National Drought Summary – July 23, 2019

Summary: The remnants of Hurricane Barry drifted northward into the Ohio Valley, delivering widespread rainfall that mostly benefited summer crops but also sparked some flash flooding. Some of the heaviest rain, locally 4 to 8 inches or more, fell in portions of the Mississippi Delta States. Meanwhile, several cold fronts crossed the North, generating showers and locally severe thunderstorms from the northern Plains into the Northeast. Some of the highest totals, as much as 2 to 4 inches or more, fell from South Dakota into Michigan, locally accompanied by high winds, large hail, and isolated tornadoes. Meanwhile, much of the central and eastern U.S. experienced a brief period of heat and high humidity levels, followed by cooler weather and scattered to widespread showers and thunderstorms. Late-planted and poorly rooted Midwestern corn and soybeans were particularly susceptible to heat stress in areas that have recently dried out, following excessive spring wetness and acute planting delays. Temperatures soared to 90°F or higher east of the Rockies, except in parts of the Appalachians and across the nation’s northern tier. Readings topped 100°F throughout the central and southern High Plains. Elsewhere, dry weather covered large sections of the West and the southern half of the Plains. However, cold fronts delivered some light precipitation to the northernmost Rockies and Pacific Northwest, while showers associated with the monsoon circulation dotted the central and southern Rockies and the Desert Southwest.

Northeast: Heavy rain late in the drought-monitoring period eliminated the abnormal dryness (D0) that had recently developed over southwestern New England and a neighboring sliver of eastern New York. July 17-23 rainfall in Hartford, Connecticut, totaled exactly 2 inches, helping to boost its total since June 1 from 2.71 to 4.71 inches—an improvement from 43 to 64% of normal. During the 7-day period ending July 23, Poughkeepsie, New York, received rainfall totaling 2.26 inches.

Southeast: Spotty showers were heaviest across parts of Florida and from the southern Appalachians westward. As a result, there was a general slight increase in the coverage of dryness (D0) and moderate drought (D1) in the southern Atlantic States from Georgia northward. A couple of pockets of severe drought (D2) persisted in an area centered across southeastern Alabama, where Dothan’s June 1 – July 23 rainfall totaled just 5.49 inches (55% of normal). According to the U.S. Department of Agriculture, topsoil moisture on July 21 was rated at least 40% very short to short in Georgia, Virginia, and the Carolina. On the same date in North Carolina, 30% of the corn for grain was rated in very poor to poor condition.

South: The remnants of Hurricane Barry continued to produce heavy rain early in the drought-monitoring period in Arkansas and environs. On July 16, daily-record rainfall amounts reached 4.09 inches in Pine Bluff, Arkansas, and 2.28 inches in Memphis, Tennessee. From July 14-16, Pine Bluff received 7.02 inches. Other July 14-16 totals included 5.35 inches in Greenwood, Mississippi, and 5.12 inches in Memphis. Storm totals topped 10 inches in parts of Arkansas and Louisiana. A state 24-hour rainfall record was established in Arkansas, where 16.17 inches fell at Dierks, in Howard County, on July 15-16. Arkansas’ previous record of 14.06 inches had been established on December 3, 1982, at a weather station near Big Fork, in Polk County. An Arkansas state record was also broken for rainfall received during a tropical event; the 16.59-inch sum in Dierks eclipsed the previous standard of 13.91 inches set in Portland, Ashley.
County, during Tropical Storm Allison from June 28 – July 2, 1989. Outside of Barry’s sphere of influence, slight expansion of abnormal dryness (D0) was noted in parts of Oklahoma and Texas, where very hot weather prevailed until recently. Dalhart, Texas, tallied a trio of daily-record highs (105, 108, and 107°F) from July 18-20. Elsewhere, moderate drought (D1) further expanded in portions of southern Texas. During the week ending July 21, topsoil moisture rated very short to short as reported by USDA increased from 21 to 43% in Oklahoma and from 42 to 55% in Texas.

**Midwest:** A sharp but short-lived heat wave affected the Midwest for several days but wound down before the drought-monitoring period ended. On July 19, daily-record highs rose to 97°F in La Crosse, Wisconsin, and 95°F in Alpena, Michigan. In addition, short-term dryness (D0) has begun to adversely affect some Midwestern corn and soybeans, with impacts exacerbated by late planting, poorly developed root systems, and soil compaction. From July 1-23, rainfall totaled less than one-half inch in Illinois locations such as Lincoln (0.46 inch, or 12% of normal) and Springfield (0.23 inch, or 8%). Iowa City, Iowa, reported a July 1-23 total of 0.85 inch (21% of normal). On July 21, topsoil moisture—as reported by USDA—was 20 to 29% very short to short in Illinois, Indiana, and Michigan, and 16% very short to short in Iowa and Missouri.

**High Plains:** Rainfall across the High Plains has been heavy at times in recent weeks, and most rangeland and pastures are in good shape. According to USDA on July 21, rangeland and pastures were rated at least 70% good to excellent in each of the region’s six states (CO, KS, NE, ND, SD, and WY). Although a few areas of dryness (D0) and moderate drought (D1) linger in North Dakota, drought effects have generally diminished. On July 21, more than three-quarters (76%) of the U.S. spring wheat crop was rated in good to excellent condition.

**West:** A sluggish start to the Southwestern monsoon season, particularly in Arizona, Utah, and southwestern Colorado, led to some modest expansion of abnormal dryness (D0). Locations in or near the new D0 areas that received only a trace of rain during the first 23 days of July included Cortez, Colorado (0.69 inch below normal), and Cedar City, Utah (0.54 inch below normal). Farther north, some reassessment of conditions near the Canadian border led to the removal of severe drought (D2) from northeastern Washington into northwestern Montana, based on recent precipitation trends, streamflow, and other drought indicators. Similarly, a small lobe of D0 was removed from southwestern Montana. Closer to the Pacific Coast, enough precipitation has recently fallen in western Washington to result in a slight reduction in the coverage of D2. Still, some significant topsoil moisture shortages exist in parts of the Pacific Northwest. On July 21, USDA rated topsoil moisture 64% very short to short in Oregon and 57% in very short to short in Washington.

**Alaska, Hawaii, and Puerto Rico:** By July 23, more than six dozen active Alaskan wildfires had cumulatively burned well over 1.8 million acres of vegetation. The largest wildfire, the 473,451-acre Chalkyitsik Complex, was burning in the Yukon Flats about 15 miles east of the community of Chalkyitsik. East-central Alaska’s driest locations, some of which have received less than an inch of rain since late May, experienced a change from moderate to severe drought (from D1 to D2). During the drought-monitoring period, an explosive thunderstorm outbreak on July 18-19 resulted in more than 24,000 lightning strikes in a 24-hour period across Alaska and the neighboring Yukon Territory of Canada. Meanwhile, moderate to extreme drought (D1 to
D3) persisted across southeastern Alaska, where impacts ranging from reduced hydroelectric power generation and municipal water restrictions to low streamflow for fish migration have been reported. Farther south, roughly the western half of Hawaii continued to benefit from earlier rainfall, resulting in the elimination of abnormal dryness (D0) from Kauai, Oahu, and Molokai. However, some extreme drought (D3) was added on Maui, across the lower leeward slopes of Haleakala, due to significant agricultural drought impacts. The drought depiction for the Big Island remained unchanged. Elsewhere, heavy rain across west-central Puerto Rico resulted in some reduction in the coverage of moderate to severe drought (D1 to D2). The remainder of Puerto Rico experienced little or no change in the depiction. In San Juan, Puerto Rico, similar rainfall deficits existed at different time scales. For example, San Juan received 5.46 inches (67% of normal) from June 1 – July 23 and through that date had a year-to-date total of 15.78 inches (59% of normal).

**Looking Ahead:** Showers and thunderstorms will linger for the next few days in the Deep South, primarily across Florida and along the Gulf Coast. Meanwhile, a pair of slow-moving cold fronts crossing the northern U.S. will entrain moisture from the monsoon circulation, leading to spotty showers from the Southwest to the northern Plains and upper Midwest. Dry weather and near- or below-normal temperatures will prevail between the two primary areas of showery weather. Elsewhere, hot weather will dominate the Intermountain West.

The NWS 6- to 10-day outlook for July 30 – August 3 calls for near- or above-normal temperatures nationwide, except for cooler-than-normal conditions in northern Washington and the lower Mississippi Valley. Meanwhile, near- or below-normal rainfall across much of the Plains and Northwest should contrast with wetter-than-normal weather in the Southwest and a broad area covering the mid-South, Ohio and Tennessee Valleys, the lower Great Lakes region, and the Northeast.

**Author:** Brad Rippey, U.S. Department of Agriculture