



**GEORGIA**  
DEPARTMENT OF NATURAL RESOURCES

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ENVIRONMENTAL PROTECTION DIVISION

# **Final Report for PM<sub>2.5</sub> Exceedances in Georgia during 2019**

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## 1. Introduction

The current annual and 24-hour PM<sub>2.5</sub> National Ambient Air Quality Standards (NAAQS) are 12 µg/m<sup>3</sup> and 35 µg/m<sup>3</sup>, respectively. Federal Reference Method (FRM) monitors collect PM<sub>2.5</sub> samples for 24 hours on filters while Federal Equivalent Method (FEM) monitors measures hourly PM<sub>2.5</sub> concentrations continuously. An exceedance of the PM<sub>2.5</sub> NAAQS occurs when the measured 24-hour PM<sub>2.5</sub> concentration is equal to or greater than 35.5 µg/m<sup>3</sup>.

Since 2016, the Data and Modeling Unit (DMU) has developed an initial exceedance report for each PM<sub>2.5</sub> exceedance day.<sup>1</sup> These reports are completed within three business days of the exceedance and include a preliminary analysis of the air quality, meteorological, and emission data to aid in determining the cause of the PM<sub>2.5</sub> exceedance. For the initial reports, DMU focuses on 24-hour PM<sub>2.5</sub> NAAQS exceedances identified at FEM monitors because measurements at FRM monitors are not immediately available. FRM measurements are available several months after their sample collection because samples need to be transferred and analyzed in the laboratory. PM<sub>2.5</sub> design values (DVs) are the 3-year average NAAQS metrics that are compared to the NAAQS levels to determine when a monitoring site meets or does not meet the NAAQS. For sites with both FRM and FEM monitors, FEM measurements<sup>2</sup> can be replaced with FRM measurements for the purpose of design value calculations if the FRM monitor is designated as the “primary” monitor at the site.

This final PM<sub>2.5</sub> exceedance report will summarize PM<sub>2.5</sub> exceedances throughout Georgia in 2019. This report consists of three parts: (1) final 24-hour PM<sub>2.5</sub> concentrations for the days with the highest concentrations up to the 98<sup>th</sup> percentile at each monitor including the comparison with what was reported in the initial reports, (2) annual 98<sup>th</sup> percentile concentrations and design values at each PM<sub>2.5</sub> monitor, and (3) a summary of the findings. Non-regulatory FEM monitors are not included in this report since they are not comparable to the NAAQS for regulatory purposes and do not have official PM<sub>2.5</sub> design values. Figure 1 shows the locations of FRM monitors and FEM monitors across Georgia in 2019.

## 2. 24-hour PM<sub>2.5</sub> NAAQS Exceedances in 2019

In the following subsections, final daily PM<sub>2.5</sub> concentrations are reported for each monitor up to the 98<sup>th</sup> percentile value. The number of reported days varies depending on the number of creditable<sup>3</sup> samples as shown in Table 1. Each subsection also contains a discussion of any changes from the initially reported exceedance concentrations to the final exceedance concentrations along with a short description of the cause of the exceedances.

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<sup>1</sup> Georgia DNR employees may download all initial PM<sub>2.5</sub> exceedance reports for 2019 at [Initial PM2.5 Exceedance Reports during 2019](#). The general public may obtain a copy of these reports by sending an e-mail to [askEPD@gaepd.org](mailto:askEPD@gaepd.org) and requesting the initial PM<sub>2.5</sub> exceedance reports during 2019 from the Air Protection Branch.

<sup>2</sup> An FEM monitor can be a primary monitor or a collocated monitor installed at a site with a filter based monitor (FRM). An FEM collocated monitor is used to provide supplemental particulate data at the site.

<sup>3</sup> Creditable samples are daily values in the combined site record that are given credit for data completeness. The number of creditable samples for a given year also governs which value in the sorted series of daily values represents the 98<sup>th</sup> percentile for that year. Creditable samples include daily values collected on scheduled sampling days and valid make-up samples taken for missed or invalidated samples on scheduled sampling days.

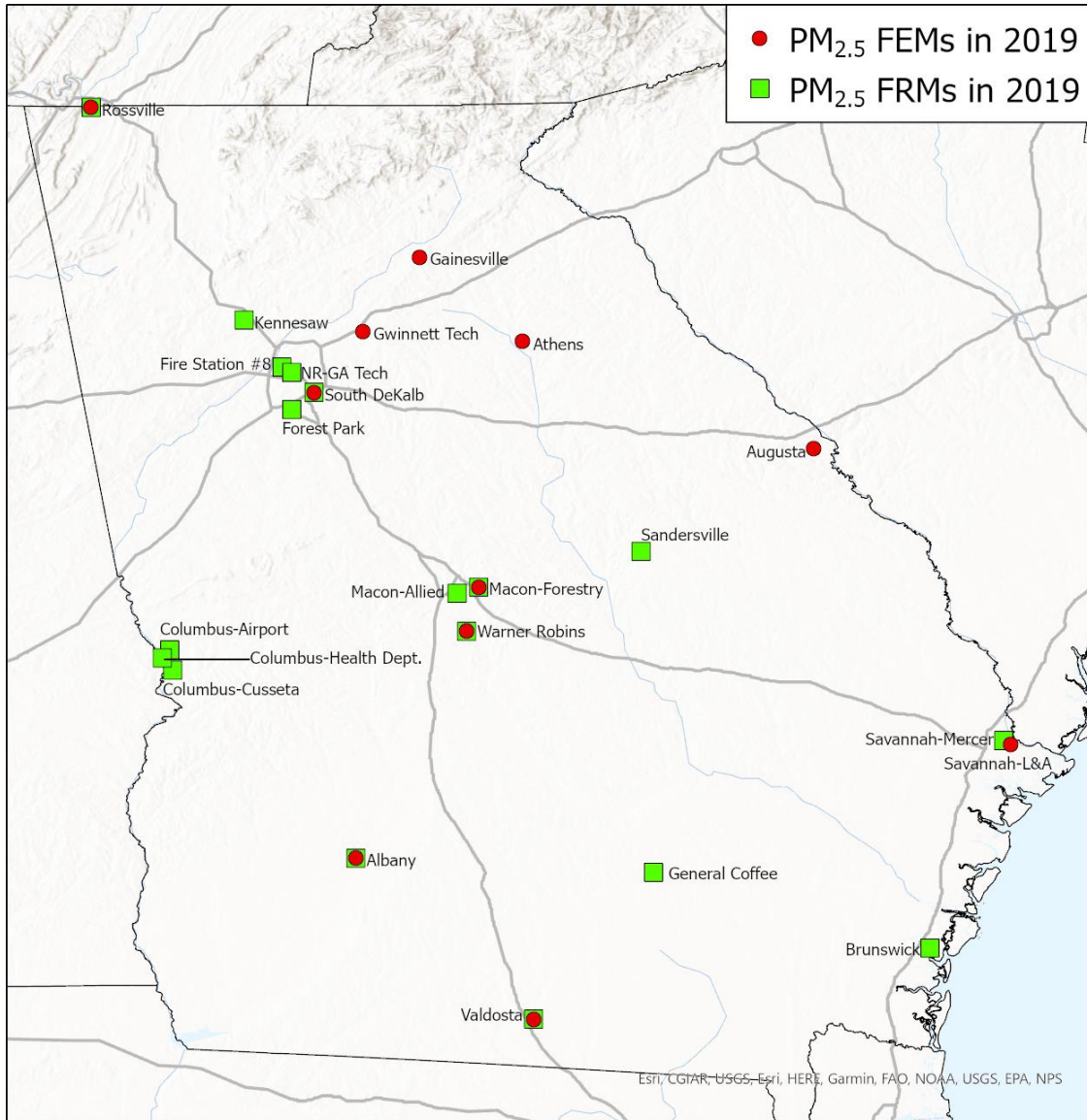


Figure 1. Locations of PM<sub>2.5</sub> FRM and FEM monitors across Georgia in 2019.

Table 1. Annual number of creditable samples and the  $n^{\text{th}}$  maximum 24-hour average value corresponding to the 98<sup>th</sup> percentile (Source: Table 1 of Appendix N to 40 CFR 50).

Annual number of creditable samples	the $n^{\text{th}}$ maximum 24-hour average value corresponding to the 98th percentile
1 to 50	1
51 to 100	2
101 to 150	3
151 to 200	4
201 to 250	5
251 to 300	6
301 to 350	7
351 to 366	8

Table 2. Number of creditable samples and the n<sup>th</sup> maximum 24-hour average value corresponding to the 98<sup>th</sup> percentile at each PM<sub>2.5</sub> monitoring site in 2019.

Site Name	AQS ID	Annual number of creditable samples	the n <sup>th</sup> maximum 24-hour average value corresponding to the 98 <sup>th</sup> percentile
Albany	13-095-0007	356	8
Athens	13-059-0002	362	8
Augusta	13-245-0091	343	7
Brunswick	13-127-0006	110	3
Columbus-Airport	13-215-0008	118	3
Columbus-Cusseta	13-215-0011	120	3
Columbus-Health Dept.	13-215-0001	118	3
Fire Station #8	13-121-0039	120	3
Forest Park	13-063-0091	119	3
Gainesville	13-139-0003	340	7
General Coffee	13-069-0002	121	3
Gwinnett Tech	13-135-0002	341	7
Kennesaw	13-067-0003	121	3
Macon-Allied	13-021-0007	119	3
Macon-Forestry	13-021-0012	337	7
NR-GA Tech	13-121-0056	120	3
Rossville	13-295-0002	355	8
Sandersville	13-303-0001	208	5
Savannah-L&A	13-051-1002	318	7
Savannah-Mercer	13-051-0091	60	2
South DeKalb	13-089-0002	362	8
Valdosta	13-185-0003	114	3
Warner Robins	13-153-0001	354	8

## 2.1. Albany (AQS ID: 13-095-0007)

At the Albany monitor in 2019, two exceedances were initially reported based on FEM measurements. However, these two exceedances were later changed to non-exceedances with FRM measurements.

Table 3. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Albany monitor (AQS ID: 13-095-0007) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190307	1	29.5	FRM	N/A	No exceedance documented
20190322	2	26.5	FRM	38	Initial exceedance refuted by FRM data
20190321	3	25.8	FRM	38	Initial exceedance refuted by FRM data
20190117	4	24.4	FRM	N/A	No exceedance documented
20190423	5	23.5	FRM	N/A	No exceedance documented
20190323	6	22.9	FRM	N/A	No exceedance documented
20190329	7	22.9	FRM	N/A	No exceedance documented
20190128	8	19.8	FRM	N/A	No exceedance documented

## 2.2. Athens (AQS ID: 13-059-0002)

At the Athens monitor in 2019, no exceedances were reported based on FEM measurements.

Table 4. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Athens monitor (AQS ID: 13-059-0002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190308	1	28.0	FEM Primary	N/A	No exceedance documented
20190329	2	24.5	FEM Primary	N/A	No exceedance documented
20191207	3	24.5	FEM Primary	N/A	No exceedance documented
20190321	4	24.4	FEM Primary	N/A	No exceedance documented
20191002	5	21.6	FEM Primary	N/A	No exceedance documented
20190309	6	21.4	FEM Primary	N/A	No exceedance documented
20191206	7	21.0	FEM Primary	N/A	No exceedance documented
20190330	8	20.6	FEM Primary	N/A	No exceedance documented

### 2.3. Augusta (AQS ID: 13-245-0091)

At the Augusta monitor in 2019, no exceedances were reported based on FEM measurements.

Table 5. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Augusta monitor (AQS ID: 13-245-0091) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20191206	1	25.9	FEM	N/A	No exceedance documented
20190308	2	24.3	FEM	N/A	No exceedance documented
20191207	3	23.7	FEM	N/A	No exceedance documented
20190321	4	22.9	FEM	N/A	No exceedance documented
20190202	5	22.5	FEM	N/A	No exceedance documented
20191122	6	22.3	FEM	N/A	No exceedance documented
20190201	7	22.2	FEM	N/A	No exceedance documented

### 2.4. Brunswick (AQS ID: 13-127-0006)

At the Brunswick monitor in 2019, no exceedances were reported based on FRM measurements.

Table 6. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Brunswick monitor (AQS ID: 13-127-0006) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190714	1	19.0	FRM	No FEM	No exceedance documented
20191111	2	18.5	FRM	No FEM	No exceedance documented
20190717	3	17.3	FRM	No FEM	No exceedance documented

## 2.5. Columbus-Airport (AQS ID: 13-215-0008)

At the Columbus-Airport monitor in 2019, no exceedances were reported based on FRM measurements.

Table 7. Daily PM<sub>2.5</sub> concentrations at the Columbus-Airport monitor (AQS ID: 13-215-0008) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190403	1	28.5	FRM	No FEM	No exceedance documented
20190605	2	20.7	FRM	No FEM	No exceedance documented
20190325	3	19.2	FRM	No FEM	No exceedance documented

## 2.6. Columbus-Cusseta (AQS ID: 13-215-0011)

At the Columbus-Cusseta monitor in 2019, no exceedances were reported based on FRM measurements.

Table 8. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Columbus-Cusseta monitor (AQS ID: 13-215-0011) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190325	1	25.2	FRM	No FEM	No exceedance documented
20190605	2	21.0	FRM	No FEM	No exceedance documented
20190912	3	19.9	FRM	No FEM	No exceedance documented

## 2.7. Columbus-Health Dept. (AQS ID: 13-215-0001)

At the Columbus-Health Dept. monitor in 2019, no exceedances were reported based on FRM measurements.

Table 9. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Columbus-Health Dept. monitor (AQS ID: 13-215-0001) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	20.7	FRM	No FEM	No exceedance documented
20190403	2	19.9	FRM	No FEM	No exceedance documented
20190307	3	18.1	FRM	No FEM	No exceedance documented



## 2.8. Fire Station #8 (AQS ID: 13-121-0039)

At the Fire Station #8 monitor in 2019, no exceedances were reported based on FRM measurements.

Table 10. Daily PM<sub>2.5</sub> concentrations at the Fire Station #8 monitor (AQS ID: 13-121-0039) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	22.0	FRM	No FEM	No exceedance documented
20190705	2	19.4	FRM	No FEM	No exceedance documented
20191226	3	18.4	FRM	No FEM	No exceedance documented

## 2.9. Forest Park (AQS ID: 13-063-0091)

At the Forest Park monitor in 2019, no exceedances were reported based on FRM measurements.

Table 11. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Forest Park monitor (AQS ID: 13-063-0091) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	21.1	FRM	No FEM	No exceedance documented
20191003	2	18.4	FRM	No FEM	No exceedance documented
20190912	3	16.9	FRM	No FEM	No exceedance documented

## 2.10. Gainesville (AQS ID: 13-139-0003)

At the Gainesville monitor in 2019, no exceedances were reported based on FEM measurements.

Table 12. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Gainesville monitor (AQS ID: 13-139-0003) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190308	1	29.9	FEM	N/A	No exceedance documented
20190605	2	21.2	FEM	N/A	No exceedance documented
20190731	3	20.1	FEM	N/A	No exceedance documented
20190730	4	19.9	FEM	N/A	No exceedance documented
20190430	5	19.1	FEM	N/A	No exceedance documented
20191207	6	18.7	FEM	N/A	No exceedance documented
20191122	7	18.6	FEM	N/A	No exceedance documented

## 2.11. General Coffee (AQS ID: 13-069-0002)

At the General Coffee monitor in 2019, no exceedances were reported based on FRM measurements.

Table 13. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the General Coffee monitor (AQS ID: 13-069-0002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20191129	1	19.2	FRM	No FEM	No exceedance documented
20191205	2	18.1	FRM	No FEM	No exceedance documented
20191120	3	17.4	FRM	No FEM	No exceedance documented

## 2.12. Gwinnett Tech (AQS ID: 13-135-0002)

At the Gwinnett Tech monitor in 2019, one exceedance was initially reported and confirmed based on FEM measurements.

Table 14. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Gwinnett Tech monitor (AQS ID: 13-135-0002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190308	1	<b>38.9</b>	FEM	39	Prescribed Fires
20190309	2	30.9	FEM	N/A	No exceedance documented
20190324	3	27.3	FEM	N/A	No exceedance documented
20190330	4	25.3	FEM	N/A	No exceedance documented
20190429	5	25.0	FEM	N/A	No exceedance documented
20190127	6	23.8	FEM	N/A	No exceedance documented
20190320	7	23.6	FEM	N/A	No exceedance documented

## 2.13. Kennesaw (AQS ID: 13-067-0003)

At the Kennesaw monitor in 2019, no exceedances were reported based on FRM measurements.

Table 15. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Kennesaw monitor (AQS ID: 13-067-0003) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	20.5	FRM	No FEM	No exceedance documented
20190127	2	19.1	FRM	No FEM	No exceedance documented
20190705	3	17.5	FRM	No FEM	No exceedance documented

## 2.14. Macon-Allied (AQS ID: 13-021-0007)

At the Macon-Allied monitor in 2019, no exceedances were reported based on FRM measurements.

Table 16. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Macon-Allied monitor (AQS ID: 13-021-0007) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20191003	1	21.2	FRM	No FEM	No exceedance documented
20190127	2	18.4	FRM	No FEM	No exceedance documented
20190605	3	16.8	FRM	No FEM	No exceedance documented

## 2.15. Macon-Forestry (AQS ID: 13-021-0012)

At the Macon-Forestry monitor in 2019, two exceedances were initially reported and confirmed based on FEM measurements.

Table 17. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Macon-Forestry monitor (AQS ID: 13-021-0012) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190321	1	<b>50.1</b>	FEM	52	Prescribed Fires
20190320	2	<b>35.8</b>	FEM	36	Prescribed Fires
20190604	3	21.4	FEM	N/A	No exceedance documented
20190319	4	20.4	FEM	N/A	No exceedance documented
20190308	5	20.3	FEM	N/A	No exceedance documented
20190603	6	18.6	FEM	N/A	No exceedance documented
20191207	7	18.1	FEM	N/A	No exceedance documented

## 2.16. NR-GA Tech (AQS ID: 13-121-0056)

At the NR-GA Tech monitor in 2019, no exceedances were reported based on FRM measurements.

Table 18. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the NR-GA Tech monitor (AQS ID: 13-121-0056) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	21.9	FRM	No FEM	No exceedance documented
20190127	2	20.0	FRM	No FEM	No exceedance documented
20190705	3	19.4	FRM	No FEM	No exceedance documented

## 2.17. Rossville (AQS ID: 13-295-0002)

At the Rossville monitor in 2019, no exceedances were reported based on FRM and FEM measurements.

Table 19. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Rossville monitor (AQS ID: 13-295-0002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190203	1	26.9	FEM	N/A	No exceedance documented
20191122	2	26.6	FEM	N/A	No exceedance documented
20190202	3	23.0	FEM	N/A	No exceedance documented
20191125	4	20.5	FEM	N/A	No exceedance documented
20191121	5	19.9	FEM	N/A	No exceedance documented
20190605	6	19.3	FRM	N/A	No exceedance documented
20191207	7	19.0	FEM	N/A	No exceedance documented
20190324	8	18.1	FEM	N/A	No exceedance documented

## 2.18. Sandersville (AQS ID: 13-303-0001)

At the Sandersville monitor in 2019, one exceedance was initially reported and confirmed based on FEM measurements.

Table 20. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Sandersville monitor (AQS ID: 13-303-0001) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20191205	1	<b>41.4</b>	FEM	39	Prescribed Fires
20191121	2	26.2	FEM	N/A	No exceedance documented
20191206	3	26.0	FEM	N/A	No exceedance documented
20191207	4	17.0	FEM	N/A	No exceedance documented
20190602	5	17.0	FRM*	No FEM*	No exceedance documented

\* The PM<sub>2.5</sub> FRM was replaced with an FEM T640 at the Sandersville monitor during August 2019.

## 2.19. Savannah-L&A (AQS ID: 13-051-1002)

At the Savannah-L&A monitor in 2019, no exceedances were reported based on FEM measurements.

Table 21. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Savannah-L&A monitor (AQS ID: 13-051-1002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190321	1	25.4	FEM	N/A	No exceedance documented
20190603	2	24.4	FEM	N/A	No exceedance documented
20190528	3	22.9	FEM	N/A	No exceedance documented
20190529	4	21.2	FEM	N/A	No exceedance documented
20190702	5	21.1	FEM	N/A	No exceedance documented
20190319	6	20.1	FEM	N/A	No exceedance documented
20190714	7	18.2	FEM	N/A	No exceedance documented

## 2.20. Savannah-Mercer (AQS ID: 13-051-0091)

At the Savannah-Mercer monitor in 2019, no exceedances were reported based on FRM measurements.

Table 22. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Savannah-Mercer monitor (AQS ID: 13-051-0091) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190603	1	20.0	FRM	No FEM	No exceedance documented
20190528	2	19.0	FRM	No FEM	No exceedance documented

## 2.21. South DeKalb (AQS ID: 13-089-0002)

At the South DeKalb monitor in 2019, no exceedances were reported based on FRM and FEM measurements.

Table 23. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the South DeKalb monitor (AQS ID: 13-089-0002) in 2019.

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190605	1	20.7	FRM	N/A	No exceedance documented
20191122	2	18.8	FEM	N/A	No exceedance documented
20190308	3	18.7	FRM	N/A	No exceedance documented
20191003	4	16.3	FRM	N/A	No exceedance documented
20190117	5	16.0	FRM	N/A	No exceedance documented
20190404	6	15.9	FRM	N/A	No exceedance documented
20190309	7	15.8	FRM	N/A	No exceedance documented
20191002	8	15.8	FRM	N/A	No exceedance documented

## 2.22. Valdosta (AQS ID: 13-185-0003)

At the Valdosta monitor in 2019, no exceedances were reported based on FRM measurements.

Table 24. Daily PM<sub>2.5</sub> Concentrations at the Valdosta monitor (AQS ID: 13-185-0003) in 2019

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190714	1	17.7	FRM	No FEM	No exceedance documented
20190322	2	15.5	FRM	No FEM	No exceedance documented
20190717	3	15.3	FRM	No FEM	No exceedance documented

## 2.23. Warner Robins (AQS ID: 13-153-0001)

At the Warner Robins monitor in 2019, two exceedances were reported and confirmed based on FEM measurements.

Table 25. Daily PM<sub>2.5</sub> concentrations up to the 98<sup>th</sup> percentile value at the Warner Robins monitor (AQS ID: 13-153-0001) in 2019

Date	Rank	Final PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )	Data Source for Final Concentration	FEM Initial Exceedance Report Value (µg/m <sup>3</sup> )	Cause of Exceedances
20190321	1	<b>58.2</b>	FEM	61	Prescribed Fires
20190320	2	<b>37.0</b>	FEM	37	Prescribed Fires
20190604	3	24.5	FEM	N/A	No exceedance documented
20190308	4	24.0	FEM	N/A	No exceedance documented
20190329	5	23.3	FEM	N/A	No exceedance documented
20190128	6	19.4	FEM	N/A	No exceedance documented
20190603	7	19.2	FEM	N/A	No exceedance documented
20190731	8	19.0	FEM	N/A	No exceedance documented



### **3. Annual 98<sup>th</sup> Percentile Concentrations and Design Values**

The annual 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentrations for 2010-2019 are shown in Figure 2 and Table 26. The PM<sub>2.5</sub> design value is calculated by averaging the annual 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentrations for three consecutive years at each monitoring site. For example, the 2019 design value at Albany (23 µg/m<sup>3</sup>) was calculated by adding the 2017 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentration (25.4 µg/m<sup>3</sup>), the 2018 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentration (22.3 µg/m<sup>3</sup>), and the 2019 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentration (19.8 µg/m<sup>3</sup>), then dividing by three. The 24-hour PM<sub>2.5</sub> design values for 2010-2019 are shown in Figure 3 and Table 27. All 2019 design values are below the 24-hour PM<sub>2.5</sub> NAAQS level (35 µg/m<sup>3</sup>). The highest 2019 24-hour design value is at Columbus-Cusseta (13-215-0011).

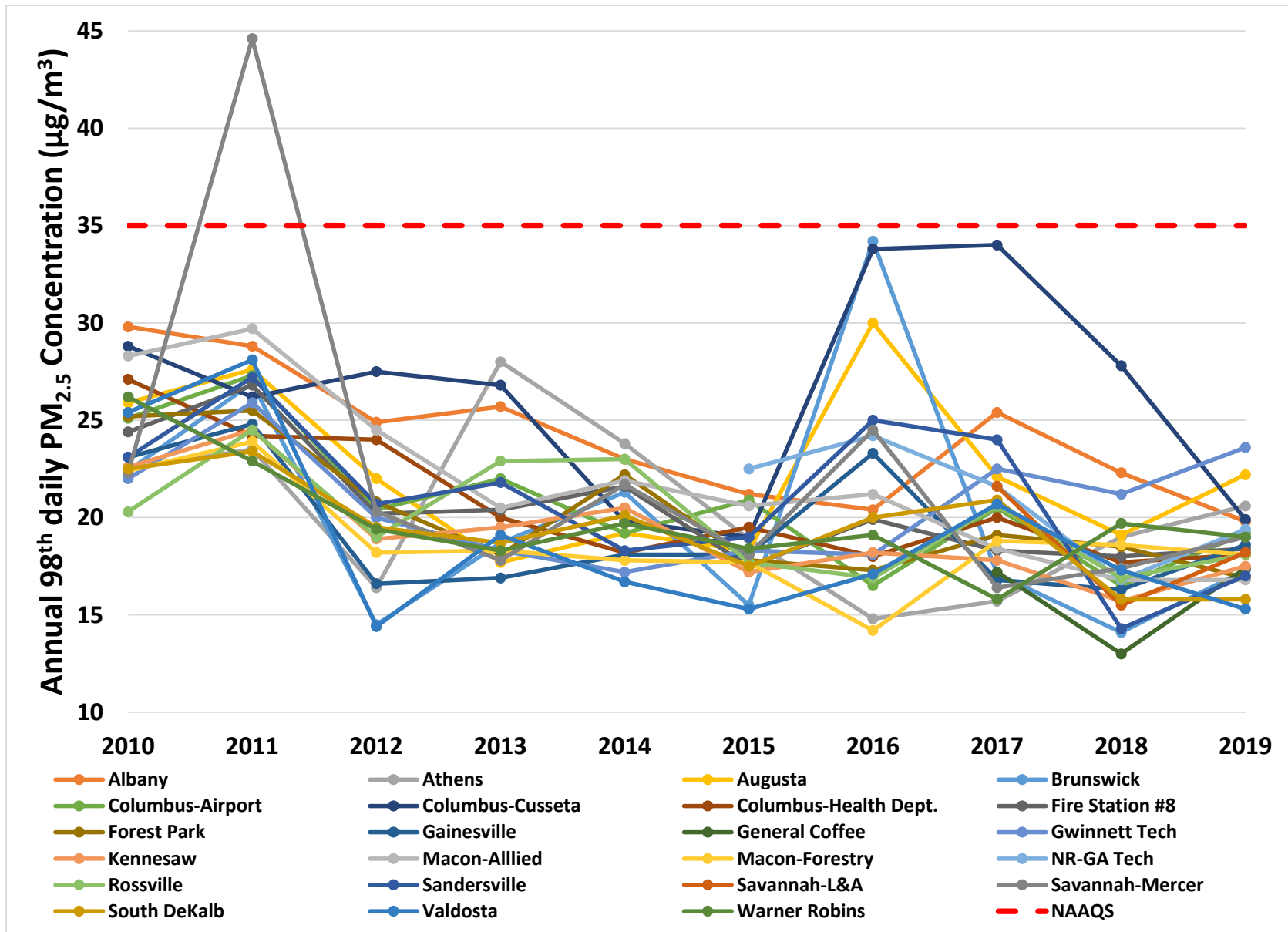


Figure 2. Trend of annual 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentrations in Georgia for 2010-2019.

Table 26. Annual 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentrations in Georgia for 2010-2019

Site Name	AQS ID	County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Albany	13-095-0007	Dougherty	29.8*	28.8*	24.9*	25.7	23.0	21.2	20.4	25.4	22.3	19.8
Athens	13-059-0002	Clarke	22.5	23.5	16.4	28.0	23.8	18.9	14.8	15.7	19.0	20.6
Augusta	13-245-0091	Richmond	25.9	27.6*	22.0	17.7	19.2	18.3	30.0	22.1	19.1	22.2
Brunswick	13-127-0006	Glynn	22.4*	26.9*	14.5*	18.7*	21.3*	15.5	34.2	17.1	14.1	17.3
Columbus-Airport	13-215-0008	Muscogee	25.1	27.3*	20.4	22.0	19.2	20.9	16.5	20.5	16.5	19.2
Columbus-Cusseta	13-215-0011	Muscogee	28.8	26.2*	27.5	26.8	19.8	19.0	33.8	34.0	27.8	19.9
Columbus-Health Dept.	13-215-0001	Muscogee	27.1	24.2*	24.0	20.0	18.2	19.5	18.0	20.0	17.7	18.1
Fire Station 8	13-121-0039	Fulton	24.4	26.8*	20.2	20.4	21.6	17.5	19.9	18.3	18.0	18.4
Forest Park	13-063-0091	Clayton	25.2	25.5*	20.8	18.1	22.2	17.8	17.3	19.1	18.5	16.9
Gainesville	13-139-0003	Hall	23.1	24.8	16.6	16.9	18.1	18.1	23.3	16.8	16.3*	18.6
General Coffee	13-069-0002	Coffee								17.2*	13.0	17.4
Gwinnett Tech	13-135-0002	Gwinnett	22.0	25.9*	20.0	18.3	17.2	18.3	18.1	22.5	21.2	23.6
Kennesaw	13-067-0003	Cobb	22.6	24.5*	18.9	19.5	20.5	17.2	18.2	17.8	15.7	17.5
Macon-Allied	13-021-0007	Bibb	28.3	29.7	24.5	20.5	21.9	20.6	21.2	18.4	16.8	16.8
Macon- Forestry	13-021-0012	Bibb	22.4	23.9*	18.2	18.3	17.8	17.7	14.2	18.8	18.6	18.1
NR-GA Tech	13-121-0056	Fulton						22.5	24.2	21.6	16.8	19.4
Rossville	13-295-0002	Walker	20.3	24.5	19.0	22.9	23.0	17.7	16.9	20.6	16.9	18.1
Sandersville	13-303-0001	Washington	23.1	27.2*	20.7	21.8	18.3	19.0	25.0	24.0	14.3	17.0
Savannah-L&A	13-051-1002	Chatham								21.6*	15.5*	18.2*
Savannah-Mercer	13-051-0091	Chatham	22.3*	44.6	20.3*	17.8	21.7	18.1	24.5	16.4	17.4	19.0*
South DeKalb	13-089-0002	DeKalb	22.5	23.4	19.5	18.7	20.1	17.5	20.0	20.9	15.8	15.8
Valdosta	13-185-0003	Lowndes	25.4	28.1*	14.4*	19.1	16.7	15.3	17.1	20.7	17.3	15.3
Warner Robins	13-153-0001	Houston	26.2	22.9	19.4	18.3	19.7	18.4	19.1	15.8	19.7	19.0

\* Indicates that the data used to calculate the 98<sup>th</sup> percentile value did not meet the completeness requirement specified in 40 CFR Part 58.

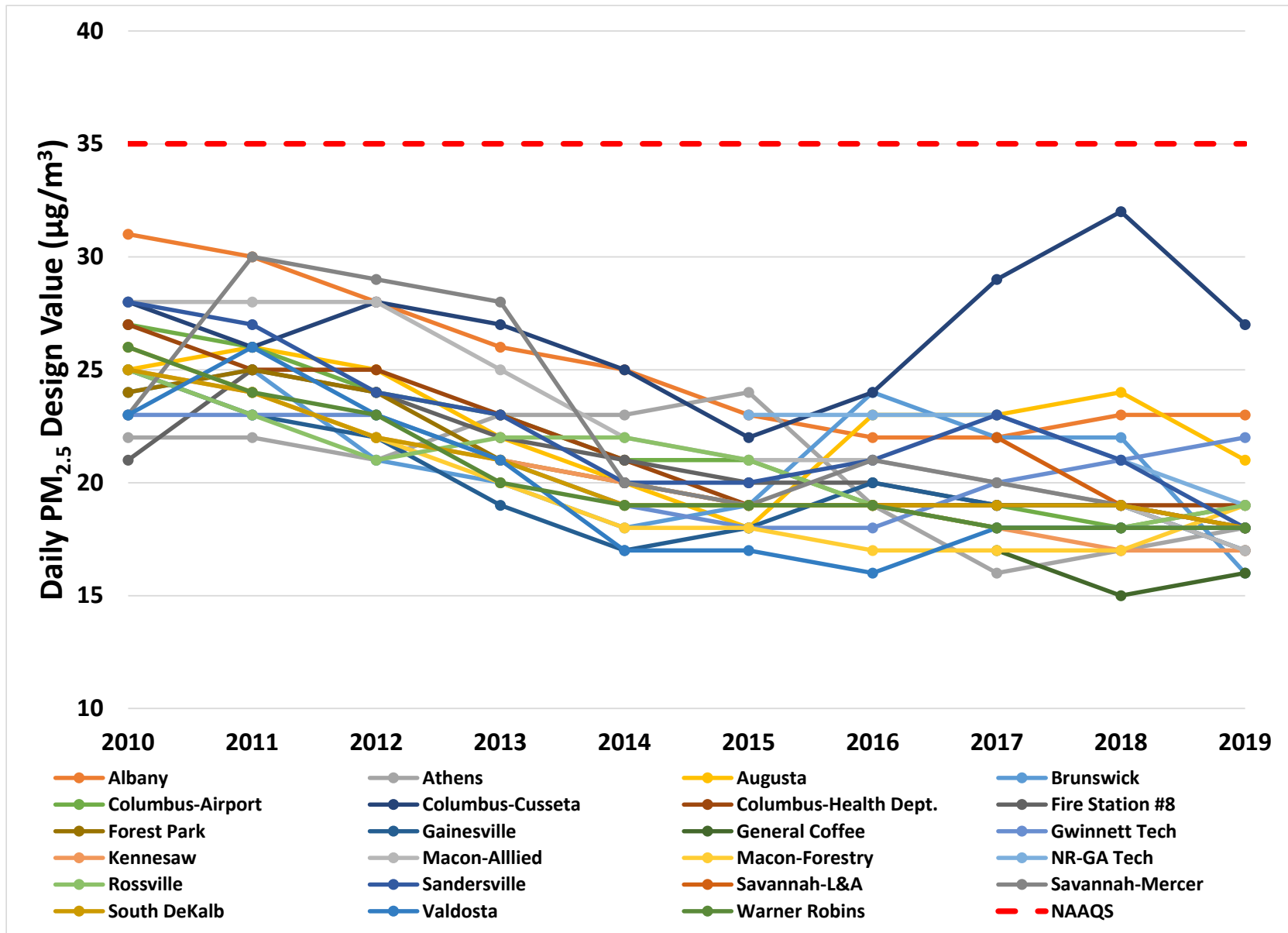


Figure 3. Trend of daily PM<sub>2.5</sub> NAAQS design values in Georgia for 2010-2019.

Table 27. Design values for the 24-hour PM<sub>2.5</sub> NAAQS in Georgia for 2010-2019.

Site Name	AQS ID	County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Albany	13-095-0007	Dougherty	31*	30*	28*	26	25	23	22	22	23	23
Athens	13-059-0002	Clarke	22*	22	21	23	23	24	19	16	17	18
Augusta	13-245-0091	Richmond	25	26*	25*	22*	20	18	23	23	24	21
Brunswick	13-127-0006	Glynn	24*	25*	21*	20*	18*	19	24	22	22	16
Columbus-Airport	13-215-0008	Muscogee	27	26*	24*	23*	21	21	19	19	18	19
Columbus-Cusseta	13-215-0011	Muscogee	28	26*	28*	27*	25	22	24	29	32	<b>27</b>
Columbus-Health Dept.	13-215-0001	Muscogee	27	25*	25*	23*	21	19	19	19	19	19
Fire Station 8	13-121-0039	Fulton	21*	25*	24*	22*	21*	20	20	19	19	18
Forest Park	13-063-0091	Clayton	24	25*	24*	21*	20	19	19	18	18	18
Gainesville	13-139-0003	Hall	25	23	22	19	17	18	20	19	19	17
General Coffee	13-069-0002	Coffee								17*	15*	16*
Gwinnett Tech	13-135-0002	Gwinnett	23*	23*	23*	21	19	18	18	20	21	22
Kennesaw	13-067-0003	Cobb	25*	24*	22*	21	20	19	19	18	17	17
Macon-Allied	13-021-0007	Bibb	28	28	28	25	22	21	21	20	19	17
Macon-Forestry	13-021-0012	Bibb	26	24	22	20	18	18	17	17	17	19
NR-GA Tech	13-121-0056	Fulton						23*	23*	23	21	19
Rossville	13-295-0002	Walker	25	23	21	22	22	21	19	18	18	19
Sandersville	13-303-0001	Washington	28*	27*	24*	23	20	20	21	23	21	18
Savannah-L&A	13-051-1002	Chatham								22*	19*	18*
Savannah-Mercer	13-051-0091	Chatham	23*	30*	29*	28*	20	19	21	20	19	18*
South DeKalb	13-089-0002	DeKalb	25	24	22	21	19	19	19	19	19	18
Valdosta	13-185-0003	Lowndes	23*	26*	23*	21*	17	17	16	18	18	18
Warner Robins	13-153-0001	Houston	26	24	23	20	19	19	19	18	18	18

\* Indicates that the data used to calculate the design value did not meet the completeness requirement specified in 40 CFR Part 58.

#### 4. Summary

In 2019, 23 monitors measured PM<sub>2.5</sub> concentrations in Georgia. Initially, eight PM<sub>2.5</sub> exceedances were reported at five monitors: two at Albany, one at Gwinnett Tech, two at Macon-Forestry, one at Sandersville, and two at Warner Robins. Two exceedances at the Albany monitor were later determined to be non-exceedances, when the results from the primary FRM were obtained.

Table 28 contains a summary of the final PM<sub>2.5</sub> exceedances in 2019. All six exceedances were due to prescribed fires. All annual 98<sup>th</sup> percentile daily PM<sub>2.5</sub> concentrations in 2019 are below 25 µg/m<sup>3</sup>. All 2019 design values are below the 24-hour PM<sub>2.5</sub> NAAQS level (35 µg/m<sup>3</sup>). The highest 2019 24-hour design value is at the Columbus-Cusseta monitor (13-215-0011).

Table 28. Summary of PM<sub>2.5</sub> exceedances in 2019

Date	Site Name	AQS ID	Final PM <sub>2.5</sub> Concentration	Cause of Exceedances
20190308	Gwinnett Tech	13-135-0002	<b>38.9</b>	Prescribed Fires
20190320	Warner Robins	13-153-0001	<b>37.0</b>	Prescribed Fires
20190320	Macon-Forestry	13-021-0012	<b>35.8</b>	Prescribed Fires
20190321	Warner Robins	13-153-0001	<b>58.2</b>	Prescribed Fires
20190321	Macon-Forestry	13-021-0012	<b>50.1</b>	Prescribed Fires
20191205	Sandersville	13-303-0001	<b>41.4</b>	Prescribed Fires