

Southeast Region: (Information provided by the Southeast Regional Climate Center)

- Temperatures were below average (driven primarily by unusually cool maximum temperatures) across interior portions of the Southeast region during August, while near-average to above-average temperatures were observed along much of the coastal plain. Over 80 percent of the 211 long-term (i.e., period of record equaling or exceeding 50 years) stations within the region observed August mean temperatures that were ranked outside their ten warmest or coolest values on record. However, well-above-average temperatures (driven largely by extremely warm minimum temperatures) occurred in portions of central and southern Florida, as well as Puerto Rico. Twelve long-term stations in these areas observed August mean temperatures that were ranked within their three warmest values on record, including Guayama 2 E, PR (1914–2017; warmest on record), Tampa, FL (1890–2017; third warmest), San Juan, PR (1899–2017; tied for third warmest), and Vero Beach, FL (1943–2017; tied for third warmest). With warmer-than-normal sea surface temperatures measured offshore, several stations near the coastline of Florida and Puerto Rico observed or tied their highest or second highest count of August days with a minimum temperature of at least 75 degrees F (23.9 degrees C), such as Melbourne, FL (1937–2017; 30 days) and Pensacola, FL (1880–2017; 29 days), or 80 degrees F (26.7 degrees C), such as San Juan, PR (1899–2017; 19 days) and West Palm Beach, FL (1888–2017; 9 days). Miami, FL (1896–2017) tied its warmest mean temperature for any month on record (85.7 degrees F; 29.8 degrees C), which was also observed last month for the first time in its 122-year period of record. In addition, Miami recorded its second greatest monthly count of 18 days with a minimum temperature at or above 80 degrees F, trailing only July 2017 (19 days). On two days during the month (5th and 31st), Miami tied its warmest minimum temperature for any month on record, at 84 degrees F (28.9 degrees C). The warmest weather of the month across the Southeast occurred from the 16th through the 18th, as the heat index (i.e., a measure of how hot it feels due to the combined effects of temperature and humidity) reached a maximum of 105 to more than 115 degrees F (40.6 to more than 46.1 degrees C) in parts of southeastern and east-central Georgia, the eastern half of South Carolina, and southeastern North Carolina. In contrast, the coolest weather of the month occurred on the 1st, as a continental high pressure system ushered in unseasonably cool, dry air from the north. Daily minimum temperatures fell below 65 degrees F (18.3 degrees C) as far south as northern Florida, while much of North Carolina and Virginia recorded minimum temperatures ranging from the middle 40s F to the upper 50s F (5 to 17 degrees C). A solar eclipse occurred over the region during the afternoon of the 21st, with the 70-mile-wide path of totality extending southeastward from far western North Carolina to the central coast of South Carolina. Some of the greatest temperature drops that were recorded from the rapid reduction in solar radiation included 11 degrees F (6.1 degrees C) at Athens-Ben Epps Airport, GA and 9 degrees F (5 degrees C) at Huntsville International Airport, AL, Greenville-Spartanburg International Airport, SC, and Asheville Regional Airport, NC.

- Precipitation was highly variable across the Southeast region during August, with several wet extremes recorded. Unusual dryness was found in portions of east-central and southeastern Florida, the Florida Keys, the southern half of Georgia, central South Carolina, and south-central North Carolina, where monthly precipitation totals were 2 to 5 inches (50.8 to 127 mm) below normal. In contrast, the wettest locations were found primarily across broad portions of Alabama, the western half of the Florida Panhandle, west-central and southwestern Florida, the coast of the Carolinas, and eastern Virginia. Monthly precipitation totals ranged from 3 to more than 10 inches (76.2 to more than 254 mm) above normal in these areas. Several long-term stations in Florida observed their wettest or second wettest August on record, including Naples (1942–2017; 21.04 inches, 534 mm), Sarasota-Bradenton (1911–2017; 20.97 inches, 533 mm), Pensacola (1880–2017; 20.44 inches, 519 mm), and Fort Myers (1892–2017; 16.95 inches, 431 mm). This was also the third wettest month on record for Naples, trailing only June 2017 (24.29 inches; 617 mm) and July 1985 (21.49 inches; 546 mm). Monthly precipitation ranged from well below normal to well above normal across Puerto Rico and the U.S. Virgin Islands. Numerous heavy rainfall events occurred during the month, with 175 reports of flooding across the region. On the 1st, training thunderstorms produced heavy rainfall and flash flooding in portions of downtown Miami, FL and nearby Miami Beach. The COOP station in Miami Beach (1927–2017) observed its wettest August day and ninth wettest day for any month on record, with 6.50 inches (165 mm) of precipitation. Numerous vehicles were stranded on flooded roadways, while floodwater entered many homes and businesses in these areas. The heavy rainfall occurred during a period of rising tides around Miami, which prevented storm drains from channeling the floodwater into Biscayne Bay for several hours. On the 10th, slow-moving thunderstorms produced heavy rainfall and flash flooding across the Montgomery, AL metropolitan area, with numerous reports of flooded roads. The ASOS station at Montgomery Regional Airport recorded 4.84 inches (123 mm) of precipitation in just one hour, which corresponds to an average recurrence interval of approximately 1,000 years at this location. Multiple rounds of torrential rainfall occurred across the Huntsville, AL metropolitan area on the same day, with many impassable roads in Madison County due to flooding. Floodwater entered several homes, and a few partially submerged vehicles were reported across the county. A personal weather station near Hazel Green, AL recorded 6.40 inches (163 mm) of precipitation in only 3 hours, which occurs once every 500 years on average at this location. From the 23rd through the 28th, a nearly stationary low pressure system produced multiple rounds of heavy rainfall across southwestern Florida. Some of the highest 6-day precipitation totals included 18.86 inches (479 mm) at Sarasota-Bradenton International Airport, 18.42 inches (468 mm) at the COOP station in Venice, 16.55 inches (420 mm) at a CoCoRaHS station in Cape Coral, and 14.10 inches (358 mm) at Page Field Airport in Fort Myers. Sarasota-Bradenton observed its highest 1-day and 2-day precipitation totals for August and its third highest 1-day and 2-day precipitation totals for any month on record, with 8.12 inches (206 mm) on the 26th and 12.44 inches (316 mm) from the 26th through the 27th. On the 27th, a resident of Sarasota was killed after driving his vehicle into deep floodwater, while over 60 homes were flooded in

a Bradenton neighborhood, requiring at least 26 people to be evacuated. From the 29th through the 30th, Tropical Storm Harvey produced heavy rainfall and flooding across southern Alabama and the western half of the Florida Panhandle. Some of the highest 2-day precipitation totals in these areas included 9.59 and 8.47 inches (244 and 215 mm) at CoCoRaHS stations near Foley, AL and Perdido Key, FL, respectively.

- There were 159 severe weather reports across the Southeast during August, which is about 50 percent of the median monthly frequency of 323 reports during 2000–2016. At least one severe weather report was recorded on 23 days during the month, but only six of these days had more than 10 reports. Strong thunderstorm winds accounted for over 90 percent (147 of 159) of the severe weather reports during August and were responsible for 6 injuries across the region. On the 3rd, a thunderstorm microburst with wind gusts of 50 to 60 mph damaged a bar on the Cocoa Beach Pier in Florida, resulting in 3 minor injuries. On the 23rd, thunderstorm wind gusts estimated at 60 to 70 mph caused a large tree branch to fall onto a vehicle in Smithfield, NC, injuring an entrapped occupant. In addition, several businesses and carports sustained structural damage, while downed trees and power lines were reported across the town. A total of 9 tornadoes (5 EF-0s, 2 EF-1s, 2 EF-2s) were confirmed across the region during the month, which is near the median frequency of 8 tornadoes observed during August. On the 31st, the remnant circulation of Hurricane Harvey spawned three tornadoes in Alabama, including both of the EF-2s observed during the month. One of these EF-2 tornadoes caused 6 injuries along its 31-mile track across three counties in Alabama. The greatest damage from this tornado occurred in the town of Reform, where several single-family houses and a mobile home were destroyed. One of the single-family homes was completely swept off its foundation, with 4 residents sustaining minor injuries. Lightning strikes were responsible for 1 fatality and 9 injuries in Alabama and Florida, collectively. On the 26th, a group of six men were struck by lightning while on the beach at Gulf Shores, AL. All six men were injured, but a 24-year-old man later died after being transported to a hospital in Birmingham. On the 18th, lightning ignited a fire at an apartment complex in Jacksonville, FL, with six units damaged and twelve residents displaced.
- Drought conditions (D1 and greater) were not observed across the mainland portion of the Southeast region during August. However, below-average precipitation caused abnormally dry (D0) conditions to persist across central portions of North Carolina and Virginia, with additional development occurring in areas of South Carolina and Georgia during the second half of August. A narrow strip of moderate (D1) drought persisted along the southwestern coast of Puerto Rico, but drought conditions were removed from the south-central portion of the island. During the first half of the month, croplands and pastures were aided by mild temperatures and near-average to above-average rainfall across much of the region, but excessive wetness in some areas prevented agricultural producers from harvesting crops and cutting hay. Favorable weather conditions, including consistent rainfall and few days of extreme heat, throughout much of August and summer contributed to exceptional yields of corn in Alabama and peanuts in

Georgia. However, some farmers in Alabama had to spray fungicides regularly in their soybean and peanut fields, as abundant precipitation increased fungal disease pressure on these crops. In addition, persistent rainfall during early August caused wine grapes to rot across northern Georgia, despite a steady application of fungicides in some vineyards. Coupled with a multi-day period of excessive heat, predominately dry weather during the latter half of the month stressed crops and pastures across central portions of the Carolinas and Virginia, as well as southern Georgia. Many livestock producers in central Virginia had to begin a supplemental feeding for their herds due to insufficient grazing conditions, with some producers preparing to purchase hay reserves for autumn and winter.