Southern Climate Monitor

August 2011 | Volume 1, Issue 8

In this Issue:

 This publication was prepared by SRCC/SCIPP with support in part from the U.S. Department of Commerce/NOAA, under award NA080AR4320886 and other grants. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of NOAA.

THE THIRD US NATIONAL CLIMATE ASSESSMENT IS JUST UNDERWAY!

Lynne Carter, SCIPP Program Manager

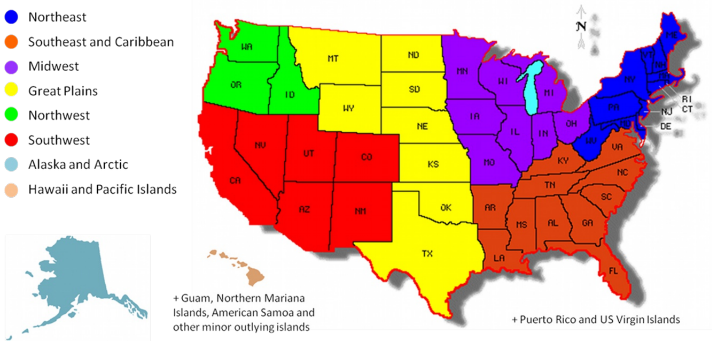
The US is in preparation to undertake the third US National Climate Assessment. The National Climate Assessment (NCA) is a scientific synthesis of information drawn from public and private sectors to understand the impacts of climate change in the United States -- what changes are already observed, what are the current status and trends, and what changes are anticipated in the future? Congress, decision makers at all levels and in all sectors, federal agencies, private businesses and others may use knowledge gained from this synthesis in developing effective adaption and mitigation strategies.

The United States Global Change Research Program (USGCRP) is mandated by law to periodically undertake scientific assessments of the potential consequences of global change for the United States. The "Global Change Research Act of 1990" (P.L. 101-606) states that the program "shall prepare and submit to the President and the Congress an assessment which:

1. integrates, evaluates, and interprets the findings of the Program and discusses the scientific uncertainties associated with such findings;
2. analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
3. analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years."

What are the expected benefits/outcomes of this activity?

The National Climate Assessment will present a comprehensive picture of the changes in regions and sectors that occur in response to climate variability and change, including effects on people, public health and human well-being, the economy, infrastructure, and the environment. This information will help decision makers throughout the country design better adaptation policies, help citizens better prepare themselves for climate change impacts, and help everyone to better understand how their everyday decisions impact the climate and the environment and how the climate and environment impacts society and natural systems that we depend upon.



Above is a map of all of the Nationl Climate Assesment Regions. SCIPP covers states in both the Great Plains region and the Southeast and Caribbean region.

What is the timeline?

The law requires that Assessments be prepared every four years. The USGCRP published the last national climate assessment, Global Climate Change Impacts in the United States, in 2009. The next report is due in 2013. The draft report, due in 2012, will be thoroughly reviewed by scientists and experts from within and outside the federal government as well as the National Academies of Sciences. However, the focus on developing a continual assessment process means that activities within regions and sectors are expected to be ongoing.

What is the process?

Assessment participants hope to build the country's capacity to assess climate related impacts in the context of other kinds of social and environmental stressors like changes in land use and employment. This requires a broad scientific base, human capital, a long-term and consistent engagement process, and the establishment of a set of national indicators for evaluating the implications of changes in the climate in the context of other existing stressors. Economic opportunities for addressing climate change will be identified, along with anticipated negative effects, by connecting what we have learned through decades of climate research to citizens and decision-makers whose livelihoods are likely to experience effects of changes in the climate. This information will be synthesized in a report that will be released in 2013 and will become part of the longer-term NCA strategy for the United States.

What are the opportunities for public engagement?

The Assessment process is designed to be transparent and inclusive, and has a strong focus on stakeholder engagement. One planned mode of engagement is to connect to existing networks of regional and sectoral organizations that are interested in scientific assessments and willing to provide support to the Assessment in the form of time, data or other kinds of technical reports. Networks of regional interests are already being identified, as well as professional societies who may wish to engage in providing information or otherwise partnering with the Assessment activities.

How can I participate and provide feedback?

Since the inception of the most recent NCA effort in 2010, multiple methodological workshops have been held for experts and representatives from a wide range of sectors and regions to offer their individual insights and suggestions, and there will be numerous future opportunities for citizens and experts alike.

The National Climate Assessment also has an e-newsletter, which you can subscribe to by e-mailing engagement@usgcrp.gov. This e-newsletter, which comes out approximately every six weeks, will offer news of upcoming public events and opportunities for public comment. The public can also contact the Assessment staff at engagement@usgcrp.gov to indicate further interest in engaging with the process. In addition, Assessment activities are included on a calendar on the website, at http://www.globalchange.gov/what-we-do/assessment. Regional and sectoral meetings are being planned that will be designed to maximize effective public input and ongoing engagement.

To clarify – this assessment effort is a three-step process. The first step (starting now to March 2012) includes the development of the regional and sectoral efforts and SCIPP is participating in two of the regional assessment efforts. The two regions are: the Great Plains (Texas and Oklahoma) and the Southeast (Louisiana, Mississippi, Arkansas, and Tennessee). Both of these efforts are meant to prepare technical input documents and to generate networks of interested participants from this region (the network will carry-on after this assessment report timeframe – and the continuation of the network is considered a part of step 3). The second step is the writing of the actual chapters for the 2013 Assessment document – hopefully based on the regional technical reports that we are now in the process of developing. The due date for the technical documents to be delivered to the assessment writers is March 1, 2012. The objective of the Assessment is to update the previous assessment document published in 2009 and available on http://www.globalchange.gov/ . Another part of step 3 of this assessment effort is to continuously develop new information on various issues and publish that information on the above website rather than only provide new information every 4 years when assessment reports are legally required.

We are seeking input to all of the steps of the assessment process: the regional technical documents, the assessment document, and the long-term networks. To participate in any of these steps, please respond to the Request for Information (RFI) by submitting an Expression of Interest (EOI) by October 1. All the information in response to the RFI that is submitted will be directed to the appropriate regional/sectoral teams. Because the regional technical inputs are due March 1, 2012 the sooner you submit your information the more likely it is to also be considered for inclusion in the earlier step of developing a regional document. The regional documents are likely to become stand-alone informative documents for the region and considerably longer than any specific chapter of the Assessment document (e.g. GP will be one chapter, SE will be one chapter – each maybe 10 pages long).

More information on the NCA process, including the strategic plan, proposed report outline, and information about the National Climate Assessment Development and Advisory Committee (NCADAC), can be found at http://assessment.globalchange.gov.

•••••••••

I am honored and delighted to be a part of the National Assessment Advisory Committee as well as a principal for the Southeast technical input and hope that those of you doing appropriate research and other work in both the Great Plains and Southeast regions will respond to and participate in this important effort. The Federal Register Request for Information is below.

Thank you,

Lynne Carter

•••••••••

Request for Information (Federal Register Notice): "Technical Inputs and Assessment Capacity On Topics Related to 2013 U.S. National Climate Assessment" pdf | html

NOAA has issued a request for information, inviting the public to provide comments and expressions of interest in offering technical inputs or assessment capacity on topics related to the National Climate Assessment. While federal leadership will continue to play a significant role in the 2013 NCA, the National Climate Assessment Development Advisory Committee (NCADAC) recognizes and calls upon the increasing science capability and expertise across the United States to support its work. The diverse viewpoints of private industry, state and local governments, non-governmental organizations, professional societies, and impacted communities will ultimately contribute to a better-informed and more useful NCA report. Expressions of interest are due by October 1, 2011, and final inputs are due by March 1, 2012. Please see the Federal Register Notice for a detailed timeline and more information [pdf | html]. Additional supplementary material includes "Potential Technical Inputs and Assessment Capacities and Suggested Best Practices" [pdf].

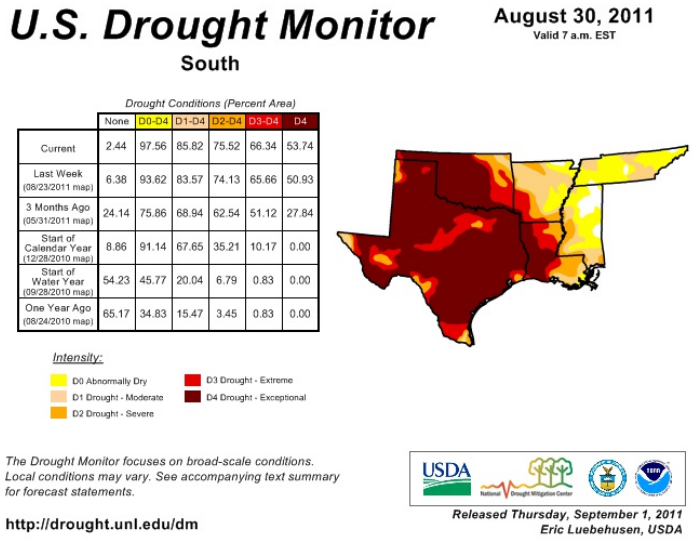
DROUGHT CONDITIONS

Luigi Romolo, Southern Regional Climate Center

A third consecutive month of anomalously warm and anomalously dry conditions has led to a worsening of drought conditions in the Southern Region. As of August 30, 2011, approximately 54 percent of the region is experiencing exceptional drought; the highest designation of drought by the National Drought Mitigation Center. This area includes approximately: eighty-one percent of Texas, sixty-nine percent of Oklahoma, and thirty-eight percent of Louisiana. Some drought improvement occurred in Arkansas, where wetter than normal conditions dominated for part of the month.

According to the Texas Forestry Service, 20,155 fires have been reported in Texas since the beginning of Wildfire Season on November 15, 2010. Since then, over 3.5 million acres have been scorched and Texas held approximately 51% of the total acres burned in the United States alone. During the current wildfire season, 3,056 homes and structures have been lost. However, with the aid of brave men and women from Texas and literally every other state in the nation, 42,077 homes and structures were saved this year. In addition, a record-breaking 251 of 254 counties enforced a burn ban by the end of August. (Information provided by the Texas Office of State Climatology)

Some areas of Texas did receive precipitation in August, but the amounts of rain were far from removing the burden of the "worst one-year drought in recorded history." Farmers and ranchers were hit the hardest during August 2011 and the crop and livestock reports had the evidence to prove it. As the costliest drought in Texas history, losses were estimated to be at $5.2 billion at the end of the month. Ranchers practically liquidated their herds as the water wells went dry and supplemental feeding became too expensive. Likewise, farmers were forced to give up on particular plots and only irrigate what they believed could yield a substantial crop. Across the state, the outlook was extremely bleak.(Information provided by the Texas Office of State Climatology). Drier than normal conditions in Tennessee has led to some moderate drought in the northwestern and central counties.

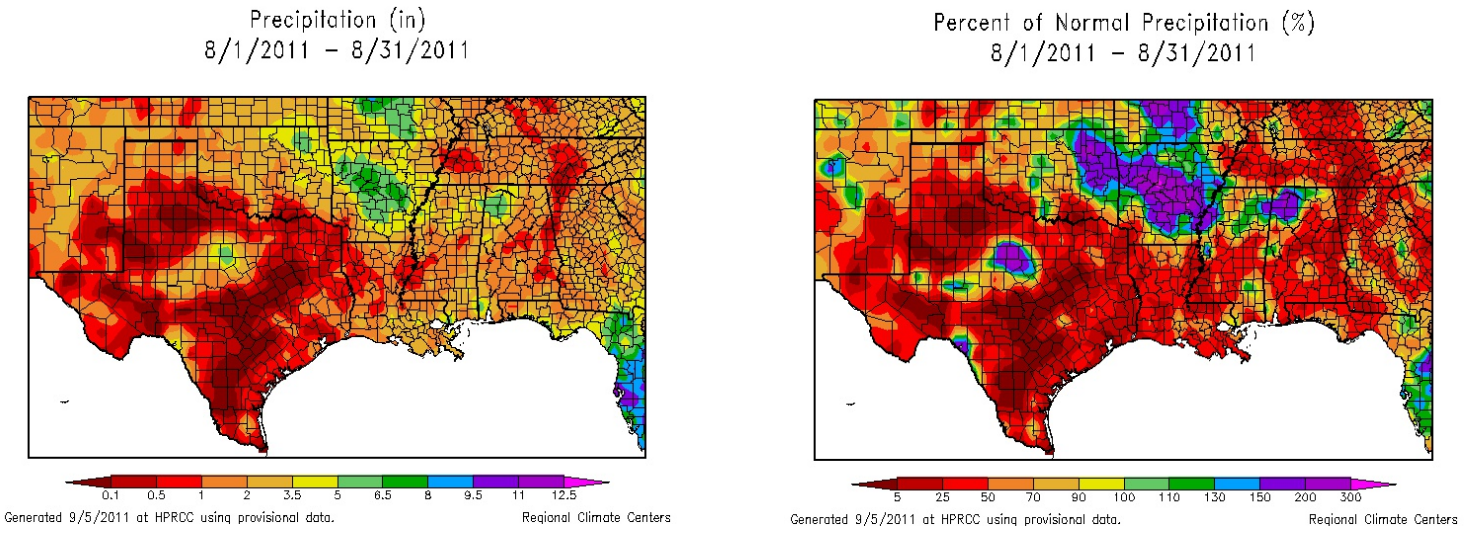


To the right: Drought conditions in the Southern Region. Map is valid for August 2011. Image courtesy of the National Drought Mitigation Center.

PRECIPITATION SUMMARY

Luigi Romolo, Southern Regional Climate Center

Dry conditions continued into August for much of the Southern Region. With the exception of Arkansas and eastern Oklahoma, conditions were quite drier than normal. Arkansas averaged a total of 4.12 inches of precipitation for the month, making it the twenty-eighth wettest August on record (1895-2011). Most stations in the interior portions of the state reported between 130 to 200 percent of normal. Similar conditions were observed in eastern Oklahoma and in a small part of central Texas. Elsewhere, conditions were much drier than normal with the majority of stations recording less than 50 percent of normal precipitation. The state of Texas recorded its third consecutive month of less than one inch (25.4 mm) of precipitation. The State averaged only 0.73 inches (18.54 mm), making it the fifth driest August on record (1895-2011). Louisiana averaged only 1.81 inches (45.97 mm) of precipitation for the month, which equates to the third driest August on record (1895-2011) there. Mississippi experienced its sixth driest August on record (1895-2011) with a average monthly precipitation total of just 1.80 inches (45.72 mm). It was also a very dry month for Tennessee, which recorded only an average of 1.44 inches (36.58 mm) of precipitation, or its fourth driest August on record (1895-2011). Oklahoma averaged 2.49 inches (63.25 mm) of precipitation. This equates to the forty-ninth driest August on record (1895-2011). It is worth noting that much of the state was quite drier than that statistic implies, which is somewhat biased by much wetter than normal conditions that occurred in the eastern-most counties.

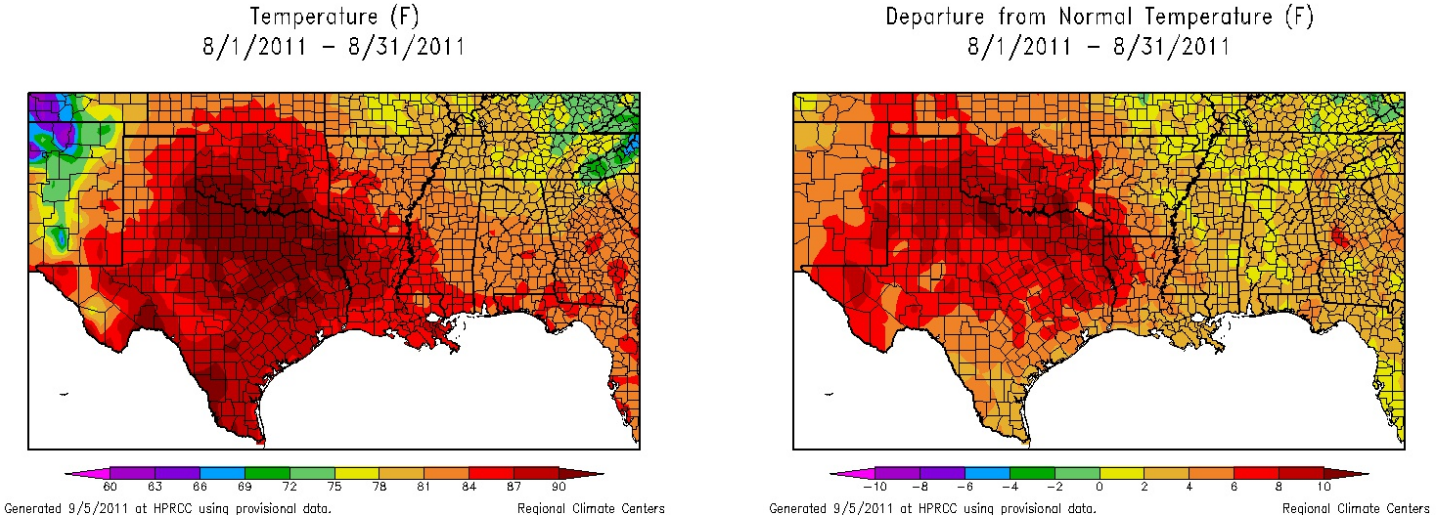


Total precipitation values (left) and the percent of 1971-2000 normal precipitation totals (right) for August 2011.

TEMPERATURE SUMMARY

Luigi Romolo, Southern Regional Climate Center

As was the case in both June and July, August was again a very warm month for the Southern Region. The region as a whole averaged a temperature of 86.00 degrees F (30.00 degrees C). This is the warmest August on record (1895-2011) for the Southern Region. The majority of stations in the region averaged between 2 to 6 degrees F (1.11 to 3.33 degrees C) above normal. The highest temperature anomalies occurred in central and northern Texas, and throughout most of Oklahoma. Stations there averaged between 6 to 10 degrees F (3.33 to 5.56 degrees C) above monthly expected values. It is therefore not surprising that both Texas and Oklahoma experienced their warmest August on record (1895-2011). It is worthy to note that both of these states are also following their warmest July on record (1895-2011). The August Texas average temperature was an astounding 88.10 degrees F (31.17 degrees C), while in Oklahoma, the state average temperature for was 87.40 degrees F (30.78 degrees C). With a state wide average temperature of 86.20 degrees F (30.11 degrees C), Louisiana also recorded its warmest August on record (1895-2011). For Arkansas, it was the eleventh warmest August on record (1895-2011) with a state average temperature of 82.90 degrees F (28.28 degrees C). The average state temperature for Mississippi was 82.80 degrees F (28.22 degrees C), while in Tennessee, the state average temperature for the month was 77.70 degrees F (25.39 degrees C). For Mississippi it was the eighteenth warmest August on record (1895-2011), while for Tennessee, it was the twenty-eighth warmest August on record (1895-2011).



Average temperatures (left) and departures from 1971-2000 normal average temperatures (above) for August 2011, across the South.

CLIMATE PERSPECTIVE

State	Temperature	Rank	Precipitation	Rank
Arkansas	82.9	11th Warmest	4.12	28th Wettest
Louisiana	86.2	Warmest Ever	1.81	3rd Driest
Mississippi	82.8	18th Warmest	1.80	6th Driest
Oklahoma	87.4	Warmest Ever	2.49	49th Driest
Tennessee	77.7	28th Warmest	1.44	4th Driest
Texas	88.1	Warmest Ever	0.73	5th Driest

State temperature and precipitation values and rankings for July 2011. Ranks are based on the National Climatic Data Center's Statewide, Regional and National Dataset over the period 1895-2011.

STATION SUMMARIES ACROSS THE SOUTH

Station Name	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	%Norm
El Dorado, AR	100.4	73.0	86.7	5.5	108.0	8/4+	63.0	8/27	2.18	-1.04	68
Little Rock, AR	95.1	74.2	84.7	3.4	114.0	8/3	67.0	8/12	5.60	2.67	191
Baton Rouge, LA	96.7	75.9	86.3	4.9	101.0	8/18	68.0	8/29	2.17	-3.69	37
New Orleans, LA	95.9	78.6	87.3	4.8	99.0	8/23	73.0	8/24	1.61	-4.54	26
Shreveport, LA	104.4	78.6	91.5	8.6	109.0	8/17+	73.0	8/28+	0.51	-2.20	19
Greenwood, MS	94.2	70.5	82.3	0.9	100.0	8/31	60.0	8/15	1.71	-0.73	70
Jackson, MS	97.7	73.0	85.4	4.5	101.0	8/31	64.0	8/16	0.83	-2.83	23
Tupelo, MS	95.2	71.5	83.4	3.7	106.0	8/3	62.0	8/15	0.98	-1.69	37
Oklahoma City, OK	102.2	75.7	89.0	7.8	110.0	8/6+	68.0	8/11	2.02	-0.46	81
Ponca City, OK	100.1	73.0	86.6	4.7	112.0	8/5+	57.0	8/26	3.81	0.45	113
Tulsa, OK	99.9	75.3	87.6	5.4	113.0	8/3	62.0	8/26	5.76	2.91	202
Knoxville, TN	92.1	68.1	80.1	3.2	99.0	8/3	59.0	8/29	1.06	-1.83	37
Memphis, TN	93.0	74.9	83.9	2.7	106.0	8/3	67.0	8/15	3.08	0.08	103
Nashville, TN	92.0	68.9	80.5	2.5	102.0	8/3	62.0	8/30	1.78	-1.50	54
Amarillo, TX	99.7	70.5	85.1	8.8	105.0	8/8+	66.0	8/25+	0.53	-2.41	18
El Paso, TX	98.8	75.2	87.0	5.9	104.0	8/8	70.0	8/19+	1.11	-0.64	63
Dallas, TX	104.3	82.5	93.4	9.0	110.0	8/2	75.0	8/13	0.96	-1.07	47
Houston, TX	102.0	78.7	90.4	7.1	109.0	8/27	75.0	8/31+	0.09	-3.74	2
San Antonio, TX	101.5	78.5	90.0	5.8	110.0	8/28	73.0	8/26	0.15	-2.42	6

Summary of temperature and precipitation information from around the region for July 2011. 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. Blue-shaded boxes represent cooler than normal temperatures; red-shaded boxes denote warmer than normal temperatures; tan shades represent drier than normal conditions; and green shades denote wetter than normal conditions.

Southern Climate 101

Have a question about Southern U.S. climate? Let us know and we may feature the answer in a future issue of the Monitor!

In future issues of the Monitor, we will select a user submitted climate question and provide a reply, to appear in this spot on the back page of the Monitor. Though any aspect of climate is fair game, we will give greatest consideration to questions pertaining to extreme weather & climate events, recent conditions, and climate-related issues relevant to the South Central U.S. - specifically the states of Oklahoma, Texas, Arkansas, Louisiana, Tennessee, and Mississippi. For instance, perhaps you recently experienced a significant winter storm and you were curious how rare it was from a historical perspective. Contact us at **monitor@southernclimate.org** and we will consider your question among all the others we receive. In the subject line of your message, please use "Southern Climate 101." We look forward to your submissions!

Have a climate question, but do not want it to be answered in a public forum? No problem! Feel free to contact us at one of the options listed below, and we will do our best to address your question.

Southern Climate Monitor Team:

Luigi Romolo, Regional Climatologist
Southern Regional Climate Center (LSU)

Charlotte Lunday, Student Assistant
Southern Climate Impacts Planning Program (OU)

Lynne Carter, Program Manager
Southern Climate Impacts Planning Program (LSU)

Margret Boone, Program Manager
Southern Climate Impacts Planning Program (OU)

Rachel Riley, Interim Program Manager
Southern Climate Impacts Planning Program (OU)

Hal Needham, Research Associate
Southern Climate Impacts Planning Program (LSU)

Barry Keim, State Climatologist for Louisiana
Co-PI, Southern Climate Impacts Planning Program (LSU)

Mark Shafer, Principal Investigator
Southern Climate Impacts Planning Program (OU)

Gary McManus, Associate State Climatologist for Oklahoma
Southern Climate Impacts Planning Program (OU)

Kevin Robbins, Director
Southern Regional Climate Center (LSU)

Contact Us

The *Monitor* is an experimental climate outreach and engagement product of the Southern Regional Climate Center and Southern Climate Impacts Planning Program. 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** and **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 225-578-502. 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.