

National Drought Summary for September 17, 2024

Summary

On September 11, Francine became the third and strongest hurricane of the season to strike the U.S. Gulf Coast, following Beryl (in Texas) in early July and Debby (in Florida) in early August. Francine briefly achieved sustained winds near 100 mph while making landfall around 5 pm CDT in Louisiana's Terrebonne Parish. Hurricane-force wind gusts (74 mph or higher) spread as far inland as New Orleans, where a gust to 78 mph was clocked at Louis Armstrong International Airport. Meanwhile in the Mississippi Delta, antecedent dryness minimized flooding, although rainfall topped 4 inches in many locations and localized wind gusts briefly topped 50 mph. As the former hurricane drifted farther inland, days of locally heavy showers led to pockets of flash flooding, extending as far east as Alabama and the Florida Panhandle. Less than a week later, on September 16, Potential Tropical Storm Eight moved ashore in northeastern South Carolina and delivered flooding rainfall (locally a foot or more) across southeastern North Carolina. By the morning of September 17, the end of this drought-monitoring period, much of North Carolina and portions of neighboring states had received significant rain. The remainder of the country largely experienced dry weather, leaving widespread soil moisture shortages across the Plains and Midwest's classic late-summer and early-autumn flash drought. In the western U.S., a cooling trend was accompanied some rain and high-elevation snow, heaviest across the northern Rockies and environs. As the long-running Western heat wave subsided, late-season warmth replaced previously cool conditions across the Plains, Midwest, and Northeast. Nationally, nearly one-half (46%) of the rangeland and pastures were rated in very poor to poor condition on September 15, according to the U.S. Department of Agriculture, up from an early-summer minimum of 19%.

Northeast

West Virginia remained historically dry, nearly a month after the state's first observance of exceptional drought (D4) in the 25-year history of the U.S. Drought Monitor. On September 15, West Virginia led the nation with 98% of its pastures rated very poor to poor, along with topsoil and subsoil moisture rated 100% very short to short, according to the U.S. Department of Agriculture. While West Virginia's drought has lasted for months, short-term dryness has begun to affect parts of New England, leading to development or expansion of abnormal dryness (D0) from eastern Massachusetts into Maine. Measurable rain last fell in Boston on August 20.

Southeast

Tropical rainfall from Hurricane Francine and Potential Tropical Cyclone Eight delivered widespread, heavy rain across much of Alabama and North Carolina, respectively. Francines downpours spilled into southwestern Georgia and western Florida. One to locally two-category drought reductions were noted where extreme rainfall occurred, especially in parts of Alabama, as drought turned to flash flooding. However, worsening drought conditions were noted in several areas, including portions of South Carolina, northern Georgia, and western Virginia. On September 15, Virginia led the region with topsoil moisture rated 64% very short to short, followed by South Carolina at 55%.

South

Hurricane Francine delivered heavy rain across much of Mississippi, as well as parts of Arkansas, Louisiana, and Tennessee. On September 11, daily-record totals included 7.33 inches in New Orleans, Louisiana, and 4.14 inches in Gulfport, Mississippi. For New Orleans, it was the second-wettest September day on record, behind only 7.52 inches on September 25, 2002. On September 12, Apalachicola, Florida, received a daily-record sum of 6.29 inches, helping to boost the 3-day (September 11-13) total to 12.77 inches. Elsewhere on the 12th, daily-record totals reached 4.22 inches in Memphis, Tennessee; 3.95 inches in Jonesboro, Arkansas; and 3.05 inches in Tupelo, Mississippi. By September 13, rain loosely associated with the remnants of Francine spread as far east as Georgia, where Columbus collected a daily-record total of 3.22 inches. In Alabama, daily-record amounts for September 14 totaled 4.72 inches in Muscle Shoals and 3.63 inches in Birmingham. A separate area of heavy rain, prior to Francines arrival, soaked a small geographic area in southeastern Oklahoma, northeastern Texas, and southwestern Arkansas. However, areas outside the range of these downpours largely experienced worsening drought conditions. On September 15, Oklahoma led the region with topsoil moisture rated 61% very short to short, followed by Texas at 54%. Meanwhile, Texas led the region with rangeland and pastures rated 48% very poor to poor, followed by Oklahoma at 35%. On that date, Texas led the country with 36% of its cotton rated very poor to poor, well above the national value of 26%. Several patches of extreme drought (D3) continued to affect key agricultural regions of both Oklahoma and Texas. In Texas northern panhandle, record-setting highs for September 13 included 102F in Borger and 101F in Amarillo. For Amarillo, it was the latest triple-digit reading on record, supplanting 101F on September 11, 1910. Both Borger (101F) and Amarillo (100F) logged triple-digit, daily-record highs again on September 14. Meanwhile, Texas led the region with rangeland and pastures rated 48% very poor to poor, followed by Oklahoma at 35%. On that date, Texas led the country with 36% of its cotton rated very poor to poor, well above the national value of 26%. Several patches of extreme drought (D3) continued to affect key agricultural regions of both Oklahoma and Texas. In Texas northern panhandle, record-setting highs for September 13 included 102F in Borger and 101F in Amarillo. For Amarillo, it was the latest triple-digit reading on record, supplanting 101F on September 11, 1910. Both Borger (101F) and Amarillo (100F) logged triple-digit, daily-record highs again on September 14.

Midwest

The Midwest experienced rather uniform drought deterioration, with up to one category changes observed. Although the warm, dry weather favored corn and soybean maturation, depleted soil moisture reserves remained a significant concern for pastures, immature crops, and recently planted winter grains. On September 15, Midwestern topsoil moisture rated very short to short ranged from 25% in Minnesota to 92% in Ohio. Not surprisingly, given the expansion of extreme to exceptional drought (D3 to D4), Ohio also led the region with pastures rated 75% very poor to poor. On the same date, more than one-quarter of the pastures were rated very poor to poor in Illinois, Indiana, Kentucky, and Michigan. In Ohio, significant drought stress extended to row crops, with a U.S.-high 28% of the soybeans rated very poor to poor. In the hardest-hit drought areas, other complications included abysmal streamflow and surface water shortages. Low-water concerns extended into the lower Mississippi Valley, largely due to lack of runoff in recent weeks from the Ohio Valley.

High Plains

Warm, mostly dry weather led to general expansion of abnormal dryness (D0) and various drought categories. Across the six-state region, topsoil moisture rated very short to short on September 15 ranged from 30% in North Dakota to 80% in Wyoming. In fact, values were above 50% in all states, except North Dakota. Some of the worst conditions extreme drought (D3) existed across northeastern Wyoming and southeastern Montana, an area still recovering from last month's Remington and House Draw Fires, which collectively burned across more than 370,000 acres of vegetation, including rangeland. Wyoming led the region on September 15 with 70% of its rangeland and pastures rated very poor to poor, followed by Nebraska at 45% and South Dakota at 42%.

West

Despite widespread precipitation in the northern Rockies and environs, only slight drought improvement was introduced, as concerns related to poor vegetation health and water-supply shortages were ongoing. In one piece of good news, however, a summer-long Western heat wave effectively ended. On September 17, the maximum temperature of 93F in Phoenix, Arizona, halted a record-setting, 113-day streak (May 27 to September 16) with afternoon readings of 100F or greater. Given the turn toward cooler weather and the gradual increase in cool-season precipitation, the wildfire threat has diminished in some areas. In southern California, however, the Airport, Bridge, and Line Fires collectively burned more than 115,000 acres of vegetation earlier this month. On

September 15, topsoil moisture in agricultural regions ranged from 54 to 80% very short to short in eight of eleven Western States all but California, Arizona, and Utah. Similarly, rangeland and pastures were rated 40 to 70% very poor to poor in eight Western States all but California, Utah, and Colorado.

Caribbean

Puerto Rico remained amid a wet spell, with neither dryness nor drought being observed anywhere in the commonwealth since April 30, 2024.

The U.S. Virgin Islands remained free of drought or abnormal dryness this week. On St. John, Rafe Boulon/Windswept Beach reported 0.94 inch of rain this week. The depth to water level at Susannaberg DPW 3 well (St. John, USVI) on September 17 was 5.06 ft below land surface. The analysis showed a significant increase in water level (about 15 ft) over the past year when the water level was at 20.29 ft below land surface on September 18, 2023. This week's 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 1.41 inches 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 17 was 20.97 ft below land surface. The analysis showed a significant increase in water level (over 13 ft) over the past year, where it was 34.63 ft below land surface on September 18, 2023. This week's SPI values at all timescales also confirms wet conditions on the island. On St. Thomas, Cyril E. King Airport reported a rainfall total of 2.70 inches this week. The depth to water level at Grade School 3 well (St. Thomas, USVI) on September 17 was 5.78 ft below land surface. This is down about 4 ft from the 1.67 value on August 15, but about 8 ft above the water level value from last year (13.68 ft on September 18, 2023).

Pacific

Much of the Alaskan mainland remained rather wet, allowing for the removal of the last remaining area of abnormal dryness (D0). In southeastern Alaska, seasonal precipitation and a lack of significant impacts led to the removal of moderate drought (D1), although D0 lingered.

In Hawaii, warm, mostly dry weather resulted in some targeted drought expansion in Maui County, while coverage of abnormal dryness (D0) increased across the northwestern part of the Big Island.

Conditions were dry over American Samoa this week. Pago Pago only received 0.08 inch of rainfall this week, while Toa Ridge and Siufaga Ridge reported 0.10 and 0.24

inch of rain, respectively. American Samoa remained free of drought or abnormal dryness for the week due to previous wet weeks and months.

Palau remained free of drought or abnormal dryness this week, with a reported rainfall total of 6.90 inches at the Koror COOP site.

Tropical Storm Bebinca brought heavy rainfall to the Mariana Islands this week. Guam International Airport reported over 15 inches of rainfall this week, while 6.01 inches fell on September 11, breaking the previous daily rainfall record of 2.03 inches set in 1961. Rota reported 9.27 inches of rainfall this week, while Saipan received 6.62 inches. The Marianas remained free of drought and abnormal dryness this week.

Conditions were mostly wet across the Federated States of Micronesia this week. Wet conditions in Ulithi, Nukuoro, Yap, Chuuk, Woleai and Pingelap observed rainfall totals of 15.81, 7.59, 6.55, 4.74, 4.42 and 2.51 inches, respectively. Rainfall totals at these locations were above the minimum threshold of 2 inches and remained free of drought and abnormal dryness this week. Wet conditions were also observed over Lukunoch (4.72 inches) and Kapingamarangi (2.47 inches) this week, resulting in the removal of short-term abnormal dryness from these islands. Pohnpei reported 4.12 inches of rain this week but short-term abnormal dryness remained on the island due to precipitation deficits from previous dry weeks and months. Drier conditions were observed on Kosrae, reporting 0.72 inch of rainfall this week. Kosrae remained free of drought and abnormal dryness due to previous weeks and months being wet. A depiction was not made for Fananu due to insufficient data.

Heavy rain fell across most of the Republic of the Marshall Islands this week. The rain measured at Ailinglapalap (3.54 inches), Majuro (3.41 inches), Wotje (2.52 inches), Jaluit (2.35 inches) and Kwajalein (2.27 inches) were above the 2-inch requirement needed to meet most water needs. Most of these locations remained free of the drought and abnormal dryness this week, while Jaluit remained in short-term abnormal dryness this week due to previous weeks and months being dry. No depictions were made for Mili and Utirik due to missing data.

Looking Ahead

During the next 5 days, active weather across the nations mid-section could lead to significant precipitation in from the central sections of the Rockies and Plains into the upper Midwest. While rain could slow agricultural fieldwork, including harvest activities, rangeland, pastures, and recently planted winter wheat will benefit from a boost in topsoil moisture. In contrast, generally dry weather will prevail across the remainder of the country, excluding the Atlantic Coast States. However, the western Caribbean Sea will need to be monitored for tropical cyclone development, with possible future implications for the eastern U.S.

The NWS 6- to 10-day outlook for September 24-28 calls for of near- or above-normal temperatures nationwide, with the West, North, and southern Texas having the greatest likelihood of experiencing warmer-than-normal weather. Meanwhile, near- or below-normal precipitation across the western and north-central U.S., as well as northern New England, should contrast with wetter-than-normal conditions from the central and southern Plains to the Atlantic Coast, extending as far north as the Ohio Valley and southern New England.

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