



# Air Quality Summary—October 2010



## Baton Rouge Area

### OZONE

There were six days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of October 2010. Please see the table below for detailed information.

*An Ozone Action Day was called for the Baton Rouge area on October 9 and 10.*

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

There were no exceedances of the NAAQS for PM<sub>2.5</sub> in the Baton Rouge area during the month of October 2010. Please see the chart on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state in October.

## Other Areas of the State

### OZONE

There were seven days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone during the month of October 2010 in areas of the state other than Baton Rouge. Please see the table below for detailed information.

*The following Ozone Action Days were called during the month: October 9, Lake Charles and Shreveport and October 10, Lake Charles, Thibodaux, Lafayette, Shreveport and New Orleans.*

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

There were no exceedances of the NAAQS for PM<sub>2.5</sub> in any area of the state during the month of October 2010. Please see the chart on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state in October.

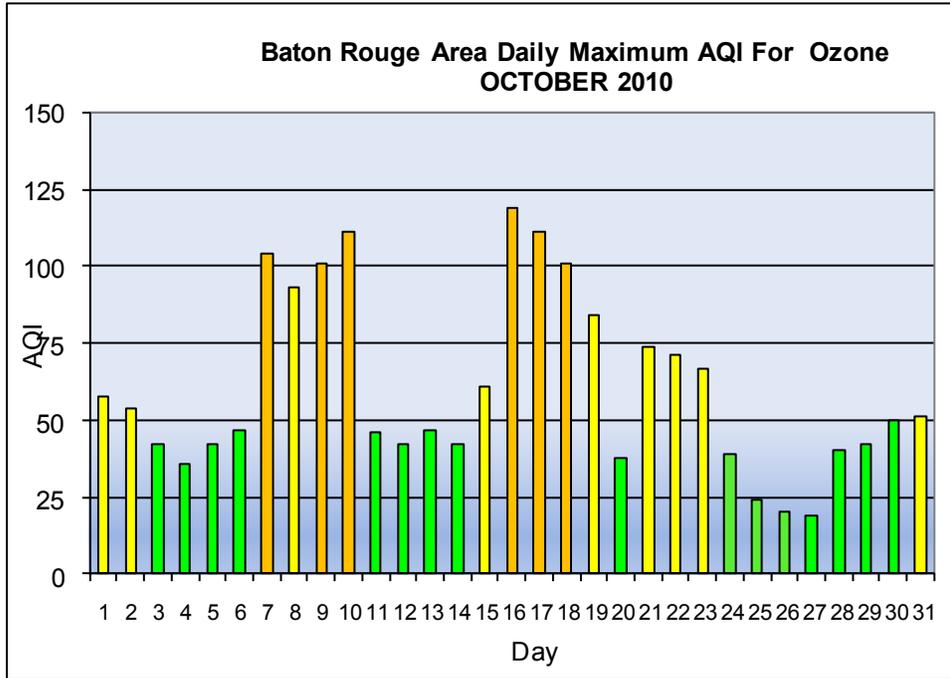
### Statewide 8-HR Ozone Readings /AQI Above 75 ppb

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
10-7-10	106	78	Carlyss
	104	77	Bayou Plaquemine
10-8-2010	111	80	Carlyss
10-9-2010	122	84	Kenner
	116	82	Chalmette
	111	80	Carlyss
	109	79	Shreveport Airport
	109	79	Thibodaux
	106	78	Westlake
	104	77	Dixie
	101	76	Dutchtown
	101	76	French Settlement
	101	76	Madisonville
10-10-10	114	81	Kenner
	111	80	New Roads
	111	80	French Settlement
	109	79	Chalmette Vista
	109	79	Pride

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
10-10-10	106	78	Madisonville
	106	78	Dutchtown
	104	77	Dixie
	104	77	Baker
	104	77	Capitol
	101	76	Grosse Tete
	101	76	LSU
	101	76	Shreveport Airport
10-16-10	119	83	Dutchtown
10-17-10	111	80	Dutchtown
	104	77	Dixie
	101	76	Kenner
10-18-10	106	78	Kenner
	104	77	Hahnville
	101	76	Dutchtown
10-19-10	109	79	Kenner
	106	78	Hahnville



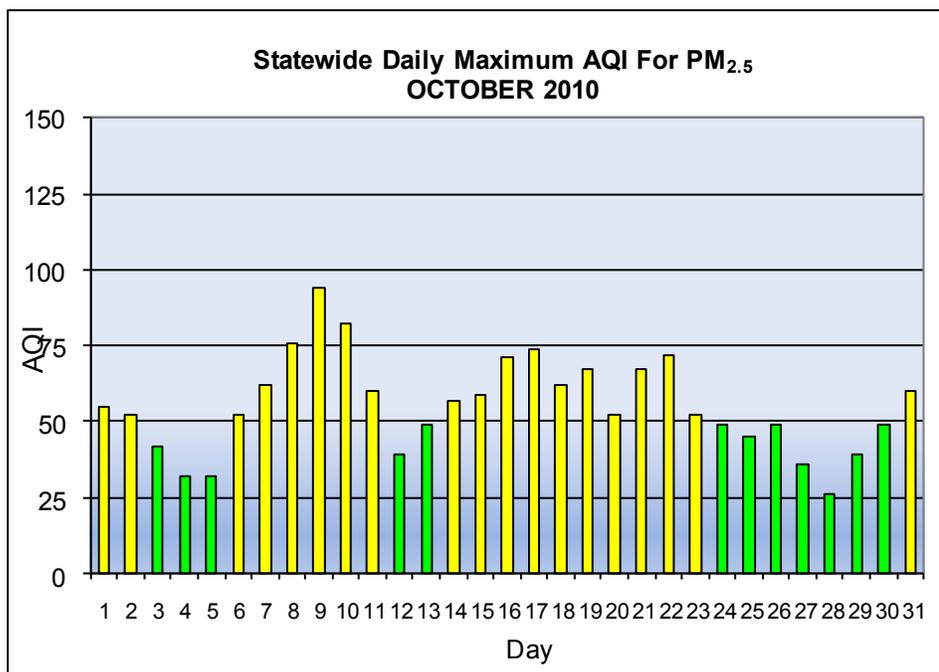
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0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy

### Statewide High PM<sub>2.5</sub> 24-Hour Average Readings-October 2010

DAY	UG/m3	AQI	SITE
1	17.1	55	Capitol
2	15.8	52	Westlake
3	13	42	Chalmette Vista
4	10	32	Chalmette Vista
5	10	32	Chalmette Vista
6	16	52	Chalmette Vista
7	20	62	Chalmette Vista
8	25.7	76	Westlake
9	33	94	Chalmette Vista
10	28	82	Chalmette Vista
11	19	60	Chalmette Vista
12	12	39	Chalmette Vista
13	15	49	Chalmette Vista
14	17.8	57	Westlake
15	18.6	59	Westlake
16	23.5	71	Westlake
17	25	74	Chalmette Vista
18	20	62	Chalmette Vista
19	22	67	Chalmette Vista
20	16	52	Chalmette Vista
21	22	67	Chalmette Vista
22	24	72	Chalmette Vista
23	16	52	Chalmette Vista
24	15	49	Chalmette Vista
25	14	45	Chalmette Vista
26	15	49	Chalmette Vista
27	11	36	Chalmette Vista
28	8	26	Chalmette Vista
29	12	39	Chalmette Vista
30	15	49	Chalmette Vista
31	19	60	Chalmette Vista



# Baton Rouge Climate Summary—October 2010

\*Prepared by: Jay Grymes

(based on available preliminary data as of November 4, 2010)

October's monthly average temperature at Baton Rouge's Metro Airport was 68.7°F, 0.6° above the monthly norm. While this departure is minimal, it reflects 2010's continued mid-year trend of warmer-than-normal weather -- October is the seventh consecutive month at Metro AP with above normal temperatures.

Daily maximum temperatures at Metro AP during October reached 90° on just one date -- Oct 9th. By contrast, there were seven dates -- Oct 3-5 & Oct 28-31 -- when highs failed to reach the 80°s. And the area recorded its first minimum in the 30°s, with a low of 39° on Oct 30th. Yes, autumn has finally arrived! Daily average temperatures were below the norm for 11 dates, 7 occurring during the period of Oct 2-8. The 11 cooler-than-normal days in October equal the total number of days with below-average temperatures for July, August and September combined -- another reflection of just how warm the summer was for metro Baton Rouge!

Table 1: Average "daylight hours" sky conditions (to 12,000 ft) during October 2010, based on automated ASOS observations from Baton Rouge's Metro Airport.

Sky Condition: Sunrise to Sunset (Sky Coverage)	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy / Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy to Cloudy (7/10ths – 10/10ths)
No. Days	23	5	3

October Daylight hours (official sunrise-to-sunset period, excluding 'Civil Twilight') ranged from 11.9 hours (Oct 1) to 11.0 hours (Oct 31).

October tends to be one of the "driest" months of the year for the Baton Rouge metro area. While October 2010 was certainly drier-than-normal, with just 1.67" recorded for the month at Metro AP, it was by no means near record-dry. A quick review of October totals back to 1900 shows that rainfall for the Red Stick has totaled less than 1" for roughly 1-in-6 past Octobers.

Each of the sites in Table 2 with 30-year normals recorded below-normal rainfall during October, with most sites reporting departures of -2" to -3" or more for the month. Of the sites in Table 2, six (one-fourth) reported less than 1" of rain during October. Only two sites topped 2" of rain for the month: Clinton & Oaknolia, both in East Feliciana Parish. The regional (unweighted) average for the 24 sites in Table 2 is 1.32", with a median of 1.23" for the month.

Rainday counts for the two dozen sites ranged between 2 and 9 days, with a median of 5 raindays, compared to a long-term average of 5.9 raindays for October. Only three locations -- Oaknolia, Comite, and LSU's Ben Hur Farm (south of Baton Rouge) -- reported 1-day rain totals in excess of one inch.

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**Table 2:** October 2010 rainfall for selected rainfall reporting stations 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 USGS, and the LSU AgCenter.)

Rainfall-Recording Site	Monthly Rainfall	Monthly DFN	No. Days ≥ 0.01"	No. Days ≥ 1.00"
<b>BR - Metro AP</b>	<b>1.67"</b>	<b>-2.10"</b>	<b>6</b>	<b>0</b>
<i>NWS Cooperative Network Sites</i>				
BR - Concord Estates	1.26"	-2.91"	6	0
BR - Sherwood Forest	0.80"	-3.27"	4	0
Denham Springs	0.97"	-3.11"	6	0
Gonzales	1.22"	-2.48"	5	0
Livingston	1.88"	-1.86"	4	0
New Roads	0.60"	-3.08"	2	0
Oaknolia	2.44"	-1.50"	5	1
Port Allen	1.28"	-2.86"	5	0
<i>USGS HydroWatch Selected Sites</i>				
Clinton (07377195)	2.13"	--	8	0
Zachary (07377750)	0.87"	--	9	0
Comite nr. Comite (07378000)	1.73"	--	5	1
Prairieville (07380102)	1.22"	--	8	0
Pt. Vincent (07380120) ( <i>0.1"</i> )	1.10"	--	M	0
French Settlement (07380200)	1.80"	--	8	0
<i>LSU AgCenter LAIS Automated Stations</i>				
LAIS - Ben Hur Farm	1.81"	--	6	1
LAIS - Burden Plantation	1.21"	--	9	0
LAIS - St. Gabriel Res Sta	0.68"	--	5	0
<i>CoCoRaHS Volunteer Observers</i>				
Old Jefferson 0.9 W (LA-EB-21)	M	--	M	M
Shenandoah 0.8 W (LA-EB-36)	M	--	M	M
Monticello 3.0 ENE (LA-EB-19)	1.35"	--	6	0
Brownfields 5.8 NE (LA-EB-9)	M	--	M	M
Baton Rouge 2.5 E (LA-EB-27)	1.48"	--	5	0
Baton Rouge 2.7 SW (LA-EB-2)	1.23"	--	4	0
Zachary 3.5 WNW (LA-EB-28)	0.94"	--	4	0
LSU Campus (LA-EB-33)	1.01"	--	4	0
WAFB-TV, Downtown BR	1.11"	--	4	0

DFN - Departure-from-Normal  
M - Monthly Report Unavailable  
"--" - Normals Not Available

(i) - Monthly Report May Be Incomplete  
(e) - Estimated Value  
(*0.1"*) - 0.1" Resolution Only

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October reports from the Metro Airport ASOS weather platform included:

- only 1 day with thunder, below the long-term October average of 2.6 days;
- 14 days with fog, including 5 days with "dense" fog (visibility less than 1/4-mile):  
October 11, 19, 20, 23 & 24; and
- notable smoke and/or haze on October 11th.

October winds for the Metro Airport ASOS platform averaged 4.5 mph, substantially below the 25-year October average of 5.7 mph. Daily wind speeds during October averaged below 5.0 mph on 21 days, including a six-day run between Oct 4-9 and a ten-day run from Oct 13-22. Daily average winds topped 10.0 mph only on October 25th and 26th, powered by a relatively steep pressure gradient across the nation and winds ahead of an approaching cool front. Not surprisingly, these two dates were also the only days during the month when wind gusts topped 30 mph.

## *Drought Status:*

The weekly **U.S. Drought Monitor** as of October 26th (Fig. 3) reflects an expansion and modest intensification of drought across the Baton Rouge metro area, with all but the state's southeasternmost parishes included in drought designation as on month's end. Given September's dry weather and the below-normal rains of October, it comes as no surprise that drought conditions intensified during October. But the term "drought" has different meanings for different sectors. While the environment is unusually dry for this time of year, harvesters -- in particular, sugarcane farmers -- are generally pleased as fieldwork is progressing at superior rates and the tracking of "trash" and mud from the fields onto local roadways was kept to a minimum. At the same time, low-water along area rivers, bayous and drainage canals means a reduced threat of flooding should a series of "big" storms roll through the area in the coming weeks.

## *The Extended Outlook:*

After a dry September and October, many are looking for a return to normal rainfall in the coming weeks to offset the ongoing drought over much of the state. However, the establishment of *La Niña* (cooler than normal surface waters in the eastern and central equatorial Pacific) signals an increased probability of rainfall remaining below the norm for the coming winter and spring. Indeed, most climate experts are calling for a moderate to strong *La Niña* to persist through the winter and spring. For south Louisiana, *La Niñas* have coincided with below-average rainfall during the period of November-through-May in nearly 80% of past events.

Seasonal temperatures over the coming months are also expected to "average" on the normal-to-warm side for the period. However, this does not rule out the potential for one or more brief Arctic outbreaks (bitter-cold spells) over the winter season.

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Figure 1: October 2010 Daily Max/Min Temperatures and Precipitation as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Ben Hur Farm (Nicholson Drive).

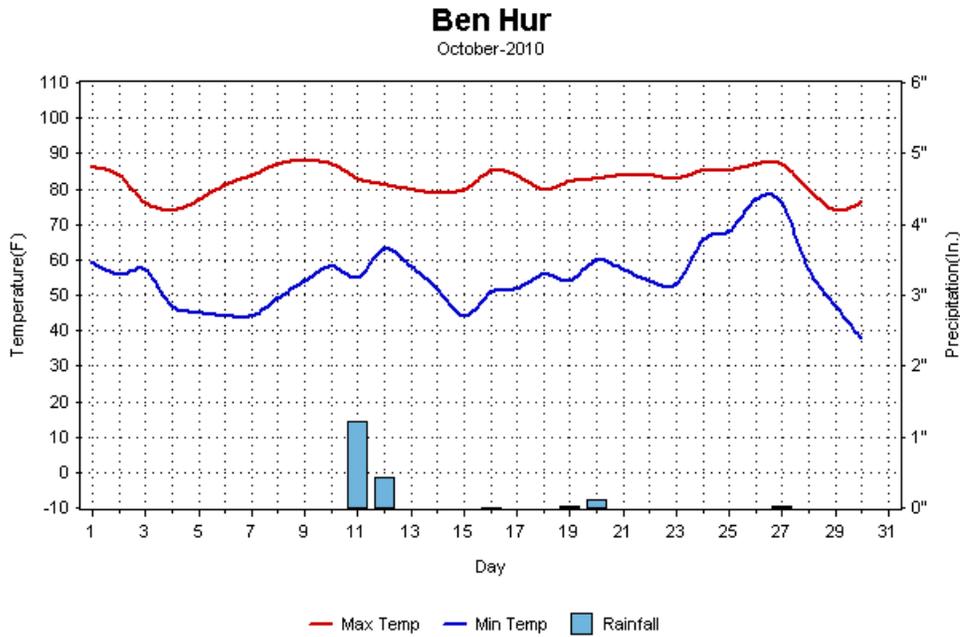
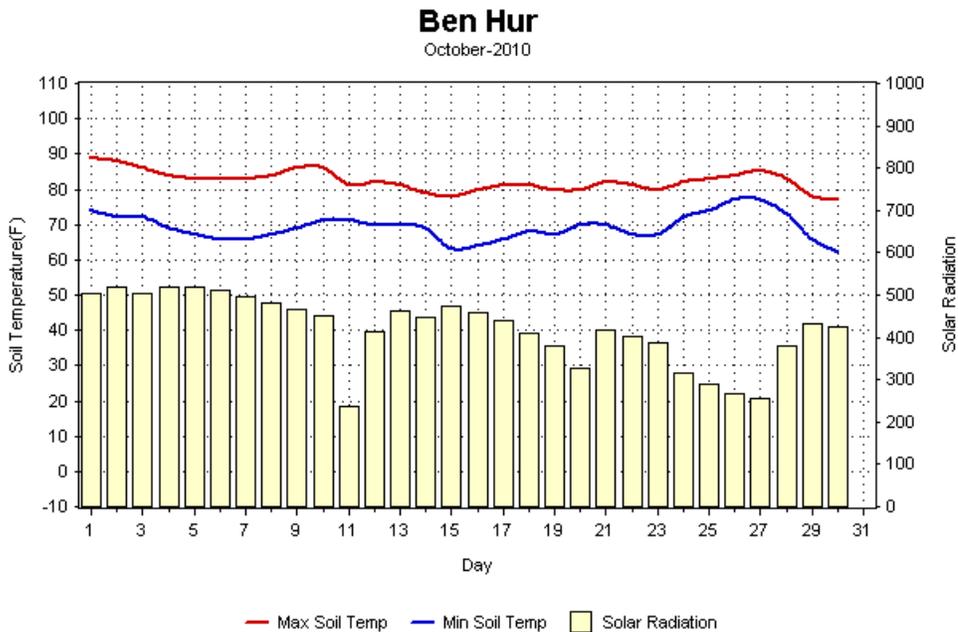


Figure 2: October 2010 Daily Solar Radiation and Max/Min Soil Temperatures (4 in. depth) as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Ben Hur Farm.



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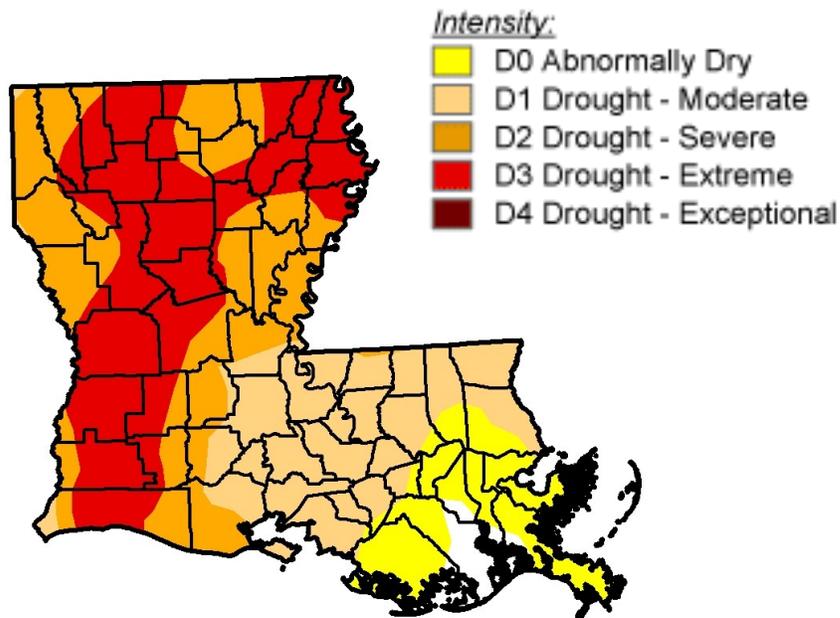
## Tropical Weather Outlook:

November traditionally marks the end of tropical threats for Louisiana -- in more than 150 years of records, Louisiana has only been impacted by one 'named' storm: 2009's *T.S. Ida*, and *Ida* only clipped the southern portion of Plaquemines Parish. Indeed, history suggests that tropical activity virtually "shuts down" over the western half of the Gulf of Mexico by early November.

Most are aware that the 2010 season was an active one, but many fail to realize just how active. With 19 'named' storms as of early November, 2010 ties 1995 and 1887 as the third most active season for the Atlantic basin (in terms of 'nameable' systems) since the 1850s -- only 1933 (21 storms) and 2005 (28 storms) were more active. Yet the U.S. was very fortunate: no central Gulf Coast hits and only one direct landfall (*T.S. Bonnie*). Still, 2010's activity continues a trend that began in 1995 -- Atlantic tropical storm counts have been above average (11 'named' storms) for 14 of the last 16 hurricane seasons.

Figure 3: Weekly **U.S. Drought Monitor** depiction for 26 October 2010.

Source: <http://drought.unl.edu/DM/>



\*Jay Grymes, LSU AgCenter Climatologist and WAFB Chief Meteorologist, provides the climatology portion of this report as a free service to DEQ and the citizens of Louisiana.

# *Baton Rouge Climate Summary—October 2010*

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- U.S. Drought Monitor (<http://drought.unl.edu/DM/>)
- NWS Climate Prediction Center (NWS/CPC)
- NWS Storm Prediction Center (NWS/SPC)
- NWS Hydrometeorological Prediction Center (NWS/HPC)
- NOAA/National Climatic Data Center (NCDC)
- USGS, Louisiana
- WAFB-TV (Ch. 9), Baton Rouge

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4 November 2010

Jay Grymes, LSU AgCenter Climatologist and WAFB Chief Meteorologist, provides the climatology portion of this report as a free service to DEQ and the citizens of Louisiana.