National Drought Summary – March 31, 2020

The discussion in the Looking Ahead section is a description of what the official national guidance from the National Weather Service (NWS) National Centers for Environmental Prediction is depicting for current areas of dryness and drought. The utilized NWS forecast products include the WPC 5-day QPF and 5-day Mean Temperature progs, the 6–10 Day Outlooks of Temperature and Precipitation Probability, and the 8–14 Day Outlooks of Temperature and Precipitation Probability—valid as of late Wednesday afternoon of the USDM release week. The NWS forecast Web page used for this section is http://www.cpc.ncep.noaa.gov/products/forecasts/.

This U.S. Drought Monitor week saw an active weather pattern impact various parts of the conterminous U.S.—including the western U.S. which continued to experience below-normal temperatures and snow showers in the mountain ranges of the Pacific Northwest (Olympics, Cascades), California (Northern Coast Ranges, Sierra Nevada), and parts of the Intermountain West (Wasatch, central and northern Rockies). In other parts of the Pacific Northwest, including central Oregon and Washington, drought intensified while improvement in drought-related conditions occurred in the Four Corners of northeastern Arizona. Elsewhere, an outbreak of severe weather, including showers and thunderstorms as well as tornadoes, affected parts of the Midwest and South. Along the Gulf Coast, temperatures were well above normal with numerous single-day high temperature records broken. In Florida, drought conditions expanded across much of the state after another week of unseasonably warm temperatures and continued dryness with numerous cities across the state experiencing record dryness for the month.

The Northeast: On this week’s map, the region remained drought-free and several small areas of Abnormally Dry (D0) in Connecticut, Massachusetts, New Jersey, New York, and Rhode Island were removed in response to precipitation events during the past several weeks, which provided a boost in soil moisture and streamflow levels. Average temperatures for the week were above normal across most of the region with largest positive anomalies (6-to-10+ degrees) observed across western portions of Pennsylvania as well as New York and West Virginia. Much of the region observed light precipitation during the past week with liquid accumulations of generally less than one inch with the exception of areas of central and western Pennsylvania that received 2-to-3 inches accumulation while snow showers were observed in the Adirondacks, Green Mountains, and White Mountains.

The Southeast: During the past week, precipitation was observed across much of the northern portion of the region with the heaviest accumulations (3-to-5 inches) observed across northern portions of Alabama and Georgia while other parts of the region, including the Carolinas, received accumulations of generally less than two inches. In the southern portion of Alabama and Georgia as well as in Florida, the hot and dry pattern persisted leading to expansion of areas of Abnormally Dry (D0) and Moderate Drought (D1). In these areas, the 7-day average streamflows were mainly below normal levels. In Florida, a number of observing stations around
the state recorded their driest March on record including Lakeland Linder Regional Airport (0.00”), St. Petersburg Albert Whitted Airport (0.00”), and Vero Beach International Airport (0.02”). According to the March 30 USDA Crop Progress and Condition Report, pasture conditions in Florida were steadily deteriorating around the state because of the abnormally warm temperatures and decreasing soil moisture levels.

**The South:** On this week’s map, drought-affected areas of southern Texas and the Gulf Coast region of Louisiana and Mississippi saw continued deterioration resulting from the lack of rainfall and abnormally high temperatures. During the past week, a number of daily high-temperature records were either tied or broken across the region — including at the New Orleans International Airport that soared to 89° F on March 25. Along the Gulf Coast region of Louisiana and Mississippi, precipitation deficits (ranging from 3-to-6 inches) for the past 30-day period led to expansion of areas of Moderate Drought (D1). In the South Texas Plains and Gulf Coast Region, hot and dry weather this week led to continued expansion of areas of Moderate Drought (D1), Severe Drought (D2), and Extreme Drought (D3). In far southern portions of the state, temperatures reached the high 90s last week. According to the latest USDA Texas Crop Progress and Condition Report, some failed fields (small grains) in South Texas are being reported because of dry conditions while livestock across the state was rated in fair-to-good condition. In Oklahoma, above-normal precipitation during the past 30-day period led to removal of areas of Abnormally Dry (D0 and Moderate Drought (D1) in southwestern Oklahoma.

**The Midwest:** On this week’s map, the region remained drought free. For the week, severe weather impacted much of the region including showers and thunderstorms as well as tornadic activity in Iowa, Illinois, Indiana, Kentucky, and Wisconsin. Precipitation accumulations for the week ranged from 1-to-3 inches with the greatest accumulations observed in northern Illinois, central Indiana, southern Michigan, and northern Ohio. Average temperatures were above normal across the region with the largest positive anomalies observed in the southern half of the region that saw average temperatures for the week ranging from 6-to-10+ degrees above normal.

**The High Plains:** On this week’s map, only minor changes were made in Wyoming where an area of Abnormally Dry (D0) was introduced in response to below-normal snowpack conditions at several NRCS SNOTEL sites in the Wind River Range. Elsewhere, no changes were made on the map. Overall, precipitation for the week was light (generally <1.5” liquid accumulations) with areas of northwestern Kansas, eastern Nebraska, and southeastern South Dakota receiving the greatest accumulations. Average temperatures for the week were mostly above normal (2-to-8 degrees) with greatest positive anomalies observed in northern North Dakota and eastern Kansas while the plains of eastern Colorado and Wyoming were slightly cooler. For the past 30-day period, precipitation was below normal across the Dakotas, eastern Wyoming, southeastern Colorado, and portions of western Kansas, while above-normal precipitation was observed across much of Nebraska, eastern Kansas, and portions of northeastern Colorado.
The West: On this week’s map, areas of drought expanded in north-central Oregon, south-central Washington, central Nevada, and in the central Sierra Nevada of California. Elsewhere in the region, one-category improvements in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2) were made in northern Arizona where precipitation has been above normal during the past 30-day period. In California, the California Snow Surveys is reporting a statewide SWE percentage of normal of 54% with a regional breakdown as follows: North 57%, Central 58%, and South 45%. Elsewhere in the West, region-level (2-digit HUC) SWE at the end of the month was as follows: Great Basin 91%, Pacific Northwest 107%, Upper Colorado 108%, Lower Colorado 110%, Missouri 113%, Rio Grande 92%, and Arkansas-White-Red 105%. At a basin level (6-digit HUC), below-normal SWE was observed across several basins in Arizona and New Mexico (Salt 29%, Little Colorado 81%, Upper Gila 29%, Rio Grande-Elephant Butte 75%, Upper Pecos 82%) as well as in central Nevada (Central Nevada Desert Basins 78%, Walker 54%, Carson 76%, Truckee 71%) and Oregon (Southern Oregon Coastal 84%, Deschutes 84%).

Hawaii, Alaska, and Puerto Rico: No changes were made on this week’s map in the Hawaiian Islands, Alaska, or Puerto Rico. Across the island chain, average temperature were generally near normal with the exception of portions of the Big Island where average temperatures were 2-to-3 degrees below normal. Precipitation for the week was above normal on the windward and northern portions of the Big Island, Oahu, and Kauai while the southern portions of the Big Island, Maui, Lanai, and Molokai were well-below normal. For the month of March, Hilo Airport logged 27.56 inches (212% of normal) while Honolulu International Airport recorded 3.76 inches (191% of normal) and Lihue Airport 15.61 inches (348% of normal). In Alaska, average temperatures for the week were well above normal (ranging from 6-to-11 degrees) on the North Slope, Southwest, and portions of Southcentral while parts of the Interior and Southeast Alaska ranged from 2-to-6 degrees below normal. This week, precipitation was below normal across Southeast Alaska, portions of Prince William Sound, and Kodiak Island while some areas of the Interior, Far North, and Southwest were slightly above average. In Puerto Rico, moderate-to-heavy precipitation was observed this week with central and western portions of the Cordillera Central receiving accumulations ranging from 2-to-6 inches.

Looking Ahead: The NWS WPC 7-Day Quantitative Precipitation Forecast (QPF) calls for moderate-to-heavy accumulations ranging from 1-to-5 inches across central and eastern portions of Texas and slightly lesser accumulations in southeastern Oklahoma, Arkansas, and northern Mississippi. Across much of the Southeast, the dry pattern is forecasted to continue with the exception of northern portions, which are forecasted for light accumulations (1-to-2 inches). In portions of the northern Plains and western portions of the Midwest, generally light accumulations (<1 inch liquid) are expected. Out West, moderate-to-heavy accumulations (ranging from 1-to-4 inches liquid) are forecasted for northern California while western portions of Oregon and Washington are forecasted to receive less accumulation. Across the Intermountain West, liquid accumulations of generally less than one inch are expected for parts of the central
and northern Rockies, Uinta, and Wasatch ranges of Utah while the Southwest is expected to be dry. The CPC 6-10-day Outlook calls for a moderate-to-high probability of above-normal temperatures east of the Rockies while areas west of the Rockies are expected to be below normal. In terms of precipitation, there is a moderate-to-high probability of above-normal levels across California and Nevada while there is a low-to-moderate probability of above-normal precipitation across the remainder of the West with the exception of the areas of Colorado and New Mexico where below normal precipitation is expected. Elsewhere, above-normal precipitation is expected (33% to 50% probabilities) across the eastern half of the contiguous U.S. with the exception of Florida where dry conditions are expected to prevail. In Alaska, the northern two-thirds of the state have a high probability of above-average precipitation while the Aleutians, Southcentral, and Southeast should be below normal.

Author: David Simeral, Western Regional Climate Center

Dryness Categories

D0 ... Abnormally Dry ... used for areas showing dryness but not yet in drought or for areas recovering from drought.

Drought Intensity Categories
D1 ... Moderate Drought
D2 ... Severe Drought
D3 ... Extreme Drought
D4 ... Exceptional Drought

Drought or Dryness Types
S ... Short-term
L ... Long-term

Updated March 31, 2020