

National Drought Summary for August 31, 2021

Summary

This U.S. Drought Monitor (USDM) week saw widespread improvements across areas of the Midwest and eastern portions of the Central and Northern Plains states in response to beneficial rainfall. Rainfall accumulation in these areas ranged from 2 to 12+ inches leading to one-category improvements across areas of the Dakotas, Nebraska, Kansas, Iowa, Minnesota, and Wisconsin. In the South, Hurricane Ida made landfall along the Gulf Coast of Louisiana on Sunday as a Category 4 hurricane with maximum sustained winds of 150 mph. The hurricane caused extensive infrastructure damage including widespread power outages in Louisiana and Mississippi, impacting more than 1 million homes and businesses as well as stranding residents amongst the floodwaters. In the West, dry conditions persisted across most of the region with approximately 90% of the region currently categorized as “in drought”. In California, two major wildfires (Dixie and Caldor fires) continued to intensify and expand due to the dry and windy conditions. In El Dorado County, California, the Caldor Fire continued to rapidly spread this week leading to the evacuation of residents in communities on the southern end of the Lake Tahoe Basin—including the City of South Lake Tahoe. In addition to impacting fire conditions, the on-going drought in California continues to strain the state’s water resources. This is reflected in the reservoir levels of California’s two largest reservoirs, Lake Shasta and Lake Oroville, which are currently at 43% and 34% of historical averages, respectively. In the Southwest, Lake Powell is currently 31% full and Lake Mead is 35% full. The total Lower Colorado system is at 40% full, according to the U.S. Bureau of Reclamation, compared to 50% full at the same time last year.

Northeast

Only minor changes were made on this week’s map, including in Maine and New York. In northern Maine, areas of Moderate Drought (D1) expanded in response to a combination of factors including precipitation deficits over the past 30- to-90-day periods, low soil moisture, and below-normal streamflow activity. According to the USGS, streamflow activity on the East Branch of the Penobscot River was in the 8th percentile. In western New York, an area of Abnormally Dry (D0) was introduced in response to dryness during the past 30-day period. For the week, the region was dry with precipitation accumulations generally ranging from 1 to 2 inches with the highest totals observed in western Pennsylvania. Average temperatures for the week were 2 to 10+ deg F above normal. According to NOAA’s National Center for Environmental Information (NCEI), July 2021 was the 2nd wettest (+2.99-inch anomaly) on record (1895–2021) for the Northeast Climate Region.

Southeast

During the past week, light to moderate rainfall accumulations (generally <2 inches) were observed across much of the region. Some higher accumulations were observed along the Gulf Coast regions of Alabama and western portions of the Florida Panhandle where accumulations of up to 10+ inches were observed in association with Hurricane Ida. Average temperatures for the week were generally above normal (2 to 8 deg F), except for areas of Florida and southern Alabama where temperatures ranged from 1 to 6 deg F below normal. According to NOAA's NCEI, the last two-month period (June-July 2021), was the 12th wettest on record.

South

On Sunday, Hurricane Ida made landfall along the Louisiana coast as a Category 4 hurricane with maximum sustained wind of 150 mph. Hurricane Ida was the second most intense hurricane to impact the state of Louisiana, causing major widespread damage to infrastructure across the southeastern part of the state. Rainfall accumulations in the direct path of Ida ranged from 2 to 15+ inches with the heaviest accumulations observed along the coastal areas of southeastern Louisiana and Mississippi. On this week's map, drought-related conditions deteriorated in north-central as well as in the Oklahoma Panhandle where short-term dryness (past 30-day period) and reports of poor crop conditions led to the introduction of an area of Moderate Drought (D1). In the Texas Panhandle, precipitation deficits during the past 30- to 90-day period led to expansion of areas of Abnormally Dry (D0), while conditions improved to the south in the Big Bend region where precipitation has been above normal during the past month. According to NOAA NCEI, the May-July 2021 period was the 4th wettest on record in the South Climate Region and the 3rd and 5th wettest May-July period statewide for Texas and Louisiana, respectively.

Midwest

On this week's map, widespread one-category improvements were made across Iowa, Minnesota, and Wisconsin in response to beneficial rainfall accumulations observed during the past week with totals ranging from 2 to 12+ inches. The heaviest accumulations were observed across areas of northeast Iowa, where the 7-day average streamflow on the Cedar River at Janesville, Iowa was in the 99th percentile, according to the USGS. Elsewhere in the region, modest rainfall during the past week (1 to 2 inches) led to reductions in areas of Abnormally Dry (D0) in Illinois, Indiana, Kentucky, and Ohio. Average temperatures for the week were well above normal across most of the region (2 to 10+ deg F). According to the NOAA NCEI's climatological rankings, the Upper Midwest Climate Region observed its 13th driest May-July period on record. At a statewide level, Minnesota observed its 2nd driest July and May-July on record.

According to recent media reports, the dry conditions in northern Minnesota have been negatively impacting fish populations as well as wildlife and forest health.

High Plains

On this week's map, areas of the region—including eastern portions of the Dakotas, Nebraska, and Kansas—saw widespread improvements in drought-stricken areas experiencing Exceptional Drought (D4), Extreme Drought (D3), Severe Drought (D2), and Moderate Drought (D1). The improvements were made in response to heavy rainfall during the past week (ranging from 2 to 5 inches) and minor improvements to soil moisture levels in some areas. Conversely, western portions of the Dakotas have continued to experience rainfall and soil moisture deficits which have severely impacted crops as well as pasture and rangeland conditions. According to the latest (August 29) USDA North Dakota Crop Progress and Condition report, pasture and range conditions across the state were rated 61% very poor and 24% poor, while stock water supplies were rated 58% very short and 31% short. According to the most recent (August 29) USDA South Dakota Crop Progress and Condition report, pasture and range conditions across the state were rated 48% very poor and 36% poor, while corn condition was rated 16% very poor and 29% poor. In terms of NOAA NCEI's climatological rankings, North Dakota observed its 11th driest (-3.11-inch anomaly) May-July period as well as its 3rd driest (-7.40-inch anomaly) August-July period on record. Similarly, South Dakota had its driest (-3.17-inch anomaly) May-July on record as well as its 7th driest (-5.45-inch anomaly) August-July period on record.

West

Currently, ~90% of the West region (including Colorado and Wyoming) is categorized as "in drought" on the map with 54% in Extreme Drought (D3) or Exceptional Drought (D4). On this week's map, some improvements were made in New Mexico and Utah in response to the cumulative impact of this summer's active monsoon and its associated short-term improvements to vegetative health, soil moisture, and streamflow activity. Elsewhere, degradations were made on the map in the eastern plains of Montana, southeastern Wyoming, southern Idaho, and central Oregon. In Northern California, dry and windy conditions led to further expansion and intensification of the Dixie and Caldor fires during the past week. According to CalFire, the Dixie Fire is now the second largest wildfire in California history, while Caldor Fire is now the 15th largest. According to the National Interagency Coordination Center's Incident Management Situation Report (Sept 1), the Dixie Fire had burned 819,956 acres (49% contained) and the Caldor Fire totals 199,632 acres (18% contained). During the past week, the Caldor Fire spread rapidly eastward up the Highway 50 corridor and into the Lake Tahoe Basin, leading to evacuation of the largest town in the basin—South Lake Tahoe. Looking at reservoir conditions across the region, statewide reservoir storage levels (August 1)

were below normal across all the western states with the exception of Montana and Washington. In California, the state's two largest reservoirs, Lake Shasta and Lake Oroville, were at 43% and 34% of historical averages on August 31, respectively. In the Colorado River Basin, Lake Mead is currently 35% full and Lake Powell is at 31% full (August 31). On a positive note, this summer's monsoonal rains have led to some modest reservoir inflows in the Salt and Verde River system reservoirs in Arizona where the total reservoir system was at 71% full (85% full one year ago) as of August 31. For the week, rainfall activity (accumulations generally <2 inches) across the region was restricted to isolated areas of Arizona and New Mexico as well as central and eastern Montana. Average temperatures during the past week were slightly above normal (1 to 8 deg F degrees) across the southern half of the region, while cooler-than-normal temperatures were observed in northern portions ranging from 1 to 8 deg F below normal. According to NOAA NCEI, Arizona experienced its 2nd wettest July on record as well as its 3rd wettest May-July period on record.

Caribbean

In Puerto Rico, 7-day rainfall accumulations of 1 to 3 inches were observed along the Cordillera Central. However, a combination of short-term precipitation deficits (30-day period), below-normal soil moisture levels, and low streamflows led to expansion of areas of Abnormally Dry (D0) across portions of the island.

Little to no rain fell across the USVI this week. Although this was a dry week for St. Thomas, drought free conditions persisted since the monthly rainfall total was 99.5% of normal and year-to-date was 89.9% of normal. CoCoRaHS stations across St. Thomas also reported rainfall totals for the month ranging between 2-6 inches.

Although St. Croix had a relatively wet month, long-term moderate drought continued to be present across the island. The monthly total of 3.27 inches at the airport was 101.2% of normal; however, year-to-date was 71.8%. SPI values at the 6, 9, and 12-month periods were consistent with moderate to severe drought.

St. John continued to be long-term dryness this week. The monthly total was 82.3% of normal and year-to-date was 77.8% of normal. SPI values at the Windswept Beach station for the 9 month period were indicative of moderate drought, while the other monthly periods were indicative of drought free conditions.

Pacific

In Alaska, areas of Abnormally Dry (D0) were removed from the map in response to above-normal precipitation observed across the Interior region.

In the Hawaiian Islands, normal trade winds resumed following last week's passage of the remnants of former Tropical Cyclone Linda. During the past week, rainfall accumulations were light-to-moderate with the highest accumulations (2 to 3 inches) observed on the Big Island in the Puna and South Hilo districts as well as on the leeward side in South Kona. Elsewhere, generally dry conditions prevailed on Lanai, Maui, and Molokai, while Oahu and Kauai received rainfall accumulations of generally <2 inches. On this week's map, the only changes made across the island chain were in the northeast side of the West Maui Mountains where rainfall during the past 30-day period was normal.

The Republic of Palau had a wet week with a total of 2.60 inches of rain, surpassing the threshold of 2 inches to meet most water needs. With a monthly rainfall total exceeding 13 inches, drought free conditions persisted across Palau.

Drought is not a concern across the Marianas since the weekly rainfall totals were over two inches and the monthly totals were over 10 inches.

In the Federated States of Micronesia, Pohnpei, Kosrae, and Pingelap continued to be free of drought as they received over two inches of rain this week and had over 8 inches of rain for the month. Yap, Nukuoro, and Woleai had less than 2 inches of rain this week. However, since their monthly rainfall totals were over 8 inches, drought free conditions were unchanged for these locations.

Following a very wet week, Lukunoch had a little over 2 inches of rain this week. Since Lukunoch's August 2021 rainfall total was close to 9 inches, its drought classification was changed to drought free conditions. Ulithi had the least rainfall total this week, receiving 0.54 inch of rain. Even though it was a dry week for Ulithi, drought is not a concern since the monthly total was also over 8 inches.

Short-term dryness continued across Chuuk Lagoon and Kapingamarangi as they had a little less than 2 inches of rain this week and their monthly rainfall totals were less than 8 inches.

Much of the Republic of Marshalls had a dry week, with rainfall totals below 2 inches. Ailinglaplap had the least rainfall amount at 0.72 inch, which resulted in a monthly total of just 2.82 inches. This also marked the fourth consecutive month with precipitation totals below 8 inches. According to local reports, vegetation is green and healthy in Ailinglaplap; however, water rationing has begun since most of their water tanks are empty and only two water catchments are available. For this reason, moderate drought continues for Ailinglaplap. Following a week with no rain, Wotje had 1 inch during this drought monitoring period, resulting in a monthly rainfall total of 6.72 inches. Due to the recent lack of rain, Wotje's drought classification was changed to short-term dryness. Kwajalein and Jaluit had over 1 inch of rain this week, with Kwajalein and Jaluit continuing another week of short-term dryness. Mili and Majuro had over two inches of rain, securing another week of drought free conditions.

Rainfall totals varied across Tutuila. Pago Pago had 1.56 inches of rain and Toa Ridge close to 4 inches of rain. Siufaga Ridge had the most weekly rainfall with 8 inches of rain. Drought free conditions continued for Tutuila.

Looking Ahead

The NWS WPC 7-Day Quantitative Precipitation Forecast (QPF) calls for moderate-to-heavy liquid accumulations ranging from 2 to 4+ inches across areas of the Northern and Central Plains as well as along the western portion of the Midwest. In the Northeast, heavy rainfall accumulations (2 to 7 inches) are expected in an area extending from Pennsylvania to Maine, with the highest rainfall totals expected in eastern Pennsylvania and coastal areas of New England. In the Southeast and the South, light rainfall accumulations (generally <1 inch) are expected with the exception of central Gulf Coast of Florida where moderate-to-heavy accumulations (2 to 5 inches) are forecasted. In the West, monsoonal showers are expected across isolated areas of the Four Corners states with the heaviest accumulations expected in southern New Mexico, while the remainder of the West is forecasted to experience dry conditions. The CPC 6-10-day Outlooks calls for a moderate-to-high probability of above-normal temperatures across the western half of the conterminous United States as well as along coastal areas of the Eastern Seaboard. Elsewhere, there is a moderate probability of below-normal temperatures across the Midwest, Mid-Atlantic, and northern portions of the South. In terms of precipitation, there is a low-to-moderate probability of above-normal precipitation across portions of California, Nevada, Arizona, and Utah as well as across areas of the Upper Midwest and the Northeast. In contrast, below-normal precipitation is expected across the Pacific Northwest, and areas east of the Continental Divide extending across the Plains states to the Southeastern U.S.

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