and the San Simon, which is in severe drought. Precipitation has been below average for the two-, three-, and 4-year periods, and the strengthening of the La Niña indicates another dry winter should be expected.



Reservoir Storage



USDA NRCS Dr. Ken Dewey, High Plains Regional Climate Center

Vegetation Health



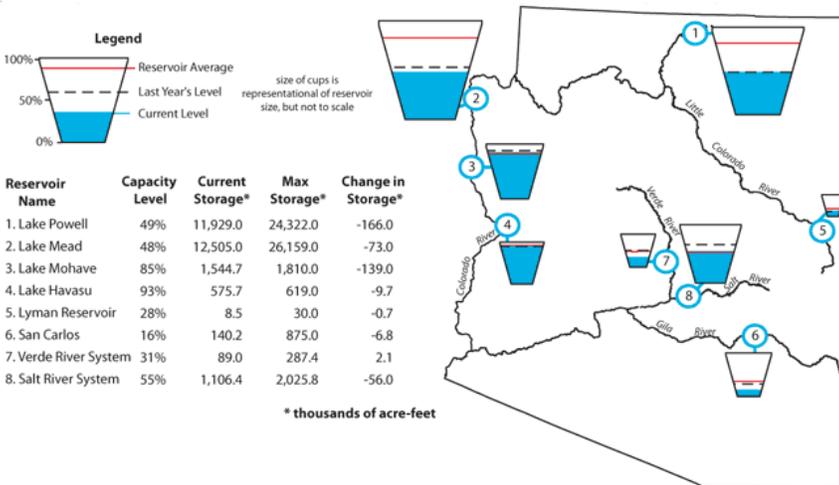
Jeff Sevoss

Arizona Reservoir Status

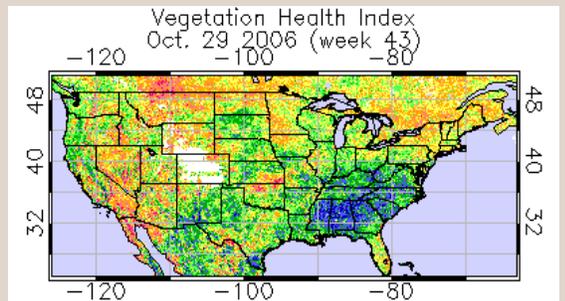
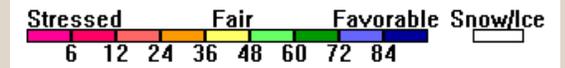
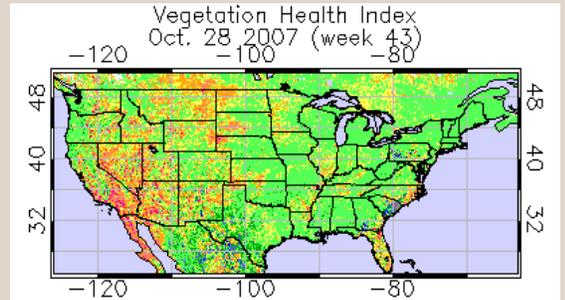
With the exception of the Verde River Basin, reservoir storage declined throughout Arizona and the adjacent Colorado River reservoirs (see figure below). Colorado River reservoirs lost more than 300,000 acre-feet of storage since the end of August. Total reservoir storage in the state declined by more than 60,000 acre-feet during this period. Surface water storage is expected to continue to decrease until the spring 2008 snowmelt season. Water Year 2007 inflow to Lake Powell was 69 percent of average, which is consistent with prolonged drought in the Colorado River Basin.

Utah's Kane County Water Conservancy District wants to erect a 42-foot-high earthen dam to impound water piped from Kanab Creek (Salt Lake Tribune, October 10). The proposed reservoir would inundate 212 acres of pastureland and store 3,900 acre-feet of water. The Kaibab Band of Paiute, a tribe with land in Arizona, warned that they would not endorse the project because it would eliminate important archaeological sites.

Arizona reservoir levels for September 2007 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.



Vegetation health indices from the NOAA Center for Satellite Applications and Research show widespread variability in vegetation health around the state. The most robust vegetation health is in eastern Arizona (top), which received average-to-above-average summer precipitation. Areas of vegetation stress include southwestern Arizona, the Arizona Strip (along the Utah border) and in the rainshadow of the Mogollon Rim. Vegetation health has declined in some parts of the state in contrast to one year ago (bottom), but has improved, based on satellite observations, in the northeast and southeast corners of the state.

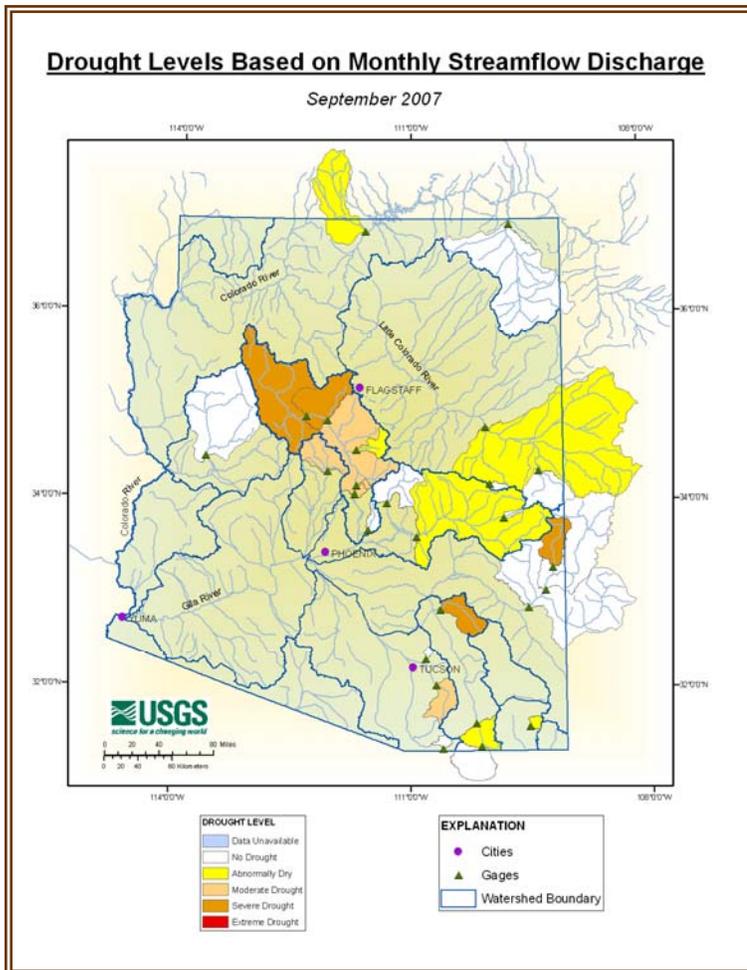


Images are obtained from the NOAA National Environmental Satellite, Data and Information Service (NESDIS).



Photos by the National Park Service

Mountain Streamflow and Precipitation



September Streamflow

Streamflow for major streams in Arizona receded to below median levels in September, although Gila River inflow to San Carlos reservoir was above median for the month.

Stream/River	September Runoff in Acre Feet	% of Median
Salt River near Roosevelt	14,894	75%
Tonto Creek	499	43%
Verde River at Horseshoe Dam	9,378	64%
Combined Inflow to Salt River Project (SRP) reservoir system	24,771	63%
Little Colorado River above Lyman Lake	390	78%
Gila River to San Carlos Reservoir	8,800	125%

September Streamflow Observed at USGS Gauging Stations (NRCS from USGS data)

Mountain Precipitation

Data from snow telemetry (SNOTEL) sites and other mountain gauges show that total precipitation for September was 86 percent of average over the Salt River basin, 122 percent of average over the Verde River basin, and 80 percent of average over the San Francisco-Upper Gila River basin. The Little Colorado River basin received 92 percent of average precipitation in September.

Despite an active summer monsoon that delivered significant precipitation to the mountain basins, the rainfall was not enough to overcome the moisture deficit from the dry winter of 2007. As a result, cumulative mountain precipitation for the water year ending September 30 remains below average in all basins ranging from 67 to 89 percent of average (see table at right).

Watershed	Percent (%) of 30-Yr. Average Water Year Precipitation October 1 – September 30
Salt River Basin	80%
Verde River Basin	67%
Little Colorado River Basin	82%
San Francisco-Upper Gila River Basin	89%
Other Points of Interest	
Central Mogollon Rim	75%
Grand Canyon	81%

2007 Water Year Precipitation (Source USDA-NRCS)

Temperature and Precipitation



This year's monsoon brought average to above average precipitation to all watersheds except in the southeast. Yavapai, Yuma and La Paz counties were below the 70% percentile for temperature, but the hottest climate divisions, including the Colorado Plateau and Maricopa and Pinal counties, were between the 90th and 93rd percentiles.

The 3-month period, including the monsoon, brought above average precipitation to most of the state. The southeast had near average precipitation, while the northern watersheds were above the 83rd percentile. The wet monsoon kept temperatures from rising too far above average. The entire state was above the 90th percentile, and Maricopa, Pinal and Gila counties were above the 97th percentile.

The 6-month period had above average rainfall in the north, along the lower Colorado River in the west, in the eastern mountains, and in the southwest. The Bill Williams, Agua Fria and southern watersheds had average rainfall for the 6-month period. The spring and summer temperatures have been above the 90th percentile everywhere in the state.

The 12-month period shows average precipitation in the upper Colorado, upper and lower Gila and Whitewater Draw watersheds. All others were below average, with the Agua Fria, San Simon and Santa Cruz the driest, below the 13th percentile. The entire state

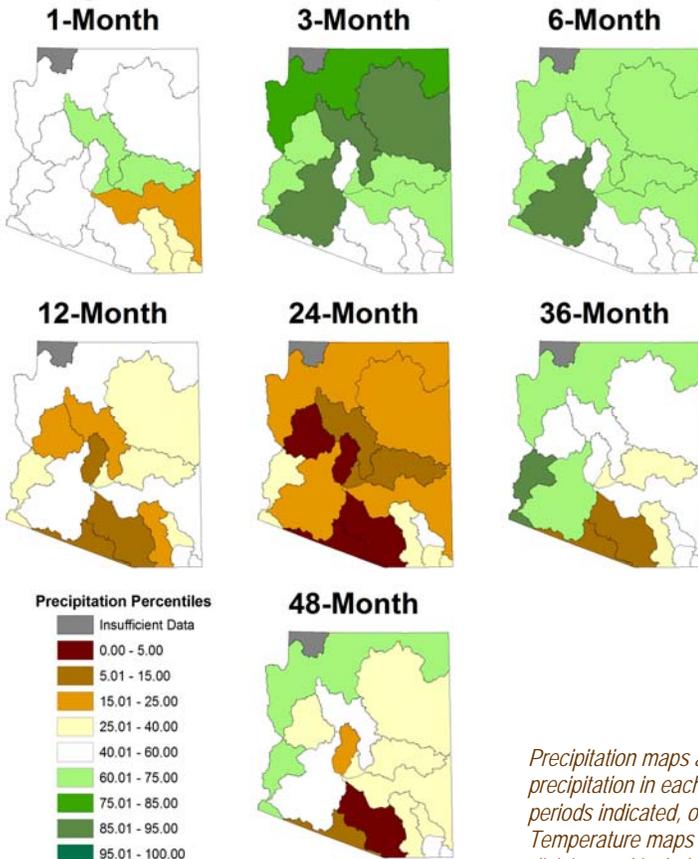
had temperatures above the 85th percentile.

The two-year period continues to show the driest conditions of all periods. The Bill Williams and Agua Fria watersheds in central Arizona and the San Simon and Santa Cruz in south central Arizona are below the 5th percentile for precipitation. The Salt and Verde watersheds in central Arizona are below the 12th percentile, and four other watersheds are below the 23rd percentile. Temperatures in the state for the two-year period are well above average everywhere.

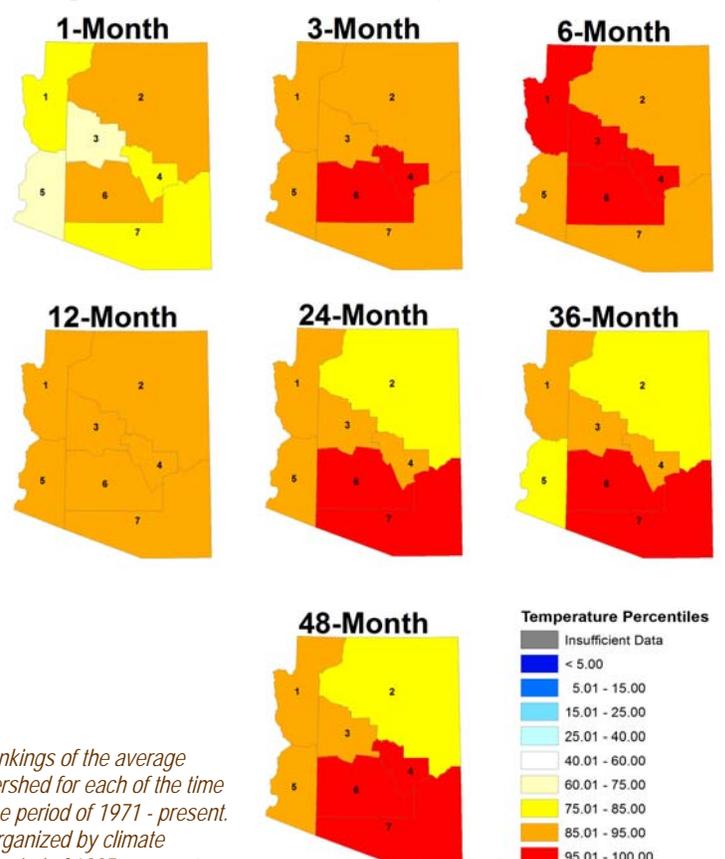
The three-year precipitation period still shows the results of the wet winter of 2004-05 in northern and western Arizona. The central and eastern watersheds are near average, and the southern watersheds are well below average, under the 12th percentile. Temperatures over the 3-year period have been well above average, with the southern climate divisions above the 95th percentile after record-breaking temperatures in 2005 and 2006.

The 4-year precipitation period is also above average across the northern part of the state, and well below average in south central Arizona. Nine of the fifteen watersheds are below the 40th percentile, with the Santa Cruz below the 5th percentile, and San Simon below the 10th percentile. The warm conditions continue with three of the southern climate divisions above the 96th percentile for temperature.

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

Co-chairs:
Gregg Garfin, University of Arizona –
Institute for the Study of Planet Earth

Tony Haffer, National Weather Service

Mike Crimmins, Extension Specialist,
University of Arizona Cooperative
Extension

Charlie Ester, Salt River Project

Larry Martinez, Natural Resources
Conservation Service

Ron Ridgway, Arizona Division of Emer-
gency Management

Nancy Selover, State Climatologist
Arizona State University

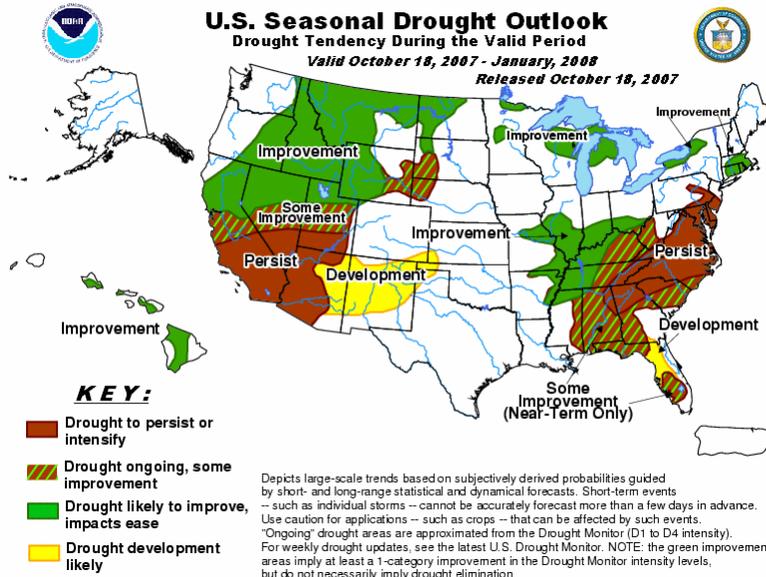
Chris Smith, U.S. Geological Survey

Coordinator: Susan Craig, Arizona
Department of Water Resources
Computer Support: Andy Fisher, Arizona
Department of Water Resources



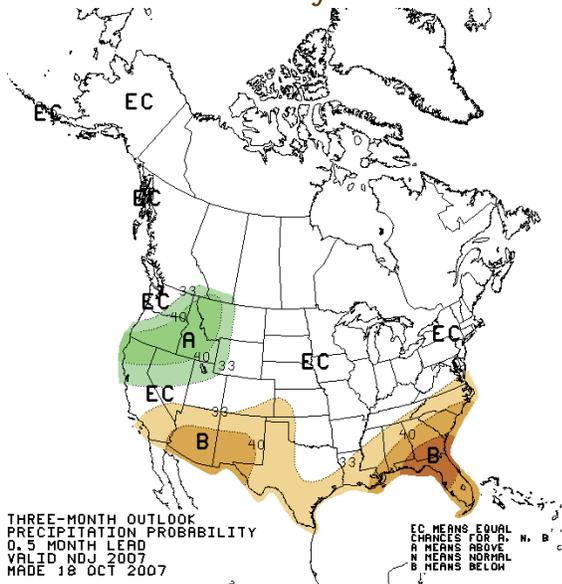
Drought Outlook

The CPC Seasonal Drought Outlook indicates drought conditions across the western two thirds of the state will persist through at least January 2008, and drought conditions are likely to develop in the eastern third of the state.



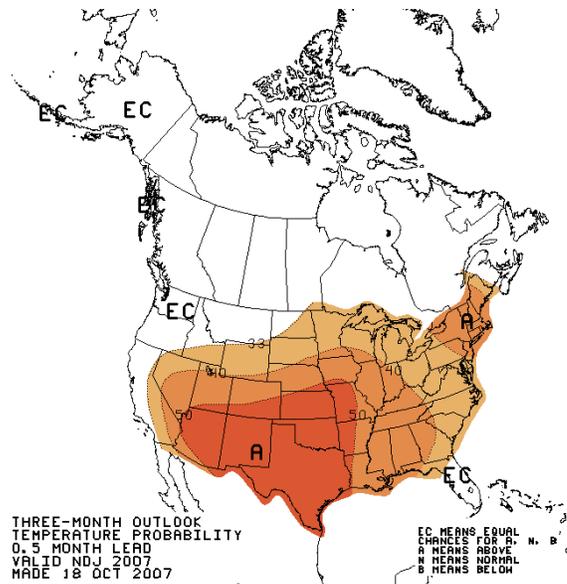
Also see the most current Southwest Climate Outlook - www.ispe.arizona.edu/climas/forecasts/swoutlook.html
For additional weather information from the Office of the State Climatologist for Arizona - <http://geography.asu.edu/azclimate>

November to January Weather Outlooks



Precipitation

Modest confidence precipitation will be below normal across the state during the 90-day period



Temperature

High level of confidence temperatures will be above average across the entire state