

National Drought Summary for September 24, 2024

Summary

Following the previous drought-monitoring periods extensive rainfall associated with Hurricane Francine and Potential Tropical Cyclone Eight, drought-easing precipitation developed farther west, across portions of the central and southern Plains and the middle Mississippi Valley. Another area of significant precipitation fell across the northern High Plains and environs, including parts of Montana. However, large sections of the country remained dry, with worsening drought conditions. Some of the most notable increases in the coverage of dryness and drought occurred in the upper Midwest and the Northeast, as well as parts of the western Gulf Coast region and the interior Southeast. Nationally, nearly one-half (45%) of the rangeland and pastures were rated in very poor to poor condition on September 22, according to the U.S. Department of Agriculture, up from an early-summer minimum of 19%.

Northeast

The central Appalachians remained at the center of a drought that has devastated agricultural interests and has led to several communities in West Virginia including the Nicholas County town of Richwood running perilously low on drinking water. Despite a few showers moving into the Mountain State, some parts of West Virginia experienced further expansion of extreme to exceptional drought (D3 to D4). West Virginia also continued to lead the nation with topsoil moisture in farming areas rated 100% very short to short on September 22, according to the U.S. Department of Agriculture. Farther north and east, dryness has nearly depleted topsoil moisture, which was rated 91% very short to short in Maryland, along with 90% in Delaware, 84% in New Jersey, 78% in Massachusetts, and 70% in Maine. Due to short-term rainfall deficits, abnormal dryness (D0) and moderate (D1) drought conditions were broadly introduced or expanded in parts of the Northeast and along much of the northern Atlantic Coast. Ironically, heavy rain grazed coastal Massachusetts, accompanied by several higher-than-normal tide cycles. Although Boston received September 19-22 rainfall totaling just 0.97 inch, breaking a 29-day spell without measurable precipitation, parts of Cape Cod measured more than 6 inches.

Southeast

Some heavy showers developed in Virginia and portions of neighboring states, leading to some drought improvement. Farther south, however, worsening conditions were observed, especially in parts of South Carolina, northern Georgia, and northeastern Alabama. On September 22, statewide topsoil moisture was rated more than 40% very short to short in Alabama, Georgia, and South Carolina. Georgia led the region with

49% of its pastures rated in very poor to poor condition, followed by South Carolina at 42%.

South

The South remained an odd mix of drought improvement and deterioration. Tennessee and Texas were notable for seeing large drought changes in both directions, with Tennessee noting drought deterioration in central and eastern areas and improvement in the west. Similarly, Texas saw improvement in some northern and central areas, along with a large expansion of abnormal dryness (D0) in the east-central part of the state. Oklahoma led the region on September 22 with statewide topsoil moisture rated 57% very short to short, followed by Texas and Tennessee both at 49%. Meanwhile, at least one-half of the rangeland and pastures were rated in very poor to poor condition in Tennessee (53%) and Texas (50%). Texas also led the U.S. with 48% of its cotton rated in very poor to poor condition on that date, well above the national value of 33%.

Midwest

Heavy rain moved into the southern reaches of the Midwest late in the drought-monitoring period, delivering significant relief from short-term dryness and drought, especially in much of Missouri and southern Illinois. A separate area of heavy rain fell in southern Wisconsin and environs. In contrast, dryness (D0) and moderate drought (D1) generally expanded in the upper Midwest, primarily in Minnesota. Farther east, serious drought conditions persisted in large sections of Ohio and Kentucky, extending into neighboring states. Ohio led the region with topsoil moisture rated 95% very short to short on September 22, followed by Indiana (79%) and Kentucky (77%). Ohio also led the region on that date with 93% of its pastures rated very poor to poor.

High Plains

Aside from Kansas, where rainfall provided widespread drought relief, most of the High Plains experienced unchanged or worsening drought conditions. On September 22, topsoil moisture rated very short to short ranged from 29% in North Dakota to 84% in Wyoming, with values also above 50% in Colorado, Kansas, and Nebraska. Wyoming led the region on that date with 68% of its rangeland and pastures rated very poor to poor, followed by South Dakota at 44%.

West

There were only minor changes in the Western drought depiction, aside from improvement due to heavy precipitation in parts of Montana. Dry conditions remained a concern in many areas, with statewide topsoil moisture rated very short to short on September 22 as high as 84% in Montana and 74% in Oregon. Northwestern rangeland and pastures remained largely in terrible shape, following a hot, dry summer, and by September 22 were rated more than 60% very poor to poor in Montana, Oregon, Washington, and Wyoming. Dry conditions also favored winter wheat seeding, with Washington leading the nation on September 22 with 54% of its intended acreage planted.

Caribbean

Puerto Rico remained free of dryness and drought, with neither having been observed in the commonwealth since April 30, 2024. However, recent reports from parts of southern Puerto Rico have indicated some short-term rainfall deficits, a trend that will be closely monitored.

The U.S. Virgin Islands remained free of drought or abnormal dryness this week. On St. John, Rafe Boulon/Windswept Beach reported 0.09 inch of rain this week. The depth to water level at Susannaberg DPW 3 well (St. John, USVI) on September 24 was 5.83 ft below land surface. The analysis showed a significant increase in water level (about 14.5 ft) over the past year when the water level was at 20.40 ft below land surface on September 25, 2023. This weeks SPI values, at most timescales (3-, 6-, 9- & 12-month), also confirms wet conditions persist on the St. John, while the 1-month SPI value indicated slightly drier conditions. A total of 0.10 inch of rainfall was reported on St. Croix (Henry Rohlsen AP) this week. The depth to water level at Adventure 28 Well (St. Croix, USVI) on September 24 was 20.72 ft below land surface. The analysis showed a significant increase in water level (over 14 ft) over the past year, where it was 35.09 ft below land surface on September 25, 2023. This weeks SPI values, at all timescales, also confirms wet conditions on the island. On St. Thomas, Cyril E. King Airport reported a rainfall total of 0.23 inch this week. The depth to water level at Grade School 3 well (St. Thomas, USVI) on September 24 was 6.79 ft below land surface. This is down about 5 ft from the 1.67 value on August 15, but about 7 ft above the water level value from last year (13.56 ft on September 25, 2023).

Pacific

There were no changes to the Alaskan depiction, which consists of a small area of abnormal dryness (D0) in the southeastern part of the state.

Most of Hawaii experienced drier-than-normal weather, aside from a few heavier showers in windward locations. Despite the mostly dry conditions, there were no

changes to the Hawaiian drought depiction, which includes some moderate to severe drought (D1 to D2) in Kauai, Honolulu, and Maui Counties.

Dry conditions continued over American Samoa this week. Pago Pago reported 1.47 inches of rainfall, while Toa Ridge and Siufaga Ridge reported 0.90 and 1.47 inches of rain, respectively, this week. American Samoa remained free of drought or abnormal dryness for the week.

Palau remained free of drought or abnormal dryness this week, with a reported rainfall total of 1.32 inches at the Koror COOP site.

Conditions were wet over the Mariana Islands and remained free of drought and abnormal dryness this week. Guam International Airport reported 2.02 inches of rainfall this week while Rota received 1.84 inches and Saipan reported 2.40 inches this week.

Conditions were mostly dry across the Federated States of Micronesia this week. Chuuk, Yap, Kapingamarangi, Ulithi, Kosrae, Lukunoch, Pingelap, Woleai and Nukuoro observed rainfall totals of 1.38, 1.28, 1.25, 1.25, 0.91, 0.89, 0.25, 0.21 and 0.14 inches, respectively. Rainfall totals at these locations were below the minimum threshold of 2 inches but remained free of drought and abnormal dryness this week due to previously wet weeks. Conversely, wet conditions continued over Pohnpei this week with a reported rainfall total of 3.11 inches, bringing the month-to-date total to 10.38 inches. Short-term abnormal dryness was removed from Pohnpei this week. A depiction was not made for Fananu this week due to insufficient data.

Drier conditions were observed across most of the Republic of the Marshall Islands this week. The rainfall observed on Majuro (2.99 inches) was the only location that met the 2-inch requirement needed to meet most water needs this week. The rain measured at Kwajalein (1.36 inches), Ailinglapalap (1.08 inches), and Wotje (0.44 inch) were below the 2-inch threshold, but remained free of the drought and abnormal dryness this week. Jaluit reported a rainfall total of 0.80 inch this week, remaining in short-term abnormal dryness. No depictions were made for Mili and Utirik due to missing data.

Looking Ahead

Hurricane Helene is forecast to strike Floridas Big Bend late Thursday, with an intensity and pre-landfall path similar to that observed with Category 3 Hurricane Idalia, on August 30, 2023. Less than 2 months ago, Category 1 Hurricane Debby also moved ashore in the same general area of Florida. With Helene, a potentially catastrophic storm surge may occur along and to the east of where the eye crosses the Gulf Coast, with notable surge-related impacts also expected along the west coast of Floridas peninsula. In addition, a significant inland push of hurricane-force winds (74 mph or greater) is expected across north-central Florida and southwestern Georgia, with likely impacts on timber and crops such as cotton and pecans. Damaging winds could reach

higher elevations of the southern Appalachians. After punching inland, Helene should veer northwestward and decelerate due to interaction with a disturbance over the lower Mississippi Valley, heightening the risk of Southeastern flooding. Storm-total rainfall could broadly reach 6 to 12 inches, with locally higher amounts. During the next 5 days, much of the remainder of the country will experience warm, dry weather, ideal for summer crop maturation and harvesting, as well as winter wheat planting. However, lack of soil moisture for the establishment of winter grains and cover crops will remain a concern in drought-affected areas.

The NWS 6- to 10-day outlook for October 15 calls for near- or above-normal temperatures nationwide, with the Southwest having the greatest likelihood of experiencing warm weather. Meanwhile, near- or below-normal precipitation across much of the country should contrast with wetter-than-normal weather in a few areas, including western Washington, peninsular Florida, and much of the Northeast.

Author(s)

Brad Rippey, U.S. Department of Agriculture

Rocky Bilotta, NOAA/NCEI