

National Drought Summary for September 21, 2021

Summary

For much of the drought-monitoring period, the remnants of Hurricane Nicholas continued to produce heavy showers across the South. Toward the end of the period, residual tropical moisture was drawn northward in advance of a strong cold front, further enhancing rainfall in several areas. At the Tuesday morning (September 21) cutoff, rain was falling in several areas—including parts of the Midwest—that have been experiencing dryness or drought. Meanwhile, the Northwest also received some precipitation, including high-elevation snow, providing limited drought relief. In many sections of the country, however, dry weather favored summer crop maturation and harvesting, but reduced topsoil moisture for newly planted winter grains. Some of the most significant short-term dryness, aggravated by late-season heat, existed across the southern Plains. Mostly dry weather also prevailed across the nation's southwestern quadrant, including central and southern California. Near- or above-normal temperatures covered much of the country, except briefly in the wake of the previously mentioned cold front.

Northeast

Rain again provided relief in lingering areas of dryness (D0) and moderate to severe drought (D1 to D2). In Maine, month-to-date rainfall through September 21 totaled 5.07 inches in Bangor, 4.39 inches in Millinocket, and 3.75 inches in Caribou. A small patch of D1 on Cape Cod reflected ongoing concerns regarding low groundwater levels and poor water quality.

Southeast

Heavy rain in southern South Carolina and coastal Georgia eradicated abnormal dryness (D0). Savannah, Georgia, was inundated with 6.66 inches of rain on the 20th—the wettest September day in that location since September 4, 1979. Several areas in the Carolinas were in a holding pattern—with significant coverage of D0 but with rain arriving as the drought-monitoring period ended. According to the U.S. Department of Agriculture, North Carolina led the region on September 19 with topsoil moisture rated very short to short (55%) and pastures rated very poor to poor (26%).

South

The region remained a contrast between wetness in areas affected by the remnants of Hurricane Nicholas (and previous tropical systems) and rapidly developing dryness (D0) and moderate to extreme drought (D1 to D3) in Arkansas, Oklahoma, and Texas. According to the U.S. Department of Agriculture, topsoil moisture rated very short to short increased at least 10 percentage points during the week ending September 19 to reach 72% in Oklahoma and 69% in Texas. Broad deterioration of up to one category was observed across the driest areas. One of the driest spots was Tulsa, Oklahoma, where August rainfall totaled 0.78 inch (23% of normal) and September 1-21 precipitation stood at one-tenth of an inch (4% of normal). Tulsa also reported high temperatures of 90°F or greater on each of the last 26 days of August and first 20 days of September, but the 46-day streak finally ended with a high of 80°F on September 21. By September 19, USDA reported that winter wheat was 20% planted in Texas and 15% planted in Oklahoma; that crop will soon need rain to ensure germination and proper establishment.

Midwest

Hefty rains fell across some of the region's hardest-hit drought areas in Minnesota and environs, resulting in improvements of up to one category in the drought depiction. For example, northern Minnesota's area of exceptional drought (D4) was eliminated by well-placed rainfall. On September 20, International Falls, Minnesota, received more than 2 inches of rain in a calendar day for the first time since July 17, 2019. According to the U.S. Department of Agriculture, Minnesota's topsoil moisture rated very short to short has dramatically improved in recent weeks, from 84 to 35% between August 15 and September 19. Upper Midwestern rain arrived too late to benefit drought-affected summer crops; on September 19, roughly one-quarter of Minnesota's primary row crops—26% of the corn and 25% of the soybeans—were rated in very poor to poor condition, with harvest underway. Farther south, however, not all areas received rain through the end of the drought-monitoring period. As a result, dryness and drought intensified in some locations, including parts of Missouri, northern Illinois, southern Wisconsin, and the lower Great Lakes region. On September 19, USDA noted that topsoil moisture was at least one-half very short to short in Indiana and Ohio.

High Plains

Heavy rain clipped some eastern sections of the region, but many areas were dry, or nearly so, during the drought-monitoring period. A surge of heat in advance of a cold front, peaking on September 18, resulted in unusually high temperatures, followed by cooler conditions. On the 18th, there was a flurry of daily-record highs, including 98°F in Chadron, Nebraska; and 96°F in Dickinson, North Dakota. Still, drought conditions in many parts of the High Plains have modestly improved in recent weeks. Due to that beneficial rain, exceptional drought (D4) was removed from central North Dakota. A few

other areas also noted drought improvements of up to one category, as moisture has generally increased for newly planted winter wheat—and some pastureland has begun to respond. Even with the rain, the U.S. Department of Agriculture reported that on September 19, topsoil moisture across the region ranged from 41% very short to short in Nebraska to 88% in Wyoming. Some rangeland and pastures continue to reel from drought that appears to have peaked earlier in the year; on September 19, the Dakotas led the region in very poor to poor ratings—83% in North Dakota and 80% in South Dakota. Wyoming’s rangeland and pastures were rated 71% very poor to poor.

West

Any meaningful precipitation was confined to the northern Rockies and the Pacific Northwest, resulting in modest improvement in the drought depiction for those areas. As colder air arrived on September 19, precipitation changed to snow in Yellowstone National Park and other high-elevation sites in the northern Rockies and Northwest. In Oregon, record-setting rainfall totals for September 18 reached 1.31 inches in Portland and 1.13 inches in Salem. With a 0.42-inch sum, Spokane, Washington, also collected a record-setting total for September 18. Portland’s 3-day (September 17-19) rainfall reached 2.52 inches. However, Washington’s topsoil moisture, as reported by the U.S. Department of Agriculture, improved only from 100 to 90% very short to short during the week ending September 19. The precipitation had little impact east of the northern Rockies; Montana led the nation on the 19th with topsoil moisture rated 95% very short to short. Meanwhile, producers along and northwest of a line from California to Wyoming continued to deal with abysmal rangeland and pasture conditions, which (as reported by USDA) ranged from 55% very poor to poor in Idaho to 91% in Montana and Washington. Farther south, the 2021 North American monsoon has withdrawn from the Southwest, roughly on schedule, following a summer of beneficial rainfall that provided relief from short-term drought but left significant, underlying long-term drought issues such as groundwater depletion and low reservoir levels. Areas that received substantial monsoon-related rainfall are designated on the map with an “L” label, indicating that long-term drought persists. Elsewhere, several wildfires continued to actively burn, especially in parts of California. The latest “hot spot” for wildfire activity was the southern Sierra Nevada, where the Windy Fire and the KNP Complex were the most significant incidents. The KNP Complex, a 28,000-acre, lightning-sparked fire, was burning in California’s Sequoia National Park. The Windy Fire, which has charred more than 31,000 acres of vegetation and was also igniting by lightning, was burning in several jurisdictions, including the Tule River Indian Reservation and the Sequoia National Forest.

Pacific

For the fourth consecutive week, Alaska reported neither dryness nor drought, as plenty of precipitation has accompanied the transition from summer to autumn.

In Hawaii, there was no change in the depiction, with more than one-third of the island chain experiencing drought for the thirteenth consecutive week. A few areas in the Hawaiian Islands received heavy showers in recent days; on the Big Island, for example, Hilo reported 3.71 inches during the 7-day period from September 15-21. However, many of the driest spots collected little, if any, rain, maintaining poor vegetation health.

Drought was not a concern across Palau since close to 7 inches of rain fell this week, resulting in a monthly rainfall total of 14.80 inches. The weekly and monthly rainfall totals surpassed the 2 and 8 inches threshold, respectively, to meet most water needs.

Across the Marianas, Rota and Saipan had over 1 inch of rain this week, while Guam had only 0.74 inch. Drought free conditions persisted across the Marianas since they had close to or over 1 inch of rain for the week to meet most water needs.

Drought free conditions persisted across many of the locations across the FSM since they either had over 2 inches of rain or their monthly rainfall total was close to or above the threshold of 8 inches to meet most water needs. Moderate drought continued in Kapingamarangi with a little over 1 inch of rain for the week, which resulted in only 2.82 inches for the month.

Across the Marshall Islands, Ailinglaplap, Mili, and Wotje had a wet week with rainfall totals above 2 inches. Mili continued to be drought free since it had close to 5 inches of rain this week and over 15 inches of rain for the month so far. Although Ailinglaplap had two consecutive weeks with rainfall totals above 3 inches of rain, moderate drought was unchanged due to lingering drought impacts as a consequence of several months with rainfall totals less than 3 inches. This week was Wotje's first wet week in September. Since no drought impacts have been reported and the rainfall total for the week was over 2 inches, drought free persisted across Wotje. Abnormally dry conditions continued across Kwajalein since they had 0.59 inch of rain this week. Although Majuro and Jaluit had a tenth of an inch of rain or less, they continued to be drought free this week.

American Samoa had over 1 inch of rain across the region, securing drought free conditions this week.

Caribbean

In Puerto Rico, the depiction of abnormal dryness (D0) and moderate (D1) was unchanged, although some areas noted an increase in shower activity associated with the southern periphery of Tropical Storm Peter. San Juan, Puerto Rico, received rainfall totaling 1.75 inches from September 19-21.

Drought free conditions persisted across St. Thomas, which had 1.62 inches of rain at the Cyril E. King airport this week and over 2 inches across the different CoCoRaHs stations. The month-to-date rainfall total of 3.18 inches is 78.7% of normal at the airport and between 3 to 5 inches across the CoCoRaHs stations. Year-to-date rainfall total at the airport was 88.1% of normal. SPI values at the 3, 6, 9, and 12 months were indicative of drought free conditions, while the SPI at the 1-month period was -0.56, which is indicative of abnormally dry conditions.

Windswept Beach in St. John had 3.18 inches of rain this week, resulting in a month-to-date rainfall total of 4.09 inches or 98% of normal. Year-to-date rainfall total was 80.7% of normal. SPI values were indicative of drought free conditions at the 1,3, and 6 month period, while SPI values at the 9 and 12 month period were indicative of abnormally dry conditions. For this reason, St. John's drought classification was changed to long-term abnormally dry.

St. Croix had the least rain with 0.57 inch of rain at the Henry Rohlsen airport. Overall, the month-to-date rainfall total was only 0.74 inch, which is 21.8% of normal. Year-to-date rainfall was 64.1% of normal. SPI value at the 1-month period (-1.39) was indicative of severe drought, while the SPI values at the 3, 6, 9, and 12 months were indicative of abnormally dry to moderate drought. For this week moderate drought conditions were unchanged. However, if dry conditions persist next week, drought deterioration might be considered.

Looking Ahead

On September 22, a slow-moving cold front will press toward the Atlantic Seaboard, delivering some additional heavy rain. Rain will also linger through Thursday in the lower Great Lakes region. Although cool, dry air will overspread much of the East by Friday, rain will continue into the weekend across New England and southern Florida. However, most of the remainder of the country will experience dry weather during the next 5 days. In fact, any precipitation west of the Mississippi Valley should be limited to showers in the Desert Southwest and Pacific Northwest. From the Pacific Coast to the Plains, summer-like warmth will accompany the mostly dry conditions. The NWS 6- to 10-day outlook for September 28 – October 2 calls for the likelihood of near- or above-normal temperatures nationwide, except for cooler-than-normal conditions in the Pacific Coast States and the western Great Basin. Meanwhile, below-normal rainfall in most areas from the Mississippi Valley to the East Coast should contrast with wetter-than-normal weather in other areas, including northern California, the Northwest, the Intermountain West, and the central and southern High Plains.

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