National Drought Summary – October 15, 2019

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/.

A large upper-level low pressure system moved in the jet stream flow across the contiguous U.S. (CONUS) during this U.S. Drought Monitor (USDM) week, dragging surface lows and cold fronts along with it. Cooler air followed the fronts, bringing a colder-than-normal week to most of the country west of the Appalachians. Temperatures still averaged warmer than normal across the Southeast and parts of the Northeast. Above-normal precipitation accompanied the fronts and lows across the northern Plains, the central Plains to Mid-Mississippi Valley, and parts of Texas, the Great Lakes, and Southeast. Rain was moving along a stationary front across parts of the Southeast as the USDM week ended. Any rain that falls after the 12Z (7:00 a.m. EST) cutoff for this week’s USDM will be considered for next week’s map. Most of the West, parts of the central to southern Plains, and most of the Tennessee Valley to New England was drier than normal as the USDM week ended, with many of these areas receiving no precipitation. Soils continued to dry out in the Southwest, southern Plains, Ohio Valley, and East, and crops, pasture, and rangeland was in poor to very poor condition in more than 50% of the area in states in these regions. Streamflow was very low or near record low levels across the Southeast to southern New England. Precipitation deficits for the last 4 months of more than 10 inches below normal were common across the Southeast and parts of Texas, and 4-month deficits of 6 inches or more were evident across the Mid-Atlantic and Northeast regions. The dry conditions, coupled with increased evapotranspiration caused by unusually hot temperatures of the last couple months, resulted in very low values for drought indices such as the Standardized Precipitation Index (SPI) and Standardized Precipitation Evapotranspiration Index (SPEI). The streamflow, soil moisture, vegetation conditions, SPI, and SPEI were the basis for changes on this week’s USDM map.

Northeast: Abnormally dry (D0) conditions expanded in the Northeast with moderate drought (D1) pushing further into Pennsylvania and New Jersey and severe drought (D2) being introduced into Maryland and Delaware.

Southeast: Most of the region was drier than normal again this week. Abnormally dry (D0) to severe drought (D2) conditions expanded or intensified in parts of every state in the region, with extreme drought (D3) expanding in Georgia, South Carolina, Alabama, and Florida. Rainfall was above normal for the week in a few areas, with contraction of D0, D1, or D2 occurring in parts of Alabama and extreme western North Carolina. But for the most part, where rain did fall, it was only enough to temporarily halt further drought expansion.

South: Parts of Texas, Oklahoma, Arkansas, and Louisiana received over 2 inches of rain this week, which resulted in contraction of drought and abnormal dryness. Contraction also occurred
in western Tennessee. But other areas continued dry, with expansion of drought and abnormal dryness occurring. Severe (D2) to extreme (D3) drought expanded in Texas and eastern Tennessee.

**Midwest:** It was wet along the Mid-Mississippi Valley and parts of the Great Lakes, but drier than normal across most of the rest of the Midwest region. Some contraction and some expansion of drought and abnormal dryness occurred along the Ohio Valley states, depending on where the rain fell and the change in moisture conditions. Most notably severe drought (D2) expanded in western Kentucky and adjacent southern Indiana, and extreme drought (D3) expanded in eastern Kentucky.

**High Plains:** In the High Plains region, the week was wetter than normal in the north and drier than normal in the south. There was no change in drought status in Colorado or Wyoming, but abnormal dryness and moderate drought expanded in Kansas with pockets of severe drought developing in southwest Kansas. Nebraska and the Dakotas continued free of drought and abnormal dryness.

**West:** Another week of no precipitation compounded dryness which has been developing over the last 6 months across Nevada and California, where abnormal dryness (D0) expanded. Intensifying dryness over the last 3 months prompted the expansion of D0 in the Pecos region of northeast New Mexico. Severe drought (D2) expanded in north central Arizona and adjacent south central Utah.

**Hawaii, Alaska, and Puerto Rico:** In Puerto Rico, 2+ inches of rain trimmed the moderate drought (D1) in the southwest and abnormal dryness (D0) in the east. But a strip of D0-D1 continued along the southwest to south central coast.

In Alaska, above-normal precipitation contracted moderate drought (D1) north of Anchorage and abnormal dryness (D0) along the Aleutian peninsula (Alaskan peninsula). In the panhandle, even though the last 60 days have been drier than normal, the southern half of Southeast Alaska (the panhandle) has been receiving fall rains and it has been helping to raise ground water levels. The area is still experiencing impacts (some hydro power generation with diesel power backup as a supplement) but the rains have helped to raise the levels of the lakes some. The SPI's for the last 3 months over that area is still below normal but not as low as it has been. As a result, the extreme drought (D3) in the southern panhandle was removed.

In Hawaii, some improvement occurred and some deterioration on most of the major islands. A heavy rain event last week mainly affected Kauai, Oahu, and the southeast-facing slopes of the Big Island, so improvement occurred along the leeward slopes. But on the Big Island, the southeasterly low level flow has worsened the drought along the Hamakua Coast. A rancher reported to the FSA that their pastures were in poor shape and they haven't had significant rainfall in several months. D0-D2 were expanded along the lower Hamakua Coast and windward Kohala Mountain slopes. Rain from afternoon deep convection contracted D1 near Kawaihae.
Looking Ahead: Since the Tuesday morning cutoff for this week’s USDM, several inches of rain have fallen along the frontal zone in the Southeast, a low pressure and frontal system was bringing rain to the Northeast, and another system was bringing precipitation to the Pacific Northwest. This precipitation will be incorporated into next week’s USDM. For October 17-22, Pacific frontal systems will bring 3 or more inches of rain to the western mountain ranges of Oregon and Washington with an inch or more to the northern Rockies and half an inch from the Pacific Northwest to Montana and Wyoming. A large area of an inch or more of precipitation is forecast to fall along the Mississippi River to eastern portions of Kansas, Oklahoma, and Texas, and into the western Great Lakes and northern Plains. Half an inch to an inch and a half of rain may fall in the Ohio and Tennessee Valleys, 2 or more inches in much of the Northeast, and 1-2 inches across the Southeast, with up to half an inch across the rest of the Great Lakes. But the Southwest into the southern and central High Plains are forecast to get no precipitation. Temperatures are expected to moderate, forecast to be near to above normal across most of the CONUS. For October 22-30, odds favor above-normal precipitation across the East Coast into the Great Lakes, and for part of the period along the northern Rockies to northern Great Plains. The period will likely be drier than normal across the Southwest into the southern and central Plains, eventually extending to the Mississippi Valley later in the period. Odds favor drier-than-normal weather in western Alaska with wetter-than-normal weather in the south and east. The temperature outlook for October 22-30 is warmer-than-normal along the West Coast and East Coast, with colder-than-normal weather from the Rockies to Appalachians. The period is expected to be warmer than normal along western and southern Alaska.

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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

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