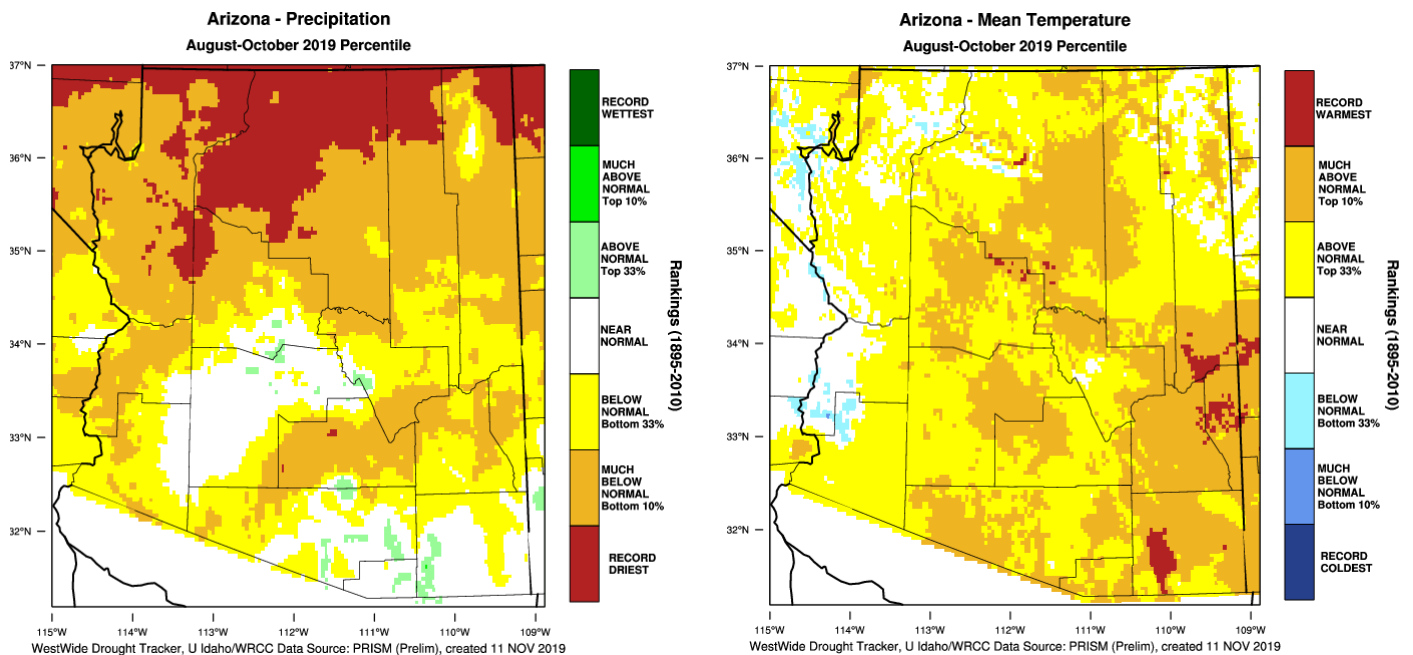


Arizona Seasonal Climate Summary: Fall 2019

November 12, 2019 - The August through October period was generally drier and warmer than average for most of Arizona. The slow start to the monsoon in July lingered into August turning into a legitimate 'nonsoon' for much of the state. Precipitation was much-below average to record dry for parts of northern and central Arizona, while temperatures were much-above average to record warm. The dry conditions continued through the first half of September until an unusually cold and strong low pressure system parked over southwestern Arizona helping to funnel in moisture from a decaying tropical storm for several days sparking severe thunderstorms and locally heavy rain. Parts of central and southern Arizona received several inches of rain with this event, bring seasonal totals up to average levels. The bulk of the storm activity favored central and southern Arizona, leaving northern areas high and dry. The dry conditions continued into October with much of the state not observing any precipitation at all. One early winter storm brushed the far northern reaches of the state, bringing very light snow to high elevation areas.

Short-term drought conditions worsened rapidly across Arizona over the summer and early fall months due to the lack of monsoon moisture. The June-August period was the driest on record (125 years) while the June-October period was the third driest on record. The November 7th U.S. Drought Monitor indicates that over 90% of Arizona is observing some level of drought with almost 40% of the state at the 'severe' level. Only 4% of Arizona was observing some level of drought at the beginning of the monsoon season in July indicating a rapid expansion of short-term drought conditions with the dry summer season.



Aug-Oct precipitation and temperature rankings from the WestWide Drought Tracker

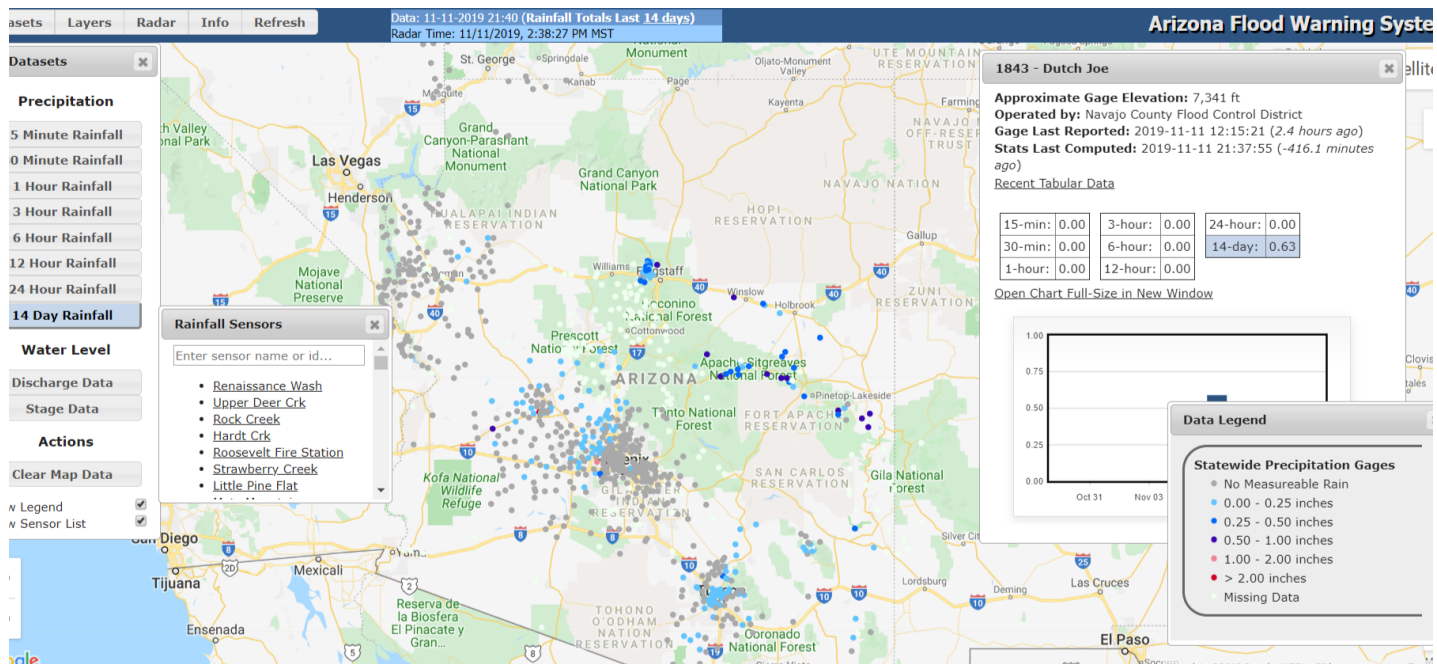
(<http://www.wrcc.dri.edu/wwdt/>)



More information available at :
<http://cals.arizona.edu/climate>
<http://www.climas.arizona.edu>

Questions /comments? Contact Mike Crimmins, crimmins@email.arizona.edu





The Arizona Flood Warning System (AFWS) is a web tool that aggregates real time data from most of the county flood control district precipitation monitoring networks in Arizona. These monitoring networks consist of tipping bucket rain gauges and streamflow gauges (some stations have additional weather information like temperature, wind and soil moisture) that communicate real time data through radio telemetry. Tucson and Phoenix have the highest density of gauges to monitor urban runoff and flooding, but a growing number of gauges have emerged in more remote areas across the state. The AFWS website is useful to monitor precipitation events in real time, but also events that have occurred over the past two weeks. Precipitation totals from 5 -minutes to 14-days can be generated by clicking on the summary buttons on the left hand side of the page. This will generate summary maps displaying the total precipitation over the selected time period. Specific information on precipitation totals at each gauge can also be accessed by clicking on the gauge on the map. The web tool also has additional layers that can be toggled on/off including watershed boundaries, current year fire locations, and real-time radar information. The AFWS is handy tool to keep in your precipitation monitoring toolbox. To explore all of the AFWS features visit: <http://www.afws.org/gmap/gmap.html>

The December-January-February seasonal precipitation outlook issued by the NOAA Climate Prediction Center in mid-October depicts equal-chances of above, below or normal precipitation for Arizona for the upcoming fall season. This 'Equal Chances' outlook reflects the lack of a strong forecasting signal to latch on to for this upcoming winter season. The El Niño-Southern Oscillation is currently neutral and is

expected to remain so through next spring. The lack of either strong El Nino or La Nina conditions (indicating potentially wet or dry conditions respectively) is behind the lack of a forecast for the upcoming winter season. The Dec-Jan-Feb temperature outlook does indicate an increased chance of above-average temps for the winter. (More info at http://www.cpc.ncep.noaa.gov/products/predictions/long_range/)

