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The Southern Climate Monitor is available at
www.srcc.lsu.edu & www.southernclimate.org

An Hourly Precipitation Climatology of Louisiana

Vincent M. Brown (SCIPP Research Associate, LSU) and Dr. Alan W. Black (SCIPP Program Manager, LSU)

Introduction

Rainfall events are commonly thought of as daily events. In typical conversation one might hear, "it rained all day yesterday", or "I think it is supposed to rain all week", or "just another rainy day". While these phrases are simple generalizations made about weather events by ordinary people, scientists and researchers also tend to think about rain and rainfall events as daily phenomena. In fact, it infrequently rains for an entire day and even when it does, the rainfall rates can drastically vary (Trenberth and Zhang 2017). Most rainfall, especially heavy and extreme events, are concentrated in periods of only a few hours (Belville and Stewart 1983; Keim and Muller 1992; Keim and Muller 1993).

An enormous amount of research exists on precipitation trends across different time periods (daily, weekly, monthly, and annual) and across space (local, regional, country, and hemispheric). A majority of observational precipitation research focuses on the daily scale, often averaging or summing daily (or two-day) precipitation into one data point, primarily because most rain gauge data are recorded daily (Trenberth et al. 2017). While these data are extremely valuable for determining daily, seasonal, and annual trends in precipitation, it is unable to tell scientists about the duration and intensity of the rainfall. This study introduces a climatology of hourly precipitation across Louisiana in an effort to better understand the rainfall events that occur there.

Data

Four first-order weather stations, Baton Rouge Ryan Airport (BTR), Lake Charles Regional Airport (LCH), New Orleans International Airport (MSY), and Shreveport Regional Airport (SHV) were selected (Figure 1). First-order weather stations provide reliable, quality controlled, hourly observations at long time scales. The main data source used in this study was the NCEI Hourly Precipitation Database (HPD). The HPD is available on a station-by-station basis and returns all hours with recorded rainfall including traces (which were removed) in local standard time. Data were collected for BTR, MSY, and LCH from 1950-2016, while SHV was only able to provide data from 1960-2016.

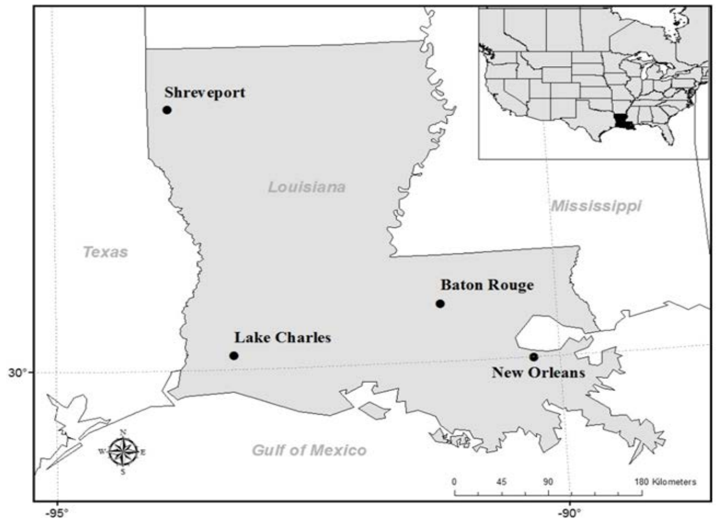

Figure 1: Location of the four stations across Louisiana.

Climatology

The four stations across Louisiana average between 431–457 hours of precipitation per year, equivalent to roughly 5% of the total annual hours (Table 1). During abnormally rainy years across the state, the stations can experience upwards of 625 hours (>7% of annual hours), while abnormally dry years can result in as little as 241–325 (2.75–3.6% of annual hours) hours of precipitation. LCH averages

Metric	Baton Rouge	New Orleans	Lake Charles	Shreveport
$\bar{x}$	453	457	431	457
σ	68.75	76.13	77.45	83.13
σ²	4727.12	5795.92	5997.85	6910.43
Max	586 (1961)	675 (1991)	650 (2005)	631 (1979)
Min	317 (1962)	325 (2006)	241 (1954)	296 (2005)
Range	269	350	409	335
Count of Year	67	67	67	57

Table 1: Distribution characteristics of annual hours with precipitation. Maximum and minimum rows also have the year in which it occurred.

the least amount of hours with precipitation annually (431) while MSY and SHV average the highest (457); however, SHV exhibits slightly larger variability in its annual number of hours. SHV also averages 48 inches of rainfall annually whereas the other stations average 56–60 inches, demonstrating that rainfall at SHV tends to be less intense compared to the other three stations.

The average annual accumulation for each station is relatively consistent across time, but year-to-year variability can be quite large. The minimum (maximum) annual accumulation for SHV and LCH are around 30 inches (85 inches) and around 37 inches for BTR and MSY (90-102 inches), establishing a general rule for Louisiana that 2.5-3.0 times the minimum annual accumulation results in a rough approximation of the maximum accumulation (in a stationary environment). Also of importance is an understanding of the persistence of drought and rainfall and determining the ranges of each. At three stations (MSY, LCH, SHV) the longest duration without measurable hourly rainfall persisted for 1077-1097 hours, equivalent to roughly 45 straight days. BTR's longest consecutive hourly period without rainfall was 933 hours, approximately 6–7 days less than the other stations. The longest consecutive hourly period with rainfall for each station persisted for 43 (SHV), 44 (LCH), 46 (MSY), and 52 (BTR) hours. At two of the stations (BTR and SHV), the longest dry period ended just months before the longest recorded wet period, suggesting these events may not be mere coincidences and are related to large-scale patterns.

Seasonally, each station experiences the most hours with rainfall during the winter (DJF), while the other three seasons, fall (SON), spring (MAM), and summer (JJA), exhibiting similar averages excluding SHV during the summer (Table 2). The winter may produce the most hours with precipitation but at three stations (BTR, MSY, LCH), the highest accumulated rainfall occurs during the summer. SHV is interesting because it accumulates more rainfall during the spring and winter compared to summer and also experiences its peak in average duration between rainfall events during the summer (Figure 2). During

Station	Fall	Spring	Summer	Winter
Baton Rouge				
$\bar{x}$	93.68	102.76	101.91	154.64
σ	31.63	32.38	25.66	40.52
σ²	1000.58	1048.64	658.66	1642.58
Min	40	26	62	65
Max	201	193	178	290
Range	161	167	116	225
New Orleans				
$\bar{x}$	98.82	100.95	114.49	143.18
σ	33.84	36.69	32.08	43.30
σ²	1144.90	1338.71	1029.53	1875.21
Min	45	28	52	53
Max	183	244	201	326
Range	138	216	149	273
Lake Charles				
$\bar{x}$	96.16	91.75	103.05	140.15
σ	37.49	33.60	40.16	34.72
σ²	1405.05	1128.77	1613.07	1205.77
Min	39	16	51	53
Max	231	179	318	228
Range	192	163	267	175
Shreveport				
$\bar{x}$	110.05	113.74	70.05	163.19
σ	40.14	39.50	26.68	44
σ²	1611.62	1560.48	712.05	1936.37
Min	42	47	26	69
Max	218	235	157	253
Range	176	188	131	184

Table 2: Seasonal distribution characteristics of hourly rainfall at each station across Louisiana. Values are expressed in hourly units.

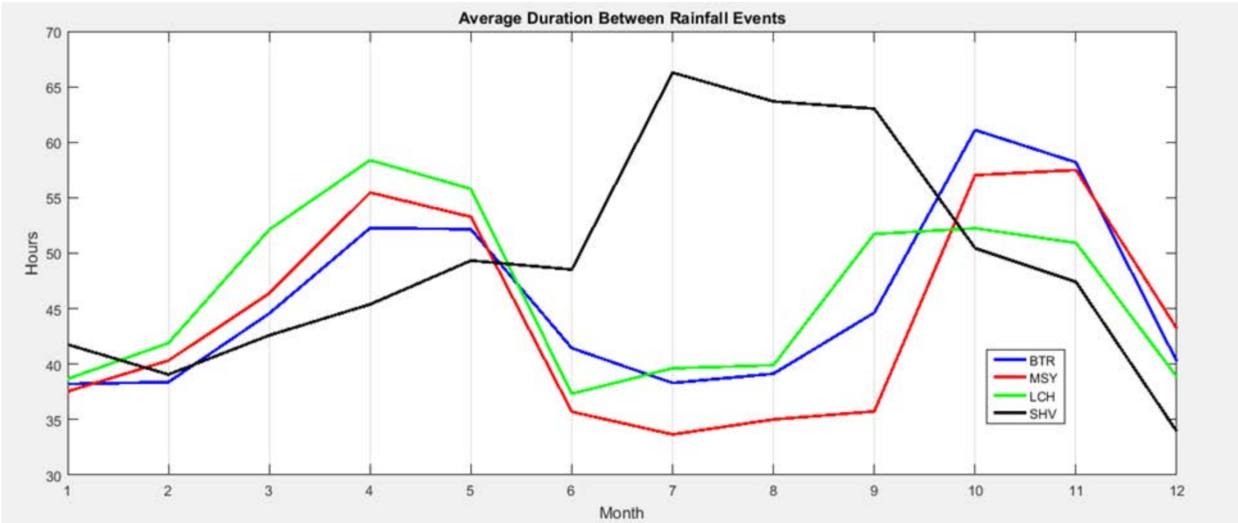

Figure 2: Average duration between hourly precipitation events (in hours).

the summer BTR, MSY, and SHV experience relatively low variance in the number of hours with precipitation, demonstrating the consistent nature of summer time convection across Louisiana. In fact, during the summer when it rains, the rainfall tends to be condensed into a few hours rather than spread across many hours during a rain day. An example can be seen at BTR (Figure 3) where the average duration of daily events (number of hours with rain during a rain day; red line) and the average duration of consecutive hourly events (two or more consecutive hours of rainfall; black line) are at a minimum during the summer months. The average duration of consecutive hourly events is higher than the average duration of daily events, demonstrating that when it rains in the summer it tends to be brief and more intense compared to other times of the year (note the summertime is when a large amount of accumulation occurs). This pattern is also seen at MSY and LCH but to a lesser extent at

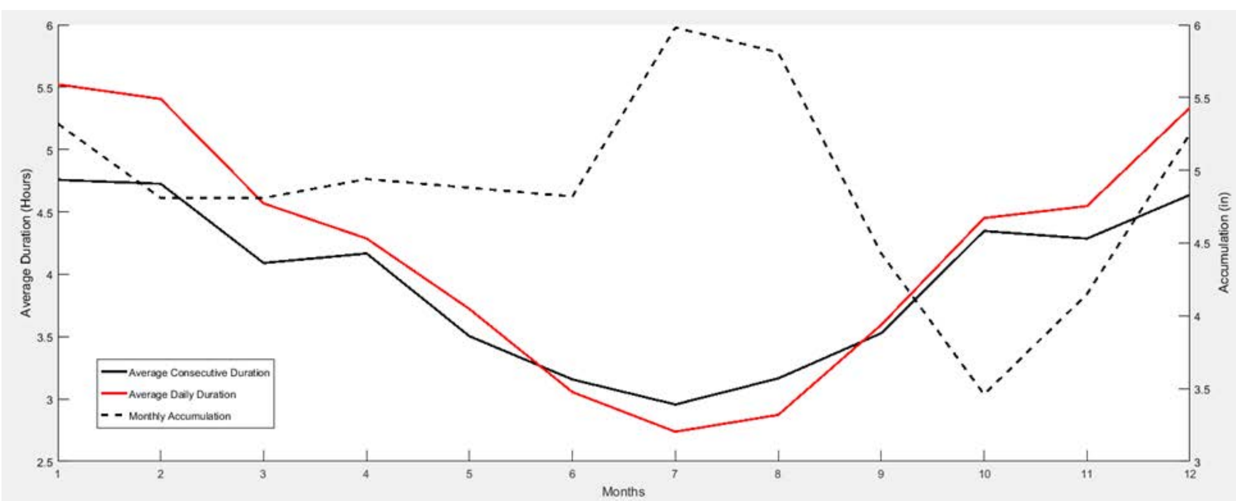

Figure 3: Average duration of hourly precipitation events (in hours) by month for Baton Rouge. The red line represents the average duration of daily events (number of hours with rain during a rain day), while the black line is the average duration of consecutive hourly events (two or more consecutive hours of rainfall). The dashed line represents the average monthly precipitation accumulation in inches. Hours of precipitation are represented by the left y-axis scale, while inches of rainfall are represented on the right.

SHV, although, SHV also experiences is most intense rainfall during the summer.

During the study period, it rained on 7436 (BTR), 7598 (MSY), 7029 (LCH) and 5651 (SHV) days, equivalent to approximately 27-30% of the overall days (24472 possible days BTR, MSY, LCH and 20820 for SHV) (Table 3). On average when it rained it persisted for roughly four hours for all stations, but seasonal differences are pronounced. During the winter, on days that it rained, it persisted for approximately 5-5.5 hours on average for each station; however, winter was not the season with the most rain days. In fact, at each station, only 25-28% of the rain days occurred during the winter. The season with the most rain days, excluding SHV, was summer, producing 30-33% of the rain days for the three stations. However, during the summer when it rains, the rainfall only lasted for an average of 2.9-3.2 hours, demonstrating the flashy convective nature of summer time rainfall across Louisiana. During the transition seasons at all stations when it rains, it persists for roughly 4.2 hours (higher at SHV during the fall) and each transition season contributes between 20-22% rain days to the annual total (excluding spring at SHV, which contributes 25% of the annual rain days).

Station	Fall	Spring	Summer	Winter	Annual
Baton Rouge					
$\bar{x}$	4.15	4.21	2.87	5.42	4.08
σ	3.77	3.44	2.38	4.35	3.62
σ^2	14.23	11.87	5.68	18.96	13.12
Min	1	1	1	1	1
Max	24	22	23	24	24
Count	1514	1637	2374	1911	7436
New Orleans					
$\bar{x}$	4.24	4.29	2.98	5.07	4.03
σ	3.81	3.53	2.44	4.12	3.53
σ^2	14.52	12.44	5.94	16.99	12.46
Min	1	1	1	1	1
Max	24	21	24	24	24
Count	1561	1577	2569	1891	7598
Lake Charles					
$\bar{x}$	4.16	3.99	3.29	5.12	4.11
σ	3.73	3.16	2.94	4.26	3.61
σ^2	13.88	9.99	8.66	18.11	13.04
Min	1	1	1	1	1
Max	24	21	23	23	24
Count	1547	1541	2106	1835	7029
Shreveport					
$\bar{x}$	4.99	4.28	3.11	5.84	4.61
σ	4.42	3.47	2.74	4.82	4.10
σ^2	19.58	12.04	7.50	23.17	16.82
Min	1	1	1	1	1
Max	24	23	22	24	24
Count	1258	1516	1285	1592	5651

Table 3: Seasonal and annual averaged daily rainfall duration characteristics (on only days when it rained).

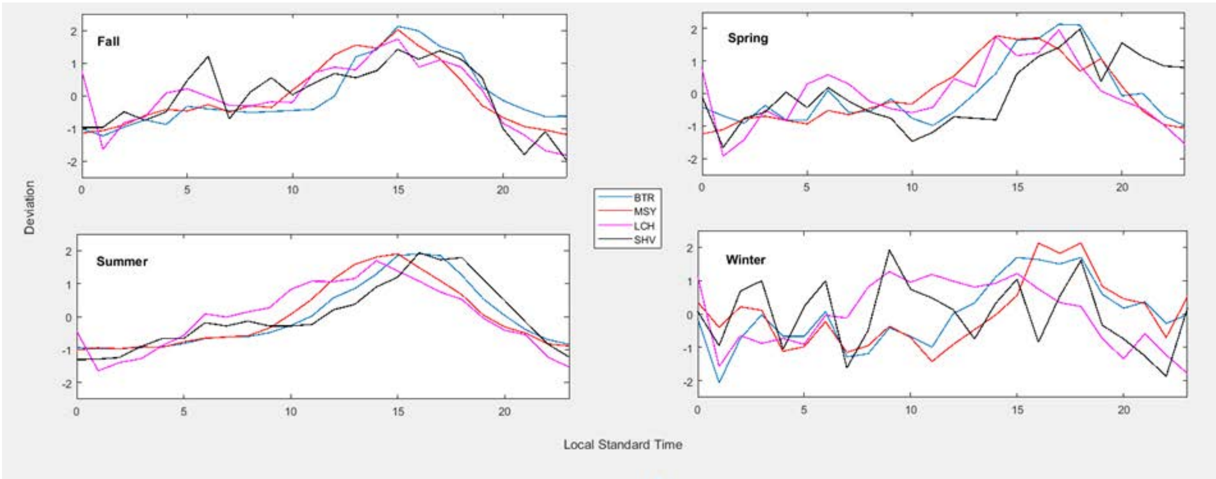

Figure 4: Rainfall anomalies by hour for each station by season.

The daily cycle of rainfall also differs seasonally, but not as much as expected. The frequency of rainfall events per hour per season was standardized to reveal the day-night distribution of precipitation in each season for each station (Figure 4). During the summer, spring, and fall, all stations tend to experience peak rainfall activity during the mid to late afternoon; however, during the winter, only BTR and MSY maintain a mid to late afternoon peak. LCH tends to show a broad drawn out day time structure without a true peak, different from the other two coastal stations, and SHV shows no coherent pattern.

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Notice: National Climate Assessment 4 Up for Comments

The U.S. Global Change Research Program has released a new Climate Science Special Report (CSSR) and a draft of the 4th National Climate Assessment (NCA) findings related to regions and sectors. These assessments convene scientists, local, state, and federal government officials, industry leaders, and others to develop consensus on how climate is affecting the nation, regions, and sectors. The last Assessment report was released in 2014.

Periodic assessments, required every four years, were included as part of the Global Change Research Act of 1990. These purpose of the assessments is to gather consensus on what is known about climate change and its impacts on the U.S. in order to more effectively inform long-term decisions that may be affected by climate.

Highlights of the Climate Science Special report, available on the USCGRP website https://science2017.globalchange.gov include:

- Annual average surface temperature has increased about 1.8 degrees Fahrenheit over the past 115 years (1901-2016), marking the warmest period in the history of modern civilization

- Urban heat islands can add 1-7 degrees to daytime temperatures and 2-4 degrees to nighttime temperatures

- Warming has changed the characteristics of extreme weather events, especially increasing intensity and frequency of droughts, heavy rainfall and heat waves

- The incidence of large forest fires in the western U.S. and Alaska have increased and is projected to further increase

- Winter storm tracks have shifted northward, leading to declines in spring snow cover extent, maximum snow depth, extreme snowfall events in some regions, and lower snow water equivalent and earlier snow melt in the western U.S.

- Sea level has risen, on average, 7-8 inches since 1900 with a rapid increase in the rate since 1993, a rate greater than any century over the past 2,800 years; higher sea levels contribute to more frequent daily tidal flooding and increase susceptibility to hurricane-related storm surge

- Compound events, where multiple events occur simultaneously or in rapid succession, and critical "tipping point" events where some threshold in the climate system is crossed leading to abrupt change, are less predictable but plausible

The CSSR provides baseline knowledge against which impacts on regions and sectors can be evaluated. This was used to produce an NCA Volume II report that contains 29 chapters covering regions, including the Southern Great Plains and Southeast in the SCIPP region, sectors, interdependencies among sectors, and adaptation and mitigation strategies. The report structure is similar to that released in 2014, http://nca2014.globalchange.gov/.

National Climate Assessment reports follow a process of drafting, agency review, public comments review, and peer review. The 2018 report is roughly midway through the process and is open for public comment. Active and constructive participation in the public comment phase assures that author teams are able to address issues that are raised by the public in addition to those raised by federal agencies and scientists.

The NCA Volume II report, which includes the region and sector chapters, is open for public comment until January 31, 2018. The report is also undergoing concurrent peer review by the National Academies of Sciences, Engineering, and Medicine. The report is expected to be released in late 2018. To access the draft, visit https://review.globalchange.gov/.

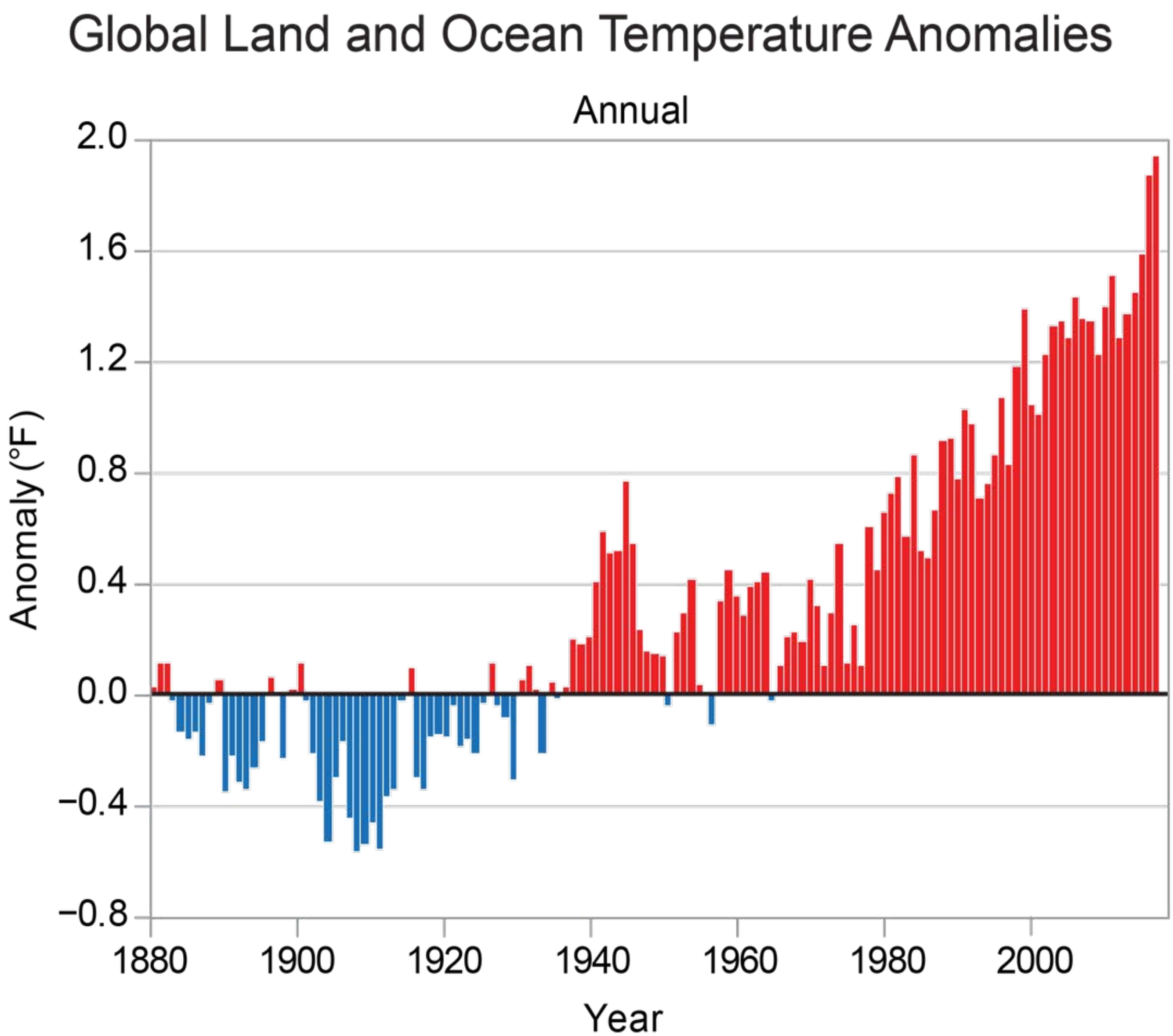


Figure 1: Global annual average temperatures for 1880-2016 relative to the reference period of 1901-1960. Red bars indicate above-average and blue bars indicate below-average. Year-to-year changes are mainly due to natural sources of variability while overall trend is an indication of long-term climate change. Source: National Climate Assessment Climate Science Special Report, Figure 1.2

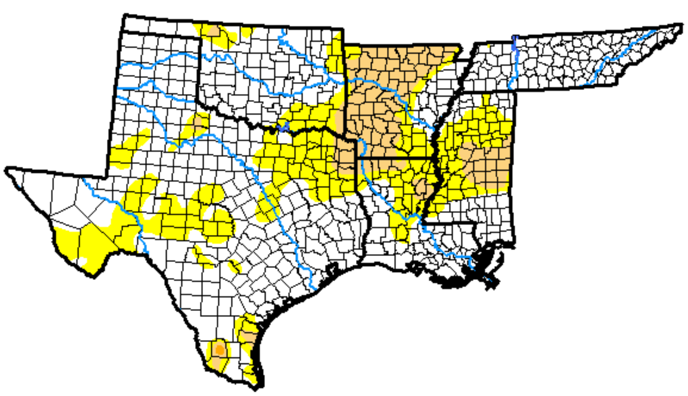
Drought Update

Kyle Brehe and Rudy Bartels,
Southern Regional Climate Center

During October 2017, drought conditions worsened to moderate in east central Mississippi, parts of northern Louisiana, northeastern Texas, southwestern Oklahoma, and western, central, northern, and southern Arkansas. Moderate drought conditions persisted in southern Texas and a small area of north central Oklahoma. A small area of severe drought developed in southern Texas. Abnormally dry conditions expanded throughout parts of the SRCC region and now include: northern and central Mississippi, southeastern Arkansas, northern and central Louisiana, and parts of western Texas. Parts of northeastern Oklahoma and central Texas improved from abnormally dry to normal.

Wind seemed to be the major meteorological hazard in October with roughly 103 wind events throughout the region. There were eight tornadoes during the month of October, six of which occurred on October 21. Louisiana, Arkansas, and Tennessee did not have any tornado reports in October.

On October 21, 2017, there were six tornado reports in Oklahoma with damage to residential and business buildings in Seminole, Oklahoma. Over 25 severe hail reports were received throughout Texas, Oklahoma, and Arkansas with roof damage and broken windshields reported in Jackson, Oklahoma.



Released Thursday, November 2, 2017
David Miskus, NOAA/NSW/NCEP/CPC

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	65.38	34.62	10.50	0.06	0.00	0.00
Last Week *10-24-2017*	70.31	29.69	9.92	0.00	0.00	0.00
3 Months Ago *08-01-2017*	79.98	20.02	7.46	0.85	0.00	0.00
Start of Calendar Year *01-03-2017*	53.95	46.05	27.69	11.09	1.11	0.00
Start of Water Year *09-26-2017*	72.17	27.83	2.38	0.02	0.00	0.00
One Year Ago *11-01-2016*	37.42	62.58	42.25	14.52	3.60	0.41

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

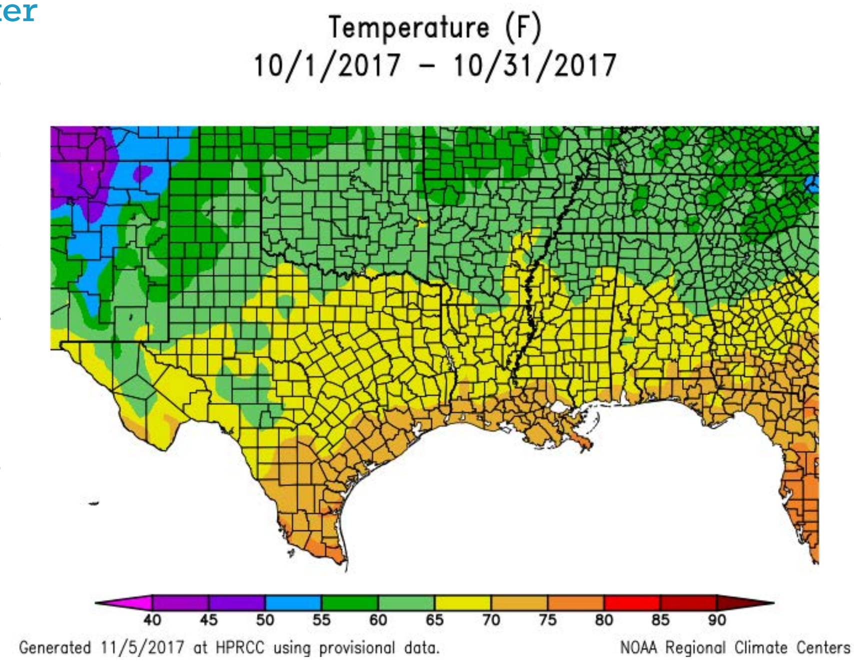
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Above: Drought Conditions in the Southern Region. Map is valid for October 31, 2017. Image is courtesy of the National Drought Mitigation Center.

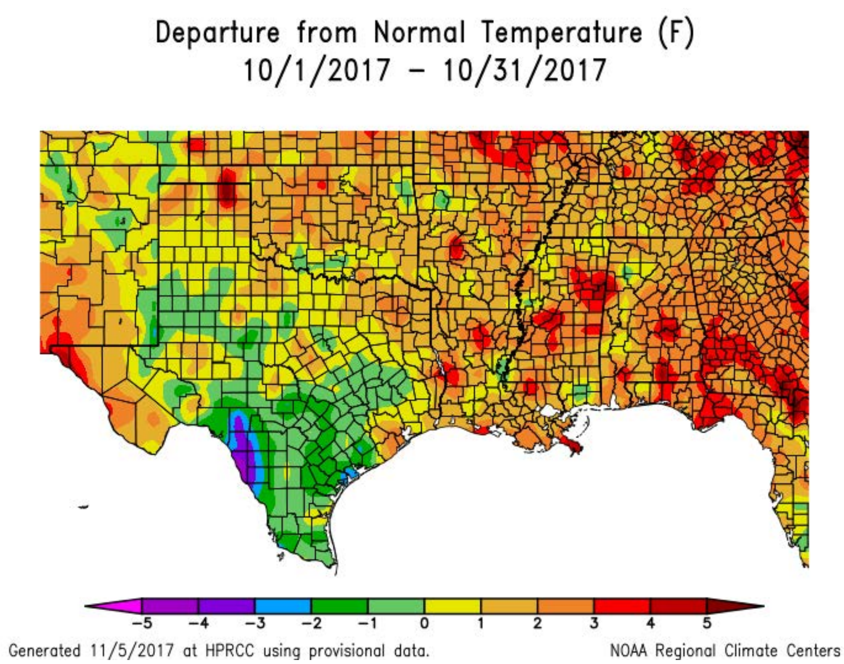
Temperature Summary

Kyle Brehe and Rudy Bartels,
Southern Regional Climate Center

October temperatures were warmer than normal for most of the region. There were areas of 3 to 5 degrees F (1.667 to 2.667 degrees C) above normal in northern Tennessee, central and northern Mississippi, central Arkansas, northern, central, and southern Louisiana, western Texas, and in the panhandles of Oklahoma and Texas. Most of Oklahoma, Arkansas, Louisiana, Mississippi, and Tennessee experienced 1 to 2 degrees F (0.667 to 1.111 degrees C) above normal temperatures. Parts of west central and southern Texas experienced 1 to 2 degrees F (0.667 to 1.111 degrees C) below normal temperatures. An area of southwestern Texas experienced 3 to 5 degrees F (1.667 to 2.667 degrees C) below normal temperatures. The statewide monthly average temperatures were as follows: Arkansas – 62.80 degrees F (17.11 degrees C), Louisiana – 69.00 degrees F (20.56 degrees C), Mississippi – 66.30 degrees F (19.06 degrees C), Oklahoma – 62.00 degrees F (16.67 degrees C), Tennessee – 60.70 degrees F (15.94 degrees C), and Texas – 66.40 degrees F (19.11 degrees C). The statewide temperature rankings for October were as follows: Arkansas (forty-first warmest), Louisiana (thirty-sixth warmest), Mississippi (thirty-third warmest), Oklahoma (fifty-forth warmest), Tennessee (thirtieth warmest), and Texas (fifty-fifth warmest). All state rankings are based on the period spanning 1895-2017.



Average October 2017 Temperature across the South

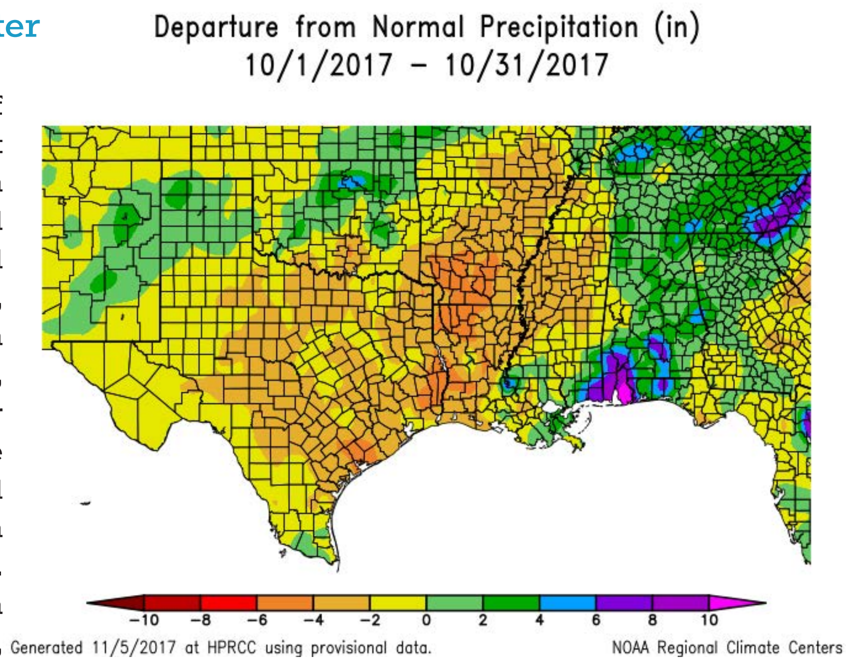


Average Temperature Departures from 1981-2010 for October 2017 across the South

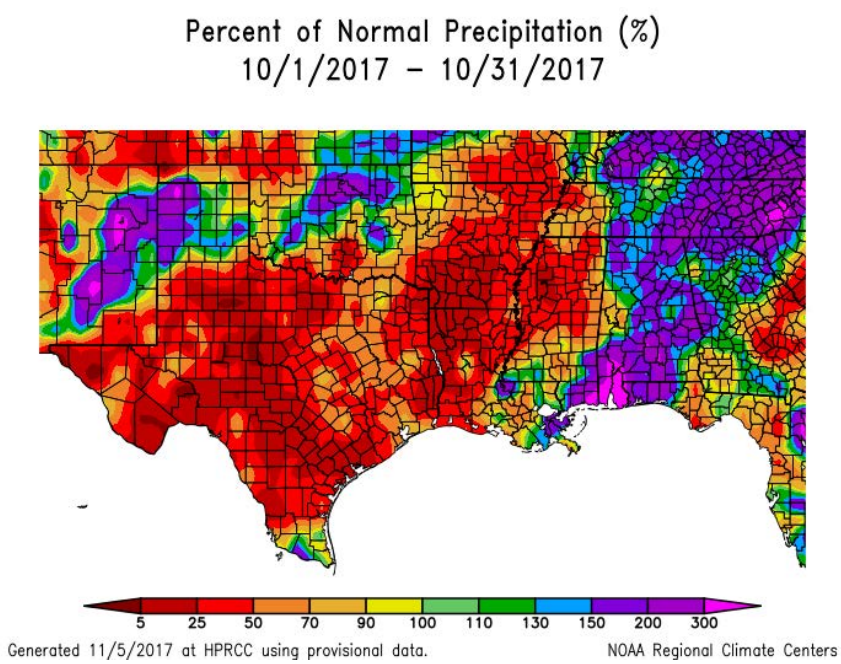
Precipitation Summary

Kyle Brehe and Rudy Bartels,
Southern Regional Climate Center

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 normal precipitation in central and western Texas and the panhandle of Oklahoma. In contrast, central and eastern Tennessee, southeastern Mississippi, southeastern Louisiana, northern and central Oklahoma, and northern and extreme southern Texas received 150 percent or more of normal precipitation. There were areas of 300 percent or more of normal precipitation in the panhandle of Texas, southeastern Mississippi, and eastern Tennessee. The state-wide precipitation totals for the month were as follows: Arkansas – 1.83 inches (46.48 mm), Louisiana – 2.52 inches (64.01 mm), Mississippi – 2.88 inches (73.15 mm), Oklahoma – 3.27 inches (83.06 mm), Tennessee – 4.69 inches (119.13 mm), and Texas – 1.20 inches (30.48 mm). The state precipitation rankings for the month were as follows: Arkansas (twenty-ninth driest), Louisiana (forty-ninth driest), Mississippi (fifty-seventh wettest), Oklahoma (forty-third wettest), Tennessee (twenty-first wettest), and Texas (twenty-sixth driest). All state rankings are based on the period spanning 1895-2017

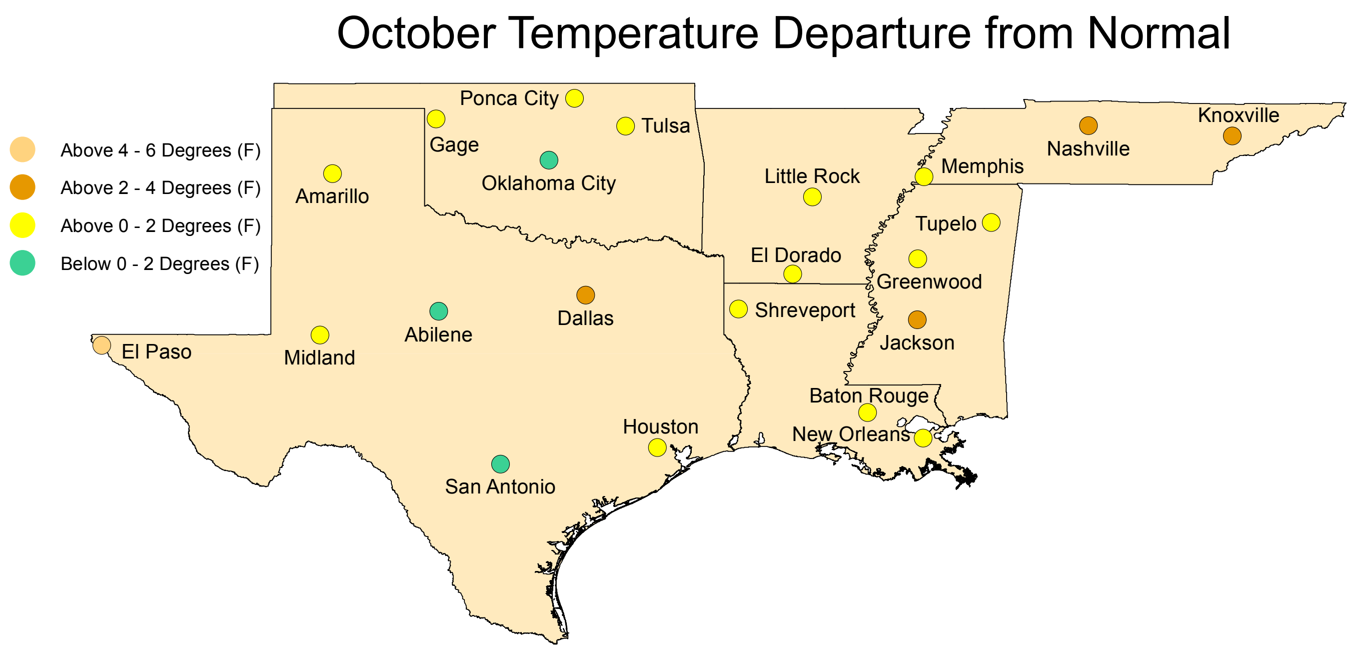


October 2017 Total Precipitation across the South

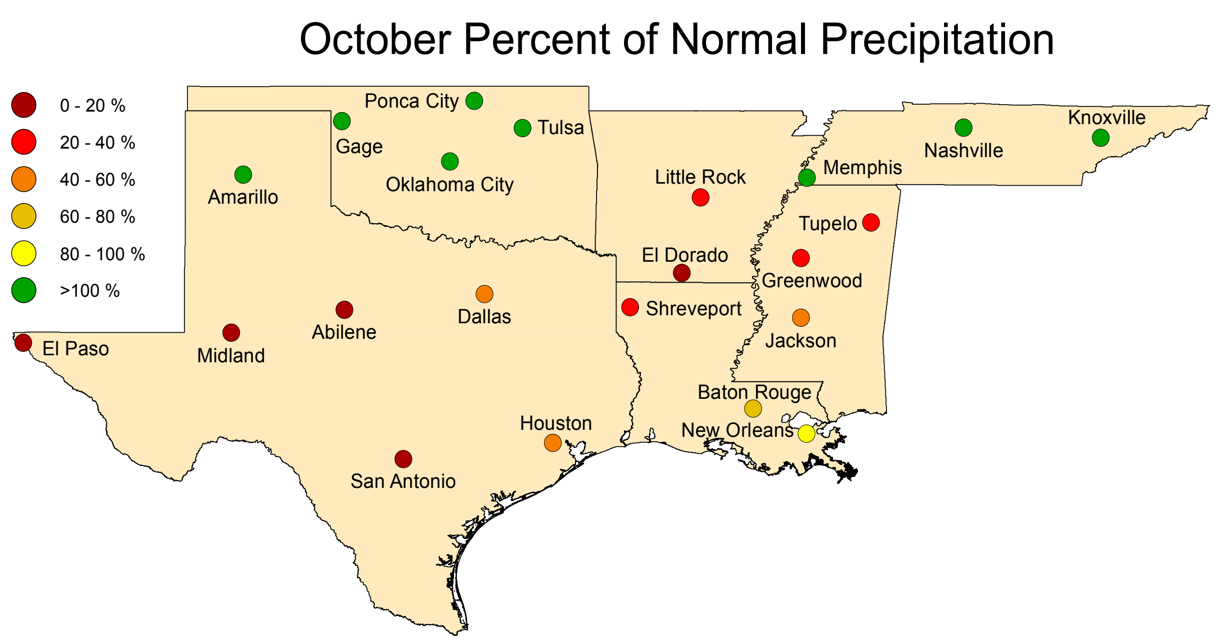


Percent of 1981-2010 normal precipitation totals for October 2017 across the South

Regional Climate Perspective in Pictures



October 2017 Temperature Departure from Normal from 1981-2010 for SCIPP Regional Cities



October 2017 Percent of 1981-2010 Normal Precipitation Totals for SCIPP Regional Cities

Climate Perspective

State	Temperature	Rank (1895-2017)	Precipitation	Rank (1895-2017)
Arkansas	62.80	41st Warmest	1.83	29th Driest
Louisiana	69.00	36th Coldest	2.52	49th Driest
Mississippi	66.30	33rd Coldest	2.88	57th Wettest
Oklahoma	62.00	54th warmest	3.27	43rd Wettest
Tennessee	60.70	30th warmest	4.69	21st Wettest
Texas	66.40	55th warmest	1.20	26th Driest

State temperature and precipitation values and rankings for October 2017. Ranks are based on the National Climatic Data Center's Statewide, Regional, and National Dataset over the period 1895-2017.

Station Summaries Across the South

Station Summaries Across the South

Station Name	Temperatures								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	%Norm
El Dorado, AR	78.4	51.4	64.9	1.1	92	10/09	28	10/29	0.99	-4.2	19
Little Rock, AR	76.5	51.5	64	0.3	91	10/09	28	10/29	1.37	-3.54	28
Baton Rouge, LA	81.6	59.5	70.6	1.3	91	10/14	36	10/29	3.62	-1.08	77
New Orleans, LA	80.9	64.8	72.8	1.6	90	10/12+	39	10/29	3.13	-0.41	88
Shreveport, LA	80.9	55.5	68.2	1.8	93	10/09+	29	10/29	1.13	-3.83	23
Greenwood, MS	79.6	52.3	65.9	1.6	93	10/10	28	10/29	0.82	-3.05	21
Jackson, MS	81.3	56.5	68.9	3.8	92	10/15	33	10/29	2.08	-1.84	53
Tupelo, MS	77.3	51.9	64.6	1.6	90	10/14	32	10/29	1.42	-2.7	34
Gage, OK	74.6	45.9	60.2	1.8	89	10/14	17	10/28	2.09	0.1	105
Oklahoma City, OK	73.9	49.7	61.8	-0.7	89	10/14	27	10/28	6.05	2.34	163
Ponca City, OK	73.6	50.4	62	1.9	90	10/14	27	10/28	4.36	0.98	129
Tulsa, OK	75	51.5	63.3	1.5	90	10/14	29	10/28	7.16	3.23	182
Knoxville, TN	74.1	50	62	2.1	87	10/07	29	10/30	5.36	2.85	214
Memphis, TN	75.8	54.6	65.2	1.1	92	10/09	31	10/29	4.04	0.06	102
Nashville, TN	74.7	50.4	62.6	2.3	86	10/14+	30	10/30	3.48	0.44	114
Abilene, TX	78	51.7	64.8	-0.9	89	10/13	29	10/28	0.11	-2.87	4
Amarillo, TX	72.5	45.3	58.9	0.6	87	10/13	28	10/28	2.2	0.54	133
El Paso, TX	82.6	56.4	69.5	4.4	92	10/06	38	10/29	0.05	-0.56	8
Dallas, TX	82.5	56.6	69.6	2.1	96	10/09	34	10/28	2.12	-2.09	50
Houston, TX	83.4	60.6	72	0.5	94	10/09	35	10/29	3.42	-2.28	60
Midland, TX	79.5	53.2	66.3	1.6	92	10/14+	35	10/28	0.13	-1.6	8
San Antonio, TX	81.9	58.9	70.4	-0.8	91	10/09	36	10/29+	0.46	-3.65	11

Summary of temperature and precipitation information from around the region for October 2017. Data provided by the Applied Climate Information System. On this chart, "depart" is the average's departure from the normal average, and "% norm" is the percentage of rainfall received compared with normal amounts of rainfall. Plus signs in the dates column denote that the extremes were reached on multiple days. Blueshaded boxes represent cooler than normal temperatures; redshaded boxes denote warmer than normal temperatures; tan shades represent drier than normal conditions; and green shades denote wetter than normal conditions.

La Niña May Bring Warm and Dry Winter

Barry D. Keim- Louisiana State Climatologist, Louisiana State University

The Climate Prediction Center (CPC) has spoken! Their 2017-2018 winter forecast for the Great State of Louisiana calls for warmer and drier conditions. The reasons given for this forecast is that the CPC has declared that a weak La Nina is now in place, which is expected to remain throughout the winter. Essentially what this means is that the Pacific Ocean temperatures between South America and Tahiti are cooler than normal. When this occurs, the cooler water temperatures propagate into the atmosphere and disrupt global atmospheric circulation patterns. One of the artifacts that impacts us here on the Bayou is that the jet stream over the Eastern U.S. gets deflected northward, bringing the primary storm tracks across the Midwestern U.S., thus bypassing the Southeast. The last time we had a significant La Nina affect our winter was in winter and spring of 2011. That year, much of Louisiana was in drought, but ironically, given all of the rainfall in the Midwestern U.S., the Mississippi River was having a flood of epic proportions, which affected us here in Louisiana in a very significant way – levees were damaged, the Bonnet Carre and Morganza Spillways were both opened, and high water velocities wreaked havoc with navigation on the Mississippi River. It was interesting, especially given that the Louisiana landscape was parched. That was one of those unique situations where our State, including Da Parish, was in both flood and drought at the same time. Only in Louisiana! Please contact me with any questions at keim@lsu.edu.

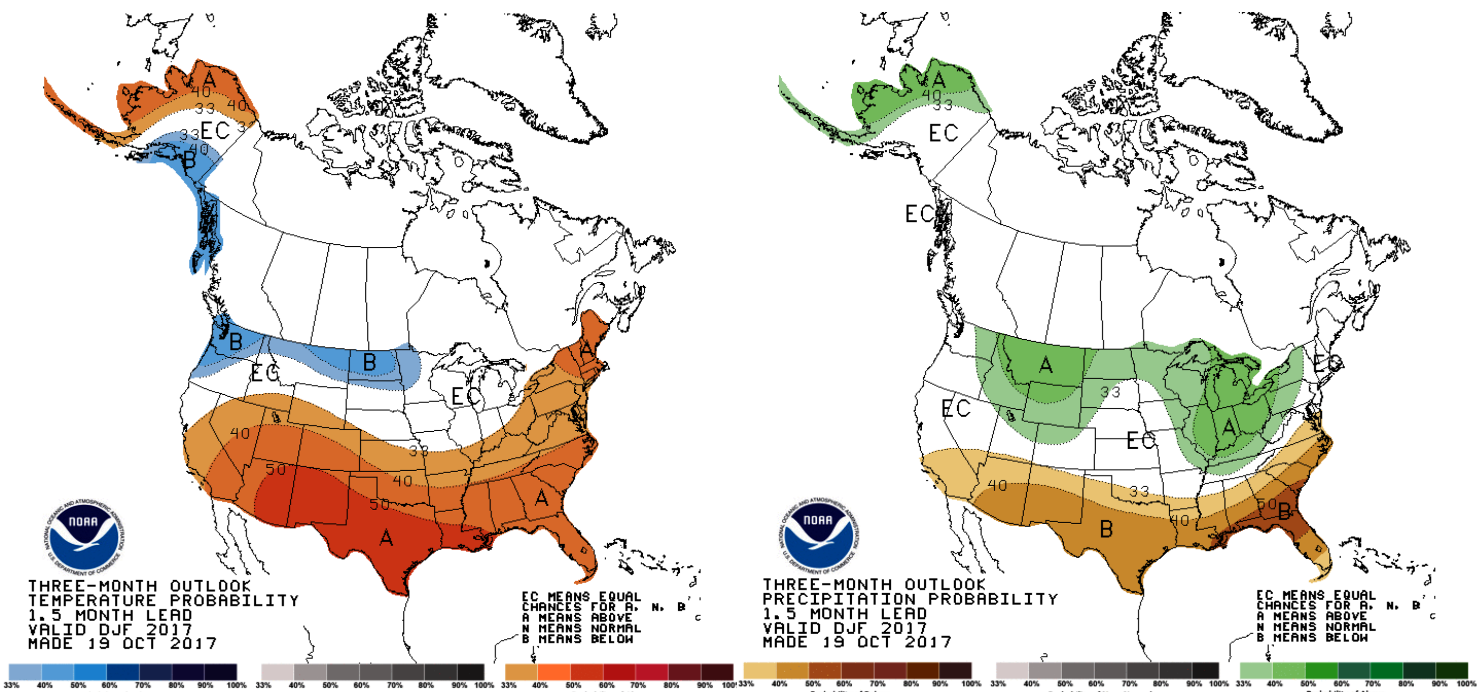


Figure 1. Climate Prediction Center Forecast for the upcoming winter, 2017-2018. Image is from http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

Southern Climate Monitor Team

Kyle Brehe, Regional Climatologist
Southern Regional Climate Center (LSU)

Ty Dickinson, Student Assistant SCIPP (OU)

Margret Boone, Program Manager SCIPP (OU)

Alan Black, Program Manager SCIPP (LSU)

Contact Us

To provide feedback or suggestions to improve the content provided in the Monitor, please contact us at monitor@southernclimate.org. We look forward to hearing from you and tailoring the Monitor to better serve you. You can also find us online at www.srcc.lsu.edu & www.southernclimate.org.

For any questions pertaining to historical climate data across the states of Oklahoma, Texas, Arkansas, Louisiana, Mississippi, or Tennessee, please contact the Southern Regional Climate Center at (225)578-5021.

For questions or inquiries regarding research, experimental tool development, and engagement activities at the Southern Climate Impacts Planning Program, please contact us at (405)325-7809 or (225)578-8374.

SCIPP
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From Our Partners

USDA Southern Plains Climate Hub:

October 31, 2017 : Soil Health Course

The Southern Plains Climate Hub has just completed the outline and syllabus for a new "Fundamentals of Soil Health" class that is targeted for rollout at Redlands Community College in 2018. Working in partnership with Redlands Community College, the Agricultural Research Service (ARS) and USDA Natural Resources Conservation Service (NRCS), the Hub has designed the course to help students better understand the concepts of soil health and how a healthy sub-soil microbial community and the application of the farming and ranching practices that improve the health of the soil can agriculture producers better weather extreme weather events such as droughts and floods. The class is designed to be offered both to undergraduates and to those looking for continuing education. Soil Health certification will be presented to those who complete the class.

For more information contact Clay Pope, USDA Southern Plains Climate Hub Coordinator at 405-699-2087 or clayg-pope@gmail.com or Dr. Caitlin Rottler, USDA Southern Plains Climate Hub Fellow at 405-262-5291 or Caitlin.Rottler@ars.usda.gov or check out their website at https://www.climatehubs.oce.usda.gov/hubs/southern-plains

Monthly Comic Relief