

National Drought Summary for August 2, 2022

Summary

Weather and drought conditions varied widely in the contiguous U.S. this week. From the Desert Southwest and southern Colorado eastward into the Texas Panhandle, western Kansas, eastern Colorado, northern Oklahoma, and Arkansas, heavy rainfall fell in some areas, leading to localized improvements in ongoing drought. Drier conditions in the Northeast led to the expansion of moderate and severe drought in the New York City area and in parts of New England. Drier weather also led to expansion of drought conditions in parts of the central Great Plains and Upper Midwest. Similar conditions in Texas led to expansion of drought conditions there, while recent precipitation led to some improvements in southwest Texas. For more local details, please refer to the regional summaries below.

Northeast

Temperatures in the Northeast region this week were generally within 3 degrees of normal. The warmest temperatures compared to normal were generally in eastern and southern New England. Heavy rainfall occurred in West Virginia, while spotty rains occurred in other parts of the region, leaving most of the northern half of the region with below normal-rainfall for the week. Short-term moderate and severe drought continued to expand, especially in the New York City area, New Jersey, and New England, where rainfall was sparse and temperatures were a few degrees above normal. Water use restrictions and farming impacts were becoming common across these regions as dry conditions continued another week.

Southeast

Moderate to heavy rains fell over parts of southern Virginia and northern North Carolina this weekend, as well as parts of northern Georgia, the Florida Peninsula, and Alabama. Temperatures across the region were generally near normal or above normal, with the warmest readings of 3 to 5 degrees above normal occurring in the eastern Carolinas. Drought coverage remained fairly sparse across the region, and changes to conditions this week were a mixed bag, mostly dependent on where scattered rains hit and missed. Some areas reported deficits in soil moisture as a result of locally dry conditions, leading to plant stress.

South

The South region saw highly variable weather this week. This led to a wide range of changes to the ongoing drought areas across the region. Temperatures across most of Texas were above normal for the week, with many readings of 4-8 degrees above normal. Temperatures across the rest of the South were more moderate, generally within 4 degrees of normal on either side. Heavy rainfall occurred from the central and northern Texas Panhandle eastward through the northern half of Oklahoma, Arkansas, northern Mississippi, and portions of Tennessee. This led to improvements in the Texas Panhandle, northern Oklahoma, Arkansas, Tennessee, and Mississippi. Conditions also improved a bit in southwest Texas, where recent rainfall began to alleviate short- and long-term precipitation deficits. Meanwhile, short-term drying combined with above-normal temperatures to worsen drought conditions across some other parts of Texas and Oklahoma. Drought impacts across Texas ranged from crop failure to water supply problems, in one case from a well failure.

Midwest

Weather and drought conditions varied substantially in the Midwest region this week. Heavy rainfall in central Missouri and parts of southern Missouri, southern Illinois, southern Indiana, and Kentucky led to more flash flooding in the region, including a devastating flash flood in southeast Kentucky. More minor rainfall occurred across parts of northeast Minnesota. Otherwise, the region generally saw below-normal rainfall for the week. Notably, some areas of south-central Missouri missed out on heavy rains in nearby areas, worsening the flash drought situation and leading to localized expansions of extreme drought. Temperatures were near or up to 4 degrees below normal in most of the Midwest, with the exception of parts of south-central and southwest Missouri, which saw temperatures that were mostly a couple degrees warmer than normal. Drought conditions developed or worsened in a few parts of the Upper Midwest that missed out on heavier rains and saw precipitation deficits worsen. This included parts of southern and western Iowa, northern Wisconsin, the Michigan Lower Peninsula, and central Minnesota. In Wisconsin, the Fox River Cruise Company ran into problems docking due to low water levels.

High Plains

Moderate to heavy rains fell this week across portions of Colorado and western Kansas, related to an active North American Monsoon. Aside from other localized pockets of moderate to heavy rain, the High Plains region saw mostly dry weather this week. Temperatures from 2-4 degrees below normal were common across most of Kansas, southeast Colorado, central and eastern Nebraska, eastern South Dakota, and North Dakota this week. Near-normal temperatures mostly prevailed elsewhere, with parts of western Wyoming experiencing temperatures from 2-6 degrees above normal. The heavier rains in Colorado and western Kansas led to some improvements in ongoing

drought, with localized removal of drought occurring, as precipitation deficits lessened. Conditions worsened in parts of southwestern, central, eastern, and northern Nebraska, and in adjacent southern South Dakota, where deficits in soil moisture and precipitation worsened. In Columbus, Nebraska, the Platte River ran dry, indicative of the moderate and severe drought conditions ongoing in and near the eastern Nebraska town. Two reservoirs in eastern Colorado are expected to run dry soon due to drought and water demand from irrigation.

West

In the West region, moderate to heavy rain fell across parts of Arizona, New Mexico, Utah, Nevada, and far southeast California. In locations where long-term rainfall deficits, soil moisture, and groundwater improved substantially, ongoing drought conditions improved locally. A south-to-north temperature gradient set up this week, with temperatures in Arizona and southern Nevada coming in 3-6 degrees below normal in spots, while a heat wave developed in the Pacific Northwest, pushing temperatures more than 9 degrees above normal in parts of northern California, Oregon, and Washington. In southeast and east-central Oregon, the evaporative stress from the heat locally worsened drought conditions. A myriad of drought impacts continued in the West this week, including wildfires in northern Utah and a central California reservoir dropping to its lowest level in 5 years.

Caribbean

Aside from a few pockets in western and northern Puerto Rico, rainfall across the island was mostly below normal this week. Drought conditions remained the same, with short- and long-term moderate and severe drought occurring in parts of central and eastern Puerto Rico.

Patches of moisture embedded in the trade wind flow, and a tropical wave, alternated with a dry air mass over the U.S. Virgin Islands (USVI) during this USDM week (July 27-August 2). A Saharan dust layer made its way into the region late in the week, limiting the potential for rainfall activity. The shower activity resulting from the tropical wave and trade wind flow produced the greatest rainfall amounts in the south (St. Croix) with lesser amounts in the north (St. John and St. Thomas). Satellite observations of vegetative health (VHI) showed some improvement in recent weeks on St. Croix, and groundwater levels on the island fluctuated up and down during the last couple weeks. The VHI showed significant to severe impacts to vegetation continuing on St. John and St. Thomas, and groundwater levels continued their steady decline since February on these islands. The groundwater levels were at or near record low levels, based on the 2016-2022 record, at the gauges on all 3 islands.

Weekly rainfall totals on St. Croix ranged from 0.28 inch to 1.72 inches, with reports of half an inch or more common. Rohlsen AP received 1.26 inches for the week and 4.15 inches for the month of July, which was 157% of normal. Previous months were dry, with March 1-August 1, 2022 ranking as the 4th driest such period in 63 years of data. The year-to-date precipitation total was 89% of normal. But with improving vegetation (VHI) and Standardized Precipitation Index (SPI) values, and the decline in groundwater levels temporarily stopped, the status on St. Croix was improved to D2-SL.

On St. Thomas, weekly rainfall totals ranged from 0.11 inch to 0.80 inch, with the King AP recording a mere 0.13 inch. The July 2022 total at King AP was 1.99 inches, which is 68% of normal, and the year-to-date total was only 77% of normal. Recent months were dry, with May 1-August 1, 2022 ranking 3rd driest for the period in 58 years of data, and April 1-August 1 ranking 4th driest. The groundwater level set a new record low value (in the 2016-2022 record) on July 31. SPI values held steady or got slightly worse, so D2-SL continued for St. Thomas.

St. John was dry this week, with rainfall totals ranging from 0.17 inch to 0.28 inch. Three (3.02) inches of rain fell at the weather station at Windswept Beach during July, but the year-to-date total was only 72% of the long-term average. The VHI showed severely dry vegetation that was not improving in recent weeks and the groundwater level at the USGS Susannaberg DPW 3 Well was at the lowest level since November 2016. SPI values mostly held steady or got slightly worse, so D3-SL continued for St. John.

Pacific

Temperatures this week in Alaska were generally 5-10 degrees below normal in the far north, near normal along the southern coast, 2-6 degrees below normal in central Alaska, and variable in southeast Alaska. Heavy precipitation in central and southwest Alaska led to the removal of short-term abnormal dryness, while rainfall surpluses and deficits and shifts in fire danger led to a small southward shift in short-term moderate drought on the Yukon Flats.

Mounting precipitation deficits and deteriorating crops and pastures led to an expansion of extreme drought and an introduction of exceptional drought in the Central Valley of Maui. On the Big Island, extreme drought in the northwest expanded as a result of mounting precipitation deficits.

The Inter-Tropical Convergence Zone (ITCZ) and trade-wind troughs spread rain across the middle third of Micronesia during this USDM week (July 27-August 2). A tropical disturbance, trade-wind troughs, and a Tropical Upper-Tropospheric Trough (TUTT) alternated during the week to bring abundant rain to the Marianas and other portions of western Micronesia. High pressure and stable air dominated American Samoa for much of the week, but showers embedded in the easterly trade-wind flow were common at times.

Several inches of rain fell across the Marianas this week, with Guam reporting 4.25 inches, Rota 5.40 inches, and Saipan IAP 6.30 inches. In the Republic of Palau, over 6 inches was recorded at the Koror COOP station. Two inches or more of rain fell across a middle stretch of the Federated States of Micronesia (FSM) and the Marshall Islands, while southern portions had a dry (less than 2 inches) week. It was a dry week in American Samoa, where Pago Pago recorded only 0.65 inch and about an inch (0.98) fell at the automated stations at Siufaga Ridge and Toa Ridge. But the month of July was wet across most of the U.S.-Affiliated Pacific Islands, with most locations reporting more than the 4-inch or 8-inch monthly minimum needed to meet most water needs. Only Fananu reported less than the 8-inch minimum (4.46 inches was reported), and this may be due to some missing data. Other than Lukunor, Kapingamarangi, and Nukuoro, those stations that had less than the 1- or 2-inch weekly minimum this week were wet (above the weekly min) last week and previous weeks.

Lukunor and Nukuoro have been dry (less than the weekly min) for the last 2 weeks, but previous weeks were wet and the July totals were well above the monthly minimum, so D-Nothing (no drought or abnormal dryness) continued for these locations. D-Nothing continued for the rest of the analyzed locations except Utirik (which had no data and was plotted as missing) and Kapingamarangi.

Fananu reported 4.93 inches of rain in the last two weeks but only 4.46 inches for the month of July (which is below the 8-inch monthly minimum needed to meet most water needs). With 2.20 inches of that 4.93 inches falling on August 1-2, Fananu was analyzed as D-Nothing.

Kapingamarangi had 8.60 inches for July, which is above the 8-inch monthly minimum, but the last 2 weeks have been dry (below the 2-inch weekly minimum) (0.88 inch last week and 0.57 inch this week). July 2022 ranks as the 10th driest July in 33 years of data, but June-July ranks 4th driest; May-July, April-July, and March-July rank driest on record; and the rest of the time periods from February-July (last 6 months) to August-July (last 12 months) rank 2nd or 3rd driest. The July 22 Drought Information Statement from the National Weather Service noted impacts continuing: Public and private water tanks are not replenished but above 50%, and vegetation is still yellow. With the last 2 weeks dry, percentiles for all time scales from the last 2 to 6 months (S) and 7 to 12 months (L) dry, and impacts continuing, the status at Kapingamarangi was changed from D1-L to D1-SL.

Looking Ahead

From Thursday, August 4 to the evening of Monday, August 8, the National Weather Service Weather Prediction Center is forecasting moderate to heavy precipitation in parts of Arizona, western and northern New Mexico, high elevation areas of Colorado, northwest Wyoming, and localized areas of east-central California, central Nevada, and western and northern Utah. Widespread precipitation is also forecast in parts of the

Upper Midwest, Middle Mississippi River Valley, Ohio River Valley, and southern Appalachians. Some precipitation is also forecast in western parts of the Northeast region, and along the Louisiana Gulf Coast.

For August 9-13, the National Weather Service Climate Prediction Center's precipitation forecast favors above-normal precipitation near and west of the Continental Divide, especially in eastern Nevada and most of Utah. Farther east, below-normal precipitation is favored in the Central Great Plains and Upper Midwest. A narrow swath from southern Texas northeast to southern New England is slightly favored for above-normal precipitation. In Alaska, above-normal precipitation is favored in the east, while below-normal precipitation is favored in the southwest part of the state. Below-normal temperatures are strongly favored in most of Alaska, especially in west-central areas. Below-normal temperatures are slightly favored in most of Arizona, southern Nevada, and southeast California. Above-normal temperatures are favored across most of the Great Plains, Pacific Coast, and Northwest, especially from western Nebraska to the Dakotas and eastern Montana. Above-normal temperatures are also favored for most areas along the East Coast.

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