National Drought Summary – September 22, 2020

Summary: Category 2 Hurricane Sally made landfall on September 16 near Gulf Shores, Alabama, around 4:45 am CDT, with sustained winds near 105 mph. Torrential rainfall across southern Alabama and western Florida sparked major to record flooding, while wind-related damage and power outages were common. Once inland over the Southeast, Sally quickly weakened but continued to produce heavy rain, extending as far north as southern Virginia. Mostly dry weather covered the remainder of the country, except for showers in the Pacific Northwest and heavy rain in the western Gulf Coast region associated with the arrival of Tropical Storm Beta along the middle Texas coast. Beta, the 23rd named storm of the Atlantic hurricane season—behind only 28 tropical cyclones in 2005—made landfall at 10:00 pm CDT on September 21 near Port O’Connor, Texas, with sustained winds near 45 mph. Meanwhile, drought remained entrenched across much of the western half of the country and parts of the Northeast. In the latter region, growing season-ending freezes (starting September 19) may limit re-growth of drought-stressed pastures, even if widespread precipitation returns during autumn. Western wildfires continued to degrade air quality across a vast area, with approximately six dozen fires in various stages of containment by September 22.

Northeast: Dry weather persisted in much the Northeast, although Hurricane Teddy grazed eastern Maine with some gusty winds and mostly light rain on September 22-23. However, cooler weather replaced previously warm conditions, with many locations reporting an end to the growing season due to sub-freezing temperatures. Sub-freezing, daily-record lows for September 19 included 21°F in Saranac Lake, New York, and 27°F in Montpelier, Vermont. In areas where pastures are stressed by drought and hard freezes occurred, significant re-growth of grass may not occur this autumn even if widespread precipitation returns. On September 20, the U.S. Department of Agriculture rated 100% of Rhode Island’s pastures in very poor to poor condition. Pastures were rated 90% very poor to poor in Connecticut and Massachusetts. On the same date, USDA topsoil moisture was rated 100% very short to short in Maine and New Hampshire. Streamflow in many areas of the Northeast is very low for this time of year. Some of the areas hardest hit by drought are reporting wells going dry and new wells needing to be dug. Given the mounting drought impacts, significant deterioration was shown in several areas from Pennsylvania to Maine. Notably, a new area of extreme drought (D3) was introduced in southern sections of Maine and New Hampshire.

Southeast: After making landfall on September 16 in southern Alabama, Hurricane Sally rapidly weakened but nevertheless drenched parts of the Southeast. Patchy dryness (D0) was largely eradicated from Georgia, South Carolina, and central and southern Alabama. A small amount of D0 persisted near the Atlantic Coast in Georgia and South Carolina, while dryness expanded in the vicinity of the Alabama-Georgia-Tennessee triple point. Short-term dryness continued to evolve in many other areas of northern Alabama, where September 1-22 rainfall totaled just 0.18 inch (7% of normal) in Huntsville.

South: Tropical Storm Beta made landfall on September 21 along the middle Texas coast, resulting in eradication of dryness (D0) and moderate drought (D1) in the western Gulf Coast region. Torrential rain fell mainly north of Beta’s center of circulation, including parts of the Houston metropolitan area. Numerous reports of at least 10 inches of rain were received from
Harris County, Texas, where Houston’s William P. Hobby Airport netted 12.24 inches from September 20-22. Farther inland, additional improvements were introduced across central Texas in the wake of last week’s heavy rain, as drought impacts further faded. Meanwhile, a pesky area of dryness (D0) and moderate drought (D1) remained centered over Mississippi, with some further intensification noted. On September 20, USDA topsoil moisture in Mississippi was rated 56% very short to short. September 1-22 rainfall totals in Mississippi included 0.10 inch (5% of normal in Vicksburg and 0.22 inch (9%) in Meridian. (September 23-24 rainfall in Mississippi and neighboring states associated with the remnants of Beta fell too late to be considered for this week’s report.) Elsewhere, ongoing dry weather in western sections of Texas and Oklahoma led to some modest expansion of dryness (D0) and moderate to extreme drought (D1 to D3). For the year to date through September 22, precipitation in Midland, Texas, has totaled just 6.84 inches (62% of normal). Dalhart, Texas, is faring about as poorly, with 8.81 inches (60% of normal) falling from January 1 – September 22. The Vegetation Health Index (VHI) indicates that rangeland and pastures are significantly stressed across large sections of the southern High Plains, including much of western Texas.

**Midwest:** Mostly tranquil weather prevailed in the wake of the previous week’s significant precipitation event. However, recent rain bypassed a large area stretching from east-central Missouri into southwestern Ohio. A new area of short-term moderate drought (D1) was introduced in west-central Indiana, while dryness (D0) was broadly expanded where little rain has fallen for more than a month. September 1-22 rainfall totaled just 0.04 inch (2% of normal) in Indianapolis, IN, and 0.50 inch (22%) in Saint Louis, Missouri. An area farther north, mainly in eastern Minnesota and northwestern Wisconsin, is also being monitored for the need to introduce abnormally dry conditions. Meanwhile, patchy dryness (D0) and moderate drought (D1) conditions exist in northern Minnesota, where Duluth reported a January 1 – September 22 precipitation sum of 14.62 inches (61% of normal).

**High Plains:** Western portions of the High Plains continued to experience serious drought impacts, including severely stressed rangeland and limited soil moisture for the germination and establishment of recently planted winter wheat. On September 20, according to USDA, topsoil moisture was rated at least one-half very short to short in Colorado (68%), Wyoming (65%), Nebraska (52%), and South Dakota (51%). On the same date, Wyoming led the region with rangeland and pastures rated 71% very poor to poor, followed by Colorado at 51%. Colorado led the nation—among major production states—in very poor to poor ratings for corn (35%). Most of the region’s weekly changes indicated worsening drought, amid mostly dry weather and above-normal temperatures.

**West:** Much-needed precipitation began to overspread the Pacific Northwest, signaling the change in seasons that should eventually deliver drought relief. For now, though, the Northwestern precipitation merely stabilized conditions in some areas and aided wildfire containment efforts. The Northwestern rain led to a daily-record sum of 1.14 inches on September 18 in smoke-plagued Eugene, Oregon. The National Weather Service office in Seattle, Washington, reported a record-setting total (1.35 inches) for September 19. However, the remainder of the West remained mostly dry. Ground reports and the Vegetation Health Index (VHI) continued to indicate severe stress on native vegetation, as well as rangeland. Very poor to poor ratings were indicated by USDA on September 20 on at least 40% of rangeland and
pastures in every Western State except Idaho, led by Oregon (84% very poor to poor). On the same date, topsoil moisture was at least 60% very short to short in every Western State except Arizona, led by New Mexico (91% very short to short). Water Year 2020 (October 1, 2019 – September 30, 2020) will soon end, with preliminary summaries indicating a dire drought situation in much of the region and some areas continuing to observe drought expansion or intensification. More than six dozen wildfires remained active across the West, with the greatest concentration of fires (and poor air quality) persisting in the Pacific Coast States. The latest wildfires to surpass 100,000 acres of vegetation burned were both in California: Bobcat Fire, northeast of Pasadena, less than 20% contained, and the August Complex West Zone, near Covelo, about 40% contained.

Alaska, Hawaii, and Puerto Rico: Following some heavy precipitation in parts of western Alaska on September 14, when Nome’s 1.27-inch total represented its wettest day since August 2, 2019, drier weather returned across many areas of the state. As a result, there were no further changes to Alaska’s depiction of dryness (D0) and drought (D1). In Hawaii, however, very warm, mostly dry weather persisted. Among Hawaii’s numerous daily-record highs were readings of 96°F (on September 18) in Kahului, Maui, and 89°F (on September 17, 18, and 19) in Lihue, Kauai. On the Big Island, Hilo attained the 90-degree mark (90°F on September 19) for the first time since July 26. Through September 22, month-to-date rainfall in Hilo totaled 3.32 inches (46% of normal). Kahului’s September 1-22 rainfall totaled 0.01 inch (4% of normal). Changes in Hawaii were numerous, but included expansion of dryness (D0) and moderate drought (D1) on Kauai; an increase in the coverage of D1 on Oahu and Maui; a growing area of moderate to extreme drought (D1 to D3) on Molokai; and several areas of drought deterioration on the Big Island. Reasons included low streamflow, poor vegetative health, and declining pasture conditions. Elsewhere, there were no changes in Puerto Rico, where a spot of abnormal dryness (D0) exists at various time scales along the southern coast.

Looking Ahead: The remnants of Tropical Storm Beta will drift generally northeastward and continue to weaken, although additional Southeastern rainfall could total 3 to 5 inches or more. Meanwhile, a series of cold fronts will cross the Midwest, generating scattered showers. Some of the most significant rain, 1 to 2 inches over the next 5 days, should fall in the vicinity of the Great Lakes. Farther west, mostly dry weather will continue during the next 5 days from California to the Plains and middle Mississippi Valley. In the Northwest, however, frequent showers—especially west of the Cascades—should provide relief from a dry summer and aid wildfire containment efforts. Aside from a surge of cool air into the Northwest, much of the country will experience near- or above-normal temperatures during the next several days.

The NWS 6- to 10-day outlook for September 29 – October 3 calls for the likelihood of above-normal temperatures in Maine and throughout the West, while cooler-than-normal conditions will cover most of the eastern half of the country. Meanwhile, near- or below-normal precipitation across most of the nation should contrast with wetter-than-normal weather in southern Florida and from the Great Lakes region into the northern and middle Atlantic States.

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