

National Drought Summary for December 17, 2024

Summary

Over the last week, precipitation was greatest in portions of the Southeast and coastal areas of northern California. Widespread precipitation was recorded from Arkansas into the Midwest and along much of the eastern seaboard from the Mid-Atlantic up into New England. Much of the Plains, Southwest, and Rocky Mountains were quite dry during this period as well as much of the Florida peninsula. Temperatures were cooler than normal over the northern Plains and much of the Midwest with departures of 5-10 degrees below normal. Above normal temperatures were recorded over the northern Rocky Mountains, the southern Plains and into the South, where departures were 5-10 degrees above normal. Most other locations observed temperatures near normal.

Northeast

Temperatures were near normal over most of the region with most places being a couple of degrees above or below normal for the week. The warmest readings in the region were in eastern Maine with departures of 3-6 degrees above normal. Almost the entire region recorded over 100% of normal precipitation for the week with only portions of western Pennsylvania and western New York right at normal. The greatest departures were in portions of southwest Virginia and into New England where over 300% of normal precipitation was observed. With the pattern being wetter recently, improvements were made in much of the region. Extreme drought was removed from Massachusetts while moderate and severe drought and some abnormally dry conditions improved in Maine, Vermont, New Hampshire, New York, New Jersey, Delaware, Pennsylvania, Maryland, West Virginia, and Virginia. Even with the good week of precipitation, some long-term indicators were still lagging and didn't have the complete response to show even more improvement.

Southeast

Precipitation was quite variable over the region this week with some areas receiving abundant precipitation and others receiving little. The wettest areas were from north Georgia into the western portions of the Carolinas as well as in southern Alabama. Coastal areas of Georgia and Florida remained dry as did northern Alabama. Temperatures were near to slightly above normal for most of the region with departures of only 2-4 degrees above normal for the warmest areas along the Atlantic coasts of Florida, Georgia, and the Carolinas. The precipitation moved indicators enough to show improvements to the moderate drought over North and South Carolina as well as the abnormally dry conditions over north Georgia. Moderate and severe drought improved over southern Alabama while moderate drought expanded over southwest Georgia.

Central Florida continued to dry out, but moderate drought did not expand this week as impacts were minimal.

South

Temperatures were warmer than normal over most of the region with departures of 5-10 degrees above normal for the week. The wettest areas were in eastern Oklahoma, Arkansas and northern Mississippi, where most recorded 150-200% of normal precipitation for the week. Moderate drought and abnormally dry conditions improved over much of northern, western, and central Arkansas and in far eastern Oklahoma. Moderate drought improved over extreme southeast Mississippi and in far eastern Tennessee. Portions of eastern Tennessee continued to be dry and a new pocket of extreme drought was added. Exceptional drought was removed from south central Tennessee and some improvements to moderate drought and abnormally dry conditions were made in central Tennessee. Moderate drought expanded in east Texas while severe drought contracted in north Texas and portions of east Texas.

Midwest

Temperatures varied over the region with the northern portions 4-6 degrees below normal and the southern portions 2-4 degrees above normal. The wettest areas were in Missouri, southeast Iowa into Illinois, Indiana, Ohio and western Kentucky. Most of western Iowa, Wisconsin, Michigan, and Minnesota were drier than normal for the week. Improvements were made to the moderate drought in southwest and northeast Missouri with improvements to abnormally dry conditions as well. Southern to southeast Iowa also had abnormally dry conditions and moderate drought improved. Abnormally dry conditions improved slightly over western and southern Illinois and into central Indiana. In Ohio, moderate drought improved in the central portions of the state along with some contraction of abnormally dry conditions. Portions of northern Michigan and Minnesota had some moderate and severe drought improvement this week as the wetter pattern was reassessed to account for further improvements from past events.

High Plains

It was a dry week for most of the region with only areas of southeastern Nebraska, northeastern Kansas, northern North Dakota and the Plains of eastern Wyoming and Montana showing any above-normal precipitation. Temperatures were cooler than normal over the Dakotas with departures of 3-6 degrees below normal while most of the rest of the region was 3-6 degrees above normal for the week. Abnormally dry conditions improved over southwest and southeast Kansas while severe drought

improved in northeast Wyoming and into western South Dakota. The extreme drought in northeast Nebraska was reassessed and removed as the convergence of the indicators at extreme drought levels no longer existed, even with some long-term signals still showing some dryness in the extreme levels.

West

Most of the southern and southwest portions of the region were dry for the week. After an early start to the snow season, many areas have seen it drop off considerably and are below normal for this time of year. The wettest areas were in northern California into the Great Basin and southern Idaho and Montana. Temperatures were mainly 3-6 degrees above normal over the region with only those areas recording the most rains being below normal for the week. Even with the precipitation in areas, changes to the drought status in the region were minimal this week. Moderate drought improved in northern Utah and southwest Wyoming. Extreme drought expanded in northwest Wyoming while northern Colorado had abnormally dry and moderate drought expand slightly.

Caribbean

No changes were made in Puerto Rico.

A surface trough brought showers to the U.S. Virgin Islands (USVI) during this U.S. Drought Monitor (USDM) week (December 11-17). Weekly rainfall totals varied widely, with some locations reporting only a tenth to a fourth of an inch (0.10-0.25 inch) while other locations had over an inch. The Airport locations (Rohlsen AP and King AP) were drier than normal (about 29% of normal) for the month to date. Groundwater levels held steady on St. Croix and continued to fall on St. John and St. Thomas, but groundwater levels remained high compared to the recent historical record. Satellite observations of vegetative health did not indicate any stressed vegetation. Based on this data, all three islands continued free of drought and abnormal dryness.

Pacific

No changes were made in Alaska

In Hawaii, Kauai had moderate drought expand and in Oahu, a full category degradation took place due to recent dryness. On Molokai, the extreme drought was expanded to the north while in Maui, severe drought was expanded. Finally, on the Big Island, moderate drought was expanded in the northwest part of the island.

Seasonal trade winds characterized the weather over the U.S.-Affiliated Pacific Islands (USAPI) during this U.S. Drought Monitor (USDM) week (December 11-17). Dry weather is usually associated with trade winds; the dry weather increased the Keetch-Byram Drought Index (KBDI) in Guam, which reflected an increasing risk of fire danger. But low-pressure troughs and other disturbances moved across the USAPI in the trade-wind flow, generating showers over many areas. A weak Inter-Tropical Convergence Zone (ITCZ) produced showers over eastern portions of the Micronesia region, while shear line fragments moved over the Marianas. Near the end of the week, a tropical disturbance (Invest 96W) developed over the Republic of Palau and southern Yap State, dumping heavy rain in Palau. A trough lingered near American Samoa, producing periods of heavy rain.

It was a wet week (more than the 1- or 2-inch weekly minimum needed to meet most water needs) in American Samoa, the Republic of Palau, parts of the Federated States of Micronesia (FSM), and at Saipan in the Marianas. It was a dry week across the Marshall Islands, most of the Marianas, and parts of the FSM.

Even though the week was wet (1.64 inches) at Saipan, the month-to-date rainfall total (2.17 inches) was still below the monthly minimum, so Abnormal Dryness (D0-S) continued. This week marked the third consecutive dry week in the Yap Archipelago, and the month to date is dry (only 1.63 inches of rain at the Yap NWS office). D0-S began at Yap this week.

No analysis could be made for Fananu, Mili, or Utirik due to missing data. The rest of the locations continued free of drought and abnormal dryness because the month has been wet (Marshalls and most of the FSM) or the dryness has not lasted long enough to trigger D0 (Marianas and parts of Yap State in the western FSM).

Looking Ahead

Over the next 5-7 days, it is anticipated that the best chances for precipitation will be over the Pacific Northwest, Midwest, and the eastern third of the United States. Much of the central and southern Plains, Southwest, and Rocky Mountains will expect little to no precipitation. Temperatures during this period will be above normal over the western half of the country with the greatest departures expected over the Southwest where it could be 10-13 degrees above normal. The coolest temperatures will be along the East Coast where departures of 7-10 degrees below normal can be anticipated from North Carolina up to New York.

The 6-10 day outlooks show that the probability of warmer-than-normal temperatures covers almost the entire country outside of the East Coast from North Carolina to Massachusetts where probabilities lean to near normal conditions. The highest probabilities of above-normal temperatures will be in the northern Plains and upper Midwest. The greatest chances of above-normal precipitation will be in the Pacific

Northwest and portions of the South. The best chances of below-normal precipitation are in the Southwest and northern New England.

Author(s)

Richard Heim, NOAA/NCEI

Brian Fuchs, National Drought Mitigation Center