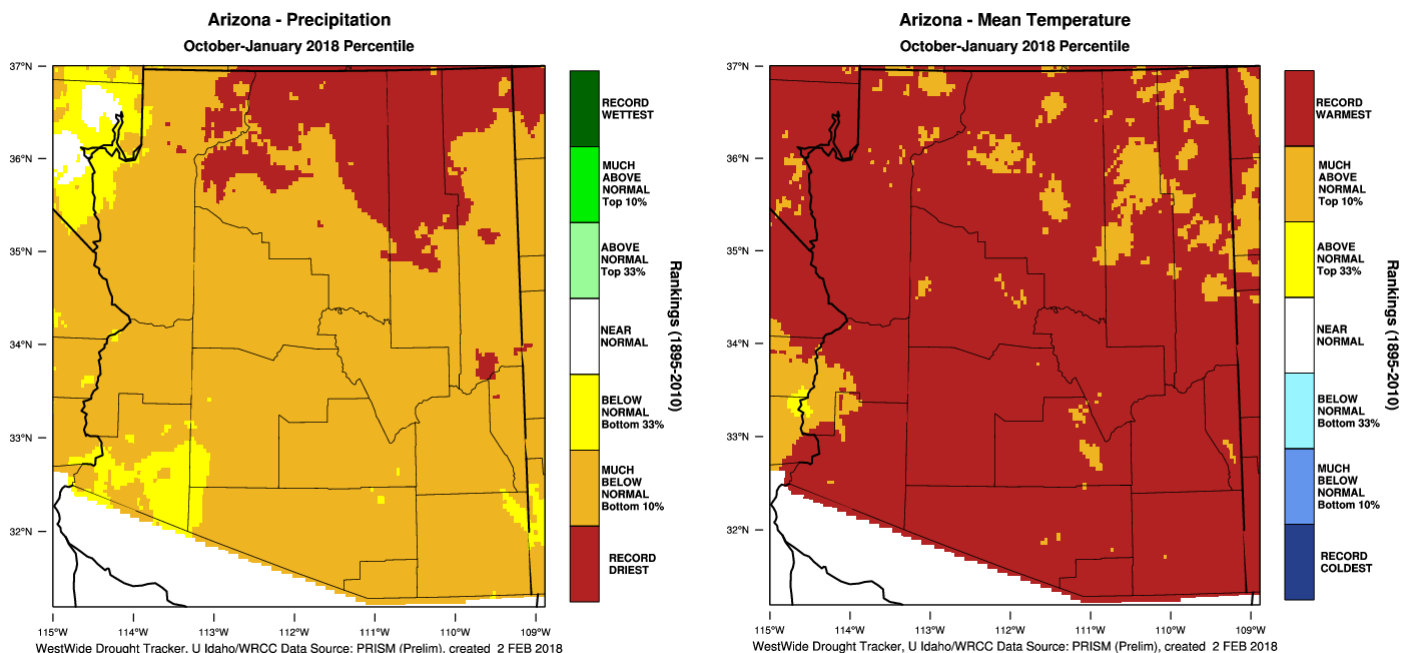




Arizona Seasonal Climate Summary: Fall/Early Winter 2017-18

February 3, 2018 - Fall is typically a transition season where cooler and more unsettled weather gradually settles into the southwest U.S., but that wasn't the case this year. A ridge of high pressure across much of the western U.S., most likely related to the moderate La Niña event present across the equatorial Pacific, kept the storm track far to the north away from Arizona, leaving instead persistently warm and dry conditions over the past several months. This ridge pattern broke down a few times in November, December and January allowing the storm track to drop into the Southwest, but precipitation amounts with these events were underwhelming. Moisture was often limited with these events and precipitation amounts were light and highly localized. By the end of December, southern Arizona observed more November-December precipitation, inverting the typical early winter pattern with northern Arizona typically observing more precipitation during this period. Storm activity ticked up a bit for the region in January with several cold, fast moving storms tracking across Arizona and New Mexico bringing more widespread precipitation and finally some snow to upper elevation locations. January precipitation amounts were still below-average for the month across most of Arizona.

The exceptionally warm and dry conditions over the past several months coupled with the early end to the monsoon season have led to rapid intensification and spread of short-term drought conditions across Arizona. The February 1st update of the U.S. Drought Monitor shows all of Arizona observing at least moderate levels of drought and almost 65% at the severe level or worse.



October-January precipitation and temperature rankings from the WestWide Drought Tracker

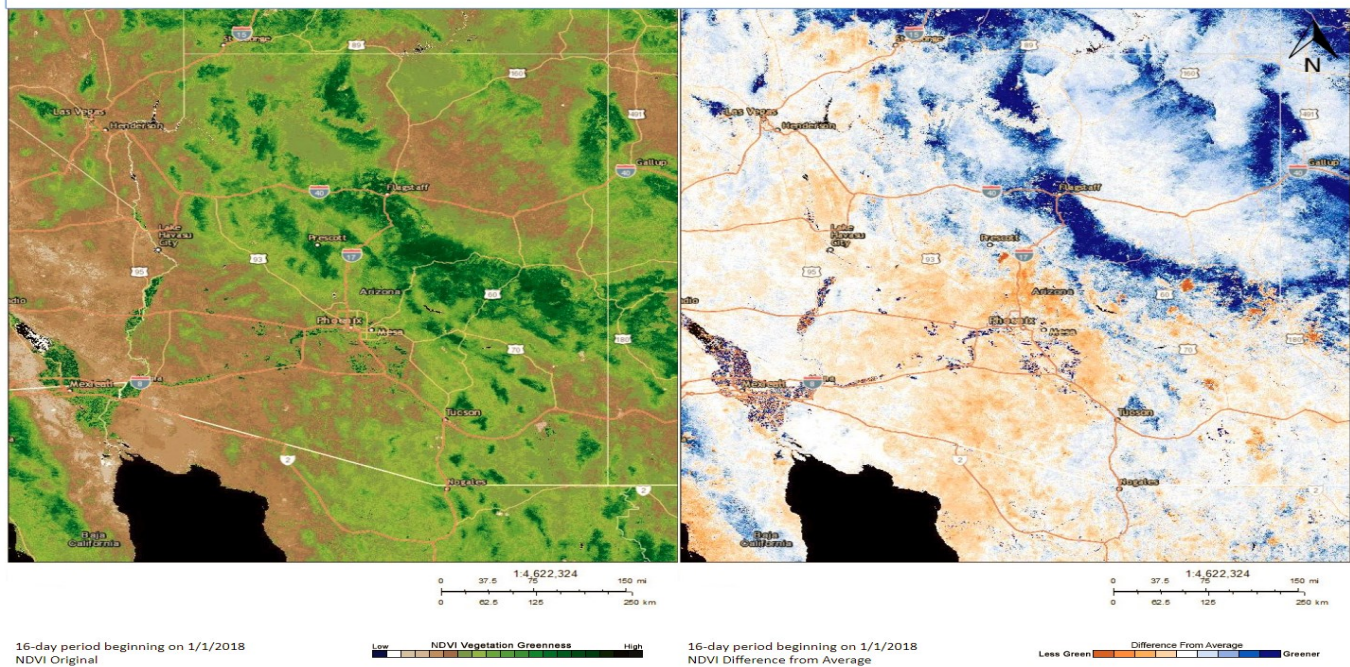
(<http://www.wrcc.dri.edu/wwdt/>)



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

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





The 16-day composite Normalized Difference Vegetation Index (NDVI) for early January (Jan 1-Jan 16th) shows unusually green conditions across higher elevations of Arizona and below-average greenness across lower elevation areas of central and south-western parts of the state (shown in right panel above). This imagery collected by the NASA Moderate Resolution Imaging Spectroradiometer (MODIS) depicts vegetation condition in terms of 'greenness' with higher levels indicating more photosynthetically active vegetation. The difference from average imagery (right panel) is the difference from the 2001-2012 average for this time period in early January. The very dry and warm conditions this fall and early winter have led to very little snowpack at higher elevations across Arizona which shows up as much greener than average conditions for early January. Lower elevations are observing drought-induced vegetation stress indicated by below-average greenness. Access these maps directly at <https://droughtview.arizona.edu/?shareId=049a2cc819e611ac964fa7c4a8bfcad65d24c51a>

The February-March-April seasonal precipitation outlook issued by the NOAA Climate Prediction Center in mid-October depicts an increased chance of below-average seasonal total precipitation for all of Arizona with the largest shift in odds towards dry conditions across southeast Arizona. This forecast for below-average total precipitation for the next three months is due to the expected continuation of La Niña conditions in the equatorial Pacific Ocean, though weakening rapidly over this period. The dry weather pattern that has been plaguing the Southwest over the past several months appears to have been driven in part by La Niña and it is expected to continue to impact the region over the next several months. La Niña events typically shift the average winter storm track away from the Southwest towards the Northwest, producing above-average precipitation in that area. Even though the event is expected to weaken and end by spring, the impact on storm track can linger through the late winter/early spring months. Temperature outlooks continue to indicate an increased chance of above-average seasonal temperatures over this period as well.

www.cpc.ncep.noaa.gov/products/predictions/long_range/

