

National Drought Summary for September 13, 2022

Summary

This U.S. Drought Monitor (USDM) week saw areas of isolated heavy rainfall in Southern California and the Desert Southwest in association with remnant moisture from Tropical Cyclone Kay late last week. Over the weekend and early this week, the residual moisture from the system moved further onshore impacting areas including Southern California, southern Sierra Nevada, Desert Southwest, and portions of the Great Basin. Overall, the heaviest accumulations were observed in very isolated higher-elevation areas of the Peninsular Ranges and Transverse Ranges of Southern California with accumulations ranging from 3 to 5-inches in addition to reports of wind gusts between 70-100 mph. Unfortunately, the overall impact of the precipitation on the long-term drought in California was negligible. In the High Plains, above-normal temperatures (2 to 6 deg F) and generally dry conditions during the past week continued to exacerbate drought conditions across areas of the central and northern Plains, with a growing number of drought impacts within the agricultural sector being reported to the National Drought Mitigation Center. In Texas, areas of isolated heavy rainfall accumulations (3 to 5+ inches) this week continued to ease drought-related conditions in the Rio Grande Valley and South Texas. In the Midwest, widespread heavy rainfall accumulations ranging from 2 to 6+ inches impacted northern Illinois and southern Wisconsin over the weekend—erasing some of the short-term precipitation deficits. Elsewhere in the region, a combination of short and longer-term precipitation deficits in Iowa led to degradation on the map, with rainfall deficits during the past 90-day period ranging from 4 to 8+ inches in southern Iowa. In the Northeast and Mid-Atlantic states, widespread shower activity this week helped to improve drought-related conditions in the southern portion of the Northeast region as well as alleviate short-term (past 30-60 days) precipitation deficits in areas of the Coastal Plain and Piedmont of North Carolina. In the Southeast, most of the region remained drought-free with exception of coastal areas of east-central and southern Florida, where rainfall deficits for the past 90-day period ranged from 4 to 12+ inches, causing some concerns regarding hydrologic drought (some low groundwater and surface water levels) with the end of the wet season approaching. Looking back at the 2022 summer months, the contiguous U.S. experienced its 3rd warmest June-August period on record since 1895 in terms of average temperatures (+2.52 deg F anomaly). Average minimum temperatures nationwide for August (+3.20 deg F) and the July-August (+3.12 deg F) periods were the warmest on record, according to NOAA National Centers for Environmental Information (NCEI). Precipitation in the contiguous U.S. during August and the July-August 2022 period ranked at 19th and 28th wettest, respectively, placing it in the top 1/3rd wettest.

Northeast

Some minor changes were made on the map in response to rainfall (1 to 3 inches) in the southern portion of the region this week as well as overall improving conditions over the past 90-day period. Recent rainfall has helped boost topsoil moisture levels according to the latest NASA SPoRT soil moisture percentile rankings, although some dry pockets remain in northern New Hampshire, Maine, and northeastern Massachusetts. In terms of streamflow activity, 7-day average levels across much of the region have returned to normal with the exception of areas of northern Vermont that are below normal, ranging from the 1st to the 23rd percentile according to the U.S. Geological Survey. On the map, some minor improvements were made in areas of Pennsylvania, New Jersey, New York, Connecticut, and Maine. For the week, average temperatures were 1 to 6 deg F above normal with the greatest departures observed in the northern portion of the region including Upstate New York, northern Vermont, and northern Maine. According to NOAA NCEI, average temperatures in the Northeast Climate Region were above normal during the summer months, with August 2022 coming in at the 4th warmest on record.

Southeast

During the past week, light-to-moderate rainfall accumulations (1 to 4 inches) were observed across the region with some areas of locally heavy accumulations logged in eastern North Carolina, coastal areas of South Carolina and Georgia, and across Florida. On the map, some improvements were made in northern Alabama, South Carolina, North Carolina, and Virginia. Overall, the Southeast region was essentially drought-free (1.15% in drought as of the 9/6/22 map) with a few pockets of Moderate Drought (D1) observed in South Carolina and Florida. For the week, average temperatures were above normal across much of the region with the greatest departures (2 to 4 deg F above normal) observed in the Coastal Plain and Piedmont regions of North Carolina and southeastern Virginia. However, average temperatures were below normal (1 to 4 deg F) across western Georgia and Alabama. According to NOAA NCEI, average temperatures in the Southeast Climate Region were above normal throughout the summer months with the June-August period being the 7th warmest on record. In terms of precipitation rankings, the July-August period fell into the top 1/3rd at 37th wettest on record.

South

In the South, improvements were made across isolated areas of Mississippi, Tennessee, and Texas. Degradations were made on the map in areas of Oklahoma, where rainfall deficits during the past 90-day period ranged from -3 to -7+ inches. According to the Oklahoma Mesonet, the last 90-days were the 7th driest statewide with a -4.79-inch departure from normal (50% of normal). During the past week, rainfall accumulations across the region were generally light (<1 inches), with some isolated

areas of Mississippi, southeastern Arkansas, Tennessee, and southern Texas receiving 2-inch accumulations. For the week, average temperatures were near normal across the region. According to NOAA NCEI, the South Climate Region experienced its 12th wettest August on record due to well-above-normal rainfall across areas of Texas, Louisiana, and Mississippi. For the June-August period, average temperatures for the South Climate Region ranked 5th warmest, with Texas ranking 2nd warmest for the contemporaneous period.

Midwest

For the week, light rainfall (1 to 2+ inches) accumulations were observed across much of the region with some heavy rainfall (3 to 6+ inches) amounts across southern Wisconsin and northern Illinois. On the map, some minor improvements were made in areas of Abnormally Dry (D0) in northern portions of Indiana and Illinois, while degradations occurred in Iowa and Minnesota. In Iowa, precipitation has been below normal during the past 90-day period, with anomalously dry topsoil conditions showing up on the latest NASA SPoRT soil moisture percentile rankings maps. Moreover, numerous rivers and creeks were showing below-normal flows across the state, according to the U.S. Geological Survey. According to reports from the Iowa State University Extension, the rainfall shortfalls in southern Iowa were likely to reduce yields for soybeans while corn test weights were lower. Average temperatures for the week were above normal (ranging from 1 to 4 deg F) across much of the region.

High Plains

On this week's map, degradations were made in areas of Kansas, Nebraska, South Dakota, and North Dakota in response to continued dryness, decreased soil moisture, poor pasture and rangeland conditions, and impacts to dryland crops. In Kansas and Nebraska, the latest 7-day streamflow levels were showing widespread well-below-normal flows, especially in Nebraska. In southern Nebraska, numerous gaging stations on rivers and creeks were observing flows in the 1st to 2nd percentile range, according to the U.S. Geological Survey. For the week, average temperatures were above normal in the Dakotas (1 to 4 deg F) while Nebraska, eastern Wyoming, and Kansas were near normal to slightly below normal. According to NOAA NCEI, the Great Plains Region saw its 5th warmest (+2.7 deg F) and 19th driest June-August on record. Statewide, Nebraska experienced its 3rd driest June-August as well as its 2nd driest August on record.

West

Out West, numerous large wildland fires are currently burning across areas of California, Oregon, and Idaho causing evacuations, damage to structures, and reduced air quality. On this week's map, some improvements were made in southeastern California, southern Nevada, and New Mexico in response to rainfall this week associated with residual moisture from Tropical Cyclone Kay as well as the overall impact of this summer's monsoonal rainfall that has helped improve short-term meteorological drought conditions and vegetation health. Elsewhere in the region, a combination of short and long-term dryness, low streamflow, and declining soil moisture led to intensification of drought in areas of Montana and Idaho. For the week, average temperatures were 2 to 10+ degrees above normal across California, the Great Basin, northern portions of Arizona and New Mexico, and portions of the Pacific Northwest. Conversely, cloud cover associated with the remnants of Kay reduced daytime heating in the southeastern deserts of California and southern portions of Arizona and New Mexico, where average temperatures were 2 to 6 degrees below normal. According to NOAA NCEI, the June-August 2022 period was the 3rd warmest on record for the West Climate Region, which includes California and Nevada. Additionally, in terms of average minimum temperatures, both August (+5.6 deg F) and the July-August (+4.8 deg F) periods were the warmest on record. Looking at precipitation, it was the 8th wettest August on record for the West Climate Region and the driest (-6.95 inches) January-August period on record. For the Southwest Climate Region, it was the 7th wettest June-August period on record and the 7th warmest for the contemporaneous period. In the Northwest Climate Region, August (+6.2 deg F) and the July-August (+5.3 deg F) period were the warmest on record.

Caribbean

In Puerto Rico, another round of improvements was made in response to moderate to heavy rainfall accumulations (ranging from 3 to 6+ inches) this week, leading to removal of an area of Severe Drought (D2) and reductions in areas of Moderate Drought (D1).

Rainfall reports from St. Thomas varied widely this week, with one observation site seeing as much as 2.45 inches. At Cyril E King Airport, 1.06 inches of rain fell, which improved long-term rainfall deficits. In response to recent rainfall, groundwater levels have also risen. Given these factors, conditions on St. Thomas have improved to long-term abnormal dryness, rather than moderate drought. On St. John, 1.36 inches of rain was observed at Windswept Beach this week. However, with significant long-term precipitation deficits remaining, and moderate deficits at the 6-month mark, severe short- and long-term drought remained this week. Henry Rohlsen Airport reported 1.59 inches of rain this week on St. Croix. However, significant rainfall deficits still exist in the long-term, so severe long-term drought remained this week.

Pacific

In the Hawaiian Islands, lighter-than-normal trade winds allowed afternoon sea breezes and upslope flow to generate rainfall in areas (leeward slopes) that are usually dry during normal trade wind patterns. The recent rains led to minor reductions of areas of drought across the island chain. Looking at 7-day average streamflow levels (compared to historical levels for the period), well below-normal flows were observed on the Wailuku River (5th percentile) at Piihonua, on the windward side of the Big Island, while numerous gaging stations were reporting below-normal flows in Maui.

In Alaska, no changes were made on the map this week.

Weather in American Samoa this week was relatively dry, with Toa Ridge recording 0.31 inches of rain, Siufaga Ridge recording 0.62 inches of rain, and Pago Pago recording 0.77 inches of rain. However, conditions have not become abnormally dry there.

Following 3 consecutive weeks with less than 2 inches of rainfall, at least 2.03 inches of rain fell this week in Palau, and conditions remained free of drought or abnormal dryness.

Drought-free conditions continued this week in the Mariana Islands, though the weather has been relatively dry compared to normal for this time of year in some locations. On Rota, 1.07 inches of rain fell this week, meeting the weekly quota of one inch. On Guam, 3.11 inches of rain fell this week. Rainfall on Saipan was variable, with measurements coming in as low as 0.02 inches and as high as 1.25 inches for the week.

Short- and long-term moderate drought continued this week on Kapingamarangi, where 0.74 inches of rain fell. Every week since July 19 there has been less than 2 inches of rain. Short-term abnormal dryness developed this week on Ulithi, where 0.49 inches of rain fell, marking the third consecutive week with less than an inch of rain reported. Reports from Ulithi stated that vegetation is browning and that most water catchments are a quarter to half full. Lukunor reported 1.08 inches of rain this week, and short-term abnormal dryness also developed there after several consecutive drier weeks. Pohnpei, Pingelap, and Kosrae all saw at least 3 inches of rain this week, and each remained free of drought or abnormal dryness. Yap reported 1.43 inches of rain, continuing a recent drier trend there. However, given that over 9 inches of rain fell in August, abnormal dryness has not developed. Woleai reported 2.65 inches of rain this week, so no abnormal dryness has developed there. Chuuk and Nukuoro also remained free of drought or abnormal dryness as over 5 inches of rain fell on both islands. No depiction was made this week for Fananu, due to missing data.

All of the Marshall Islands remained free of drought or abnormal dryness this week. On Kwajalein, 2.51 inches of rain fell, following two weeks with less than 2 inches of rain. Ailinglapalap reported 2.39 inches of rain this week, continuing a long streak of weeks with at least 2 inches of rainfall. On Jaluit, only 1.7 inches of rain fell, marking the fifth consecutive week with less than 2 inches of rainfall. While abnormal dryness has not

yet developed, conditions will continue to be monitored here. Wotje reported 1.79 inches of rain after a dry week last week. Majuro and Mili both had wet weeks, with 5.63 and 4.69 inches falling, respectively. No depiction was made for Utirik due to missing data.

Looking Ahead

The NWS WPC 7-Day Quantitative Precipitation Forecast (QPF) calls for moderate-to-heavy precipitation accumulations ranging from 2 to 4+ inches across areas of the Upper Midwest, with the heaviest amounts expected in Upper Peninsula Michigan and northeastern Minnesota. Likewise, 2 to 4+ inch accumulations are expected across areas of Florida. Elsewhere, lesser accumulations ranging from 1 to 2+ inches are forecasted for northern portions of New England as well as areas out West including the Northern Rockies, Wasatch Range, eastern Great Basin, and portions of the Southern and Central Rockies. The CPC 6-10-day Outlooks calls for a moderate-to-high probability of above-normal temperatures for all areas east of the Rockies, while much of the West is expected to be cooler than normal with exception of coastal areas of California. Precipitation is forecasted to be above normal across much of the West. Below-normal precipitation is expected across most of the Eastern Tier.

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