Quarterly Climate Impacts and Outlook

Southern Region

December 2017

National – Significant Events for November and Autumn 2017



The average U.S. temperature during November was 45.1°F, 3.4°F above average, the seventh warmest on record. The autumn U.S. temperature was 55.7°F, 2.1°F above average, the 10th highest on record. The November U.S. precipitation total was 1.58 inches, 0.65 inch below average, the 19th driest on record. The autumn precipitation total was 6.43 inches, 0.45 inch below average.

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.

Regional – Climate Overview for September to November 2017

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F) Sep 1–Nov 31, 2017



Overall, temperatures throughout most of the Southern Region averaged between 1° to 4°F above normal for the period spanning from September to November 2017. There were areas of 4° to 5°F above-normal temperatures in western Texas. There were a few areas in southwestern Texas, southern Mississippi, and Tennessee that reported 1° to 2°F belownormal temperatures. The 2017 year still ranks second warmest for the Southern Region as a whole going into December. The overall yearly average temperature thus far for the Southern Region is 67.30°F. Percent of Normal Precipitation (%) Sep 1–Nov 30, 2017



Autumn precipitation was below normal for most of the Southern Region. Areas in Arkansas, Louisiana, eastern Texas, and southern Oklahoma reported 5% to 25% of normal precipitation. Most of Arkansas, Louisiana, and Mississippi reported 25% to 50% of normal precipitation. In contrast, areas of Tennessee, central and western Oklahoma, and northern and southern Texas reported 110% to 200% of normal precipitation, with two areas in Texas (one in the north and one in the south) reporting 200% to 300% of normal precipitation.

Highlights for the Region

- It was a warmer-than-normal autumn (September–November) for the Southern Region, with all six states reporting warmer-than-normal temperatures for September, October, and November collectively. The year 2017, at this point (January–November), is the second warmest year on record for the Southern Region.
- Precipitation was below normal throughout the center of the region. Arkansas, Louisiana, Mississippi, and areas of Oklahoma and Texas had below-normal precipitation. Tennessee had areas of above-normal precipitation.
- The main climatic impact for autumn 2017 was the drier-than-normal conditions throughout most of the region. November was the driest month for the region collectively, with all states reporting below-average precipitation.

Streamflows

November Average Streamflow Compared to Historical Streamflow.



The above figure illustrates November 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 parts of the central and eastern counties where there are areas of stations below normal. Stations around the Gulf are reporting near-normal streamflow. Areas north of the Gulf (northern Louisiana, northern Mississippi, and eastern Arkansas) are experiencing below-normal stream flow.



Regional – Impacts for September to November 2017

Dry Autumn

The Southern Region experienced a drier-than-normal autumn during September through November 2017. Autumn 2017 in the Southern Region ranked as the 12th driest, with a regional total of 5.58 inches of precipitation. Arkansas had its driest autumn on record (since 1895) and Louisiana had its fifth driest autumn on record. Three other states had drier-than-normal autumns as well, Texas (16th driest), Oklahoma (35th driest), and Mississippi (23rd driest). Tennessee was the only state in the Southern Region to report a wetter-than-normal autumn. Tennessee reported its 38th wettest autumn. Precipitation values for the month of September varied spatially throughout the Southern Region. The central part of the region received below-normal precipitation whereas parts of the western and eastern part of the region received above-normal precipitation. Central Louisiana, western Arkansas, southern Mississippi, eastern Oklahoma, and northeastern and southeastern Texas received below 25 percent of normal precipitation. Most of Louisiana and Arkansas received 25 to 50 percent of normal precipitation. Louisiana had its driest September on record, and Arkansas had its eighth driest September on record. Precipitation values for the month of October varied spatially throughout the Southern Region. Parts of western Tennessee, northern and central Mississippi, northeastern, central, and southern Arkansas, northern, central, and southwestern Louisiana, south-central Oklahoma, and central, southern, and western Texas received 50 percent or less of normal precipitation. There were a few areas of 5 percent or below of normal precipitation in central and western Texas and the panhandle of Oklahoma. Precipitation values for the month of November were below normal for most of the Southern Region. All of Arkansas and Oklahoma, most of Louisiana and Mississippi, and parts of Tennessee and Texas received 50 percent or less of normal precipitation. There were a few areas of 5 percent or below of normal precipitation in northern, western, and southern Texas, southeastern Louisiana, and northern and southeastern Oklahoma. In November, four states had one of their top ten driest Novembers ever recorded: Arkansas (fourth), Louisiana (tenth), Mississippi (third), and Oklahoma (fifth).



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CPC Three-Month Outlook

Temperature

Precipitation



- A = Above normal temperatures
- B = Below normal rainfall



EC = Equal chances

N = Normal

According to the Climate Prediction Center, January to March temperatures for the Southern Region are expected to be above normal in all six states, with the greatest chance for warmer temperatures being in west and south Texas.

Outlook for Jan-Mar 2018

January to March precipitation for the Southern Region has a greater chance to be below normal for Oklahoma, Texas, Louisiana, and southern Mississippi. In contrast, most of Arkansas, Tennessee, and northern Mississippi have a greater chance for above-normal precipitation.

Winter La Niña

A La Niña advisory has been issued for the up-and-coming winter season. During a La Niña winter, the Southern Region experiences warmerthan-normal temperatures and drier-than-normal conditions. However, the exact effects can depend on the strength of the La Niña episode. The winter temperature and precipitation outlook reveal a higher chance for warmer and drier conditions during January, February, and March for most of the Southern Region.

Gulf Region Partners

Earth Scan Lab at Louisiana State University www.esl.lsu.edu

NOAA/NWS Climate Prediction Center www.cpc.noaa.gov

NOAA/NOS Gulf of Mexico Coastal Services Center www.csc.noaa.gov

NOAA Gulf of Mexico Collaboration Team www.regions.noaa.gov

NOAA/NESDIS National Centers for Environmental Information

www.ncei.noaa.gov

NOAA/NWS Southern Region www.srh.noaa.gov

Southern Climate Impacts Planning Program www.southernclimate.org

Southern Regional Climate Center www.srcc.lsu.edu



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