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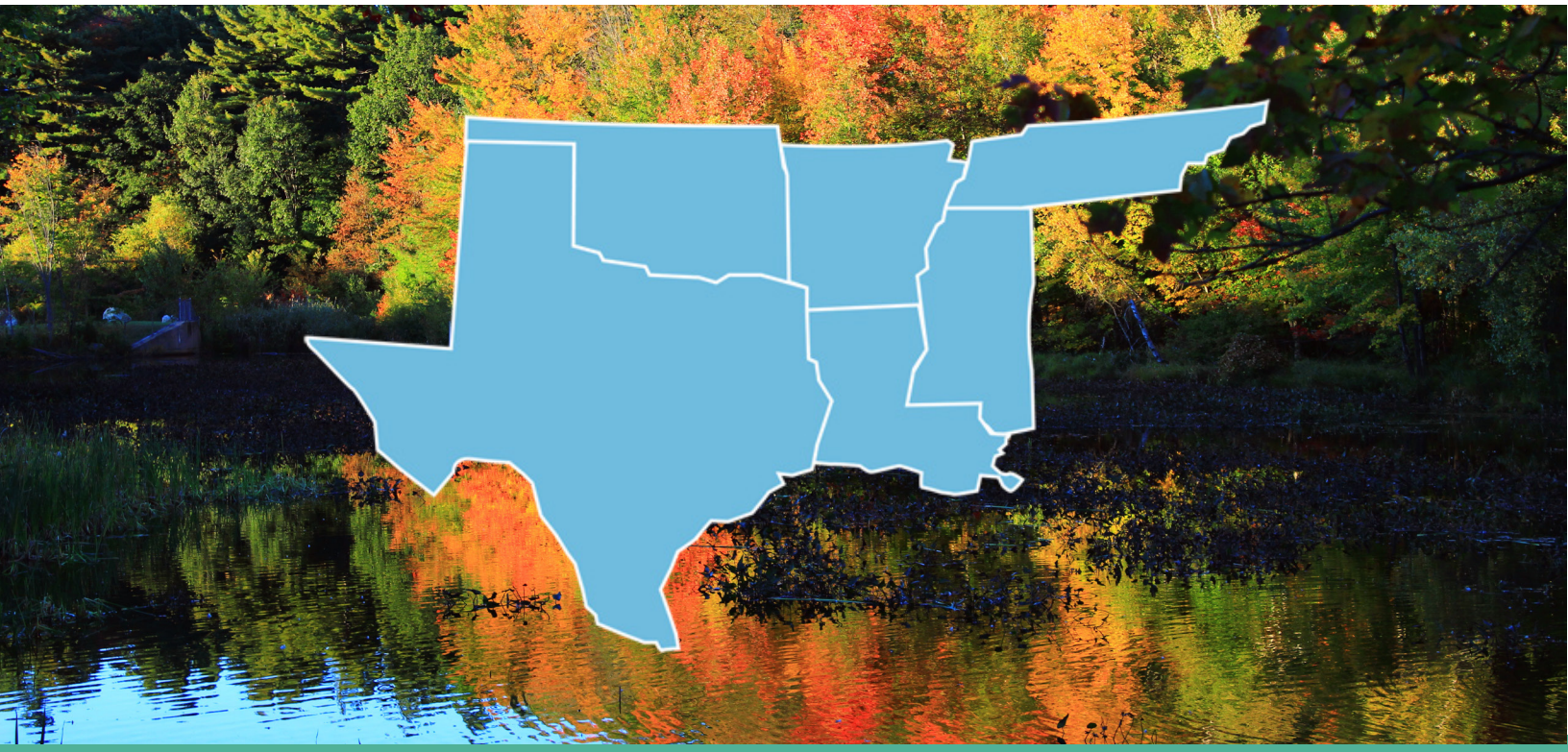
Southern Climate Monitor

October 2014 | Volume 4, Issue 10



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

Earth Heading Toward Warmest Year on Record

Barry Keim, Louisiana State Climatologist, Louisiana State University

The National Climatic Data Center (NCDC) takes earth's temperature using satellite technology (Figure 1). Using these data along with temperature gauges, they are able to produce estimates of global temperatures. This information has led NCDC to recently report that so far this year, across the entire globe, that the average temperature of earth was 1.22 degrees F warmer than the 20th century average. This tied for the warmest January to September period on record, tied with January-September 1998, and was very close to 2010. Note that our records go back to 1880, giving us over 130 years of data. The thinking is that 2014 will likely become the warmest year on record in light of an emerging El Nino, which tends to produce warmer than normal surface temperatures on average across earth's surface. If this happens, we will break the previous warmest year on record which occurred in 2010, which broke the record from 2005, which broke the record from 1998. The year 1998 was also a powerful El Nino episode that caused widespread impacts across the world, but also contributed to the warmer surface temperatures.

What is ironic about this is that, despite the warm global temperatures, the eastern half of the United States has been relatively cool so far this year. In fact, I recently processed the data for Louisiana and discovered that the state was actually relatively cool. Much to my surprise, the first nine months of 2014 came in as the sixth coldest January-September on record, with our records dating back to 1895! This is obviously related to the "polar vortex," which brought us 4 ice-related storms this past winter, as well as 4 significant fronts that passed through Louisiana and the Southeast this past summer, both of which led to low temperatures, not only here but most everywhere east of the Rocky Mountains. In fact, this past winter, ranks as a top 10 coldest winter in many Midwestern States. This also goes to show how different a region as large as the eastern United States can be from general global trends.

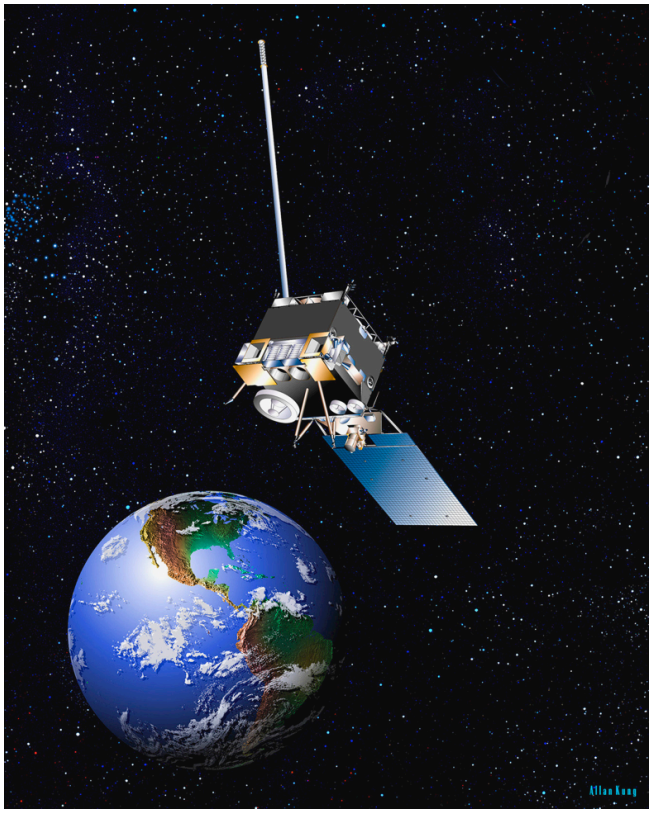


Figure 1. NOAA SARSAT satellite in action. Image is from NOAA and can be found at http://www.noaanews.noaa.gov/stories2008/images/satellite.jpg.

Winter of 2014-2015 is again getting off to a cool start in the Eastern United States, with major Arctic outbreaks already. Surges of cold air in this manner are more common during El Nino events, as are cyclogenesis events in the western Gulf of Mexico. Storms will form on the Gulf off of the Texas Coast, and then track along the Gulf

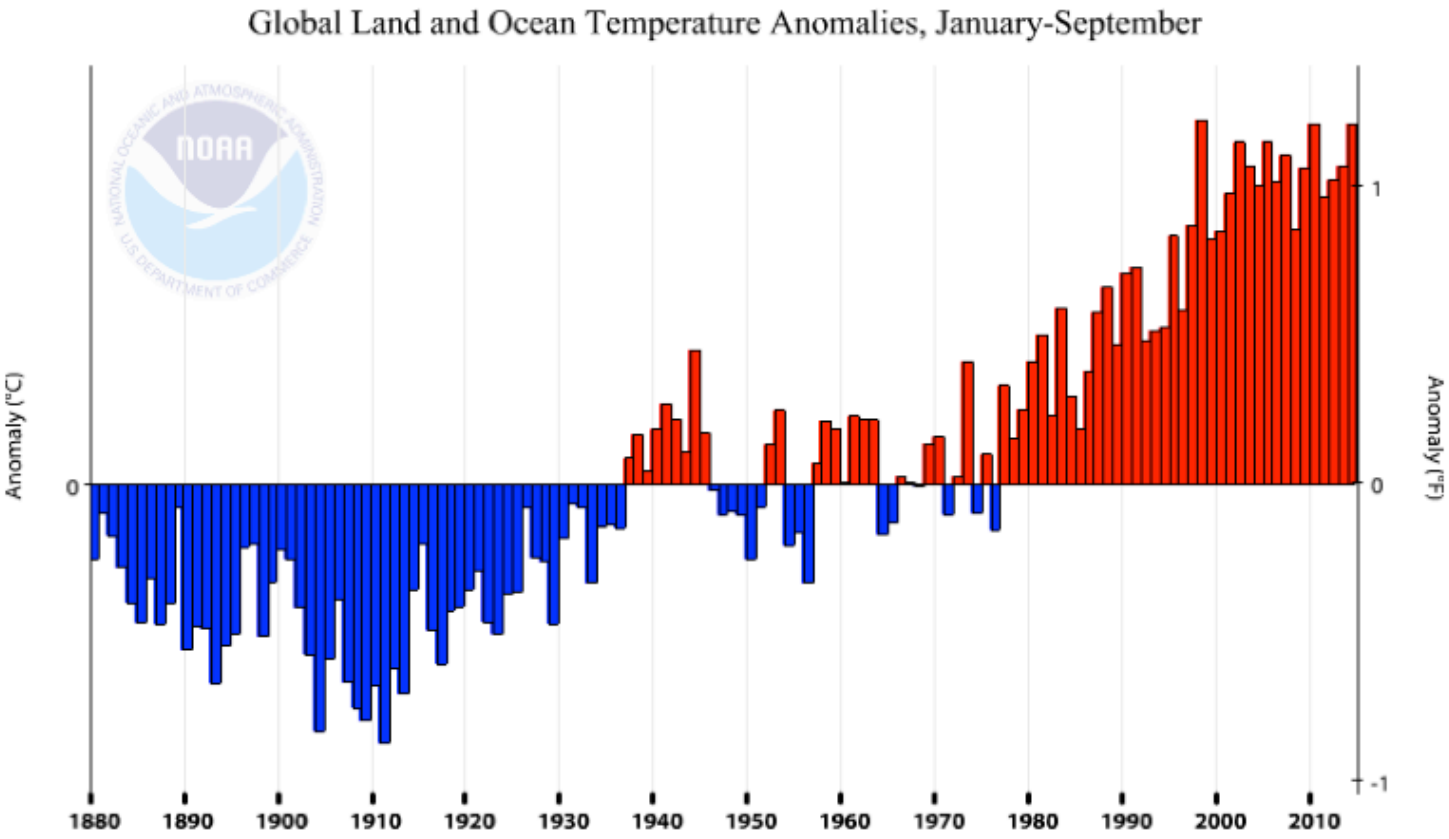


Figure 2. Global Temperatures for January through September periods from 1880-2014. Graphic is from the National Climatic Data Center and can be found at <http://www.ncdc.noaa.gov/cag/time-series/global/globe/land_ocean/ytd/9/1880-2014>.

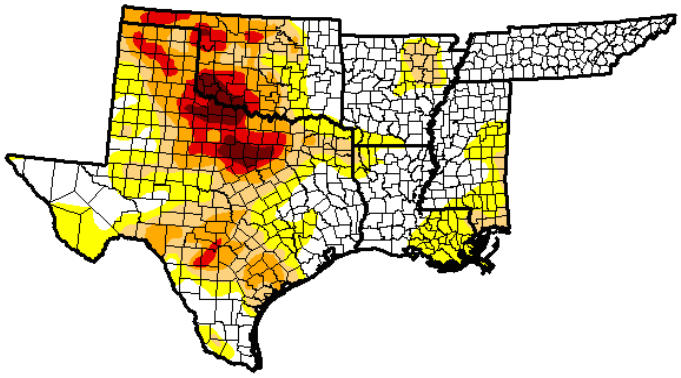
Coast and through the coastal states. This tends to keep the region cool and wet. So, ironically, at a time when the world is facing another record-breaking year for warm temperatures, our region across the Gulf South is likely to see temperatures below the long-term averages. As for that polar vortex, it seems that it is our foe in winter, and friend in summer, at least as far as I'm concerned. Please contact with any questions at keim@lsu.edu.

Drought Update

Luigi Romolo,
Southern Regional Climate Center

Drought conditions in the Southern Region did not change significantly from the previous month. Northern Texas and southern Oklahoma are still experiencing severe to exceptional drought conditions and the areal extent of that drought has been consistent throughout the month of October. Uncharacteristically dry conditions in southern Louisiana and southern Mississippi have led to the addition of some abnormally dry (D0 drought) and a small area of moderate drought along the Mississippi Gulf Coast.

In Texas, despite the lack of rainfall in many regions of the state, agricultural conditions largely remained as they were at the end of September. Most regions saw a gradual slide to worsened topsoil and subsurface soil moisture conditions, but crops themselves were rated the same, with only small variations in each crop's average condition with no change overall in crop condition index. Harvesting of peanuts in the northeast and deep south Texas is behind its 5 year average by 21% and soybeans are behind theirs by 26%, hindered slightly by intermittent rainfall across the state during the month. The winter wheat crop is still ahead of its 5-year average in terms of maturation, but reports indicate that continued dry conditions could threaten the crop's further development (Information provided by the Texas Office of State Climatology).



Released Thursday, November 6, 2014
Matthew Rosencrans, CPC/NCEP/NWS/NOAA

Above: Drought conditions in the Southern Region. Map is valid for November 4, 2014. Image is courtesy of National Drought Mitigation Center.

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	43.16	56.84	35.25	20.83	8.33	2.70
Last Week *10/28/2014*	43.89	56.11	34.58	21.54	9.07	2.74
3 Months Ago *8/5/2014*	44.85	55.15	38.73	24.34	9.13	1.79
Start of Calendar Year *12/31/2013*	55.85	44.15	27.23	13.21	3.58	0.72
Start of Water Year *9/30/2014*	41.74	58.26	35.49	22.66	8.47	1.98
One Year Ago *11/5/2013*	38.54	61.46	30.79	13.87	3.34	0.52

Intensity:

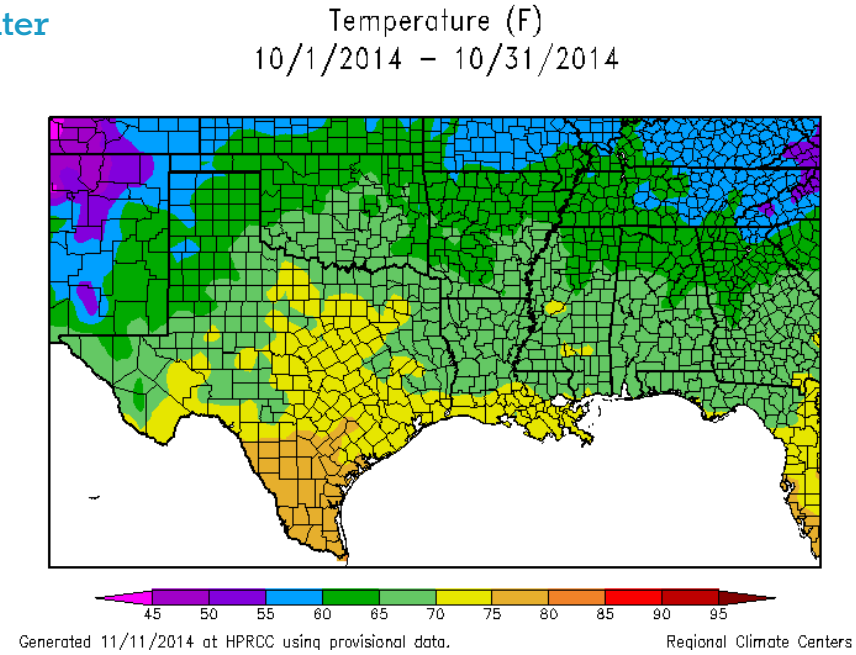
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

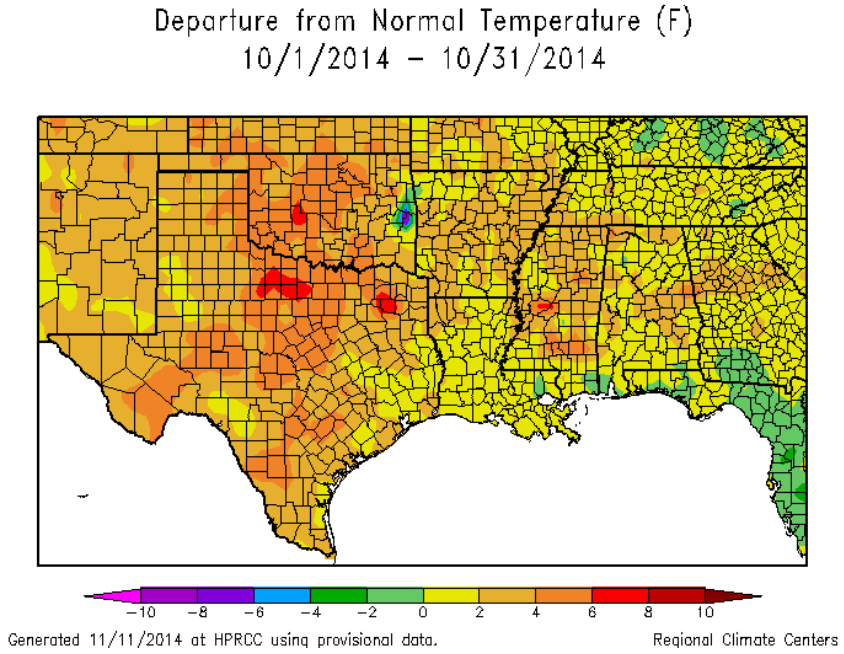
Temperature Summary

Luigi Romolo,
Southern Regional Climate Center

October mean temperatures were consistently warmer than normal across much of the Southern Region. In Louisiana and Tennessee, temperatures averaged between 0 and 2 degrees F (0 and 1.11 degrees C) warmer than average. Across much of Oklahoma, Arkansas, northern Mississippi, and Texas, temperatures were slightly warmer, averaging between 2 and 4 degrees F (1.11 and 2.22 degrees C) above normal. The statewide temperature averages are as follows: Arkansas averaged 63.90 degrees F (17.72 degrees C), Louisiana averaged 69.20 degrees F (20.66 degrees C), Mississippi averaged 66.70 degrees F (19.28 degrees C), Oklahoma averaged 65.00 degrees F (18.33 degrees C), Tennessee averaged 60.30 degrees F (15.72 degrees C), and Texas averaged 69.80 degrees F (21.00 degrees C). For Texas, it was the fifth warmest October on record (1895-2014), while Oklahoma experienced its twelfth warmest October (1895-2014). Both Mississippi and Arkansas reported their twenty-sixth warmest October on record (1895-2014), and for Louisiana, it was the twenty-ninth warmest October on record (1895-2014).



Average October 2014 Temperature across the South

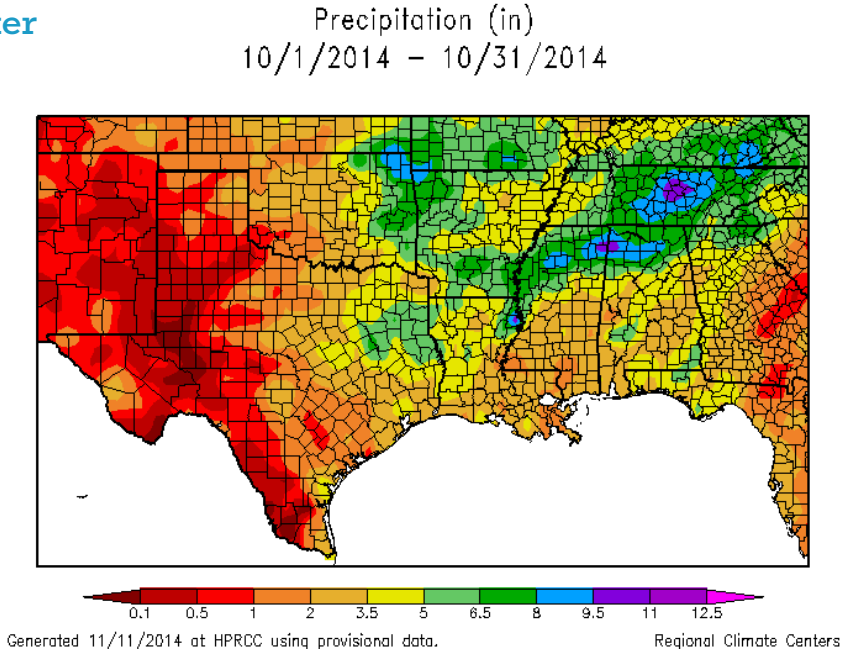


Average Temperature Departures from 1971-2000 for October 2014 across the South

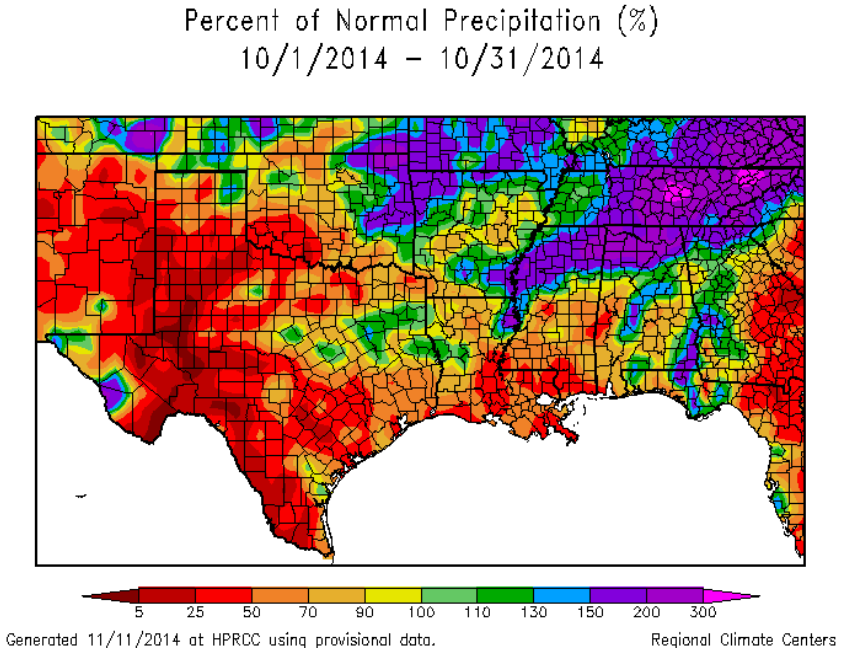
Precipitation Summary

Luigi Romolo,
Southern Regional Climate Center

October precipitation totals in the Southern Region varied significantly from west to east. Conditions were very dry in western and southern Texas, with most stations reporting under 50 percent of normal precipitation. Conditions were also quite dry in southern Louisiana, and in particular, south eastern Louisiana. Conversely, conditions were quite wet in the eastern two thirds of Tennessee with most stations reporting between 150 to 300 percent of normal precipitation. Conditions were equally wet in northern Mississippi and along the northern border of Arkansas and Oklahoma. The statewide averaged precipitation totals are as follows: Arkansas reported 5.19 inches (131.83 mm), Louisiana reported 3.16 inches (80.26 mm), Mississippi reported 4.23 inches (107.44 mm), Oklahoma reported 3.32 inches (82.04 mm), Tennessee reported 6.81 inches (172.97 mm), and Texas reported 1.63 inches (41.40 mm). For Tennessee it was the fourth wettest October on record (1895-2014), and Arkansas reported its twentieth wettest October (1895-2014), and Mississippi, its thirtieth wettest (1895-2014). All other state rankings fell within the two middles quartiles.

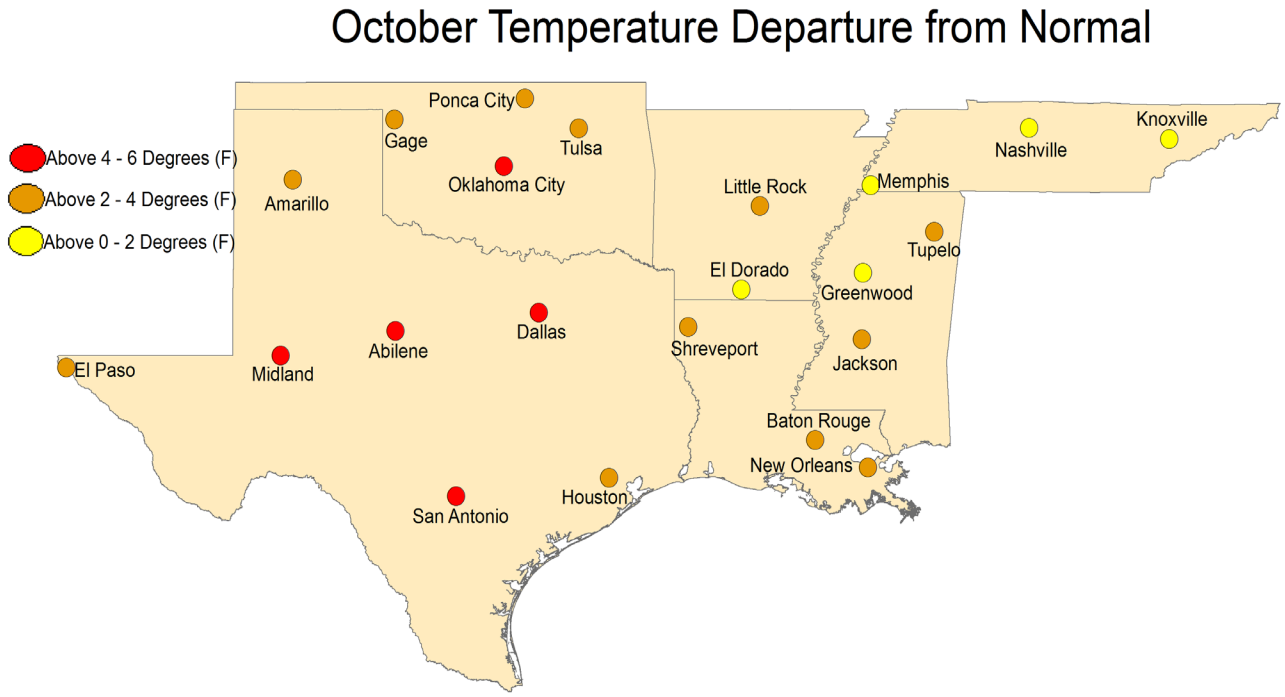


October 2014 Total Precipitation across the South

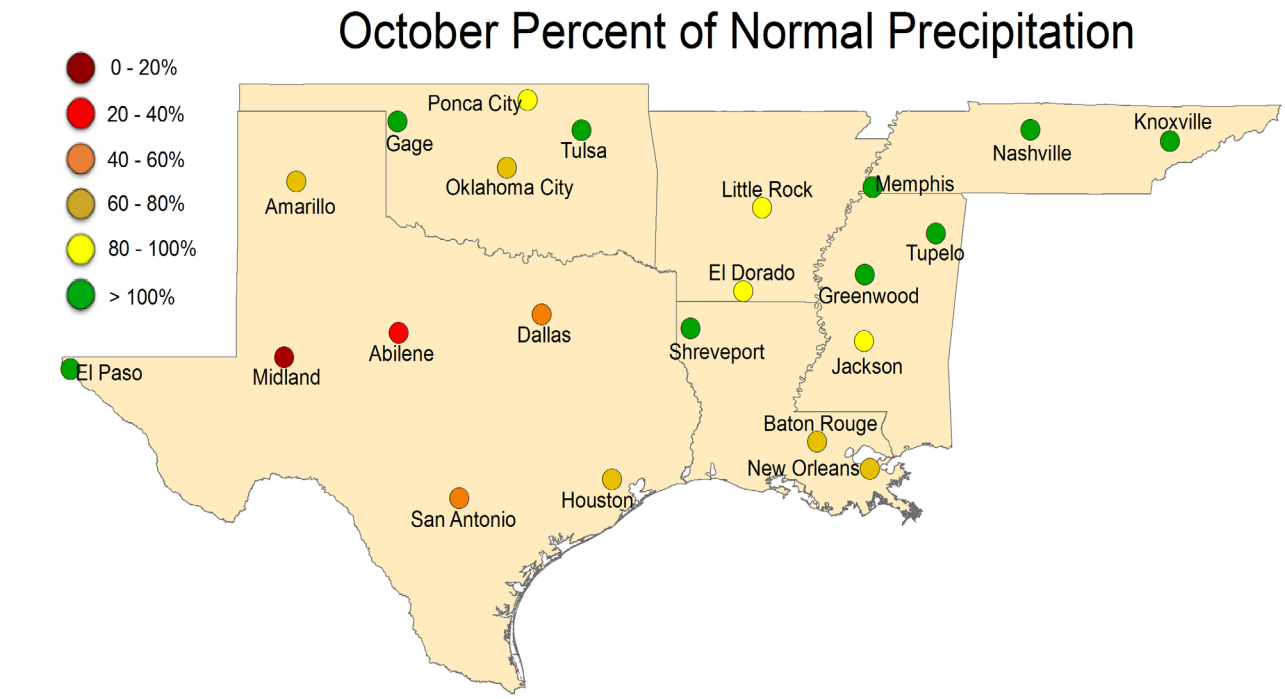


Percent of 1971-2000 normal precipitation totals for October 2014 across the South

Regional Climate Perspective in Pictures



October 2014 Temperature Departure from Normal from 1971-2000 for SCIPP Regional Cities



October 2014 Percent of 1971-2000 Normal Precipitation Totals for SCIPP Regional Cities

Climate Perspective

State	Temperature	Rank (1895-2011)	Precipitation	Rank (1895-2011)
Arkansas	63.90	26th Warmest	5.19	20th Wettest
Louisiana	69.20	29th Warmest	3.16	60th Driest
Mississippi	66.70	26th Warmest	4.23	30th Wettest
Oklahoma	65.00	12th Warmest	3.23	43rd Wettest
Tennessee	60.30	35th Warmest	6.81	4th Wettest
Texas	69.80	5th Warmest	1.63	41st Wettest

State temperature and precipitation values and rankings for October 201 4. Ranks are based on the National Climatic Data Center's Statewide, Regional, and National Dataset over the period 1 895-201 1 .

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	78.3	53.0	65.6	1.2	90	10/1	41	10/30	3.70	-0.63	85.00
Little Rock, AR	77.8	54.5	66.1	2.8	91	10/2	39	10/31	3.64	-0.61	86.00
Baton Rouge, LA	82.9	57.7	70.3	2.2	92	10/2	46	10/25	2.35	-1.46	62.00
New Orleans, LA	82.1	63.1	72.6	2.6	91	10/2	52	10/31	1.83	-1.22	60.00
Shreveport, LA	81.0	56.9	69.0	2.2	93	10/2	44	10/30	5.84	1.39	131.00
Greenwood, MS	78.3	53.1	65.7	0.8	89	10/1	36	10/31	6.40	2.84	180.00
Jackson, MS	80.5	54.4	67.5	3.1	90	10/2+	41	10/30	2.98	-0.44	87.00
Tupelo, MS	76.7	53.2	65.0	3.1	89	10/1	39	10/31+	8.34	4.96	247.00
Gage, OK	78.1	46.8	62.5	3.7	96	10/7	34	10/31+	1.96	0.27	116.00
Oklahoma City, OK	79.7	53.6	66.7	4.7	94	10/1	38	10/31	2.44	-1.20	67.00
Ponca City, OK	77.6	51.1	64.4	3.1	94	10/7	28	10/31	3.06	-0.17	95.00
Tulsa, OK	76.8	53.8	65.3	2.7	93	10/1	33	10/31	4.82	0.77	119.00
Knoxville, TN	70.3	50.0	60.2	1.4	85	10/2	35	10/31	5.88	3.23	222.00
Memphis, TN	75.7	55.3	65.5	1.7	90	10/2	40	10/31	4.00	0.69	121.00
Nashville, TN	72.9	50.6	61.8	1.9	90	10/2	37	10/5	8.43	5.56	294.00
Abilene, TX	84.2	58.7	71.4	5.4	98	10/7	47	10/31	0.78	-2.12	27.00
Amarillo, TX	75.5	47.5	61.5	3.3	89	10/26	35	10/31	1.08	-0.42	72.00
El Paso, TX	81.8	55.7	68.8	3.9	88	10/16+	46	10/14	0.98	0.17	121.00
Dallas, TX	82.9	60.4	71.6	4.5	98	10/7	47	10/31	2.09	-2.02	51.00
Houston, TX	84.8	60.8	72.8	2.4	93	10/2+	51	10/15	2.95	-1.55	66.00
Midland, TX	83.2	55.7	69.5	5.1	93	10/8	44	10/14	0.00	-1.77	0.00
San Antonio, TX	87.3	65.2	76.3	5.6	95	10/2	51	10/14	1.91	-1.95	50.00

Summary of temperature and precipitation information from around the region for October 201 4. 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 wdays. 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.

October 2014 Global Weather Highlights

Barry Keim, Louisiana State Climatologist, Louisiana State University

In the weather business, it's always something. So far in November, we've had the big snowstorm in Buffalo, New York, and of course, the wind up of the polar vortex. However, we sometimes move a little slow in the weather world because it takes time to compile all those statistics. As such, I'd like to present the global weather highlights of October 2014, as recently compiled by the National Climatic Data Center (Figure 1). For starters, the United States had the fourth warmest October on record, with our record keeping going back to 1895. In Louisiana, this was our 29th warmest October since 1895, averaging 69.2 degrees. And what a wonderful October it was across the Gulf South, with mild temperatures, no hurricanes, and very little rainfall. Europe, Japan, and parts of Asia were also well-above average temperature-wise. In the North Atlantic, we had Hurricane Gonzalo carve out a path of high winds, which for the most part, remained out to sea, with one exception – Bermuda! The storm reached Category 4 strength, which is the first time this has happened since 2011. Also, interestingly, the Arctic had sixth smallest October sea ice extent since satellite records began in 1979, while the Antarctic had the second largest October sea ice extent on record. The entire globe had the warmest October on record, and the warmest year-to-date (January through October) temperature on record. As such, we are still clearly poised to have the warmest year globally on record, while all the weather and climate experts wait in great anticipation for the predicted El Nino which never seems to arrive, just as Linus (and his gang of Peanuts characters) await the Great Pumpkin. Please contact me with any questions at keim@lsu.edu.

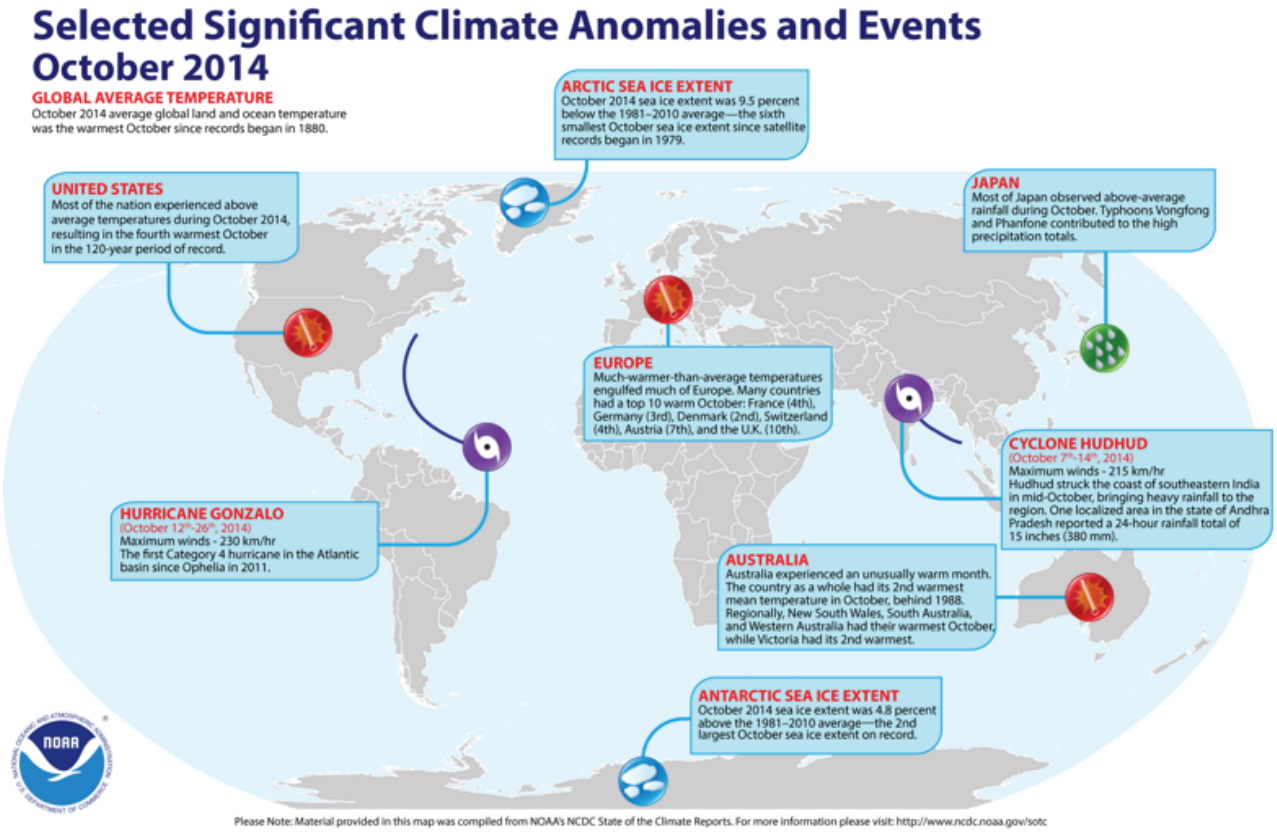


Figure 1. Major Global Weather Events of October 2014. Graphic is from the National Climatic Data Center and can be found at <http://www.ncdc.noaa.gov/sotc/service/global/extremes/201410.gif>.

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Contact Us

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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.

Monthly Comic Relief

"REPEAT AFTER ME: AT LEAST WE DON'T GET HURRICANES... AT LEAST WE DON'T GET HURRICANES... AT LEAST...."

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