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Southern Climate Monitor

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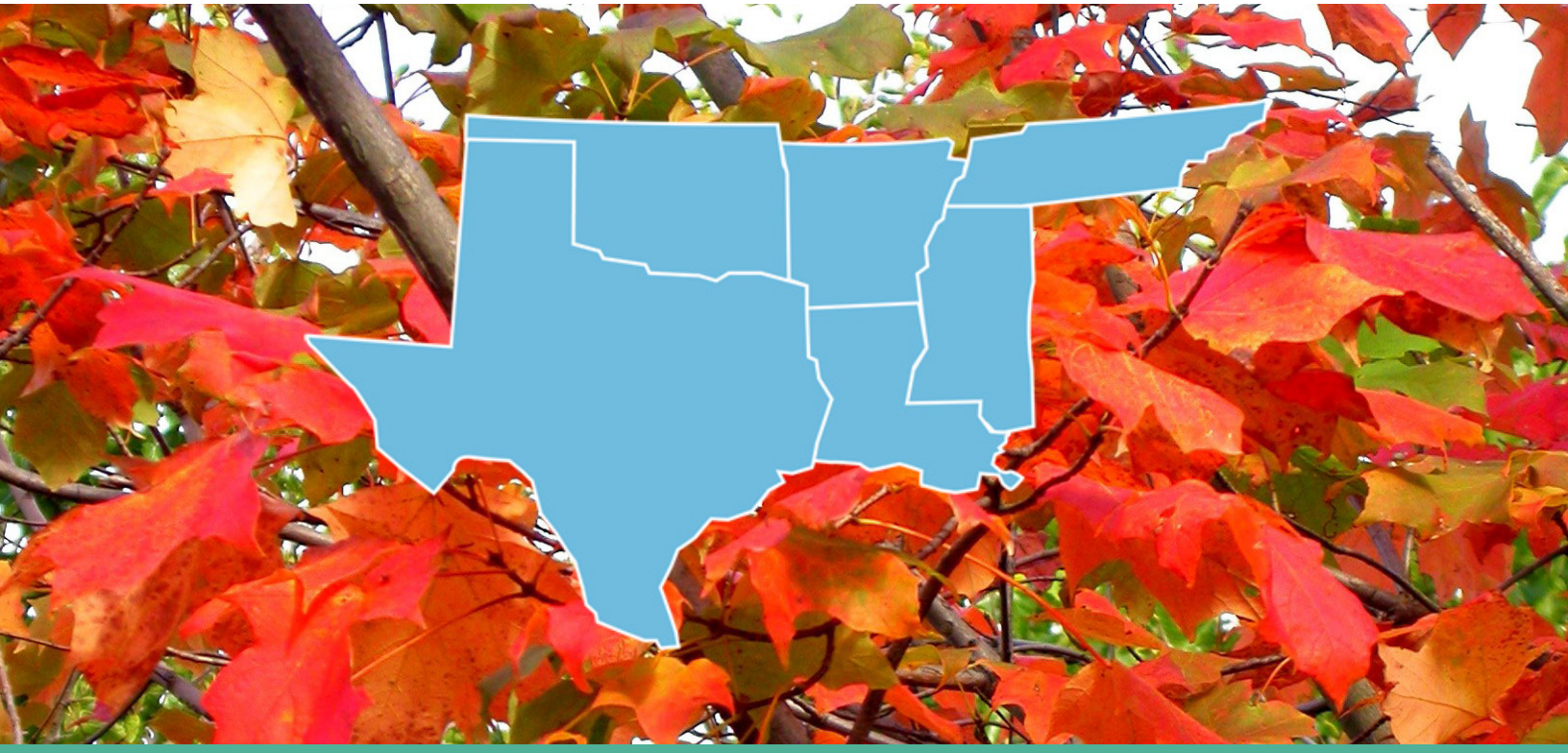

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Workshops in the Southern Great Plains Focus on Drought Risk Management on the Ranch

Nicole Wall, Tonya Haigh, Cody Knutson, and Tonya Bernadt, National Drought Mitigation Center, University of Nebraska-Lincoln

The Southern Great Plains, a critical beef-producing region, recently experienced a severe multi-year drought. This time period has been the driest comparable 40-plus month period in over a century in many parts of west Texas and southwest Oklahoma.

In 2014, the National Drought Mitigation Center (NDMC) received a USDA Risk Management Education Partnership grant to deliver a comprehensive and hands-on approach to increasing ranchers' capacity to manage drought risk. SCIPP was a collaborator in the project, along with the USDA Southern Plains Regional Climate Hub, USDA-ARS Grazinglands Research Laboratory, and the USDA NIFA-funded Grazing CAP. The objectives of the project have been to increase ranchers' understanding of (1) the features and appropriate use of risk management tools such as insurance products, range and forage management techniques, and web-based risk management tools; and (2) sound risk management decision making using a drought planning methodology developed by the NDMC in conjunction with Great Plains ranchers.

The program was delivered through three day-long workshops, which were archived for online viewing at http://drought.unl.edu/ranchplan/Overview/Resources.aspx. Workshops were held in Beaver, OK (May 21) in cooperation with the Beaver County Extension Office; Henrietta, TX (August 4) in cooperation with the Texas Section Society for Range Management; and with the Chickasaw Nation (October 30) in partnership with the Oklahoma Tribal Conservation Advisory Council and the USDA NRCS.

The workshops featured "Managing Drought Risk on the Ranch" (www.drought.unl.edu/

Image 1. Chickasaw Nation Workshop, October 30, 2015

ranchplan), an NDMC project providing planning guidelines that assist producers in setting goals and determining critical dates and decision points; developing inventory and monitoring strategies; identifying appropriate management options before, during, and after drought; and finding help and resources. "Managing Drought Risk on the Ranch" was developed with the input of ranchers and advisors through planning meetings, telephone interviews, and a regional workshop. Ranchers and advisors from eight states (ND, SD, WY, NE, CO, KS, TX, and CA) were interviewed during the project, and highlighted that producers with a drought plan actively monitor resources; build ecological, financial, and social resilience into their operations; and are proactive during drought in order to minimize short - and long - term damages. They also made the following recommendations for reducing drought risk:

1. Prepare for drought by increasing the health of the overall operation and maximizing flexibility
2. Write a drought plan that includes what to do during drought and when
3. When conditions require it, implement the plan and don't second-guess it
4. After drought, have a plan for restoring the health of all parts of the ranch operation
5. Monitor how the drought plan works, and improve it as you learn

With these concepts in mind, each workshop highlighted local experts who discussed the importance of soil health, appropriate stocking rates and pasture management, drought status and trends, managing regrowth and drought recovery, and the development of drought plans. Workshops also included information from USDA RMA representatives about the Pasture, Rangeland, and Forage Insurance Program and Rainfall Index - Annual Forage Insurance Plan to increase producer understanding of the programs and their capacity for effectively using them. Finally, each workshop brought together local producers to reflect on the recent drought, share strategies they found effective during drought, and discuss what they thought needed to be done to prepare for the next drought. Suggested strategies included leasing more ground but not increasing cows, weaning calves early and selling them off, depopulating herds, looking to elders for advice, and not holding on but rather going into "defensive" mode so you fair better. A panelist at the Sulphur, OK workshop shared his experience with using drought to his advantage. They were able to clean out ponds, tanks, and other areas that weren't as easily accessible when not in a drought.

Great thanks are owed to all of the speakers and participants who helped make these workshops a success. Again, the speaker and program information is available on the NDMC website at http://drought.unl.edu/ranchplan/Overview/Resources.aspx. These types of workshops are an important part of ongoing outreach efforts and dialogue to help ranchers better prepare for and respond to future droughts in the Great Plains and beyond.

Image 2. Amy Roeder, USDA-RMA, Beaver Oklahoma, discusses the insurance options for producers through the Risk Management Agency.

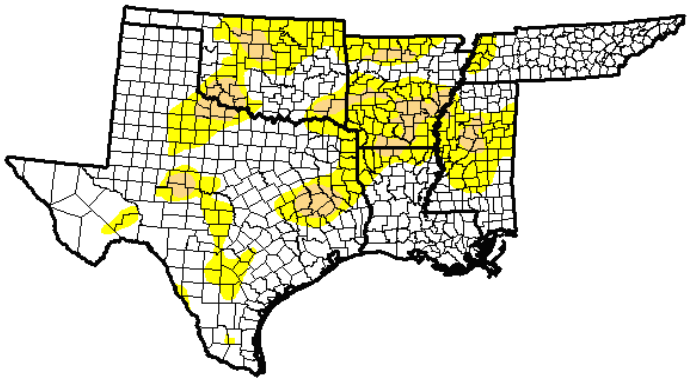
Drought Update

Luigi Romolo,
Southern Regional Climate Center

Heavy precipitation near the end of the month helped alleviate drought conditions across the Southern Region. As of November 3, 2015, only 7.15 percent of the Southern Region is classified in moderate drought. All severe drought and beyond has been removed.

The passage of a cold front on October 24-25 dumped record rainfalls across the southern parishes of Louisiana. Local flooding was reported in several parishes. One day totals over over 8 inches (203.2 mm) were common, and in New Orleans, approximately 22,000 people were left without power. One week later, an additional 4-5 inches (101.6-127.0 mm) fell across southern Louisiana causing local flooding in Baton Rouge.

In Texas, unseasonable temperatures and worsening drought conditions were common for the first half of the month. Over the last two weeks rainfall across the state has broken records and brought with it dangerous flash flooding and severe weather. Ensuing rainfall at the end of the month helped eliminate the developing flash drought conditions and brought some hydrological improvement as well, as reservoirs had dropped 4% this month, a time when levels usually don't change, before improving by 6%. Damages due to the two record flooding events thus far could reach $3 billion. In an effort to better predict and understand tornado formation, Texas will see $1.9 million of a $5.7 million research agreement towards hazardous weather research. (Information provided by the Texas Office of State Climatology).



Released Thursday, November 5, 2015
Matthew Rosencrans, CPC/NCEP/NWS/NOAA

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	67.33	32.67	7.15	0.00	0.00	0.00
Last Week *10/27/2015*	49.34	50.66	23.74	5.51	0.00	0.00
3 Months Ago *8/4/2015*	76.66	23.34	5.43	0.09	0.00	0.00
Start of Calendar Year *12/30/2014*	41.57	58.43	33.88	18.43	8.80	2.36
Start of Water Year *9/29/2015*	36.88	63.12	37.43	18.31	5.72	0.00
One Year Ago *11/4/2014*	43.16	56.84	35.25	20.83	8.33	2.70

Intensity:

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

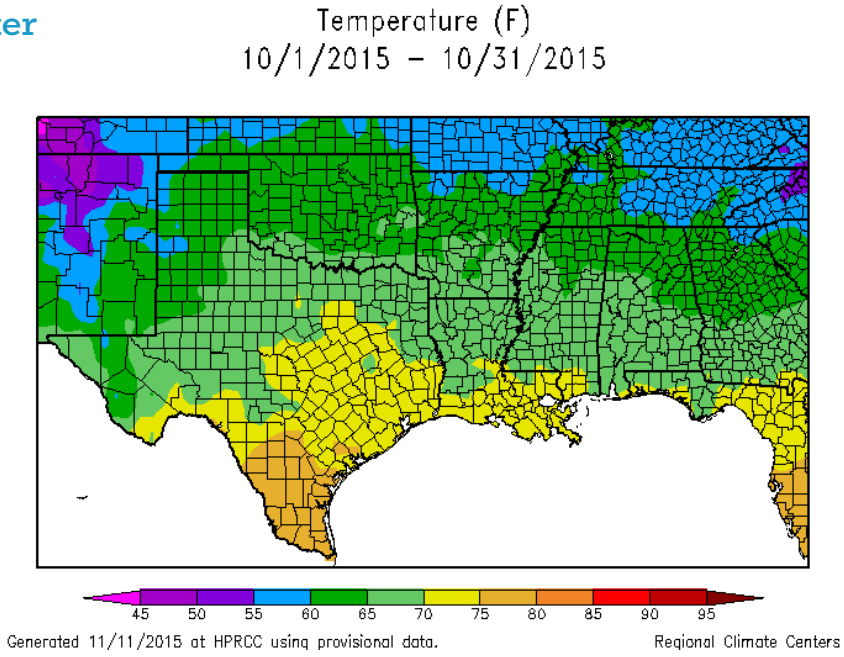
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Above: Drought conditions in the Southern Region. Map is valid for November 3, 2015. Image is courtesy of National Drought Mitigation Center.

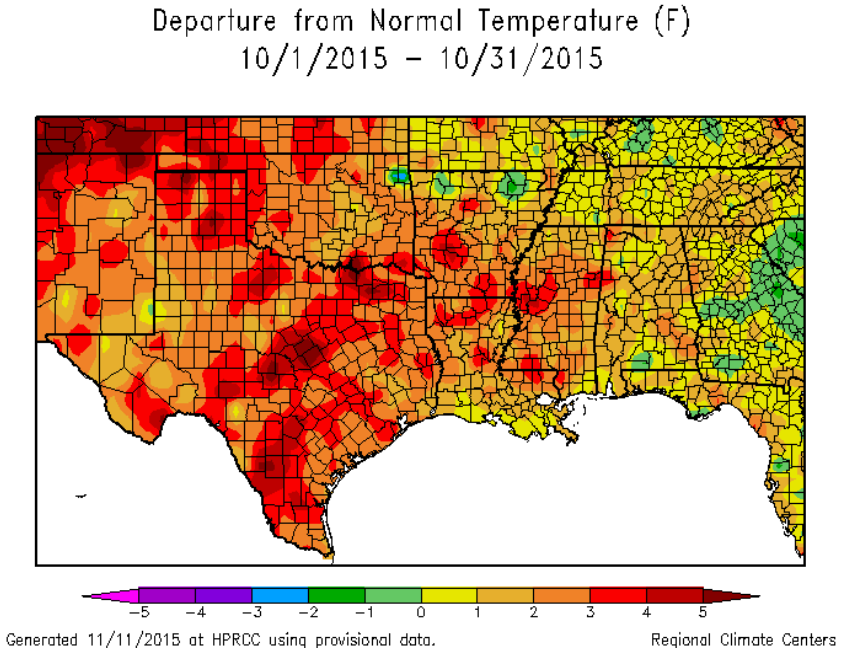
Temperature Summary

Luigi Romolo,
Southern Regional Climate Center

October was a warmer than normal month for all six states in the Southern Region. Temperature anomalies varied from 3 to 5 degrees F (1.67 to 2.78 degrees C) over expected values in southern Texas, to just slightly warmer than normal in eastern Tennessee. The state-wide average temperatures for the month are as follows: Arkansas averaged 63.50 degrees F (17.50 degrees C), Louisiana averaged 69.70 degrees F (20.94 degrees C), Mississippi averaged 66.60 degrees F (19.22 degrees C), Oklahoma averaged 63.40 degrees F (17.44 degrees C), Tennessee averaged 59.60 degrees F (15.33 degrees C), and Texas averaged 69.20 degrees F (20.67 degrees C). Texas experienced its tenth warmest October on record, while Louisiana experienced its twenty-first warmest. Mississippi experienced its twenty-seventh warmest October and Oklahoma its thirtieth warmest. All other state rankings fell within the two middle quartiles. All records are based on the period spanning 1895-2015.



Average October 2015 Temperature across the South

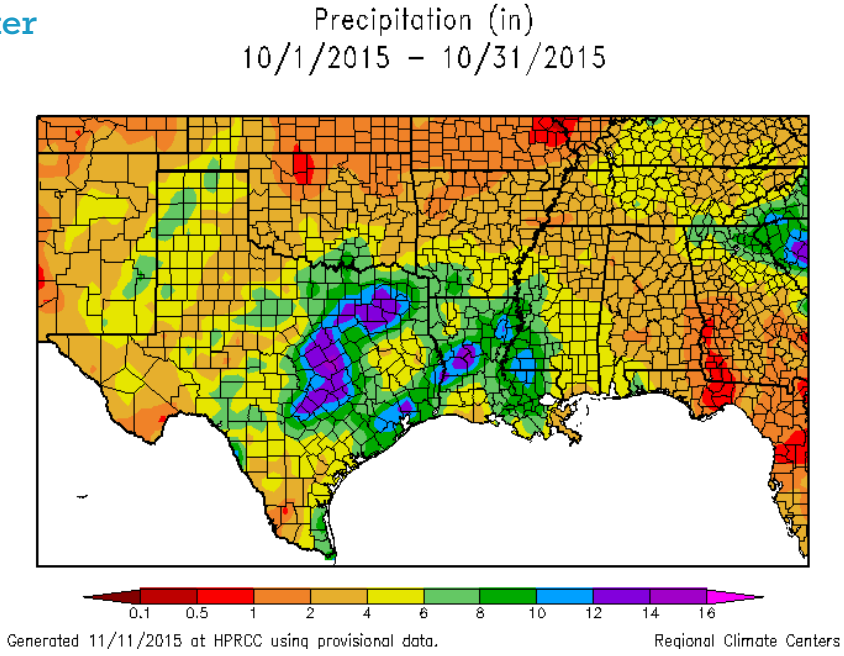


Average Temperature Departures from 1971-2000 for October 2015 across the South

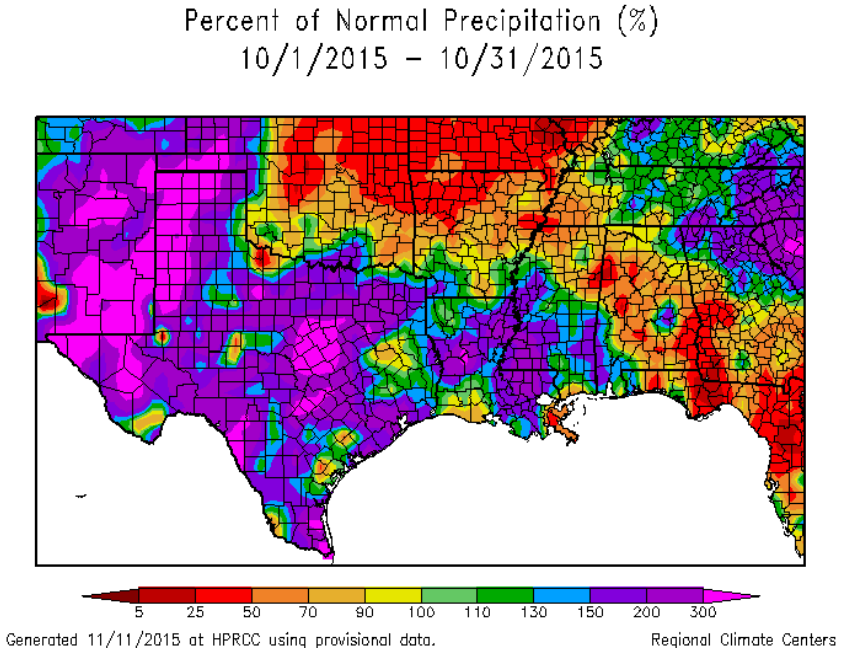
Precipitation Summary

Luigi Romolo,
Southern Regional Climate Center

October precipitation in the Southern Region varied spatially from extremely wet to extremely dry. Though all six states in the region experienced a wetter than normal month, conditions in northern Arkansas and central/eastern Oklahoma were quite dry with most station reporting less than 70 percent of normal rainfall. In the northern counties of Arkansas and Oklahoma, many stations reported less than half the monthly expected precipitation. Elsewhere in the region, conditions were very wet. A slow moving cold front, combined with the remnants of Hurricane Patricia dropped more than 10 inches (254 mm) of rain across areas of southern Texas and southeastern Louisiana. The state-wide precipitation totals for the month are as follows: Arkansas reporting 3.66 inches (92.96 mm), Louisiana reporting 7.56 inches (192.02 mm), Mississippi reporting 5.35 inches (135.89 mm), Oklahoma reporting 3.11 inches (78.99 mm), Tennessee reporting 3.84 inches (97.54 mm), and Texas reporting 5.84 inches (148.34 mm). For Texas, it was their fifth wettest October on record. Louisiana experienced its twelfth wettest October and Mississippi its fourteenth wettest. All other state rankings fell within the two middle quartiles. All state records are based on the period spanning 1895-2015.

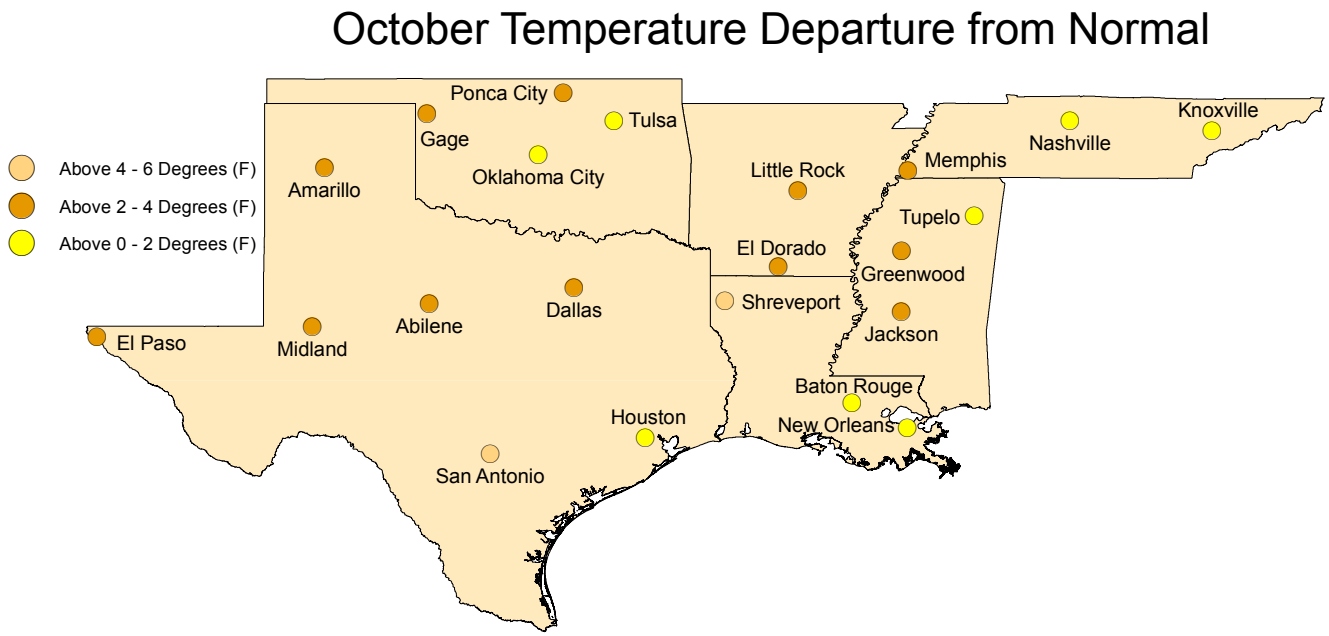


October 2015 Total Precipitation across the South

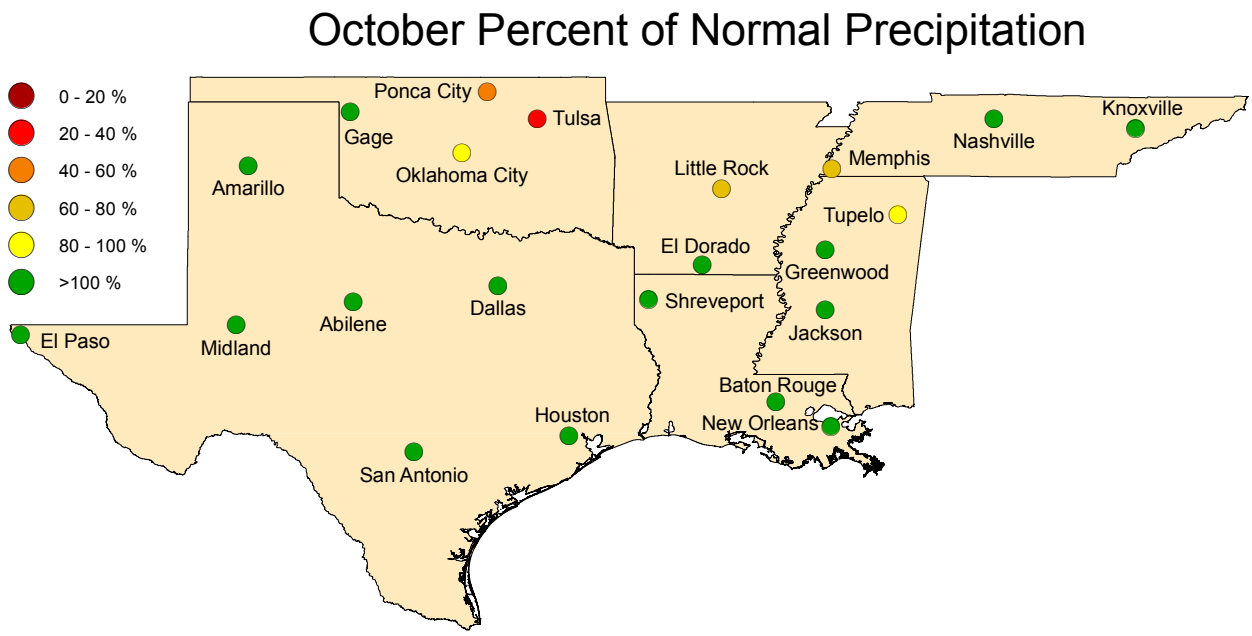


Percent of 1971-2000 normal precipitation totals for October 2015 across the South

Regional Climate Perspective in Pictures



October 2015 Temperature Departure from Normal from 1971-2000 for SCIPP Regional Cities



October 2015 Percent of 1971-2000 Normal Precipitation Totals for SCIPP Regional Cities

Climate Perspective

State	Temperature	Rank (1895-2011)	Precipitation	Rank (1895-2011)
Arkansas	63.50	31st Warmest	3.66	53rd Wettest
Louisiana	69.70	21st Warmest	7.56	12th Wettest
Mississippi	66.60	27th Warmest	5.35	14th Wettest
Oklahoma	63.40	30th Warmest	3.11	45th Wettest
Tennessee	59.60	47th Warmest	3.84	32nd Wettest
Texas	69.20	10th Warmest	5.84	5th Wettest

State temperature and precipitation values and rankings for October 2015. 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	79.8	53.7	66.8	3.0	96	10/15	39	10/19	5.97	0.78	115
Little Rock, AR	77.6	55.2	66.4	2.7	98	10/15	44	10/19	3.80	-1.11	77
Baton Rouge, LA	82.9	59.6	71.3	2.0	95	10/16	45	10/19	15.13	10.43	322
New Orleans, LA	81.3	65.3	73.3	2.0	92	10/16	57	10/14	9.54	6.00	269
Shreveport, LA	82.0	59.0	70.5	4.1	98	10/15	50	10/18	7.10	2.14	143
Greenwood, MS	80.2	55.4	67.8	3.5	94	10/15	38	10/17	5.53	1.66	143
Jackson, MS	80.5	56.8	68.7	3.5	96	10/15	42	10/19	6.86	2.94	175
Tupelo, MS	76.1	52.5	64.3	1.3	91	10/15	35	10/19	4.09	-0.03	99
Gage, OK	75.0	48.6	61.8	3.4	93	10/15+	30	10/25	2.91	0.92	146
Oklahoma City, OK	75.7	53.0	64.3	1.8	93	10/14	41	10/31+	3.45	-0.26	93
Ponca City, OK	75.2	49.1	62.2	2.1	90	10/11	34	10/26	1.65	-1.73	49
Tulsa, OK	75.6	51.2	63.4	1.6	90	10/15	38	10/26	1.50	-2.43	38
Knoxville, TN	70.5	51.0	60.7	0.8	82	10/07	35	10/19	3.11	0.60	124
Memphis, TN	76.5	56.0	66.3	2.2	93	10/15	44	10/18	2.44	-1.54	61
Nashville, TN	73.1	50.7	61.9	1.6	87	10/08+	34	10/19	4.32	1.28	142
Abilene, TX	82.0	56.2	69.1	3.3	94	10/15+	40	10/26	8.17	5.19	274
Amarillo, TX	72.9	49.4	61.2	2.9	90	10/11	38	10/29	3.48	1.82	210
El Paso, TX	78.8	57.7	68.3	3.2	96	10/02	44	10/31	3.24	2.63	531
Dallas, TX	82.1	60.4	71.2	3.7	96	10/14	51	10/29	9.82	5.61	233
Houston, TX	84.7	61.9	73.3	1.8	95	10/13	51	10/19	13.05	7.35	229
Midland, TX	78.8	56.5	67.7	2.9	93	10/01	37	10/26	4.00	2.27	231
San Antonio, TX	87.5	64.0	75.7	4.5	97	10/12	52	10/29	7.78	3.67	189

Summary of temperature and precipitation information from around the region for October 2015. 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.

Batten Down the Hatches, El Nino is Here for the Winter and Spring

Barry Keim, Louisiana State Climatologist, Louisiana State University

El Nino has affected our weather in a very positive way over the late summer and fall by keeping tropical storms and hurricanes far away from Louisiana. Just note, however, that El Nino may not be finished with Louisiana, as we move into the winter and spring. The current El Nino condition is building into one for the record books, and one that will likely rival the very strong events of 1982-83 and 1997-98 before all is said and done. So what does this mean for Louisiana? More often than not, under El Nino conditions, the State is cooler and wetter than normal. This primarily stems from enhanced extra-tropical storm formation in the Gulf of Mexico. These storms tend to form in the northwestern Gulf of Mexico - off the Texas Coast - and then track across South Louisiana. This keeps us cloudy,wet, and cool. Winter forecasts from the Climate Prediction Center support this and are shown in Figure 1. Most of the Southern United States is expected to be wet this winter, with most of Texas and Louisiana cooler than normal. I took this analysis a bit further by asking some of my graduate students to look at the number of the freeze days we're likely to have this winter at four sites in Louisiana - New Orleans, Baton Rouge, Lake Charles, and Shreveport (Figure 2). As shown, we get many more days with freezing temperatures during El Nino events, and in fact, at three of the locations, there are about twice as many freezing days durning El Nino winter and springs than during non-El Ninos. In New Orleans, the sample of days is small, but we average 6.3 days below freezing during El Nino events, while only 4.2 days during winters and springs that are unaffected by El Nino. Oh, and to add to this, El Nino is also likely to increase the chances for

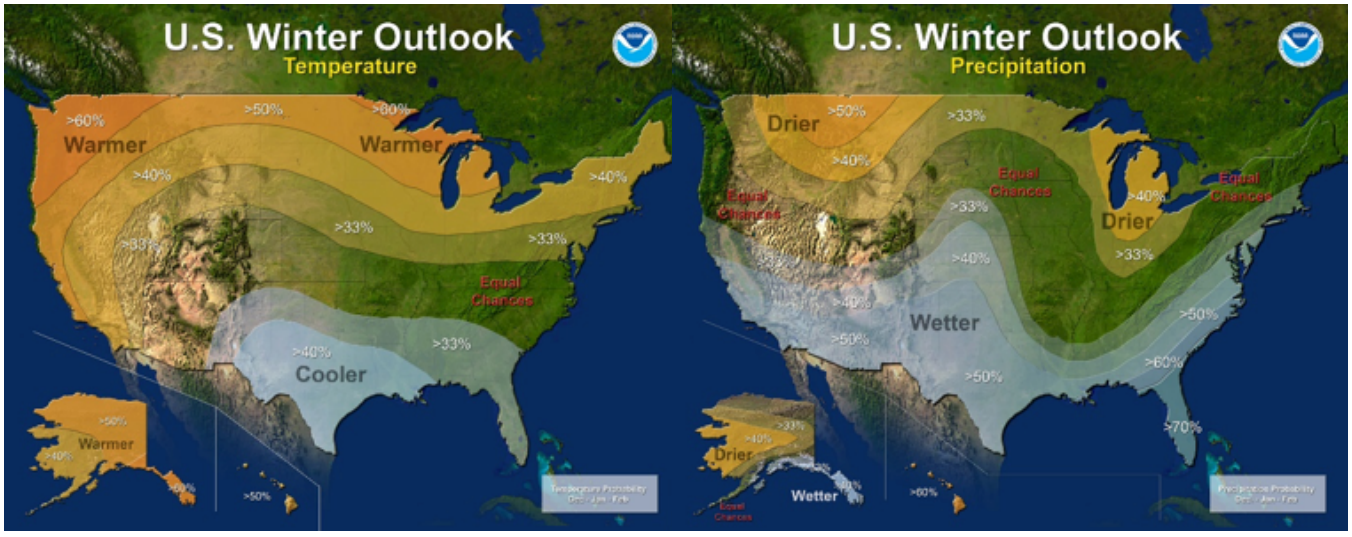


Figure 1. Winter outlook across the U.S., with temperature to the left, and precipitation to the right. Images are from the NOAA and can be found at <http://www.noaanews.noaa.gov/stories2015/101515-noaa-strong-el-nino-sets-the-stage-for-2015-2016-winter-weather.html>.

heavy rain events, as evidenced by the severe floods that occurred on rivers across the Florida Parishes in 1982 and 1983. AND, there is at least some increased chances of seeing freezing rain and snow! Let's just hope its snow this time! So El Nino protected this hurricane season, but it is likely to throw us to the wolves this winter and spring! If you have any questions, feel free to contact me at keim@lsu.edu.

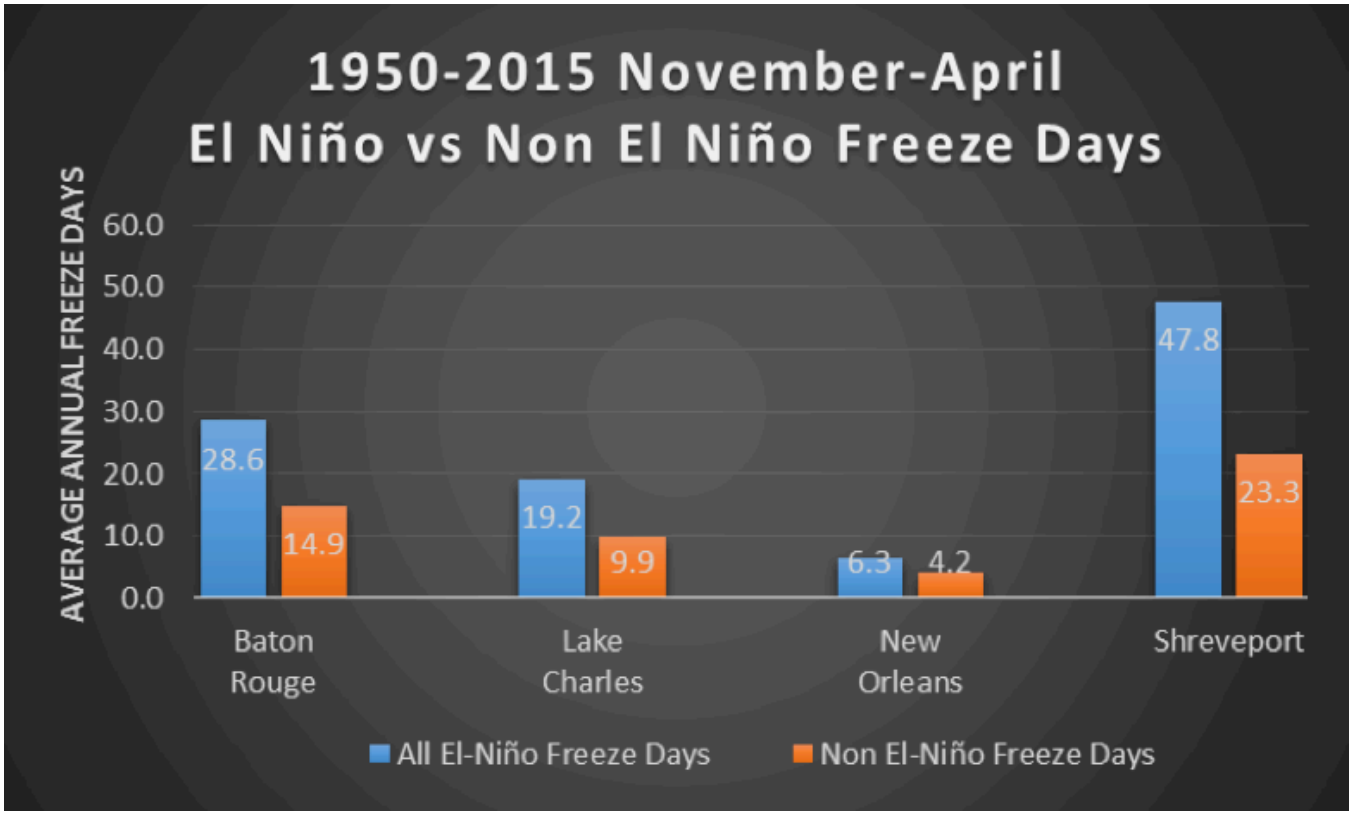


Figure 2. Impacts of El Nino on the annual average number of freeze days for each El Nino season, relative to normal.

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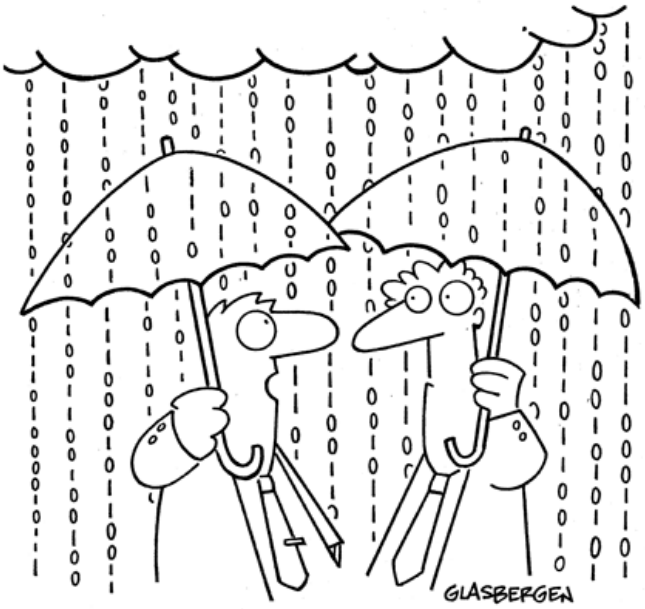
Contact Us

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 & 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.

Monthly Comic Relief



"I don't know much about cloud computing, but I think it might be responsible for the strange weather we're having."

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