



Air Quality Summary—June 2014



OZONE

Baton Rouge Area

There were no days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of June, 2014. Please see the graph on page two for daily air quality index levels in the Baton Rouge area during May.

⇒ *No Action Days were called for the Baton Rouge area during the month of June.*

Other Areas of the State

There was one day that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the New Orleans area during the month of June, 2014. Please see the table below for details.

⇒ *No Action Days were called for any area of the state during the month of June.*

PM2.5

Please see the graph and table on the next page for detailed information on PM_{2.5} levels throughout the state during the month of June and note the following regarding the high PM2.5 readings:

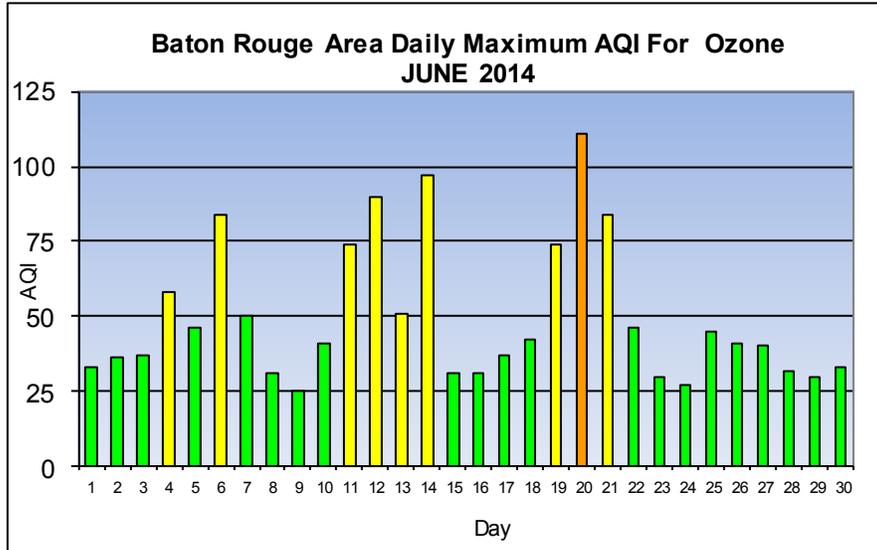
- ◆ PM2.5 values contained in this report are not comparable to the National Ambient Air Quality Standards (NAAQS), with the exception of the Baton Rouge Capital site.
- ◆ This is because the monitors that measure continuous PM2.5 readings react poorly with the humidity in our climate and tend to produce erroneous high values.
- ◆ Attainment of standards for all other PM2.5 sites is based on the Federal Reference Method (FRM) PM2.5 monitors that are collocated with the continuous monitors statewide. These monitors are filter-based and do not provide instantaneous readings.
- ◆ The days with higher than normal PM2.5 readings that resulted in AQI levels over 100 (June 23, 24 and 30) were a result of an event during which Saharan dust particles were transported throughout the state. These results will be compared against the FRM filter results when they are available.

Statewide 8-HR Ozone Readings Above 75 ppb - June 2014

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
6/12/2014	104	77	Kenner

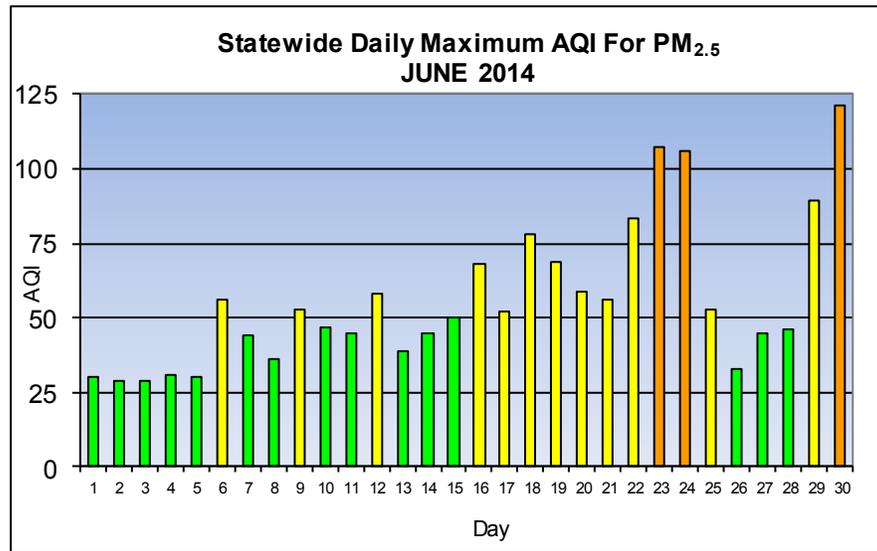


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Statewide High PM_{2.5} 24-Hour Average Readings - JUNE 2014

DAY	UG/m3	AQI	SITE
1	9.1	30	Shreveport Airport
2	8.8	29	Shreveport Airport
3	8.9	29	Shreveport Airport
4	9.7	31	Shreveport Airport
5	9.3	30	Shreveport Airport
6	17.6	56	Shreveport Airport
7	13.5	44	Shreveport Airport
8	11	36	Shreveport Airport
9	16.2	53	Shreveport Airport
10	14.5	47	Shreveport Airport
11	13.8	45	Shreveport Airport
12	18.4	58	Monroe
13	13	39	Shreveport Airport
14	14	45	Chalmette Vista
15	15.4	50	Westlake
16	22.3	68	Shreveport Airport
17	17	52	Shreveport Airport
18	26.4	78	Madisonville
19	22.9	69	Madisonville
20	20	59	Port Allen
21	21	56	Port Allen
22	28.4	83	Shreveport Airport
23	39	107	Westlake
24	38.4	106	Madisonville
25	25	53	Madisonville
26	26	33	Madisonville
27	27	45	Madisonville
28	28	46	Madisonville
29	30.9	89	Madisonville
30	47.9	121	Madisonville



*PM_{2.5} values contained in this report are not comparable to the National Ambient Air Quality Standards (NAAQS), with the exception of the Baton Rouge Capital site.

Attainment of standards for all other PM_{2.5} sites is based on the Federal Reference Method (FRM) PM_{2.5} monitors that are collocated with the continuous monitors statewide. For details on these monitors, please visit LDEQ's website at www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/AmbientAirMonitoringProgram.aspx

Baton Rouge Climate Summary—June 2014

*Prepared by: Jay Grymes

(based on available preliminary data as of July 10, 2014)

June Weather Highlights:

- the second consecutive 'wet' month for the Red Stick, the third 'wet' month for 2014
- the fifth cooler-than-normal month for 2014
- a "quiet" first month of the 2014 tropical season for Louisiana

June 2014's monthly average temperature of 80.5°F for Baton Rouge's Metro Airport (AP) was 0.6° below the norm, making June the fifth cooler-than-normal month of 2014. (Thus far, only April has registered warmer-than-normal for 2014.) While June's modest monthly departure is not especially noteworthy on its own merit, 2014's run of cooler-than-normal months ranks the first half of the year among the dozen or so "coolest" first-half-years since 1893 and the "coolest" since 1983.

High and low temperatures (Figure 1) stayed relatively close to their respective daily norms through most of June. Daytime highs during the month ranged from 81° (June 1st) to the low 90's. There were 18 days with highs of 90° or more (long-term average is about 20 days), including the monthly maximum of 93° recorded on June 19th and again on the 30th. Daily minimums ranged from 66° (June 13th) to 74° (June 7th, 8th & 21st); daily minimums were in the 70's for all but four days.

Table 1: June 2014 Temperature and Degree-Day Summaries

Temperatures & Departures (°F)									
Monthly MeanT		Monthly MaxT		Monthly MinT		3-mo. MeanT		YTD MeanT	
80.5°	-0.6°	89.4°	-1.5°	71.5°	+0.1°	74.4°	-0.6°	63.1°	-2.4°

Cooling Degree-Days & %Normal				Heating Degree-Days & %Normal			
Monthly CDDs		Seasonal* CDDs		Monthly HDDs		Seasonal* HDDs	
469	97%	975	93%	0	—	1984	128%

*CDD Season: Jan 1 thru Dec 31

*HDD Season: Jul 1 thru Jun 30

A review of synoptic weather maps indicates that only one front made it into the Baton Rouge metro area during June 2014. That occurred during the morning hours of the 11th, and that front essentially dissipated as it worked its way through the Capital region. Another cold front approached the region on June 13-14, but it stalled to the north before reaching the metro area. It is worth noting that the rainy spell of June 25-27 (see Figure 1) was not associated with frontal weather either. Indeed, with a lack of significant frontal passages during June, air mass characteristics for the Red Stick remained essentially sub-tropical throughout the month, as suggested by daily dew point temperatures hovering in the upper 60's to low 70's.

With a June total of 11.36", Metro Airport (BTR) has recorded back-to-back wetter-than-normal months; June is the third month of 2014 with monthly rainfall running more than 2" above the norm for BTR (February, May & June).

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Note that Metro Airport was the second wettest site among the stations included in Table 2, with a June total nearly 5" above the norm. While every site in Table 2 did report above-normal June rains, none displayed so large a departure as that for BTR. For Metro Airport, June 2014's total is the largest monthly total for any month since January 2013 (14.67") and is the wettest June for BTR since June 2001, when Sub-Tropical Storm *Allison* set rainfall records for a number of southeastern Louisiana communities. Indeed, BTR's total for June 2014 is tied with 1962 as the sixth wettest June on record (monthly records dating back to 1892).

Based on 16 reporting sites in Table 2 (with complete records), metro area regional rainfall for June 2014 averaged well over 8" (with a median of 8.56"), roughly 2" above the regional June average.

Table 2: June 2014 rainfall for selected sites across the greater Baton Rouge metro area. (Data are preliminary and provided courtesy of the National Weather Service, the LSU Southern Regional Climate Center, the LSU AgCenter, and additional volunteer sites.)

Rain-Reporting Site	June 2014 Rainfall					Two-Month Rainfall		Year-to-Date Rainfall	
	Total	DFN	1-Day Max*	No. Days $\geq 0.01"$	$\geq 1.0"$	Total	DFN	Total	DFN
BR - Metro Airport	11.36"	+4.95"	3.84"	12	4	19.68"	+8.38"	35.70"	+4.77"
BR - Concord Estates	8.87"	+1.81"	4.17"	13	3	20.75"	+8.60"	39.66"	+6.86"
BR - Sherwood Forest	8.05"	+1.62"	2.36"	15	2	19.36"	+7.77"	37.60"	+5.71"
Clinton 5 SE	8.48"	+2.57"	2.00"	9	4	--	--	--	--
Denham Springs	7.79"	+1.68"	2.10"	10	4	25.38"	+14.52"	44.18"	+13.42"
Dutchtown #2	8.87"	--	3.69"	13	3	23.87"	--	43.20"	--
Gonzales	7.91"	+0.87"	2.40"	11	2	25.12"	13.75"	38.66"	+7.19"
Livingston	8.68"	+1.81"	2.44"	11	4	25.61"	+13.61"	42.33"	+9.55"
New Roads	8.12"	+0.49"	1.55"	10	2	17.32"	+6.92"	35.04"	+4.04"
Oaknolia	8.14"	+2.12"	1.82"	11	5	16.65"	+6.07"	36.61"	+3.96"
Plaquemine	8.48"	+2.03"	2.05"	12	5	19.17"	+8.31"	35.60"	+4.83"
Port Allen	11.75"	+4.84"	4.33"	9	3	21.71"	+9.79"	40.32"	+8.12"
St. Francisville	6.54"	+0.12"	1.50"	13	2	19.80"	+8.67"	38.61"	+5.79"
St. Gabriel	9.76"	+2.63"	3.05"	11	3	21.29"	+9.75"	38.06"	+8.13"
LSU-Ben Hur Farm	3.78" <i>(i)</i>	M	2.57"	--	--	--	--	--	--
LSU Campus	8.64"	--	3.87"	12	3	18.61"	--	38.15"	--
WAFB-TV Studio	8.71"	--	3.66"	14	3	18.68"	--	38.22"	--
Regional Average	8.63"	+2.12"	2.79"	12	3	20.87"	+9.68"	38.80"	+6.86"
Regional Median	8.56"	+1.81"	2.44"	12	3	19.80"	+8.64"	38.22"	+6.33"

DFN - Departure-from-Normal

"--" - Not Available

M - Missing Value

(e) - Estimated

(i) - Incomplete Total

1-Day Max* - largest "daily" total; based on the daily observation time for each location

Table 3: Distribution of June 2014 rain totals based on selected regional sites (Table 2, 16 sites).

No. Sites $\leq 7.00"$	No. Sites 7.01" - 8.00"	No. Sites 8.01" - 9.00"	No. Sites 9.01" - 10.00"	No. Sites 10.01" - 11.00"	No. Sites $> 11.00"$
2	2	9	1	0	2

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(based on available preliminary data as of July 10, 2014)

The array of stations in Table 2 shows that the metro area averaged 12 raindays during June – matching the average number of June raindays for BTR. While June's rains were reasonably-well distributed, BTR daily data (Figure 1) suggest that a large portion of June's rain fell during June 25-27. Note that during this same period a number of locations (Table 1) recorded single-day maximums in excess of 3" – the equivalent of almost half of June's normal rainfall in just a 24-hour period.

Metro Airport's two-month accumulated total of 19.68" ranks as the 5th 'wettest' May+June combination since 1892: 'wetter' May+June periods included 1989 (37.86"), 1907 (25.23"), 2001 (22.19") and 2004 (21.05"). Stations in Table 2 display two-month totals ranging from just under 17" to more than 25", and average roughly 20" for the metro area, nearly double the May+June normal.

Through the first half of 2014, rainfall for Metro Airport – and the entire metro area – is running above average. For the region, rainfall is running close to 40" (based on Table 2 data), roughly 20% above the six-month average. IN fact, while Metro Airport's year-to-date total is among the lowest of the sites listed in Table 2, it still more than 15% above its January-thru-June normal.

Table 4: June 2014 additional reports and observations from the ASOS (Automated Surface Observing System) weather platform at Baton Rouge Metro Airport (BTR). (*Data are preliminary.*)

4a. Notable Weather Occurrences

No Days:	Jun 2014	Median*
Thunderstorms	12	12
"Heavy" Fog (Vis** ≤ ¼ mi.)	2	1
All Visibility*** (Vis** < 7.0 mi.)	18	16
Fog / Mist (Vis** < 7.0 mi.)	17	16
Smoke / Haze (Vis** < 7.0 mi.)	2	2

Median* - based on observations during 2000-2012 (13 years)

Vis** - Sensor Equivalent Visibility; Fog/Mist are distinguished from Haze/Smoke through evaluation of temperature and humidity at the time of observation

All Visibility*** - total number of days with any obstructions leading to at least one observation with Visibility estimated at less than 7 miles

4b. Average Daily Wind Speed

June 2014	< 3.0 mph (Near Calm)	3.0 mph < 5.0 mph	5.0 mph < 10.0 mph	10.0 mph < 15.0 mph	≥ 15.0 mph
No. Days	1	8	20	1	0

4c. Average Sky Conditions (cloud-cover estimate to 12,000 ft) during "Daylight"

June 2014	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy To Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy To Overcast (7/10ths – 10/10ths)
No. Days	16	11	3

4d. Sunrise/Sunset Summary

Sunrise, Sunset & daylight Duration: (excludes 'Civil Twilight')

June 1	June 21 (Solstice)	June 30
6:03 am 8:02 pm 14.0 hours	6:03 am 8:10 pm 14.1 hours	6:06 am 8:11 pm 14.0 hours

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Figure 1: June 2014 Daily Maximum and Minimum Temperatures, Daily Average Dew Points and Precipitation from the Baton Rouge Metro Airport ASOS.

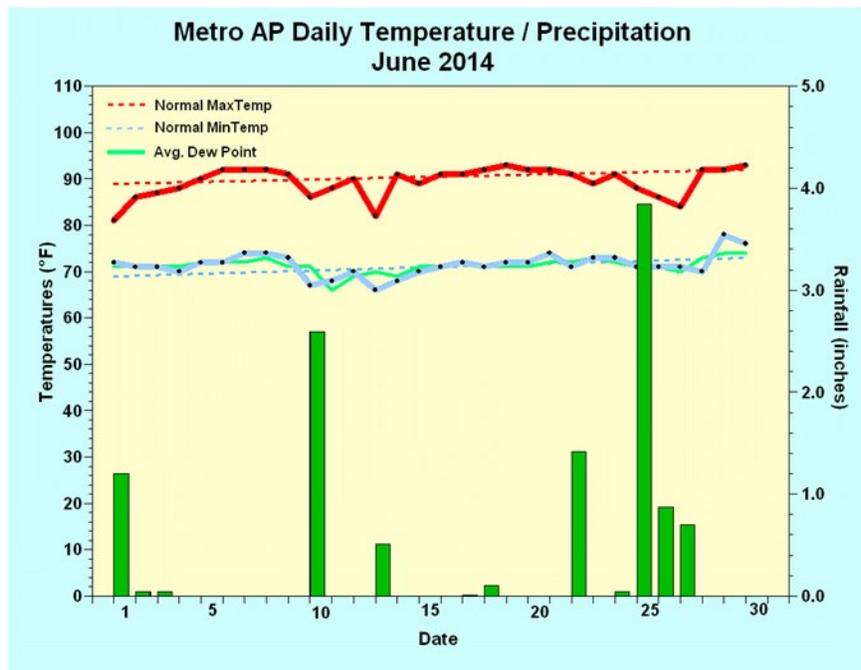
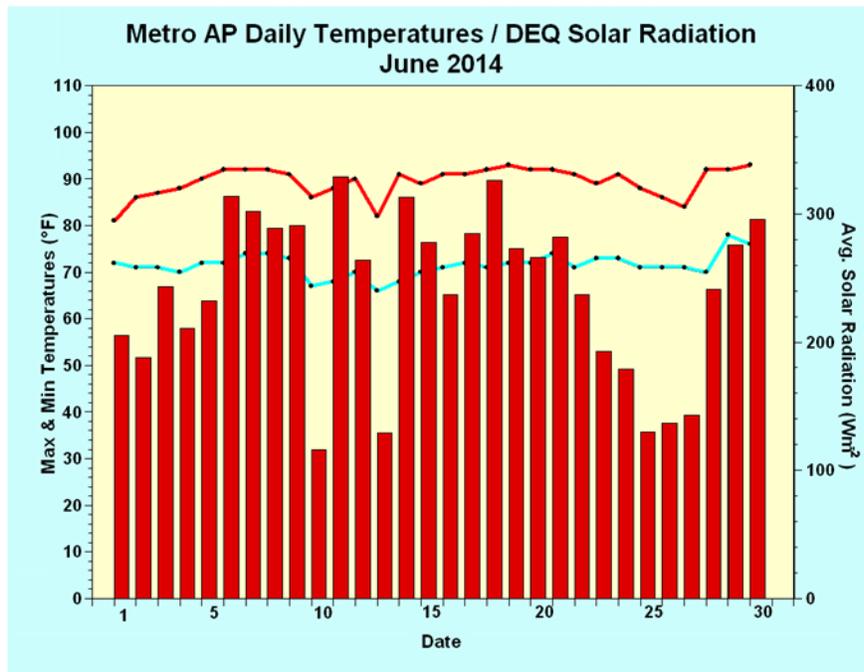


Figure 2: June 2014 Daily Average Solar Radiation as recorded at DEQ’s Capitol site and Daily Maximum and Minimum Temperatures from the Baton Rouge Metro Airport ASOS.



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Figures 3 & 4: 2014 monthly rainfall and average monthly temperatures plus comparative monthly normals for Baton Rouge Metro Airport (Normals based on 1981 - 2010).

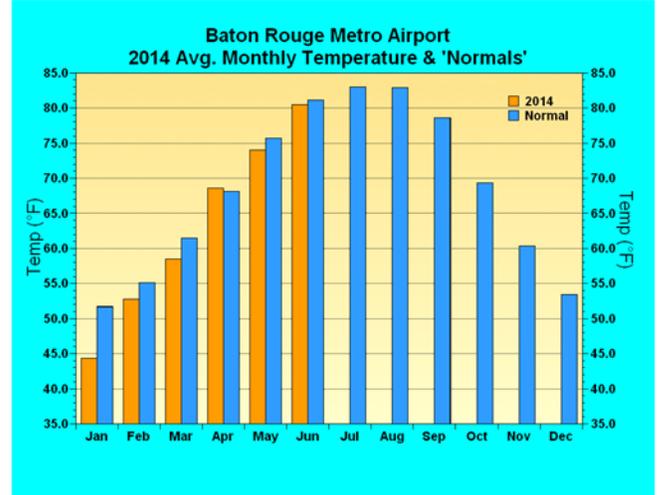
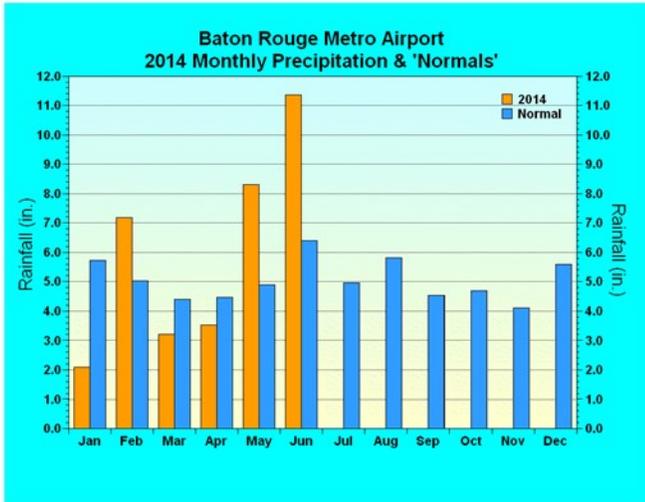
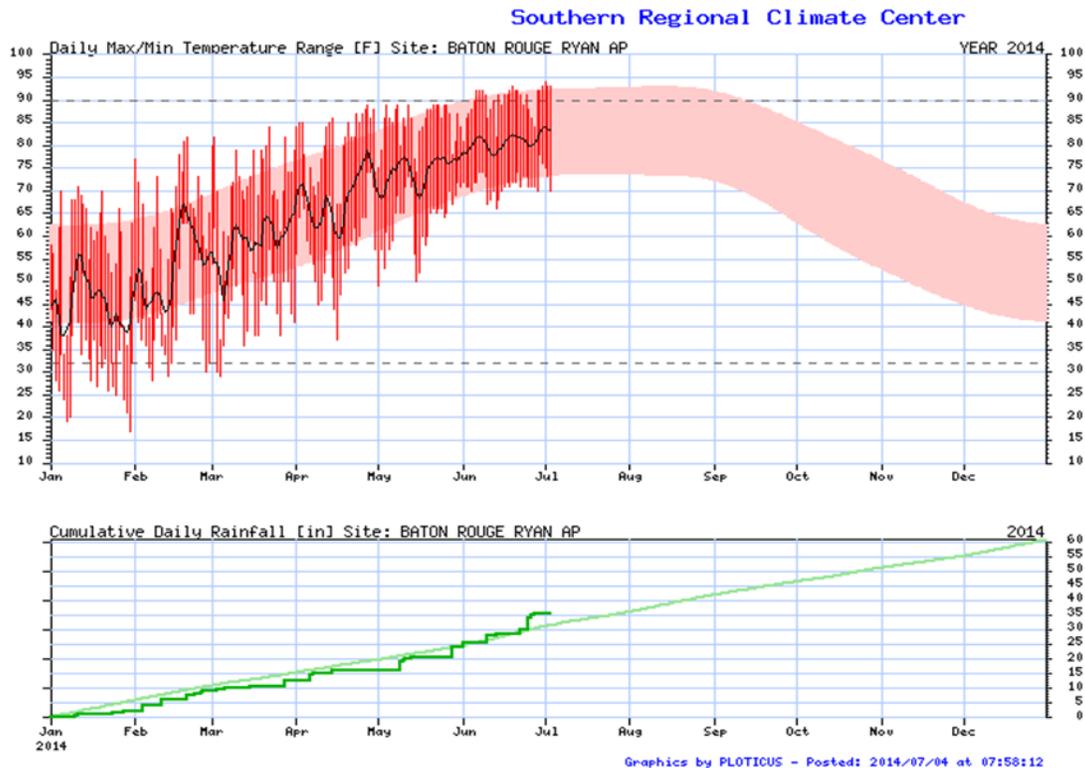


Figure 5: 2014 daily temperature and cumulative rainfall for Baton Rouge Metro Airport compared to long-term averages (as of 2 July 2014).



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Table 5: June 2014 significant Preliminary 'Local Storm Reports' as posted by the NWS for the greater Baton Rouge metro area. (Final Reports available through the NWS.)

Date	Time (CDT)	Event	Location*	Parish
6 / 10	7:15 AM	Wind damage, tree down	Batchelor	Pte. Coupee
6 / 10	7:45 AM	Wind damage, trees down	10 mi. NW Jackson	W. Feliciana
6 / 24	1:50 PM	Wind damage, trees down	1 mi. S Livonia	Pte. Coupee
6 / 24	2:53 PM	Wind damage, tree down	Innis	Pte. Coupee
*Locations approximated in whole miles from town center where noted				

Table 6: June 2014 Watches, Warnings and Key Advisories issued for East Baton Rouge Parish.

Date(s)	Event	Approx. Time in Effect (CDT)
--	** None during June **	--