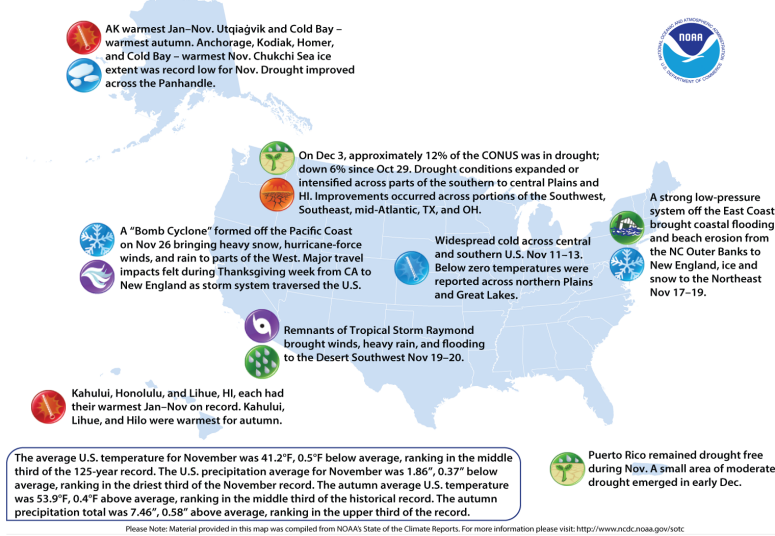




## National — Significant Events for November and Autumn, 2019

### U.S. Selected Significant Climate Anomalies and Events November and Autumn 2019



The average U.S. temperature for November was 41.2°F, 0.5°F below average, ranking in the middle third of the 125-year record. The U.S. precipitation average for November was 1.86”, 0.37” below average, ranking in the driest third of the November record. The autumn average U.S. temperature was 53.9°F, 0.4°F above average, ranking in the middle third of the historical record. The autumn precipitation total was 7.46”, 0.58” above average, ranking in the upper third of the record.

### Highlights for the Region

Fall temperatures as a whole were near normal, but there were two distinct regimes. Record warmth was experienced from September through early October while the end of October through November were much cooler than normal.

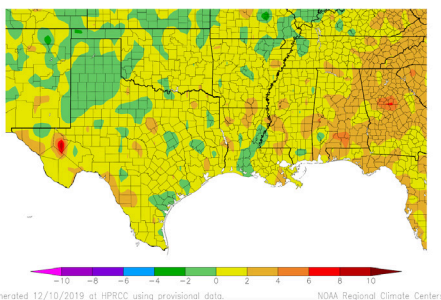
Precipitation behaved in a similar fashion, with several stations experiencing their driest September on record followed by their wettest October on record.

The main impact this fall was Tropical Storm Imelda, which made landfall in Texas and brought rainfall to Texas and Louisiana.

## Regional — Climate Overview for September 2019 to November 2019

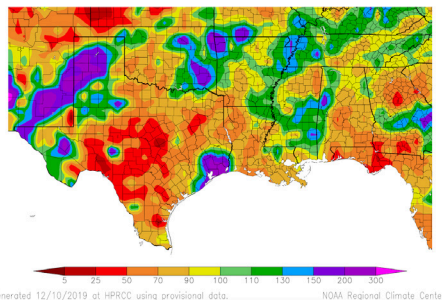
### Temperature and Precipitation Anomalies

Departure from Normal (°F)  
9/01/2019–11/30/2019



Temperatures were near normal for the region. Below-normal temperatures were reported across parts of Texas, Oklahoma, Arkansas, and Louisiana while above-normal temperatures were reported across parts of Tennessee, Mississippi, Louisiana, and Texas. Temperatures ranged between 2°F below normal to 4°F above normal.

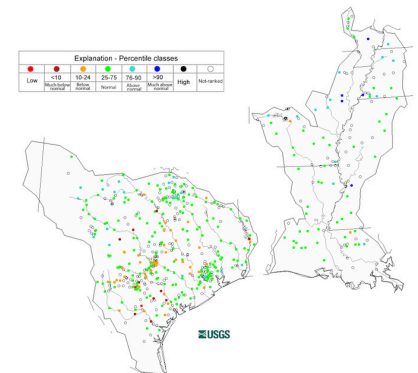
Percent of Normal (%)  
9/01/2019–11/30/2019



Autumn precipitation varied spatially across the Southern Region. Parts of Texas and Oklahoma received 50 percent or less of normal precipitation, while parts of northern and southeastern Texas as well as northeastern Oklahoma received 200 percent or more of normal precipitation.

### Streamflows

November Average Streamflow vs. Historical Streamflow



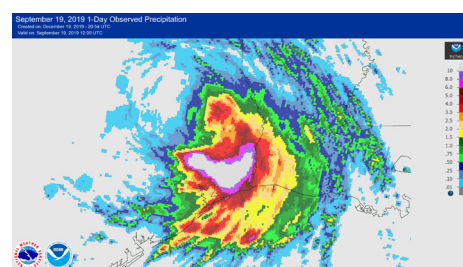
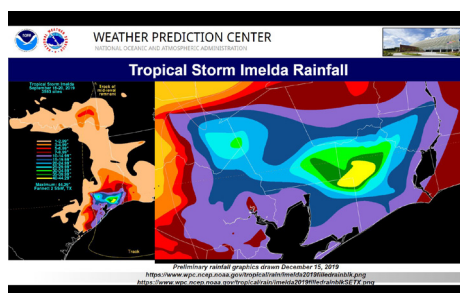
The above figure illustrates November average streamflows in the Texas Gulf and Lower Mississippi Basins as compared to historical streamflows. Streamflows in the Lower Mississippi Basin were primarily normal to above normal, while streamflows in the Texas Gulf basin were primarily normal to below normal.



## Regional Impacts — for September 2019 to November 2019

### Tropical Storm Imelda

The Southern Region experienced a second tropical cyclone landfall during the 2019 Atlantic hurricane season when Tropical Storm Imelda made landfall in southeastern Texas in mid-September. Imelda began as an upper-level low pressure system off the coast of Florida that slowly drifted westward towards the east Texas coast before turning to the north. The upper-level low rapidly gained intensity as it moved northward, developing into a tropical depression before reaching tropical storm strength less than an hour before landfall near Freeport, Texas. After making landfall, Imelda slowed down over southeastern Texas and degenerated into a tropical depression before transitioning into a remnant low, which would then move over Louisiana and out of the region. While Louisiana received less than 5 inches of rain from Imelda, southeast Texas received substantial rainfall, with several rain gauges reporting over 40 inches of rain during a 4-day period. In addition, at least 14 rain gauges received over 20 inches of rain, and at least 7 rain gauges received over 30 inches of rain, according to the Weather Prediction Center. Imelda currently holds the record for fourth-wettest tropical system to impact Texas, the fifth-wettest tropical system to impact the contiguous United States, and the seventh-wettest tropical system to impact the entire United States. At least 5 deaths were attributed to Imelda, and the NCEI considers Imelda to be a billion-dollar disaster.

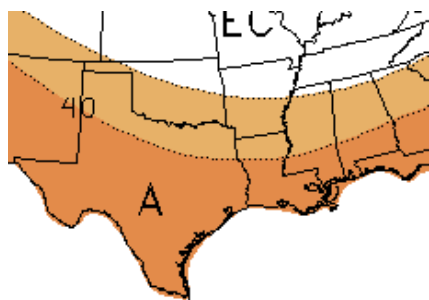


Above: Satellite image (credit: NASA) of Imelda (left), total estimated rainfall (middle), and September 19 rainfall (right).

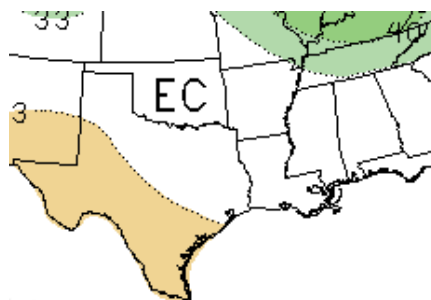
## CPC — Three-Month Outlook

### Temperature

#### Outlook for October to December



### Precipitation



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

According to the Climate Prediction Center (CPC), January through March temperatures are expected to be above normal across most of the region, with the greatest chance for above-normal temperatures located across most of Texas and Louisiana as well as southern Mississippi.

Precipitation has an equal chance of being normal, above normal, or below normal across a broad swath of the region. The greatest chance for above-normal precipitation is located across most of Tennessee and northeastern Arkansas while the greatest chance for below-normal precipitation is located across southern and western Texas.

## Hurricane Season Recap

The 2019 Atlantic hurricane season ended November 30 and produced 18 named storms, 6 hurricanes, and 3 major hurricanes. This was the fourth straight year with above-normal activity and the third year on record where 5 named storms formed in the Gulf of Mexico, tying the record set in 2003 and 1957.

## Gulf Regional Partners

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

