



# SOUTHERN CLIMATE *MONITOR*

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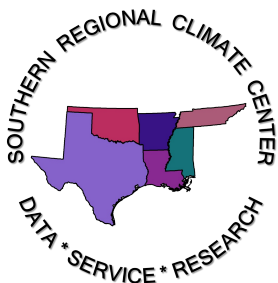
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## BEST PRACTICES FOR HURRICANE COMMUNICATION

*Renee Edwards, Louisiana State University*

Risk communication refers generally to the interaction between organizations that manage the social impacts of disaster or disease, and that provide information to the broader public. Unfortunately for the residents of coastal states, one disaster that is all-too-common is hurricanes.

A research team from LSU investigated the hurricane planning and decision-making of the expert organizations in Southeastern Louisiana four years after Hurricane Katrina. The primary purpose of the research was to identify best practices and make recommendations for improving communication at the onset of a storm.

The team interviewed 24 government officials, media representatives, and scientists. The government officials included state-level and parish-level directors of emergency operations. Media representatives worked for TV, radio, newspapers, and internet sources while scientists were the state climatologist, director of the Southern Regional Climate Center, and NOAA scientists.

Based on the communication problems and practices reported by the expert community, the researchers identified 12 best practices for future disasters. The first 3 recommendations are relevant for all groups, whereas the next 9 are more relevant for some groups than others.

1. **Avoid Burnout:** Many experts reported working to exhaustion during previous disasters. They were dealing with their own personal situation as well as their professional responsibilities.

2. **Build Trust:** Trust is the foundation for all communication; it is important to develop good relationships with everyone you will work with during a crisis.

3. **Communication Network:** Make a list of

the people you will need to contact, and keep it up-to-date. The researchers found high turnover, especially for media representatives and government officials.

4. **Be Proactive in Educating the Public (Gov't):** Louisiana has an advertising campaign, "Get a Game Plan," that encourages citizen-level planning and responsibility for hurricane preparedness.

5. **Keep Media in the Loop (Gov't):** Evacuations and other actions will be more effective when the media has advance notice.

6. **Keep Other Parish/County Officials in the Loop (Gov't):** Interviewees reported instances of good communication between parish and state officials but identified difficulties with parish-to-parish communication. Louisiana is addressing this problem by organizing parishes into regions for emergency management.

7. **Be Proactive in Communication with Media and Government (Scientists):** Scientists should anticipate the information needs and develop consistent messages.

8. **Have a Backup Plan When Technology Fails (Scientists):** Because science is heavily dependent on technology, backup plans are essential.

9. **Avoid Jargon (Scientists):** Be careful not to assume that others understand your technical language. Speak plainly and offer clarification when needed.

10. **Identify Your "Point Person" in the Scientific Community before the Storm (Media):** Valuable time can be wasted by asking multiple scientists the same question, or having media representatives ask the same question of a scientist.

11. **Create a List of Personal Cell Phone Numbers (Media):** Create a list, keep it current, and use it only for emergency situations.

12. **Spread the Message (Media):** Take advantage of new social media and technologies for spreading the word.

Renee Edwards, lead researcher for the project, says that what is important about these recommendations is that they grew out of the

experts' experiences with past hurricanes, including Katrina. For more information, go to [www.lsu.edu/hipip](http://www.lsu.edu/hipip) or contact her at [edwards@lsu.edu](mailto:edwards@lsu.edu).

The research was supported by the Mississippi-Alabama Sea Grant Coastal Storms Program (project number R/MG/CSP-05), Louisiana State University, and The Louisiana Governor's Office of Homeland Security and Emergency Preparedness.

## DROUGHT CONDITIONS

*Luigi Romolo, Southern Regional Climate Center*

Extreme dryness coupled with anomalously high temperatures throughout the Southern Region has not led to much of a change in areal coverage of drought in general, but it has led to dramatic changes in drought intensity. As was the case in June, northern Mississippi and Tennessee remain drought free. Dryness throughout most of Arkansas and eastern Oklahoma has led to in the introduction of D0, or abnormally dry conditions. The biggest changes in drought intensity occurred in the states of Louisiana, Texas and Oklahoma.

As of May 31, 2011, 60.31 percent of Louisiana was in extreme (D3) drought or worse, with only 10.38 in exceptional (D4) drought. As of June 28, 2011, those numbers increased to 90.12 percent in extreme (D3) drought or worse and an astounding 63.50 percent in exceptional (D4) drought. Similarly, in Oklahoma, there was an 11.19 percent areal coverage increase in extreme (D3) drought or worse and a 22.58 percent areal coverage increase in exceptional (D4) drought. In Texas, there was a 9.55 percent increase in the areal coverage of extreme (D3) drought or worse, and a 21.67 percent areal coverage increase in the amount of exceptional (D4) drought. As of June 28, 2011, 72.32 percent of Texas, 32.55 percent of Oklahoma and 63.50 percent of Louisiana are designated as exceptional drought.

## U.S. Drought Monitor

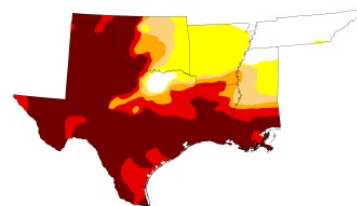
June 28, 2011  
Valid 7 a.m. EST

South

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.52	74.48	59.82	53.42	47.27	47.27
Last Week (06/21/2011 map)	22.27	77.73	72.54	66.68	61.92	46.53
3 Months Ago (03/29/2011 map)	8.33	91.67	79.16	60.10	28.53	0.00
Start of Calendar Year (12/29/2010 map)	8.86	91.14	67.65	35.21	10.17	0.00
Start of Water Year (09/26/2010 map)	54.23	45.77	20.04	6.79	0.83	0.00
One Year Ago (06/22/2010 map)	59.25	40.75	12.62	2.41	0.00	0.00

### Intensity:

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



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

<http://drought.unl.edu/dm>



**Drought conditions in the Southern Region. Map is valid for June 2011. Image courtesy of the National Drought Mitigation Center.**

According to the Business Insider, the entire state of Texas is now declared a natural disaster zone. The Texas forest service divulged almost all counties in Texas are under a burn ban. On June 8, 2011, [mysanantonio.com](http://mysanantonio.com) reported that Texas is experiencing its third worst drought on record. Texas State Climatologist Dr. John Nielson Gammon reported the June Palmer Drought Severity Index was -6.37. This has been exceeded only twice: in June 1956 with a value of -6.54, and in June 1918 with a value of -6.41.



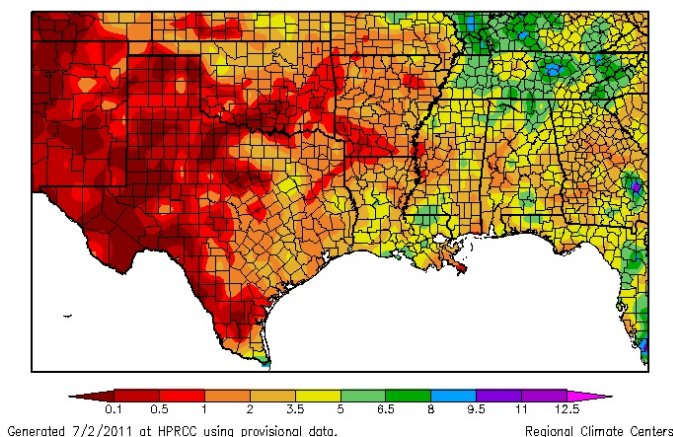
## PRECIPITATION SUMMARY

*Luigi Romolo, Southern Regional Climate Center*

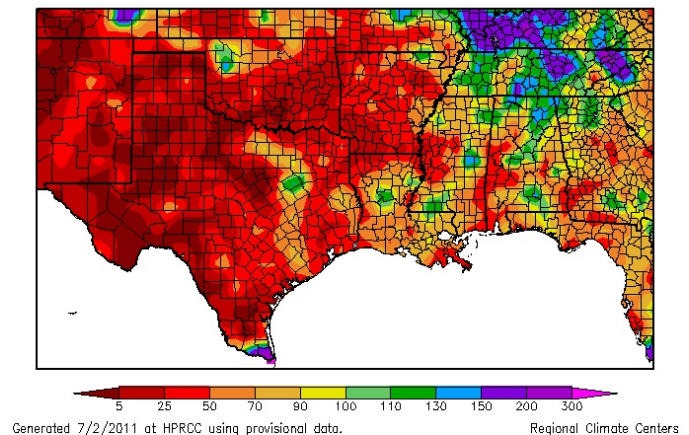
With the exception of Tennessee, June proved to be a very dry month in the Southern Region. In Tennessee, there was a lot of spatial variation in precipitation totals with the eastern half averaging near normal to above normal, while in the western half, stations averaged near normal to below normal. The state averaged 5.58 inches (141.73 mm) of precipitation and it was the eighteenth wettest June on record (1895-2011). Elsewhere, most stations averaged below 50 percent of normal precipitation. Precipitation late in the month helped augment precipitation totals in Louisiana and therefore most of the state ended up averaging 50 to 90 percent of normal. The state average precipitation total in Louisiana was 3.10 inches (78.74 mm). A similar situation with similar values occurred in Mississippi. The state

average precipitation total for the month in Mississippi was 2.83 inches (71.88 mm). In Arkansas, Oklahoma and Texas, conditions were much drier, with dozens of stations averaging less than twenty-five percent of normal precipitation. Arkansas averaged only 1.58 inches (62.23 mm) for the month and it was the eleventh driest June on record (1895-2011). Oklahoma and Texas were the driest states. Oklahoma experienced its fourth driest June on record (1895-2011), while Texas experienced its fifth driest June on record (1895-2011). The state average precipitation totals for Oklahoma and Texas were 1.18 inches (29.97 mm) and 0.99 inches (25.15 mm), respectively.

Precipitation (in)  
6/1/2011 – 6/30/2011



Percent of Normal Precipitation (%)  
6/1/2011 – 6/30/2011



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

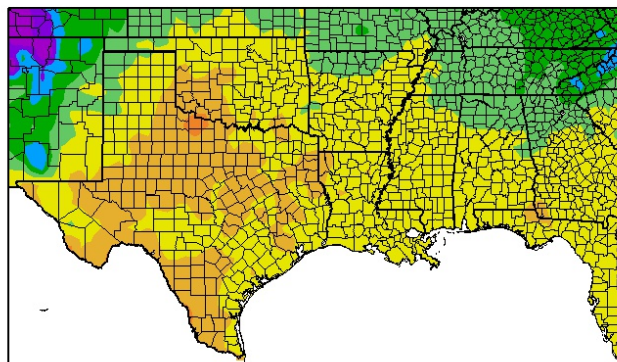
## TEMPERATURE SUMMARY

*Luigi Romolo, Southern Regional Climate Center*

June was a very warm month for the entire Southern Region, with most stations averaging at least 4 degrees F (2.22 degrees C) above the monthly normal. The highest temperature anomalies occurred in northern Texas and through most of Oklahoma. There, temperatures averaged between 6 to 10 degrees F (3.33 to 5.56 degrees C) above expected monthly values. The region as a whole had an average temperature of 83.43 degrees F (degrees C), which was the second warmest June on record (1895-2011). Texas had a state average temperature of 85.20 degrees F (29.56 degrees C), which was the warmest June on record (1895-2011). Oklahoma experienced its

second warmest June on record (1895-2011) with a state average temperature of 83.40 degrees F (28.56 degrees C). Louisiana also had its second warmest June on record (1895-2011). The state average temperature for the Bayou State was 83.50 degrees F (28.61 degrees C). Both Arkansas and Mississippi experienced their sixth warmest June on record (1895-2011) with state average temperatures of 81.60 degrees F (27.56 degrees C). For Tennessee, it was the twelfth warmest June (1895-2011) with a state average temperature of 76.60 degrees F (24.78 degrees C).

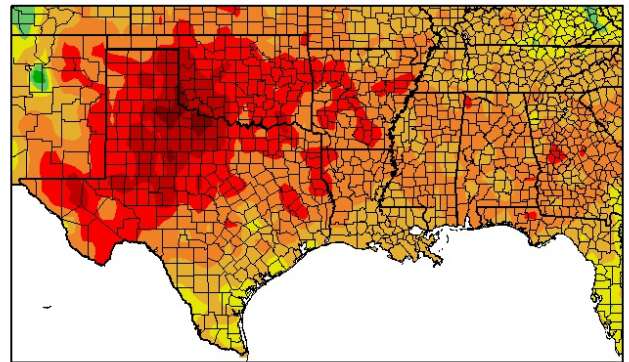
Temperature (F)  
6/1/2011 – 6/30/2011



Generated 7/2/2011 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Temperature (F)  
6/1/2011 – 6/30/2011



Generated 7/2/2011 at HPRCC using provisional data.

Regional Climate Centers

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

## CLIMATE PERSPECTIVE

State	Temperature	Rank	Precipitation	Rank
Arkansas	81.6	6 <sup>th</sup> Warmest	1.58	11 <sup>th</sup> Driest
Louisiana	83.5	2 <sup>nd</sup> Warmest	3.10	33 <sup>rd</sup> Driest
Mississippi	81.6	6 <sup>th</sup> Warmest	2.83	31 <sup>st</sup> Driest
Oklahoma	83.4	2 <sup>nd</sup> Warmest	1.18	4 <sup>th</sup> Driest
Tennessee	76.6	12 <sup>th</sup> Warmest	5.58	18 <sup>th</sup> Wettest
Texas	85.2	Warmest June	0.99	5 <sup>th</sup> Driest

State temperature and precipitation values and rankings for June 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	96.2	70.9	83.5	5.1	102.0	6/18	64.0	6/6	0.67	-4.51	13
Little Rock, AR	95.0	73.4	84.2	5.8	100.0	6/27	68.0	6/12	1.17	-2.78	30
Baton Rouge, LA	94.9	72.8	83.9	4.2	103.0	6/2	68.0	6/10+	4.74	-0.59	89
New Orleans, LA	94.1	75.9	85	4.3	100.0	6/4	71.0	6/10	4.70	-2.13	69
Shreveport, LA	97.6	73.3	85.4	5.5	104.0	6/18	68.0	6/23+	1.62	-3.43	32
Greenwood, MS	93.3	70.0	81.7	2.2	98.0	6/7	64.0	6/14	2.50	-2.00	56
Jackson, MS	95.7	71.2	83.5	5.0	101.0	6/5+	67.0	6/14+	1.47	-2.35	38
Tupelo, MS	93.1	70.3	81.7	4.8	98.0	6/7	64.0	6/14	5.38	0.56	112
Oklahoma City, OK	97.2	70.9	84.1	7.3	104.0	6/18	62.0	6/21	1.24	-3.39	27
Ponca City, OK	96.1	71.5	83.8	6.3	104.0	6/30	58.0	6/22	2.70	-1.80	60
Tulsa, OK	95.6	73.2	84.4	6.4	106.0	6/27	63.0	6/22	1.47	-3.25	31
Knoxville, TN	88.9	67	78.0	4.2	96.0	6/5	61.0	6/15+	2.99	-1.05	74
Memphis, TN	93.3	74.1	83.7	5.0	99.0	6/5+	67.0	6/14	3.55	-0.75	83
Nashville, TN	89.4	67.7	78.5	3.5	97.0	6/5	62.0	6/30+	5.04	0.96	124
Amarillo, TX	98.5	66.4	82.5	8.2	111.0	6/26	55.0	6/10	0.49	-2.79	15
El Paso, TX	101.4	71.9	86.7	4.6	108.0	6/27+	59.0	6/12	0.05	-0.82	6
Dallas, TX	97.6	75.9	86.8	5.9	104.0	6/18	67.0	6/21	2.84	-0.39	88
Houston, TX	97.4	74.9	86.2	4.9	105.0	6/6+	69.0	6/22	0.92	-4.43	17
San Antonio, TX	97.6	74.8	86.2	4.7	104.0	6/18+	68.0	6/22+	1.58	-2.72	37

Summary of temperature and precipitation information from around the region for June 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](mailto: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.

## 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](mailto: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](http://www.srcc.lsu.edu)** and **[www.southernclimate.org](http://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 405-325-7809 or 225-578-8374.

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