

National Drought Summary for June 28, 2022

Summary

Widespread moderate drought and abnormal dryness continued to form and expand across a large swath of the eastern U.S. this week, with a few areas of severe drought forming or expanding as well. Spotty rain and storms occurred across the East, but in areas that missed out on heavy rainfall, high temperatures, browning lawns, and curling corn signaled that rapid drying was taking place in many areas. An early start to the North American Monsoon, particularly in New Mexico and southern Colorado, led to widespread improvement of extreme and exceptional drought in those states. Extreme drought formed or expanded in parts of the central Great Plains this week, where warm, dry weather continued. Moderate short-term drought also began to expand in parts of New England this week. Short-term moderate and severe drought expanded in coverage in Alaska and Puerto Rico, and drought conditions continued to expand in parts of Hawaii. Finally, despite some improvements to conditions in parts of the West, severe, extreme, and some exceptional drought remains widespread there.

Northeast

Short-term abnormal dryness and moderate drought expanded in coverage across much of New England this week, as rainfall was somewhat sparse across the eastern portion of the region. Streamflows also continued a downward trend across parts of the region. Southeastern Massachusetts has begun community water conservation as moderate short-term drought continued. Heavier precipitation from eastern Pennsylvania northward through eastern New York kept any dryness at bay there.

Southeast

Moderate and severe drought, along with abnormal dryness, expanded in coverage this week across much of the Southeast region. Dry weather was largely the rule across the region, with the exception of parts of Virginia and the Florida Panhandle, though there were scattered thunderstorms that delivered spotty heavy rain amounts elsewhere. The result was widespread worsening conditions in the region, amid a background of hot temperatures and high evaporative demand, for locations that did not receive heavy rainfall. Moderate drought covers a large expanse of Georgia, along with much of South Carolina and eastern North Carolina. A few areas of severe drought have also formed or expanded in the Carolinas and Georgia this week as primarily short-term precipitation deficits mounted. Agricultural stress was reported in the Carolinas this week, including reports of browning corn leaves.

South

Mainly dry conditions prevailed in the South this week, particularly from central Oklahoma and northeast Texas through Arkansas. Elsewhere, conditions were mostly dry, though some areas of heavier precipitation fell locally. Precipitation deficits improved enough in parts of western Oklahoma and the Texas Panhandle for some limited improvements to long-term drought conditions. Elsewhere, conditions mostly stayed the same or degraded, and abnormal dryness and moderate short-term drought quickly became entrenched in parts of east Texas, northern Louisiana, northern Arkansas, northern Mississippi, and Tennessee. Severe and extreme short- and long-term drought continued to plague southern Louisiana and a large portion of Texas this week. In drought areas in Texas, soil moisture deficits and low streamflow remained a major impact this week. There, extreme heat made drought-related problems worse. White-tailed deer are expected to have lower antler quality this fall in Texas due to the conditions. Additionally, crop stress continued and stock tanks lowered.

Midwest

Some heavier rains fell across parts of the Midwest this week, especially in eastern Iowa and northern Minnesota. For areas that missed out, similar to the Southeast region, rapid drying is occurring in the short-term, leading to widespread introduction of abnormal dryness and short-term moderate drought. This week, short-term moderate drought was introduced or expanded across much of central Kentucky, the Illinois-Indiana border, and southeast Missouri. Parts of Kentucky are seeing corn leaves curl as a result of the recent hot and dry weather.

High Plains

Extreme drought developed in far northeast Nebraska, and in adjacent portions of South Dakota and Iowa, near the Sioux City area. Here, on the short- and long-term precipitation deficits have combined with high evaporation rates to create significant soil moisture and groundwater shortages, which have recently been reported. Severe and extreme drought also expanded across northeast and central Colorado, southeast Wyoming, and parts of southwest Nebraska, where dry weather continued. North Platte, Nebraska may tie its second driest June on record, with 0.43 inches of rain having accumulated so far as of the morning of June 29. In southern Colorado, an early and active North American Monsoon has delivered heavy enough rainfall to cut into short- and long-term deficits, leading to widespread improvement of drought conditions in the southwestern part of the state. After recent heavy rains, drought conditions have continued to improve in northwest Wyoming. Heavy rain in central and south-central

Kansas alleviated precipitation deficits and increased soil moisture and streamflow, such that drought conditions retreated to the west.

West

Improvements to drought conditions in the West continued this week, though much of the region remains entrenched in drought or abnormal dryness. After recent heavy precipitation, and cool temperatures during April-June, drought conditions continued to improve in Montana and adjacent northeast Idaho this week. Due to heavy precipitation associated with the early and active start to the North American Monsoon, most of New Mexico, and parts of southeast Arizona, saw improvements to ongoing drought conditions. Despite these improvements, drought, still ranging from severe to exceptional in many areas, continued in the West, leading to cricket and grasshopper swarms.

Caribbean

Severe drought expanded this week in eastern parts of Puerto Rico, where groundwater and streamflow declined and precipitation deficits mounted.

As of the 28th, June appears to be the second consecutive month with less than an inch of rainfall at St. John, St. Croix, and St. Thomas. Since May, St. Croix has reported 0.76 of an inch of rain (normal 5.29 inches), St. Thomas 1.21 inches (normal 5.07 inches), and St. John 0.98 of an inch (normal 7.02 inches). But based on some other reports, Rohlsen Airport at St. Croix (where the above measurements have been taken) may be a dry outlier compared to most of the island, with some private observers reporting 1 to 1.5 inches of rainfall for May 1 - June 28.

This dry 2-month period follows January-April rainfall totals that were much closer to normal, but a prior multi-month period with well-below-normal rainfall during one of the wetter times of the year (specifically, mid-August through December 2021).

The combination of acute short-term dryness and the mid-April through December 2021 drought led to deteriorating St. John to extreme drought (D3) this week, with the other two islands remaining unchanged (D2 at St. Thomas and D3 at St. Croix). Climatologically, the rainfall totals recently observed at St. Thomas are not as unusual as the rainfall totals elsewhere, although one monitored private well there has gone dry for the second time in 40 years. Some agricultural interests are buying up to 3,000 gallons of water daily to keep their products relatively healthy.

Pacific

Moderate short-term drought expanded and developed in parts of central and southern Alaska this week, where minimal precipitation worsened fire danger amid numerous ongoing fires. Short-term severe drought also developed over the Anchorage area, where very dry weather continued.

In the leeward slopes of Kauai this week, severe drought developed where insufficient recent rainfall led to worsening pasture conditions. Severe drought expanded westward this week along the lower elevations of Oahu, where vegetation health continued to decline. Several areas of the Big Island of Hawaii saw severe drought expand where vegetation health worsened.

Abnormal dryness has abetted across the Marianas Islands and Wotje in the east-central Marshall Islands, but has developed at Majuro to the south of Wotje. Elsewhere, only Kapingamarangi is experiencing drought (currently D2), which has been the case periodically for many months now.

For the seventh consecutive month, Koror on Palau received over 11 inches of rain, and 22 to over 24 inches were received in April and May 2022. There are no concerns regarding dryness or drought here.

Abnormal dryness (D0) has been affecting the reporting locations in the Marianas Islands -- Saipan, Rota, and Guam. In Particular, February and May both brought less than the 4 inches of rain necessary to keep pace with demand to most locations. But rainfall has increased recently across the islands, and June will be the second of three months with enough rainfall generally to keep up with demand, even though some locations have recorded below-normal June rainfall to date. Only Saipan remains slightly below the critical 4-inch threshold, and there rainfall was heavier during April and particularly March than most other locations. Based on marginal justification for D0 conditions, plus a lack of any reports of dryness-related impacts, abnormal dryness has been removed from the Marianas Islands for the time being.

With the major exception of Kapingamarani, rainfall has been sufficient to abundant for several months now across Micronesia. Lukonor and perhaps Chuuk -- both in the middle of the archipelago -- may record less rainfall in June than is typically necessary to keep pace with demand (8 inches). But Chuuk will be short by a few tenths of an inch at worst, and while Lukonor is drier than optimum with a total of 5.79 inches for the month through June 28, this follows three months of abundant rainfall (nearly 37 inches March-May), so no impacts related to a lack of rainfall are reported, and none appear possible in the immediate future. Other locations across central and northern Micronesia have received sufficient to surplus rainfall for the third consecutive month. Yap to date reports June rainfall of 9.95 inches, Woleai 11.26 inches, Nukuoro 11.96 inches, and Pohnpei over 18 inches, all of which follow 2 to 4 consecutive months with more than 10 inches of rain each.

In southern Micronesia, Kapingamarangi experienced its wettest week since May, with 1.16 inches of rain reported. Unfortunately, this remains below the amount needed to keep pace with demand (about 2 inches each week), and is the 8th successive week to miss this threshold. Only 1.70 inches of rain have fallen June 1-28, 2022, and just 1.19 inches fell during May. The combined 2.89 inches (through June 28) would be far below the optimal total of over 16 inches combined, and even farther behind the May-June average total of just above 2 feet. If 0.3 inch of rain or less falls, this would be the first time 2 consecutive months brought under 2 inches of rain since September-October 2020. Significant drought has periodically flared up for over 2 years now, though there have been a few multi-month periods with sufficient rainfall (March - July 2021 and December 2021 - February 2022). At this time, Kapingamarangi remains in severe drought (D2).

Rainfall has been sufficient to excessive over most of the Marshall Islands for several months, except for some locations in the east-central part of the country. Last week, over 1.5 inches of rain fell on Wotje, bringing the June total to nearly 9 inches. This will be only the first month of the last 7 for Wotje to exceed the approximately 8 inches needed to balance the moisture budget, it is the third consecutive month with rainfall totals larger than the prior month, and the 2-month May-June total (with 2 June days left) is less than one-half inch below the 16 inches which would approximately keep up with water demand. For these reasons, and for a lack of reported impacts, D0 is removed from Wotje for the time being. Farther south, however, June will likely be the second successive month with sub-optimal rainfall at Majuro, and there is growing concern about declining reservoir levels, though there remains enough water to meet demands for the time being. As a result, D0 has been introduced at Majuro this week. Across the western and southern tiers of the Marshall Islands, abundant rains fell March-May, and June will bring enough rainfall to keep up with demand, so dryness is not an immediate concern.

It was a wet week across American Samoa, with 2.51 inches of rain reported on Toa Ridge, 3.40 inches at Pago Pago, and 4.35 inches at Siufa Ridge. This brought June-to-date totals to 6.11 inches, 5.76 inches, and 7.21 inches, respectively. In each case, the total exceeds the amount needed to keep pace with demand, as has been the case for the prior 8 months as well. Dryness-related impacts are nonexistent and likely will be for the near future.

Looking Ahead

Through the evening of Monday, July 4, the National Weather Service Weather Prediction Center is forecasting dry weather across roughly the western two-thirds of Texas, much of Oklahoma, and most of the Intermountain West. Some precipitation is forecast across parts of Colorado and the Lower Missouri River Valley. Along the Gulf Coast, widespread precipitation is forecast to occur, with the heaviest amounts centered over parts of the Texas coast, where a tropical disturbance will approach. Heavy rainfall

is also possible in coastal portions of Georgia and South Carolina. Elsewhere, pockets of moderate to heavy precipitation may fall across parts of the Southeast, mainly in the southern Appalachians or closer to the coasts.

For the period from Wednesday, July 6 to Saturday, July 9, the National Weather Service Climate Prediction Center forecast favors above-normal precipitation across much of the Upper Midwest, northern Great Plains, and Ohio River Valley. To a lesser extent, above-normal precipitation is also favored in remaining areas of the U.S., except for northern New England, where equal chances for above- or below-normal precipitation exist. Below-normal precipitation is favored in much of Texas and Oklahoma, and across most of the West, with the highest probabilities for below-normal precipitation occurring across northeast Nevada, northern Utah, southern Idaho, and western Wyoming. The forecast slightly favors above-normal precipitation in Washington, and above-normal precipitation is favored in western and central Alaska, while below-normal precipitation is favored in the Alaska Panhandle. A large area of high probabilities for warmer than normal temperatures exists across the central U.S., especially from the Great Plains to the Missouri and Mississippi River valleys. Above-normal temperatures are also favored in parts of the West and Southeast. Within the contiguous U.S., the only locations where below-normal temperatures are favored for this period are central and northern California to western Oregon and Washington, and New England. In Alaska, cooler than normal temperatures are favored in the west, and above-normal temperatures are favored in the east.

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