

National Drought Summary for November 12, 2024

Summary

Storm systems brought significant precipitation and drought relief to broad areas in the central Rockies, central and southern Plains, Lower and Middle Mississippi Valley, Lower and Middle Ohio Valley, and the South Atlantic Region. Meanwhile, subnormal precipitation and some unseasonable warmth led to deterioration in dryness and drought conditions in portions of the Southwest, southern and western Texas, the interior Southeast, the northeastern Gulf Coast, the central and southern Appalachians, the mid-Atlantic region, the Northeast. Excessive precipitation totals fell on some areas. From central South Carolina through much of southeastern Georgia, amounts of 4 inches to locally a foot of rain were reported. Similar totals fell on central Louisiana, a band through central and north-central Texas, small parts of the Lower Ohio Valley, and orographically-favored areas in the Northwest. In addition, a broad area covering the eastern half of Colorado and adjacent areas in New Mexico and the central High Plains recorded 2 to 4 inches of precipitation, much of which fell as snow in the middle and higher elevations. A few scattered sites reported 3 to 4.5 feet of snow, mainly in the higher elevations of Colorado.

Northeast

Generally 1 to 2 inches fell on much of northern West Virginia and parts of western Pennsylvania as well as southern Maryland. Amounts were closer to 0.5 inch in most areas outside New England, with little or no precipitation reported there outside northernmost Maine. As a result, moisture deficits continued to increase in most of the Northeast Region, resulting in the expansion of extreme drought (D3) into southern New Jersey while severe drought (D2) enveloped northern New Jersey, part of eastern Pennsylvania, southeastern New York State including most of the New York City area, and western Massachusetts. Several locations across Maryland, eastern Pennsylvania, and New Jersey had recorded a record number of consecutive days without precipitation (including Newark NJ, Trenton NJ, Philadelphia PA, Baltimore MD, and Washington DC) before light rains on November 10 ended the streaks of consecutive days without measurable precipitation at 5 to 6 weeks, but these amounts were light and had little impact on the dryness and drought found across most of the Region. Unusually high fire danger and numerous brush fires have been observed recently.

Southeast

Precipitation was highly variable across the Southeast Region last week, with some areas experiencing substantial relief from dryness and drought while other areas with much less rainfall saw conditions deteriorate. Heavy rain doused an area covering the

central and southern sections of both Georgia and South Carolina with at least an inch of rain, with a swath of much higher amounts (5 to 12 inches) from central South Carolina into part of southeastern Georgia. The higher amounts eliminated dryness and drought that had encompassed the area, including 2-class improvements in areas of moderate drought where the higher amounts fell. Heavy rain was observed in smaller areas along the central Gulf Coast and over the western fringes of the Region, resulting in patches of improvement in those areas as well. Meanwhile, in a swath across the interior Southeastern Region from the northeastern Gulf Coast northward through the Piedmont and much of Virginia, little or no rain fell while temperatures averaged well above normal (by 10 to over 20 deg. F most days). These conditions combined to worsen dryness and drought in many areas from central Mississippi through Alabama, northern and western Georgia, much of the central and northern Carolinas, and Virginia. Patches of severe drought (D3) expanded slightly in parts of north-central and southwestern Alabama, and adjacent southeastern Mississippi. Similar to areas farther north, a record or near-record number of consecutive days without measurable rain were recorded in northern Georgia and a few other locales, with precipitation evading Atlanta GA for about 6 weeks.

South

Like the Southeastern Region, the South Region experienced highly variable rainfall this past week. Heavy precipitation in some areas for the second consecutive week soaked a swath from Louisiana and eastern Texas northward through much of the Lower and Middle Mississippi Valley and the Tennessee Valley. A broad swath reaching as far west as central Arkansas recorded at least 1.5 inches in most places, with some areas recording much higher amounts (3 to 8 inches in part of western Tennessee, and over a foot in parts of central Louisiana). This resulted in reductions in dryness and drought severity across affected areas of the Lower Mississippi Valley and eastern Texas, with some 2-class improvements imposed in a small part of both southwestern Louisiana and an area straddling southwesternmost Mississippi and adjacent southeastern Louisiana. To the north, the heavy rains also removed abnormal dryness from across western Tennessee. Farther west, another area of heavy precipitation accompanied a frontal passage in a swath from central Texas into the central Red River (south) Valley, where totals reached 4 to 8 inches along the axis of heaviest amounts. To the north, heavy precipitation associated with a pair of potent upper-level low pressure systems dropped over 2 inches on a large part of central and western Oklahoma and much of the Texas Panhandle, with localized totals exceeding 4 inches in the eastern Texas Panhandle northward to the Oklahoma/Kansas border. There was also a patch of heavy rainfall to the east across portions of eastern Oklahoma, where isolated amounts peaked at around 3 inches. Dryness and drought affecting these areas were significantly eased, with a couple patches of 2-class improvements in north-central and northeastern Oklahoma. In stark contrast, little or no precipitation was observed from parts of southeastern Oklahoma southward through Deep South Texas, and across western Texas as well. Dryness and drought worsened in some of the areas, with the

most widespread deterioration noted in western Texas. The broad area of exceptional drought (D4, the most intense category) expanded there to cover most or all of eastern Hudspeth, Culberson, western Reeves, Jeff Davis, Presidio, and Brewster Counties. Also, D3 (extreme drought) also expanded to cover most of the remainder of the Big Bend of Texas.

Midwest

Heavy rain pounded the Lower Ohio Valley as a broad area across western Kentucky and adjacent Indiana received at least 3 inches of rain, with a portion of interior western Kentucky reporting 4 to nearly 8 inches of rain. Totals of over an inch stretched farther east through most of central and western Ohio, and also affected parts of the central and northern Great Lakes, central to western Illinois, and parts of southern and eastern Missouri. Most other areas recorded several tenths of an inch of precipitation, but little or none fell across the northwestern 2/3 of Minnesota, most of central Iowa, and near the Mississippi River from northern Missouri into southern Wisconsin. This moisture resulted in a fairly large area of improvement stretching across most of the greater Ohio Valley, and from Lake Michigan through the dry parts of central and southern Missouri, in addition to portions of southeastern Minnesota. In the areas receiving limited rainfall, dryness and drought has not been as quick to worsen as in some other parts of the country, likely due to relatively cooler temperatures, but some deterioration was introduced across the central Lower Peninsula of Michigan, and over part of southeastern Wisconsin and adjacent Illinois.

High Plains

A potent 500-hPa low triggered widespread heavy precipitation over southern half of the Region, except along the eastern fringe, while amounts were limited to several tenths of an inch at most farther north. Between 2 and 4 inches of precipitation fell on a large swath covering the eastern half of Colorado, most of central and western Kansas, and adjacent Nebraska. In nearby areas, amounts ranging from a few tenths of an inch to a couple of inches were observed over the western half of Colorado amounts of 0.5 inch to approaching 2 inches in spots was observed across southeastern Wyoming, most other areas in Nebraska, and eastern Kansas. Moderate amounts fell on a swath across the central and southwestern Dakotas the remainder of this region reported little or no precipitation, as well as most of Wyoming. In some of the higher elevations of Colorado, this precipitation fell as heavy snow, with a few locations reporting snow piling up 3 to 4.5 feet deep (50 to 54 inches buried Fort Garland CO while 44 to 47 inches were reported near La Veta, Elbert, and Trinidad CO). All of this resulted in a large area of improvement depicted over southern and western Kansas, most of northern and eastern Colorado, part of southwestern Nebraska, and a few spots in eastern Wyoming. There were a few areas of 2-class improvement in southeastern Colorado, northwestern

Kansas, and the fringes of south-central and southeastern Kansas. Elsewhere, due to relatively cool weather, the dry week didn't engender much deterioration, with most of these locations remaining unchanged from last week. One exception was in a small patch of northeastern Nebraska and adjacent South Dakota, where a new patch of extreme drought (D3) was identified.

West

Heavy precipitation In northeastern New Mexico, with snow reported in some of the higher elevations, produced areas of improvement to dryness and drought. A few high spots in New Mexico reported near 3 feet of snow, including locations near Las Vegas NM and Folsom NM. The only other area of improvement in the West Region was in eastern Washington.

Caribbean

Moderate to locally heavy rain, ranging from just under an inch to over 2 inches in spots, was sufficient to end the few areas of abnormal dryness that were affecting the Commonwealth. Puerto Rico is now free of impactful dryness. Severe drought was eased to moderate drought (D1). Meanwhile, continued dryness for the past several weeks prompted some deterioration in the Southwest, with extreme drought (D3) introduced in and around western Arizona near the Lower Colorado River, an expanded area of severe drought (D2) through southwestern Nevada and adjacent California, and increased coverage of moderate drought in parts of southeastern California and southwestern Arizona, as well as a portion of northeastern Arizona. These areas in the Southwest have averaged considerably cooler than normal for the past couple of weeks (generally 2.5 to 6.0 deg. F below normal), but looking at the last 3 months as a whole, average temperatures have been unusually warm, averaging 2.0 to locally 6.0 deg. F above normal for the period from mid-August into mid-November as a whole, with the greatest departures observed in later summer and early autumn, including record triple-digit heat that lasted a few weeks in some areas, which has served to aggravate the dryness and drought.

Unstable weather conditions prevailed across the U.S. Virgin Islands throughout the week, resulting in scattered showers that were heavy at times with embedded thunderstorms.

On St. Thomas, Cyril E. King AP reported 6.29 inches of rain this week. On other stations, rainfall totals this week ranged from 5.92 inches at VI-ST-14 (Nadir 0.3E/Tropical Marine) to 8.05 inches at VI-ST-13 (Charlotte Amalie 1.2 NNW). VI-ST-15 (Charlotte Amalie West 1.3N) and VI-ST-5 (Charlotte Amalie West 4.2 WNW) reported 7.62 inches (1 day missing) and 5.20 inches, respectively. In addition, the depth to

water level Grade School 3 well (St. Thomas, USVI) on Nov. 12, 2024, was only 0.54 feet below land surface, which is a significant decrease in depth to water level due to recent heavy rains. Thus, St. Thomas remained free of drought.

On St. Croix, the weekly rainfall amount ranged from 1.05 inches at VI-SC-35 (Frederiksted 1.3 ENE) with three days missing to 4.30 inches at VI-SC-30 (Christiansted 1.7 SW). Intermediate values included 4.21 inches at VI-SC-10 (Christiansted 1.6 E), 3.48 inches at VI-SC-29 (Frederiksted 2.5 NNE), 3.22 inches at VI-SC-34 (Frederiksted 1.9NE), 3.49 inches at VI-SC-25 (Christiansted 4.4W), 2.76 inches at VI-SC-20 (Frederiksted 1.7 ESE), and 2.83 inches at VI-SC-23 (Christiansted 6.5 W). Due to the recent heavy rains, the depth to water level at Adventure 28 Well (St. Croix, USVI) on Nov. 12, 2024, was 18.26 feet below land surface. Thus, St. Croix remained free of drought.

On St. John, Rafe Boulon (VI-SJ-3: Windswept Beach) received 6.31 inches of rain. Rainfall amounts observed at VI-SJ-5 (Cruz Bay 1.6 E) was 7.33 inches. With 5 days missing, VI-SJ-9 (Trunk Bay 0.2 W) reported 5.08 inches of rain this week. In addition, the depth to water level at Susannaberg DPW 3 well (St. John, USVI) on Nov. 12, 2024, was 4.87 feet below land surface, which has significantly decreased due to recent heavy rains so that St. John remains free of drought.

Pacific

Between 5 and 9 inches of precipitation doused far southeastern Alaska last week, but farther north, in the area affected by abnormal dryness, lesser amounts (2 to locally 4 inches) were reported. These amounts in the D0 area are near or slightly below normal, so D0 persisted unchanged from last week.

It was a fairly wet week due to a weak cold front that reached Maui County before stalling and dissipating. Elsewhere, rainfall mainly affected the windward slopes. Most of the leeward areas remained dry, which caused some areas of Maui to deteriorate. In Kauai, increased rainfall and streamflow supported improvements over the northeast 2/3 of the island, which resulted in the removal of dryness on the east side, and improvement from D1 to D0 on the north side. Rainy conditions in Oahu along the slopes of the Koolau Range support continued improvement over that region, improving conditions to D0 on the southeast side of Oahu. Not much rainfall has been reaching the Waianae Range on the west side, so D2 remains intact there. The Normalized Difference Vegetation Index (NDVI) and condition reports support going from D2 to D3 on the southwest side of Molokai, with the rest of the island unchanged. Similarly, NDVI and condition reports support expanding D2 in Maui eastward along the southeast flank of Haleakala (the eastern mountain on the island). Finally, significant precipitation fell on much of the Big Island, with corroborating NDVI and condition reports supporting improvements. The D0 on the central and southern parts of the island has been

removed, and the area covered by D1 in the northwest is retracted significantly, restricted to a swath along the lower slopes of the Kohala Mountains.

Normal conditions prevailed across most parts of the Marshall Islands this week. Ailinglapalap reported only 0.39 inches of rain with one day unaccounted for. However, Ailinglapalap had 6.17 inches of rain last week, allowing the island to be free from dryness. This week, Wotje, Kwajalein, and Majuro reported 2.19, 2.76, and 2.59 inches of rain, respectively. These islands remain drought-free. However, Jaluit received only 1.67 inches of rain this week. Because Jaluit reported less than 2 inches of weekly rainfall for three consecutive weeks, the island deteriorated to short-term abnormally dry. No depiction was made for Milli or Utirik due to missing data.

This week, near-normal conditions were observed over western and southeastern Micronesia. Kapingamarangi received 3.37 inches of rain this week, improving from moderate drought to abnormally dry. Ulithi, Yap, Pohnpei, Pingelap, and Woleai, reported 5.18, 2.34, 2.06, and 1.97 inches of rain, respectively, allowing the islands to remain free of drought. Kosrae and Nukuoro reported 1.05 (2 days missing) and 1.90 (1 day missing) inches of rainfall this week, respectively. However, due to wet conditions for several weeks, both Kosrae and Nukuoro remained drought-free. In contrast, on Chuuk and Lukunoch, only 1.68 and 0.76 inches of rain (two days missing) were observed this week. Since both Chuuk and Lukunoch have had less than 2 inches of rain for the past three weeks, the islands deteriorated to short-term abnormally dry condition. No depiction was made for Fananu or Utirik due to missing data.

Heavy scattered showers were observed across American Samoa. Pago Pago reported 4.23 inches of rain this week, remaining free of drought. In addition, Siufaga Ridge and Toa Ridge observed 4.55 and 2.17 inches of rain this week, respectively. Thus, American Samoa remains drought-free.

Normal conditions prevailed across Palau. Palau IAP (Airai) and Koror reported 1.23 and 0.57 inches of rain this week. Palau IAP (Airai) received 2.56 inches of rain last week, allowing the island to remain free of drought.

Wet conditions prevailed across the Mariana Islands this week. The weekly rainfall total report showed that Saipan (IAP, manual gauge), Rota, and Guam observed 4.02, 2.95, and 2.46 inches of rain this week, respectively. Also, AMME NPS Saipan received 1.48 inches of rain with. Thus, these islands remained drought-free.

Looking Ahead

During the next five days (November 14-18), moderate to heavy precipitation is again expected from the Cascades westward to the Pacific Coast, with totals expected to exceed 5 inches expected in some of the higher elevations and orographically-favored sites. One or more inches are also anticipated in the Sierra Nevada, with several tenths

of an inch possible along most of the California Coast down to the Mexican border. Parts of the northern Intermountain West are expected to receive over an inch of precipitation, with 2 to locally 4 inches forecast across the Idaho Panhandle. A low pressure system and trailing front should trigger another round of heavy precipitation in the central and southern Great Plains from central Texas northward into southeastern Nebraska and the Middle Mississippi Valley, with 1.5 to locally 4.0 inches anticipated from central and east-central Kansas southward through the Red River (south) Valley and adjacent northern Texas. At least an inch is also anticipated east of the Lower and Middle Mississippi River through the interior Southeast, Lower Ohio Valley, central and southern Appalachians, and the mid-Atlantic region. Over 2 inches may fall on parts of the central Appalachians and adjacent Piedmont. Meanwhile, moderate amounts should fall on the southern Rockies and adjacent High Plains and across the Great Lakes region and the northern Ohio Valley. In contrast, little or no precipitation is expected across much of the Northeast, Florida and the adjacent South Atlantic region, southern Texas, the northern Plains, the central and southern Rockies, and the Southwest.

The Climate Prediction Centers 6-10 day outlook (valid November 19-23) features enhanced chances for both above-normal precipitation and temperatures across the Upper Midwest and across most areas east of the Mississippi River, with odds for significantly above-normal rainfall reaching 50 to near 70 percent on the Florida Peninsula. Wetter than normal weather is also slightly favored across Hawaii. Meanwhile, subnormal precipitation seems more likely across Texas and adjacent locations as well as the western Rockies, most of the Intermountain West, and the Sierra Nevada. Below normal temperatures are favored across the central and southern Plains and adjacent Mississippi Valley, the Rockies, and the Intermountain West. Southeastern Alaska should also average colder than normal while in Hawaii, neither extreme of temperature is favored.

Author(s)

Richard Tinker, NOAA/NWS/NCEP/CPC

Tsegaye Tadesse, National Drought Mitigation Center