

National Drought Summary for October 22, 2024

Summary

Precipitation fell across much of the U.S. over the past week, while heavier amounts were observed over parts of the Pacific Northwest and Southwest. Portions of New Mexico, Utah, Colorado and Washington reported rainfall totals between 3 to 5 inches above normal, while precipitation totals were below normal across much of the eastern U.S. Warmer-than-normal temperatures were observed across much of the U.S. this week. Temperature departures ranging between 6 to 15 degrees F above normal were observed from the northern Rockies to northern portions of the Midwest. Cooler-than-normal temperatures were observed from eastern portions of Texas to the Mid-Atlantic, and in parts of the Great Bains and Southwest. The Southeast observed temperatures between 3 to 9 degrees F below normal this week.

Northeast

Precipitation fell across much of the Northeast this week, but amounts were mostly below normal. Below-normal precipitation, along with above-normal temperatures, resulted in the expansion of drought and abnormal dryness in the region this week. Moderate to severe drought were expanded in New Jersey, Pennsylvania, Maryland and Delaware, while moderate drought was expanded in parts of New England. For the week, average temperatures were near or above normal across most of the region with departures ranging from 1 to 6 degrees F above normal.

Southeast

Cooler temperatures dominated most of the Southeast this week, with departures ranging between 3 to 9 degrees F below normal, while most of the region received little to no precipitation during the week. Drought expansion and degradations were based on precipitation amounts, short-term SPI/SPEI, NDMC short-term blends, and improvements to streamflow and soil moisture data. Based on these short-term indicators, drought and abnormal dryness were expanded and/or intensified across portions of the region. Drought conditions were expanded in Alabama, while moderate drought was introduced in parts of coastal South Carolina. Coastal areas of Virginia, as well as northeast North Carolina and the Florida Panhandle saw expansion of abnormal dryness this week.

South

Dry conditions continued across much of the South this week, while precipitation fell just along the western borders of Texas, Oklahoma and Kansas. Temperatures were mixed across the region with the eastern areas experiencing below-normal temperatures, with departures of 1 to 9 degrees F below normal, and above-normal temperatures were observed across western portions of the South, with departures of 1 to 6 degrees F above normal. Moderate to severe drought were expanded across portions of Texas, Oklahoma, and northern Arkansas, while moderate to severe drought were expanded in Louisiana and Mississippi. The expansion and intensification of drought categories were based on short-term SPI/SPEI, reservoir levels, streamflow and soil moisture data.

Midwest

Temperatures varied across the Midwest with above-normal temperatures being observed in the northern portions of the region, while southern portions experienced below-normal temperatures this week. Precipitation fell over portions of the Midwest but rainfall totals were below normal for the region. Above-normal temperatures, along with below-normal precipitation, resulted in the expansion of drought and abnormal dryness across much of the region. Moderate to severe drought was expanded across much of Minnesota, Missouri and Illinois, and in parts of Wisconsin, Michigan, Iowa and Indiana. Abnormal dryness was expanded in southern Illinois, eastern Missouri, and western Kentucky this week. Conversely, heavier rain fell over parts of northeast Ohio, allowing for a small improvement to abnormal dryness in that area.

High Plains

Warm temperature dominated the High Plains this week with departures ranging up to 12 degrees F above normal, especially in the northern portions of the region. Precipitation fell across much of the region this week, but amounts were not large enough to prevent further degradations across much of the region. Extreme drought was introduced in northeast Nebraska, while extreme drought was expanded in western South Dakota, eastern Wyoming, and northwestern Nebraska. Severe and moderate drought were expanded in portions of Kansas, Nebraska, and the Dakotas, while severe drought was expanded in southern Wyoming. Abnormal dryness was expanded in parts of North Dakota. The heaviest rains fell across Colorado, reporting rainfall totals up to 600% of normal, resulting in improvements of moderate to severe drought and abnormal dryness in western and southern portions of the state this week.

West

Average temperatures were mostly above normal across the West this week, while much of the Great Basin, New Mexico and southern California experienced below-normal temperatures, with departures of 1 to 6 degrees F below normal. Conversely, Montana observed temperatures ranging between 3 to 12 degrees F above normal this week. Precipitation fell across much of the region but amounts were mostly normal to below-normal for the region. Heavier rainfall totals, up to 600% above normal, were observed over parts of northwest Washington, Utah and New Mexico. Daily maximum precipitation records were set in parts of Utah and New Mexico. Above-normal precipitation (up to 8 inches above normal), along with cooler temperatures, allowed drought and abnormal dryness improvements in New Mexico, while abnormal dryness was improved in Arizona, Utah, and Washington. Warmer-temperatures and below-normal precipitation resulted in expansion of moderate to extreme drought and abnormal dryness in eastern Montana based on SPI/SPEI data, as well as low soil moisture and streamflow values.

Caribbean

Conditions remained warm and dry across much of Puerto Rico this week. Abnormal dryness was added along the northwest and southwest coastlines of the island based on rainfall deficits, crop stress data, and depleting soil moisture values.

Over the last 2 months, drier-than-normal conditions have developed across the U.S. Virgin Islands, during what is typically the wettest time of year. However, months of wet weather preceding the dryness have muted impacts until recently. On St. John and St. Croix, precipitation deficits, vegetation stress, and groundwater shortages have not yet risen to the level of short-term abnormal dryness (D0-S). On St. Thomas, however, D0-S has been introduced due to the short-term Standardized Precipitation Index (SPI) values falling below -1, as well as depth to water at the U.S Geological Surveys Grade School 3 well topping 10 feet for the first time since April 20. Depth to water for that well has increased more than 8.6 feet since August 15. Additionally, farmers on St. Thomas are reporting recent increases in vegetation stress due to hot, windy weather, as well as soil cracks starting to form. In neighboring Puerto Rico, San Juan reported a maximum temperature of 90F or higher each day from September 9 October 22, which for that location is a record-breaking span of 44 consecutive days.

Pacific

There were no changes made in Alaska this week.

This week, conditions remained generally dry in Hawaii, especially over the east half of the state. Low rainfall and low streamflow levels resulted in a 1-category degradation over the Big Island, while moderate drought was expanded on Maui and abnormal

dryness was expanded on Molokai. Heavier rainfall amounts were observed in localized areas, resulting in small improvements on Kauai and Oahu this week.

An active pattern has been in place across Micronesia, leading to the formation of Tropical Storm Trami west of Guam, as well as a disturbance (formally known as Invest 98W) near Chuuk. In the Marianas, rainfall totals of 5 to 10 inches were commonly observed during the drought-monitoring period ending October 22. Rainfall totals of 3 to 6 inches were noted across the Republic of the Marshall Islands, with weekly amounts of 4.33 inches at Wotje and 3.85 inches at Jaluit resulting in the elimination of abnormal, short-term dryness (D0-S). Highly variable rainfall was observed across the Federated States of Micronesia, with D0-S persisting at Kapingamarangi and Pingelap. Meanwhile, D0-S was eradicated from Nukuoro, where weekly rainfall totaled 10.00 inches, and Lukunor. Wet weather extended into the Republic of Palau. In contrast, 3 weeks of mostly dry weather across American Samoa resulted in the introduction of abnormal, short-term dryness (D0-S), despite antecedent September wetness. American Samoa has also been dealing with hot weather, including a trio of daily-record highs (90, 91, and 90F) at Pago Pago International Airport from October 19-21.

Looking Ahead

During the next five days (October 22-26, 2024), The cold front crossing the Great Lakes and into the Northeast Wednesday into early Thursday will likely have just enough moisture and lift to produce some mainly light to moderate showers, while conditions should continue to remain dry and mostly sunny for areas farther to the south across the Mid-Atlantic and the Southeast U.S. Moisture is forecasted to return to the Pacific Northwest late this week into the weekend, with rain and high elevation northern Cascades snow could commence as early as late Thursday. Temperatures will feel more like September across areas from the central U.S. into the Northeast Tuesday into Wednesday, with highs running 10 to 20 degrees above average for late October and possibly even a little higher over parts of the Upper Midwest/northern Great Lakes on Tuesday. A cold front pushing rapidly eastward from the northern Plains will bring more seasonable conditions after midweek. From late week into the weekend, a building Western U.S. upper ridge that pushes eastward ahead of the Pacific storm system should promote a warming trend first over the Intermountain West and Rockies/western High Plains and then covering much of the central U.S. where many areas should see highs 10 to 20 degrees above normal. The West Coast states should be within a few degrees on either side of normal aside from a brief warmer period over parts of California around midweek.

The Climate Prediction Centers 6-10 day outlook (valid October 27-31, 2024) favors above-normal precipitation from parts of the Midwest to the West Coast, and across most of Alaska and Hawaii, with below-normal precipitation favored from the Tennessee Valley to the Northeast, as well as parts of the Southwest. Increased probabilities for above-normal temperatures are forecast for Hawaii and much of the contiguous U.S.,

while below-normal temperatures are likely across the state of Alaska and in the Pacific Northwest.

Author(s)

Brad Rippey, U.S. Department of Agriculture

Rocky Bilotta, NOAA/NCEI