



# Air Quality Summary—May 2014



## Baton Rouge Area

### **OZONE**

There were two days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of May, 2014. Please see the table below and 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 May.*

### **PM<sub>2.5</sub>**

There were no violations of the NAAQS for PM<sub>2.5</sub> in the Baton Rouge area during the month of May, 2014. Please see the graph and table on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state.

## Other Areas of the State

### **OZONE**

There were two days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in areas of the state other than Baton Rouge during the month of May, 2014. Please see the table below for details.

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

### **PM<sub>2.5</sub>**

There were no violations of the NAAQS for PM<sub>2.5</sub> during the month of May, 2014. Please see the graph and table on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state.

### **Statewide 8-HR Ozone Readings Above 75 ppb - May 2014**

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
<b>5/5/2014</b>	119	83	Madisonville
	104	77	French Settlement
<b>5/18/2014</b>	116	82	New Roads
	111	80	LSU
	109	79	Capitol
	106	78	Madisonville
	101	76	French Settlement
	101	76	Kenner



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Good

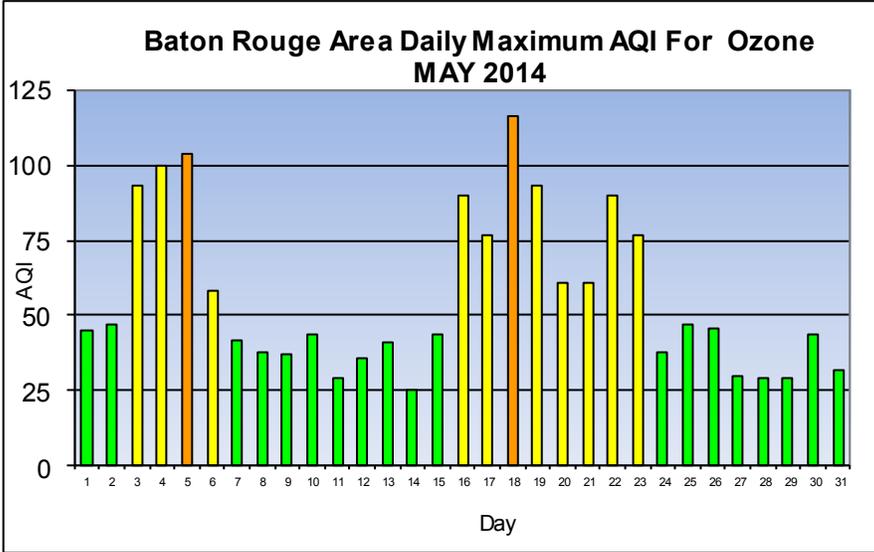
Moderate

Unhealthy for Sensitive Groups

Unhealthy

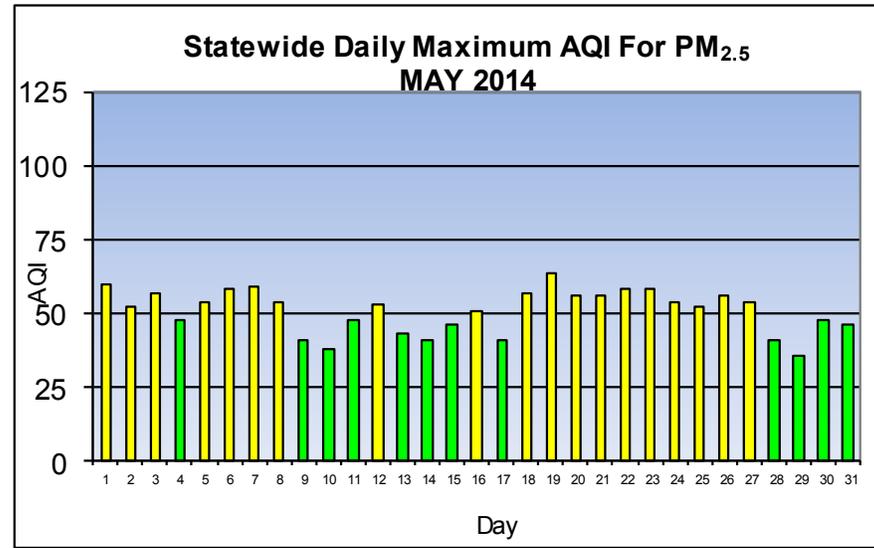
Very Unhealthy

Hazardous



### Statewide High PM<sub>2.5</sub> 24-Hour Average Readings - MAY 2014

DAY	UG/m3	AQI	SITE
1	16.5	60	Westlake
2	12.8	52	Westlake
3	14.8	57	Chalmette Vista
4	11.6	48	Chalmette Vista, Port Allen
5	13.3	54	Port Allen
6	15.2	58	Port Allen
7	16.1	59	Port Allen
8	13.3	54	Port Allen
9	9.9	41	Chalmette Vista
10	9.2	38	Shreveport Airport
11	11.4	48	Chalmette Vista
12	12.9	53	French Settlement
13	10.2	43	Chalmette Vista
14	9.9	41	Chalmette Vista
15	11	46	Shreveport Airport
16	12.2	51	Port Allen
17	9.9	41	Shreveport Airport
18	14.8	57	Port Allen
19	18.3	64	Port Allen
20	14.6	56	Port Allen
21	14.4	56	Port Allen
22	15.6	58	Chalmette Vista
23	15.2	58	French Settlement
24	13.5	54	Monroe
25	12.5	52	Shreveport Airport
26	14.7	56	French Settlement
27	13.3	54	French Settlement
28	9.8	41	Chalmette Vista
29	8.6	36	Shreveport Airport
30	11.6	48	Shreveport Airport
31	11	46	Shreveport Airport



\*PM<sub>2.5</sub> values contained in this report are not comparable to the National Ambient Air Quality Standards (NAAQS). Attainment of standards is based on the Federal Reference Method (FRM) PM<sub>2.5</sub> 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](http://www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/AmbientAirMonitoringProgram.aspx)

# Baton Rouge Climate Summary—May 2014

\*Prepared by: Jay Grymes

(based on available preliminary data as of June 22, 2014)

## May Weather Highlights:

- a fourth cooler-than-normal month for Baton Rouge for 2014
- the second wetter-than-normal month of 2014 for the metro area

May 2014's monthly average temperature of 74.0°F for Baton Rouge's Metro Airport (AP) was nearly 2° below the norm. Coming on the heels of a slightly warmer-than-normal April and a cool March, Metro Airport's 2014 average spring (MAM) temperature stands at 67.0° – far from a record but ranking among the 'cooler' third of all past springs.

Daily temperatures (Figures 1 & 2) show that May opened on the 'cool' side, followed by a modest warming trend through the first two weeks of the month. A pleasant but rather brief 'cool snap' arrived at mid-month, with temperatures trending near-the-norm for most of the remainder of the month.

May's lowest temperature was 49°, recorded on the morning of the 1st. There were seven additional mornings with lows in the 50°s, mainly during the first half of the month. At the other extreme, daily minimums in the 70°s were recorded on six May dates, including a three-day run during May 11-13. May 2014's absolute daily maximum was 89°, recorded on eight different dates, including a stretch of 5-out-of-6 days during May 21-26. Daily highs reached 80° or more on all but five days during the month, with highs in the mid to upper 70°s for the five remaining days.

By the month of May, monthly Heating Degree-Day (HDD) accumulations become relatively unimportant. However, the unusually-chilly winter of 2013-2014 did result in seasonal HDD totals that were 25% to 30% above the norm. Home and business heating consumption likely ran well-above winter averages, increasing costs for indoor 'comfort' across the region. At this time of year, however, the focus turns to Cooling Degree-Days (CDDs), a relative measure of the energy required for air-conditioning. Given May's cooler-than-normal temperatures for metro Baton Rouge, monthly accumulated CDDs averaged 10% to 15% below normal, likely yielding a very modest reduction in cooling-energy demands for the region.

Table 1: May 2014 Temperature and Degree-Day Summaries

Temperatures & Departures (°F)							
Monthly MeanT		Monthly MaxT		Monthly MinT	3-mo. MeanT	YTD MeanT	
74.0°	-1.7°	84.8°	-1.4°	63.1° -2.1°	67.0° -1.4°	59.8°	-2.8°

Cooling Degree-Days & %Normal				Heating Degree-Days & %Normal			
Monthly CDDs		Seasonal* CDDs		Monthly HDDs		Seasonal* HDDs	
293	88%	423	90%	6	300%	1984	128%

\*CDD Season: Jan 1 thru Dec 31

\*HDD Season: Jul 1 thru Jun 30

# Baton Rouge Climate Summary—May 2014

\*Prepared by: Jay Grymes

(based on available preliminary data as of June 22, 2014)

Metro Airport (AP) recorded 8.32" of rain during May 2014, 3.43" above the 30-year normal. May is the 'wettest' month for Metro Airport thus far for 2014 and the first month since February with above-normal rainfall. Although far from a record for the month, May 2014's total does rank among the top 20% of all past May totals and is the largest May total since May 2008.

Note that Metro AP's May rain total is the lowest of the selected metro area include in Table 2 and less than half of the monthly totals reported by a few of the region's 'wettest' sites. Based on the 16 reporting sites in Table 2, metro area regional rainfall for May 2014 averaged just over 12" (with a median of 11.26"), more than double the regional May average. May rainfall was above-normal area-wide, with the majority of metro area sites showing departures in excess of +6" for the month.

Table 2: May 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	Monthly Rainfall				Two-Month Rainfall		Year-to-Date Rainfall	
	Total	DFN	No. Days ≥0.01"    ≥1.0"		Total	DFN	Total	DFN
<b>BR - Metro Airport</b>	<b>8.32"</b>	<b>+3.43"</b>	<b>9</b>	<b>2</b>	<b>11.85"</b>	<b>+2.50"</b>	<b>24.34"</b>	<b>-0.18"</b>
BR - Concord Estates	11.88"	+6.79"	9	3	15.91"	+6.12"	30.74"	+5.00"
BR - Sherwood Forest	11.31"	+6.15"	9	3	15.51"	+5.72"	29.55"	+4.09"
Clinton 5 SE	M	--	--	--	--	--	--	--
Denham Springs	17.59"	+12.84"	9	5	21.83"	+12.79"	36.39"	+11.74"
Dutchtown #2	15.00"	--	11	4	20.74"	--	34.33"	--
Gonzales	17.21"	+12.88"	10	4	21.28"	+12.18"	30.75"	+6.32"
Livingston	16.93"	+11.80"	8	4	22.03"	+12.48"	33.65"	+7.74"
New Roads	11.20"	+6.43"	8	2	15.78"	+6.55"	28.92"	+3.55"
Oaknolia	10.49"	+5.93"	9	4	14.59"	+5.32"	30.45"	+3.82"
Plaquemine	10.69"	+6.28"	9	3	14.41"	+5.49"	27.12"	+2.80"
Port Allen	9.96"	+4.95"	9	3	14.67"	+5.18"	28.97"	+3.28"
St. Francisville	13.26"	+8.55"	9	3	16.37"	+6.84"	32.07"	+5.67"
St. Gabriel	11.53"	+7.12"	9	3	15.61"	+7.24"	28.30"	+5.50"
LSU-Ben Hur Farm	10.84"	+6.14"	10	3	14.56"	+5.60"	27.75"	+3.90"
LSU Campus	9.97"	--	9	3	14.56"	--	29.51"	--
WAFB-TV Studio	9.20"	--	9	2	13.75"	--	27.08"	--
Regional Average	12.21"	+7.74"	9	3	16.47"	+7.23"	30.00"	4.86"
Regional Median	11.26"	+6.43"	9	3	15.56"	+6.12"	29.53"	4.09"

DFN - Departure-from-Normal

"--" - Not Available

M - Missing Value

(e) - Estimated

(i) - Incomplete Total

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

No. Sites ≤ 8.00"	No. Sites 8.01" - 10.00"	No. Sites 10.01" - 12.00"	No. Sites 12.01" - 14.00"	No. Sites 14.01" - 16.00"	No. Sites > 16.00"
0	4	7	1	1	3

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(based on available preliminary data as of June 22, 2014)

Stations in Table 2 show an average of 9 raindays for May – near-average for the month. Note that nearly all of the month’s rain fell during two periods: May 9-12 and May 27-29 (Figure 1). A number of sites recorded between 5" and 10" of rain during the rainy run of May 9-12, with frequent 4" to 8" reports for the May 27-29 event. Both of these wet periods were highlighted by 24-hours totals of more than 3" for Metro Airport, with a handful of sites reporting 5" to 7" one-day totals between the two events. What comes as a bit of a surprise is that neither of these wet spells was directly associated with nearby spring fronts. However, given the large rain amounts during both, it is not surprising that all of May’s “active” weather threats (Tables 4 & 5) were associated with these two periods.

Through the first five months of 2014, Metro AP’s cumulative rainfall stands at 24.34", near-normal for the period. However, as is true with area-wide May totals, Metro Airport’s year-to-date total is the lowest of the sites listed in Table 2, running nearly 20% less than the regional average. For the region, rainfall is averaging roughly 4" to 5" above the norm through the first five months of 2014.

**Table 4: May 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:	May 2014	Median*
Thunderstorms	5	6
"Heavy" Fog (Vis** ≤ ¼ mi.)	1	2
All Visibility*** (Vis** < 7.0 mi.)	22	18
Fog / Mist (Vis** < 7.0 mi.)	19	18
Smoke / Haze (Vis** < 7.0 mi.)	9	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

May 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	6	21	3	0

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

May 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	18	9	4

#### 4d. Sunrise/Sunset Summary

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

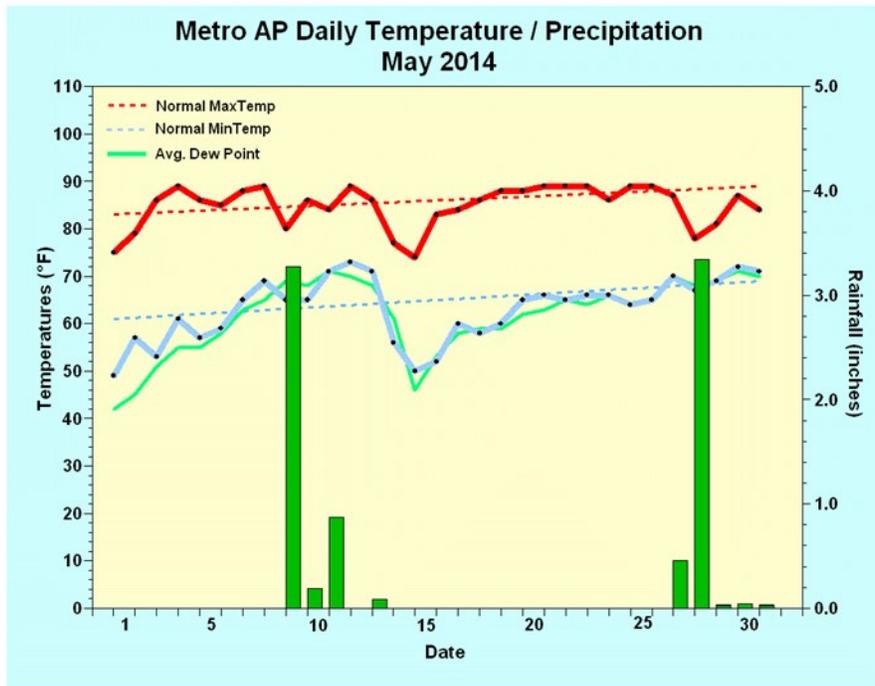
May 1	May 15	May 31
6:21 am 7:43 pm 13.4 hours	6:10 am 7:52 pm 13.7 hours	6:03 am 8:02 pm 14.0 hours

# Baton Rouge Climate Summary—May 2014

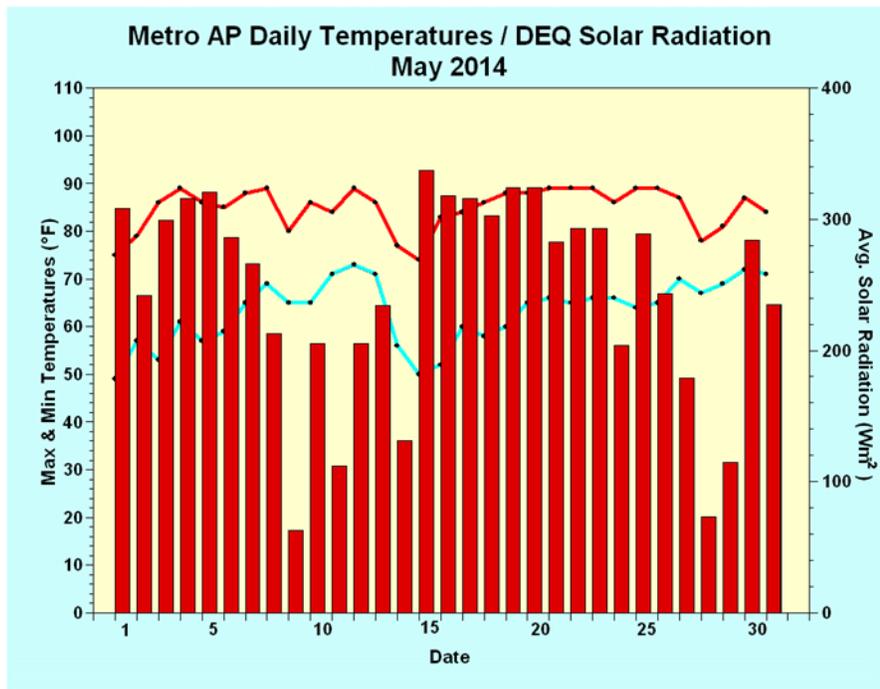
\*Prepared by: Jay Grymes

(based on available preliminary data as of June 22, 2014)

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



**Figure 2:** May 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.

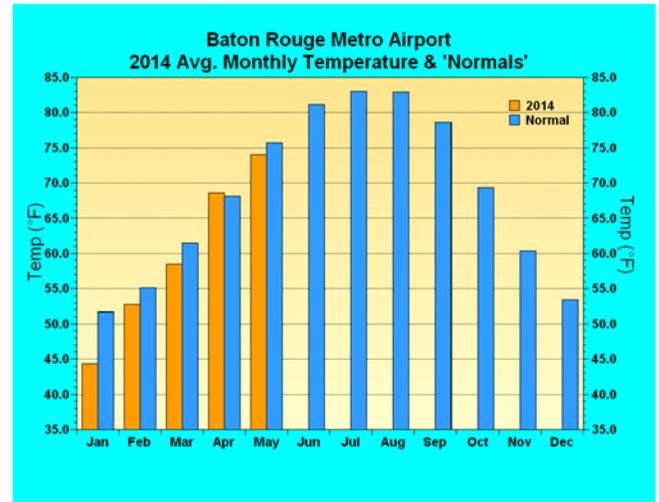
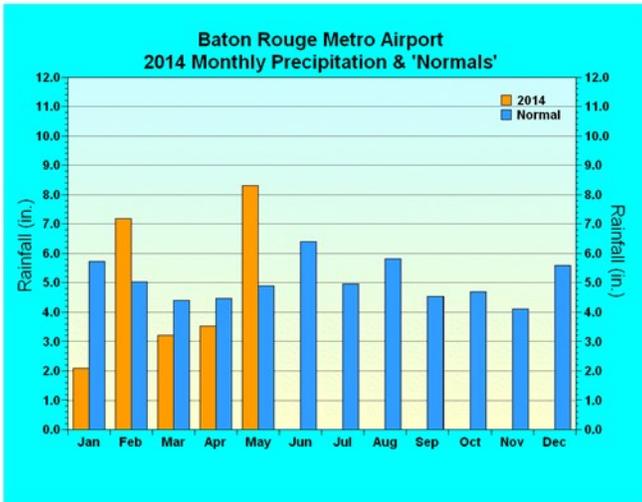


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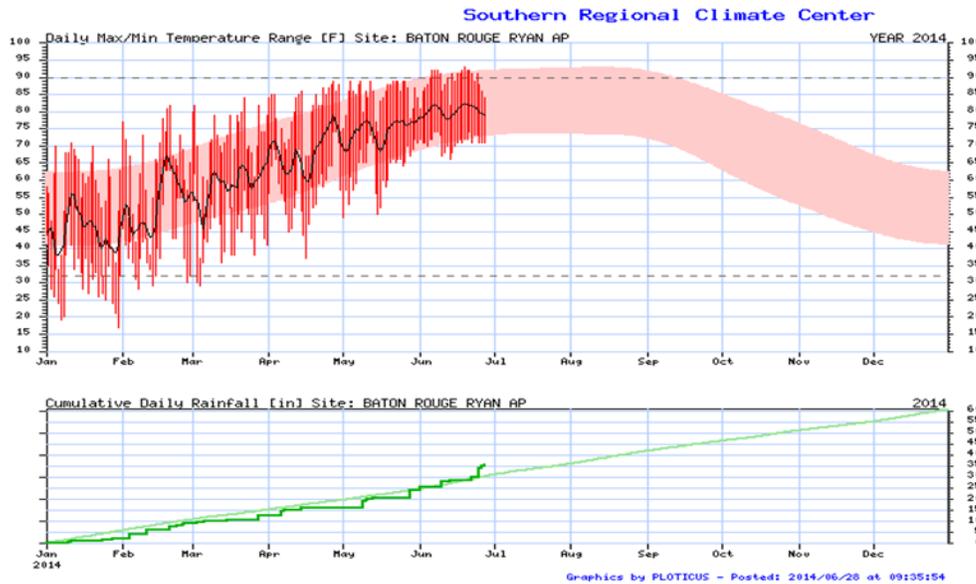
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(based on available preliminary data as of June 22, 2014)

**Figures 3 & 4:** 2014 monthly rainfall, average monthly temperatures and comparative monthly normal 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 28 June 2014).



Source: LSU Southern Regional Climate Center ([www.srcc.lsu.edu](http://www.srcc.lsu.edu))

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**Table 5: May 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
5 / 28	~10:00 AM	Homes, Businesses Flooded	Gonzales	Ascension

\*Locations approximated in whole miles from town center

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

Date(s)	Event	Approx. Time in Effect (CDT)
5 / 9-10	Flash Flood Watch	2:27 PM – 3:57 AM
5 / 9	Areal Flood Advisory	12:02 PM – 2:00 PM
5 / 9	Areal Flood Advisory	5:22 PM – 7:15 PM
5 / 11	Areal Flood Advisory	8:14 AM – 9:15 AM
5 / 27-29	Flash Flood Watch	11:01 PM – 11:45 PM
5 / 28	Flash Flood Warning	6:35 AM – 8:30 AM