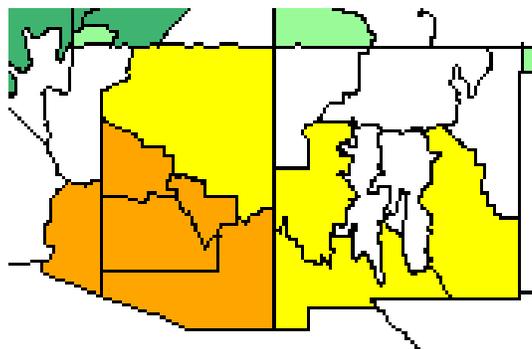




NAVAJO NATION DROUGHT STATUS REPORT

NN Dept. of Water Resources, Water Management Branch

P.O. Drawer 678 Fort Defiance, Arizona 86504 Ph. (928) 729-4004, Fax (928) 729-4126



- +3.00 and above (exceptionally wet)
- +2.00 to +2.99 (extremely wet)
- +1.25 to +1.99 (very wet)
- +0.75 to +1.24 (moderately wet)
- -0.74 to +0.74 (near normal)
- -1.24 to -0.75 (moderately dry)
- -1.99 to -1.25 (very dry)
- -2.99 to -2.00 (extremely dry)
- -3.00 and below (exceptionally dry)

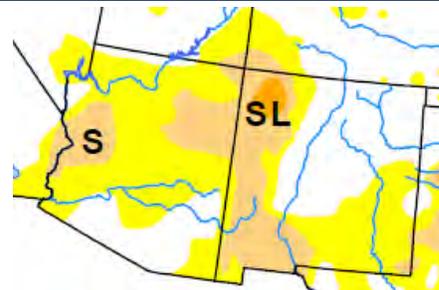
Navajo Nation Drought Stage

Location	6 month SPI August	Stage as of August
NE AZ	-1.10	Warning
NW NM	-0.69	Alert
SE UT	0.59	Normal

Drought Intensity Category

NN Drought	US Drought	
Normal	Normal	D0
Alert	Moderate	D1
Warning	Severe	D2
Emergency	Extreme/Exceptional	D3 & D4

- Intensity:**
- D0 Abnormally Dry
 - D1 Moderate Drought
 - D2 Severe Drought
 - D3 Extreme Drought
 - D4 Exceptional Drought
- Drought Impact Types:**
- Delineates dominant impacts.
 - S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
 - L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)



National Drought Summary for August 27, 2019

Summary: Summer thunderstorms brought heavy rainfall to the Central Plains into parts of the Northeast, with showers and thunderstorms also occurring across parts of the Northwest, Southern Rockies, and Central Gulf Coast. Below-average temperatures accompanied the heavy precipitation for the most part. The Southwest saw little to no rain and record to near-record heat, while heat and humidity continued to the east. The above-average temperatures and dry conditions brought elevated fire risk over the Great Basin and portions of the northern Intermountain West. South central Alaska remained dry and fires continued to burn, with smoke warnings in effect. Heavy rains, flash flooding, and severe weather occurred as a front stretched from the Southern Mid-Atlantic into the Southern Plains.

West: With respect to precipitation, 2019 to-date is a year of extremes in parts of the West. As monsoon rains continue to fail and heat continues to build, impacts, including wildfire risk, are growing in the Southwest. After emerging from nearly a decade of drought conditions on June 11, moderate drought (D1) returned to both the eastern and western parts of Arizona this week, and abnormally dry (D0) conditions spread across much of the rest of the state, save for part of the south. Locally, many areas are experiencing one of their 10 driest monsoon seasons on record. Phoenix is also on track to have its third or fourth hottest June-August period on record and Tucson it's second hottest. The D1 that spread to eastern Arizona also spread over the remainder of northwestern New Mexico into southwestern Colorado and southeastern Utah at the Four Corners. In New Mexico, D1 in the south expanded eastward from Sierra County to the D1 area at the Texas border. Abnormally dry conditions also spread outward across the southwestern states, including across Imperial County, California, to join with the long-lasting D0 area in San Diego, Orange, and Riverside Counties.

Looking Ahead: Over the week beginning Tuesday, August 27, according to NOAA's Climate Prediction Center, dry conditions are expected to continue across southern Texas and much of the western third of the continental U.S., while light to heavy rainfall may occur across the remainder of the country. Parts of Kansas may receive up to about 4 inches, with isolated higher amounts. Hurricane Dorian will bring heavy rain and potential flooding to Puerto Rico and Florida, where 4-8 inches of rain are expected from the storm, with locally higher amounts. Looking further ahead to September 2-6, below-normal temperatures are favored across Maine and parts of the Northern Plains and Midwest, nosediving into Oklahoma and northern Arkansas, while above-normal temperatures are forecast for Alaska, the western third of the CONUS, across most of Texas, and into the Southeast and Mid-Atlantic states. Much of the Southwest and Alaska are both favored to have some badly needed above-average precipitation, as is the Southeast and the northern tier of the CONUS. There are enhanced probabilities of below-normal precipitation for the Southern and Central Plains into parts of the Midwest. Please note the forecast confidence for this period is above average, according to CPC.

For further enquires contact Mr. Carlee McClellan, Senior Hydrologist, Ph. (928) 729-4125, Email: cmcclellan@navajo-nsn.gov

August 2019

Southwest Drought At Glance

Climate Summary by CLIMAS August 2019

Monthly Precipitation and Temperature: July precipitation was mostly below average to much below average in Arizona, while New Mexico ranged from above average to much below average (Fig. 1a). July temperatures were mostly above average to much above average in Arizona and New Mexico, with a small pocket of record warmest in southwestern New Mexico (Fig. 1b). The daily average temperature anomalies for Jul 1 – Aug 15 (Fig. 2) highlight the fluctuations at select stations around the region.

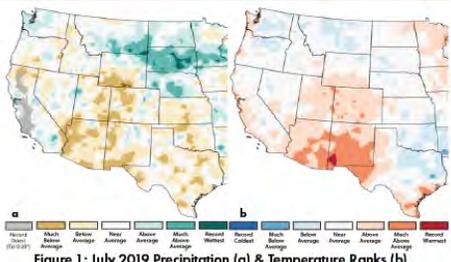


Figure 1: July 2019 Precipitation (a) & Temperature Ranks (b)

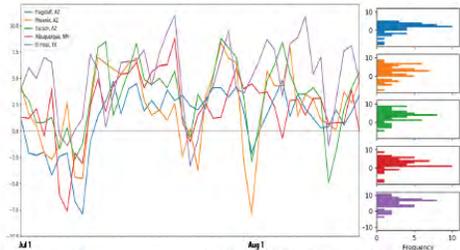


Figure 2: Daily Temperature Anomalies Jul 1 - Aug 15 (left) & Frequency of Anomalies (right)

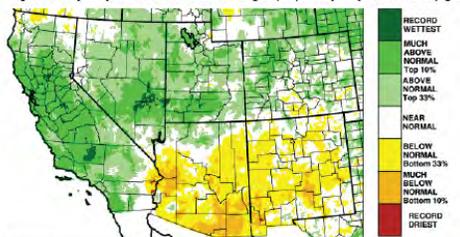


Figure 3: May - July 2019 - Precipitation Percentile Ranking

Water Supply: Most of the reservoirs in the region are at or above the values recorded at this time last year, but most also remain below their long-term average. This illustrates improvements in drought conditions over the past year, but also highlights accumulated water resource deficits linked to multiple years of drought.

Wildfire, Health, and Safety: Despite a late and somewhat sporadic onset of monsoon activity, the resulting precipitation and increased humidity has helped tamp down elevated wildfire risk in much of the Southwest. The National Interagency Fire Center outlooks for August and September each call for average fire risk across the region. In terms of wildfire acres burned, lightning and human caused fires are above median in Arizona, and below median in New Mexico (Fig. 6).

El Niño Tracker: Despite hints (or hope) that this El Niño event might last into early 2020, conditions have returned to ENSO-neutral and are likely to remain neutral through the rest of 2019 and into 2020.

Precipitation and Temperature Forecast: The three-month outlook for September through November calls for increased chances of above-normal precipitation in parts of New Mexico, with equal chances of above- or below-normal precipitation in the rest of Arizona, New Mexico, west Texas, and northern Mexico (Fig. 7, top). The three-month temperature outlook calls for increased chances of above-normal temperatures across most of the U.S. Southwest and northern Mexico (Fig. 7, bottom).

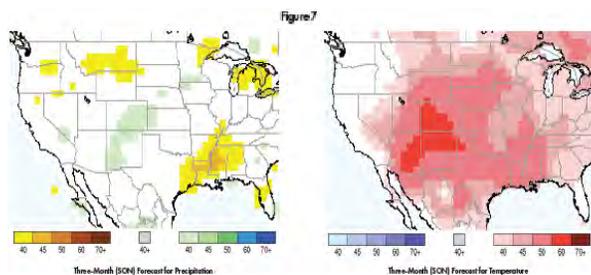


Figure 7

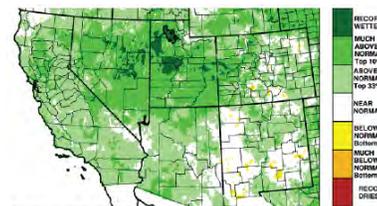


Figure 4: Oct 2018 - July 2019 - Precipitation Percentile Ranking

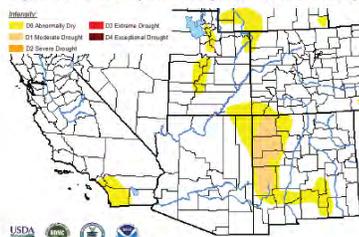


Figure 5: US Drought Monitor - Aug 6, 2019

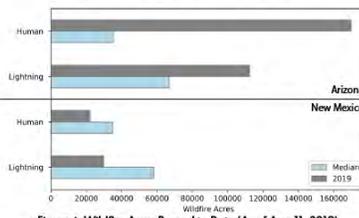


Figure 6: Wildfire Acres Burned to Date (As of Aug 11, 2019)

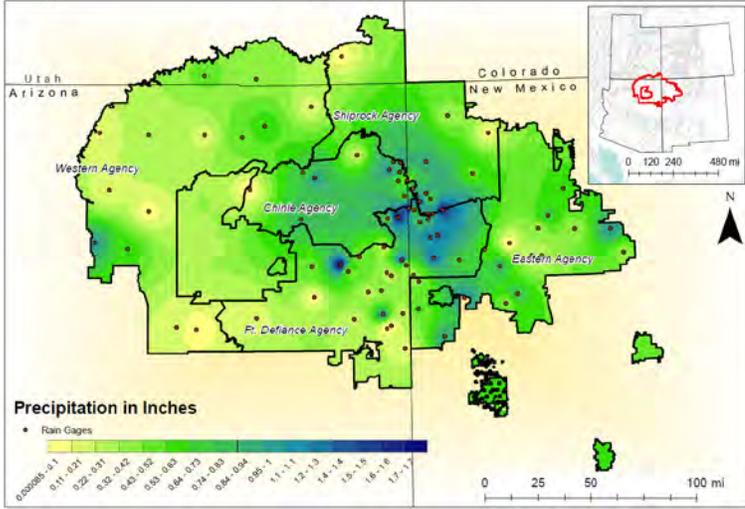
Published by the Climate Assessment for the Southwest (CLIMAS), with support from University of Arizona Cooperative Extension, the Arizona State Climate Office, and the New Mexico State Climate office.

Navajo Nation Precipitation Summary



Observed Precipitation on the Navajo Nation
(July 2019, WY 2019)

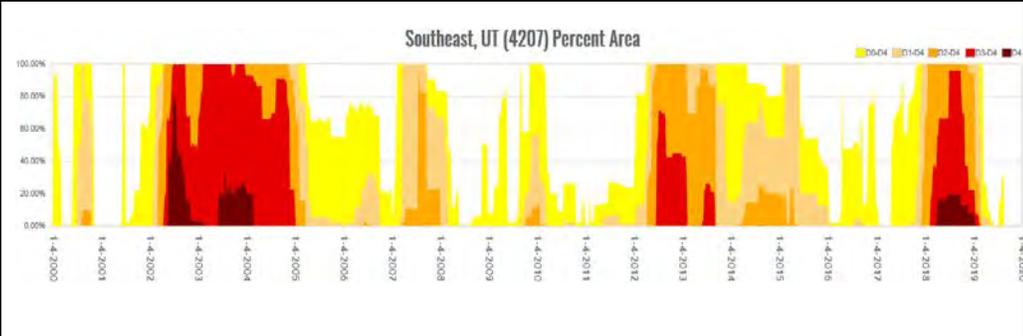
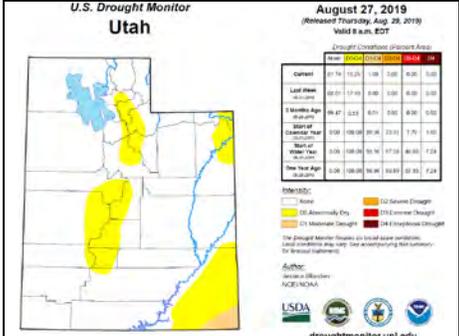
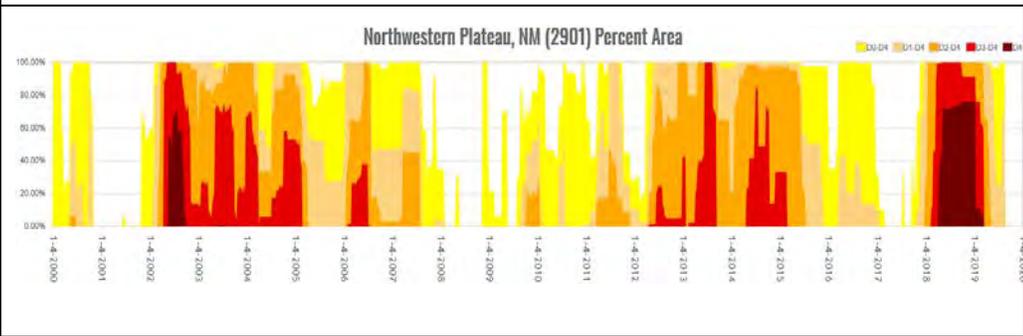
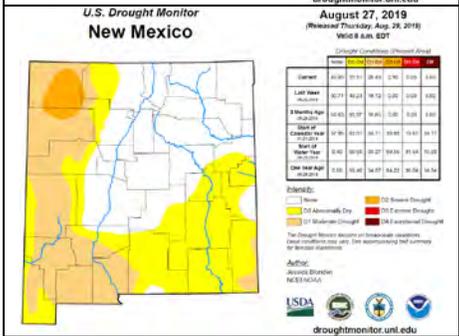
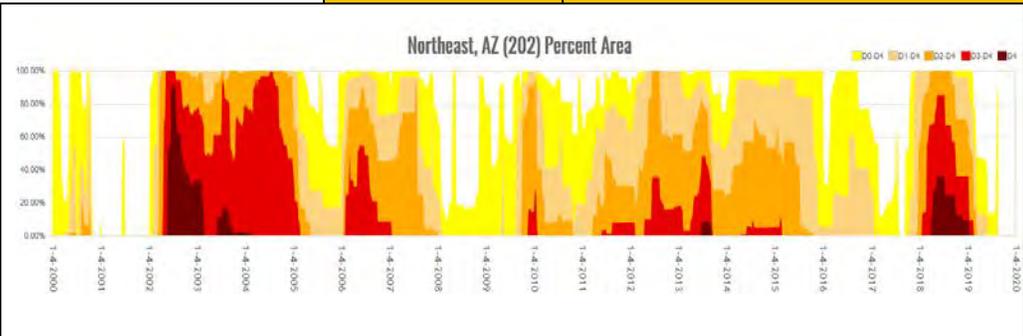
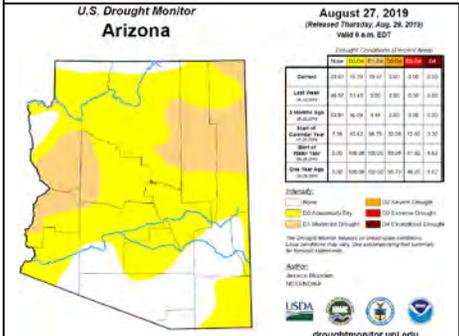
Division of Natural Resources
Department of Water Resources
Water Management Branch, NW Section
PO Box 378
Fort Defiance, Arizona 86504
Phone: (928) 729-4004
Map by: Carlee McChesley, 2019



Agency	July	Avg	% of Avg
Chinle	0.69	1.63	42%
Eastern	0.55	1.42	39%
Fort Defiance	0.61	1.66	37%
Shiprock	0.71	1.38	51%
Western	0.33	0.92	36%

Useful Drought Related Sites:

- NWS-CPC Seasonal Outlook www.drought.unl.edu
- USGS Daily Stream Flow www.usgs.gov/water/
- Western Regional Climate Center www.wrcc.dri.edu
- CLIMAS Southwest Climate Outlook www.climas.arizona.edu
- New Mexico Governor's Drought Task Force http://www.pse.state.nm.us/DroughtTask_Force/index.html
- ADWR Drought Program <http://www.azwater.gov/azdwr/StatewidePlanning/Drought>
- Utah Division of Water Resources <http://www.water.utah.gov/DroughtConditions/>
- Navajo DWR-Water Management Branch http://www.frontiernet.net/~nndwr_wmb/



August 2019