

National Drought Summary for May 23, 2023

Summary

Showery weather across the southern half of the Plains provided additional drought relief, following the previous week's major storm. Still, much of the rain arrived too late to rescue winter wheat, although rangeland, pastures, and summer crops greatly benefited from the soil moisture improvements. Variable rainfall extended westward into the central and southern Rockies and eastward to the southern Atlantic Coast, maintaining generally favorable growing conditions for pastures and summer crops. Eventually, rain shifted northward along the northern Atlantic Coast, easing dry conditions. Meanwhile, light showers dotted the Northwest, while little or no rain fell across the remainder of the country, including the north-central U.S. and the Far West. A week-long hot spell elevated temperatures in the Pacific Northwest, although temperatures began to fall late in the drought-monitoring period. A separate area of heat, accompanied by high humidity, affected much of the Deep South. Elsewhere, near- or slightly below-normal temperatures prevailed across the central and southern Plains, while cooler-than-normal weather covered much of the Northeast and environs.

Northeast

A brief shot of rain provided some relief from short-term dryness. As heavy rain spread northward along the Atlantic Coast, daily-record rainfall totals for May 20 totaled at least 2 to 3 inches or more in Providence, Rhode Island (3.02 inches), and Bridgeport, Connecticut (2.34 inches). As a result, there were modest reductions in the coverage of abnormal dryness (D0), mainly from Long Island to Maine. As rain arrived, topsoil moisture rated very short to short by the U.S. Department of Agriculture peaked in Maine at 65%.

Southeast

Locally heavy showers drenched parts of Alabama and the southern Atlantic States, leading to general reductions in the coverage of abnormal dryness (D0) and moderate to extreme drought (D1 to D3). Some of the heaviest rain fell in Florida, leading to significant improvement in soil moisture and a reduction of the wildfire threat. According to the U.S. Department of Agriculture, statewide topsoil moisture in Florida was rated 33% very short to short on May 21, down from 49% the previous week. Rainfall was lighter, however, in a few areas, including some of Florida's driest areas along the Gulf Coast. Naples, Florida, continued to await its first rain of the month, with the year-to-date total (through May 23) standing at 1.99 inches, just 22% of normal.

South

Significant drought improvement occurred in some of the hardest-hit areas of Oklahoma and Texas, as rain benefited rangeland, pastures, and summer crops. In Texas, rangeland and pastures rated in very poor to poor condition by the U.S. Department of Agriculture improved from 51 to 36% during the week ending May 21. On the same date, topsoil moisture was rated less than one-third very short to short in Texas (29%) and Oklahoma (28%). Still, even with abundant showers and thunderstorms, pockets of extreme to exceptional drought (D3 to D4) persisted in western and central Texas and across the northwestern half of Oklahoma. Farther east, most areas remained free of dryness and drought, aside from a few areas in the central Gulf Coast region.

Midwest

Short-term Midwestern dryness has begun to intensify, especially along an axis from the lower Missouri Valley into the lower Great Lakes region. This led to the introduction or expansion of several areas of abnormal dryness (D0). In addition, moderate to severe drought (D1 to D2) was added or expanded in a few spots across Illinois, Iowa, and Missouri. The dry weather continued to support a rapid pace of agricultural fieldwork, including corn and soybean planting. Within a few weeks, however, those crops will need moisture for proper emergence and growth. On May 21, the U.S. Department of Agriculture rated topsoil moisture more than one-third very short to short in Michigan (40%) and Missouri (38%).

High Plains

Following the previous week's substantial drought relief, mostly dry weather returned across the High Plains. However, locally heavy showers continued in parts of eastern Colorado and southern and western Kansas, leading to some additional reductions in the coverage of moderate to exceptional drought (D1 to D4). By May 21, Nebraska led the U.S. with rangeland and pastures rated 55% very poor to poor, according to the U.S. Department of Agriculture. On the same date, Nebraska led the High Plains with topsoil moisture rated 58% very short to short, followed by Kansas at 52% and South Dakota at 36%. Much of the recent rainfall has bypassed eastern sections of South Dakota and Nebraska, with some increase in drought coverage noted in the latter state.

West

Some further improvements were introduced across roughly the southern two-thirds of the West, a combination of precipitation—especially in the central and southern Rockies—and further analysis and assessment of snow that fell during the impressively wet winter of 2022-23. In fact, recent warmth has caused some rapid melting of high-elevation snowpack, leading to some flooding. In south-central Idaho, for example, the Big Wood River at Hailey recently rose more than 2 feet above flood stage to reach its highest level since May 2017. The northern tier of the western U.S. received less winter precipitation, and in combination with the recent early-season heat wave, has experienced the return of patchy dryness (D0). During the week ending May 21, topsoil moisture rated very short to short by the U.S. Department of Agriculture increased from 32 to 47% in Oregon and 23 to 40% in Washington.

Caribbean

In Puerto Rico, pounding rains provided significant drought relief, with abnormal dryness (D0) and moderate drought (D1) eliminated from southern areas. Several volunteer (CoCoRaHS) observers in south-central Puerto Rico reported more than 6 inches of rain during the 7-day drought-monitoring period ending the morning of May 23. Improvement was also noted in other areas, although some D0 and D1 lingered in northwestern Puerto Rico.

Most of the U.S. Virgin Islands have remained drier-than-normal this week. The satellite data (i.e., National Weather Service's seven-day quantitative precipitation estimates) and station observations show that the rainfall amount received over most parts of the islands was less than an inch. The one- and three-month Standardized Precipitation Index (SPI) maps shown that conditions are still dry at St. Thomas, St. John and St. Croix this week.

Specifically, St. John (Rafe Boulon/Windswept Beach) reported 0.53 inch of rain this week. The depth to water level at Susannaberg DPW 3 well (St. John, USVI) on May 23 was 16.62 ft below land surface. The analysis showed a significant decrease in water level (about 9 ft) since November 25, when it was 7.54 ft below land surface. St. John remained in short-term moderate drought (D1-S) this week.

St. Croix (Henry Rohlsen AP) reported 0.10 inch of rain this week. The depth to water level at Adventure 28 Well (St. Croix, USVI) on May 23 was 31.22 ft below land surface. The analysis showed a significant decrease in water level (more than 6 ft) since November 25, when it was 25.04 ft below land surface. This week's 1-month and 3-month SPI also confirms dry conditions persist on the island, so St. Croix remained in short- and long-term extreme drought (D3-SL) this week.

St. Thomas (Cyril E. King Airport) received 0.81 inch of rain this week. There was also an increase in depth to water level at St. Thomas over the past week. The depth to water level at Grade School 3 well (St. Thomas, USVI) on March 23 was 10.21 ft below

land surface. Although conditions were slightly improved on the island, St. Thomas remained in short-term severe drought (D2-S) this week due to previous deficits.

Pacific

Neither dryness nor drought was observed in Alaska, despite a recent warming trend. Fairbanks topped 60°F for the first time this year on May 10, followed by highs of 70°F on May 16 and 80°F, a record for the date, on May 19. In southeastern Alaska, Sitka achieved a daily-record high of 82°F on May 18. Juneau collected consecutive daily-record highs (73 and 76°F, respectively) on May 17-18.

On the Big Island of Hawaii, there were slight changes in the depiction, with moderate drought (D1) being removed along the north shore due to improved rainfall and increased streamflow. However, abnormal dryness (D0) was slightly expanded near the northern tip of the Big Island. The other Hawaiian Islands remain free of dryness and drought.

American Samoa remained free of drought this week. Weekly rainfall amounts of 3.12 inches at Siufaga Ridge, 1.97 inches at Toa Ridge and 5.7 inches at Pago Pago.

Drought is not currently a concern in Palau, as rainfall totaled 3.76 inches at Koror COOP and 5.31 inches at Palau IAP (Airai).

Conditions have been dry for much of the week but recent storms brought heavy precipitation to parts of the Marianas. Guam reported 2.57 inches this week, with 2.52 inches falling on May 23 setting a new daily record, while Rota reported a total of 1.14 inches of rain for the week. While the Saipan locations received less than an inch of rainfall. On Saipan, rainfall amounts observed at Saipan (IAP, manual gauge), Saipan (ASOS) and Saipan (NPS) were 0.16, 0.81 and 0.00 inches, respectively. Guam and Saipan remained in abnormal dryness (D0-S) while Rota remained drought free this week.

Wet weather continued at Kapingamarangi, Kosrae, Chuuk, Fananu, Nukuoro, Lukunoch and Pohnpei this week, where rain totaled 6.92, 5.87, 4.46, 3.51, 2.90, 2.83 and 2.62 inches, respectively. Pingelap reported below-normal rainfall of 0.48 inch of rain this week but remained free of abnormal dryness due to wetter preceding conditions. Wet conditions returned to Ulithi receiving 3.11 inches of precipitation this week but the island remains in short-term abnormally dry conditions due to previous dry weeks. On Yap, conditions continued to deteriorate this week resulting in six consecutive weeks of below normal precipitation (i.e. 0.75", 0.31", 1.49", 1.19", 1.28" and 1.73"). Yap was moved to abnormally dry conditions this week. No depiction was made for Woleai due to missing data this week.

Dry conditions were observed across much of the Marshall Islands this week. Mili, Wotje and Jaluit received the most rainfall with 3.34 inches, 0.78 inch and 0.77 inch this week, respectively. Ailinglaplap and Kwajalein received little no precipitation this week but remained drought free due to above-normal precipitation from previous weeks. No depiction was made for Utirik due to missing data.

Looking Ahead

A slow-moving Southeastern disturbance interacting with a plume of Atlantic tropical moisture could lead to heavy rain in the southern and middle Atlantic States, especially in coastal areas, through the Memorial Day weekend. Five-day rainfall totals could reach 2 to 4 inches or more from Florida to the Carolinas. Meanwhile, a cold front draped across the northern High Plains and the northern Intermountain West will remain the focus for widespread rain, which could total at least 1 to 2 inches in Montana and portions of neighboring states. A separate area of rain—in the form of daily thunderstorms—will affect the central and southern High Plains, resulting in additional drought relief. In contrast, dry weather will prevail during the next 5 days in much of the Southwest, Midwest, and Mississippi Valley. The NWS 6- to 10-day outlook for May 30 – June 3 calls for the likelihood of near- or above-normal temperatures and precipitation across most of the country. Cooler-than-normal conditions should be confined to an area stretching from southern California to the southern High Plains, while drier-than-normal weather should be limited to western Washington and an area stretching from the Great Lakes region to New England.

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