

National Drought Summary for May 17, 2022

Summary

In the upper levels of the atmosphere, a strong ridge of high pressure dominated the contiguous U.S. (CONUS), from the southern Plains to Northeast, at the beginning of this U.S. Drought Monitor (USDM) week, while an upper-level trough dominated the West. The trough moved east as the week progressed, dragging a surface low pressure system and cold fronts across the northern Plains to Great Lakes, while another upper-level low moved over the Southeast and weakened. Weekly temperatures averaged much warmer than normal beneath the ridge and cooler than normal in the West beneath the trough. The fronts, lows, and upper-level troughs brought above-normal precipitation to parts of the Pacific Northwest, northern Plains to western Great Lakes, and spotty areas in the South, New England, and along the Atlantic Coast. The week was drier than normal across the rest of the CONUS. The continued lack of precipitation further dried soils, lowered stream levels, and stressed crops and other vegetation, while the excessively warm temperatures increased evapotranspiration and added to the stress. Drought or abnormal dryness contracted where precipitation was above normal, especially in the Northwest, northern Plains, and Mid-Atlantic. Drought or abnormal dryness expanded or intensified where it continued dry, especially in the Southwest, southern to central Plains, Southeast, and parts of the Northeast.

Northeast

Half an inch or more of precipitation fell across a large part of the Northeast, with locally 2 inches in parts of northern New York, in Vermont and New Hampshire, and in the Delmarva. But coastal New England and parts of western New York received less than half an inch. Abnormal dryness contracted in the Delmarva but was added in western New York and expanded along the New England coast based on low streamflows, drying soils, and low precipitation for the last 3 months.

Southeast

An upper-level low moved in a retrograde motion from the Atlantic Ocean onto the southeast U.S. this week. It spread showers into the region, with 2 inches or more of rain observed along parts of the Virginia and North Carolina coast and in Florida. But the weather system weakened as it moved inland, with rain becoming spotty and less intense. Some areas received half of an inch or more, but most areas received little to no rain, especially northern portions of Georgia and Alabama. The dryness of the last 1 to 2 months has dried soils and was reflected in the Lawn and Garden Moisture Index, which revealed widespread and intense dryness across the region, from Alabama to western North Carolina. On the USDM map, abnormal dryness expanded across

northern Alabama to western North Carolina, and pockets of moderate to severe drought expanded in coastal parts of the Carolinas and Georgia. The heavier rains along the coast contracted abnormal dryness and moderate drought in parts of Virginia and North Carolina, and severe drought contracted in southern Florida. According to May 15 statistics from the U.S. Department of Agriculture (USDA), 62% of the topsoil moisture in Georgia and South Carolina was short or very short (dry or very dry), 42% was short or very short in Florida, and 39% so rated in Alabama.

South

All of the states in the South region had areas of rain with amounts of half an inch or more, but large areas also received no rain. Temperatures were persistently hot throughout the week, increasing evapotranspiration, further drying soils, and stressing crops and vegetation. On May 15, Abilene, Texas recorded 8 days in May with 100-degree-F temperatures. This set a new record for the highest number of days in May with 100 degree temperatures. The previous highest number of days for Abilene was 7 days, set in 2000 and in 1927. Recent dryness is compounding long-term dryness, especially in western parts of the region. By some measures, Culberson County in Texas had the driest September-April on record and second driest December-April, and that is not counting the dryness so far in May. Corpus Christi, Texas recorded the third driest February-May to date out of 136 years of record. According to USDA statistics, 86% of the topsoil moisture in Texas was short or very short, and 53% was short or very short in Oklahoma and Louisiana; 74% of the pasture and rangeland was in poor or very poor condition in Texas; and 81% of the winter wheat in Texas and 52% in Oklahoma was in poor or very poor condition. Drought or abnormal dryness contracted in the few areas in Texas and Oklahoma where more than an inch of rain fell on Dx areas. But abnormal dryness and moderate to exceptional drought expanded in many more areas of Texas. Abnormal dryness and moderate to extreme drought expanded in southwest Louisiana, and abnormal dryness grew in Tennessee.

Midwest

A large swath of Minnesota received 2 or more inches of rain, with locally up to 5 inches, and 2 inches or more fell over northern parts of Wisconsin and Michigan. Up to half of an inch fell over parts of the other states in the region, but much of Iowa and parts of southern Wisconsin and Illinois received little rain. The rain removed the abnormal dryness that was in northeast Minnesota. Parts of the Ohio Valley have been dry for the last 1 to 2 months, but on-the-ground conditions do not support the introduction of D0 at this time; streamflows, soil moisture, surface water supplies, and vegetation are in good condition, and the dry weather is providing optimal conditions for agricultural interests to work the fields.

High Plains

Northern and eastern parts of the High Plains were wet this week while western and southern parts were dry. Two inches to locally over 4 inches of precipitation fell over parts of North Dakota and eastern Montana, and half an inch or more was widespread over the Dakotas, northern Wyoming, and eastern parts of Nebraska and Kansas. But most of Colorado received no precipitation this week and very little occurred over southern Wyoming and western parts of Nebraska and Kansas. Moderate to exceptional drought expanded in Colorado, extreme to exceptional drought expanded in Kansas, extreme drought expanded in Nebraska, and abnormal dryness expanded in western Montana. To the north, abnormal dryness and moderate to severe drought contracted in North Dakota, eastern Montana, and northern Wyoming. Severe to extreme drought expanded in Meade County, South Dakota, to reflect impacts and moisture conditions that included low or no surface water, very short pasture and range conditions, and general poor vegetation. The widespread D3 degradations through southeast Colorado and into the San Luis Valley were a result of very dry and windy conditions over the last few months. According to USDA statistics, in Colorado, 52% of the pasture and rangeland and 45% of the winter wheat were in poor to very poor condition, and 41% of winter wheat in Kansas was in poor or very poor condition, with the statistics 77% for pasture and rangeland in Montana, 49% for pasture and rangeland in Wyoming, 44% for pasture and rangeland in South Dakota, and 41% for pasture and rangeland in Nebraska. The USDA statistics show 60% of Colorado's topsoil short or very short of moisture, 73% for Montana, 58% for Wyoming, 51% for Kansas, and 37% for Nebraska.

West

Pacific weather systems brought 2 or more inches of precipitation to the coastal ranges and windward portions of the Cascades in Oregon and Washington, with half an inch or more from northeast Oregon to northern Idaho and in eastern Montana. Less than half an inch fell in other parts of the Pacific Northwest and northern Rockies. Little to no precipitation occurred across the southern states in the West region, from California to New Mexico. Weekly temperatures averaged cooler than normal except in the Four Corners states. The hot temperatures in New Mexico continued to increase evapotranspiration and dry soils. The Calf Canyon/Hermits Peak fire exceeded 298,000 acres burned, becoming the largest wildfire in modern New Mexico history. Moderate to exceptional drought expanded in New Mexico; extreme drought expanded in Utah; moderate to extreme drought expanded in Arizona; and exceptional drought from Nevada crept southward into northwest Arizona. Further north, extreme drought was removed from Washington, while abnormal dryness and moderate to exceptional drought contracted in Oregon. The precipitation of recent months in the Pacific Northwest has helped refill some reservoirs, especially the smaller ones. But larger

ones remain depleted, including Oregon's Crescent Lake reservoir, which is 12% full, Prineville (32%), Phillips (13%), Warm Springs (18%), Owyhee (46%), Howard Prairie (16%), Emigrant (26%), and Hyatt (20%). According to USDA statistics, 89% of the topsoil moisture was short or very short in New Mexico, 47% in Utah, and 40% in Nevada, and 51% of the pasture and rangeland was in poor or very poor condition in New Mexico.

Caribbean

Low streamflow, low soil moisture, and dry conditions for the last 1-3 months, plus an increase in grass fires, prompted expansion of abnormal dryness and moderate drought in Puerto Rico.

The U.S. Virgin Islands remained on the dry side for another week. St. Croix only received 0.18 inches of rain this week, and groundwater levels continued to recede in the past few weeks, resulting in extreme short- and long-term drought. On St. Thomas, only 0.04 inches of rain was reported at Cyril E. King Airport, and groundwater continued to recede this week. Long-term abnormal dryness continued as long-term precipitation deficits continued. Moderate short- and long-term drought prevailed this week. St. John was similarly dry this week. Only 0.19 inches of rain at Windswept Beach was observed this week, and groundwater levels continued to slowly drop in the past few weeks. This resulted in moderate short- and long-term drought conditions over the island.

Pacific

Abnormal dryness continued in southwest Alaska. The last 1 to 2 months have been drier than normal across the southern Alaska coast, but snowpack was mostly near to above normal, so no change was made to the USDM status in Alaska.

Trade wind conditions and stable conditions aloft were responsible for the dry week in Hawaii. The dry week gave residents on the windward side of the islands a reprieve from recent wet weather. Abnormal dryness was expanded eastward to cover the southeast quadrant of Kauai as far as Lihue. On the windward side of the Big Island, moderate drought was pulled back a bit to reflect improving pasture conditions.

American Samoa was on the wet side compared to last week and remained free of dryness, leaving the islands in good standing. Pago Pago received 6.27 inches, Siufaga Ridge reported 7.98 inches, and Toa Ridge received 5.41 inches.

Rainfall for the Republic of Palau was normal, with Palau IAP receiving 3.26 inches and Koror COOP reporting 4.93 inches for the week. The area remained free of dryness.

The Mariana Islands were on the dry side for the past three weeks. Decent rains have been confined to a small part of western Guam due to gentler trades triggering some island-effect showers. Grasses are drying up again but no impacts have been reported. Despite the March and April wet conditions, drier conditions prevailed at Saipan in the past three weeks, with precipitation ranging from 0.14 to 0.4 inches. This week, Saipan received 0.26 inches of rain (with 1 day missing), while the ASOS and NPS reported only 0.31 and 0.26 inches, respectively. Dry conditions for the last few weeks have continued on Guam, where only 0.19 inches of rain was reported (with two days missing). This deterioration resulted an abnormally dry condition on Guam and Saipan. Drier conditions also occurred on Rota this week, with 0.47 inches of rain being reported (with two days missing). However, abnormally conditions have not yet developed on Rota.

The Federated States of Micronesia remained free of drought and abnormal dryness this week at most locations for which depictions were made. However, drier conditions (less than 2 inches) were observed on Kapingamarangi in the past 5 out of 6 weeks, with no rainfall reported last week and this week (with 2 days missing). Thus, abnormal dryness has developed on Kapingamarangi. On Pingelap, less than 2 inches of rain was reported in the past two weeks (only 0.88" rain was observed last week with no missing days and 1.7 inches this week with 2 days missing). However, abnormal dryness has not yet developed on Pingelap. On Yap, wet recent weather continued as 3.3 inches of rain fell this week (with 3 days missing). In Ulithi, despite the drier conditions observed in the past two weeks, 2.48" of rain was reported this week (with 3 days msg). About 4.42 inches of rain was reported on Woleai this week (with 3 days missing). No depiction was made for Fananu, as data from there are missing. At Chuuk, 0.98 inches of rain was reported this week (with 3 days missing). However, with wet conditions in the past 3 weeks, Chuuk remained free of dryness. Lukunor, despite 0.34 inches of rain reported (with 3 days missing) this week, remains drought free following very wet 4 weeks. On Nukuoro, conditions remained wet this week, with 4.43 inches of rain. Pohnpei received 2.35 inches of rain this week, continuing wet recent weather. Despite 0.59 inches of rain reported (with 4 days missing), Kosrae remained wet following the very wet March, April, and early May.

The Marshall Islands were mostly wet for the week, apart from Wotje, which received 0.95 inches of rain this week (with 2 days missing). Less than 2" of rain was also observed at Wotje in the past two weeks, and severe short- and long-term drought continued this week. On Ailinglapalap, 0.48 inches of rain was reported this week (with 2 days missing), following 2.98 inches last week, so drought-free conditions continued. Kwajalein reported 0.48 inches of rain this week (with 2 days yet to be accounted for), following very wet conditions (3.56 inches of rain) last week, and remained drought-free. Jaluit observed 1.09 inches of rain this week, with 3 days missing. However, because Jaluit had a very wet couple of months (i.e., March and April had 23.6 and 11.87 inches of rain, respectively), it remained free of dry conditions. Majuro reported 1.07 inches of rain this week (with 2 days missing). Despite Majuro having two consecutive dry weeks in May, it received more than 24 inches in April, so it remained free of dryness. Mili received 5.33 inches this week and remained in wet conditions.

Looking Ahead

The upper-level circulation will continue to bring Pacific weather systems across the CONUS during the next USDM week. Temperatures are forecast to be below normal from the Pacific Northwest to Great Lakes and southward into the central Plains. An eastern ridge will keep temperatures warmer than normal along the East Coast. An inch or more of precipitation is predicted to fall through Tuesday morning for some of the mountains of the Pacific Northwest and central to northern Rockies. An inch or more is expected from the southern Plains to Great Lakes and eastward to the East Coast, but some areas along the East Coast will have less than an inch and some areas from the Lower Mississippi Valley to Ohio Valley, as well as much of Florida, can expect 2 or more inches. Most of the Great Plains will see less than half of an inch of rain. Much of the Southwest, from California to New Mexico and including parts of the Pacific Northwest, will receive little to no precipitation. For the period May 24-28, odds favor above-normal temperatures for the Southwest, Deep South, East Coast, and southwest Alaska, and below-normal temperatures in Washington, the Upper Mississippi Valley, and eastern Alaska. Odds favor below-normal precipitation from California to the western portions of the central and southern Plains, as well as western Alaska, while above-normal precipitation is likely in Washington, east-central Alaska, eastern portions of the southern Plains, and from the Mississippi Valley to East Coast.

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