National Drought Summary for 6/25/2019

Summary: Multiple cold fronts progressed across the central and eastern U.S. during mid to late June with widespread showers and thundershowers from the Great Plains east to the East Coast. During the past week (June 18 to 24), heavy rainfall (2 to 6 inches) maintained excessively wet conditions across eastern portions of the Great Plains, middle Mississippi Valley, and Ohio Valley. Diurnal convection resulted in locally heavy rainfall (more than 2 inches) from the Florida Panhandle south to the central Florida Peninsula. An unseasonably strong low pressure system resulted in accumulating snow to the northern and central Rockies on the first full day of the summer. More than a foot of snow was observed at elevations above 9,000 feet in the Colorado Rockies. During mid to late June, cooler-than-normal temperatures persisted throughout the western and central Corn Belt. Above average rainfall has occurred throughout a majority of the central and eastern U.S. during the past 30 days, with below average rainfall limited to scattered areas of the Southeast, south Texas, the northern Great Plains, upper Mississippi Valley, and Pacific Northwest.

Northeast: Occasional showers and thundershowers accompanied frontal passages across the Northeast during the past couple of weeks, maintaining normal to above normal stream flows and soil moisture above the 70th percentile. During the past 30 days, rainfall has averaged more than 4 inches above normal across parts of the central Appalachians and northern mid-Atlantic. Although parts of New England have been slightly drier-than-normal recently, a lack of abnormal heat has limited evapotranspiration rates for this time of year. The Northeast has remained drought-free since November 2018.

Southeast: Drought amelioration continued across the Coastal Plain of Georgia and South Carolina with 2-week rainfall amounts of more than 3 inches observed at many locations. This recent rainfall and 28-day stream flows close to average support the improving conditions. However, abnormal dryness (D0) continues across parts of the Piedmont of South Carolina where rainfall has been erratic during the past two months. The abnormal dryness (D0) coverage generally coincides with where 60-day precipitation deficits exist. Moderate to severe drought (D1-D2) continues across the Pee Dee region of South Carolina, southeast North Carolina, and Alabama and Georgia which largely missed the beneficial rainfall. Low 28-day stream flows are currently observed along the Satilla, Suwannee, and St. Mary’s Rivers in southeast Georgia. Severe drought was maintained in southeast Alabama since the 28-day stream flows along the Choctawhatchee River near Newton, Alabama remains below the 10th percentile. The year-to-date precipitation deficit at Dothan, Alabama is 11.50 inches, as of June 25. The coverage of abnormal dryness (D0) was extended west towards Mobile Bay due to insufficient rainfall and recent heat. The abnormal dryness (D0) and moderate drought (D1) areas extend slightly south into the Florida Panhandle and northeast Florida, although the southward extent has decreased the past two weeks. As of June 25, the year-to-date precipitation deficit at Tallahassee, Florida is 11.67 inches.

South: Frequent thunderstorms resulted in widespread, heavy rainfall (2 to 4 inches, locally more) throughout the Tennessee Valley during the past week (June 18 to 24). Due to the recent heavy rainfall, the coverage of abnormal dryness (D0) was reduced across Tennessee and northern Alabama. In addition to the heavy rainfall, numerous severe weather reports (mostly wind damage) were recorded on June 19 and 21. The Vegetative Health Index (VHI) reflects moist conditions throughout much of the region. According to the Oklahoma Mesonet network, the northeast quarter of Oklahoma has received 20 to 33 inches of rainfall during the past 60 days. Increasing 30 to 60-day precipitation deficits along with slightly above normal temperatures since mid-June led to the addition of abnormal dryness (D0) to Lafourche and Terrebonne Parishes in southeast Louisiana. Heavy rainfall (localized max of 10 inches) eliminated abnormal dryness in parts of southern Texas. However, the core drought areas in the
Rio Grande Valley missed this recent rainfall thus leading to a slight increase in D1 (moderate drought) and the addition of D2 (severe drought) in Duval County.

**Midwest:** Excessively wet conditions persist across the middle Mississippi Valley, Ohio Valley, and much of the Corn Belt, with precipitation averaging 150 to 200 percent of normal dating back 180 days. According to the National Centers for Environmental Information, the meteorological spring of 2019 ranked in the top-ten for wetness in the following states: Illinois, Indiana, Iowa, Missouri, and Wisconsin. Due to the wet winter and spring, soil moisture remains above the 99th percentile across much of the Corn Belt. According to the USDA Weekly Weather and Crop Bulletin (valid on June 23), corn emergence was behind average by 20 percentage points or more in Michigan and Ohio. Only 67 percent of the soybeans in Illinois had emerged by June 23 which is 26 percentage points behind average. Moderate flooding continues along the middle Mississippi River. Farther to the north, abnormal dryness (D0) was depicted for parts of northern Minnesota due to an increasing short-term precipitation deficit.

**High Plains:** An increase in rainfall (1.5 to 3 inches) this past week (June 18 to 24) resulted in a slight reduction of D1 to D2 (moderate to severe drought) across North Dakota. In addition, 7-day maximum temperatures averaged 4 to 8 degrees F below normal throughout the northern Great Plains. Maximum temperatures remained below 80 degrees F from June 15 to 24 at Minot, North Dakota. Large variations in soil moisture continue with excessively wet conditions (above the 99th percentile) across Kansas, Nebraska, and South Dakota, while soil moisture falls below the 20th percentile across northern North Dakota. According to the National Centers for Environmental Information, Kansas had its wettest meteorological spring (March to May 2019) on record.

**West:** Following a dry spring across northeast Montana, more frequent rainfall occurred this past week (June 18 to 24) with 7-day rainfall amounts mostly above 2 inches. Due to this wet week and increase in topsoil moisture, an elimination of moderate drought (D1) was warranted. Moderate drought (D1) was expanded south across northern Idaho due to increasing 30 to 90-day precipitation deficits. Since 28-day stream flows have fallen below the 10th percentile, severe drought (D2) was introduced to parts of northern Idaho and adjacent areas of northwest Montana and northeast Washington. Also, 90-day SPI values generally support the expansion of moderate drought and addition of severe drought. Based on the Vegetative Health Index, the long-term drought (D1) area was reduced across western New Mexico. Following notable changes in the spatial extent and severity of drought conditions in the Pacific Northwest the previous week, no changes were necessary this week due in part to much cooler temperatures. Severe drought (D2) remains over parts of Washington which experienced its 13th driest March to May on record.

**Alaska, Hawaii, and Puerto Rico:** The southern Alaska Panhandle had its driest June 2018 through May 2019 period on record, which supports the ongoing extreme drought (D3). Although parts of drought-stricken areas of Alaska have received beneficial rainfall, long-term deficits persist. 28-day stream flows remain low along multiple rivers in the Alaska Panhandle and also along the Yukon River in eastern mainland Alaska. Although no changes were made to Hawaii this week, the Normalized Difference Vegetation Index reflects slight improvement to the current D3 area depicted on the Big Island. On June 25, an unusual low pressure system for this time of year brought heavy rainfall to the western Hawaiian Islands, including a daily record of 4.20 inches at Honolulu. The effects of this heavy rainfall on the drought status in Hawaii will be reassessed next week. Suppressed rainfall persisted across much of Puerto Rico into late June. As of June 25, the year-to-date precipitation deficit at San Juan, Puerto Rico is 9.45 inches. After the previous week’s expansion of D0 and D1, no changes were made this week to the drought status for Puerto Rico.

*Looking Ahead:*
During the next 5 days (June 27-July 1, 2019), an area of upper-level high pressure is likely to strengthen over the north-central U.S., resulting in a major warming trend across the Great Plains, Corn Belt, and Midwest. Maximum temperatures are forecast to peak in the middle 90s to near 100 (degrees F) across the central Plains and western Corn Belt. Due to the strengthening ridge aloft, the axis of heaviest rainfall (locally more than 1 inch) is expected to become focused from the northern Great Plains east to the upper Mississippi Valley and Great Lakes. An easterly wave of low pressure is forecast to shift west from the Gulf of Mexico and enhance scattered thundershowers with locally heavy rainfall across the western Gulf Coast. Scattered showers and below-normal temperatures are forecast across drought-stricken areas of the Pacific Northwest through June 28. Much above-normal temperatures along with below-average precipitation is forecast throughout much of Alaska. Ongoing heavy rainfall is expected to gradually ease across the western Hawaiian Islands. Below-average rainfall is likely to continue for Puerto Rico into the beginning of July.

The CPC 6-10 day outlook (July 2-6, 2019) favors above-normal temperatures across the north-central and eastern U.S. with the highest odds over the Southeast. Near to below-normal temperatures are most likely across the western U.S. Elevated chances for above-normal precipitation were forecast for much of the central and eastern U.S. although near to below-normal precipitation is favored across the Southeast. Increased chances for below-normal precipitation is forecast for the desert Southwest to begin July. A relatively warm and dry pattern is likely to persist across the Alaska Panhandle and southern mainland Alaska.

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