

National Drought Summary for April 23, 2024

Summary

This U.S. Drought Monitor (USDM) week saw improvements on the map in drought-affected areas of the Southwest, Northern Plains, and the Midwest while conditions deteriorated in areas of the Pacific Northwest, Eastern Plains of Colorado and Montana, Southern Plains, and the South. In the Pacific Northwest, a combination of factors (below-normal snowpack conditions, short-term dryness, low streamflows) led to expansion of areas of Abnormally Dry (D0) and Moderate Drought (D1) in western portions of Oregon and Washington. In Montana, poor snowpack conditions in the northwestern and west-central part of the state led to expansion of areas of Extreme Drought (D3) where some SNOTEL stations were reporting record or near-record low snow-water equivalent (SWE) levels. In the Southern Plains, drier-than-normal conditions during the past 30-90-day period in addition to low streamflows, declining soil moisture, and impacts to crops led to expansion of areas of Moderate Drought (D1) and Severe Drought (D2) in Oklahoma and Kansas. Conversely, wetter-than-normal conditions have prevailed during the past 30-60 days in portions of the Midwest leading to widespread improvements across drought-affected areas of Iowa, Minnesota, Wisconsin, and Michigan. Likewise, improvements were made on the map in areas of the Southwest (Arizona and New Mexico) in response to beneficial precipitation received across much of the region since the beginning of the Calendar Year (January 1). In California, snowpack conditions moving into late April (4/24) were near normal levels with the statewide snowpack at 97% of normal, according to the California Department of Water Resources. Elsewhere in the West, below-normal SWE levels have persisted in the mountain ranges of Washington, northern Idaho, Montana, and northeastern Wyoming. According to the Natural Resources Conservation Service (NRCS) SNOTEL network (4/23), region-level (2-digit HUCs) median SWE levels are as follows: Pacific Northwest 75%, Souris-Red-Rainy 76%, Missouri 80%, California 95%, Great Basin 108%, Upper Colorado 87%, Lower Colorado 145%, Rio Grande 78%, and Arkansas-White-Red 79%.

Northeast

For the week, no changes were made on the map with no drought conditions observed across the region. According to NOAA's National Centers for Environmental Information (NCEI), the Northeast Climate Region observed its wettest December-March period on record as well as its 2nd warmest (average temperature) for the same period. Looking at the longer-term average temperature rankings in the region, the 18-month (Oct 2022-Mar 2024), 24-month (Apr 2022-Mar 2024), 36-month (Apr 2021-Mar 2024), 48-month (Apr 2020-Mar 2024), and 60-month (Apr 2019-Mar 2024) periods all registered warmest on record, according to NOAA NCEI. For the week, average temperatures were above normal across much of the southern extent of the region with departures ranging from 1 to 8+ degrees F above normal with the greatest departures observed in

western Pennsylvania and West Virginia. Some pockets of cooler-than-normal temperatures were observed in eastern Pennsylvania, New Jersey, eastern New York, Connecticut, and Vermont. In terms of precipitation, generally dry conditions prevailed with some isolated areas of Upstate New York, Connecticut, Rhode Island, and West Virginia receiving 1-inch accumulations for the week. For the week, no changes were made on the map with no drought conditions observed across the region. According to NOAA's National Centers for Environmental Information (NCEI), the Northeast Climate Region observed its wettest December-March period on record as well as its 2nd warmest (average temperature) for the same period. Looking at the longer-term average temperature rankings in the region, the 18-month (Oct 2022-Mar 2024), 24-month (Apr 2022-Mar 2024), 36-month (Apr 2021-Mar 2024), 48-month (Apr 2020-Mar 2024), and 60-month (Apr 2019-Mar 2024) periods all registered warmest on record, according to NOAA NCEI. For the week, average temperatures were above normal across much of the southern extent of the region with departures ranging from 1 to 8+ degrees F above normal with the greatest departures observed in western Pennsylvania and West Virginia. Some pockets of cooler-than-normal temperatures were observed in eastern Pennsylvania, New Jersey, eastern New York, Connecticut, and Vermont. In terms of precipitation, generally dry conditions prevailed with some isolated areas of Upstate New York, Connecticut, Rhode Island, and West Virginia receiving 1-inch accumulations for the week.

Southeast

During the past week, light rainfall accumulations (generally < 1 inch) were observed across areas of the region with the highest accumulations (2 inches) observed in isolated areas of Alabama, Georgia, and the Carolinas. Average temperatures were above normal (3 to 9 degrees F) in areas of north-central Florida, eastern Georgia, and the Carolinas, while temperatures were slightly below normal in Alabama. In North Carolina, short-term dryness (past 30-90-day period) and declining streamflow levels (< 24th percentile) led to expansion of areas of Abnormally Dry (D0) in the central part of the state. Likewise, areas of D0 were introduced in central and southwest Florida in response to below-normal precipitation (past 60-days) and deteriorating soil moisture and streamflow conditions. Overall, drought-free conditions (not including D0 areas) have prevailed across the region for three consecutive weeks.

South

In the South, light-to-moderate rainfall (up to 4 inches) was observed across isolated areas of the region during the past week with the heaviest accumulations logged in eastern Texas, northern Louisiana, southwestern Arkansas, and central Mississippi. For the week, average temperatures were near to slightly above normal in southern portions of Texas and Louisiana, while areas in the northern half of the region were generally

cooler-than-normal (1 to 8 degrees F). On the map, conditions deteriorated in areas of the South Texas Plains and Edwards Plateau in response to a combination of factors including short-term dryness (past 30-90 days), low streamflows, declining soil moisture levels, and stressed vegetation. In terms of water supply, statewide reservoir conditions in Texas were at 73.9% full (4/24). However, some lingering low reservoir conditions are being reported in the western half of the state in the San Angelo and San Antonio areas, according to Water Data for Texas. In Oklahoma, dry conditions led to another round of degradations on the map across the northern portion of the state. According to the latest U.S. Department of Agriculture (USDA) Oklahoma Crop Progress and Condition report (4/21/24), the statewide soil moisture (topsoil) condition was rated 46% short to very short. In northwestern Tennessee, reductions in areas of Abnormally Dry (D0) and Moderate Drought (D1) were made in response to precipitation during the past 30-day period.

Midwest

For the week, light-to-moderate precipitation accumulations (generally < 2 inches) were observed in the region with the heaviest accumulations logged in isolated areas of southern Minnesota, southern and northeastern Iowa, southeastern Missouri, southern Illinois, and southwestern Indiana. Average temperatures for the week were below normal (2 to 6 degrees F) across the western half of the region with the greatest anomalies observed in eastern Iowa and central Illinois. In the eastern portion of the region, the average temperature hovered within a few degrees of normal. On the map, improvements were made in drought-affected areas of southern Minnesota, eastern and northern Iowa, northern Missouri, Wisconsin, southern Illinois, and northern Michigan. In Iowa, despite improving conditions, two areas of Extreme Drought (D3) remain in the northeastern part of the state due to the lingering impacts of the longer-term drought situation with 12-month precipitation deficits ranging from 12 to 16 inches. According to the latest USDA Iowa Crop Progress and Condition report (4/22/24), the statewide soil moisture (topsoil) condition was rated 37% short to very short and 60% adequate. In southern Missouri, areas of drought expanded on the map where dry conditions have prevailed in the shorter term (past 30-90 days) and have led to a significant decline in streamflow levels with numerous rivers and creeks reporting very low flows during the past week (< 10th percentile), according to the U.S. Geological Survey (USGS). Moreover, very low soil moisture levels (< 10th percentile) are showing up on various NASA SPoRT soil moisture products.

High Plains

On this weeks map, one-category degradations were made in Kansas where precipitation has been below normal during the past 90-day period with the greatest departures (4 to 5 inches) observed in south-central and eastern Kansas. Moreover,

stream gages on numerous creeks and rivers in central and eastern Kansas were reporting much below-normal flows (< 10th percentile), according to the USGS. In terms of impacts, the USDA reported (4/21/24) that 26% of the winter wheat crop in Kansas was rated in poor to very poor condition. In addition to dry conditions, average temperatures across the Plains states have been well above normal levels (ranging from 4 to 8+ degrees F) during the past 90 days with the greatest anomalies observed in far eastern portions of the region. In North Dakota Climate Division 6 (East Central Division), the December-March period was the 2nd warmest on record with an +11.6 degrees F anomaly, according to NOAA NCEI. In northeastern Nebraska and northwestern South Dakota, shorter-term improvements in drought-related conditions led to reductions in areas of Abnormally Dry (D0) and Moderate Drought (D1). For the week, average temperatures were below normal (2 to 10+ degrees F) with the greatest departures observed in western portions of the Dakotas and Nebraska as well as along the eastern plains of Wyoming and Montana. Overall, the region was generally dry during the past week except for a few areas that benefitted from isolated shower activity in northeastern Kansas, north central and northeastern Nebraska, and southwestern South Dakota.

West

On the map, improvements were made across areas of central and southeastern Arizona and in southern New Mexico in response to a re-assessment of overall conditions looking at numerous drought metrics at various time scales. Since January 1, much of Arizona as well as western and northern portions of New Mexico have observed precipitation levels ranging from normal to well above normal. In contrast, below-normal precipitation has prevailed across much of eastern New Mexico. Looking at SWE levels (April 1) from the NRCS SNOTEL network, all basins (6-digit HUC) within Arizona and New Mexico were above normal. Elsewhere in the region, areas of Abnormally Dry (D0) were introduced in western Oregon and Washington in response to short-term dry conditions and very low streamflow levels that have significantly dipped in recent weeks. In Montana, poor snowpack conditions led to further degradations on the map.

Caribbean

In Puerto Rico, wet conditions this week led to removal of an area of Abnormally Dry (D0) and Moderate Drought (D1) in eastern Puerto Rico, leaving only one remaining area of lingering drought in the northwestern portion of Puerto Rico.

This week, near-normal conditions continued across the U.S. Virgin Islands. On St. John, rainfall amounts reported at VI-SJ-4 (Cruz Bay 0.8 NE) and VI-SJ-5 (Cruz Bay 1.6 E) were 2.02 and 1.05 inches, respectively. In addition, VI-SJ-3 (Windswept Beach)

observed 2.56 inches of rain during the USDM week. Experts reported that rainfall this month (April) is up to 3.63 inches as of the data cutoff for this week, with more than half of that total falling early in the week. This marks the wettest April in this location since 2008, when 3.79 inches fell for the entire month. The depth to water level at Susannaberg DPW 3 well (St. John, USVI) on April 23, 2024 was 11.19 ft below land surface, which has slightly decreased this week due to the recent rains. So, St. John remained free of drought.

On St. Croix, heavy showers were observed this week. The weekly rainfall amount across the island ranged from 3.30 inches at VI-SC-35 (Frederiksted 1.3 ENE) to 5.41 inches at VI-SC-30 (Christiansted 1.7 SW). Intermediate values included 4.77 inches at VI-SC-10 (Christiansted 1.6 E), 3.79 inches at VI-SC-20 (Frederiksted 1.7 ESE), 5.05 inches at VI-SC-23 (Christiansted 6.5 W), 4.23 inches at VI-SC-25 (Christiansted 4.4W), 3.32 inches at VI-SC-29 (Frederiksted 2.5 NNE) and 3.38 inches at VI-SC-34 (Frederiksted 1.9NE). Because of heavy rains in recent days, the depth to water level at Adventure 28 Well (St. Croix, USVI) on April 23, 2024 was 27.78 ft below land surface, decreasing from last week (30.42ft). Thus, St. Croix remained drought free.

On St. Thomas, rainfall totals this week ranged from 0.17 inch at VI-ST-14 (Nadir 0.3E/Tropical Marine) to 1.89 inches at VI-ST-5 (Charlotte Amalie West 4.2 WNW). In addition, 1.12 inches of rain was reported at VI-ST-13 (Charlotte Amalie 1.2 NNW). Also, Cyril E King AP reported 0.17 inches of rain this week. Due to recent rains, the depth to water level at Grade School 3 well (St. Thomas, USVI) observed on April 23, 2024 was 8.52 ft below land surface, decreasing from last week (10.35 ft). However, St. Thomas remained in long-term abnormally dry conditions (D0-L) this week.

Pacific

In Alaska, conditions on the map remained status quo with no drought conditions observed.

In the Hawaiian Islands, some improvements were made on the map in Kauai, Oahu, and Maui where recent rainfall has improved conditions. Over the past 30-day period, above-normal rainfall has been observed across Kauai and Oahu as well as areas of Molokai and Maui, according to reanalysis data from the NOAA NCEP Climate Forecast System (CFS) model and observational data. For the week, average temperatures were 1 to 4 degrees below normal across the Hawaiian Islands with the exception of the Big Island, which observed warmer-than-normal temperatures (1 to 5 degrees F).

Wet conditions continued across the Marshall Islands this week. Ailinglapalap reported 1.44 inches of rain, remaining in short-term abnormally dry conditions. This week, Jaluit received only 0.54 inches of rain, remaining free of drought due to the wet conditions in the previous weeks. Majuro reported 2.21 inches of rain this week. Last week the weekly total rainfall was 3.54 inches. In addition, the reservoir level reported at Majuro is

increasing (i.e., it reached about 21 million gallons). Thus, Majuro improved to short-term severe drought conditions this week. This week, drier-than-normal conditions continued on Wotje, which reported only 0.32 inches of rain. Thus, Wotje remains in short- and long-term extreme drought conditions. On Kwajalein, 2.12 inches of rain was reported this week. Even though Kwajalein had wet conditions this week, the island remained in short-term moderate drought due to little (less than 2 inches) weekly total rainfall in the past four weeks. No depiction was made for Milli and Utirik due to missing data.

South and eastern Micronesia received heavy showers this week. Pingelap reported 5.97 inches of rain this week with one day missing and improved from abnormally dry to drought free conditions. In addition, Woleai received 2.21 inches of rain this week, improving from extreme to severe drought conditions. Heavy showers were observed on Pohnpei, Kosrae, Lukunoch and Nukuoro, reporting 11.42, 4.78, 3.12 and 2.03 inches of rainfall this week, respectively. Thus, these locations remained free of drought. Though Kapingamarangi received no rain this week, the island remained free of drought due to wet conditions in the past three weeks.

On Ulithi, 1.44 inches of rain was reported this week. However, because Ulithi had drier-than-normal conditions for the past few weeks, it remained in the short-term exceptional drought category. Similarly, Yap received 1.36 inches of rain this week, so the island remains in short-term exceptional drought conditions. On Chuuk, 1.48 inches of rain (one day missing) was observed this week, allowing the island to remain in abnormally dry conditions. No depiction was made for Fananu due to missing data.

Normal conditions continued across American Samoa. Pago Pago reported 2.16 inches of rain this week, remaining free of drought. In addition, Siufaga Ridge and Toa Ridge observed 2.19 and 1.10 inches of rain this week, respectively.

Wet conditions prevailed across Palau. Heavy scattered showers (7.70 inches of rain) were reported on Palau IAP (Airai) this week. Koror COOP station also reported 4.414 inches of rain, and the island improved to drought-free conditions this week.

Even though some heavy scattered showers were observed late in the week, dry conditions remained across the Mariana Islands during most parts of this week. The weekly rainfall total report showed that only 0.02 inches of rain was observed on Saipan (IAP, manual gauge) this week. Also, Saipan (ASOS) received only 0.11 inches of rain. Thus, Saipan remained in extreme drought conditions. Rota received only 0.15 inches of rain (one day missing) to remain in short-term moderate drought. On Guam, no rain was reported this week, and the island remains in extreme drought conditions. Late reports showed that heavy rainfall events are in progress on Guam that could change the current drought situation in the coming days.

Looking Ahead

The NWS Weather Prediction Center (WPC) 7-Day Quantitative Precipitation Forecast (QPF) calls for moderate-to-heavy precipitation accumulations ranging from 2 to 5+ inches (liquid) across western Washington and Oregon as well as eastern portions of the Southern and Central Plains and lower Midwest. Lighter accumulations (< 2 inches) are expected in areas of the Central and Northern Rockies and Upper Midwest, while isolated light shower activity is expected in portions of Northern California, the Great Basin, and the Northeast. The NWS Climate Prediction Center (CPC) 6-10 Day Outlooks call for a moderate-to-high probability of above-normal temperatures across most of the conterminous U.S., with the exception of the Far West, and the western Great Basin where cooler-than-normal temperatures are expected. In Alaska, there is a low-to-moderate probability of above-normal temperatures in the southern half of the state and below-normal temperatures north of the Brooks Range. In terms of precipitation, below-normal precipitation is expected across the Eastern Tier of the conterminous U.S. as well as out West in western Colorado, Utah, and southern Nevada. Elsewhere, there is a high probability of above-normal precipitation across the Pacific Northwest, Northern California, eastern New Mexico, Texas, the Plains states, and the Upper Midwest.

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