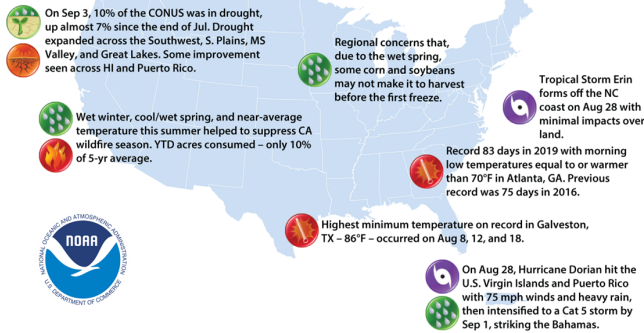




### National and Regional Weather Highlights for Summer 2019

#### U.S. Selected Significant Climate Anomalies and Events August and Summer 2019



Much-above-average **minimum temperatures** were observed across the Southeast this summer. Atlanta, GA, Jacksonville, FL and Plant City, FL all broke records for number of days with high minimum temperatures. Slow moving and training thunderstorms were observed throughout the summer, causing **flash flooding** in local areas of the region. At the end of August, **Hurricane Dorian** formed and impacted the U.S. Virgin Islands and Puerto Rico with strong winds and heavy rains. For more information, see: <https://www.ncdc.noaa.gov/sotc/>

#### Highlights for the Southeast

There were **few extremes in summer temperatures** across the region. However, extreme warmth occurred in portions of Florida with Jacksonville, Stuart, and Punta Gorda observing their **warmest summer on record**.

Precipitation varied greatly across the Southeast for the summer. From June 7-10th, **flash flooding** resulted in three fatalities in the foothills of NC. On July 8th **Reagan National Airport** observed flash flooding, resulting in more than 30 water rescues. A series of **training thunderstorms** caused flash flooding in Greensboro NC on July 31st. In contrast, Oneonta, AL observed its driest July on record.

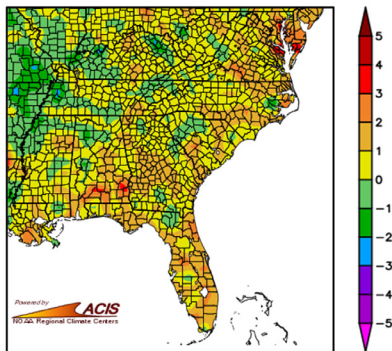
**Strong thunderstorm winds** were reported during the summer, resulting in three fatalities and four injuries. Some of the highest wind gusts include 78 mph (35m/s) at Duck Pier in Dare, NC; 79 mph (35 m/s) in Columbia, SC; 80 mph (36 m/s) on St. Thomas Island, USVI.

**Hurricane Dorian** formed on August 24th, brushing by Puerto Rico on August 28th as a category 1 storm, and impacting St. Thomas Island, USVI with strong winds and heavy rains.

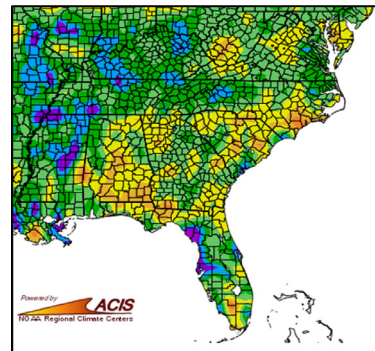
### Regional Weather Overview for Summer 2019

#### Temperature and Precipitation Anomalies

Mean Temperature: Departure from Average (°F)  
June – August 2019



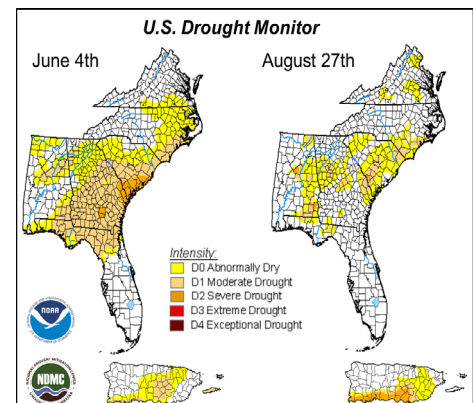
Precipitation: Departure from Normal (in)  
June – August 2019



Above-average temperatures were recorded over most of the Southeast. Mean temperatures were in the top five warmest at 22 long-term stations. Maximum temperatures were generally near normal, but minimum temperatures were 1-4 F above normal due to high humidity and cloud cover. Jacksonville, FL recorded its highest summer count of 59 days with a minimum temperature at or above 79 F, surpassing the previous record of 20 days in 1987.

Summer precipitation was highly variable across the Southeast, as departures ranged from less than 75% to more than 200% of normal. Gainesville, GA reported only 5.76 inches for the period, its 7th driest in 118 years. However, Miami, FL reported over 39 inches of precipitation, making this its 2nd wettest summer. In Puerto Rico, Juncos was about 4 inches below normal, while San Juan was 0.5 inches above normal.

#### Drought



In early June, moderate drought (D1) covered southeastern North Carolina, South Carolina and Georgia, Northern Florida and parts of central Alabama. Severe drought (D2) covered the southeastern counties of South Carolina. Showers and thunderstorms throughout the summer reduced the drought to pockets of D1 and D2 across the region. In Puerto Rico, however, D2 conditions developed across the southern areas by the end of August.



## Regional Climate Impacts for Summer 2019

### Heavy Rainfall and Flooding



Motorists are stranded in DC (image credit: [Dave Dildne](#))

As **typical of the summer**, localized heavy rainfall produced flash flooding across local parts of the region. Flash flooding resulted in three fatalities in the foothills of NC on June 8th, after high floodwaters caused a car to hydroplane. On July 8th, Reagan National Airport observed over 3 inches of rain that fell within an hour, nearly as much as D.C.'s average total for July. The heavy rains overwhelmed the city's drainage system and flooded many roads. The National Weather Service issued a **Flash Flood Emergency for the city**. More than 30 water rescues were performed. A series of training thunderstorms produced flash flooding in Greensboro, NC on July 31st. As a result, the airport set a daily precipitation record and **radar estimates** indicated up to 6 inches (152 mm) fell around the city.

### Severe Weather

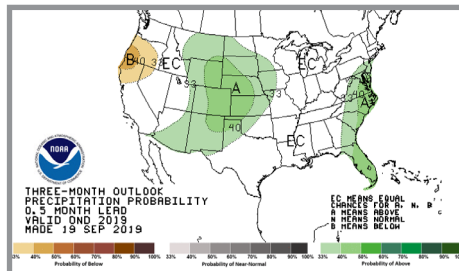
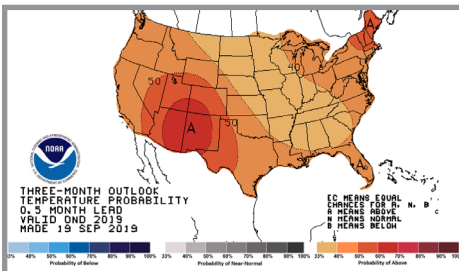
There were **2339 reports of severe weather** this summer, which is 145% of the median summer count observed during 2000-2018. **Strong thunderstorm winds** accounted for nearly 95% of all severe weather reports and were responsible for 3 fatalities and 4 injuries, including the severe winds on July 22nd that blew down a tree during a training exercise at Fort Pickett, VA, killing one soldier and injuring two others. **Eight tornadoes** (6 EF-0s, 2 EF-1s) were confirmed from June -August, which is about one third of the average count of 30 tornadoes observed during 2000-2018. **Seven fatalities were caused by lightning** strikes, which include 3 in FL, 2 in AL, 1 in SC and 1 in NC. St. Thomas, USVI reported winds over 75 mph (34 m/s) due to Hurricane Dorian. Several power outages were reported with the hurricane.

### Agriculture and Livestock

Rainfall provided ample moisture for crops, including soybeans but increased the occurrence of fungal disease and weed pressure. The relative absence of extreme weather in Georgia allowed the **peaches and watermelons to thrive**. The citrus region in Florida remained drought-free allowing for oranges and grapefruits to produce decent yields. In Dixie county, however, growers were unable to dig peanuts or cut hay due to the severe flooding from thunderstorms. By the end of August, **sugarcane planting was delayed** by wet conditions again in Glades and Hendry counties, FL. Areas that did not receive much precipitation forced farmers to irrigate in parts of Alabama and North Carolina; however, it wasn't enough for the early-summer corn crop in North Carolina.

## Regional Climate Outlook for Autumn 2019

### Temperature and Precipitation



NOAA's Climate Prediction Center (CPC), forecasted that warmer-than-normal temperatures are likely for the entire Southeastern area. Precipitation is expected to be wetter-than-normal across much of the region, with equal chances in Alabama, the panhandle of Florida and western Georgia. Drought will continue to persist along southern Puerto Rico, and is likely to develop in parts of Alabama, Georgia and western North Carolina.

### Atlantic Hurricane Season

Released by the CPC on August 8th, the Atlantic hurricane season **outlook** indicates an **increased likelihood of an above-normal** Atlantic Hurricane season to 45% (up from 30% from the outlook issued in May). The number of predicted storms is also greater with NOAA now expecting 10-17 named storms, of which 5-9 will become hurricanes, including 2-4 major hurricanes. This is due to the current El Niño ending and neutral conditions returning. As a result, atmospheric conditions are more conducive.

### Southeast Region Partners

[National Oceanic and Atmospheric Administration](#)

[National Centers for Environmental Information](#)

[National Weather Service Eastern Region](#)

[National Weather Service Southern Region](#)

[Climate Prediction Center](#)

[National Hurricane Center](#)

[National Integrated Drought Information System](#)

[Carolinas Integrated Sciences and Assessments](#)

[National Sea Grant Office](#)

[Southeast and Caribbean Regional Collaboration Team](#)

[State Climatologists](#)

[Southeast Regional Climate Hub](#)

[Southeast Climate Science Center](#)

[South Atlantic Landscape Conservation Cooperative](#)