

National Drought Summary for March 19, 2024

Summary

During the drought-monitoring period ending March 19, active weather shifted southward from the central Rockies and lower Midwest. Eventually, significant precipitation fell across much of the southern United States. Locally severe thunderstorms were most numerous from the southeastern Plains into the Ohio and Tennessee Valleys. Based on preliminary reports, the mid-March outbreak included more than three dozen tornadoes, one of which resulted in three fatalities in western Ohio on March 14. Meanwhile, the northern Plains and upper Midwest experienced mostly dry weather. Elsewhere, the southern High Plains escaped a short-lived round of windy, dry weather without any major wildfires, unlike the late-February episode. Recovery efforts continued in fire-affected areas, primarily across the Texas Panhandle, but extending to other areas on the central and southern Plains. As the drought-monitoring period progressed, record-setting warmth first retreated from the Midwest and Northeast into the Deep South, then appeared in the Northwest. By March 19, freezes deep into the Southeast threatened a variety of crops, including blooming fruits and winter grains. On that date in Alabama, both Anniston and Tuscaloosa posted daily-record lows of 28F.

Northeast

The tiny Northeastern drought footprint remained unchanged, with less than one-half of one percent of the region experiencing moderate drought (D1). Drought was limited to portions of five counties in western New York and Nantucket Island in Massachusetts. In the latter location, ongoing groundwater concerns have led to the D1 designation.

Southeast

Eastern North Carolinas patch of abnormal dryness (D0) and moderate drought (D1) grew slightly amid dry conditions, while heavy rain eradicated D0 in Georgia and resulted in a reduction of D0/D1 coverage in Alabama. D0 coverage was unchanged in west-central Florida. As the monitoring period ended, a bigger concern was any agricultural impact from the cold snap that peaked on March 19, with frost and freezes extending deep into Alabama and Georgia, as well as the northern tier of Florida.

South

Pounding rains totaled 2 to 6 inches or more from southeastern Oklahoma and southern and eastern Texas to the Mississippi Delta. Improvements of up to one category were noted in areas where the heavy rain overlapped existing coverage of moderate to severe drought (D1 to D2), including northern Mississippi and western Tennessee. El Dorado, Arkansas, in an area not affected by drought, endured its wettest day during March on record, with the daily total of 6.31 inches on the 15th surpassing the mark of 5.85 inches set on March 28, 1914. Farther west, showers in Oklahoma and Texas were more scattered, with only targeted drought improvements. In fact, abnormal dryness (D0) expanded in parts of western Oklahoma and environs, as the effects of recent warmth and windy, dry conditions began to reduce topsoil moisture and adversely affect winter wheat. On March 17, according to the U.S. Department of Agriculture, topsoil moisture was rated 49% very short to short in Texas, along with 28% in Oklahoma. On the same date, winter wheat was rated 61% good to excellent (and 7% very poor to poor) in Oklahoma, and 46% good to excellent (and 19% very poor to poor) in Texas.

Midwest

Heavy streaks of rain, in some cases laced with hail, pelted the Midwest, with precipitation intensity generally peaking on March 13-14. Enough rain fell in parts of the Midwest to not only reduce drought coverage and intensity, but also to result in a change in designation from SL short- and long-term drought to L, or only long-term drought. At the same time, mostly dry conditions persisted across the upper Midwest, where pervasive moderate to extreme drought (D1 to D3) continued. Much of the upper Midwest has experienced a season-long snow drought, with some locations in Minnesota and environs receiving less than one foot of snow through March 19. In Rochester, Minnesota, season-to-date snowfall through the 19th stood at 11.9 inches, barely one-quarter of the normal value of 46.9 inches.

High Plains

Generally minor changes in the drought depiction were observed on the High Plains. Some increases in the coverage of abnormal dryness (D0) were noted on the Plains from central and southwestern Kansas northward into parts of South Dakota. Despite the Plains pockets of dryness and drought, prospects for the winter wheat crop remained mostly favorable. In Kansas, 55% of the winter wheat was rated in good to excellent condition on March 17, with only 12% of the crop rated very poor to poor, according to the U.S. Department of Agriculture. Meanwhile, some drought reductions occurred in the Rockies of Colorado and Wyoming. In Colorado, March 13-15 snowfall totaled 12.9 inches in Colorado Springs. On the 14th, as rain changed to snow, Pueblo, Colorado, experienced its wettest day during March on record, with 1.53 inches (and 2.5 inches of snow). Previously, Pueblos wettest day during March had been March 18,

1998, with 1.26 inches. During the mid-month event, numerous 3- to 5-foot snowfall totals were noted in the Colorado Rockies, with Aspen Springs in Gilpin County receiving 61.5 inches.

West

Late-season precipitation in the Southwest contrasted with the arrival of record-setting warmth in the Northwest. The Southwestern precipitation, including high-elevation snow, resulted in some generous reductions in drought coverage, especially in parts of Arizona, Colorado, and New Mexico. Meanwhile, warmth appeared in the Northwest, where Quillayute, Washington, set a monthly record with a high of 80F on March 16. Quillayutes previous record, 79F, had been set on March 20, 2019.

Caribbean

In Puerto Rico, recent rainfall provided some relief in western drought areas. In fact, moderate drought (D1) was removed from southwestern Puerto Rico, while D1 coverage was reduced in the northwest.

The main weather feature over the U.S. Virgin Islands (USVI) during this U.S. Drought Monitor (USDM) week (March 13-19) was a high pressure ridge with generally dry air and warmer-than-normal temperatures. But patches of moisture moved through the ridge, triggering scattered showers on a few days. Weekly rainfall totals ranged from a tenth of an inch to 1.49 inches on St. Thomas, from about half of an inch to almost an inch on St. Croix, and from a third to two-thirds of an inch on St. John. Satellite observations of vegetative health (VHI) did not show any vegetative stress. According to USGS well data, groundwater levels steadily fell this week on St. John, and went up and down on St. Thomas and St. Croix. Month-to-date precipitation totals were below normal, but this weeks rain was enough to keep conditions status quo, so long-term abnormal dryness (D0-L) continued on St. Thomas while St. John and St. Croix remained free of drought and abnormal dryness.

Pacific

Alaska remained completely free of dryness and drought. A cold, mostly dry regime gripped much of northern, western, and interior Alaska in mid-March, while mild, showery weather covered southeastern Alaska.

Hawaiian showers provided minimal relief from short-term moderate to severe drought (D1 to D2) that covered 32% of the state. However, windward areas of the Big Island

remained quite wet, with Hilos month-to-date rainfall through March 19 totaling 14.55 inches (181 percent of normal). At the states other major airport observation sites, March 1-19 rainfall ranged from 0.21 inch (14 percent of normal) in Honolulu, Oahu, to 0.83 inch (49 percent) in Kahului, Maui. On the 15th, Kahului's high temperature (69F) stayed below the 70-degree mark for the first time ever in March and for the first time since January 20, 1994.

A dry trade-wind pattern continued across northern and western parts of Micronesia (Micronesia is the part of the USAPI that is located north of the equator) during this U.S. Drought Monitor (USDM) week (March 13-19), while tropical disturbances moving through a near-equatorial trough (NET) brought rain to southern parts of Micronesia. A high pressure ridge kept the weather mostly dry across American Samoa (which is the part of the USAPI that is located south of the equator).

A weekly minimum of 1 inch of rain is required to meet most water needs in the Marianas and American Samoa, while the weekly minimum is 2 inches for the rest of the USAPI (U.S.-Affiliated Pacific Islands). This week, over 4 inches of rain fell on the islands of Pohnpei, Kosrae, Kapingamarangi, Pingelap, and Kwajalein, and over 3 inches fell on Lukunor, due to the NET. The rain ended abnormal dryness on Pohnpei and Lukunor, and improved conditions on Pingelap and Kwajalein, both of which improved one category to moderate drought (D1-S). Nearly 3 inches of rain was recorded at Nukuoro, which was already free of drought or abnormal dryness. Rainfall totals were below weekly minimums at all other USAPI reporting locations.

Drought impacts were occurring in parts of Micronesia. The Northwest Islands of Chuuk state reported taro patches were dried up, young fruits were falling off breadfruit trees, and 90% of the breadfruit leaves were drying, with the Island groups of Weita and Pafong in need of drinking water. The impacts resulted in the drought status of Chuuk lagoon being worsened one category to D1-S (moderate drought). Water shortages were occurring on the outer islands of Yap State, Chuuk State, Pohnpei State, and the northern Marshall Islands (RMI). Vegetation was dry and browning, and water catchments were low, on Kwajalein before the 4+ inches of rain occurred late in the week. People were hauling water on Majuro due to low water catchment levels, and the March 19 Majuro reservoir level was about 22 million gallons, which is below the drought threshold of 28 million gallons. In the northern RMI, vegetation was yellowing on Wotje. Wildfires have been reported on Guam, where the KBDI was in the high category, with isolated reports of wildfires on Yap and Pohnpei. There was no drinking water on Fais, an island 60 miles southeast of Ulithi.

Severe drought (D2-S) continued on Yap, Guam, Saipan, and Ulithi. Short-term severe drought (D2-S) was changed to short- and long-term severe drought (D2-SL) on Wotje where 10 of the last 11 months have been dry. Moderate drought continued on Rota, Woleai, and Majuro; abnormal dryness (D0-S) continued on Jaluit, and abnormal dryness developed on Ailinglaplap, where the last 3 consecutive weeks have been dry.

Looking Ahead

Back-to-back storms across the northern United States should produce significant snow from the northern Plains into the upper Great Lakes States. The second storm system, expected to reach peak intensity over the weekend or early next week, has the potential to double season-to-date snowfall totals in parts of the upper Midwest. In addition, wind-driven snow from both storms could complicate rural travel and lead to hardship for Northern cattle, especially newborns. Separately, a late-week storm will produce rain in the southern and eastern United States, with 1- to 3-inch totals possible in portions of the Gulf and Atlantic Coast States. Elsewhere, cool, unsettled weather will return across the West, especially from northern and central California and the Pacific Northwest to the northern Rockies.

The NWS 6- to 10-day outlook for March 26-30 calls for near- or above-normal temperatures in the East, while colder-than-normal conditions will stretch from the Pacific Coast to Mississippi Valley. Meanwhile, wetter-than-normal weather will cover the entire country, except the south-central United States, with the greatest likelihood of wet conditions focused across the West and the Southeast.

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