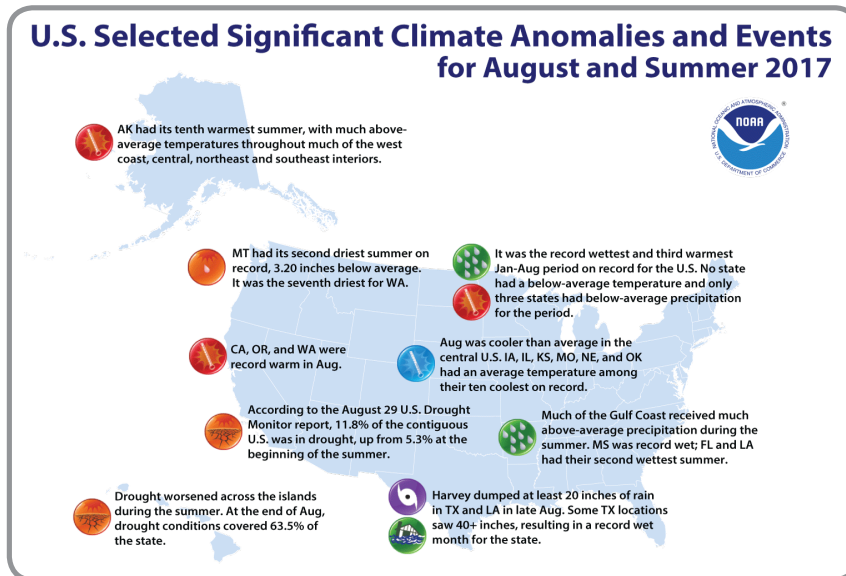


### National – Significant Events for August and Summer 2017



### Highlights for the Region

- Five of six states in the Southern Region experienced cooler than normal temperatures this summer (June–August). This is in direct contrast to this past winter and spring.
- Precipitation was abundant in southwestern Louisiana and southeastern Texas in August due to Hurricane Harvey. Summer 2017 was the wettest summer on record (since 1895) throughout the entire Southern Region.
- On August 25, Hurricane Harvey made landfall near Rockport, Texas, as a Category 4 hurricane with maximum sustained winds of 130 mph. Harvey became the first Category 4 hurricane to make landfall in Texas since Carla in 1961. The highest reported rainfall total was 51.88 inches at Cedar Bayou near Highlands, Texas.

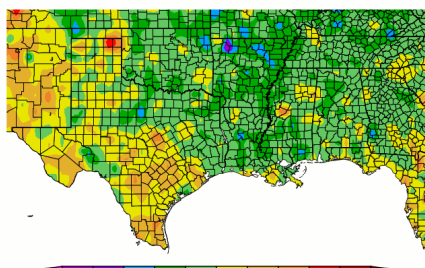
The average U.S. temperature during May was 60.6°F, 0.4°F above average. The spring U.S. temperature was 53.5°F, 2.6°F above average, and the eighth highest on record. May U.S. precipitation was 3.31 inches, 0.40 inch above average. The spring precipitation total was 9.39 inches, 1.45 inches above average, and the 11th wettest on record.

Material provided in this map was compiled from NOAA's State of the Climate Reports. For more information please visit: [www.ncdc.noaa.gov/sotc](http://www.ncdc.noaa.gov/sotc).

### Regional – Climate Overview for June to August 2017

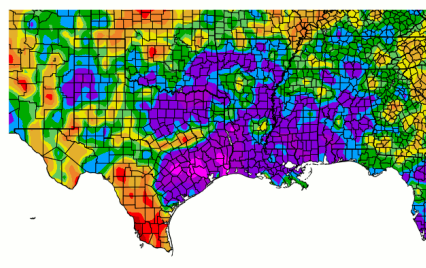
#### Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)  
June 1, 2017–August 31, 2017



Generated 9/11/2017 at HPRCC using provisional data. NOAA Regional Climate Centers

Percent of Normal Precipitation (%)  
June 1, 2016–August 31, 2017



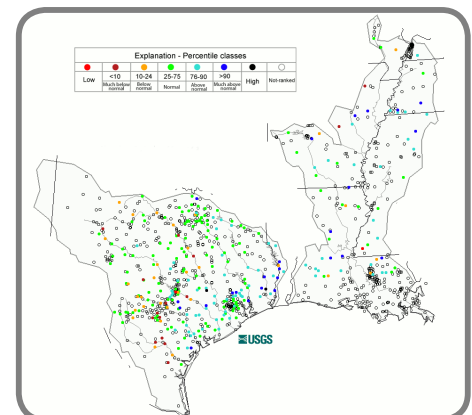
Generated 9/11/2017 at HPRCC using provisional data. NOAA Regional Climate Centers

Overall, temperatures were below normal for June–August, 2017. There were clusters of 1°–3°F below normal temperatures in all of the Southern Region states. There was a cluster of 4°F below normal temperatures in northwestern Arkansas. There were a few areas in central Mississippi, western Oklahoma, and throughout north, west and south Texas that reported 2°–4°F above normal temperatures. Every state in the Southern Region had clusters of near normal temperatures.

June–August 2017 precipitation ranks as the wettest June–August on record (since 1895) throughout the region. Parts of southeastern Texas reported 300 percent or more of normal precipitation. Most of the precipitation in southeastern Texas occurred in August during Hurricane Harvey. Much of Arkansas, Louisiana, eastern Texas, eastern Oklahoma, and southern Mississippi reported 150–200 percent of normal precipitation. In contrast, extreme southern Texas reported 5–50 percent of normal precipitation.

#### Streamflows

August average streamflow compared to historical streamflow.

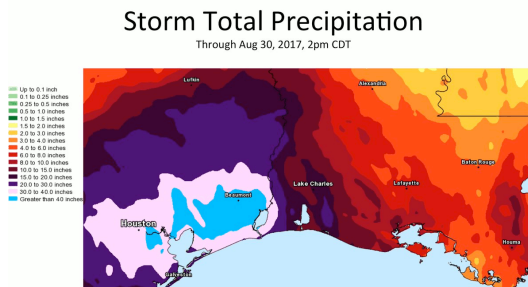


The above figure illustrates August average streamflow in the Texas Gulf and lower Mississippi basins as compared to historical streamflow. Streamflows in Texas are exhibiting near normal flow, except for the southeastern counties where a cluster of stations are above normal. In the central counties of Texas, the streamflow is near normal to below normal. There are areas in central Louisiana, Mississippi, and southern Arkansas that are reporting well above normal streamflow.

# Regional – Impacts for June–August 2017

## Hurricane Harvey

On August 25, Hurricane Harvey made landfall near Rockport, Texas, as a Category 4 hurricane with maximum sustained winds of 130 mph. Harvey became the first Category 4 hurricane to make landfall in Texas since Carla in 1961. Port Aransas reported sustained winds of 110 mph with a gust to 132 mph. After landfall, Harvey virtually stalled before re-emerging into the Gulf of Mexico on August 28th. Harvey then made its final landfall in the early morning hours of August 30, near Cameron, Louisiana. The intensity and slow movement of Harvey created a catastrophic combination of flooding, wind damage, and storm surge. Devastating flooding occurred in Houston and the Beaumont/Port Arthur area. Widespread storm totals of greater than 40 inches inundated the Houston area. The highest reported total was 51.88 inches at Cedar Bayou near Highlands, Texas. That total stands as the highest single storm total on record in the U.S., outside of Hawaii. On August 29, the Port Arthur SE Texas Regional Airport recorded 26.03 inches of rain. Heavy rainfall then spread into Louisiana with areas receiving over 20 inches, including Bayou Conway, which received 22.25 inches, and Bayou Toro, which received 20.62 inches. Dr. John Nielsen-Gammon, Texas state climatologist, summed up Harvey: “Harvey is head and shoulders above all previous multi-day storms ever recorded in the United States. I examined 18 different combinations of storm lengths and area sizes ... Harvey was the worst in all but one.” According to Dr. Nielsen-Gammon, the most impressive record was the five-day total over 10,000 square miles. “For Harvey to average 34.72 inches over five days across that large an area is ridiculous. The previous all-time U.S. record, set in Texas back in 1899, was estimated at 21.39 inches. Harvey exceeded that record by 62%.”



Above: Satellite image of Hurricane Harvey (left), precipitation map from Harvey (middle), projected path of Hurricane Harvey (right).

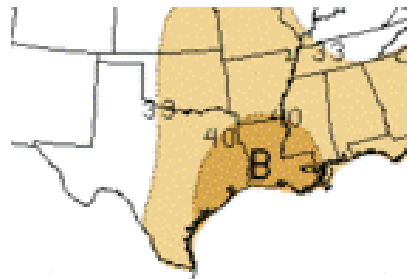
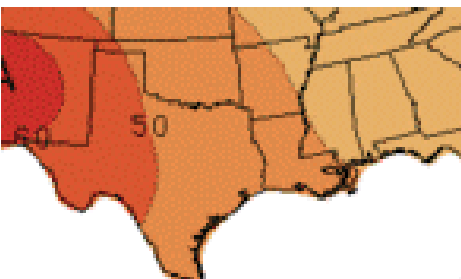
## CPC Three-Month Outlook

## 2017 Atlantic Hurricane Season

### Temperature

### Precipitation

Outlook for Oct–Dec 2017



A = Above normal temperatures    EC = Equal chances  
B = Below normal rainfall        N = Normal

According to the Climate Prediction Center, fall (October to December) temperatures for the Southern Region are predicted to be above normal in all six states, with the greatest chance for warmer temperatures being in western Texas.

For most of the region, there is a greater chance for precipitation to be below normal in the fall. The greatest chance for below normal precipitation is in eastern Texas, Louisiana, and southwestern Mississippi.

The 2017 Atlantic Hurricane season started June 1 and the peak of hurricane season is September 10. There have already been 11 named storms so far this season in the Atlantic. Three of those 11 named storms have become major hurricanes (Harvey, Irma, and Jose), which are Category three or greater. Two of those major hurricanes have made landfall in the United States, Harvey in Texas (August) and Irma in Florida (early September).

## Gulf Region Partners

- Earth Scan Lab at Louisiana State University  
[www.esl.lsu.edu](http://www.esl.lsu.edu)
- NOAA/NWS Climate Prediction Center  
[www.cpc.noaa.gov](http://www.cpc.noaa.gov)
- NOAA/NOS Gulf of Mexico Coastal Services Center  
[www.csc.noaa.gov](http://www.csc.noaa.gov)
- NOAA Gulf of Mexico Collaboration Team  
[www.regions.noaa.gov](http://www.regions.noaa.gov)
- NOAA/NESDIS National Centers for Environmental Information  
[www.ncei.noaa.gov](http://www.ncei.noaa.gov)
- NOAA/NWS Southern Region  
[www.srh.noaa.gov](http://www.srh.noaa.gov)
- Southern Climate Impacts Planning Program  
[www.southernclimate.org](http://www.southernclimate.org)
- Southern Regional Climate Center  
[www.srcc.lsu.edu](http://www.srcc.lsu.edu)

