

# **Mississippi Department of Environmental Quality**

**2014**

## **Air Quality Data Summary**



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## **Introduction**

Under the Clean Air Act, the U.S. Environmental Protection Agency (EPA) establishes primary air quality standards to protect public health, including the health of “sensitive populations such as people with asthma, children, and older adults”. EPA also sets secondary standards to protect public welfare. This includes protecting ecosystems, including plants and animals, from harm, as well as protecting against decreased visibility and damage to crops, vegetation, and buildings.

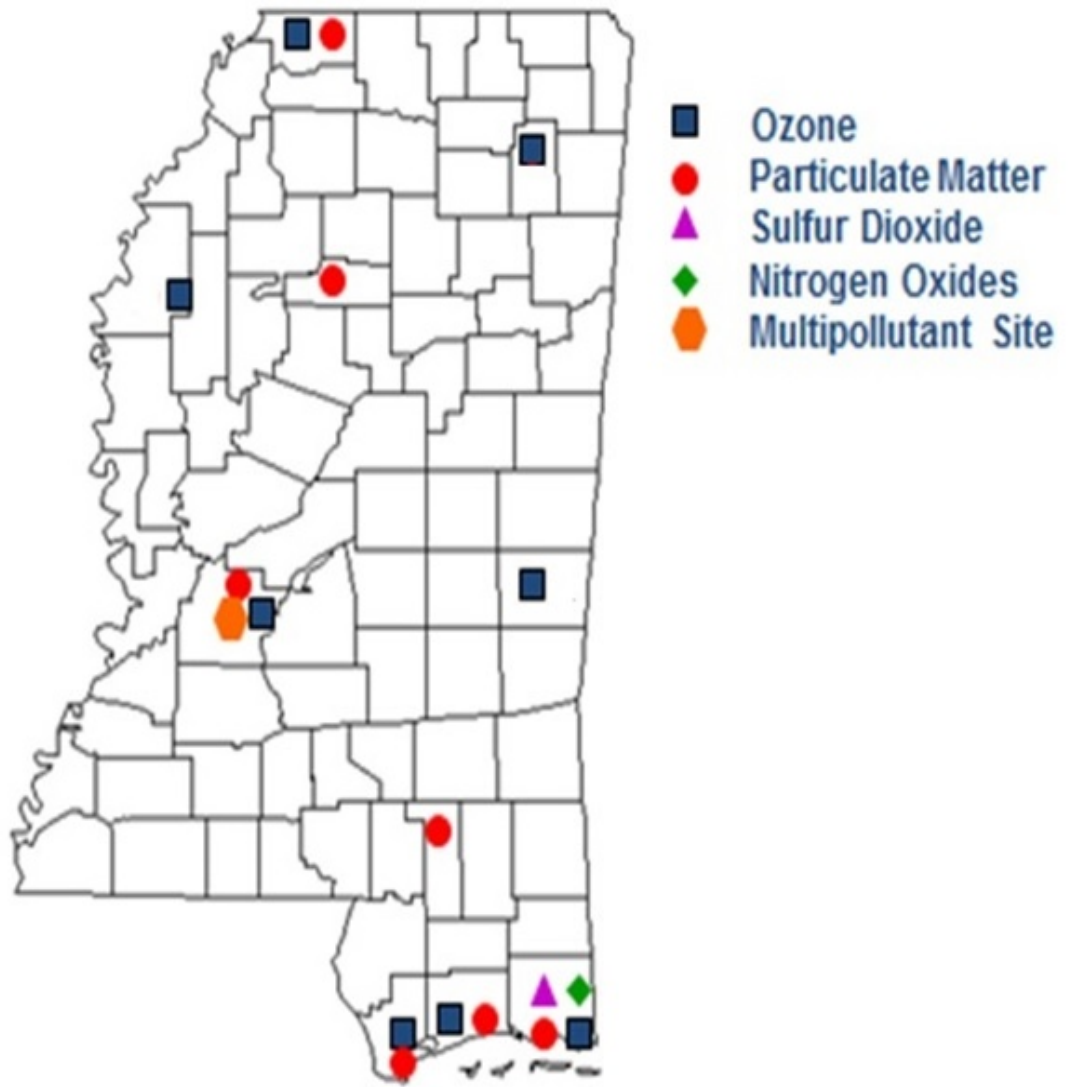
EPA has set national ambient air quality standards (NAAQS) for six principal air pollutants (also called criteria pollutants): Ground-Level Ozone (O<sub>3</sub>), Particulate Matter (PM), Nitrogen Dioxide (NO<sub>2</sub>), Sulfur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), and Lead (Pb). The Mississippi Department of Environmental Quality (MDEQ) monitors all of these pollutants.

In July 2012, part of DeSoto County was designated as part of the Memphis Nonattainment Area by EPA. However, DeSoto County continues to meet the ozone standard as shown in this report. MDEQ restarted operation of its multi-pollutant site (N-CORE) in July 2013.

This report looks at the reported levels of the criteria pollutants in 2014 at various monitoring sites located in Mississippi. It compares these levels to the NAAQS to determine how the state is doing in meeting these standards. As you will see, Mississippi is meeting all of the NAAQS.

# MDEQ Air Monitoring Network

2014 Mississippi Ambient  
Air Quality Monitoring Sites



## Monitoring Network Information

County	City	Monitoring Site ID	Pollutants Monitored	Latitude			Longitude		
				Deg.	Min.	Sec.	Deg.	Min.	Sec.
Bolivar	Cleveland	28-011-0001	Ozone	33	44	45	-90	43	23
DeSoto	Hernando	28-033-0002	Ozone, PM <sub>2.5</sub> 3-Day, PM <sub>2.5</sub> Continuous	34	49	14	-89	59	16
Forrest	Hattiesburg	28-035-0004	PM <sub>2.5</sub> 3-Day, PM <sub>2.5</sub> Continuous	31	19	23	-89	17	15
Grenada	Grenada	28-043-0001	PM <sub>2.5</sub> 3-Day	33	50	04	-89	47	34
Hancock	Waveland	28-045-0003	Ozone, PM <sub>2.5</sub> 3-Day	30	18	3	-89	23	45
Harrison	Gulfport	28-047-0008	Ozone, PM <sub>2.5</sub> 3-Day, PM <sub>2.5</sub> Continuous	30	23	24	-89	02	59
Hinds	Jackson	28-049-0010	Ozone, PM <sub>2.5</sub> 3-Day, PM <sub>2.5</sub> Continuous	32	23	06	-90	08	31
Hinds	Jackson N-CORE	28-049-0020	Ozone, PM <sub>2.5</sub> 3-Day, PM <sub>2.5</sub> Continuous, Speciated PM <sub>2.5</sub> , PM <sub>10-2.5</sub> , CO, Pb, NO <sub>y</sub> , SO <sub>2</sub>	32	19	45	-90	10	58
Jackson	Pascagoula	28-059-0006	Ozone, PM <sub>2.5</sub> 3-Day, NO, NO <sub>2</sub> , NO <sub>x</sub> , SO <sub>2</sub>	30	22	42	-88	32	03
Lauderdale	Meridian	28-075-0003	Ozone	32	21	52	-88	43	53
Lee	Tupelo	28-081-0005	Ozone	34	15	54	-88	45	58

## Ground-Level Ozone (O<sub>3</sub>)

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found. It occurs naturally in the stratosphere approximately 6 to 30 miles above the Earth's surface where it forms a protective layer that shields us from the sun's harmful ultraviolet rays. In the Earth's lower atmosphere, near ground level, ozone occurs naturally in lower amounts and additional ozone is formed when nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight. Because this reaction takes time to occur, ozone is usually formed downwind of emission sources.

### Ozone is Usually Formed Downwind of Emission Sources



## Ozone Standard

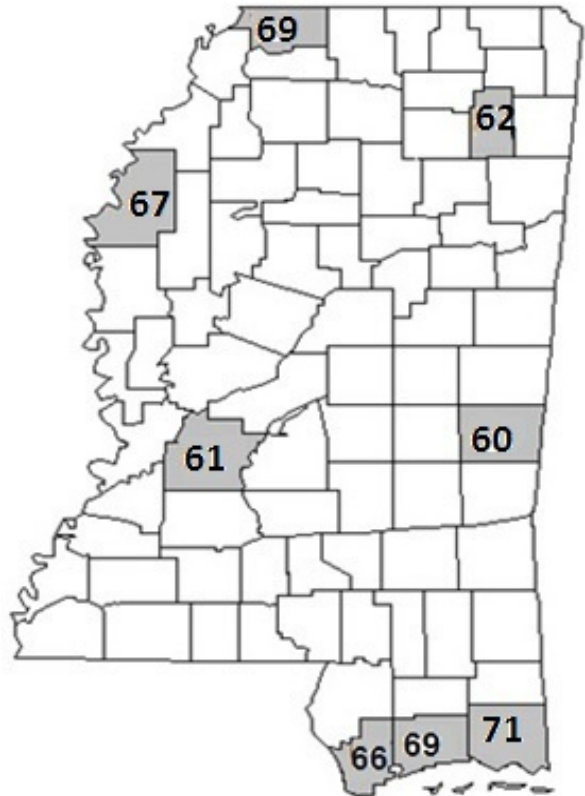
There is one primary and secondary ozone standard – the 8-hour average. MDEQ monitors ozone continuously from March 1 through October 31 each year at the monitoring sites listed below.

### Primary and Secondary 8-Hour Ozone Standard

The 8-hour standard is met when the 3-year average of the annual fourth highest daily maximum 8-hour average concentration (also known as the design value) is less than or equal to 0.075 parts per million (ppm) or 75 parts per billion (ppb).

### 8-Hour Ozone Design Values Standard – 75 ppb

County	City	2014 Design Values (ppb)
Bolivar County	Cleveland	67
DeSoto County	Hernando	69
Hancock County	Waveland	66
Harrison County	Gulfport	69
Hinds County	Jackson	61
Hinds County	N-CORE	64*
Jackson County	Pascagoula	71
Lauderdale County	Meridian	60
Lee County	Tupelo	62



\*Incomplete Data

# Particulate Matter

In general, particulate matter consists of a mixture of larger materials, called “coarse particles”, and smaller particles, called “fine particles”. Coarse particles have diameters ranging from 2.5 micrometers ( $\mu\text{m}$ ) to more than 40  $\mu\text{m}$ , while fine particles, also known as  $\text{PM}_{2.5}$ , include particles with diameters equal to or smaller than 2.5  $\mu\text{m}$ . MDEQ also monitors  $\text{PM}_{10}$ , which refers to particles less than or equal to 10  $\mu\text{m}$  in diameter.

These tiny particles come in many shapes and sizes and can be made up of hundreds of different chemicals. Some particles are emitted directly from a source, while others form in complicated chemical reactions in the atmosphere.





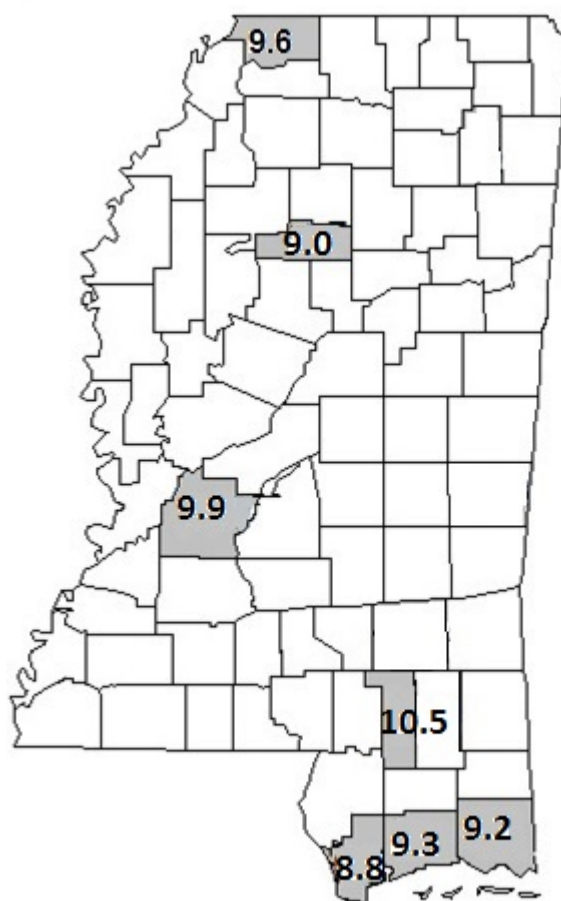
## PM<sub>2.5</sub> Standards

There are two primary and secondary PM<sub>2.5</sub> standards: (1) Annual Average and (2) 24-Hour Average. MDEQ monitors PM<sub>2.5</sub> every 3<sup>rd</sup> day at the monitoring sites listed below.

### Primary and Secondary Annual Average Standard – 12.0 µg/m<sup>3</sup> and 15.0 µg/m<sup>3</sup>

The annual average primary standard is met when the three-year average of the annual averages does not exceed 12.0 micrograms per cubic meter (µg/m<sup>3</sup>). The annual average secondary standard is met when the three-year average of the annual averages does not exceed 15.0 micrograms per cubic meter (µg/m<sup>3</sup>).

County	City	2014 Annual Average Design Value (µg/m <sup>3</sup> )
DeSoto County	Hernando	9.6
Forrest County	Hattiesburg	10.5
Grenada County	Grenada	9.0
Hancock County	Waveland	8.8
Harrison County	Gulfport	9.3
Hinds County	Jackson	9.9
Hinds County	N-CORE	9.7*
Jackson County	Pascagoula	9.2

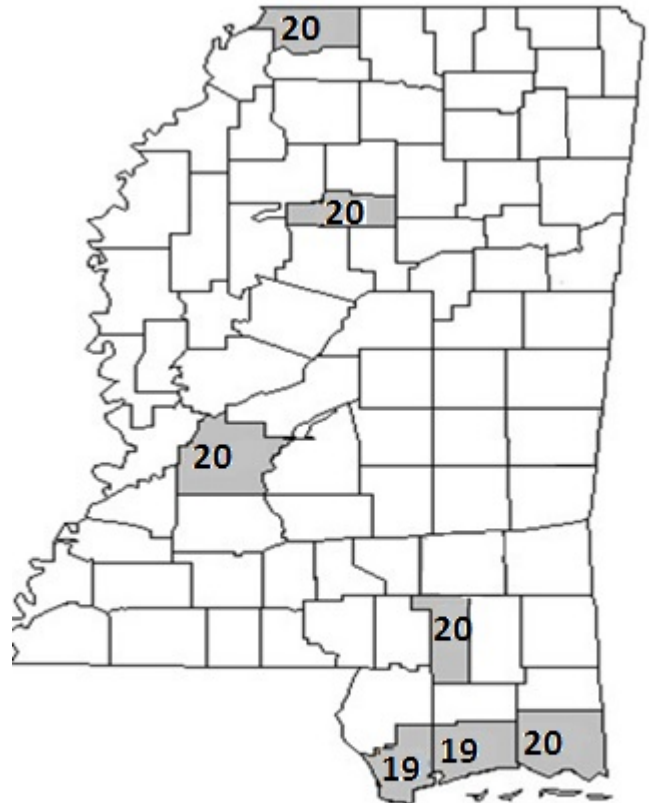


\*Incomplete Data

**Primary and Secondary 24-Hour Average  
Standard (98<sup>th</sup> Percentile) – 35 µg/m<sup>3</sup>**

The 24-hour average standard is met when the three-year average of the annual 98<sup>th</sup> percentiles of the 24-hour averages does not exceed 35 micrograms per cubic meter (µg/m<sup>3</sup>).

<b>County</b>	<b>City</b>	<b>2014 24-Hour Average Design Value (µg/m<sup>3</sup>)</b>
DeSoto County	Hernando	20
Forrest County	Hattiesburg	20
Grenada County	Grenada	20
Hancock County	Waveland	19
Harrison County	Gulfport	19
Hinds County	Jackson	20
Hinds County	N-CORE	22*
Jackson County	Pascagoula	20



\*Incomplete Data

# PM<sub>10</sub> Standards

## Primary and Secondary 24-Hour Average Standard (99<sup>th</sup> Percentile) – 150 µg/ m<sup>3</sup>

The 24-hour average standard is met when the 99<sup>th</sup> percentile of the 24-hour averages do not exceed 150 micrograms per cubic meter (µg/m<sup>3</sup>) on average over 3 years. MDEQ monitors PM<sub>10</sub> every 6<sup>th</sup> day at the monitoring sites listed below.

County	City	2014 24-Hour Average Design Value (µg/m <sup>3</sup> )
Hinds County	N-CORE	41*



\*Incomplete Data

## Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56% of all CO emissions nationwide. Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22% of all CO emissions nationwide. Other sources of CO emissions include industrial processes, residential wood burning, and natural sources such as forest fires.

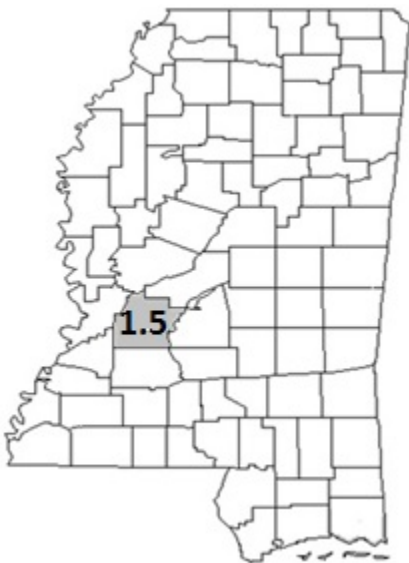
### Carbon Monoxide Standards

There are two carbon monoxide standards: (1) 8-Hour Average and (2) 1-Hour Standard. MDEQ monitors carbon monoxide continuously year-round at the monitoring site listed below.

#### Primary CO Standard – 8-Hour 9 ppm 1-Hour 35 ppm

The 8-hour average standard is met if the 8-hour average of 9 parts per million (ppm) is not exceeded more than once per year. The 1-hour average standard is met if the 1-hour average of 35 parts per million (ppm) is not exceeded more than once per year.

County	City	2014 Annual 2 <sup>nd</sup> Max (ppm)
Hinds County	N-CORE	8 - Hour: 1.5 1 - Hour: 2.2



8-Hour Carbon  
Monoxide



1-Hour Carbon  
Monoxide

## Lead

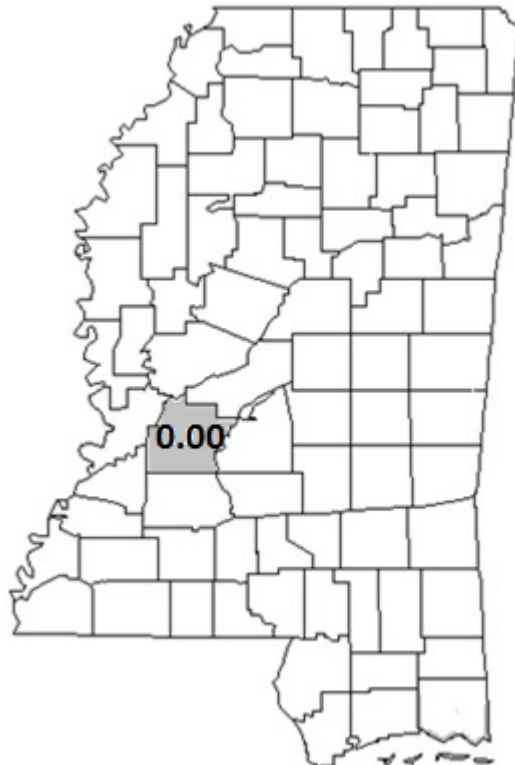
**Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been from fuels in on-road motor vehicles (such as cars and trucks) and industrial sources. As a result of EPA's regulatory efforts to remove lead from on-road motor vehicle gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline.

## Lead Standards

Both the primary and secondary standards are calculated by a rolling 3 month average consisting of the most recent 3-year calendar period plus two previous months (*i.e.*, 36 3-month periods), using the last month of each 3-month period as the period of report. MDEQ monitors lead every 6<sup>th</sup> day at the monitoring sites listed below.

### Primary Lead Standard – 0.15 $\mu\text{g}/\text{m}^3$

County	City	2014 Maximum rolling 3 Month Average ( $\mu\text{g}/\text{m}^3$ )
Hinds County	N-CORE	0.00*



# Nitrogen Dioxide

Nitrogen dioxide (NO<sub>2</sub>) can often be seen as a reddish-brown layer. Nitrogen dioxide forms when fuel is burned at high temperatures, as in a combustion process. The primary manmade sources of nitrogen dioxide are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. It can also be formed naturally.

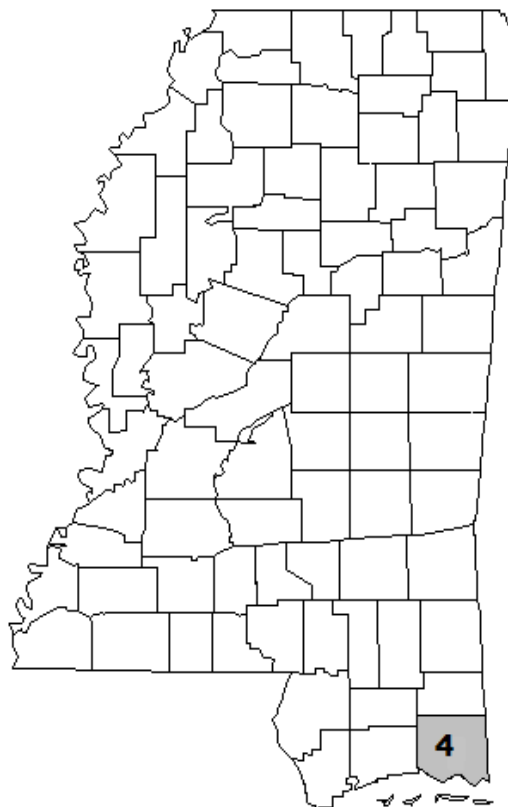
## Nitrogen Dioxide Standards

There are two NO<sub>2</sub> standards: (1) Annual Average (Primary and Secondary) and (2) 1-Hour Average (Primary). MDEQ monitors nitrogen dioxide continuously year-round at the monitoring site listed below.

### Primary and Secondary Annual Average Standard – 53 ppb

The annual average NO<sub>2</sub> standard is met when the annual average does not exceed 53 parts per billion (ppb).

County	City	2014 Annual Average (ppb)
Jackson County	Pascagoula	4



**Primary 1-Hour Average Standard –**  
**100 ppb**

The 1-hour average NO<sub>2</sub> standard is met when the three-year average of the annual 98<sup>th</sup> percentiles of the 24-hour averages does not exceed 100 parts per billion (ppb).

<b>County</b>	<b>City</b>	<b>2014 1-Hour Average Design Value (ppb)</b>
Jackson County	Pascagoula	32



# Sulfur Dioxide

Sulfur dioxide (SO<sub>2</sub>) belongs to the family of sulfur oxide gases (SO<sub>x</sub>). These gases dissolve easily in water. Sulfur is prevalent in all raw materials, including crude oil, coal, and ore that contains common metals like aluminum, copper, zinc, lead, and iron. SO<sub>x</sub> gases are formed when fuel containing sulfur, such as coal and oil is burned, and when gasoline is extracted from oil and metals are extracted from ore. SO<sub>2</sub> dissolves in water vapor to form acid, and interacts with other gases and particles in the air to form sulfates and other products that can be harmful to people and their environment.

Over 65% of SO<sub>2</sub> released to the air comes from electric utilities, especially those that burn coal. Other sources of SO<sub>2</sub> are industrial facilities that derive their products from raw materials like metallic ore, coal, and crude oil, or that burn coal or oil to produce process heat. Examples are petroleum refineries, cement manufacturing, and metal processing facilities.

## Sulfur Dioxide Standards

There are three primary sulfur dioxide standards – the 1-Hour average, the annual, and the 24-hour average. There is one secondary sulfur dioxide standard – the 3-Hour average. MDEQ monitors sulfur dioxide continuously year-round at the monitoring site listed below.

### Primary 1-Hour Average Standard – 75 ppb

The 1-hour average SO<sub>2</sub> standard is met when the three-year average of the annual 99<sup>th</sup> percentiles of the 1-hour averages does not exceed 75 parts per billion (ppb).

County	City	2014 1-Hour Average Design Value (ppb)
Hinds County	N-CORE	14*
Jackson County	Pascagoula	27



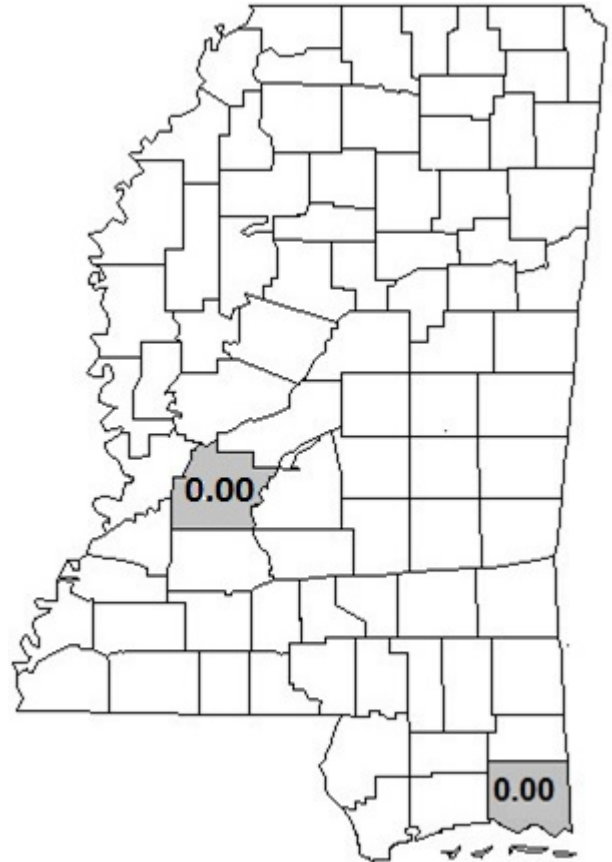
\*Incomplete Data



**Primary Annual Standard –**  
**0.03 ppm**

Annual SO<sub>2</sub> standard is met when the maximum annual average does not exceed 0.030 parts per million (ppm).

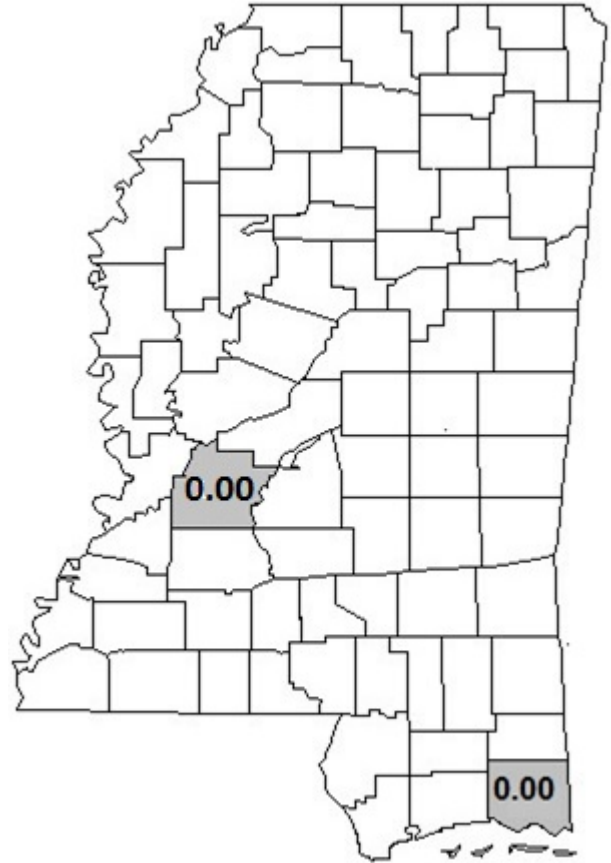
<b>County</b>	<b>City</b>	<b>2014 Annual Average (ppm)</b>	<b>2014 Number of Exceedances</b>
Hinds County	N-CORE	0.00	0
Jackson County	Pascagoula	0.00	0



**Primary 24-Hour Standard –**  
**0.14 ppm**

24-Hour SO<sub>2</sub> standard is met when the maximum annual average concentration of 0.14 parts per million (ppm) is not exceeded more than once per calendar year.

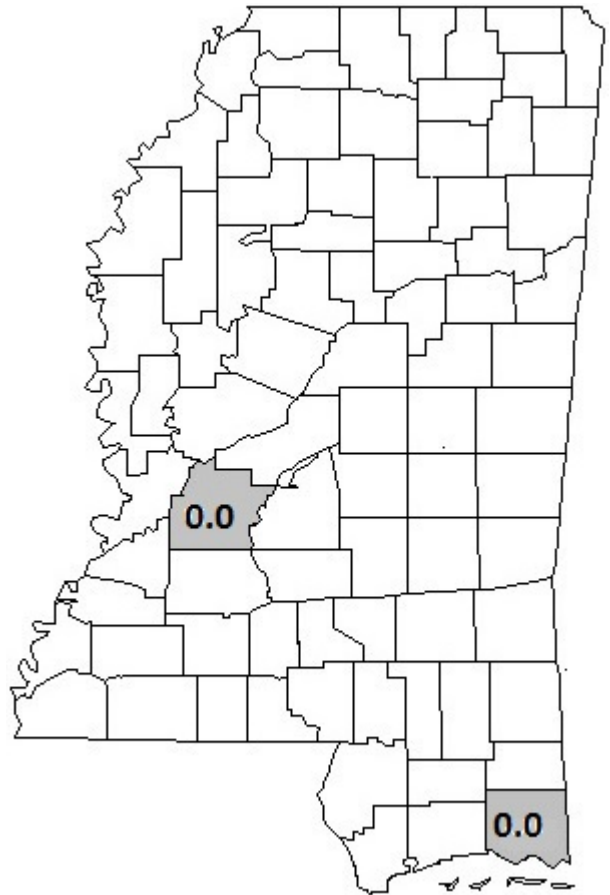
<b>County</b>	<b>City</b>	<b>2014 2<sup>nd</sup> Maximum 24-Hour (ppm)</b>	<b>2014 Number of Exceedances</b>
Hinds County	N-CORE	0.00	0
Jackson County	Pascagoula	0.00	0



**Secondary 3-Hour Average Standard –**  
**0.5 ppm**

The 3-hour average SO<sub>2</sub> standard is met when the maximum 3-hour average concentration of 0.5 parts per million (ppm) is not exceeded more than once per calendar year.

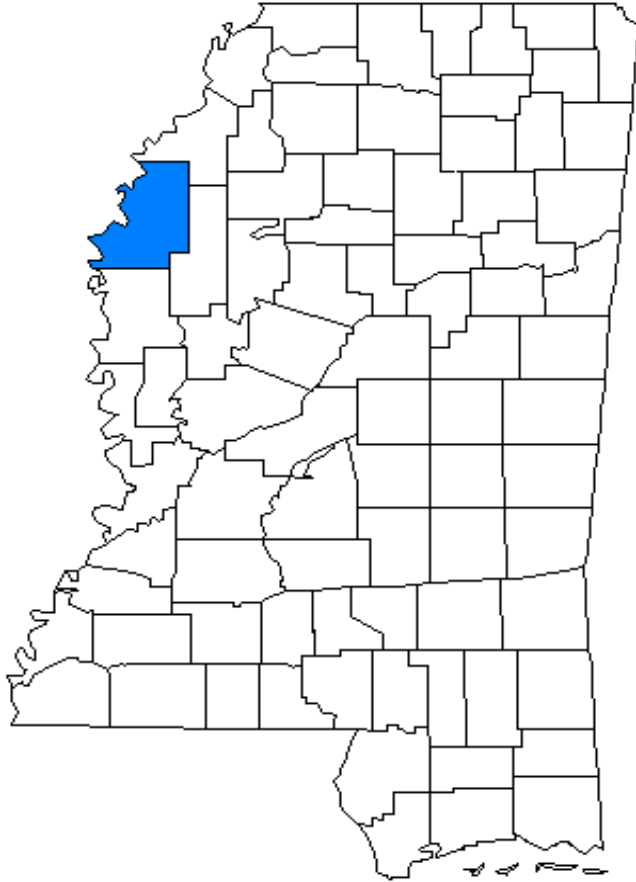
<b>County</b>	<b>City</b>	<b>2014 2<sup>nd</sup> Maximum 3-Hour Average (ppm)</b>	<b>2014 Number of Exceedances</b>
Hinds County	N-CORE	0.0	0
Jackson County	Pascagoula	0.0	0



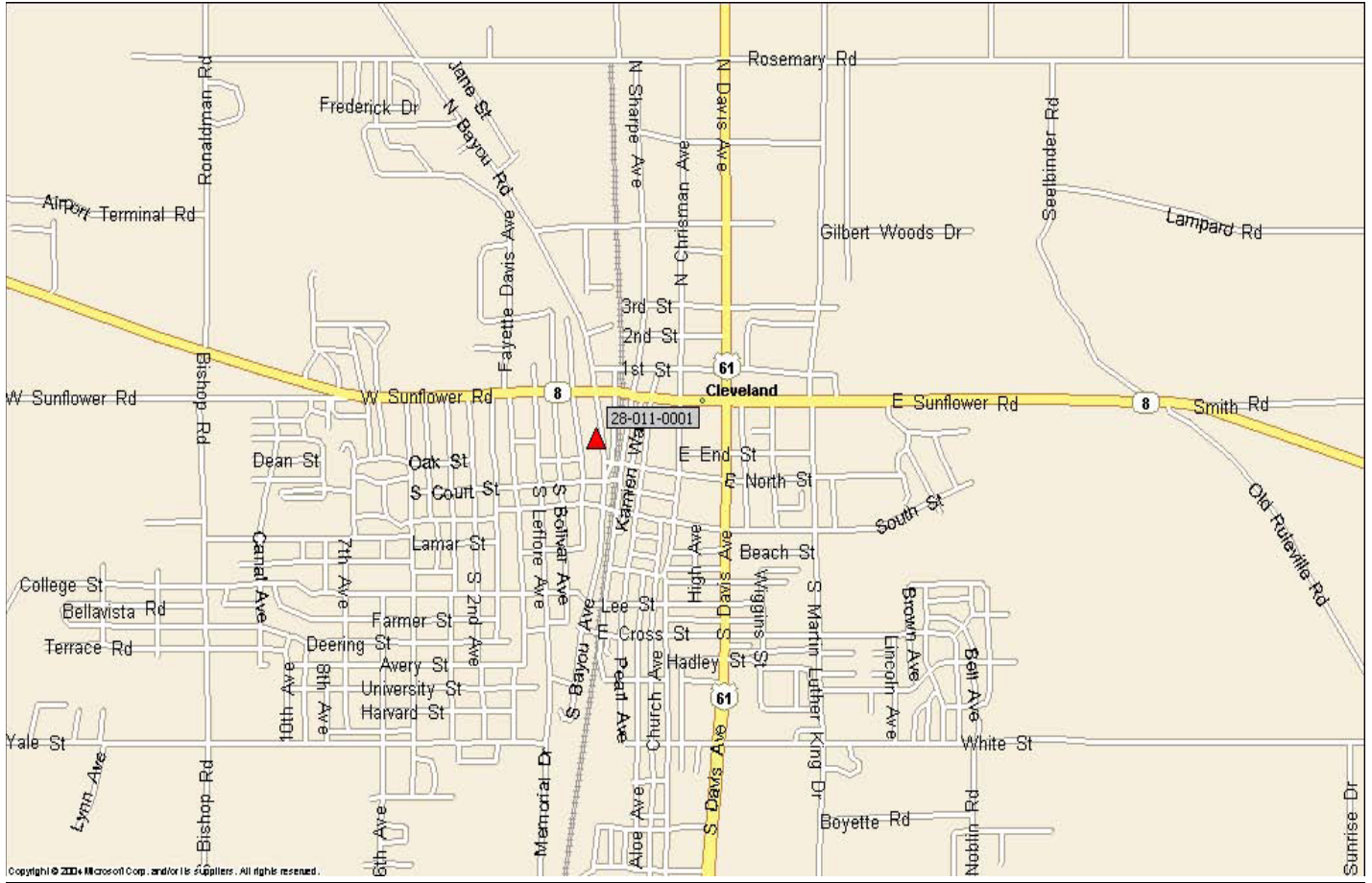
# Appendix 1

## 10-Year Data Trends By County

# Bolivar County

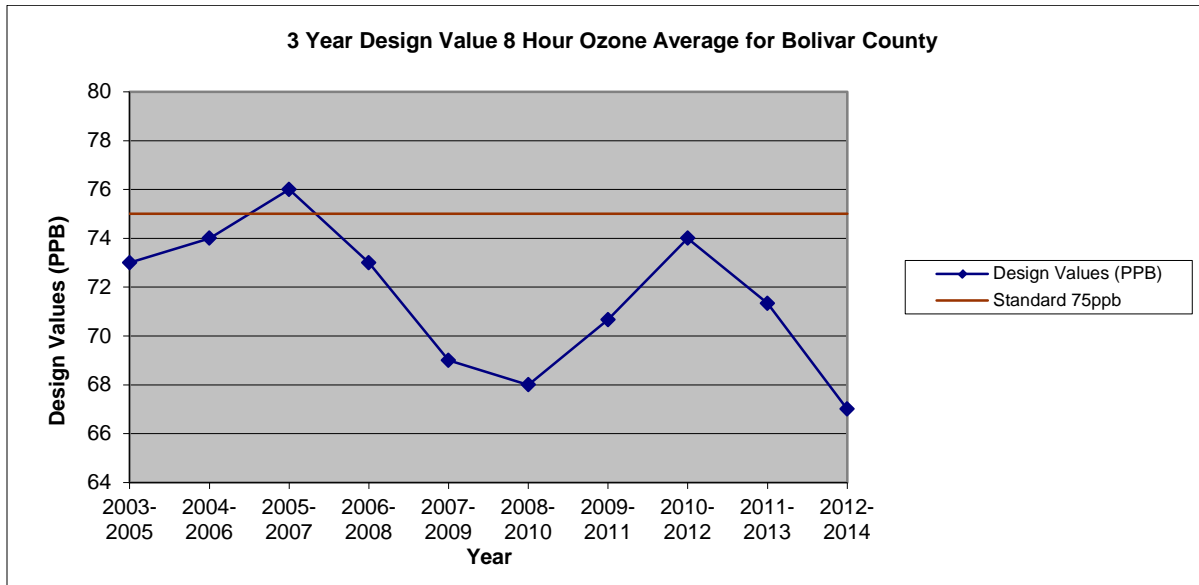


**Bolivar County**  
**Monitoring Site No. 28-011-0001**  
**Location**

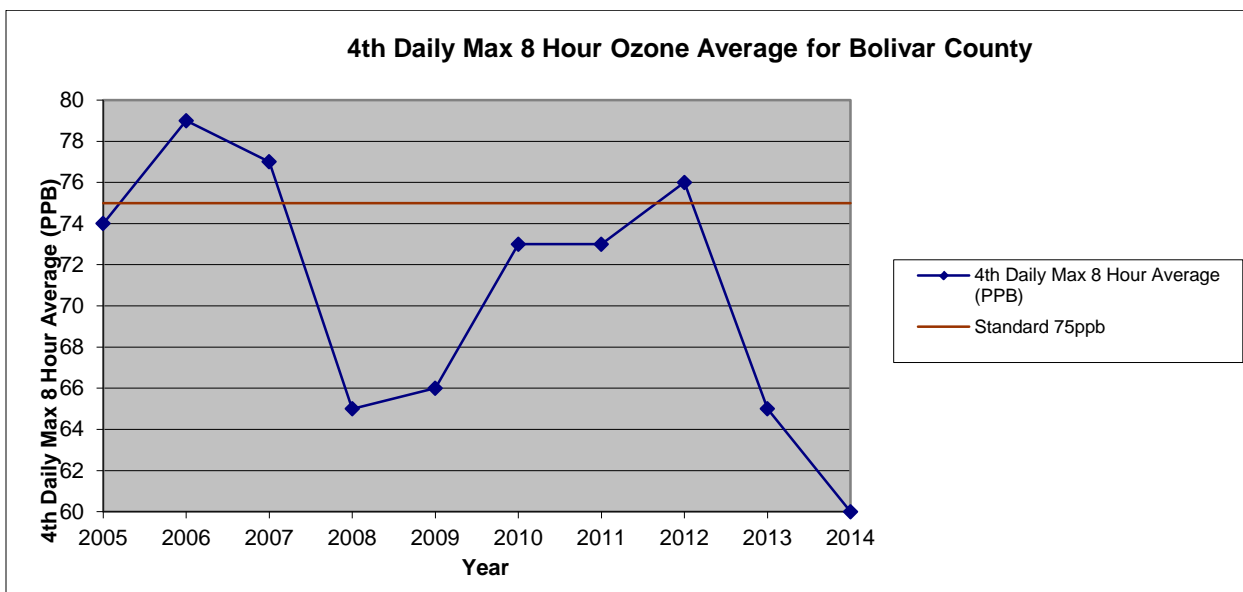


## Bolivar County 8-Hour Ozone (ppb)

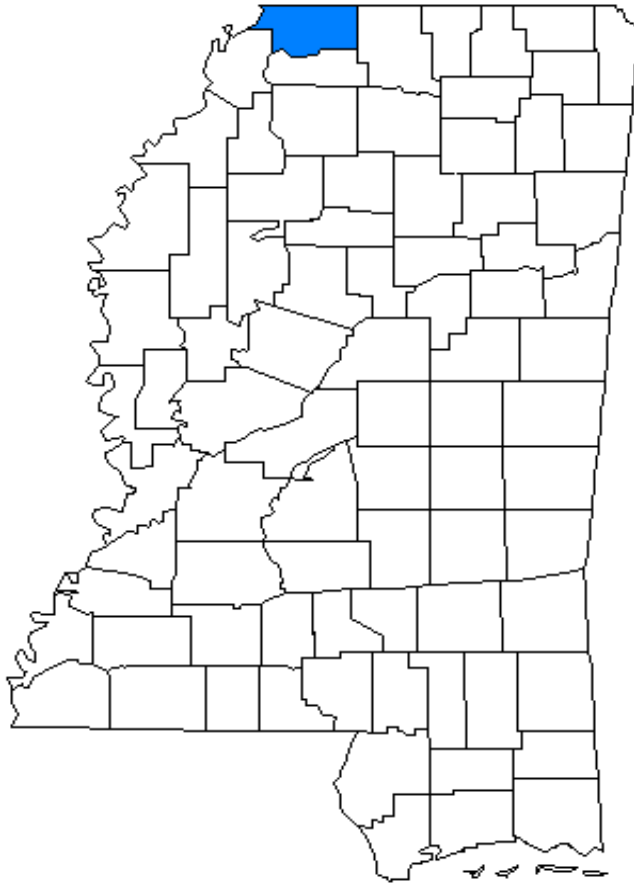
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
Design Value	73	74	76	73	69	68	70	74	71	67



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual 4 <sup>th</sup> Max. 8-Hour Avg.	74	79	77	65	66	73	73	76	65	60

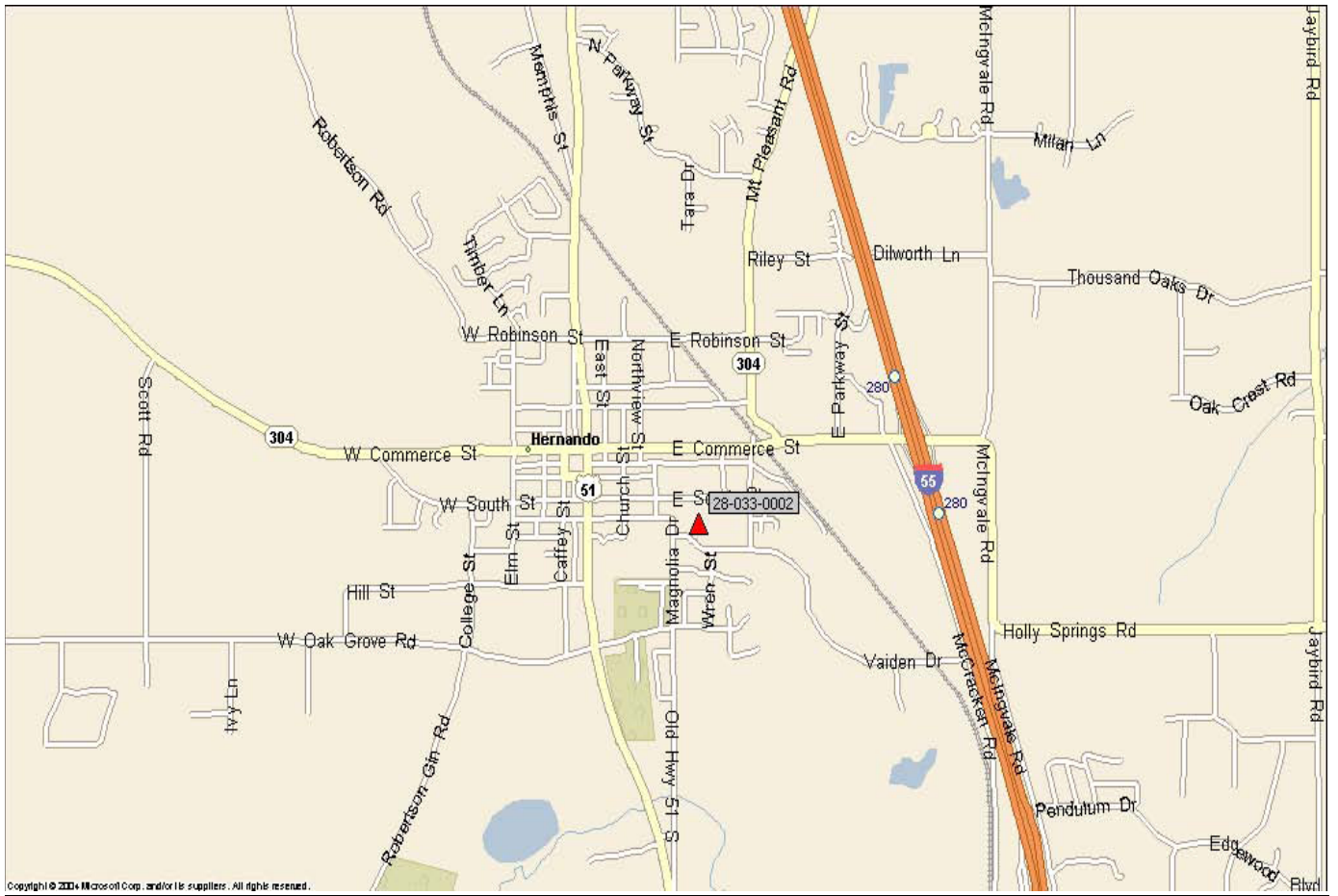


# DeSoto County



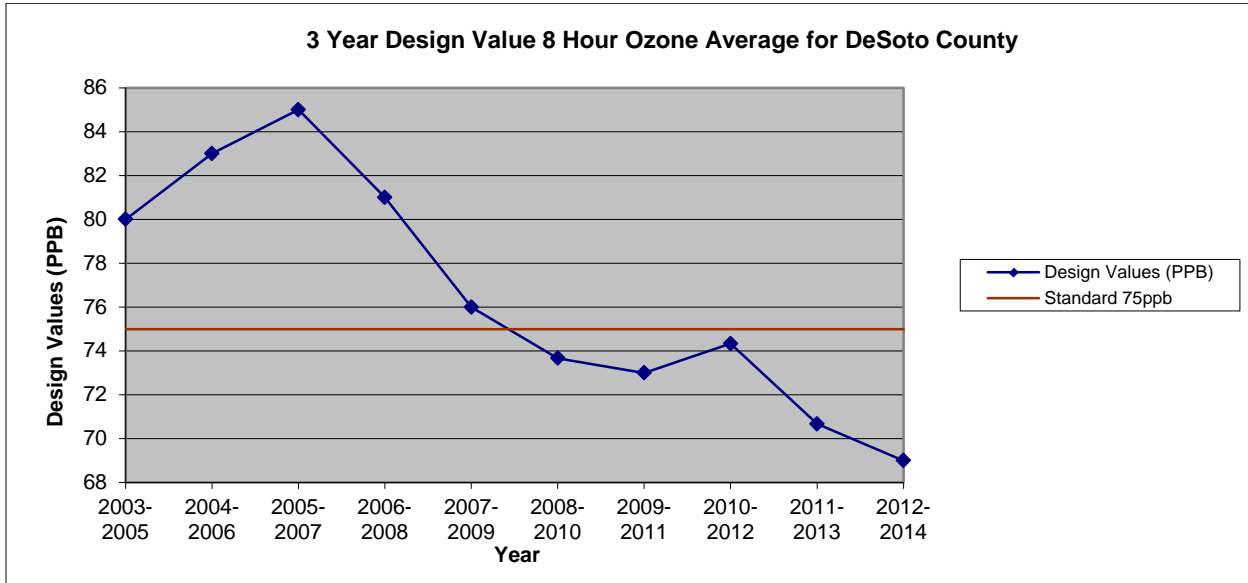


**DeSoto County**  
**Monitoring Site No. 28-033-0002**  
**Location**

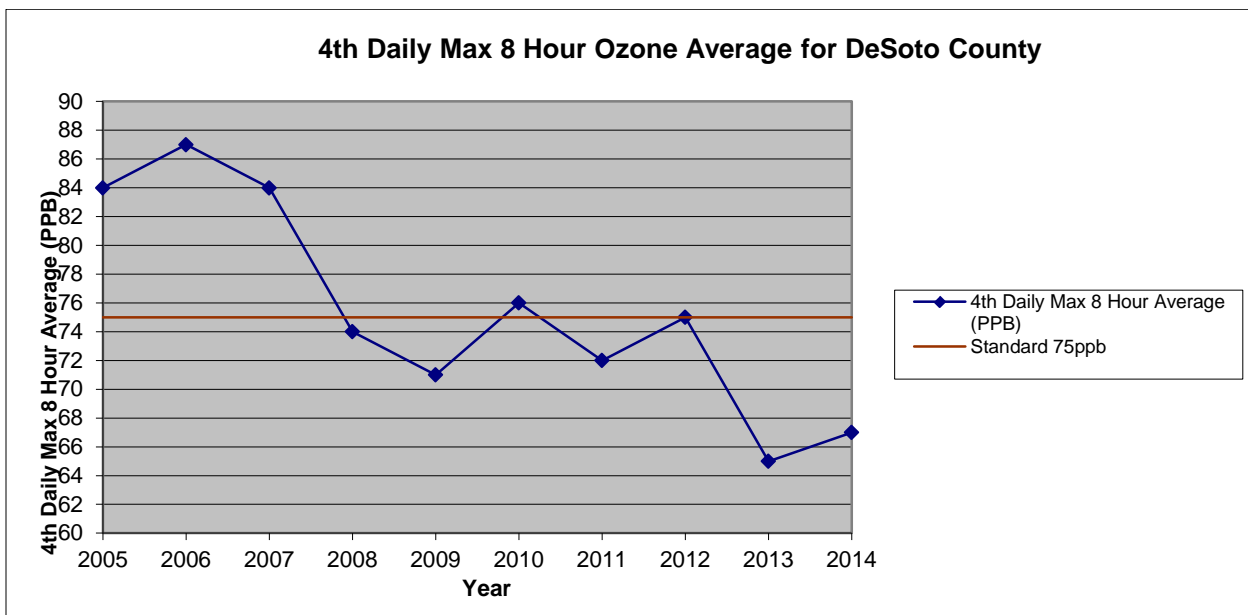


## DeSoto County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
Design Value	80	83	85	81	76	73	73	74	70	69



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual 4 <sup>th</sup> Max. 8-Hour Avg.	84	87	84	74	71	76	72	75	65	67

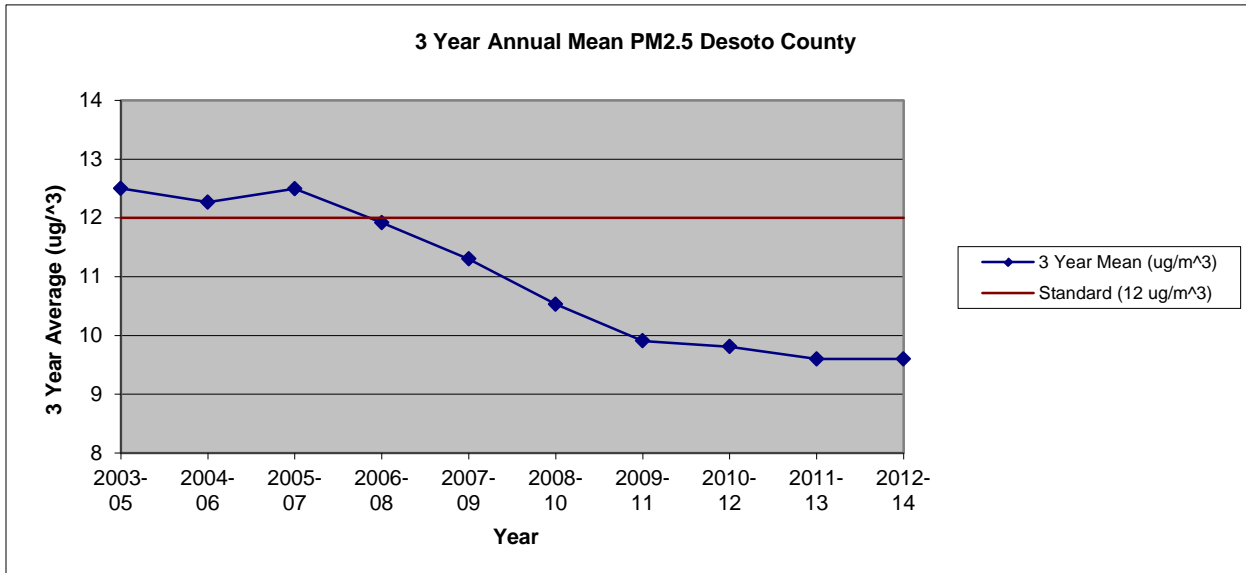


# DeSoto County

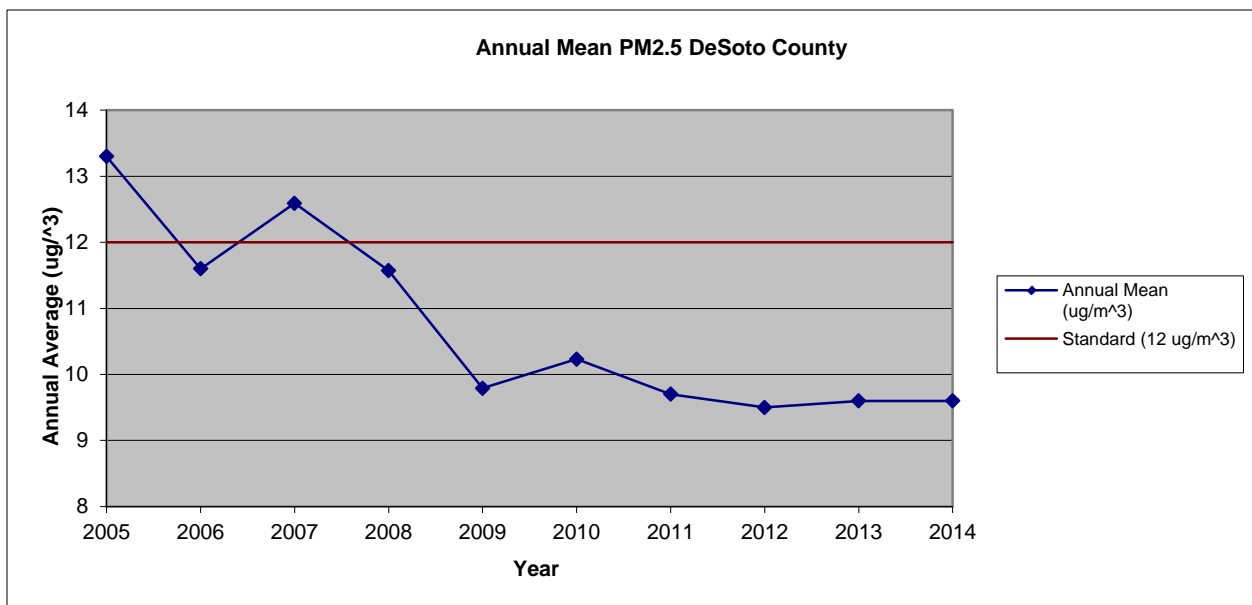
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual Means</b>	<b>12.5</b>	<b>12.3</b>	<b>12.5</b>	<b>11.9</b>	<b>11.3</b>	<b>10.5</b>	<b>9.9</b>	<b>9.8</b>	<b>9.6</b>	<b>9.6</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual Mean</b>	<b>13.3</b>	<b>11.6</b>	<b>12.6</b>	<b>11.6</b>	<b>9.8</b>	<b>10.2</b>	<b>9.7</b>	<b>9.5</b>	<b>9.6</b>	<b>9.6</b>

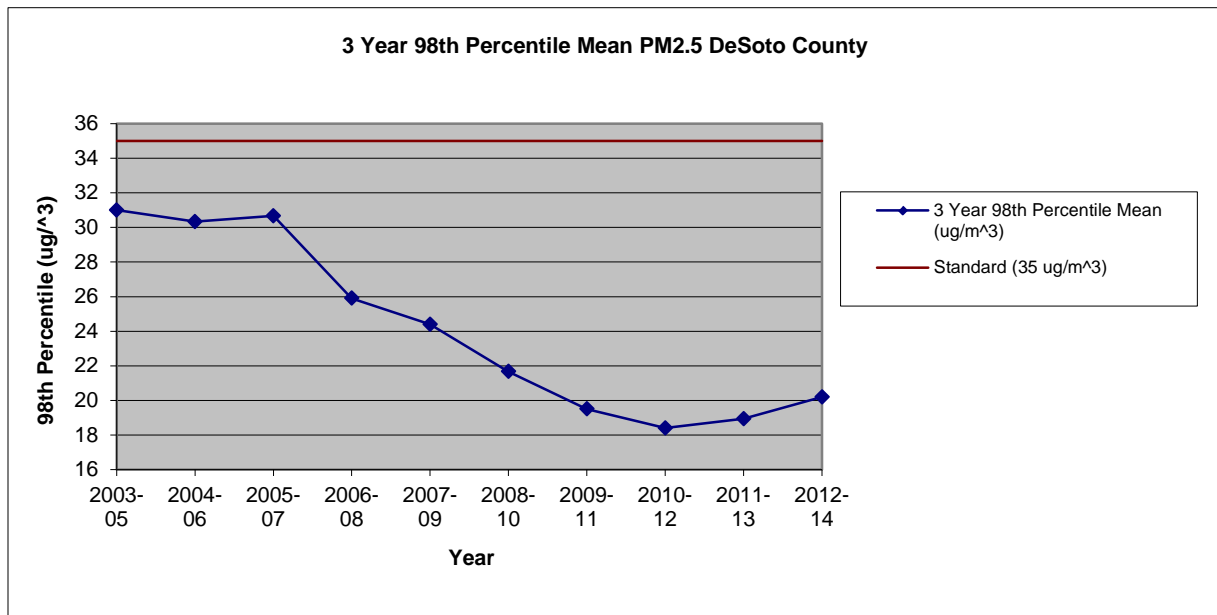


# DeSoto County

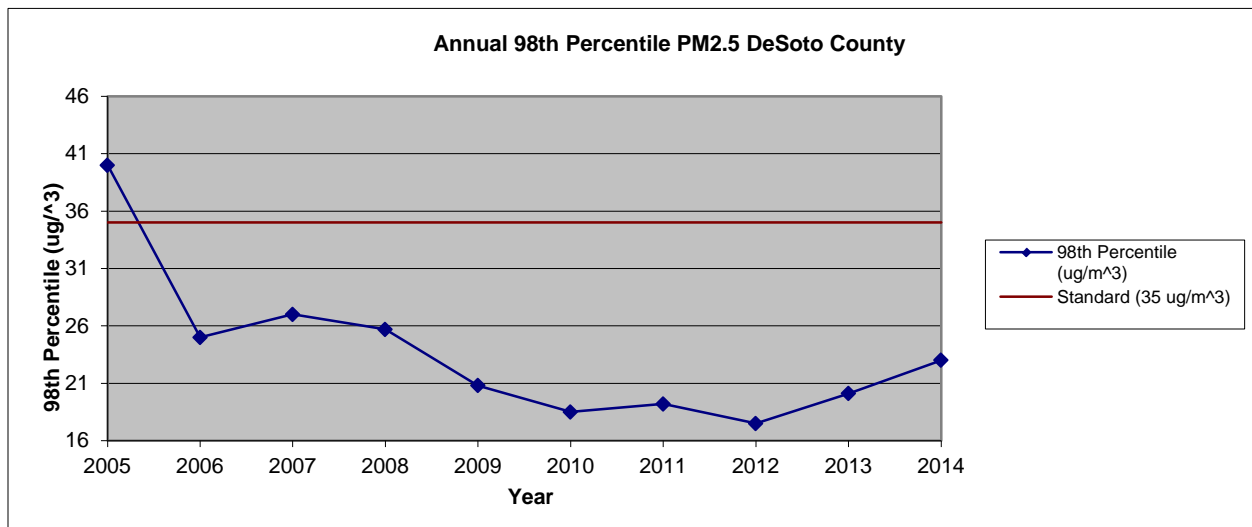
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

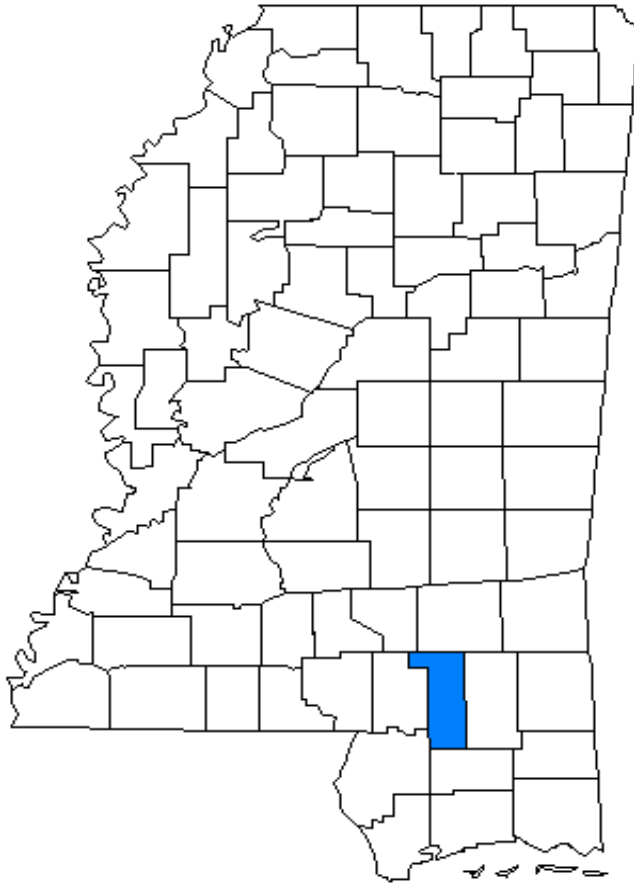
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	<b>31</b>	<b>30</b>	<b>31</b>	<b>26</b>	<b>24</b>	<b>22</b>	<b>20</b>	<b>18</b>	<b>19</b>	<b>20</b>



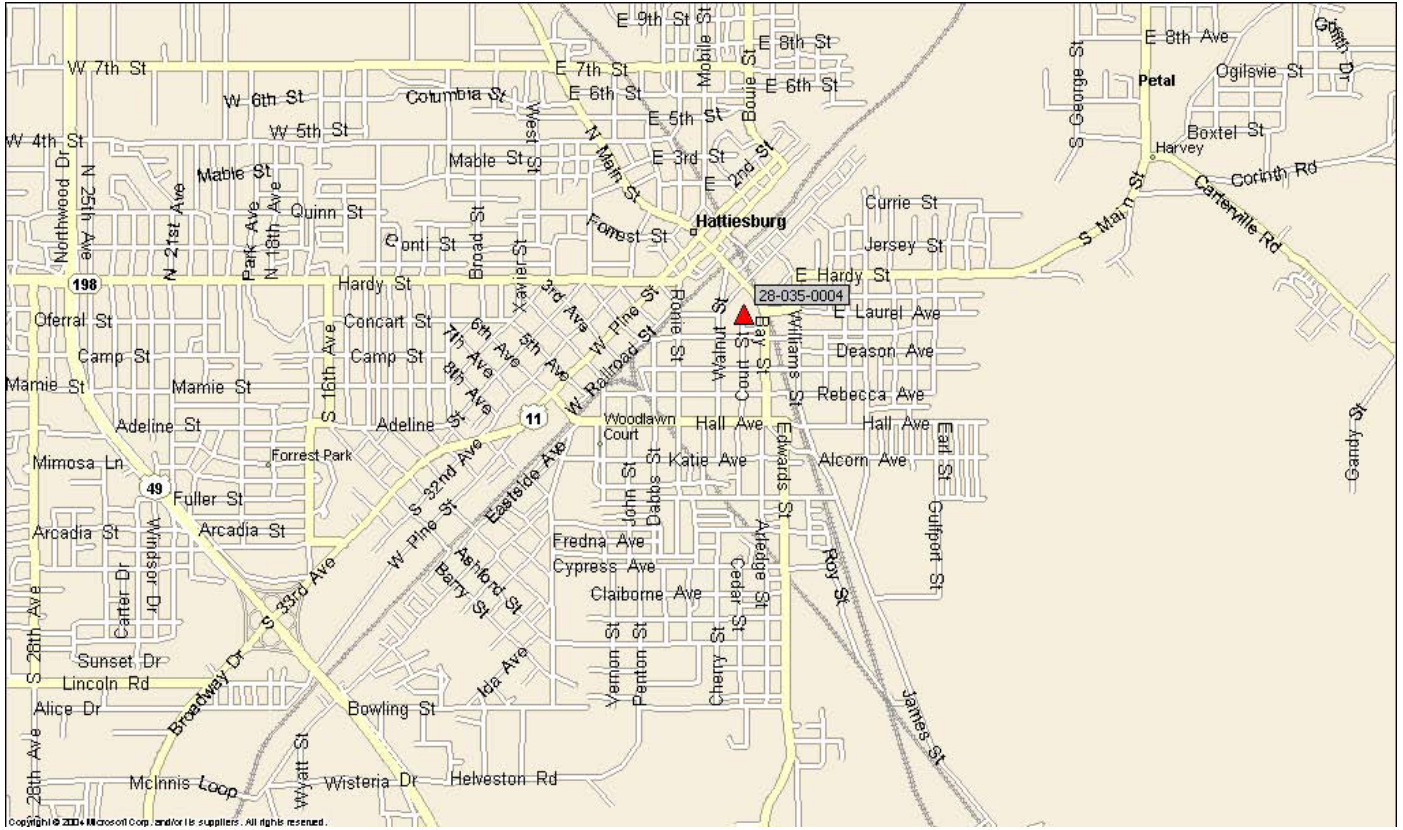
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	<b>40</b>	<b>25</b>	<b>27</b>	<b>26</b>	<b>21</b>	<b>19</b>	<b>19</b>	<b>18</b>	<b>20</b>	<b>23</b>



# Forrest County



**Forrest County**  
**Monitoring Site No. 28-035-0004**  
**Location**

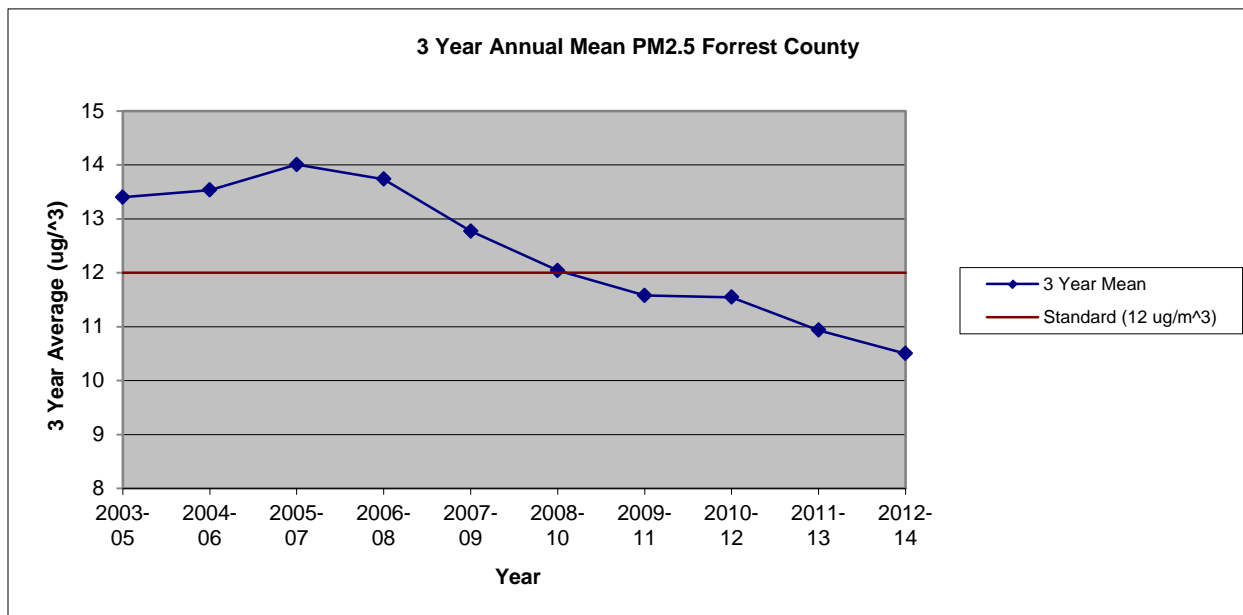


# Forrest County

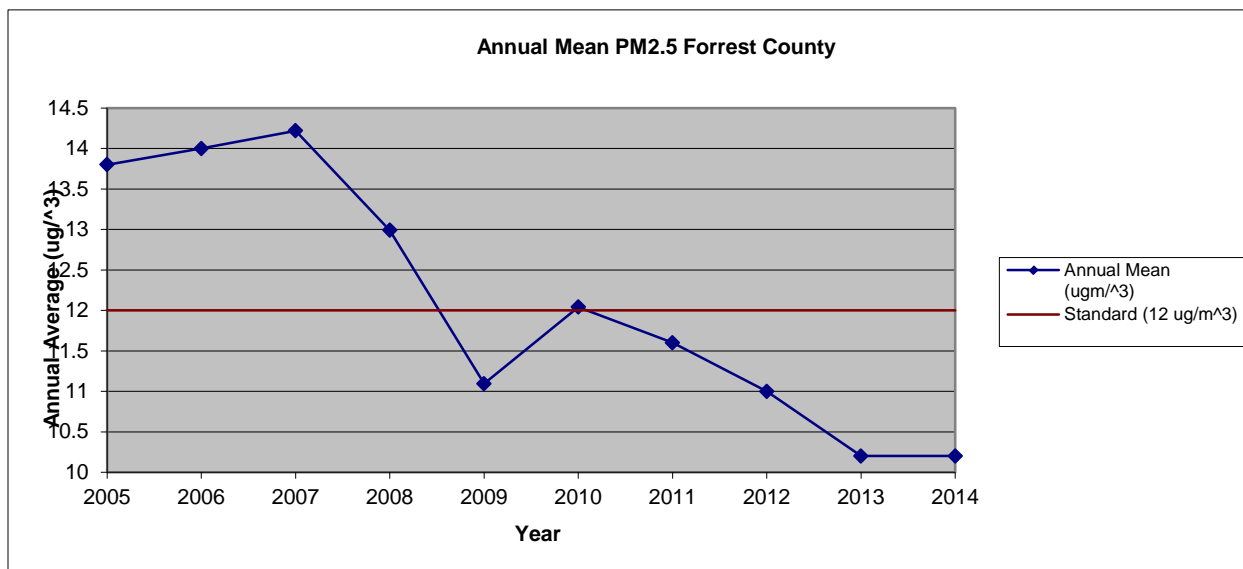
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual Means</b>	<b>13.4</b>	<b>13.5</b>	<b>14.0</b>	<b>13.7</b>	<b>12.8</b>	<b>12.0</b>	<b>11.6</b>	<b>11.6</b>	<b>11</b>	<b>10.5</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual Mean</b>	<b>13.8</b>	<b>14</b>	<b>14.2</b>	<b>13.0</b>	<b>11.1</b>	<b>12.0</b>	<b>11.6</b>	<b>11.0</b>	<b>10.2</b>	<b>10.2</b>

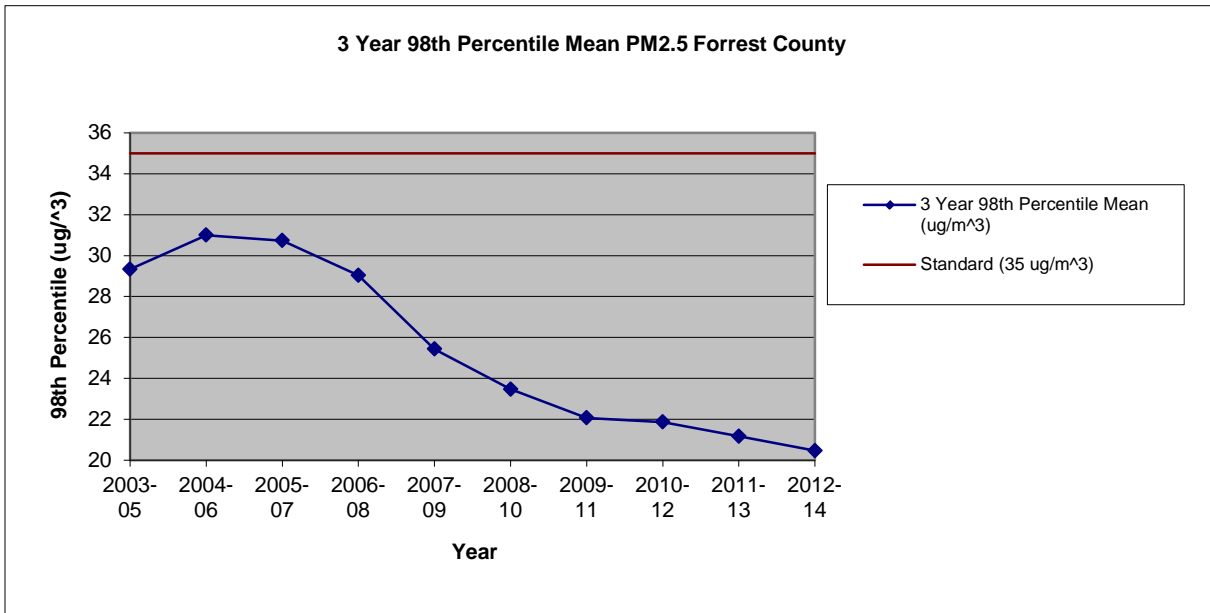


# Forrest County

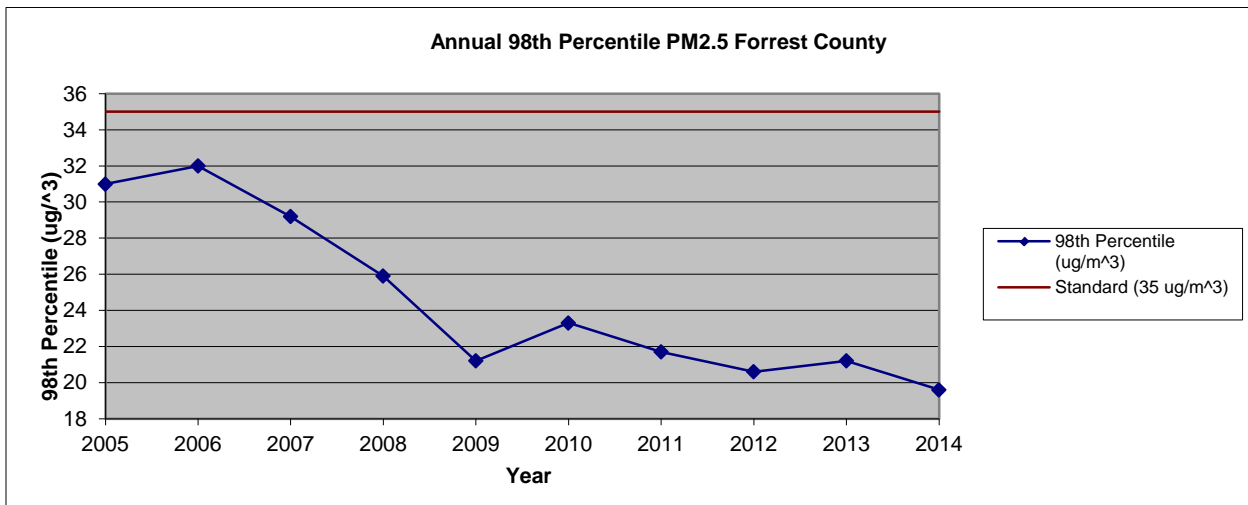
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	<b>29</b>	<b>31</b>	<b>31</b>	<b>29</b>	<b>25</b>	<b>24</b>	<b>22</b>	<b>22</b>	<b>21</b>	<b>20</b>

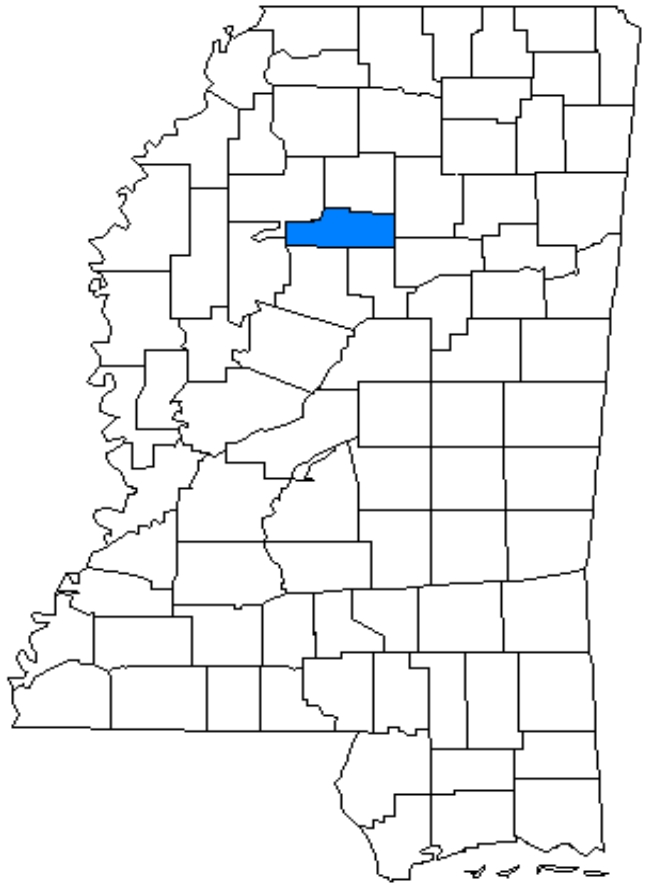


Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	<b>31</b>	<b>32</b>	<b>29</b>	<b>26</b>	<b>21</b>	<b>23</b>	<b>22</b>	<b>21</b>	<b>21</b>	<b>20</b>

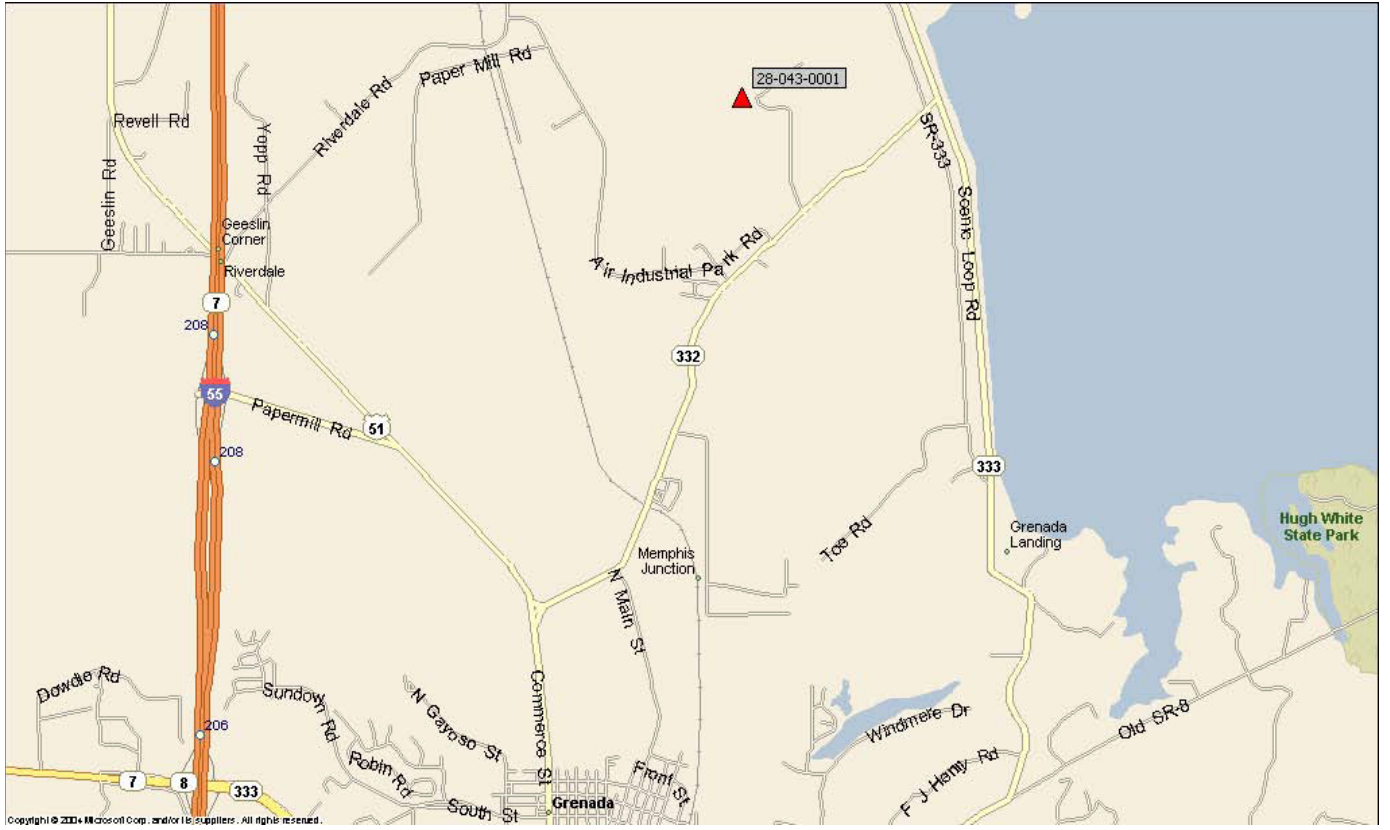




# Grenada County



**Grenada County**  
**Monitoring Site No. 28-043-0001**  
**Location**

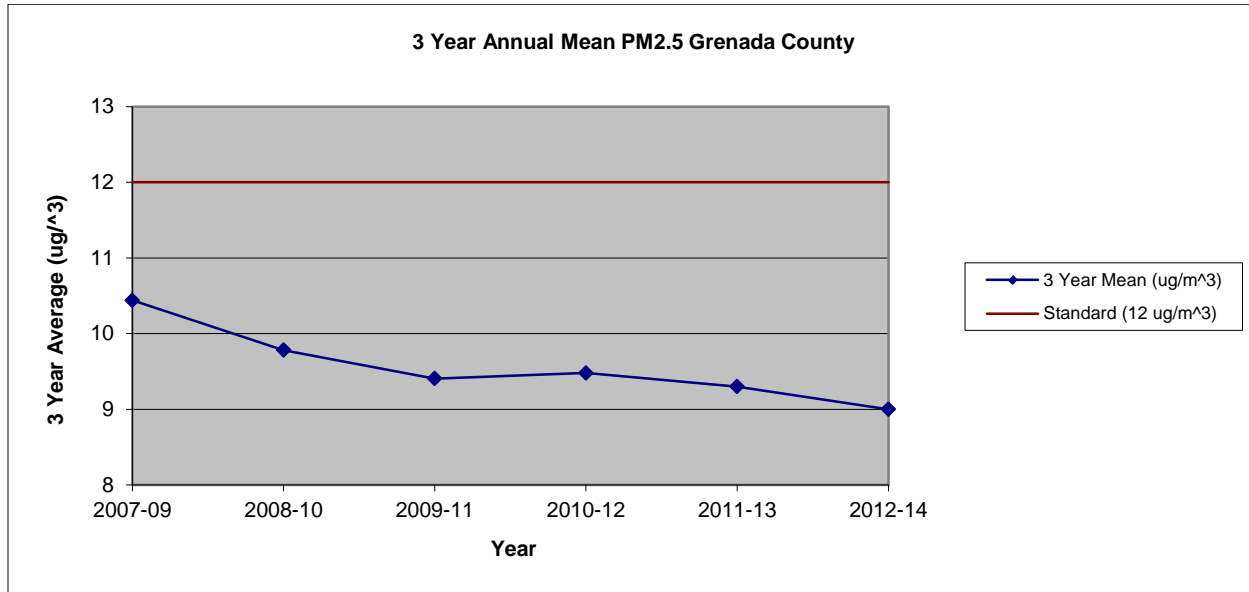


# Grenada County

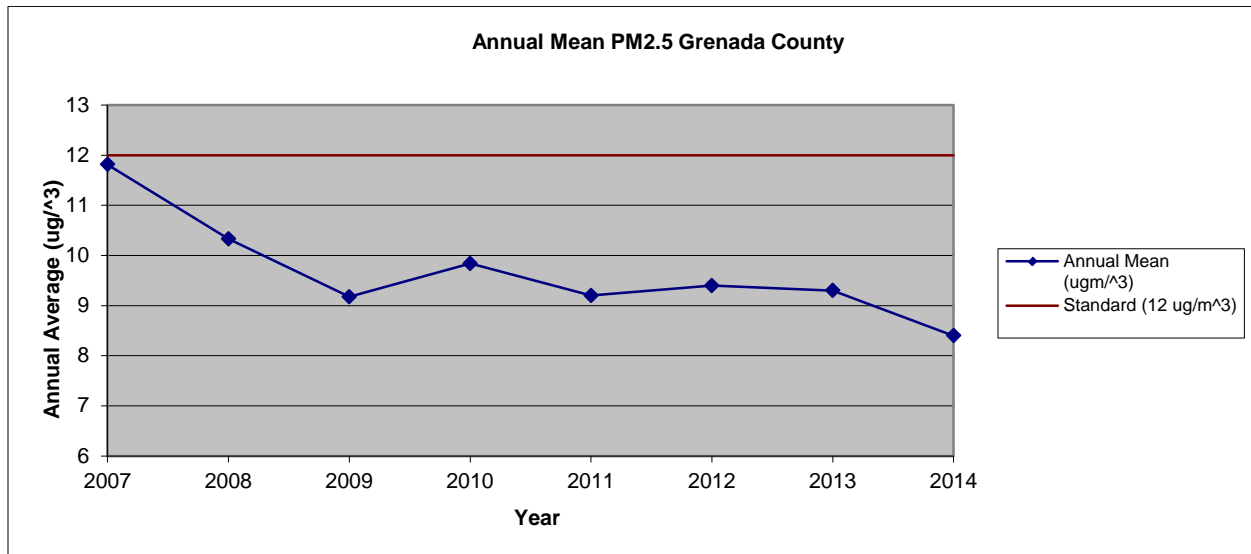
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
3-Year Average of the Annual Means	*	*	*	*	10.4	9.8	9.4	9.5	9.3	9.0



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Mean	*	*	11.8	10.3	9.2	9.8	9.2	9.4	9.3	8.4

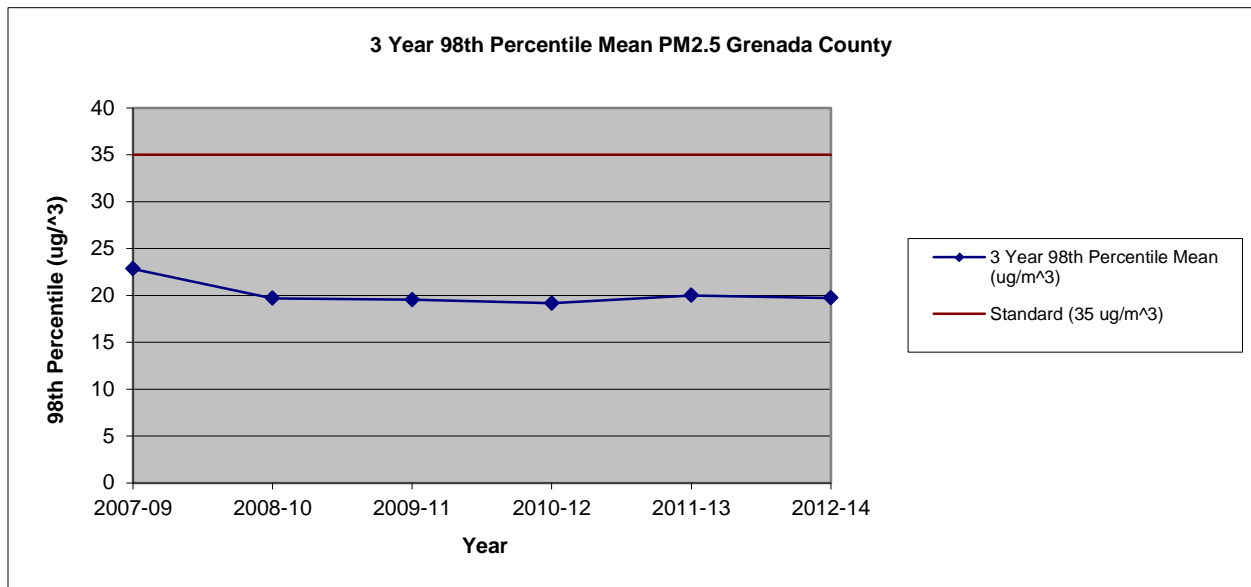


# Grenada County

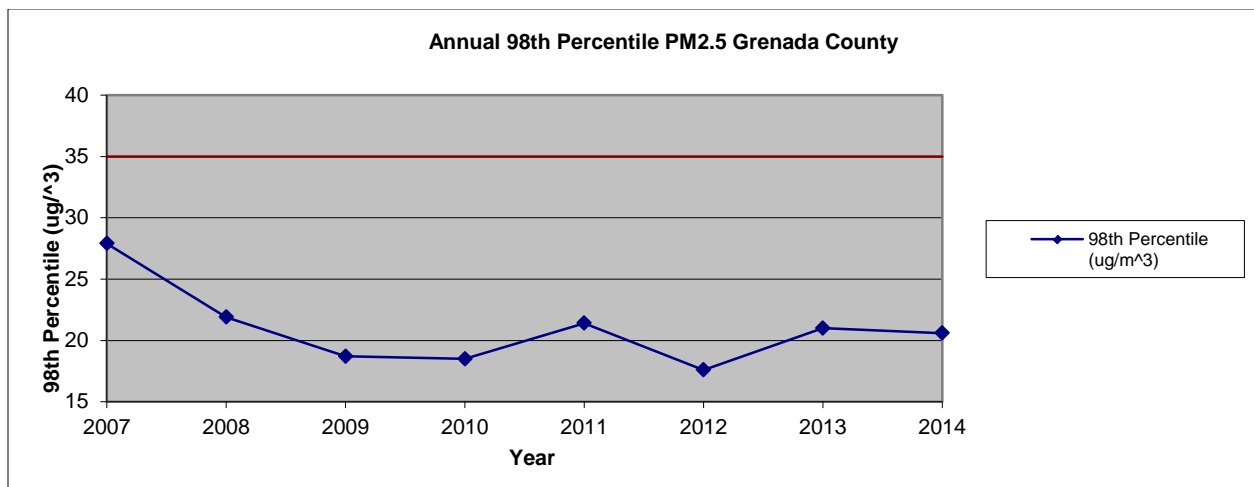
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

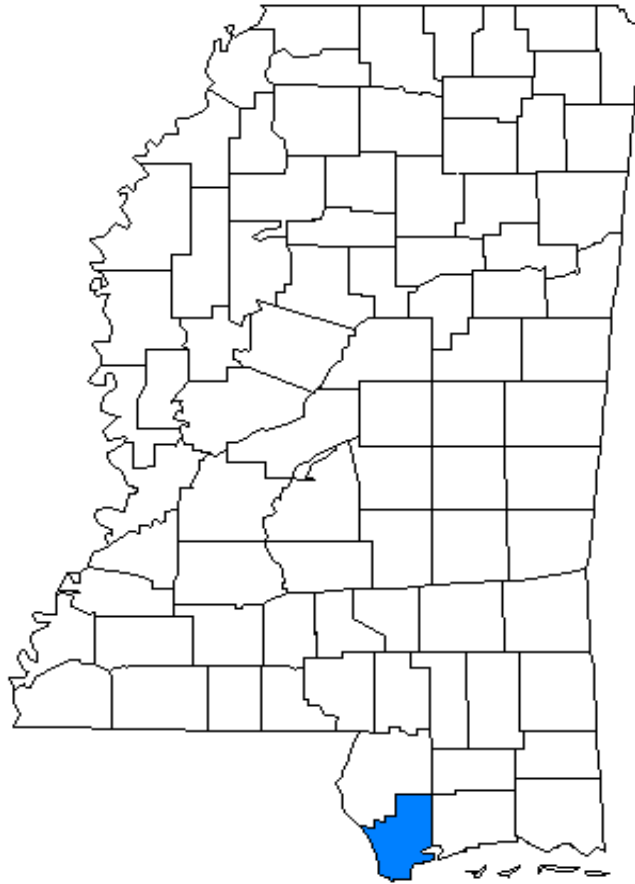
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	*	*	*	*	23	20	20	19	20	20



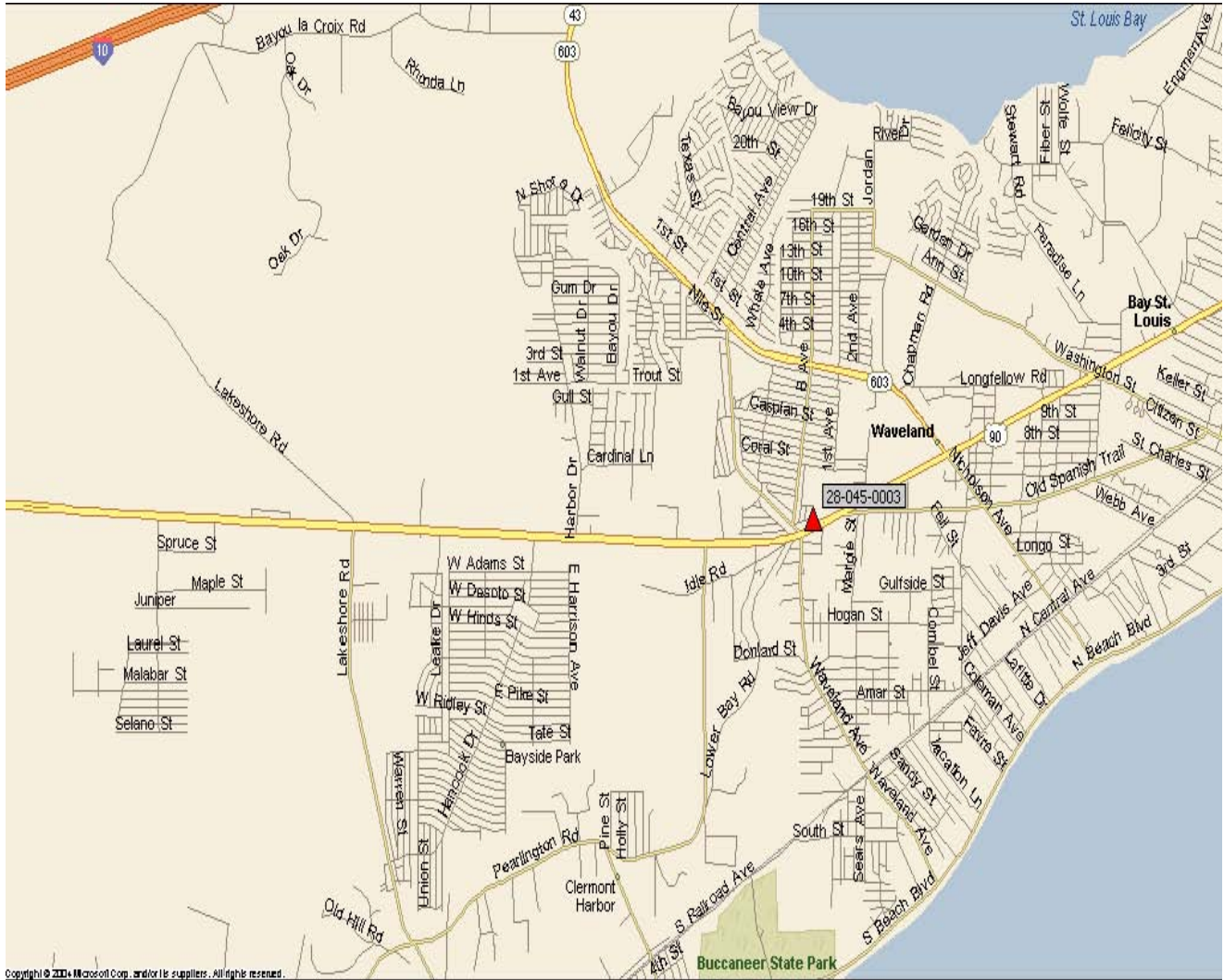
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	*	*	28	22	19	19	21	18	21	21



# Hancock County



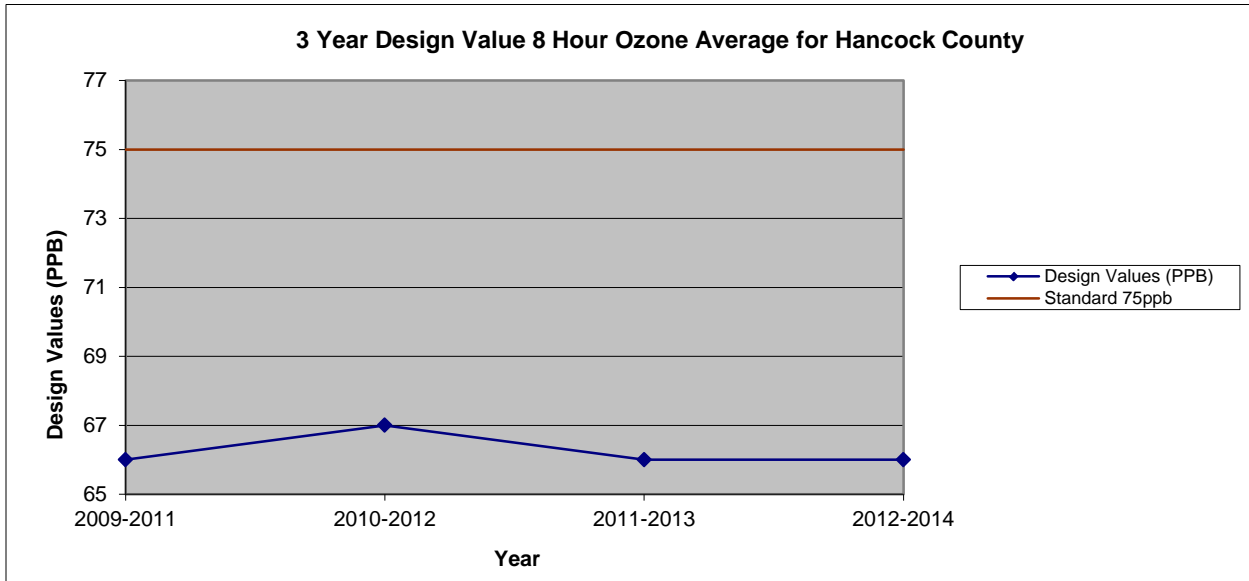
**Hancock County**  
**Monitoring Site No. 28-045-0003**  
**Location**



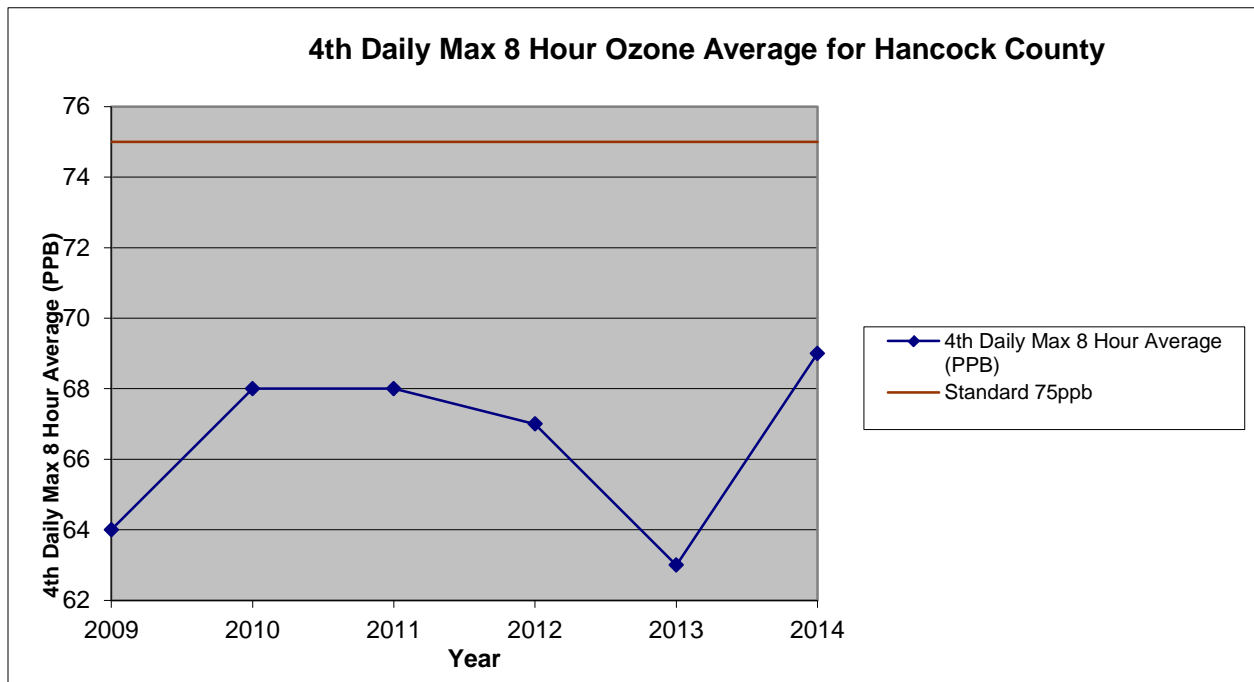
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## Hancock County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	*	*	*	*	*	*	66	67	66	66



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	*	*	*	*	64	68	68	67	63	69

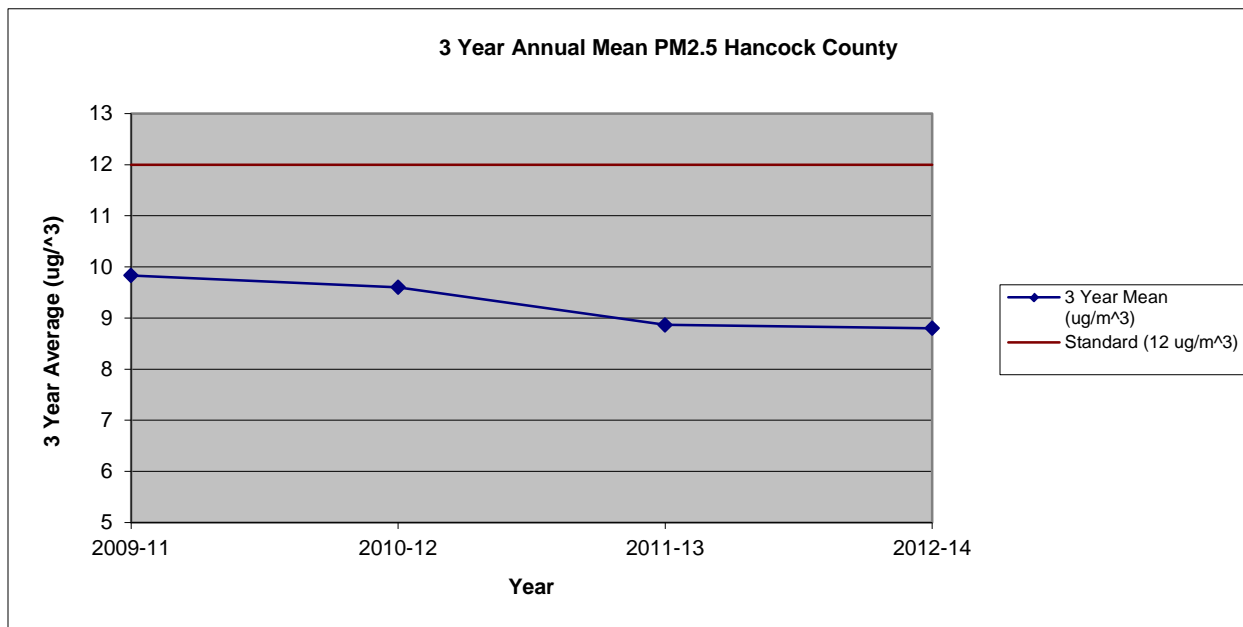


# Hancock County

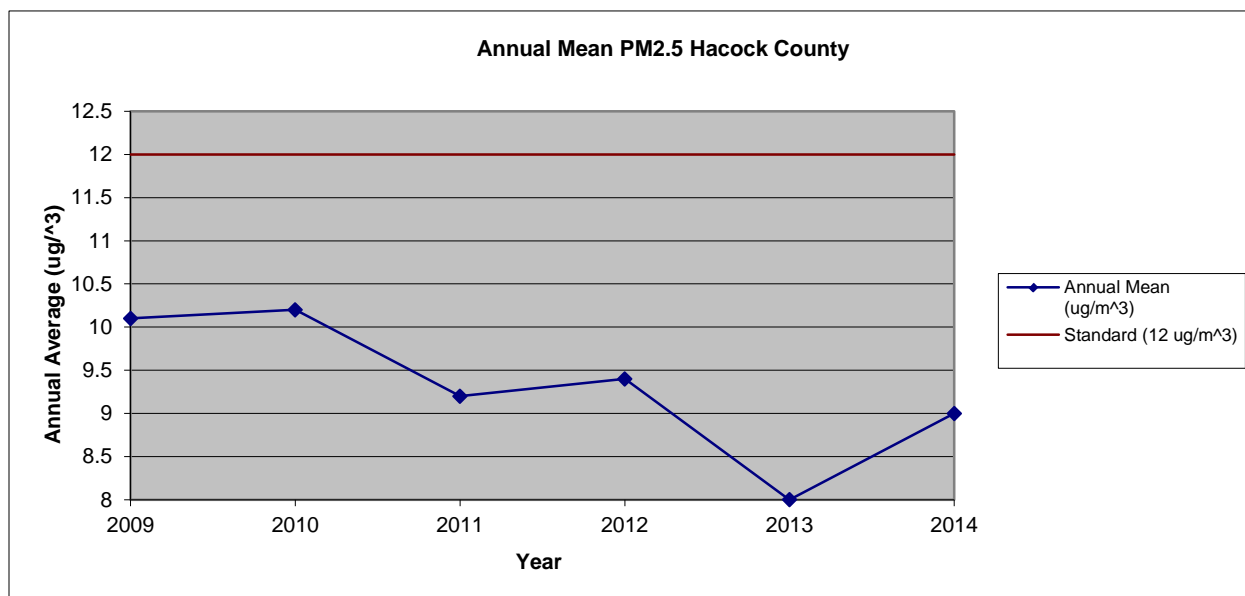
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual Means</b>	*	*	*	*	*	*	9.8	9.6	8.9	8.8



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual Mean</b>	*	*	*	*	10.1	10.2	9.2	9.4	8.0	9.0



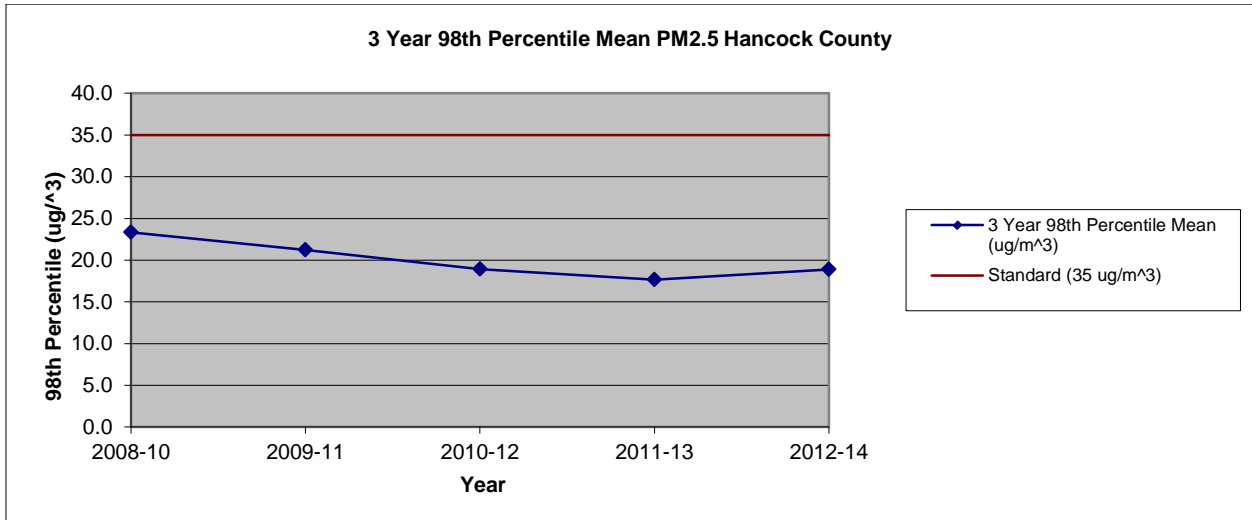


# Hancock County

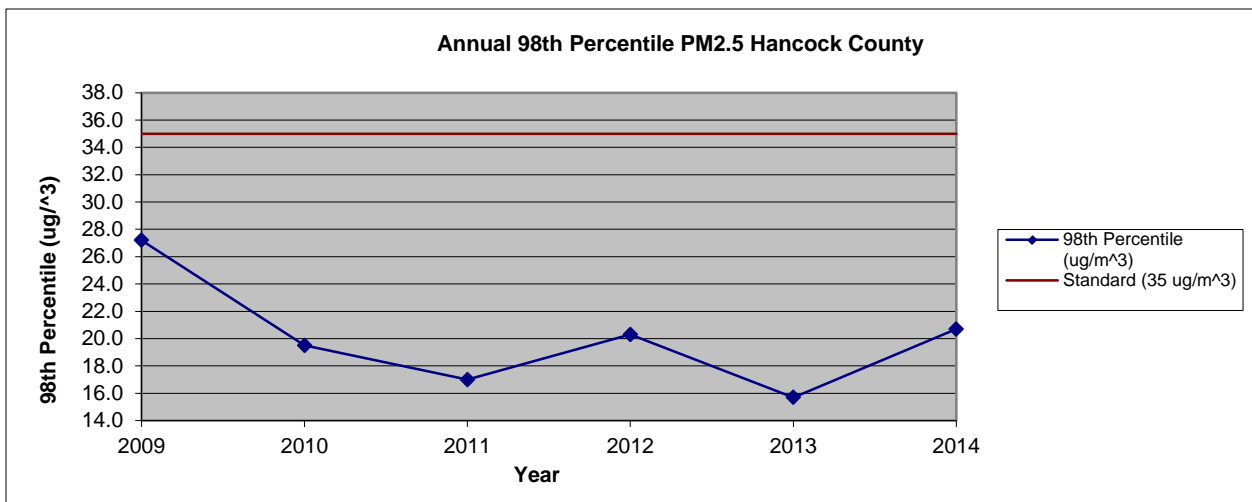
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

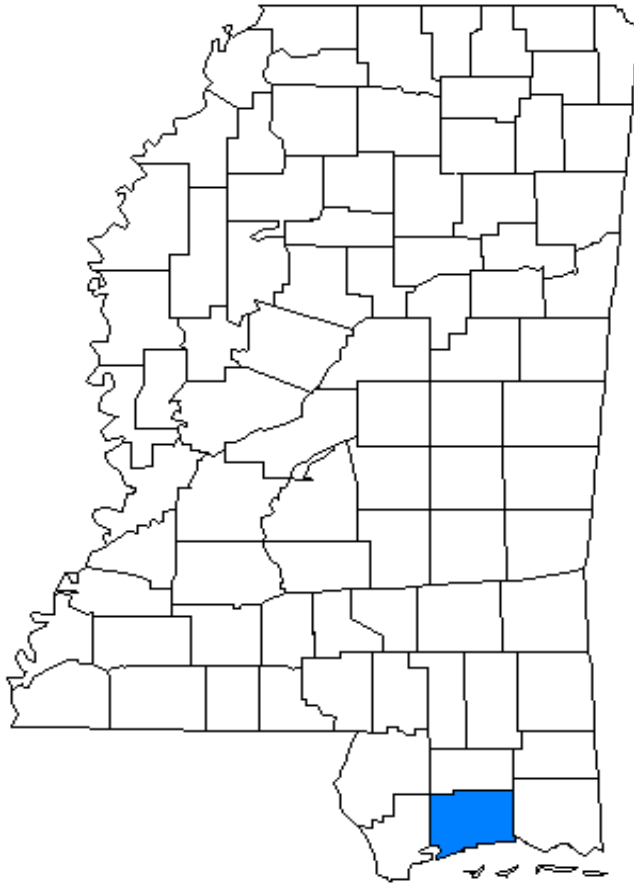
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	*	*	*	*	*	23	21	19	18	19



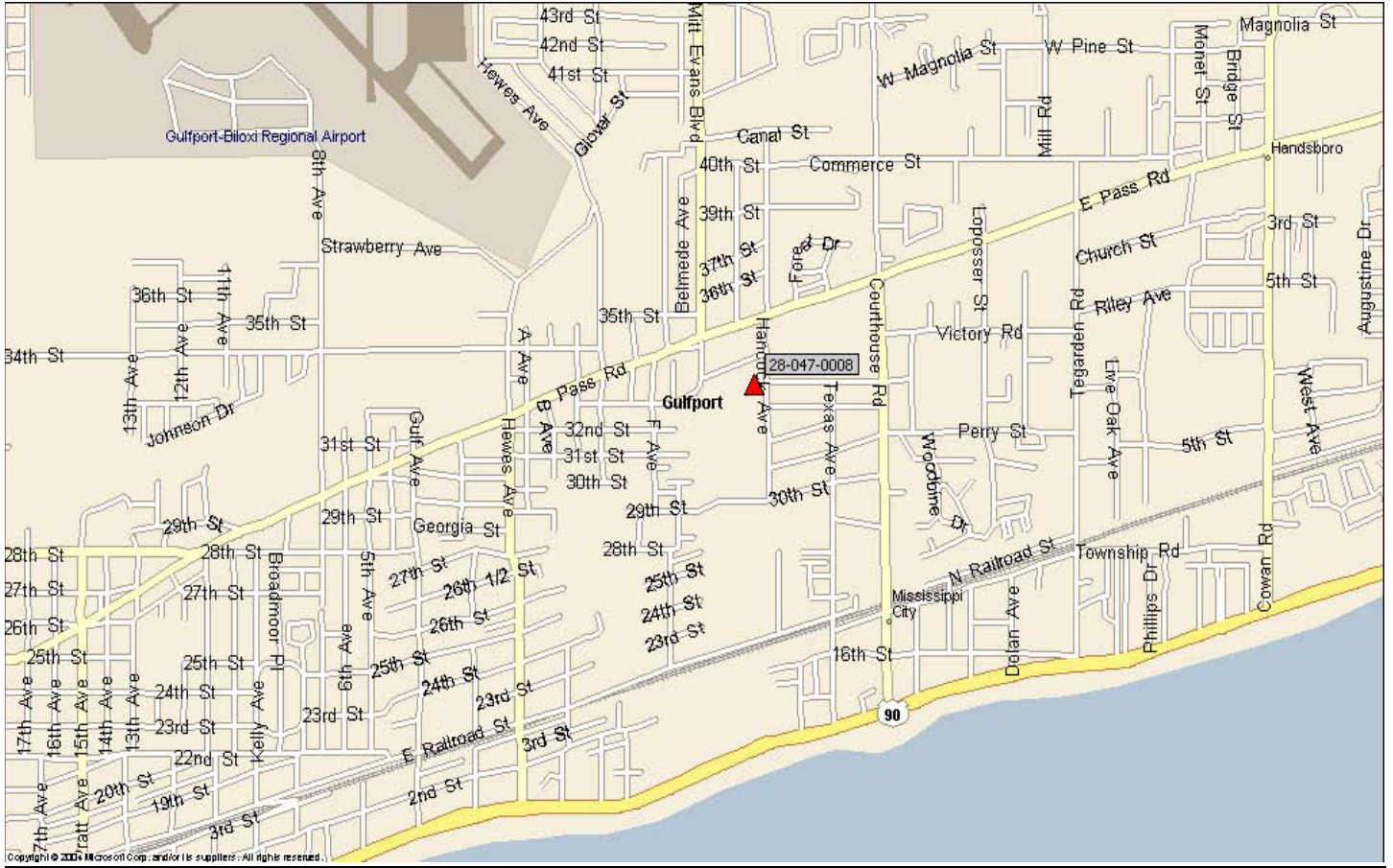
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	*	*	*	*	27	20	17	20	16	21



# Harrison County

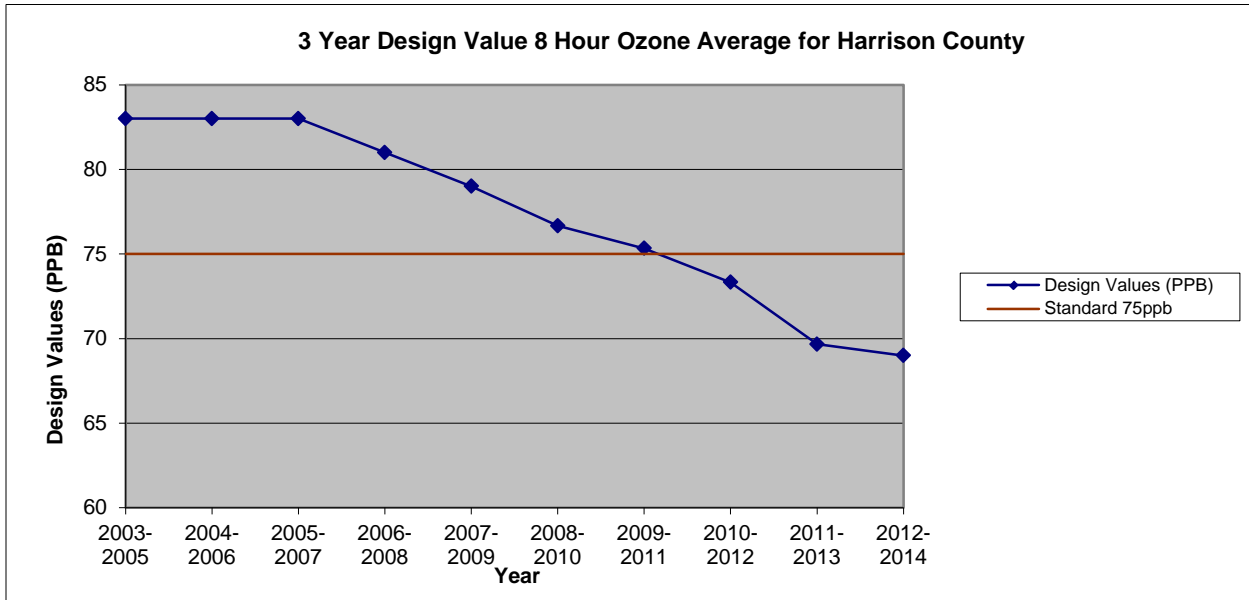


**Harrison County**  
**Monitoring Site No. 28-047-0008**  
**Location**

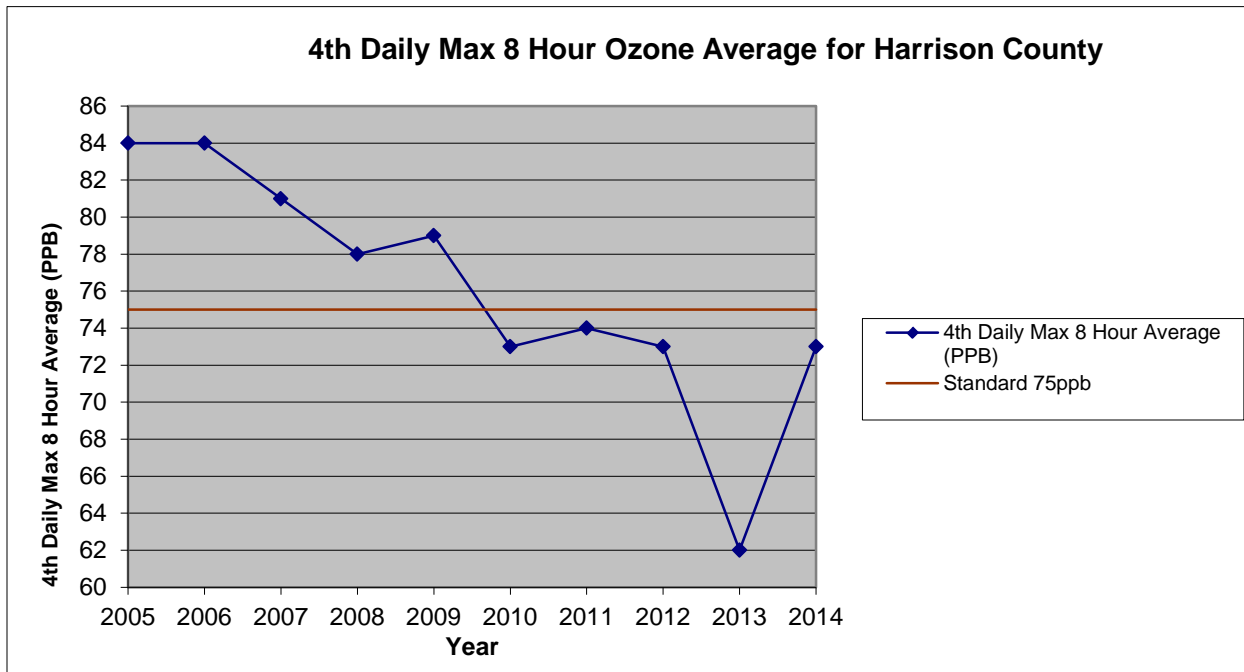


## Harrison County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	<b>83</b>	<b>83</b>	<b>83</b>	<b>81</b>	<b>79</b>	<b>76</b>	<b>75</b>	<b>73</b>	<b>69</b>	<b>69</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	<b>84</b>	<b>84</b>	<b>81</b>	<b>78</b>	<b>79</b>	<b>73</b>	<b>74</b>	<b>73</b>	<b>62</b>	<b>73</b>

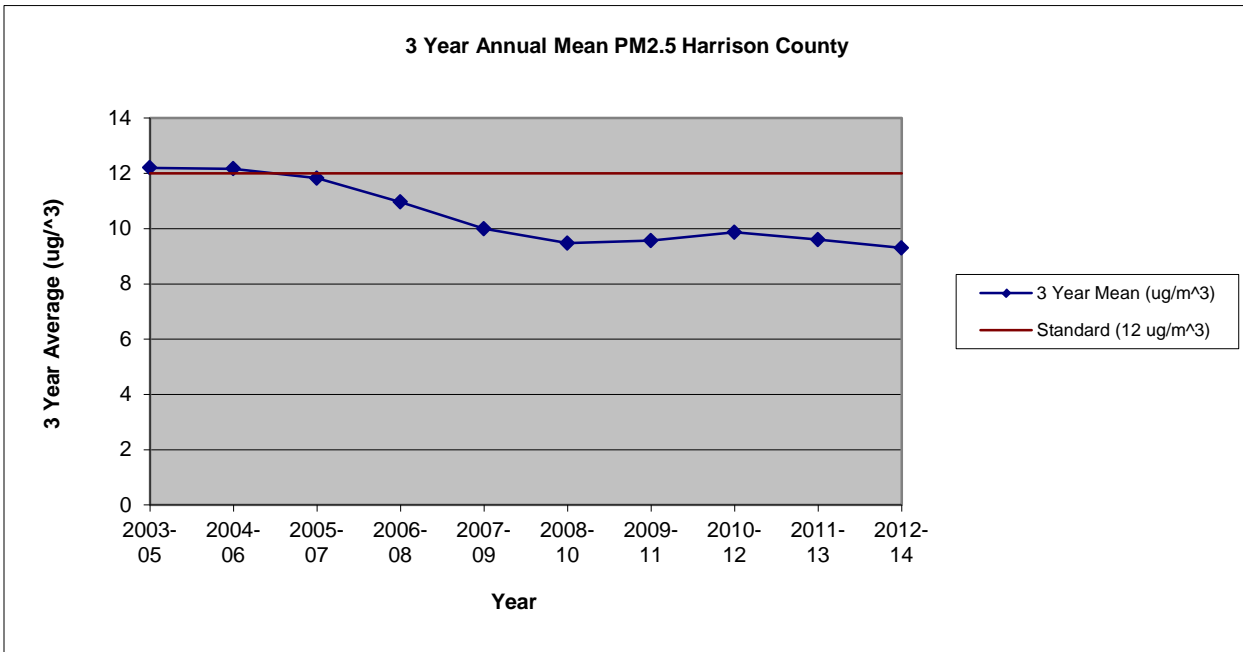


# Harrison County

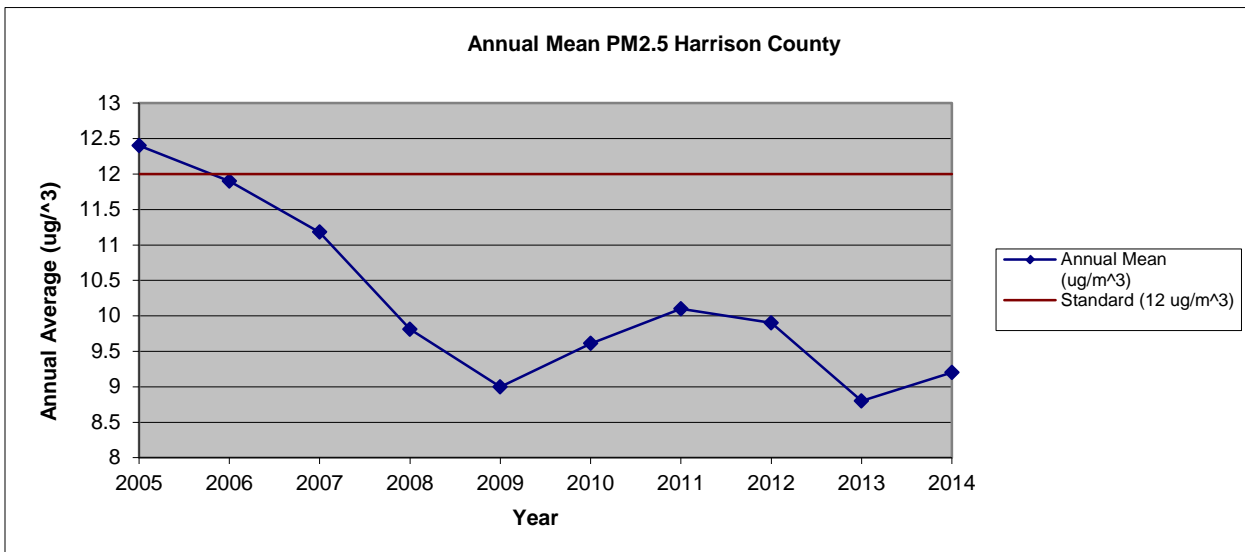
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
3-Year Average of the Annual Means	12.2	12.2	11.8	11.0	10.0	9.5	9.6	9.9	9.6	9.3



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Mean	12.4	11.9	11.2	9.8	9.0	9.6	10.1	9.9	8.8	9.2

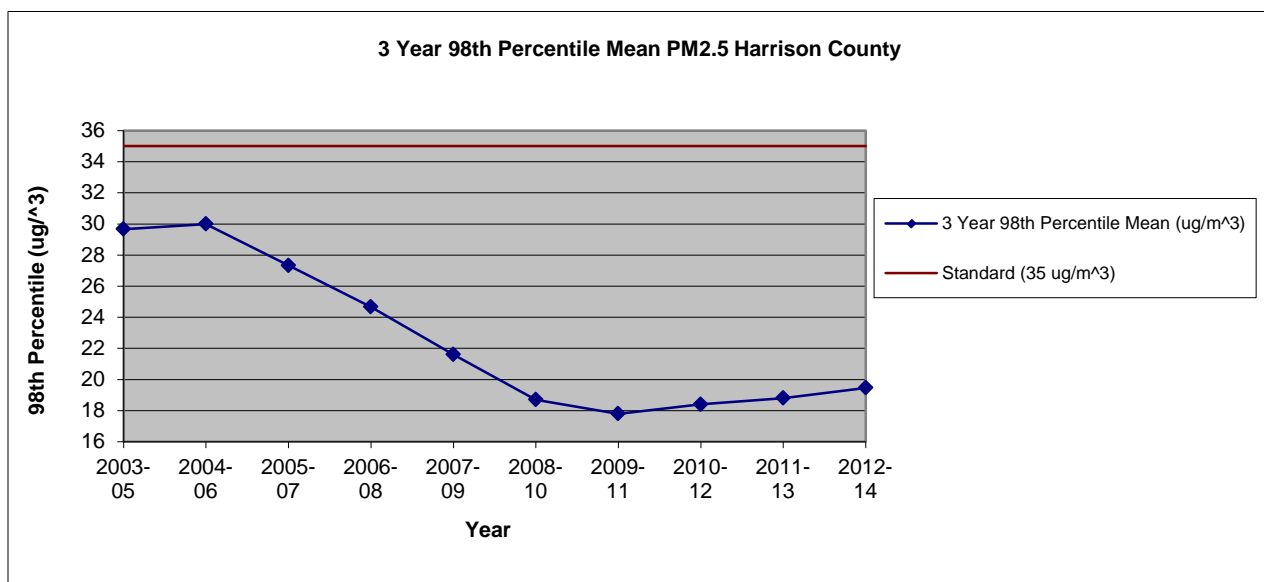


# Harrison County

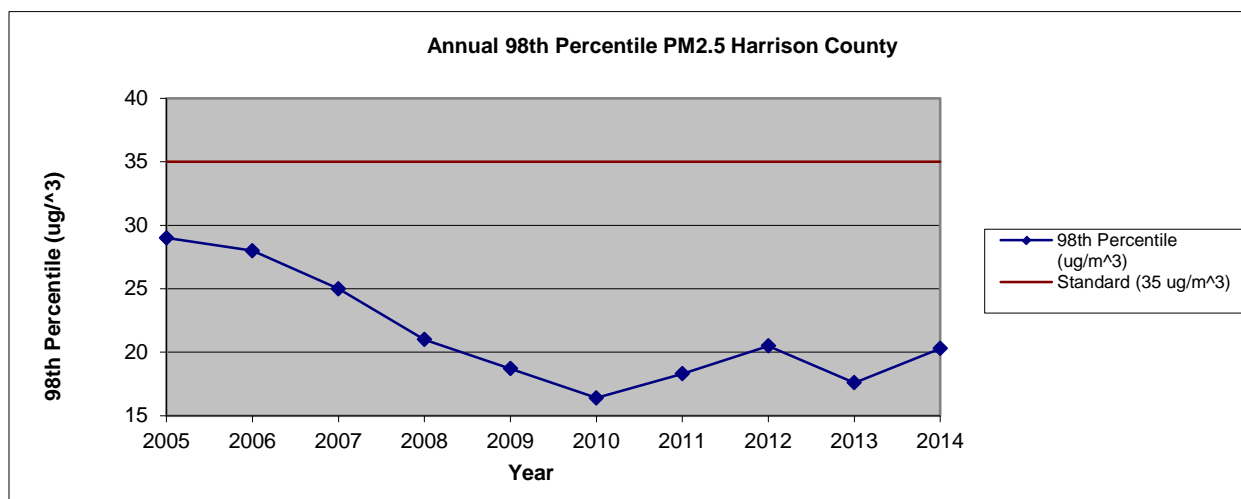
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

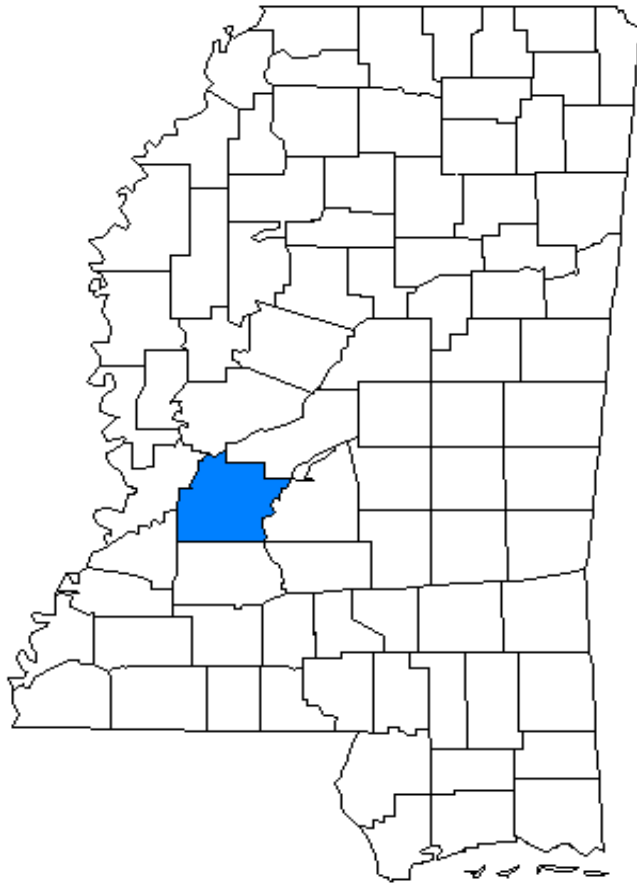
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	<b>30</b>	<b>30</b>	<b>27</b>	<b>25</b>	<b>22</b>	<b>19</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>19</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	<b>29</b>	<b>28</b>	<b>25</b>	<b>21</b>	<b>19</b>	<b>16</b>	<b>18</b>	<b>21</b>	<b>18</b>	<b>20</b>

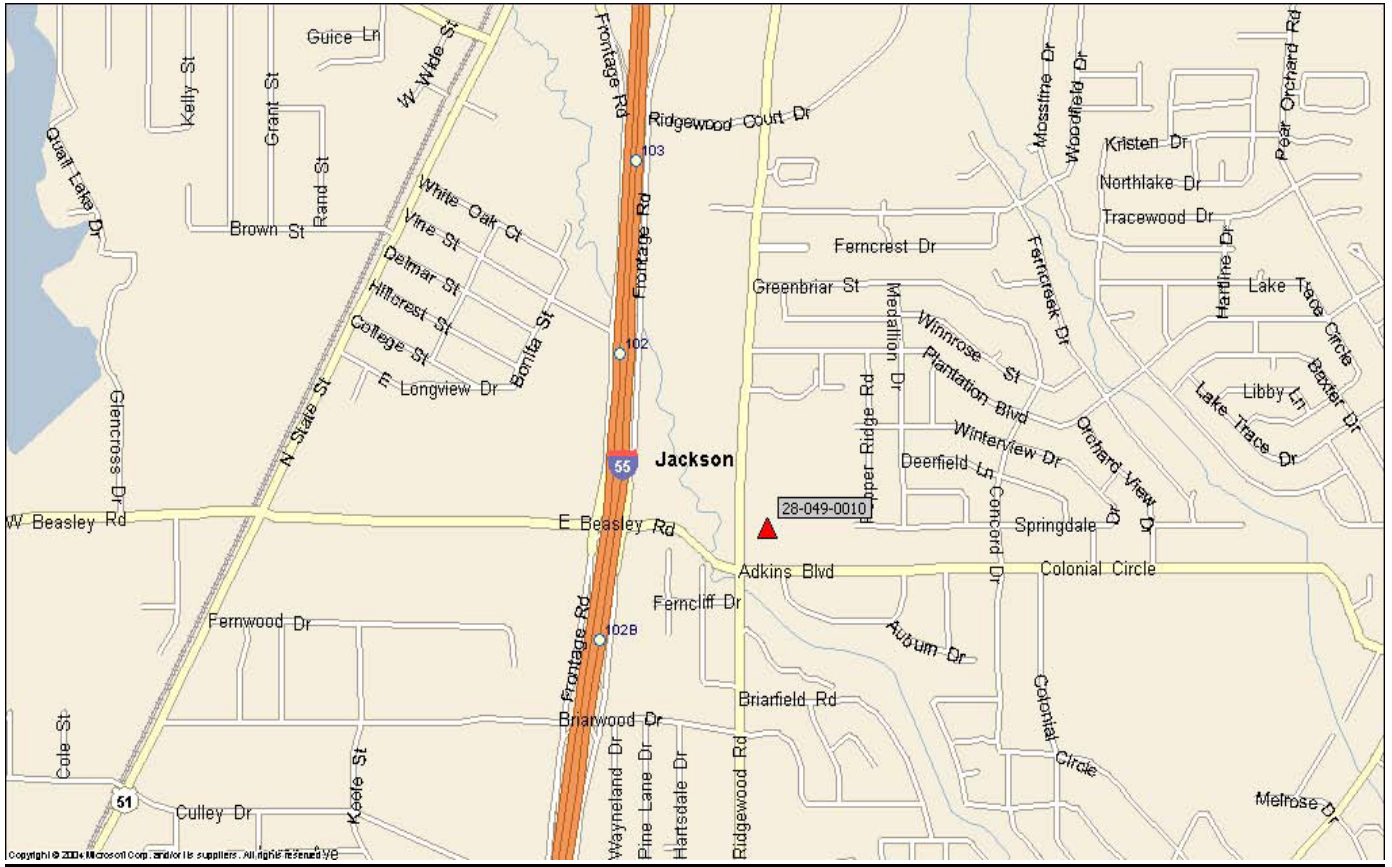


# Hinds County



# Hinds County

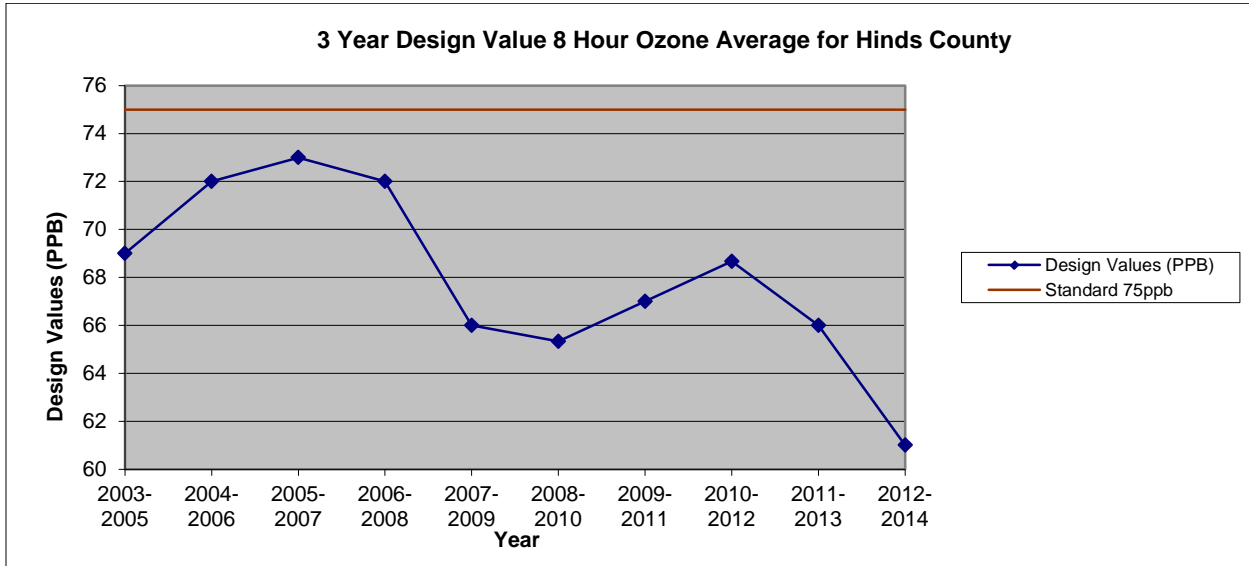
## Monitoring Site No. 28-049-0010



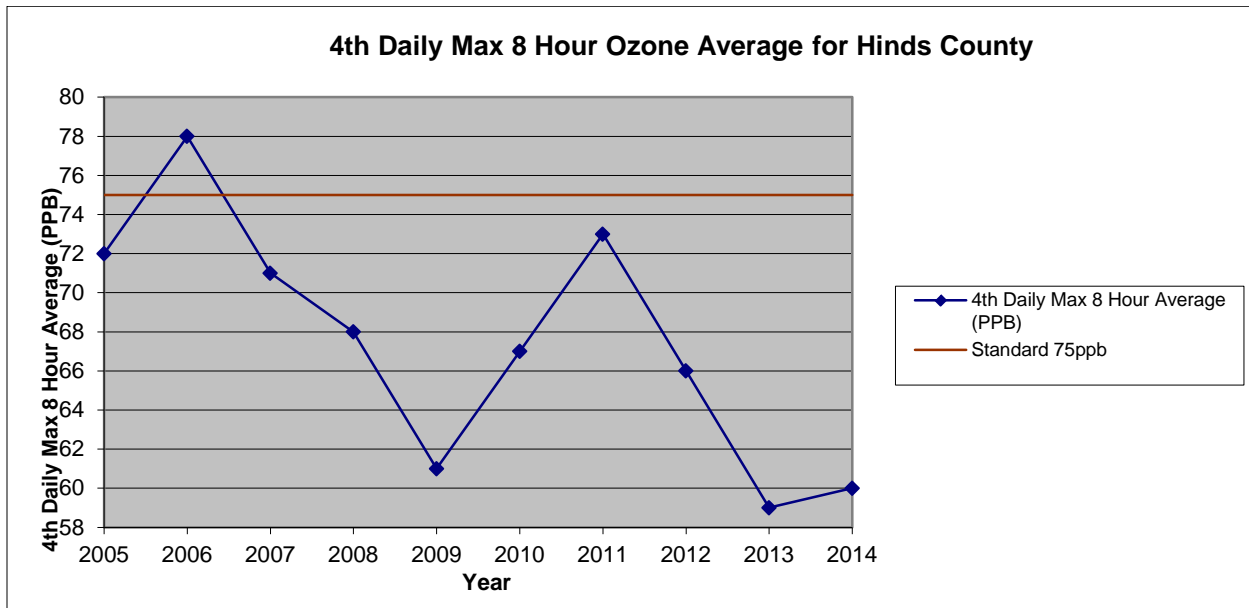


## Hinds County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	<b>69</b>	<b>72</b>	<b>73</b>	<b>72</b>	<b>66</b>	<b>65</b>	<b>67</b>	<b>68</b>	<b>66</b>	<b>61</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	<b>72</b>	<b>78</b>	<b>71</b>	<b>68</b>	<b>61</b>	<b>67</b>	<b>73</b>	<b>66</b>	<b>59</b>	<b>60</b>

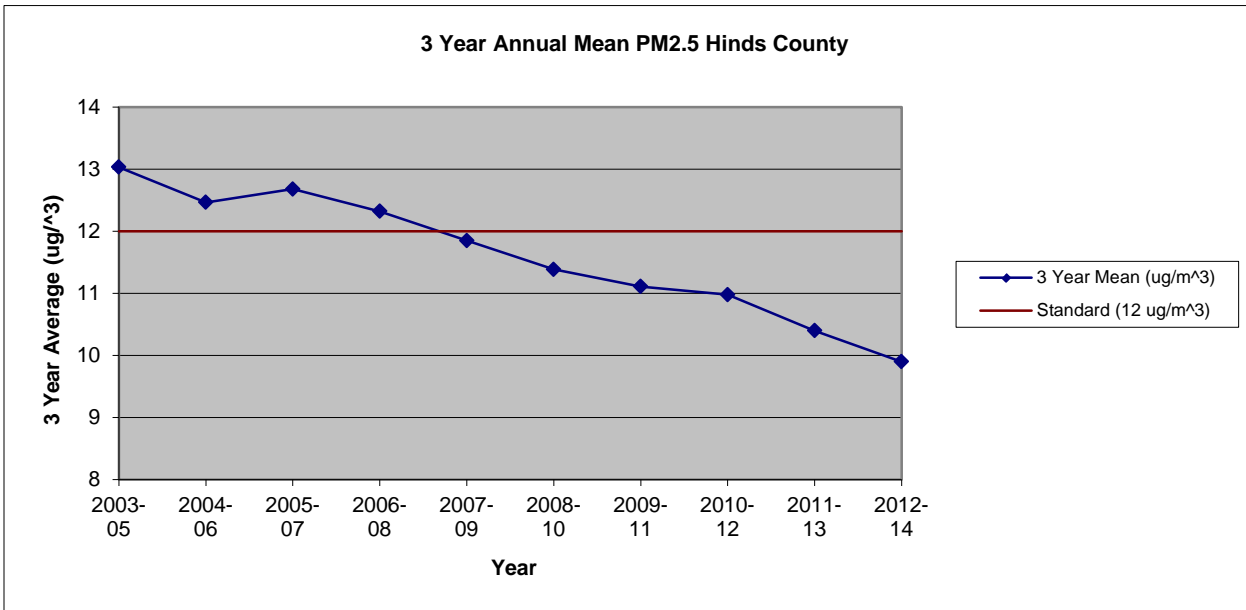


# Hinds County

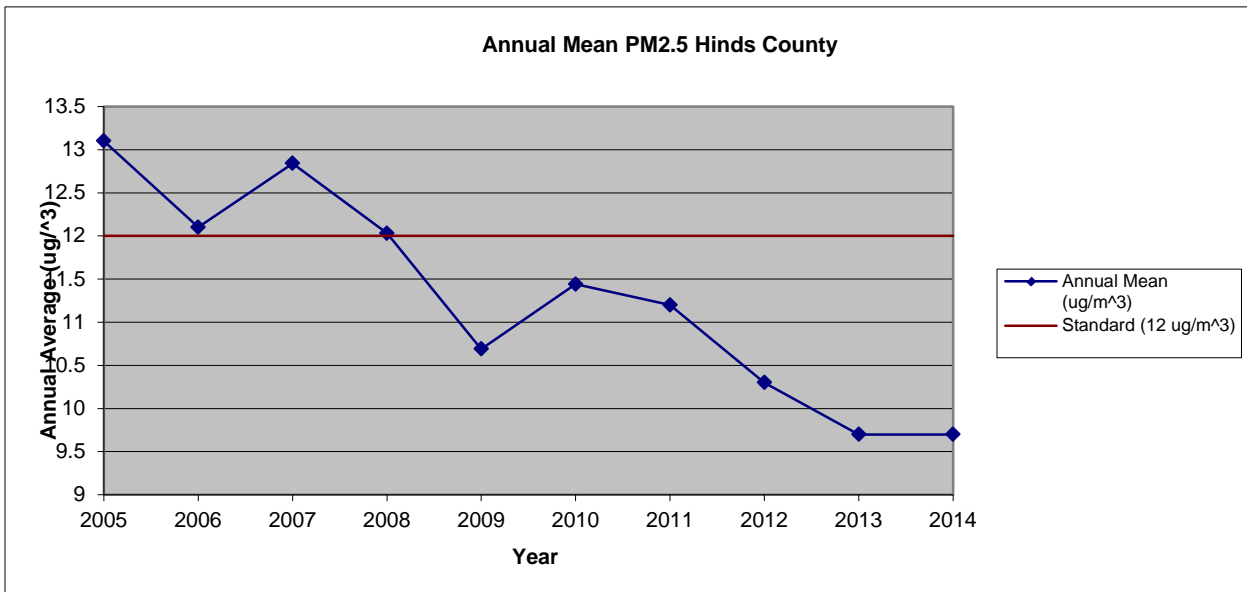
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual Means</b>	<b>13.0</b>	<b>12.5</b>	<b>12.7</b>	<b>12.3</b>	<b>11.9</b>	<b>11.4</b>	<b>11.1</b>	<b>11.0</b>	<b>10.4</b>	<b>9.9</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual Mean</b>	<b>13.1</b>	<b>12.1</b>	<b>12.8</b>	<b>12.0</b>	<b>10.7</b>	<b>11.4</b>	<b>11.2</b>	<b>10.3</b>	<b>9.7</b>	<b>9.7</b>

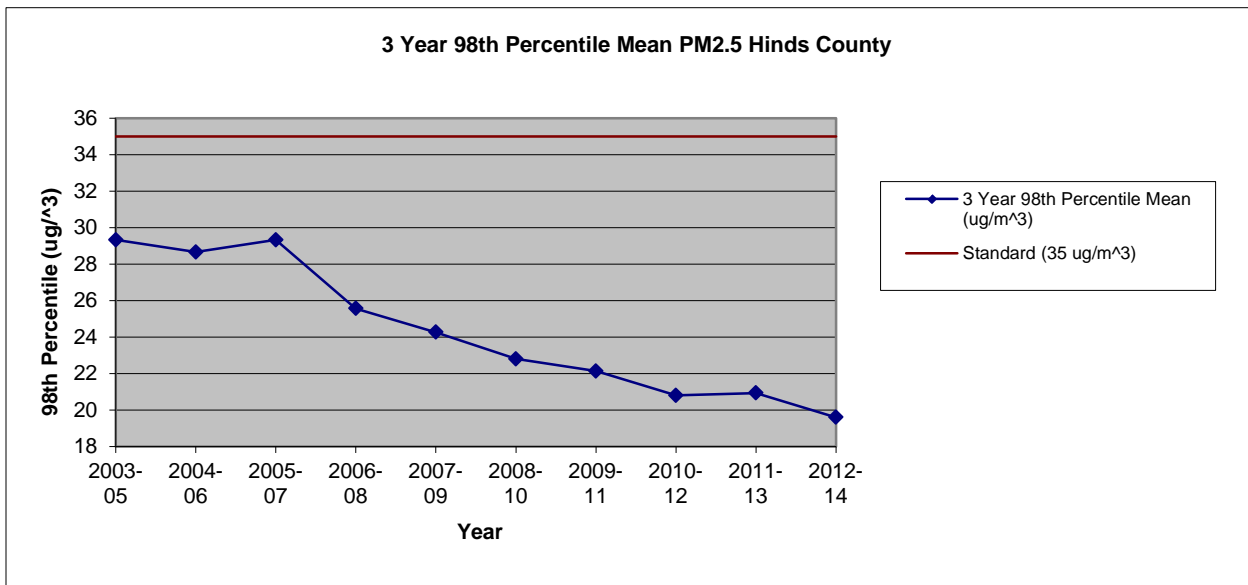


# Hinds County

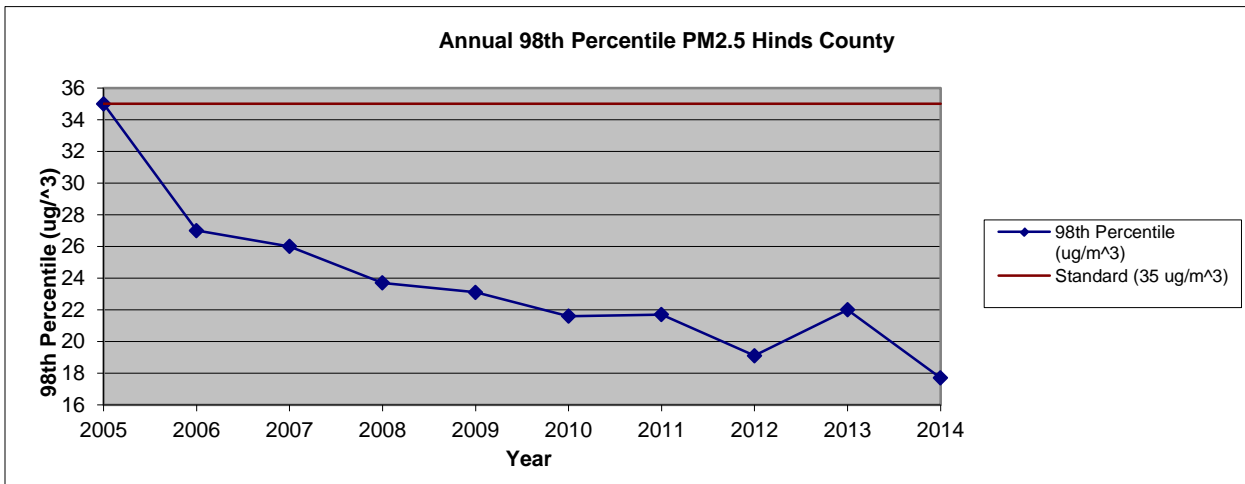
## PM<sub>2.5</sub>

### 24-Hour Average (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	<b>29</b>	<b>29</b>	<b>29</b>	<b>26</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>21</b>	<b>21</b>	<b>20</b>

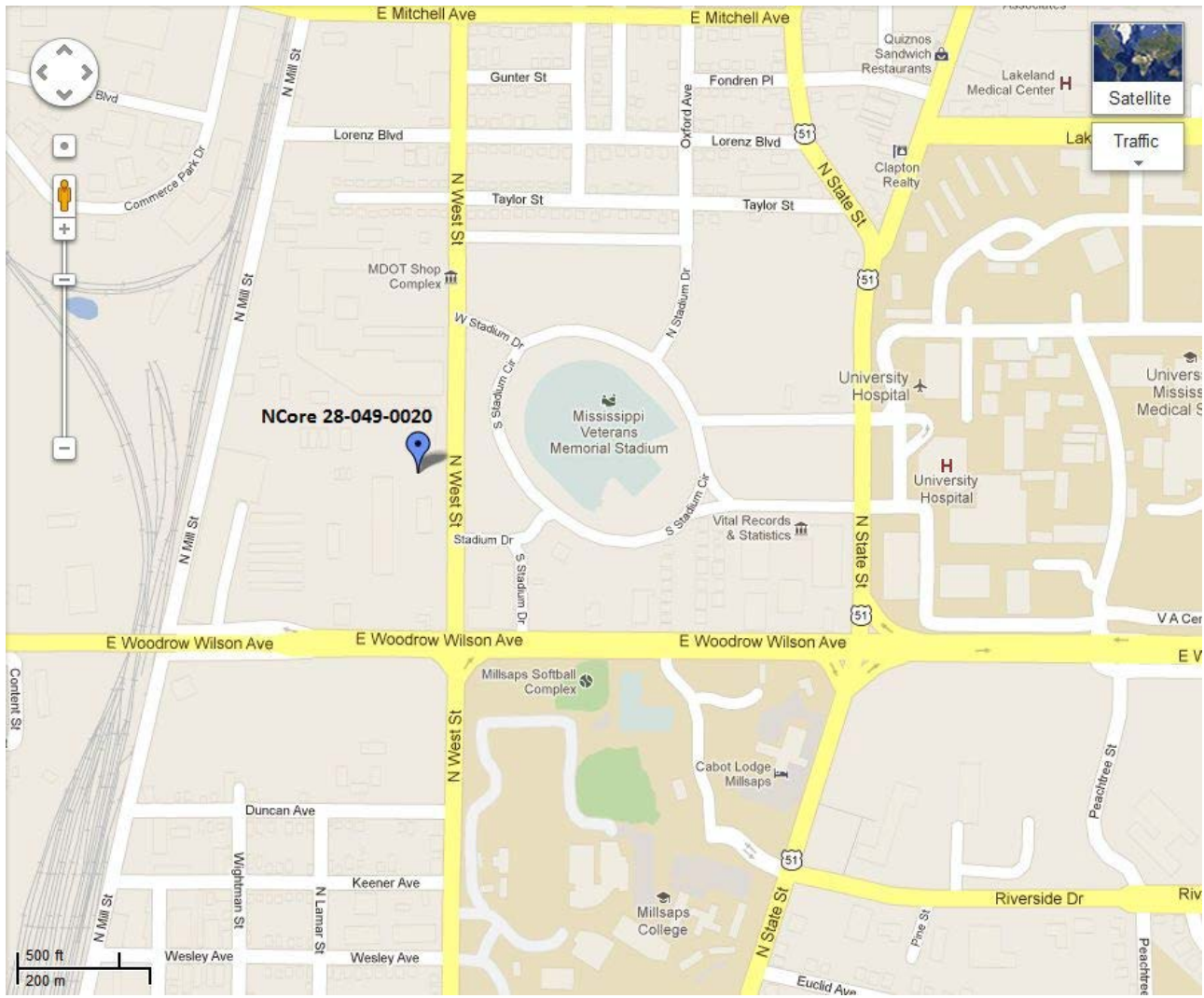


Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	<b>35</b>	<b>27</b>	<b>26</b>	<b>24</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>19</b>	<b>22</b>	<b>17.7</b>



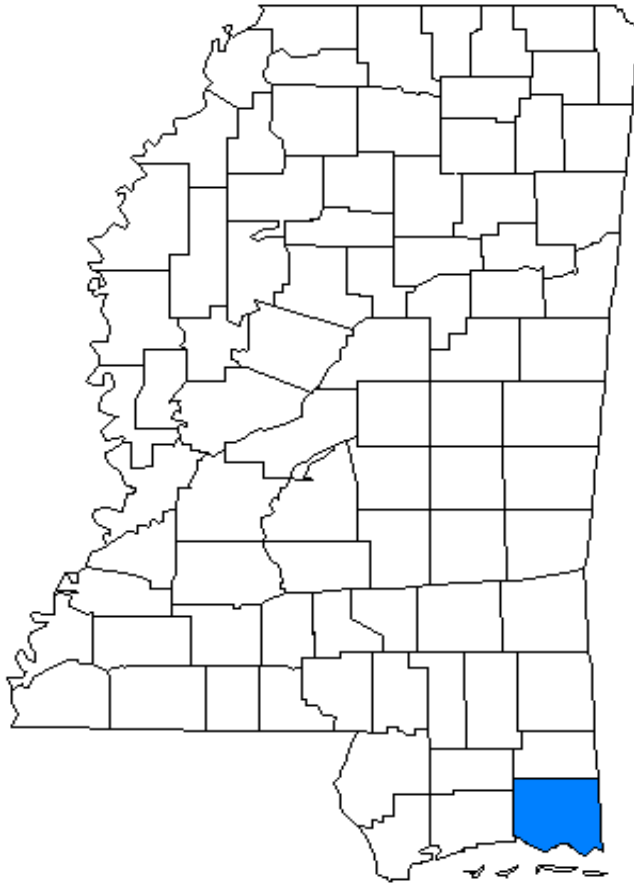
# Hinds County (N-CORE)

## Monitoring Site No. 28-049-0020

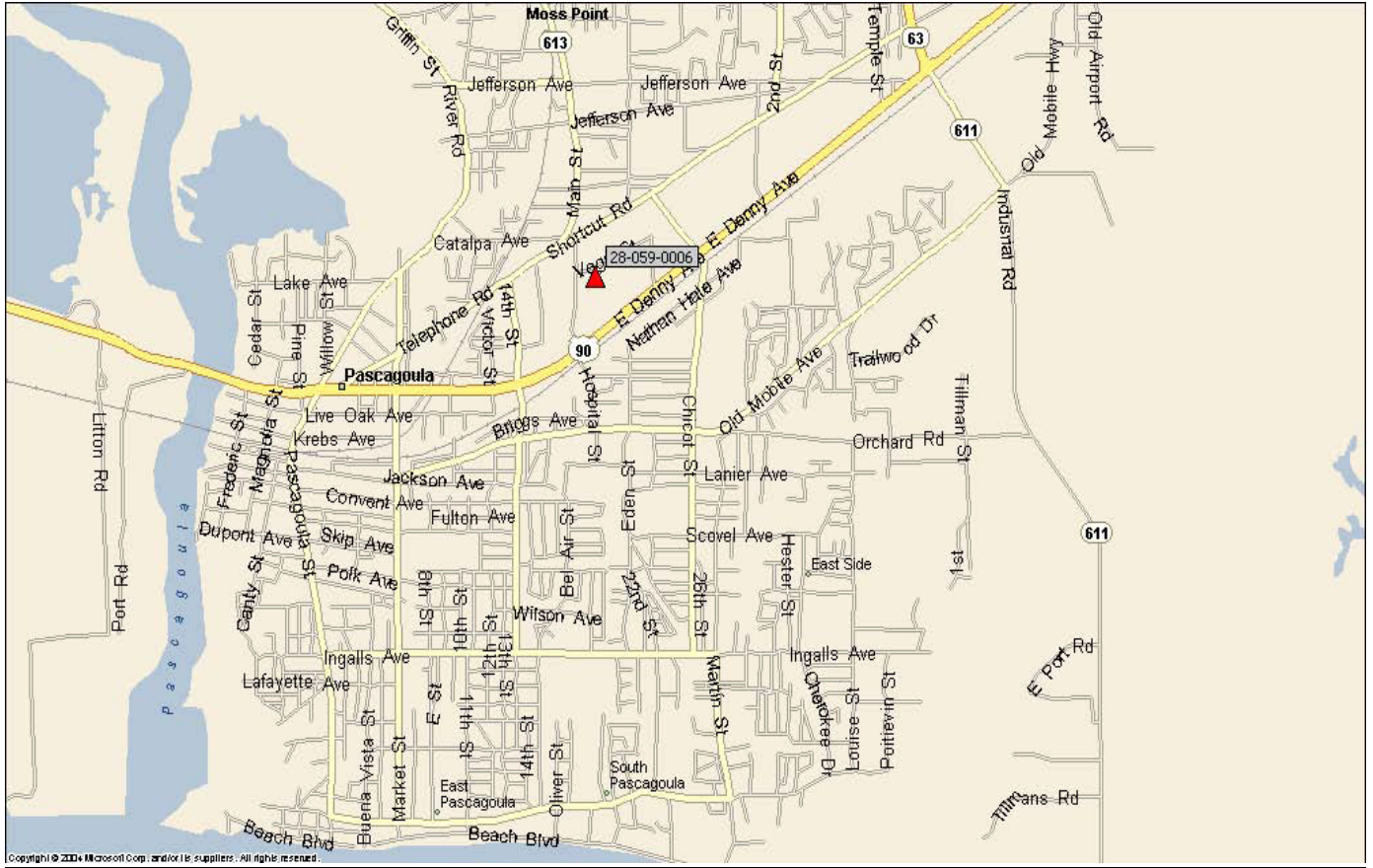


MDEQ restarted operation of its multi-pollutant site (N-CORE) in July 2013. All data from the site is considered incomplete, therefore, it is not shown in the 10-year analysis.

# Jackson County

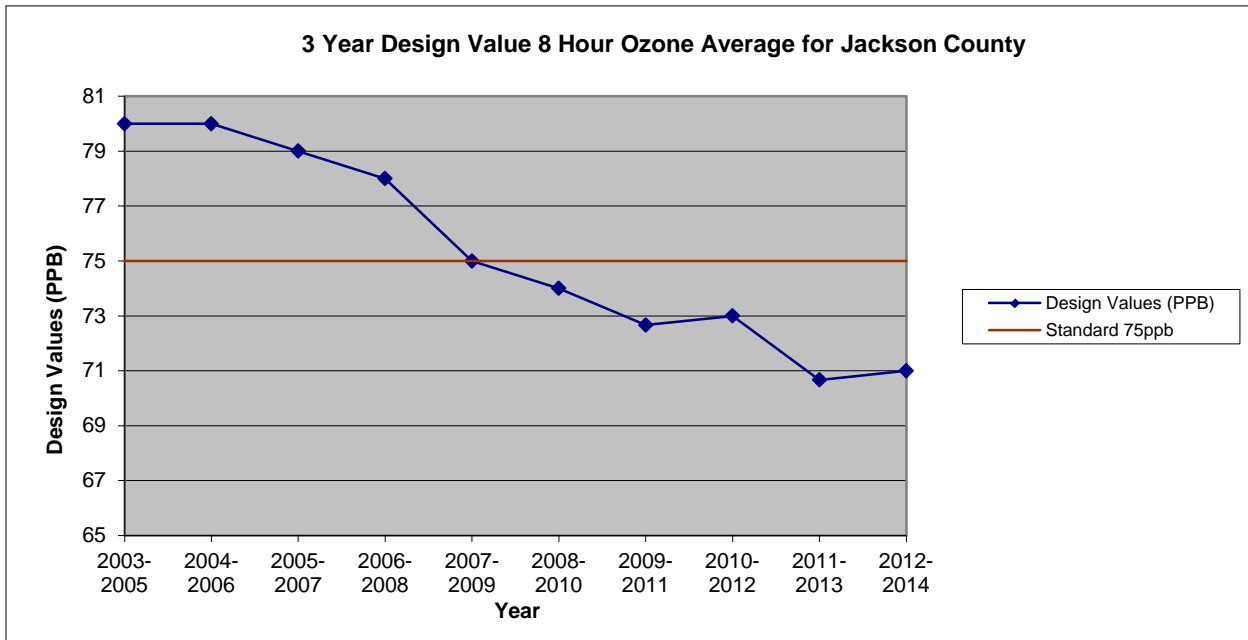


**Jackson County**  
**Monitoring Site No. 28-059-0006**  
**Location**

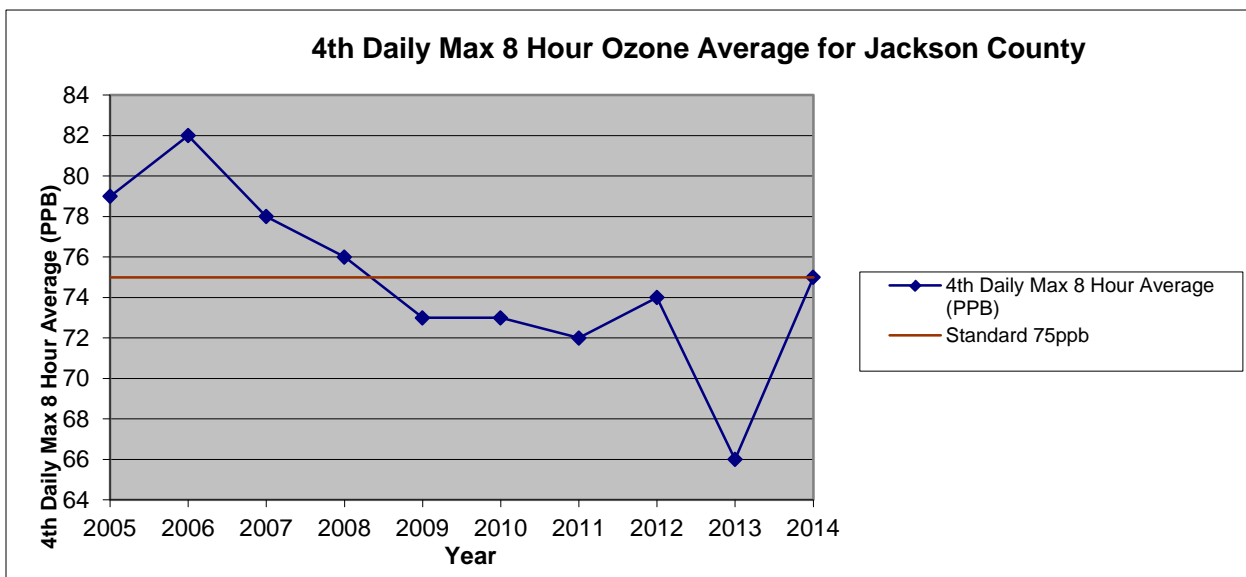


## Jackson County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	<b>80</b>	<b>80</b>	<b>79</b>	<b>78</b>	<b>75</b>	<b>74</b>	<b>72</b>	<b>73</b>	<b>70</b>	<b>71</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	<b>79</b>	<b>82</b>	<b>78</b>	<b>76</b>	<b>73</b>	<b>73</b>	<b>72</b>	<b>74</b>	<b>66</b>	<b>75</b>

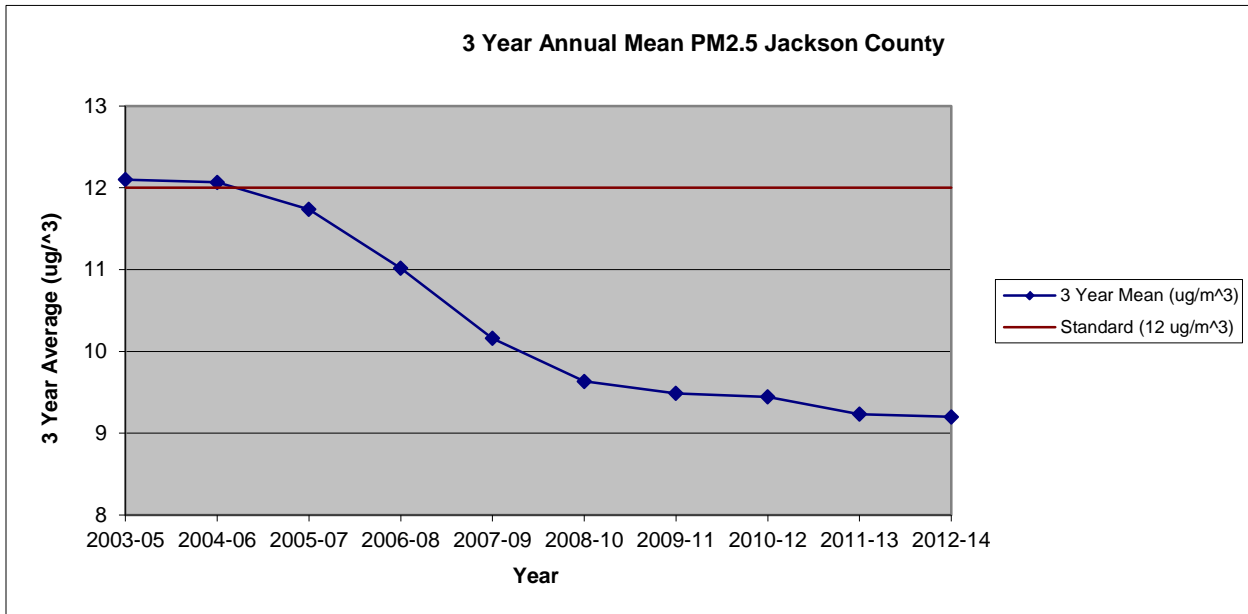


# Jackson County

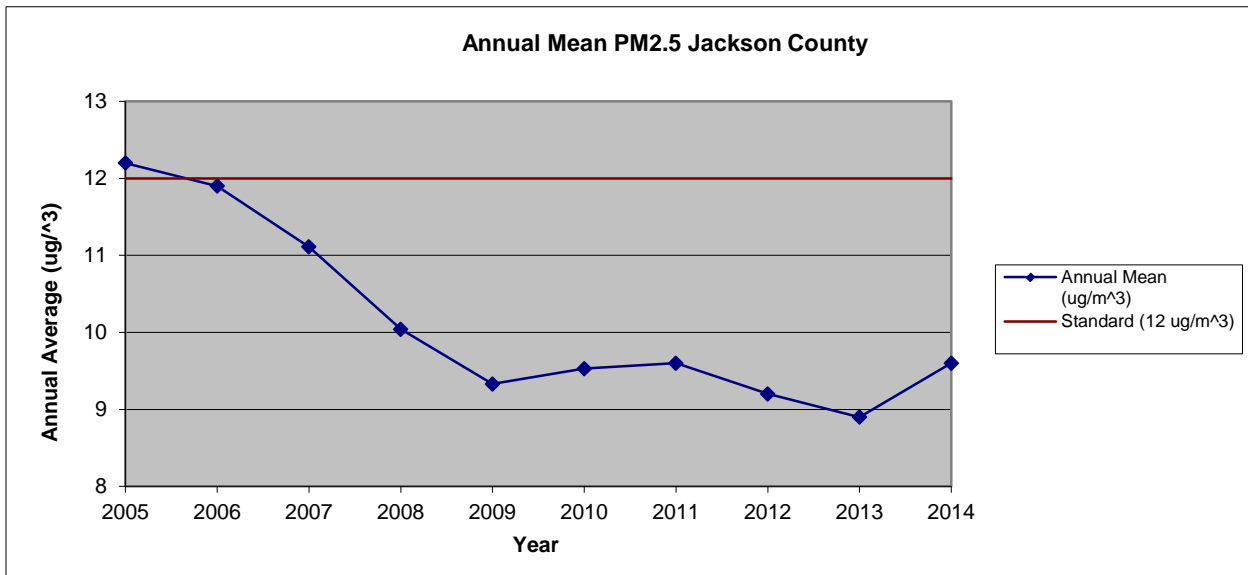
## PM<sub>2.5</sub>

### Annual Mean (µg/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
3-Year Average of the Annual Means	12.1	12.1	11.7	11.0	10.2	9.6	9.5	9.4	9.2	9.2



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Mean	12.2	11.9	11.1	10.0	9.3	9.5	9.6	9.2	8.9	9.6



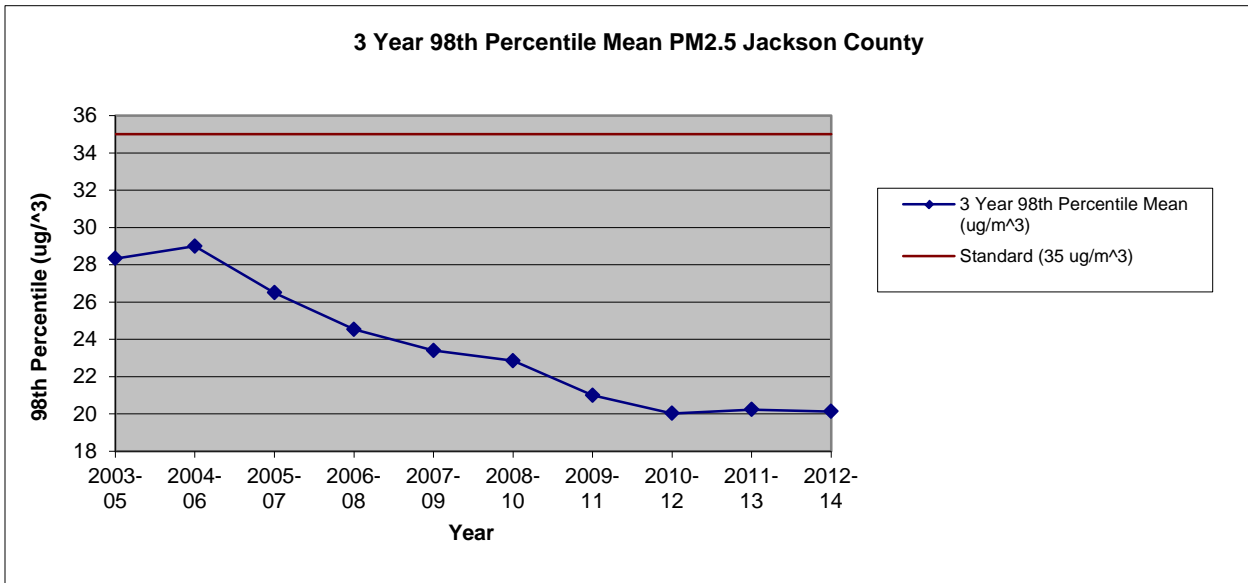


# Jackson County

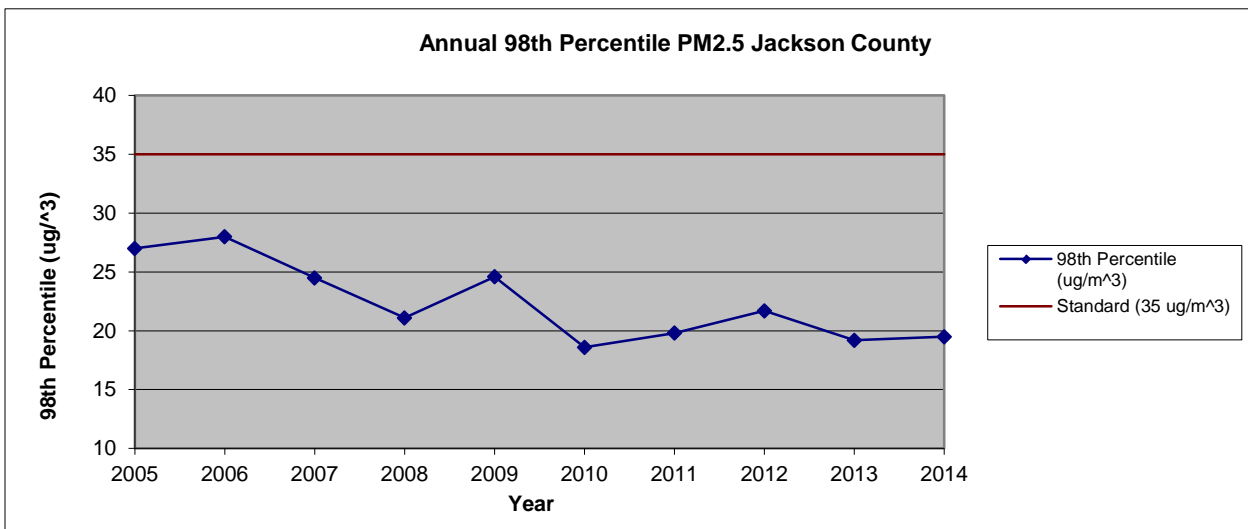
## PM<sub>2.5</sub>

### 24-Hour Average (ug/m<sup>3</sup>)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 98<sup>th</sup> Percentiles</b>	<b>28</b>	<b>29</b>	<b>27</b>	<b>25</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>20</b>	<b>20</b>	<b>20</b>

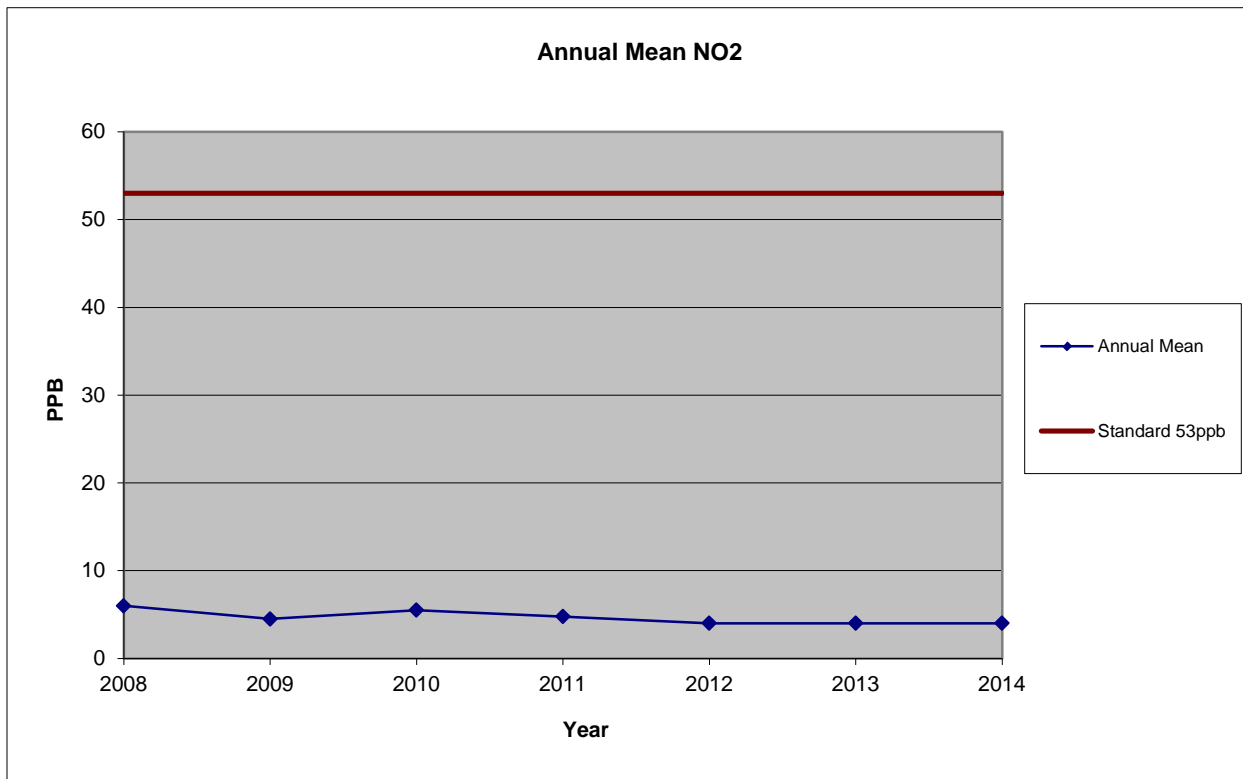


Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 98<sup>th</sup> Percentile</b>	<b>27</b>	<b>28</b>	<b>25</b>	<b>21</b>	<b>25</b>	<b>19</b>	<b>20</b>	<b>22</b>	<b>19</b>	<b>20</b>



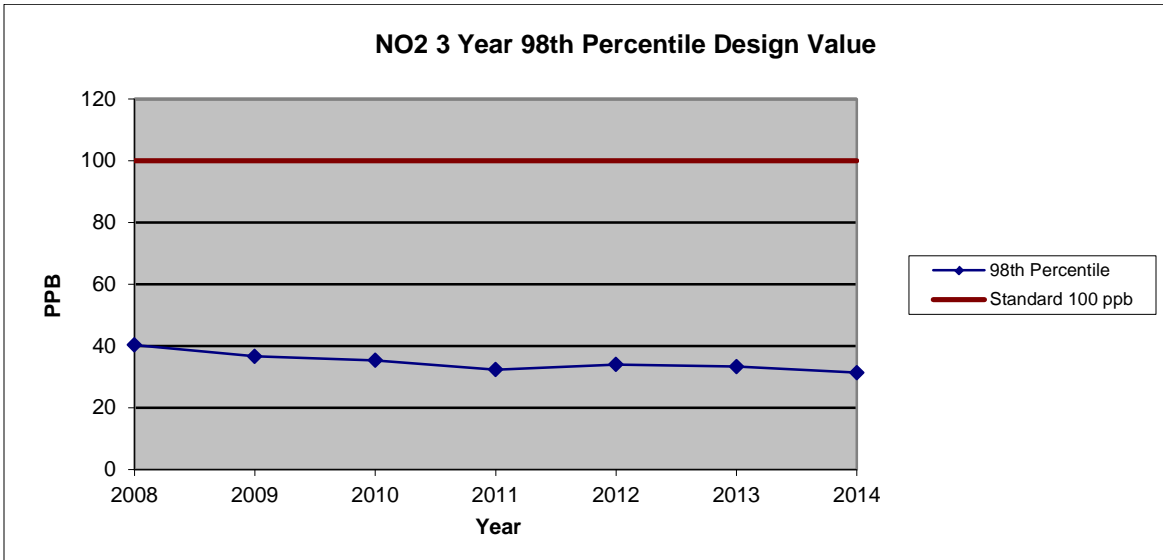
# Jackson County Nitrogen Dioxide Annual Average (ppb)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Average	8	7	6	6	5	5	5	4	4	4

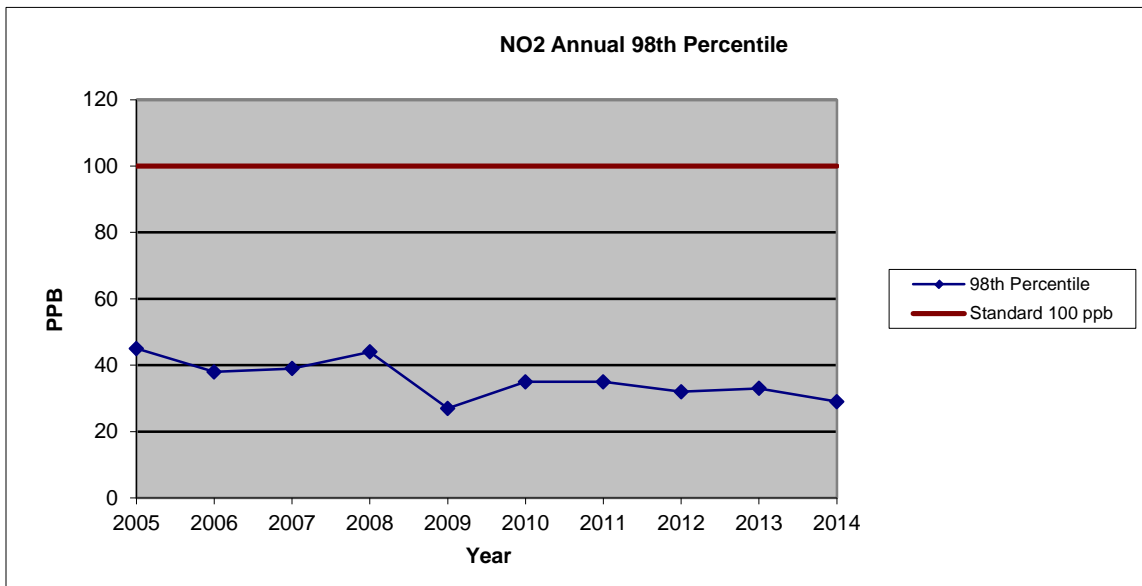


# Jackson County Nitrogen Dioxide 1-Hour Average (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
3-Year Average of the Annual 98 <sup>th</sup> Percentiles	*	40	40	40	36	35	32	34	33	32

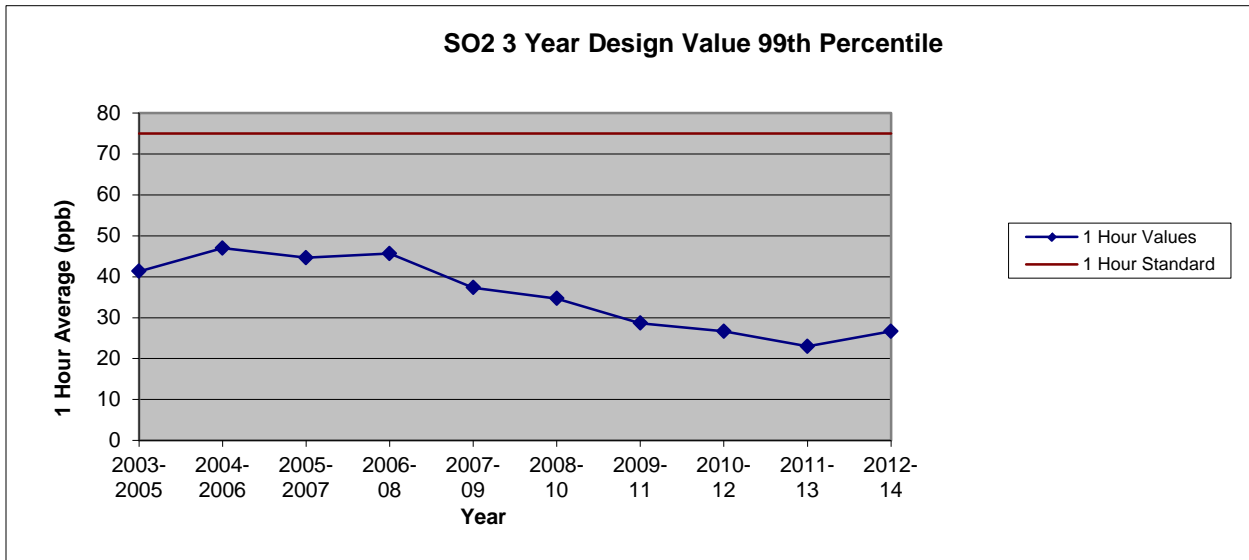


Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual 98 <sup>th</sup> Percentiles	45	38	39	44	27	35	35	32	33	29

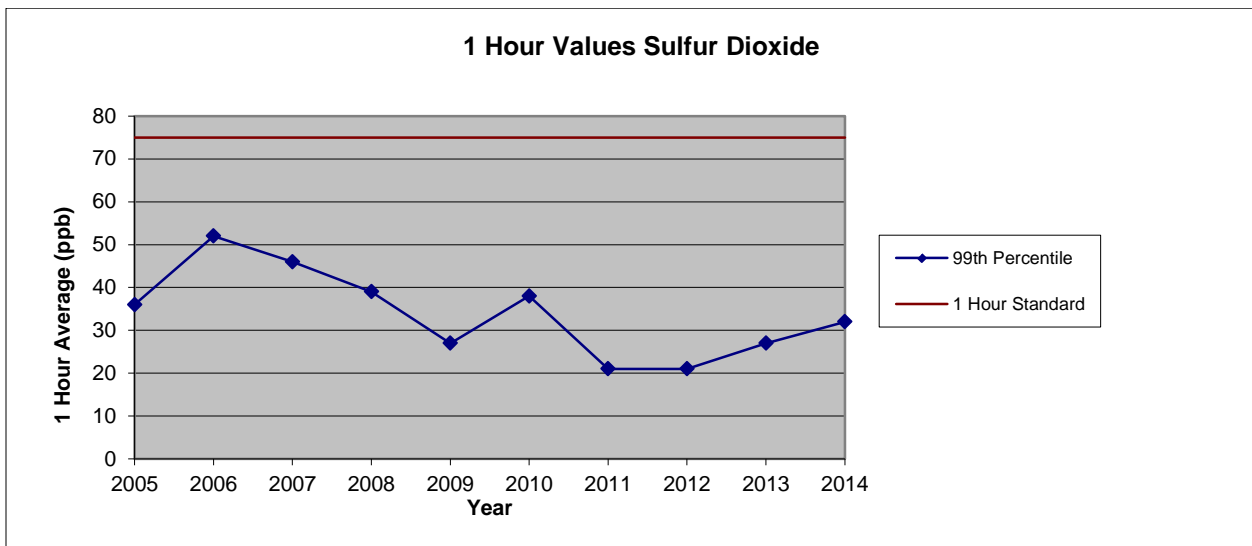


# Jackson County Sulfur Dioxide 1-Hour Average (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>3-Year Average of the Annual 99<sup>th</sup> Percentiles</b>	<b>41</b>	<b>47</b>	<b>45</b>	<b>46</b>	<b>37</b>	<b>35</b>	<b>29</b>	<b>27</b>	<b>23</b>	<b>27</b>

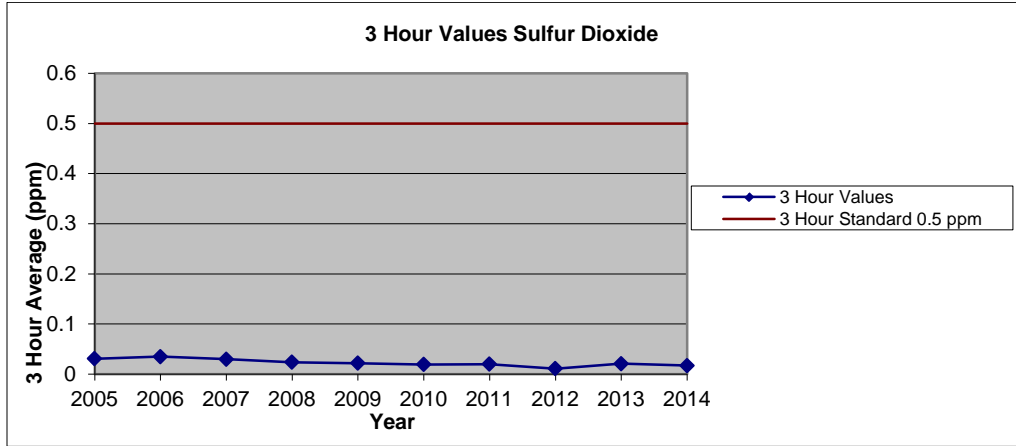


Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 99<sup>th</sup> Percentiles</b>	<b>36</b>	<b>52</b>	<b>46</b>	<b>39</b>	<b>27</b>	<b>38</b>	<b>21</b>	<b>21</b>	<b>27</b>	<b>32</b>



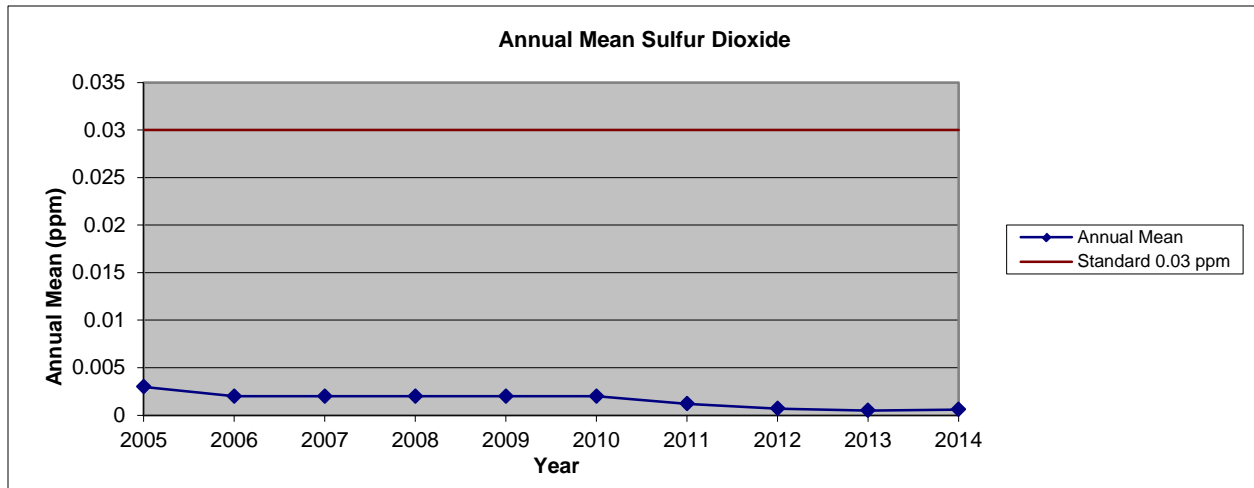
## Jackson County Sulfur Dioxide 3-Hour Annual 2<sup>nd</sup> Max (ppm)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual 2 <sup>nd</sup> Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



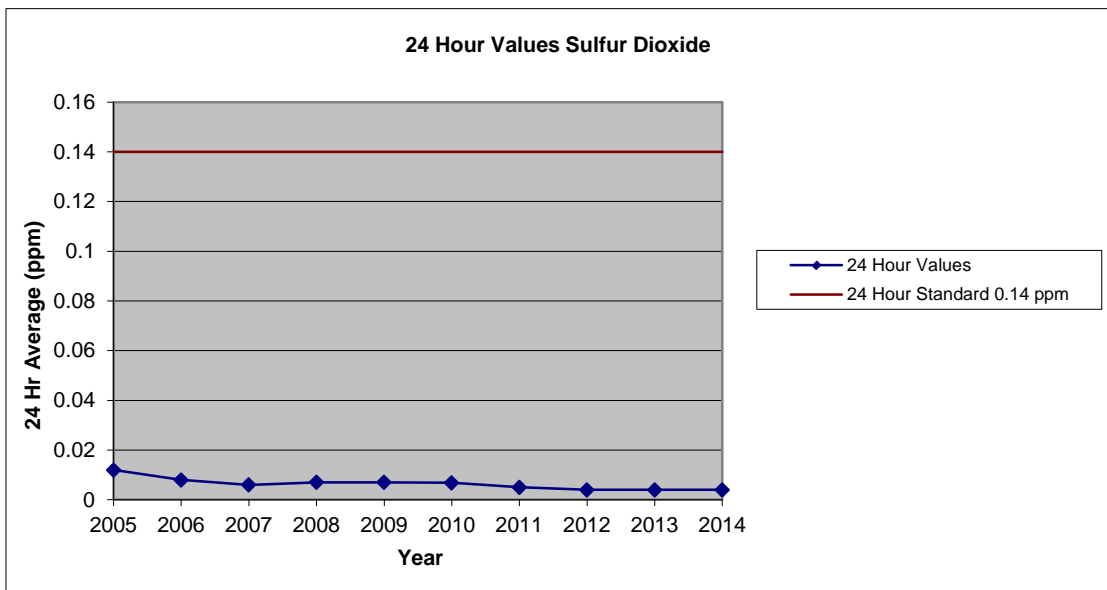
## Jackson County Sulfur Dioxide Annual Mean (ppm)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Annual Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

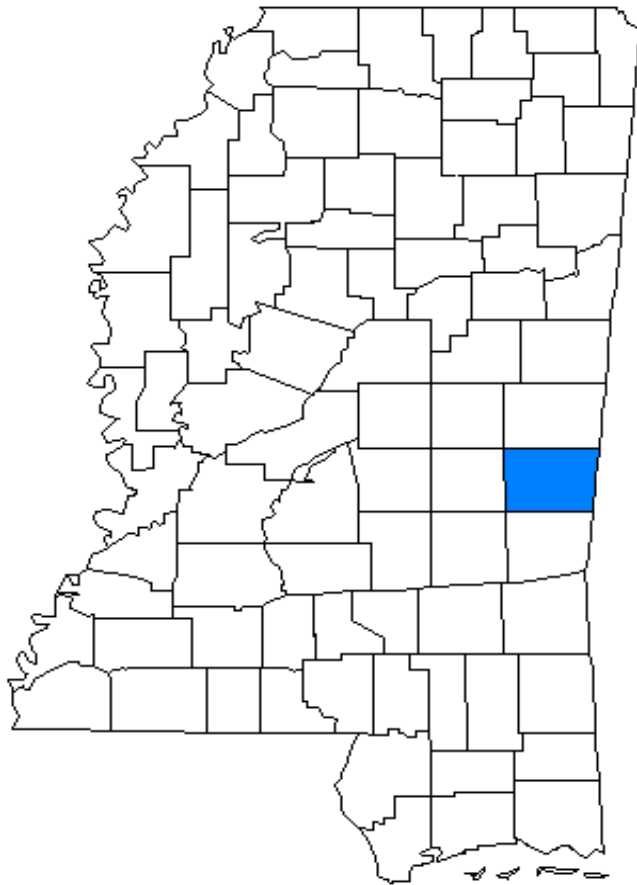


# Jackson County Sulfur Dioxide 24-Hour 2<sup>nd</sup> Max (ppm)

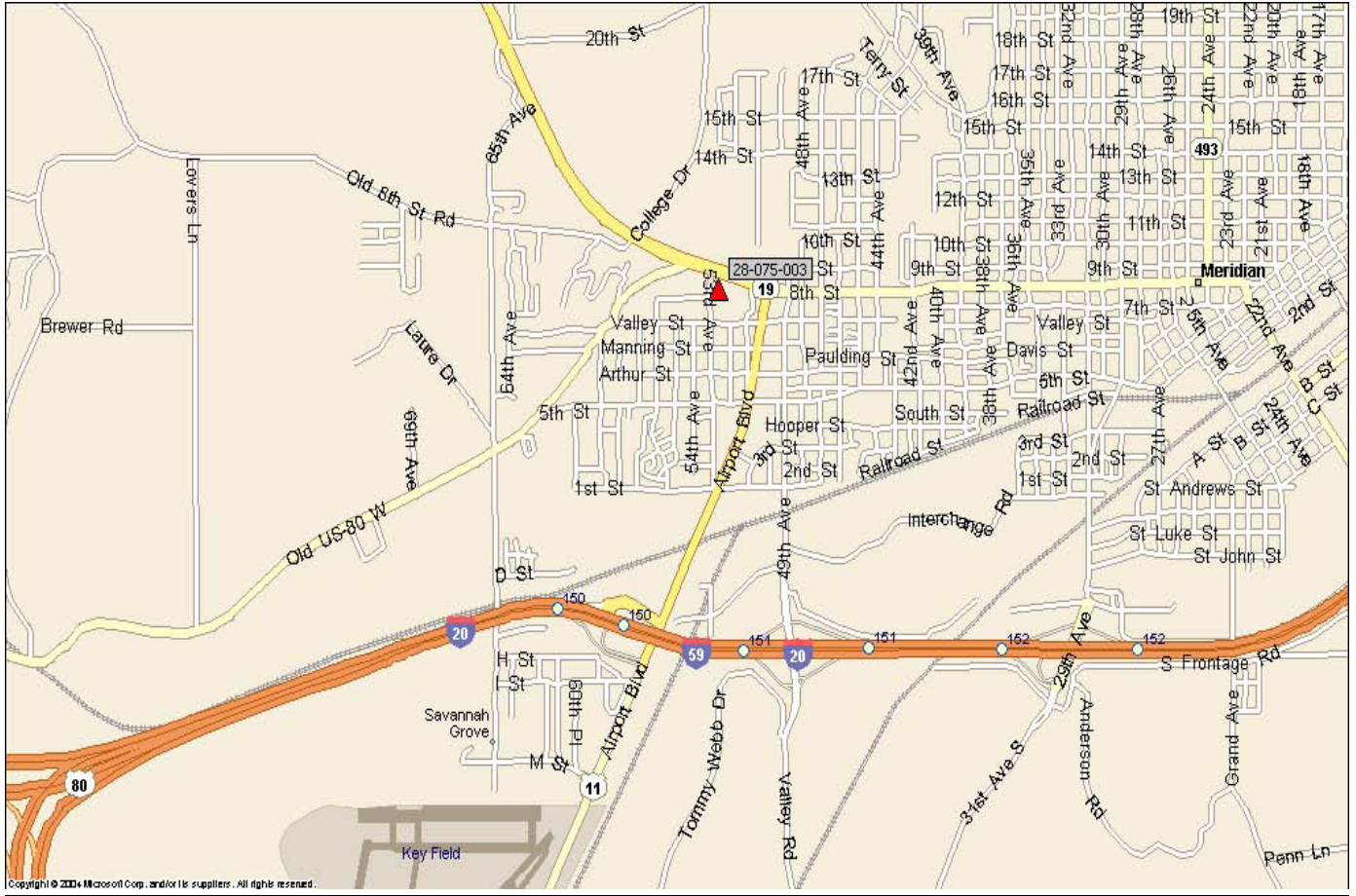
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 2<sup>nd</sup> Max</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



# Lauderdale County



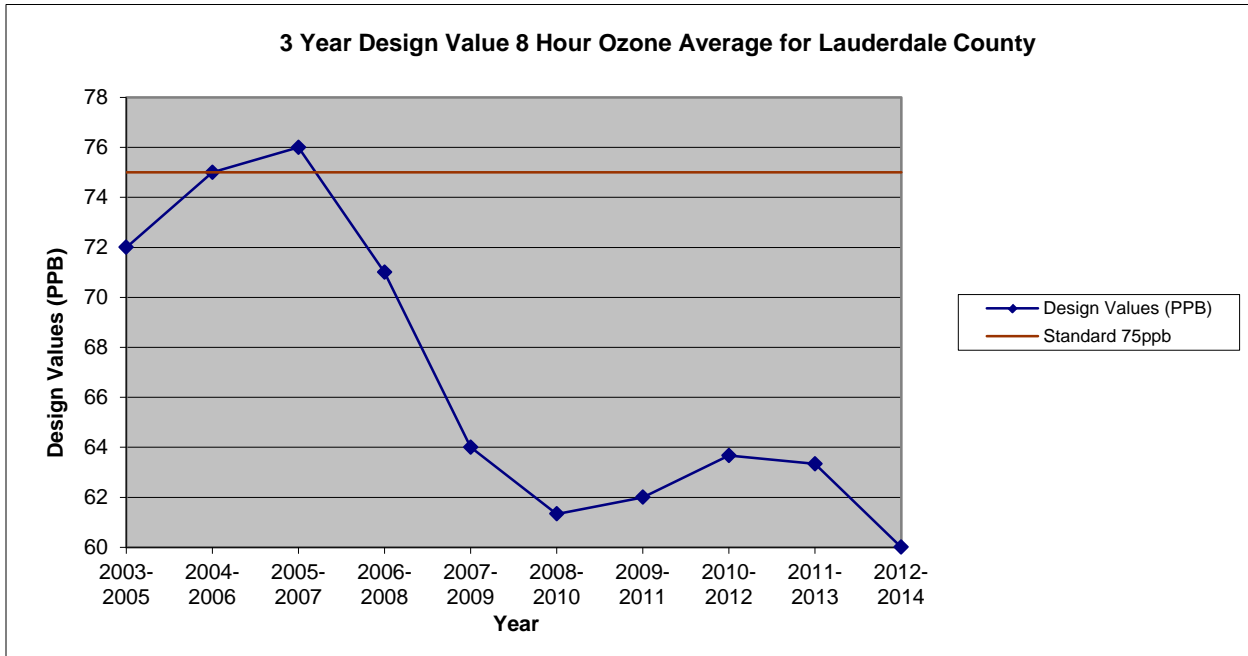
**Lauderdale County**  
**Monitoring Site No. 28-075-0003**  
**Location**



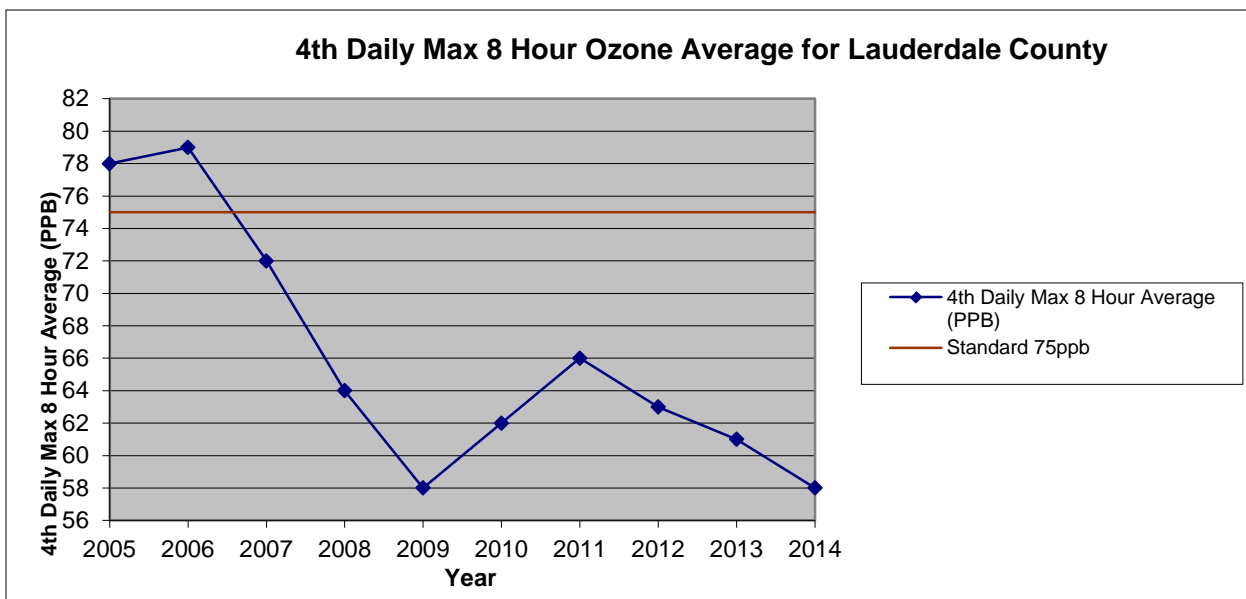


## Lauderdale County 8-Hour Ozone (ppb)

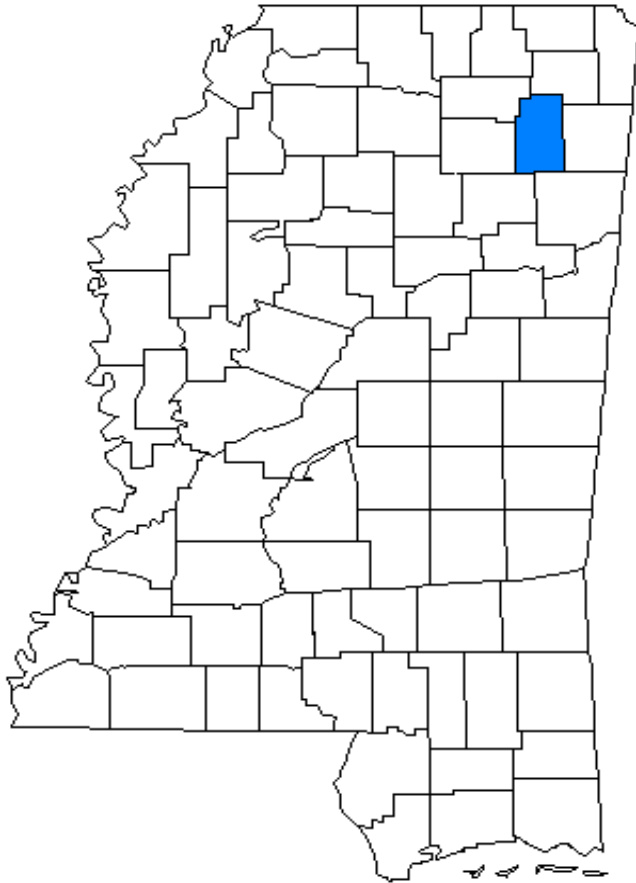
3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	<b>72</b>	<b>75</b>	<b>76</b>	<b>71</b>	<b>64</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>63</b>	<b>60</b>



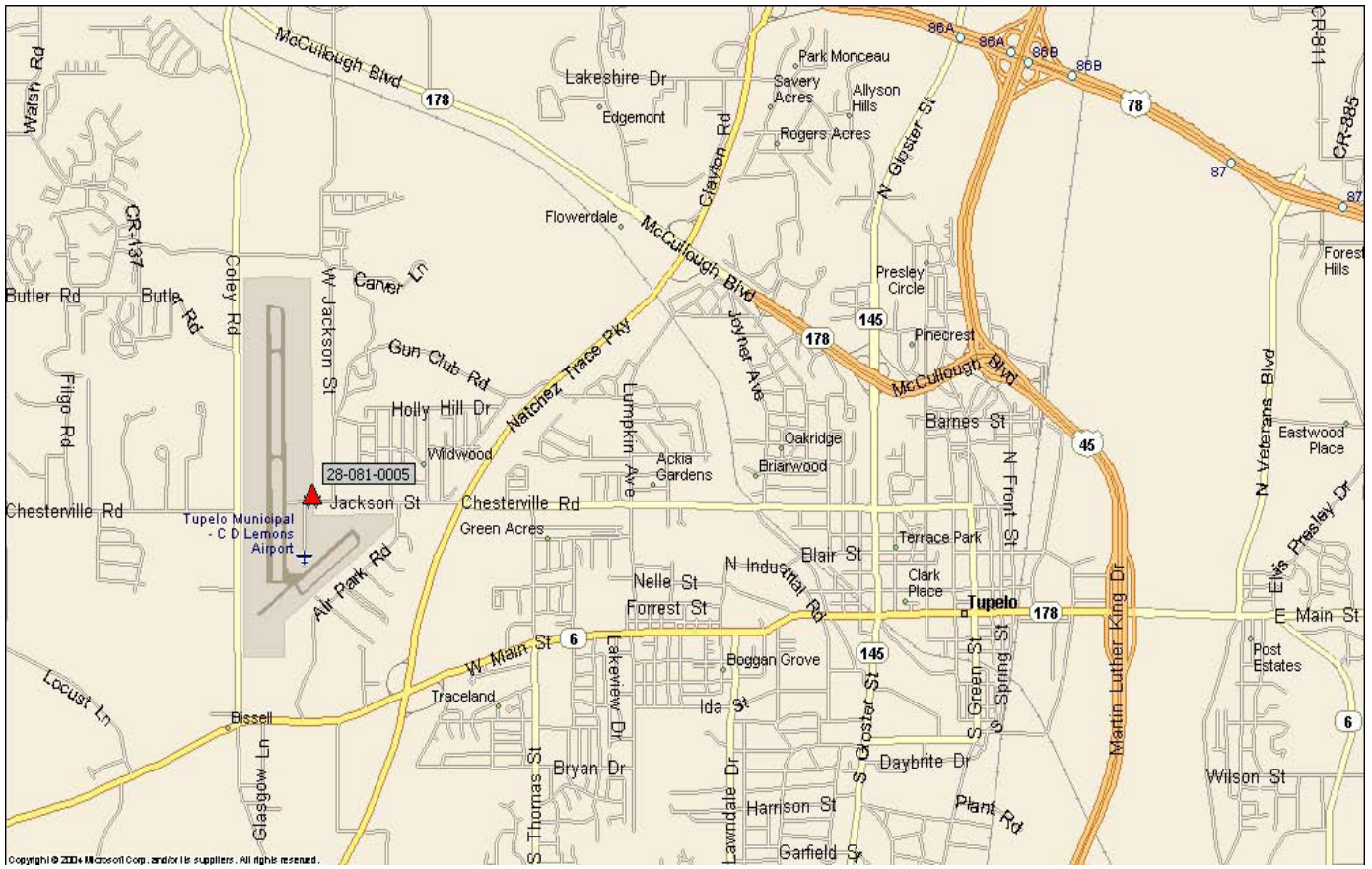
Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	<b>78</b>	<b>79</b>	<b>72</b>	<b>64</b>	<b>58</b>	<b>62</b>	<b>66</b>	<b>63</b>	<b>61</b>	<b>58</b>



# Lee County

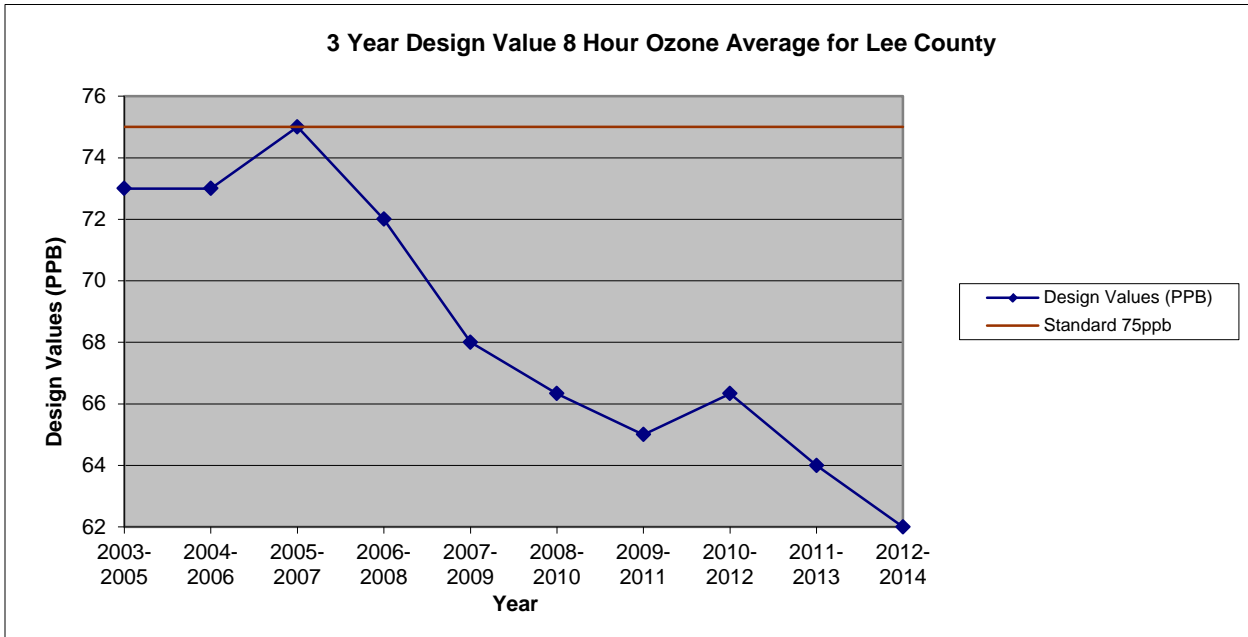


**Lee County**  
**Monitoring Site No. 28-081-0005**  
**Location**

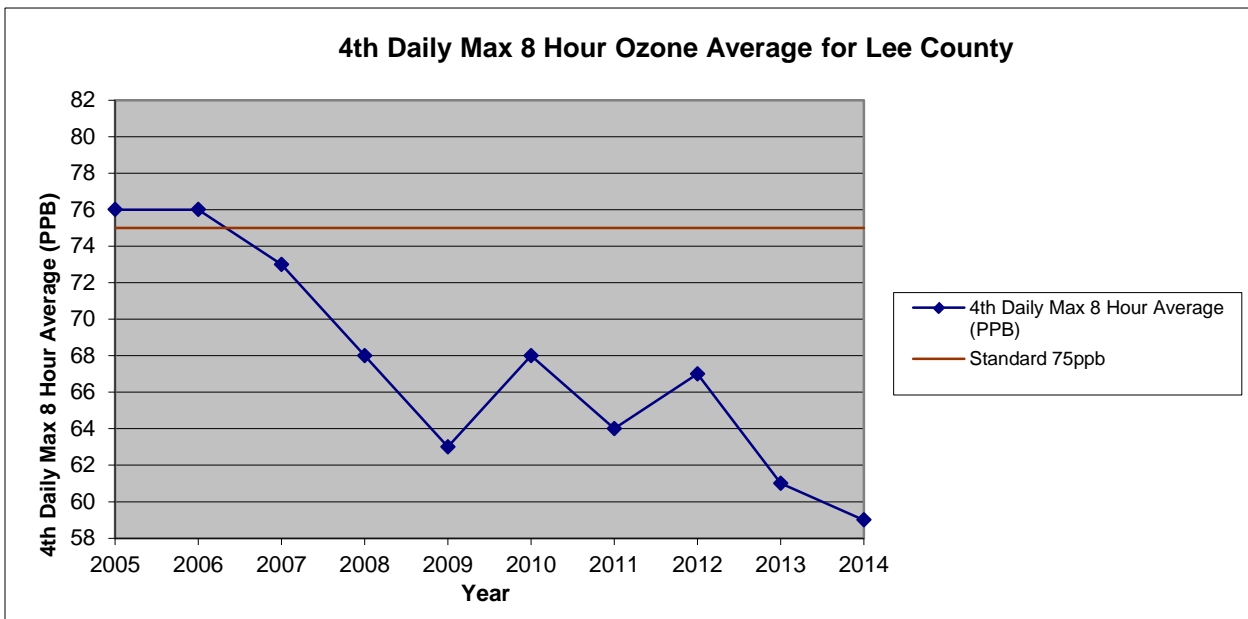


# Lee County 8-Hour Ozone (ppb)

3-Year Period	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012	2011-2013	2012-2014
<b>Design Value</b>	<b>73</b>	<b>73</b>	<b>75</b>	<b>72</b>	<b>68</b>	<b>66</b>	<b>65</b>	<b>66</b>	<b>64</b>	<b>62</b>



Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Annual 4<sup>th</sup> Max. 8-Hour Avg.</b>	<b>76</b>	<b>76</b>	<b>73</b>	<b>68</b>	<b>63</b>	<b>68</b>	<b>64</b>	<b>67</b>	<b>61</b>	<b>59</b>



# Appendix 2

## Data Completeness By Pollutant

# 8-Hour Ozone Data Completeness

## Standard

The standards for 8-hour ozone data completeness are:

- The daily maximum 8-hour average concentrations are available for at least 75%, on average, of the designated sampling days for any one year.
- The daily maximum 8-hour average concentrations are available for at least 90%, on average, of the designated sampling days for a three year period.

### Annual Data Completeness

### 3-Year Data Completeness

County	Standard	2012	2013	2014
<b>Bolivar</b>	<b>75%</b>	98%	100%	98%
<b>DeSoto</b>	<b>75%</b>	98%	100%	99%
<b>Hancock</b>	<b>75%</b>	93%	98%	99%
<b>Harrison</b>	<b>75%</b>	98%	95%	90%
<b>Hinds</b>	<b>75%</b>	99%	100%	99%
<b>N-CORE*</b>	<b>75%</b>	*	50%*	94%
<b>Jackson</b>	<b>75%</b>	98%	97%	97%
<b>Lauderdale</b>	<b>75%</b>	96%	99%	98%
<b>Lee</b>	<b>75%</b>	100%	99%	100%

Standard	2012-2014
<b>90%</b>	99%
<b>90%</b>	99%
<b>90%</b>	97%
<b>90%</b>	94%
<b>90%</b>	99%
90%*	73%*
<b>90%</b>	97%
<b>90%</b>	98%
<b>90%</b>	100%

\*Site not operational until July 2013.

# PM<sub>2.5</sub> Data Completeness

## Standard

The standard for PM<sub>2.5</sub> data completeness is:

- A year meets the requirements when at least 75% of the scheduled sampling days for each quarter have valid data.

### 2012 Quarterly PM<sub>2.5</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
DeSoto	75%	100%	100%	97%	53%
Forrest	75%	97%	93%	71%	83%
Grenada	75%	100%	97%	100%	80%
Hancock	75%	100%	100%	84%	77%
Harrison	75%	93%	87%	100%	93%
Hinds	75%	77%	70%	100%	87%
N-CORE*	75%	*	*	*	*
Jackson	75%	87%	97%	87%	67%

## 2013 Quarterly PM<sub>2.5</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
<b>DeSoto</b>	<b>75%</b>	97%	100%	80%	87%
<b>Forrest</b>	<b>75%</b>	93%	87%	80%	74%
<b>Grenada</b>	<b>75%</b>	90%	84%	83%	74%
<b>Hancock</b>	<b>75%</b>	100%	100%	87%	87%
<b>Harrison</b>	<b>75%</b>	100%	100%	77%	84%
<b>Hinds</b>	<b>75%</b>	97%	90%	97%	77%
<b>N-CORE*</b>	<b>75%</b>	*	*	93%	81%
<b>Jackson</b>	<b>75%</b>	87%	84%	73%	84%

## 2014 Quarterly PM<sub>2.5</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
<b>DeSoto</b>	<b>75%</b>	90%	96%	84%	100%
<b>Forrest</b>	<b>75%</b>	93%	97%	94%	100%
<b>Grenada</b>	<b>75%</b>	73%	93%	87%	100%
<b>Hancock</b>	<b>75%</b>	97%	97%	84%	100%
<b>Harrison</b>	<b>75%</b>	90%	100%	97%	97%
<b>Hinds</b>	<b>75%</b>	90%	97%	90%	94%
<b>N-CORE*</b>	<b>75</b>	93%	97%	90%	97%
<b>Jackson</b>	<b>75%</b>	97%	100%	87%	97%

\*Site not operational until July 2013.



# PM<sub>10</sub> Data Completeness

## Standard

The standard for PM<sub>10</sub> data completeness is:

- A year meets the requirements when at least 75% of the scheduled sampling days for each quarter have valid data.

### 2012 Quarterly PM<sub>10</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	*	*	*	*

### 2013 Quarterly PM<sub>10</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	*	*	86%	81%

### 2014 Quarterly PM<sub>10</sub> Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	87%	87%	87%	88%

\*Site not operational until July 2013.

# Carbon Monoxide Data Completeness

## Standard

The standard for CO data completeness is:

- An 8-hour average shall be considered valid if at least 75% of the hourly averages for the 8-hour period are available.

## 2014 Quarterly CO Data Completeness

<b>County</b>	<b>Standard</b>	<b>January - March</b>	<b>April - June</b>	<b>July - September</b>	<b>October - December</b>
<b>N-CORE</b>	<b>75%</b>	95%	94%	95%	95%

# Lead Data Completeness

## Standard

The standard for lead data completeness is:

- A quarter is complete if the average of the three constituent monthly means is greater than or equal to 75%.

### 2014 Quarterly Pb Data Completeness

County	Standard	Nov-Jan	December-Feb	Jan-March	Feb-April
N-CORE	75%	100%	93%	93%	93%

County	Standard	March-May	April-June	May-July	June-August
N-CORE*	75%	93%	93%	93%	100%

County	Standard	July-September	August-October	Sept-Nov	October-December
N-CORE*	75%	100%	100%	100%	100%

# Nitrogen Dioxide Data Completeness

## Standards

The standards for nitrogen dioxide data completeness are:

- An annual mean must be based upon hourly data that are at least 75% complete for the scheduled sampling days in each year.
- A 1-hour design value is valid if it encompasses three consecutive calendar years of complete data. A year meets data completeness requirements when all 4 quarters are complete. A quarter is complete when at least 75% of the sampling days for each quarter have complete data. A sampling day has complete data if 75% of the hourly concentration values are reported.

### 2014 Annual Mean Nitrogen Dioxide Data Completeness

County	Standard	2014
Jackson	75%	95%

### 2012 Quarterly 1-Hour Nitrogen Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
Jackson	75%	100%	99%	38%	100%

### 2013 Quarterly 1-Hour Nitrogen Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
Jackson	75%	100%	100%	100%	90%

### 2014 Quarterly 1-Hour Nitrogen Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
Jackson	75%	100%	100%	100%	100%

# Sulfur Dioxide Data Completeness

## Standard

The standards for sulfur dioxide data completeness are:

- A 1-hour design value is valid if it encompasses three consecutive calendar years of complete data.
- A year meets data completeness requirements when all 4 quarters are complete. A quarter is complete when at least 75% of the sampling days for each quarter have complete data. A sampling day has complete data if 75% of the hourly concentration values are reported.

### 2012 Quarterly 1-Hour Sulfur Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	*	*	*	*
Jackson	75%	100%	100%	100%	100%

### 2013 Quarterly 1-Hour Sulfur Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	*	*	100%	100%
Jackson	75%	100%	100%	100%	98%

### 2014 Quarterly 1-Hour Sulfur Dioxide Data Completeness

County	Standard	January - March	April - June	July - September	October - December
N-CORE*	75%	100%	97%	100%	100%
Jackson	75%	100%	100%	100%	100%

\*Site not operational until July 2013.