

National Drought Summary for December 3, 2024

Summary

This U.S. Drought Monitor (USDM) week saw improvement in areas of the Northeast, Midwest, and the West. In the Northeast, very heavy snowfall accumulations (up to 5+ feet in some areas) were observed in downwind locations of Lake Ontario and Lake Erie in New York, and northwestern Pennsylvania. The highest totals were observed downwind of Lake Erie between Erie, Pennsylvania and Buffalo, New York. Further south, 2-to-8-inch accumulations were observed in areas of the Appalachian Mountains in West Virginia, leading to improvements on the map in drought-affected areas. In the Upper Midwest, heavy lake-effect snowfall impacted much of Upper Peninsula Michigan as well as areas downwind of Lake Michigan in Northern Michigan and southeastern Michigan. In other parts of the Midwest, light accumulations (1 to 4 inches) were logged in Minnesota, Missouri, Illinois, Indiana, and Ohio. In the Southeast and South, dry conditions prevailed across both regions except for light precipitation accumulations in isolated areas of Alabama, Georgia, Florida, South Carolina, and southeastern Texas. In Florida, short-term dryness led to additional expansion of areas of drought in the Panhandle region. Elsewhere in the Southeast, areas of drought expanded on the map in Virginia, North Carolina, and South Carolina in response to short-term dryness and declining streamflow levels. In the High Plains, dry conditions prevailed across much of the region; however, some light snowfall was observed in the eastern portion of the Dakotas. Out West, drier conditions prevailed this week across much of the region, although areas of northern Arizona, northern New Mexico, and Colorado experienced snow in the higher elevations. In terms of reservoir storage in areas of the West, Californias reservoirs continue to be at or above historical averages for the date (December 3) with the states two largest reservoirs, Lake Shasta and Lake Oroville, at 113% and 109% of their averages, respectively. In the Southwest, Lake Powell is currently 37% full (59% of typical storage level for the date) and Lake Mead is 33% full (53% of average), with the total Lower Colorado system 42% full as of December 2 (compared to 43% full at the same time last year), according to the U.S. Bureau of Reclamation.

Northeast

On this weeks map, improvements were made in areas of New York, Pennsylvania, West Virginia, and Maryland in response to another round of beneficial precipitation across areas of the region. Heavy snowfall accumulations were observed across downwind locations within proximity to Lake Erie and Lake Ontario, including Buffalo and Watertown, New York. This weeks snowfall events led to significant increases in the snow coverage footprint within the region, with the National Weather Service (NWS) National Operational Hydrologic Remote Sensing Center (NOHRSC) reporting that 78.9% of the region is currently covered by snow with an average depth of 3.5 inches and a maximum depth of 24.4 inches. In terms of temperature during the past week,

below-normal average temperatures (1 to 6 degrees F) were observed across the southern extent of the region, while locations in the northern extent were generally above normal, with the greatest anomalies (3 to 9 degrees F above normal) observed in northern Maine. Looking at the New York City water supply system status, the current (12/3/24) total storage is at 59.8% of capacity (82.2% of normal capacity for the date). In areas of Vermont, New Hampshire, and Maine, short-term precipitation shortfalls led to expansion of areas of Moderate Drought (D1).

Southeast

During the past week, generally dry conditions prevailed across most of the region with some isolated light precipitation (<1 inch) observed. In response to short-term dryness during the past 30-60-day period, areas of Moderate Drought (D1) were introduced in Virginia and the Carolinas. In southeast Florida, short-term precipitation shortfalls in the past 30 days led to a slight expansion of areas of Abnormally Dry (D0). In Alabama, overall improving conditions during the past 30 days led to a reduction of areas of Extreme Drought (D3) in southwestern Alabama. In Georgia, recent rains have improved conditions in the western part of the state, while some areas missing out on recent events are reportedly experiencing a decline in soil moisture and pasture conditions. The latest USDA Georgia Crop Progress Report (November 25) reports that operators are having a challenging time finding supplemental hay to purchase due to low stocks after a dry summer and fall. In terms of average temperatures for the week, the greatest anomalies (ranging from 2 to 6+ degrees F) were observed in the Florida Panhandle, southern Georgia, and in isolated coastal areas of the Carolinas, while near-normal to slightly cooler-than-normal temperatures (2 to 4 degrees F) prevailed across the remainder of the region.

South

Across the region, generally dry conditions prevailed this week with the exception of light precipitation in isolated areas of Mississippi and Tennessee. On the map, some minor degradations were made in areas of Texas after another dry week, including in the southern North Central, northeastern Edwards Plateau, northeastern South Central, and along the Upper Coast. According to the latest USDA Texas Crop Progress Report (November 25), pasture and range conditions were rated at 62%, poor to very poor, with producers around the state continuing to use supplemental feed for livestock. Elsewhere, a mix of short- and long-term dryness led to further expansion and intensification of drought in the eastern half of Tennessee where numerous stream gauges are reporting flows in the 2nd to 9th percentile (far below normal) range. The USDA reports that producers in Tennessee are continuing to use supplemental feed and hauling water for livestock. In Arkansas, areas of drought were introduced in

response to a combination of factors including short-term precipitation deficits, low streamflows, and declining soil moisture.

Midwest

On this weeks map, drought-related improvements continued across areas of Upper Peninsula (UP) Michigan, Wisconsin, Minnesota, and Ohio in response to snowfall received during the past week. The heaviest accumulations were observed in eastern portions of the UP Michigan, Northern Michigan, and in areas of northeastern Ohio near Lake Erie. According to NWS NOHRSC National Snowfall Observations on 12/3/24, a trained observer near Saybrook, Ohio reported a snow depth of 61 inches early this week. Furthermore, the NWS NOHRSC is reporting that the Northern Great Lakes region is currently 56% snow covered, with an average depth of 2.5 inches and a maximum depth of 31.6 inches. Overall, the snowfall during the past few weeks has helped significantly ease drought-related conditions in areas of Michigan, Wisconsin, and Ohio. For the week, average temperatures were below normal across the entire region, with the greatest negative anomalies observed in eastern Minnesota and northeastern Wisconsin where temperatures ranged from 6 to 15 degrees F below normal.

High Plains

On this weeks map, only minor changes were made in the region, including in areas of North Dakota in response to recent snowfall events and above-normal precipitation during the past 30-day period. Some minor improvements were made also in west-central Kansas, where precipitation has been above normal during the past 3060-day period. For the week, the region was generally dry except for some light snowfall across portions of the Dakotas. In terms of average temperatures for the week, cooler-than-normal temperatures (2 to 25 deg F below normal) prevailed, with frigid temperatures observed across North Dakota.

West

Out West, areas of the region received mountain snowfall during the past week, including the Southern Sierra Nevada, the eastern Great Basin, ranges of south-central Utah, and the Colorado Rockies. On the map, storm events during the past several weeks led to continued improvements in drought-affected areas of Washington, Oregon, California, Nevada, Utah, Colorado, and New Mexico, while some degradation occurred in isolated areas of Arizona, New Mexico, and Wyoming. Looking at the regional snowpack situation, the Natural Resources Conservation Service SNOTEL network is

reporting (December 3) the following region-level (2-digit HUC) SWE levels (% of median): Pacific Northwest 126%, Missouri 75%, Upper Colorado 110%, Great Basin 111%, Lower Colorado 72%, Rio Grande 124%, Souris-Red-Rainy 94%, and Arkansas-White-Red 149%. In California, the California Department of Water Resources is reporting statewide snowpack at 157% of normal for the date (December 2). For the week, average temperatures were below normal across much of the northern tier of the region, with the greatest departures observed in northern Montana where temperatures ranged from 10 to 25 degrees below normal. In the Desert Southwest, areas of southern Arizona and New Mexico were 5 to 10 degrees above normal.

Caribbean

In Puerto Rico, no changes were made on the map this week.

The U.S. Virgin Islands received plentiful rain recently. In the past week, St. Thomas got 0.72 to 0.86 inches, St. John received 1.68 inches at Windswept Beach, and St. Croix received 0.25 inches or less at various points across the island. All locations remained in normal condition.

The Standardized Precipitation Index was positive at all time scales for all islands, indicating adequate moisture. The Vegetation Health Index indicated no vegetative stress on St. Thomas and St. John, but some amount of mild stress for parts of St. Croix.

Well water levels on St. Thomas and St. John were relatively high at 0.73 feet and 1.10 feet below the land surface, respectively, after responding well to November precipitation. The St. Croix well was 16.15 feet below the land surface on Dec. 2.

Pacific

In Alaska, no changes were made on the map this week.

On this weeks map, short-term dryness and declining streamflow levels led to some degradations across areas of the Hawaiian Islands, with the most severe drought expanding in Maui in the Maalaea and Kihei areas. For November, many locations across the island chain experienced dry conditions, with the exception of the Big Island and portions of the Koolau Range on Oahu following a wet period early in the month, according to the NWS in Honolulu.

The Republic of Palau received 1.96 inches at Palau IAP and 1.31 inches at Koror COOP. Both locations received adequate rainfall in recent weeks to have sufficient water as both islands need 2 inches of rain weekly.

The Mariana Islands had enough rain to meet water needs. Guam received 2.12 inches, while Rota reported 1.71 inches. Saipan received from 0.79 and 1.09 inches at Saipan ASOS and Saipan AMME NPS, respectively. These islands need an inch weekly to meet minimum water needs.

The Federal States of Micronesia were mixed with most locations receiving more than 2 inches, except Lukunor with 1.13 inches, Ulithi with 0.81 inches and Yap with 0.37 inches. Chuuk, Kapingamarangi and Kosrae received enough rain that the D0 designation was removed for those islands.

The Marshall Islands all received more than 2 inches of precipitation in the past week. These islands need 2 inches of rain each week to meet minimum water needs. Jaluit got 4.19 inches of rain, so D0 was removed, leaving all of the Marshall Islands in normal condition. The Majuro reservoir held 32.3 million gallons on Nov. 30.

American Samoa remained free of dryness as Pago Pago, Siufaga Ridge and Toa Ridge each received more than 3 inches of rain.

Looking Ahead

The NWS Weather Prediction Center 7-Day Quantitative Precipitation Forecast calls for moderate-to-heavy precipitation accumulations ranging from 2 to 4 inches (liquid) across areas of the Pacific Northwest, including the Olympic Mountains and Cascades of Washington. In the South, areas of eastern Texas, Louisiana, Mississippi, Alabama, western Georgia, and southern Tennessee are forecasted to receive accumulations ranging from 2 to 6+ inches. Elsewhere, light accumulations (<1 inch) are expected in areas of the Northern Rockies in the Panhandle of Idaho, northwestern Montana, and locations across the Upper Midwest and Northeast. The Climate Prediction Center (CPC) 6-10-day Outlook calls for a moderate-to-high probability of above-normal temperatures across much of the West, the Central and Northern Plains states, and the eastern third of the contiguous U.S. Meanwhile, near-normal temperatures are expected across much of the South and in the Four Corner states. In terms of precipitation, there is a low-to-moderate probability of above-normal precipitation across the eastern third of the contiguous U.S., eastern Texas, eastern portions of the Midwest, and areas along the entire greater U.S.-Canada border. Elsewhere, below-normal precipitation is expected across portions of the West including California, Nevada, Utah, Arizona, and New Mexico.

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