5 Year Air Monitoring Assessment

Division of Air Resource Management
Florida Department of Environmental Protection
July 1, 2015

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Executive Summary

The Florida Department of Environmental Protection (DEP) is the state's lead agency for environmental management and stewardship and whose mission is to protect and manage our state's natural resources, including our air, water and land. To fulfil the requirements of 40 Code of Federal Regulation (CFR) 58.10(d), DEP's Division of Air Resource Management (DARM) completed a comprehensive review of Florida's statewide regulatory air monitoring network.

Purpose of the Assessment

DARM is committed to responsibly managing Florida's air resource with air quality protection methods and technology designed to assure compliance with federal health-based air quality standards and to inform the public and local, state and federal decision-makers of air quality conditions in Florida. DARM staff evaluated the effectiveness and efficiency of the state's ambient air monitoring network in relation to this goal. The assessment ensures DEP and its partners have the information needed to protect human health and the environment for current and future generations in Florida.

Florida's Ambient Air Monitoring Network

Most of Florida's ambient air monitoring network is dedicated to characterizing levels of two pollutants that have shown to pose the greatest risk to public health – fine particulate matter ($PM_{2.5}$) and ozone (O_3). The remainder of the network is comprised of monitors that measure larger particles (PM_{10}), carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2).

As of June 30, 2015, DEP's air monitoring network consisted of 102 sites and 224 monitors. Data from these monitors serve a variety of needs. The data are used to:

- Determine if air quality is meeting federal National Ambient Air Quality Standards (NAAQS);
- Provide near real-time air quality information for the protection of public health;
- Forecast air quality;
- Assist with permitting activities;
- Evaluate the effectiveness of air pollution control programs;
- Determine air quality trends;
- Identify and develop responsible and cost-effective pollution control strategies; and
- Evaluate air quality models.

Air quality in Florida is some of the best in the country, with 99.85% of Florida in attainment with respect to the NAAQS. Only a small section in Hillsborough and Nassau Counties is nonattainment for sulfur dioxide (SO_2) and a small section of Hillsborough County is nonattainment for lead (Pb).

Assessment

DEP evaluated the statewide network on three separate scales: site-level, airshed-level, and state-level on a pollutant-by-pollutant basis. DEP conducted the assessment in accordance with U.S. Environmental Protection Agency (EPA) guidance.

Findings

- Florida has one of the most comprehensive and robust ambient air monitoring networks in the nation.
- Florida's statewide network is efficient and effective at meeting monitoring objectives supporting DEP's policy goals.
- Florida's statewide network greatly exceeds regulatory requirements for most criteria pollutants.
- Florida does not need significant network changes.
- Florida may have to increase the DEP network due to anticipated SO_2 ambient air monitoring requirements.

Recommendations

- Retain nearly all of the existing monitoring network as it is currently configured.
- Consolidate the Crystal River $PM_{2.5}$ and SO_2 monitoring sites. Since both sites are in close proximity, consolidation of operations would be more cost-effective.
- Add new monitors at prioritized locations:
    - Meet near-road CO requirements in Orlando;
    - Meet near-road NO_2 requirements in Orlando, Miami and St. Petersburg;
    - Add a near-source Pb monitor in Jacksonville;
    - Meet near-road $PM_{2.5}$ requirements in Orlando;
    - Consider adding a SO_2 monitor in Palm Beach to enhance spatial coverage; and
    - Consider adding an ozone monitor south of Jacksonville due to a gap in the network.

- Provide for technology needs:
    - Convert to a robust network of Federal Equivalent Method (FEM) $PM_{2.5}$ continuous monitors to support NAAQS compliance assessments and AQI reporting;
    - Upgrade the data acquisition systems from ESC 8832's to ESC 8872's for improved digital and remote capabilities;
    - Continue assistance to the state's local program partners for upgrades to wireless communication at all sites;
    - Continue the hands-on air quality workshop for statewide air monitoring staff; and
    - Continue upgrades to the state's air monitoring database for new regulatory requirement changes and improved automation and tracking features.

Introduction

The U.S. Environmental Protection Agency requires each state, or where applicable, local monitoring agencies to conduct network assessments once every five years [40 CFR 58.10(d)].

> *"(d) The State, or where applicable local, agency shall perform and submit to the EPA Regional Administrator an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in appendix D to this part, whether new sites are needed, whether existing sites are no longer needed and can be terminated, and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals (e.g., children with asthma), and, for any sites that are being proposed for discontinuance, the effect on data users other than the agency itself, such as nearby States and Tribes or health effects studies. For PM2.5, the assessment also must identify needed changes to population-oriented sites. The State, or where applicable local, agency must submit a copy of this 5-year assessment, along with a revised annual network plan, to the Regional Administrator."*

The five year air quality monitoring network assessment is required to determine at a minimum:

1) If the network meets the monitoring objectives defined in Appendix D;
2) Whether new monitoring sites are needed;
3) Whether existing sites are no longer needed and can be terminated;
4) Whether new technologies are appropriate for incorporation into the air monitoring network;
5) Whether the network sufficiently supports characterization of air quality in areas with large populations of susceptible individuals;
6) Whether discontinuance of a monitoring site would have an adverse impact on other data users or health studies;
7) Whether changes are needed for $PM_{2.5}$ population oriented sites; and
8) If monitoring is required near any additional Pb sources according to the most recent National Emissions Inventory; monitoring is required near sources with Pb emissions greater than 0.5 tons per year.

Additionally, EPA's Region 4 requires agencies to consider the following information:

1) Statewide and local level population statistics;
2) Statewide ambient air monitoring network pollutant concentration trends for the last five years;
3) Network suitability to measure the appropriate spatial scale up representativeness for selected pollutants;
4) Monitoring data spatial redundancy or gaps that need to be eliminated; and
5) Programmatic trends or shifts in emphasis or funding that lead toward different data needs.

This assessment details the current monitoring network in Florida for the criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, particulate matter, and lead. The monitoring sites are categorized by the following types: NCore (multi-pollutant sites), SLAMS (state and local air monitoring sites), SPM (special purpose monitors), $PM_{2.5}$ speciation sites, NATTS (national air toxics trend sites), and non-regulatory. Specific site information (provided in Appendix A) includes location information (address and latitude/longitude), site type, objectives, spatial scale, sampling schedule, equipment used, and site assigned value. The assessment also describes the air monitoring objectives and how they have shifted recently with updates to National Ambient Air Quality Standards and associated monitoring requirements.

Design

The DEP has created a robust and comprehensive air monitoring network that covers over 91% of the more than 19,800,000 people living in Florida, the third most populous state in the United States. The ambient air monitoring network assesses air quality for the pollutants for which the Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards. Called criteria pollutants, they are: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter - both fine ($PM_{2.5}$) and thoracic (PM_{10}) - and sulfur dioxide. This assessment considers the network of monitoring for those six pollutants.

The Ambient Air Monitoring Network Assessment Guidance, EPA-454/D-07-001, dated February 2007 states that, “Before beginning a network assessment, the purposes of the monitoring network—i.e. the networks’ mission (e.g., establish regulatory compliance, further scientific understanding) -- should be established or carefully revisited and prioritized.” Florida has an ambient air monitoring network designed with two main goals: to verify compliance with the National Ambient Air Quality Standards, and to provide consistent air quality information to the public.

In 1999, EPA’s National Ambient Air Monitoring Strategy (NAAMS) changed from reflecting a desire for single parameter monitoring in favor of multi-pollutant sites. Since Florida’s monitoring network already had a multi-pollutant site in each large city in the state, DARM’s network design was not significantly overhauled. DARM continued building its ozone and fine particle networks where the greatest concern for potentially exceeding or violating the NAAQS existed.

Table 1 summarizes the required monitors and the number operating in the network. The state considers the federal monitoring requirements as the minimum amount of monitoring needed in the network in order to adequately serve Florida’s large and spread out population. This objective is met by providing a more robust network, especially for ozone (O_3) and fine particles ($PM_{2.5}$). These two pollutants drive the Air Quality Index (AQI) in Florida cities more than 97% of the time, although this is changing with the 1-hour NO_2 and 1-hour SO_2 standards being introduced into the AQI.

Table 1. Monitoring Requirements and Monitors in the Network

Network Monitoring Requirements Metropolitan Statistical Areas	2014 Population Estimates	$PM_{2.5}$ Monitors Req.	Network General $PM_{2.5}$ Monitors	Coll. Cont. $PM_{2.5}$ Req.	Coll. Cont. $PM_{2.5}$[1,2]	Ozone Req.	Network Ozone[2]	PM_{10} Req.	Network PM_{10}	NCore Req.	Network NCore
Miami-Fort Lauderdale-Pompano Bch	5,929,819	msa: 2	msa: 8	msa: 1		msa: 1	msa: 7	msa: 2	msa: 5	1	1
Broward County	1,869,235	2	3	1	1	1	4	1	3		
Miami-Dade County	2,662,874	2	3	1	1	1	2	1	1		
Palm Beach County	1,869,235	2	2	1	1	1	2	1	1		
Tampa-St. Petersburg-Clearwater	2,915,582	msa: 2		msa: 1		msa: 2	msa: 9	msa: 2	msa: 8	1	1
Hernando	175,855										
Hillsborough	1,316,298	1	1	1	1	2	4	1	4		
Pasco	485,331					2	2				
Pinellas	938,098	1	2	1	1	2	3	1	4		
Orlando-Kissimmee-Sanford	2,321,418	2	2	1	1	2	5	2	2		
Jacksonville	1,419,127	2	3	1	1	2	4	2	2		
North Port-Bradenton-Sarasota	748,708	1	1	1	1	2	6	1	1		
Lakeland	634,638	1	1	1	1	2	2	1	1		
Cape Coral-Fort Myers	679,513	1	1	1	1	2	2	1	1		
Deltona-Daytona Beach-Ormond Bch	609,939	1	1	1	1	1	3	1	1		
Palm Bay-Melbourne-Titusville	556,885	1	1	1	1	1	2	1	1		
Pensacola-Ferry Pass-Brent	474,081		1		1	2	3				
Port St. Lucie-Fort Pierce	444,420					1	2				
Tallahassee	375,751		1		1	1	3				1
Naples-Marco Island	348,777					0	1				
Ocala	339,167					0	2				
Gainesville	273,377		1			0	1				
Crestview-Fort Walton Beach-Destin	258,042					1	1		1		
Panama City-Lynn Haven	194,929					1	1				
Punta Gorda (Charlotte Co)	168,474					0					
Sebastian - Vero Beach	144,755					0					
Homosassa Springs (Citrus Co)	139,377		1			0					
The Villages (Sumter Co)	139,377					0					
Sebring (Highlands Co)	98,236					0	1				
Micropolitan: Palatka (Putnam Co)	72,143								1		
Micropolitan: Lake City (Columbia Co)	67,857						1				
Total		13	25	9	14	21	58	13	24	2	3

Florida Network Monitoring Requirements Metropolitan Statistical Areas	2014 Population Estimates	SO_2 Monitors Req.	Network SO_2 Monitors	NO_2 Monitors Req.	Network NO_2 Monitors	Road side NO_2 Req.	Network Road side NO_2	Road side $PM_{2.5}$ Req.[3]	Network Road side $PM_{2.5}$	Road side CO Req.[3]	Network Road side CO
Miami-Fort Lauderdale-Pompano Bch	5,929,819	msa: 2		msa: 2		msa: 2					
Broward County	1,869,235		2		1	1	1	1	1	1	1
Miami-Dade County	2,662,874		1	1	2	1					
Palm Beach County	1,869,235				1						
Tampa-St. Petersburg-Clearwater	2,915,582	msa: 2		msa: 1		msa: 2					
Hernando	175,855										
Hillsborough	1,316,298		4		1	1	1	1	1	1	1
Pasco	485,331										
Pinellas	938,098		2		1	1					
Orlando-Kissimmee-Sanford	2,321,418	1	1	1	1	1		1		1	
Jacksonville	1,419,127	1	5	1	1	1	1	1	1	1	1
North Port-Bradenton-Sarasota	748,708	1	1			1[1]					
Lakeland	634,638	1	1			1[1]					
Cape Coral-Fort Myers	679,513					1[1]					
Deltona-Daytona Beach-Ormond Bch	609,939					1[1]					
Palm Bay-Melbourne-Titusville	556,885					1[1]					
Pensacola-Ferry Pass-Brent	474,081	1	1								
Port St. Lucie-Fort Pierce	444,420										
Tallahassee	375,751		1								
Naples-Marco Island	348,777										
Ocala	339,167										
Gainesville	273,377										
Crestview-Fort Walton Beach-Destin	258,042										
Panama City-Lynn Haven	194,929										
Punta Gorda (Charlotte Co)	168,474										
Sebastian - Vero Beach	144,755										
Homosassa Springs (Citrus Co)	139,377	1	1								
The Villages (Sumter Co)	139,377										
Sebring (Highlands Co)	98,236										
Micropolitan: Palatka (Putnam Co)	72,143		1								
Not in MSA: White Springs (Hamilton)	14,048		1								
Total		10	21	4	8	11	3	4	3	4	3

1 Includes only collocated continuous
2 Bonifay O_3 and $PM_{2.5}$ not in an MSA
3 Not Required until 2017

To meet the goals of this assessment, the population of the state and how it is dispersed had to be evaluated. Population levels are a large factor in the minimum federal network design for most pollutants. For example, every Core Based Statistical Area (CBSA) with a million or more people must have a CO monitor operating at one of the required near-road NO_2 monitoring sites. Ozone, $PM_{2.5}$, and PM_{10} monitoring requirements are based on population and the level of pollution measured. SO_2 monitoring requirements are determined by population and the levels of SO_2 emitted by permitted facilities. NO_2 monitoring requirements depend largely on population and traffic counts. Pb is the only pollutant where population is not used to determine the minimum number of monitors; it is dependent on levels emitted by permitted facilities.

The size and distribution of Florida's population is vital to evaluating the ability of Florida's air monitoring network to meet federal requirements. The most recent census block population density (2010) for all of Florida is shown in Figure 1. The map includes the locations of the monitoring network for the state. On the map, the orange and red areas represent the most densely populated portions of the state. The concentration of air monitors is highest in these areas. Figures 2 and 3 show census block population density for the Miami-Fort Lauderdale-Pompano Beach and Tampa-St. Petersburg-Clearwater metropolitan areas, respectively. Orlando-Kissimmee-Sanford and Jacksonville are the other major metropolitan areas with high density populations.

In addition, county-level populations are shown in Figure 4 for the 2010 census, and in Figure 5 for the projected population level expected in 2025. The most population growth over the next 10 years is projected to occur in cities and counties where more than a million people live: the Miami-Fort Lauderdale-Pompano Beach area, Tamp-St. Petersburg-Clearwater area, Orlando-Kissimmee-Sanford area, and Jacksonville.

Figure 1. 2010 Florida Population Density and 2013 Monitoring Site Locations

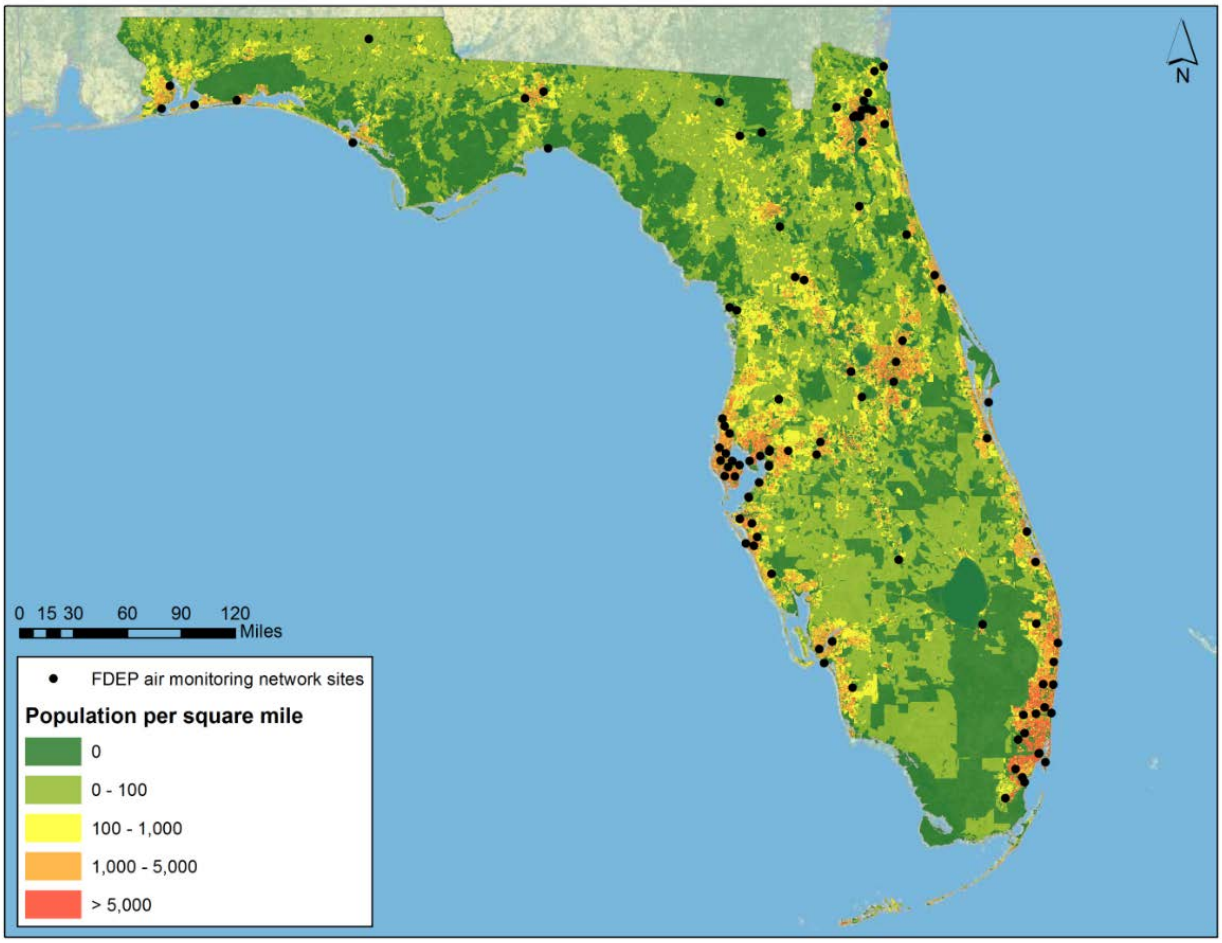


Figure 2. Miami-Fort Lauderdale-Pompano Beach Metropolitan Area 2010 Population Density and 2013 Monitoring Locations

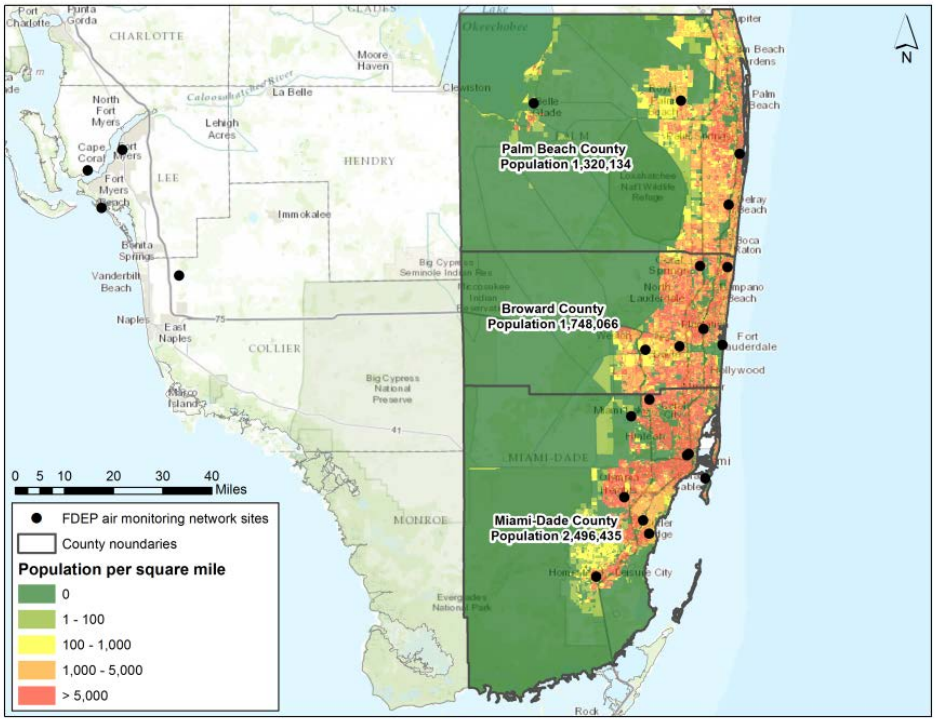


Figure 3. Tampa-St. Petersburg-Clearwater Metropolitan Area 2010 Population Density and 2013 Monitoring Locations

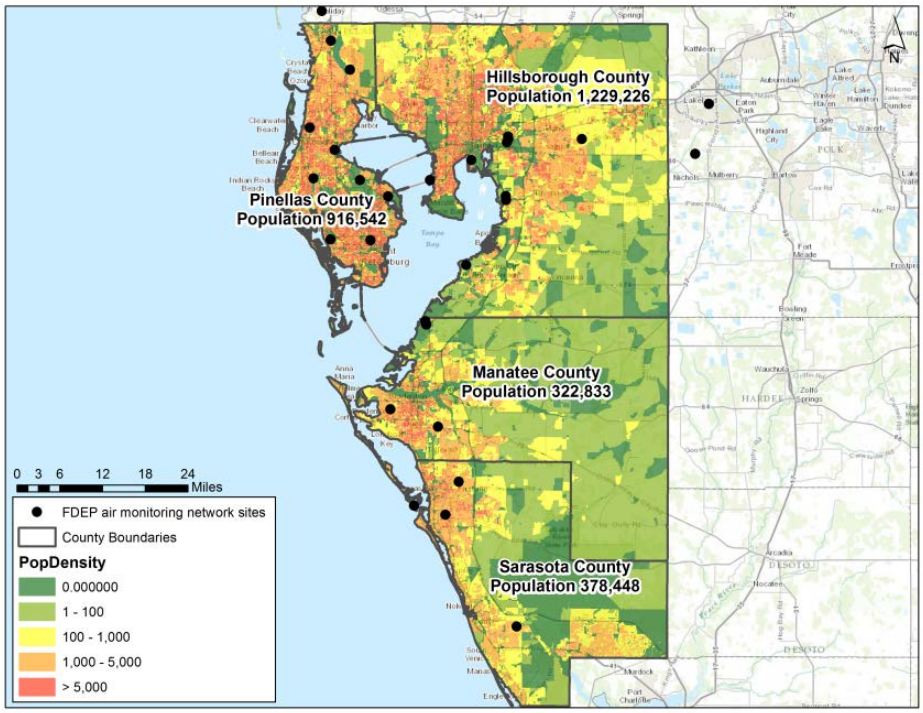


Figure 4. 2010 County Level Population for Florida

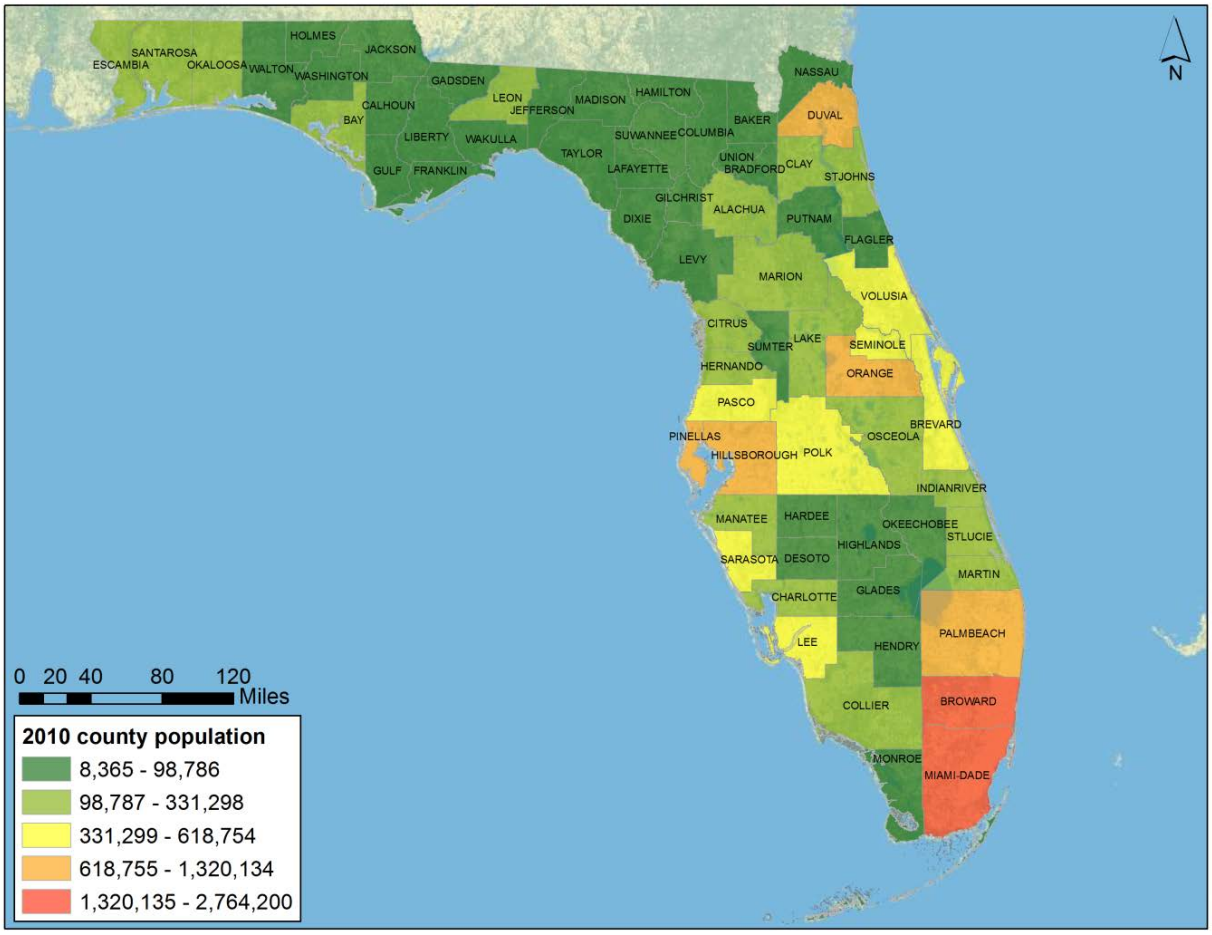
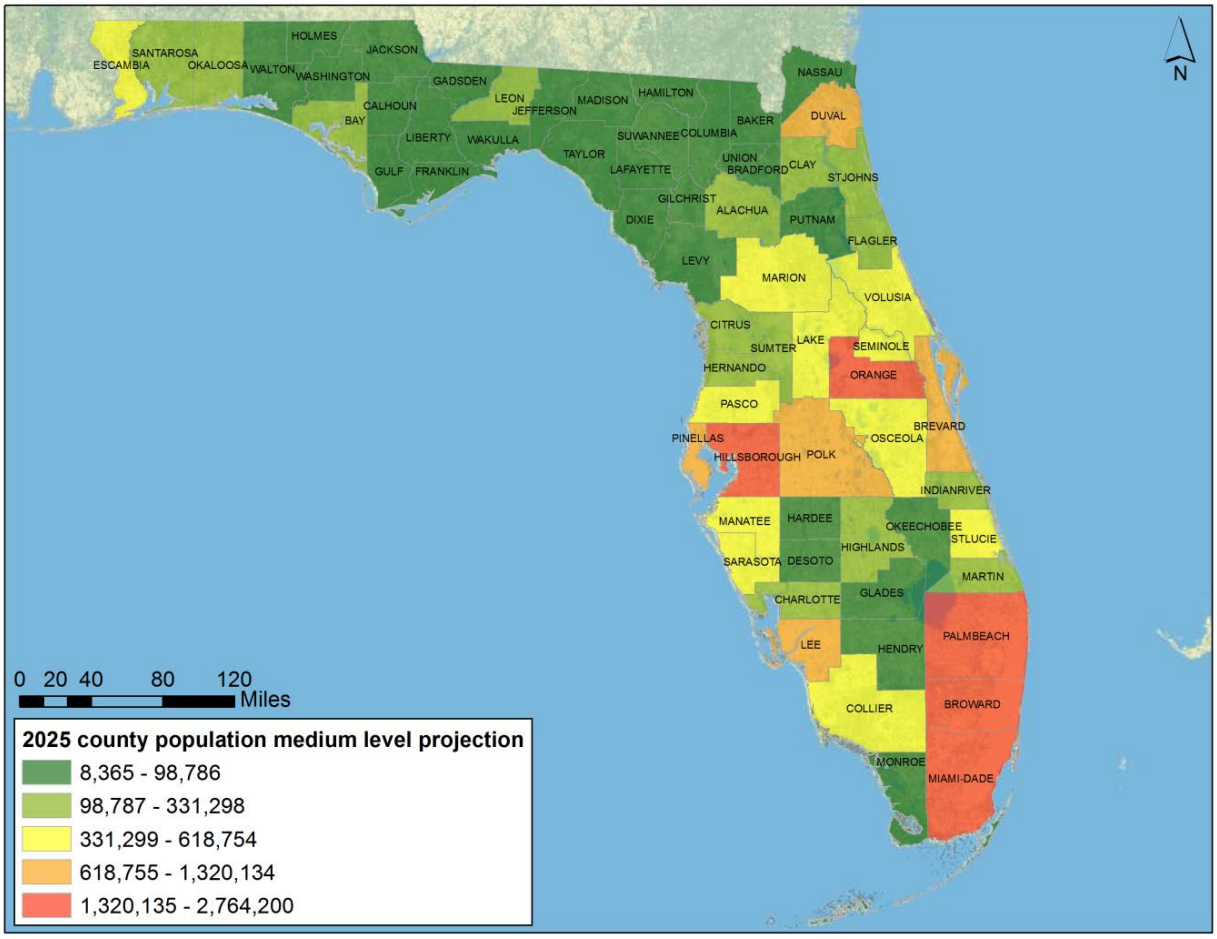


Figure 5. 2025 County Level Projected Population for Florida



Florida's ambient air monitoring network stations are positioned where the population is concentrated. This is largely along the coastal areas as seen in Figure 6. Monitoring location placement in Florida is complicated by the presence of waterways such as rivers, swamps, and lakes. Having many water bodies limits access to some areas and influences the normal air flow which may affect where a monitor should be located.

Since 1990, EPA has been putting more emphasis on multi-pollutant monitoring sites. They were the basis of the NCore monitoring design. These sites provide a greater spectrum of pollutants for epidemiological investigation and monitoring efficiencies for the operation of the network. Ozone and $PM_{2.5}$ have requirements to secure a maximum concentration monitoring site in each MSA; thus, creating challenges in taking advantage of the multi-pollutant concept.

Figure 6. 2015 Florida Ambient Air Monitoring Network

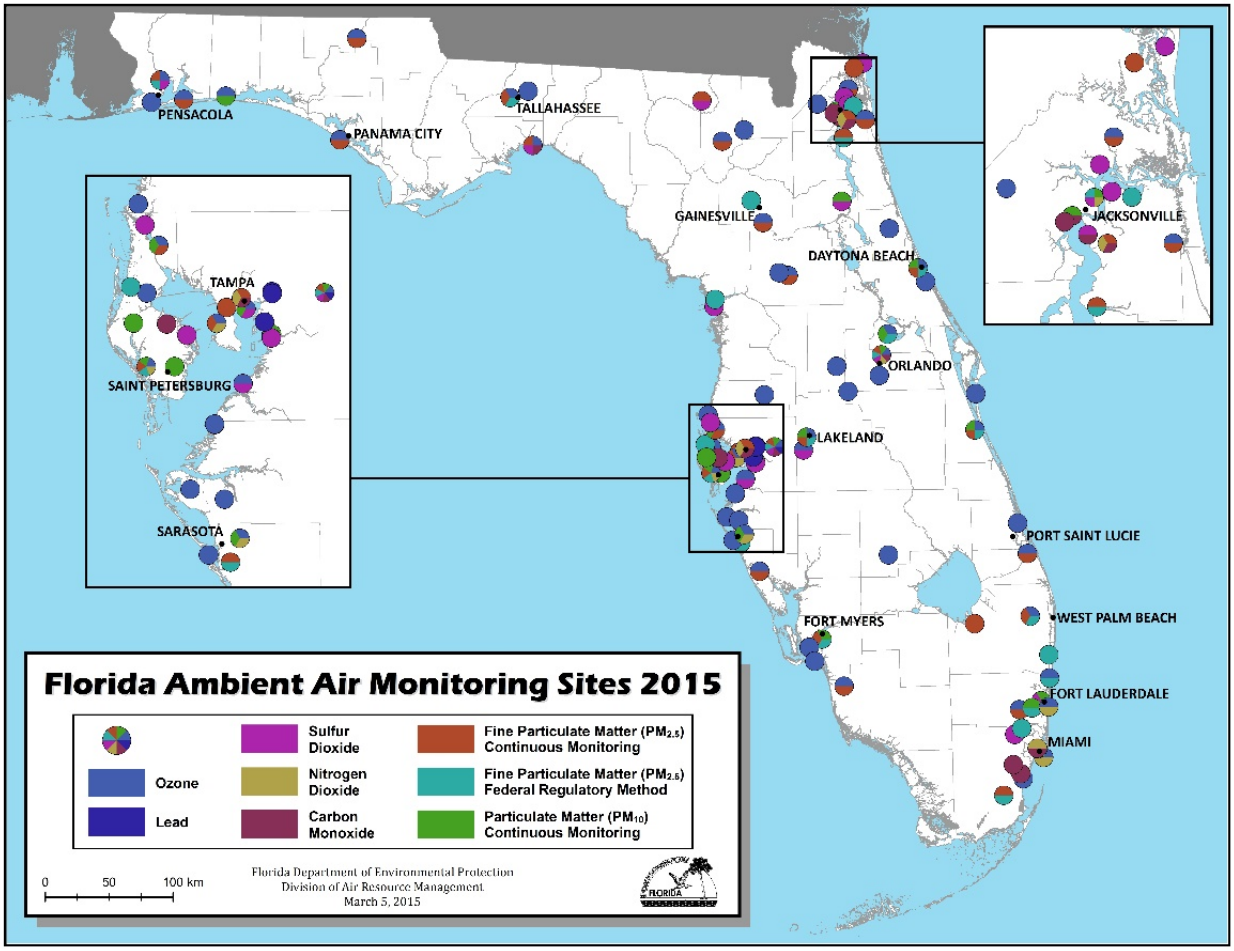
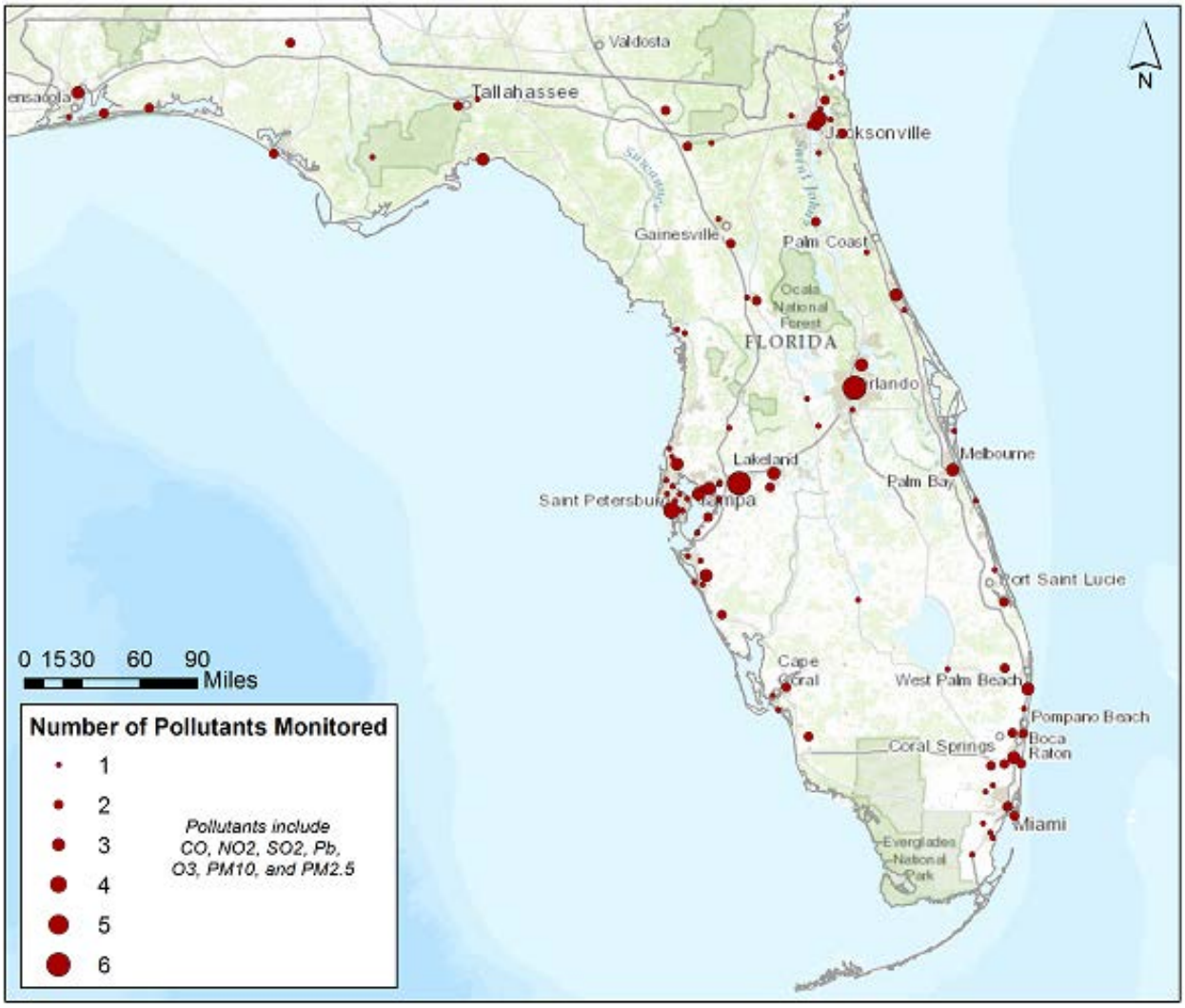


Figure 7 displays red circles representing monitoring sites across the state. In addition to showing the density of the ambient air monitoring network by how many circles are clustered in areas, the multi-pollutant monitoring site concept is evident by the larger circles. Some of the largest sites with 5 or more pollutants being monitored are easy to identify on the map.

Figure 7. Statewide Monitoring Locations and Major Municipalities



Pollutant Specific Network

Assessment Process

Analysis Tools

The analysis for each pollutant, except lead, includes an overview, assessment, and recommendations. The assessment includes an evaluation of the monitoring and/or emissions information, an analysis of the suitability for compliance with federal monitoring requirements, a monitor area served map, correlation analysis, an analysis of potential gaps in the network, and an evaluation of the impact of any new regulations on the network. While the correlation analysis was completed for all pollutants, it is only discussed for the two pollutants found to have high correlation in their networks, ozone and PM_{10}.

To objectively evaluate the compliance of Florida's monitoring networks with federal monitoring requirements, an analysis was completed for the pollutants using the weighting design in Table 2. The analysis balanced the desirable characteristics for the sites by using the weighting design for each pollutant. The analysis will apply to CO, NO_2, O_3, $PM_{2.5}$, $PM_{10,}$ and SO_2. Pb is not included, since its network is designed around large permitted Pb sources only. The total of each pollutant column is 100%. The percentages assigned to the scenarios in the list are those that are most appropriate for each pollutant to ideally meet the federal design requirements. The ideal design is then mapped (as shown in Figure 10 for CO). The most suitable places for the monitors of that pollutant are displayed on the map as dark blue areas. The monitors in the network are shown on the map by the white diamonds. The network is well designed to meet federal monitoring requirements when a monitor is located in each of the dark blue areas on the suitability map that require monitoring.

Similarly, to assess the networks for gaps in coverage, suitability maps assessing spatial distribution of monitors and monitoring gaps for each pollutant will be presented. As shown in Table 3, the weighting for suitability to identify gaps will be used to analyze each pollutant network based on the scenarios that are important to monitoring for that pollutant. Pb is also not included here since its network is designed around large permitted Pb sources only.

Again, the total of each pollutant column is 100%. The percentages are assigned to each scenario that are most appropriate to ideally site monitors. That ideal design is mapped (as in Figure 11 for CO). The most suitable places for the monitors of that pollutant are shown on the map as dark blue areas. The monitors in the network are shown on the map by the white diamonds. The network is well designed when the minimum number of required monitors are in places identified in dark blue areas indicating an area suitable for monitoring. Additional areas identified would be considered if network expansion were being considered.

Table 2. Weighting Design for Suitability of Compliance with Federal Monitoring Requirements

Scenario	Compliance with Federal Monitoring Requirements					
Pollutant	**NO_2**	**SO_2**	**$PM_{2.5}$**	**PM_{10}**	**CO**	**O_3**
Continuous monitors (5-km radius buffer)	15	15	40	40	20	30
Distance from monitors (gradient buffer)	15	15	0	0	15	20
Monitors with 5+ years of data at same location (5 km)						
Industrial Facilities (NEI point sources)	15	45	35	35	20	15
Major road vehicle activity (AADT)	10				15	
Heavy-duty truck road activity (AADT)	15					
Small roads (no vehicle activity data)	5				5	
Rail lines						
Airports locations (activity weighted)						
Port locations (activity weighted)						
Land cover categories (monitor siting accessibility)	10	10	10	10	10	10
Protected and sensitive natural areas (Class 1 areas, state and federal parks)						
Sensitive Population density (Under age 5, Over 65)						
Asthma Hospitalizations per 10,000 people						
Total Population density (Census block level)	15	15	15	15	15	25
Areas of historical AQ exceedances						
Total	**100**	**100**	**100**	**100**	**100**	**100**

Table 3. Weighting Design for Suitability Maps to Identify Gaps

Scenario	Understand Spatial Distribution and Identify Monitoring Gaps					
Pollutant	**NO_2**	**SO_2**	**$PM_{2.5}$**	**PM_{10}**	**CO**	**O_3**
Continuous monitors (5-km radius buffer)	15	25	25	25	25	20
Distance from monitors (gradient buffer)	15	20	18	18	20	20
Monitors with 5+ years of data at same location (5 km)						
Industrial Facilities (NEI point sources)	10	40	5	5	5	10
Major road vehicle activity (AADT)	10	0	10	10	20	7
Heavy-duty truck road activity (AADT)	15		10	10		10
Small roads (no vehicle activity data)	5		5	5	10	5
Rail lines	5		2	2		3
Airports locations (activity weighted)	5		5	5		5
Port locations (activity weighted)	5		5	5	5	5
Land cover categories (monitor siting accessibility)	10	10	10	10	10	10
Protected and sensitive natural areas (Class 1 areas, state and federal parks)	5	5	5	5	5	5
Sensitive Population density (Under age 5, Over 65)						
Asthma Hospitalizations per 10,000 people						
Total Population density (Census block level)						
Areas of historical AQ exceedances						
Total	**100**	**100**	**100**	**100**	**100**	**100**

Network Description

The ambient air monitoring network in Florida consists of 102 sites and 224 monitors. The specific details describing the sites and monitors can be found in Appendix A. Those details include the AQS number, site address, latitude, longitude, network type, pollutant, sampler make and model, monitoring objective, spatial scale, statement of purpose, assigned value, and comments with the monitoring start date.

The assigned values were defined as follows:

- Critical sites and monitors - high value and should be protected
  - Design values sites above the NAAQS
  - Long-term multi-pollutant sites used for trends and SIP work
  - Required to meet minimum federal monitoring requirements
- Credible sites and monitors – generally protected; occasionally may move to provide optimum spatial coverage in a large network
  - Sites that provide spatial richness of the network to identify exposures and support AQI forecasting and reporting
  - Sites that may not be the design value location, but occasionally are the highest across the MSA due to seasonal meteorology
  - Sites that may be useful for NAAQS under review
- Supplemental sites and monitors – not critical
  - May have outlived their intended purpose
  - Non-required monitors with non-unique low values relative to the NAAQS
  - Sites experiencing problems with siting criteria which cannot be resolved

Carbon Monoxide (CO) Network

Overview

Carbon Monoxide concentrations in Florida are well below the NAAQS. Data from the long established CO network is reflected in Figure 8 which displays the 2nd highest 1-hour and 8-hour averages concentrations. The 1-hour standard is 35 ppm. The highest 1-hour concentration for 2014 was 5 ppm. The 8-hour standard is 9 ppm and Florida's highest 8-hour concentration in 2014 was 2.0 ppm. All of the CO sites in the state meet the 1-hour and 8-hour standards.

Figure 8. CO 2014 2nd High Values

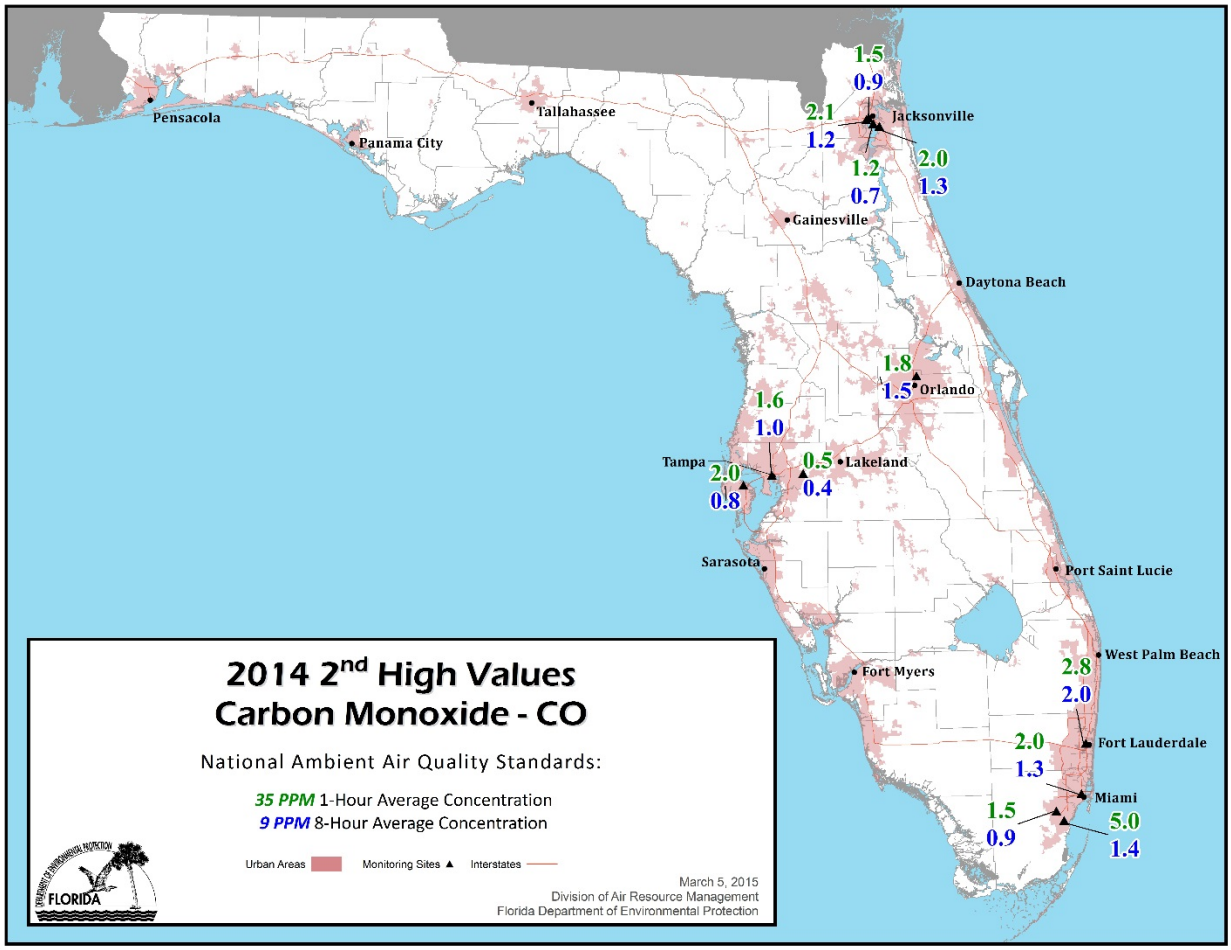
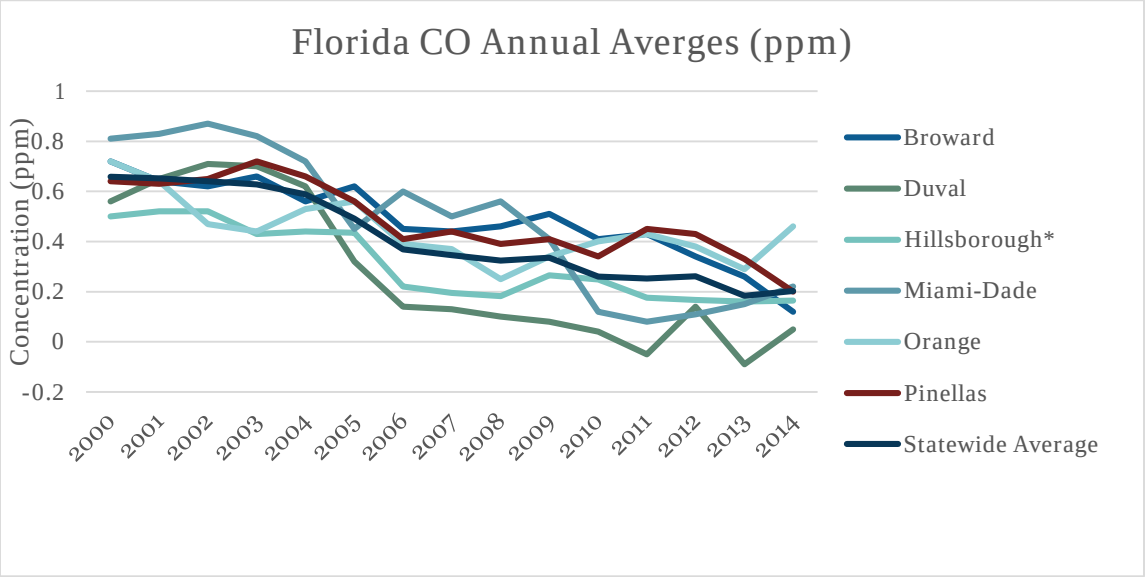


Figure 9 is a graph of the annual averages of CO at monitoring sites in each of the six most populous counties in the state. Over the last 15 years, the annual average of CO concentrations have been decreasing, reflecting continued improvement in Florida's air quality.

Figure 9. Annual Average Concentrations for CO (2000-2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

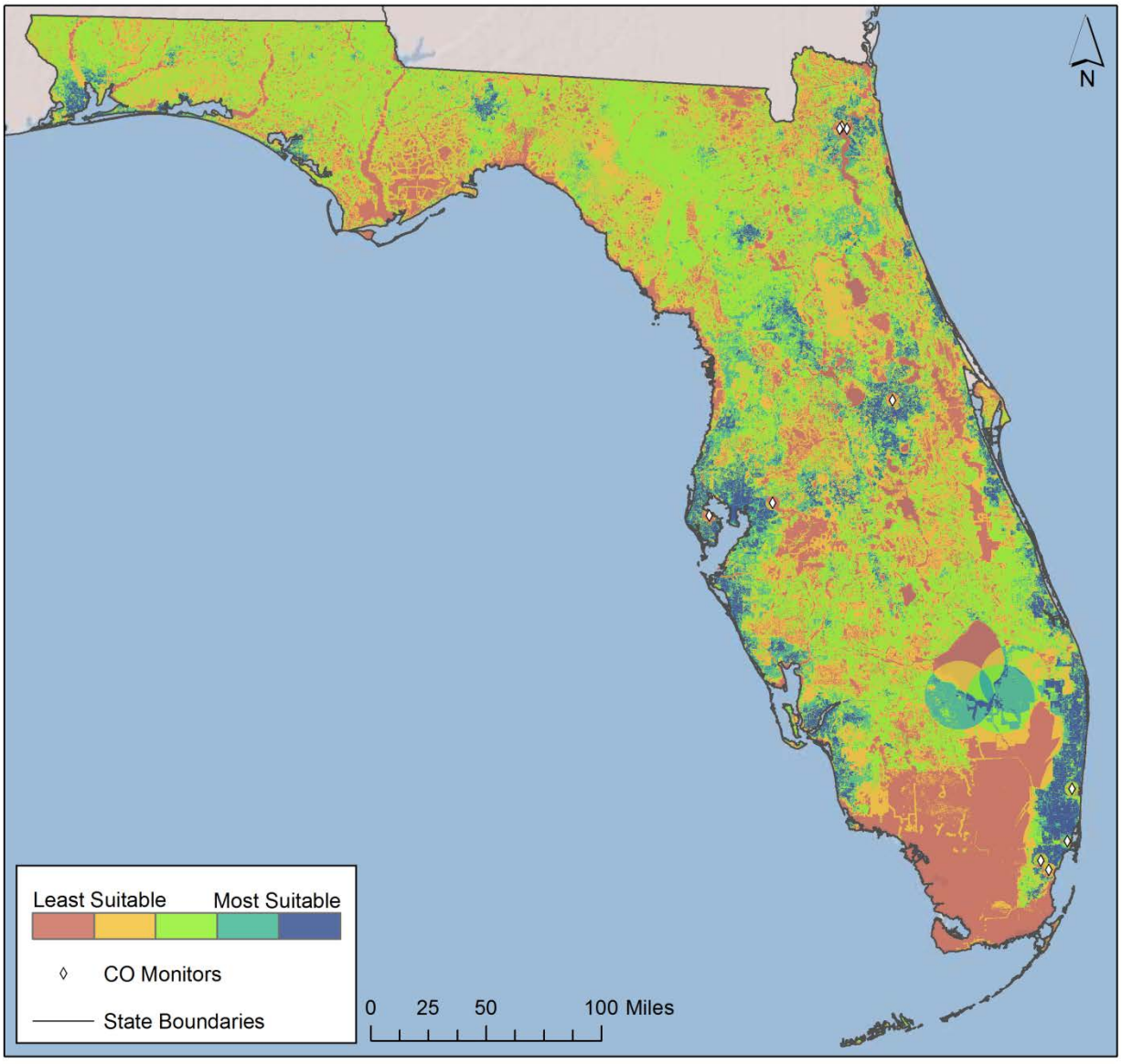
The majority of traditional CO monitoring sites had a monitoring objective of high concentration, meaning the sites were expected to experience the highest concentration of CO in the city. Since many of the sites were the only CO site in the county and were placed where CO would be expected to be at its peak, high concentration was an appropriate objective. The spatial scales describe the expected area of the concentration of the pollutant. Spatial scales for CO monitors are most often small. They are either micro (up to 100 meters) or middle (up to 0.5 kilometers), as would be expected for CO near-road monitors. The spatial scales in Florida's network are appropriate. There are fourteen CO monitors operating in Florida. The four required CO monitors will be located at near-road sites.

The near-road CO sites will have an objective of being source oriented for mobile sources and use a micro spatial scale, since they will be within 50 meters of the adjacent highway. CO monitors are in operation at the near-road sites in Fort Lauderdale, Tampa and Jacksonville..

Suitability for Compliance to Requirements

The suitability map for assessing compliance in the CO network is shown in Figure 10 The network more than meets minimum size requirements and the monitors are located in the dark blue areas where monitoring is required. Therefore, the network is well designed to meet the federal monitoring requirements.

Figure 10. Suitability Map Examining Compliance to Federal Monitoring Requirements for CO

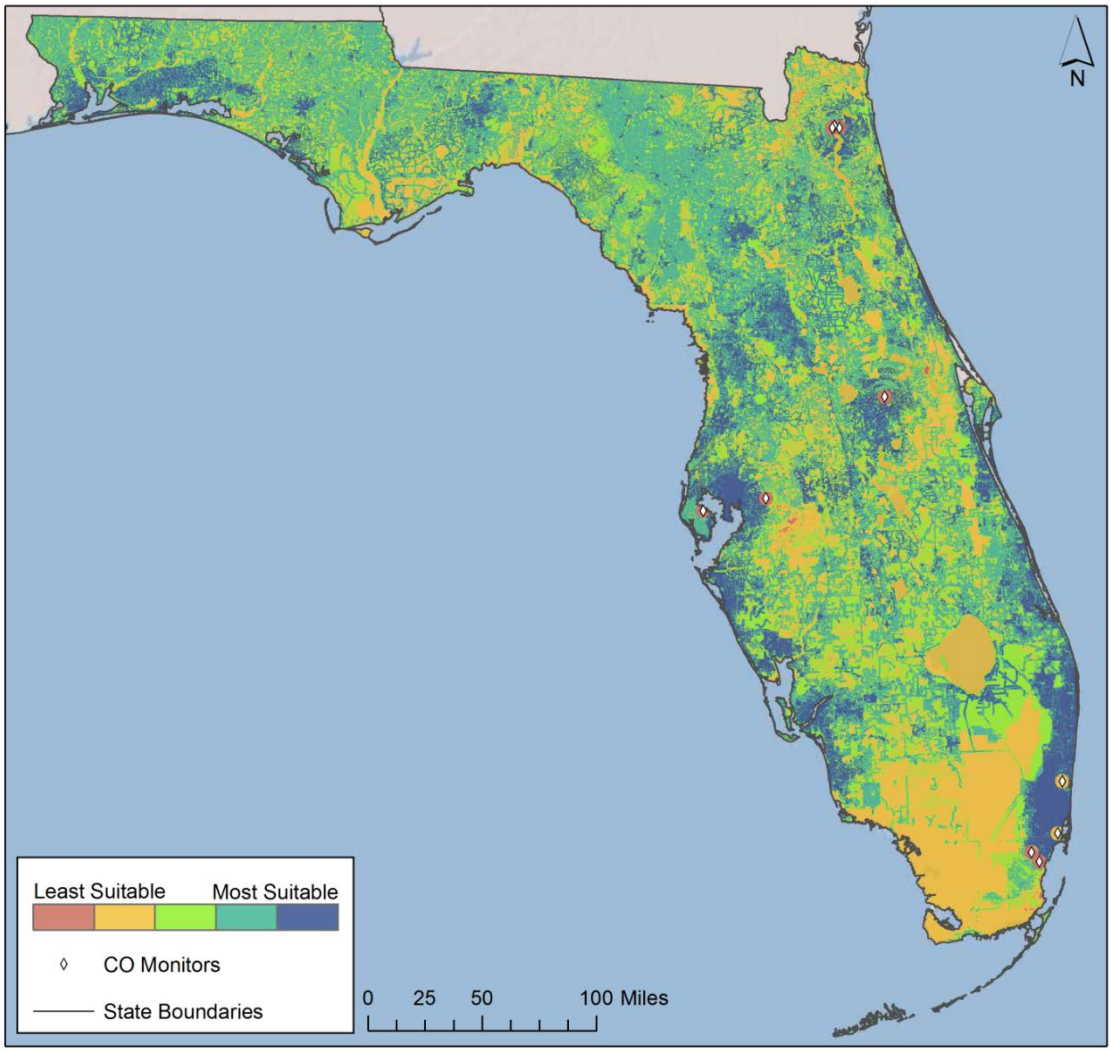


Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Suitability Assessing Gaps

The suitability map for assessing gaps in the CO network is shown in Figure 11. Any dark blue most suitable areas without a monitor, would be areas to consider if there were a required monitor in need of siting, or if there was an interest in expanding the size of the network. Since the CO network more than meets the minimum size, there were no monitoring gaps identified.

Figure 11. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for CO



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Recommendations

Florida's CO network is more than twice the required size and is robust enough to capture trends in the state's ambient air quality. Results of the suitability analyses demonstrates it is a well-

designed network. The recommendation is to complete the near road CO requirements. There are no other plans to modify the CO network.

Lead (Pb) Network

Overview

The Total Suspended Particulate (TSP) Lead (Pb) monitoring network in Florida is limited to areas surrounding sources in Tampa as seen in Figure 12. The sites support the monitoring associated with the Pb nonattainment area. TSP Pb monitoring collects and analyzes large size particles (55 – 100 microns). The other size particle collected in Pb monitoring is PM_{10} which is made up of particles 10 microns and smaller. PM_{10}-Pb monitoring is currently occurring at the NCore site in Tampa.

There is a proposed change to the EPA monitoring rule that would eliminate the requirement to conduct PM_{10}-Pb monitoring at NCore sites. If this rule is promulgated as proposed, the NCore site in Fort Lauderdale will not conduct PM_{10}-Pb monitoring.

Figure 12. TSP Lead Monitoring Network

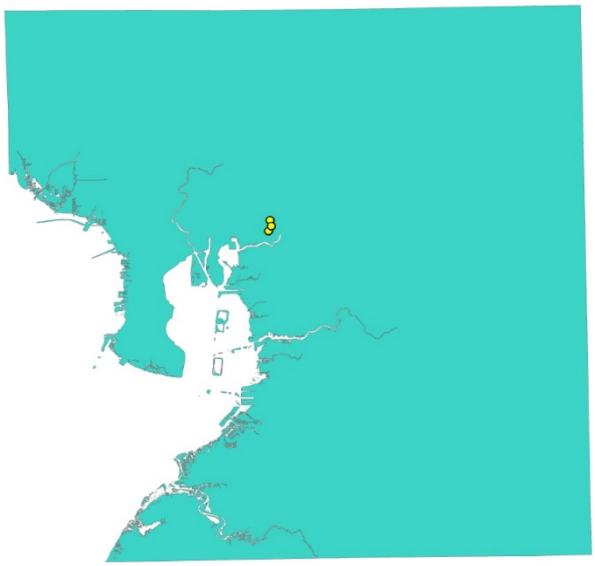
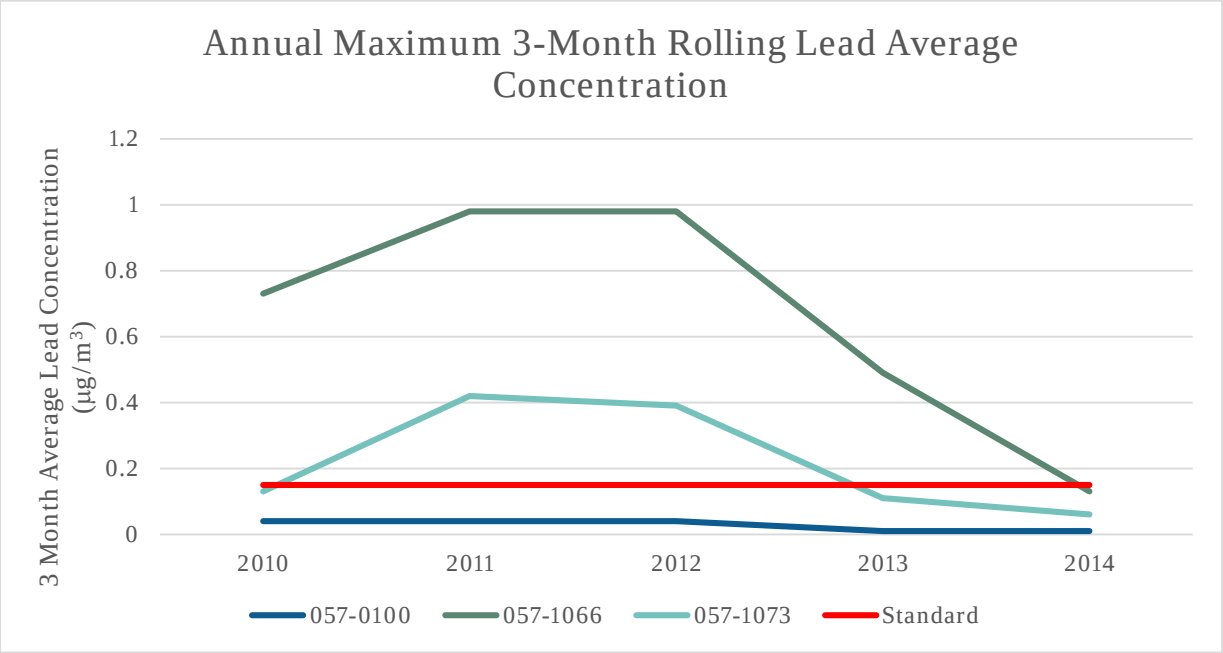


Figure 13. Lead Highest 3-Month Average per Year (2010 - 2014)



Compliance with Network Design Criteria

The annual 3-month maximum Pb concentrations from 2010 – 2014 are shown in Figure 13. The values exceeding the standard reflect the period of time the EnviroFocus facility in Hillsborough County, which is at the center of the nonattainment area, was undergoing construction. By 2014, the annual concentrations were under the level of the standard. The highest 2014 maximum 3-month average was 0.13 µg/m^3 at the CSX site, AQS # 12-057-1066. It will be some time before the design values meet the standard since they use the highest 3-month average in the last 3 year period. The objectives of the monitors in nonattainment area is source oriented and is appropriate.

Recommendations

Pb-PM_{10} monitoring at the NCore site is population oriented. The proposed monitoring rule would eliminate the requirement for monitoring of Pb-PM_{10} at the NCore sites. If this requirement is removed, this monitoring may be discontinued. The monitoring network at the NCore sites have shown that non-source-oriented lead levels are not of concern for health impacts. Since 2010, the NCore site in Tampa, Sydney, AQS # 12-057-3002, had a maximum 3-month average of 0.00 µg/m^3.

There are two new Pb monitoring sites included in the DEP's 2015 Annual Air Monitoring Network Plan. One additional TSP Pb monitor will be in Tampa near the nonattainment area. It

will be placed to address community concerns and will be population oriented. The second will be a source oriented Pb-PM_{10} monitor in the Jacksonville area near their largest Pb source, Ameristeel.

The most recent (2011) National Emissions Inventory (NEI) reported IFF Chemical's lead emissions in excess of 0.5 tons per year (TPY). However, the emission factor was incorrectly reported and the actual emissions should be a fraction of the reported 1.1 TPY. Corrections to the NEI are being pursued by IFF Chemical and DEP, therefore, ambient monitoring is not required for this source.

Nitrogen Dioxide (NO_2) Network

Overview

The majority of the nitrogen dioxide (NO_2) produced in the state is from vehicles. Even so, the values recorded for NO_2 historically were low and they continue to be low, as seen in Figure 14 which displays the 2012 -2014 NO_2 design values for annual and 1-hour averages. The design value is what is used to determine if the standard is being met.

The annual standard for NO_2 is 0.053 ppm (53 ppb). In 2014, the highest NO_2 annual concentration was 12.5 ppb. The 1-hour standard, promulgated in 2010, is 100 ppb and the highest concentration in the state for 2014 was less than half of that value, 46 ppb. These levels of ambient NO_2 concentrations reflect the significant decline seen in the last 15 years that is graphed in Figure 15. Annual averages for one site in each of the state's most populated counties is shown.

There are three federal requirements for NO_2 monitoring: (a) community-wide monitoring for areas with populations over one million, (b) near-road monitoring for areas with populations over 500, 000 that will be phased in according to the NO_2 monitoring requirements, and (c) monitoring of vulnerable and susceptible populations. The variety of monitoring requirements is in response to the sources of NO_2. Permitted facilities, like power generators, produce NO_2. Combustion engines in vehicles produce NO_2 as well. Emissions from both of these types of sources are displayed in Figure 16. The community-wide monitors and near-road monitors address these sources. In addition, NO_2 is one pollutant that affects some individuals more than others. For this reason, there is a requirement to monitor the vulnerable and susceptible populations for NO_2. The network successfully addresses all of these needs.

Figure 14. 2012 - 2014 NO_2 Design Values

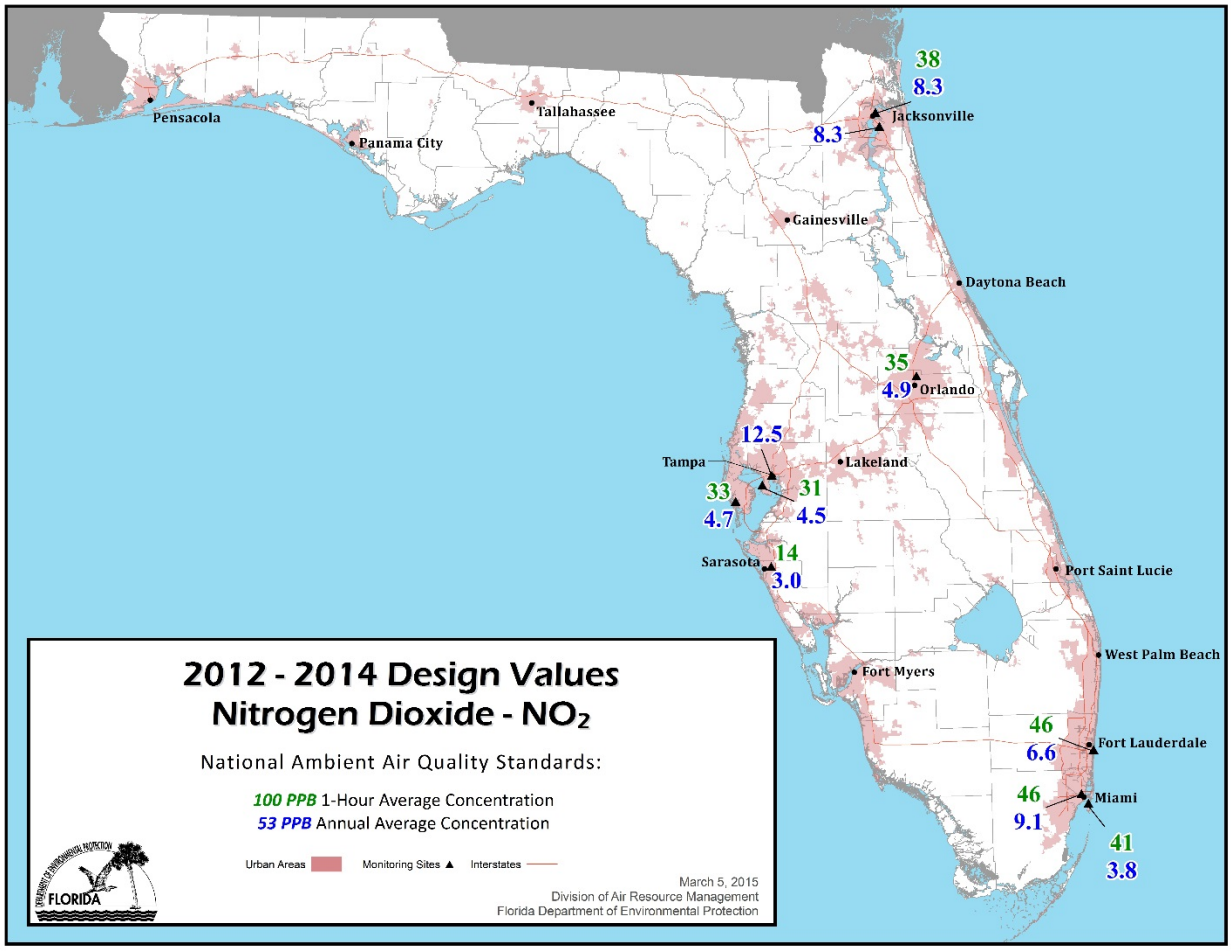
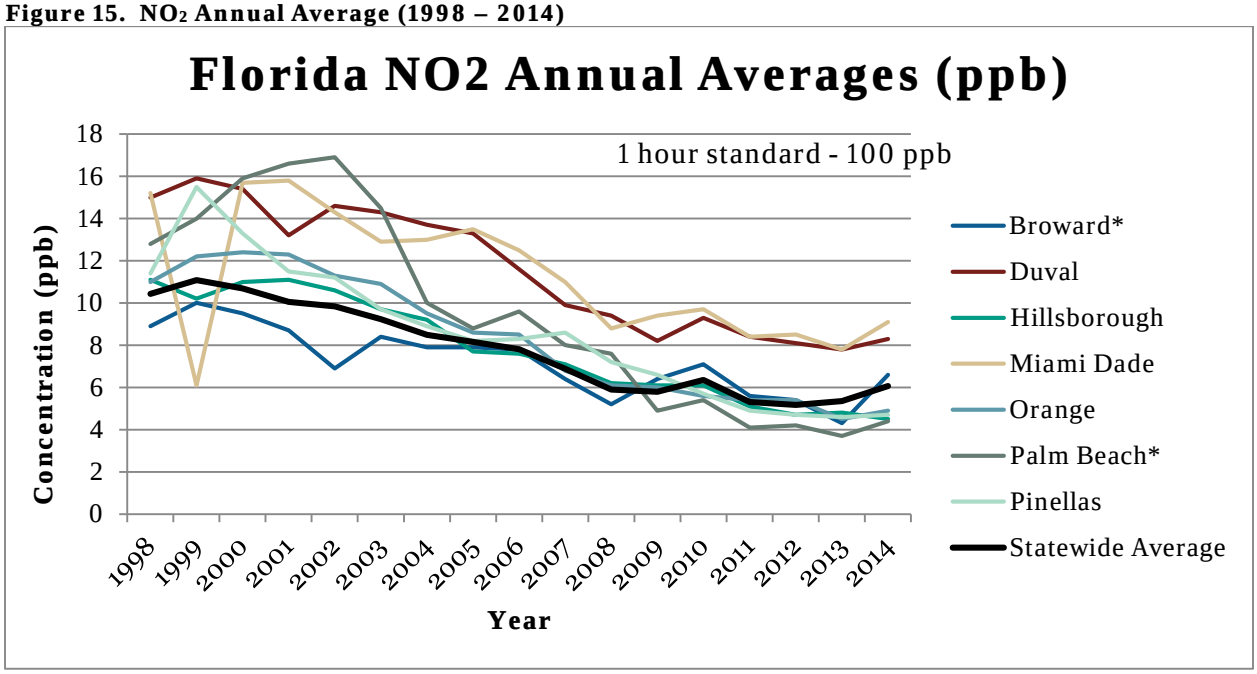


Figure 15. NO_2 Annual Average (1998 – 2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

The NO_2 network objectives have traditionally been a mixture of population exposure sites in areas with low NO_2 concentrations and source oriented and high concentration sites in areas with significant NO_2 sources. With the introduction of the near-road monitoring, source oriented sites will be the dominant objective. The spatial scales describe the expected area of the concentration of the pollutant. The near-road monitors will represent micro spatial scales which is up to 100 meters. The near-road monitors will be within 50 meters of the highway they are monitoring. Studies show that ambient NO_2 concentrations decline drastically with increased distance from the road.

Emissions Review

To determine compliance with the network design criteria, the suitability analysis will use almost half of the weighting factor, (45%), for sources of NO_2. These sources are indicated on Figure 16 by green circles for permitted facilities and shading of the whole county to indicate the mobile and area sources. The NOx emissions from permitted facilities have decreased over the last 15 years in the most populous counties as seen in Figure 17. These reductions are reflected in the ambient concentrations shown in Figure 16, as well.

Figure 16. Map of NO_x Point Emissions Sources and Area/Mobile Emissions by County in Florida

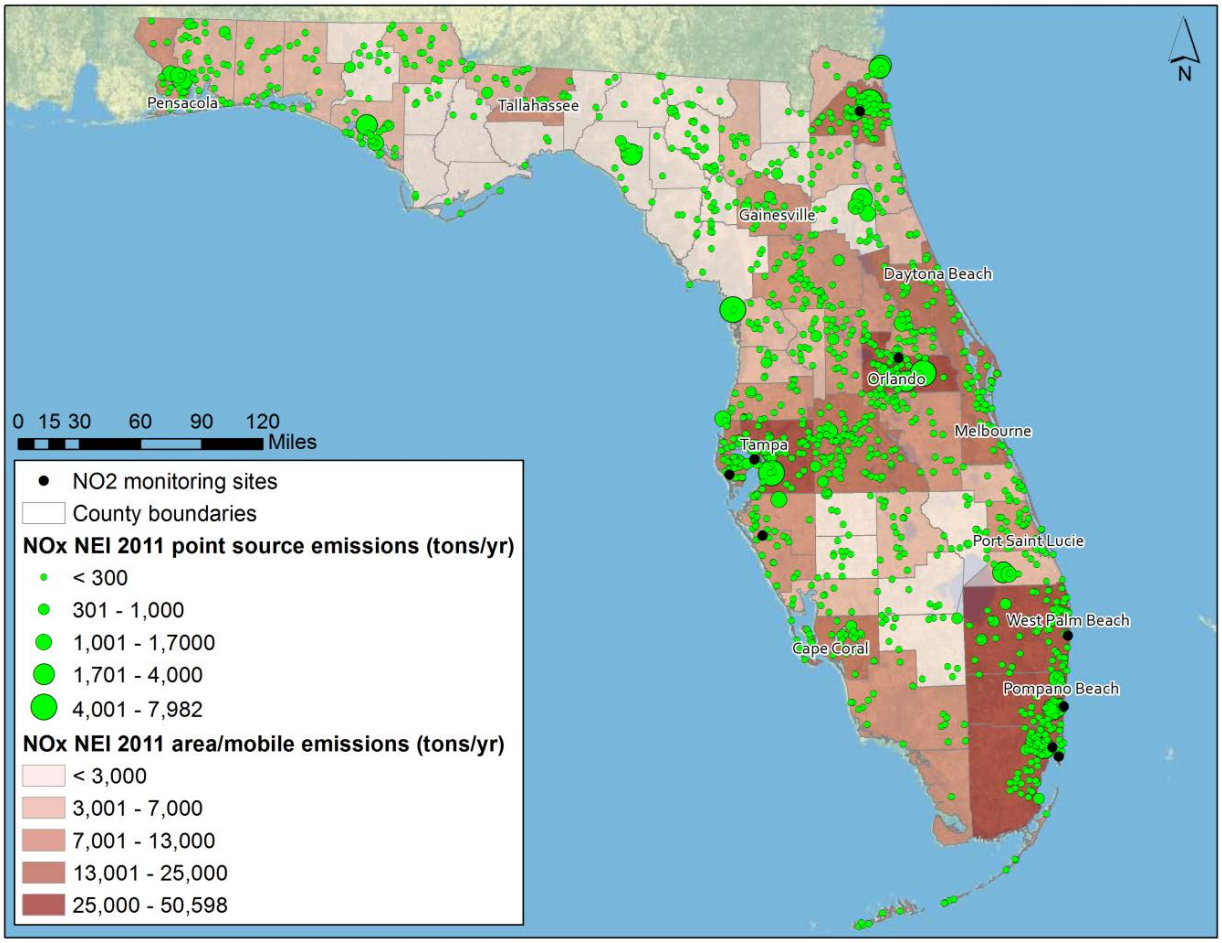
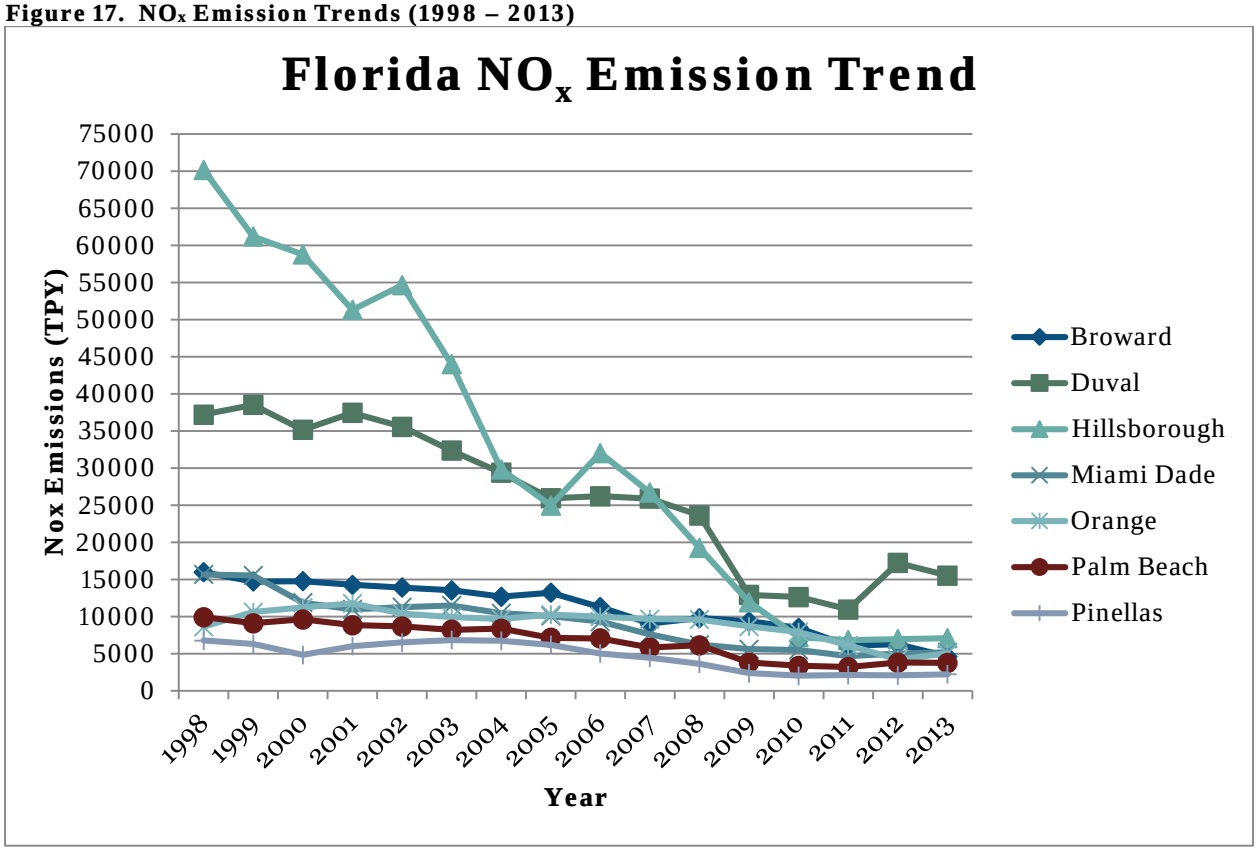


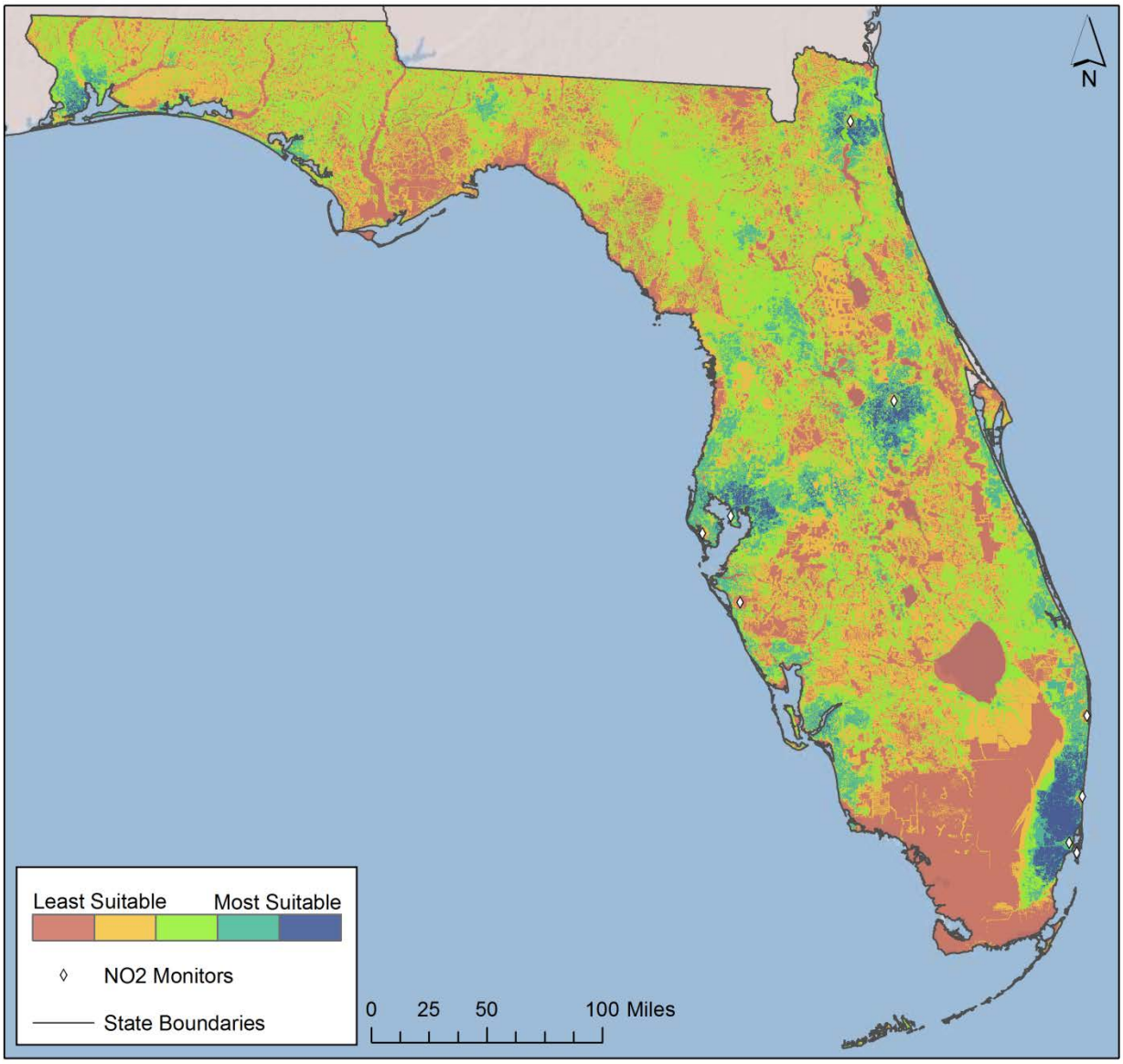
Figure 17. NO_x Emission Trends (1998 – 2013)



Suitability for Compliance to Requirements

NO_2 is weighted heavily by emissions. Population and the current monitors provide the remainder of the total for NO_2 to reach 100% for its weighting factors. These percentages were assigned to the scenarios in Table 2 that are most appropriate to ideally meet the federal design requirements. The results of that ideal design are mapped in Figure 18.

Figure 18. Suitability Map Examining Compliance to Federal Monitoring Requirements for NO_2

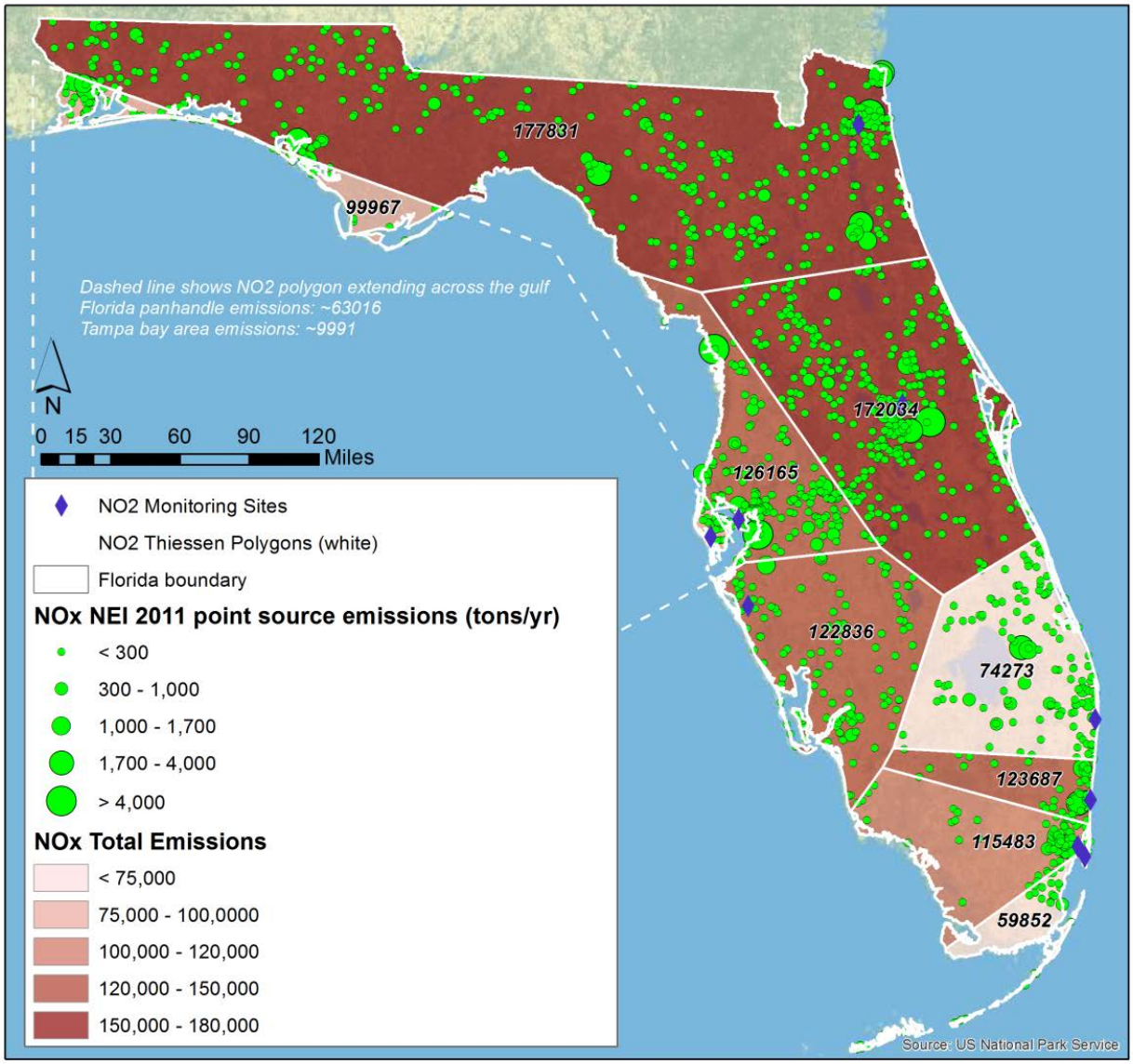


Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

The results of the suitability analysis seen in Figure 18 demonstrate the monitoring sites are located in the most suitable locations in the major population centers across the state. When the near-road NO_2 monitoring network is complete, the total NO_2 monitoring network will have 4 more monitors in addition to the 10 required to meet the 2015 federal minimums. (The near road monitors are not depicted in this analysis). There are more monitors than the minimum required, and the network is well designed for meeting federal requirements.

The NO_2 monitoring network is located in the largest cities in the state. Even in those places with the largest concentration of vehicles, the community-wide monitoring network has NO_2 values that are less than half of the NAAQS. NO_2 monitors are much less common than ozone or particulate which is reflected in Figure 19 showing the monitor area served map. This network has been robust enough to quantify the effect of the emission reductions on the ambient concentrations as seen in Figures 15 and 17.

Figure 19. NO2 Monitor Area Served Map with NO_2 Emissions



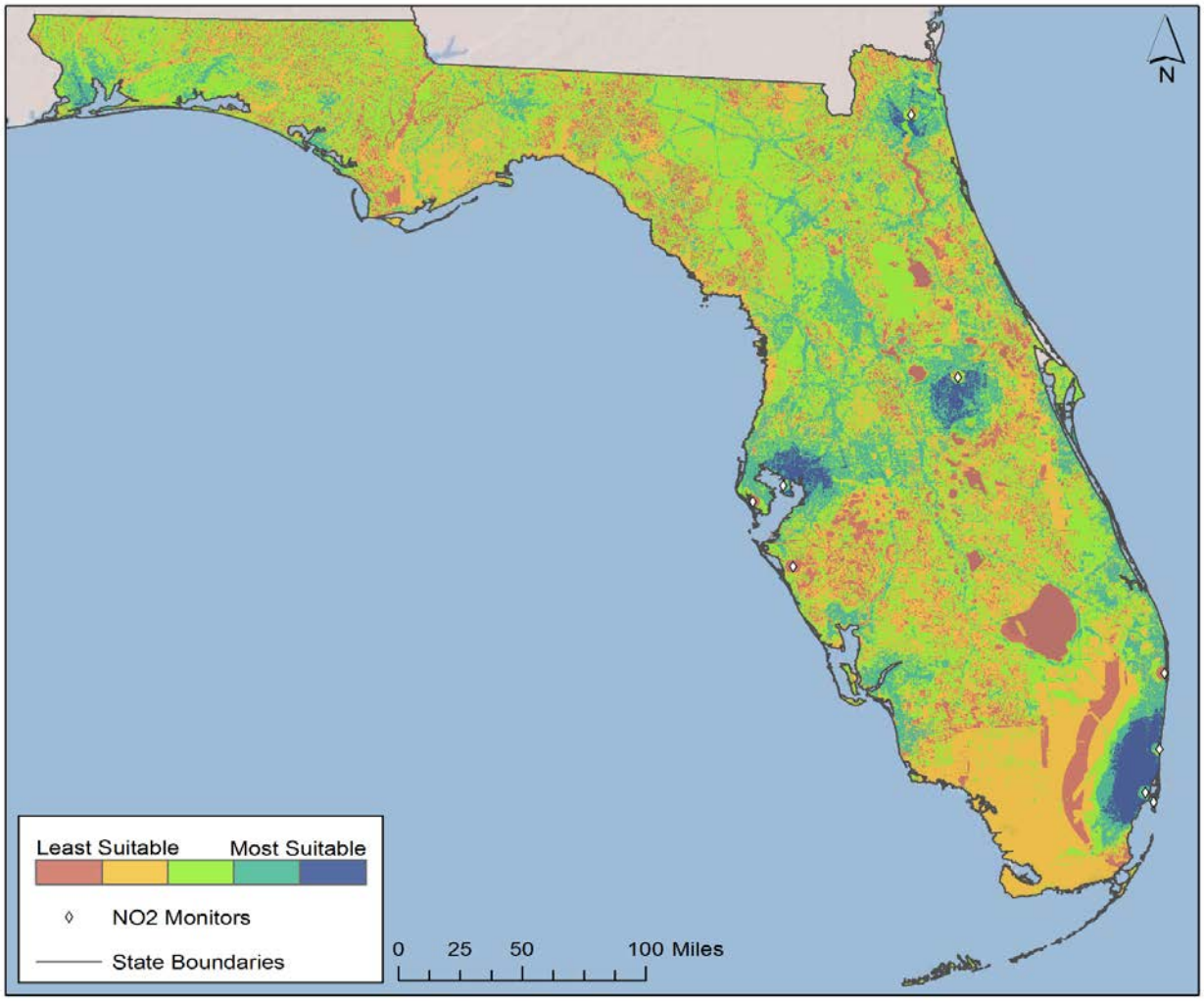
Note: Thiessen polygons indicating the emissions served for NO_2 monitors. Polygon shading indicates the total emissions represented by each monitor; green circles indicate the individual point source emissions from the 2011 NEI; blue diamonds indicate monitor locations; and the annotated numbers indicate the total emissions in each polygon.

Suitability Assessing Gaps

The suitability map for assessing spatial distribution of monitoring gap for the NO_2 network is shown in Figure 20. The NO_2 weighting factors for suitability to identify gaps included other places that NO_2 monitoring might be desirable such as rail lines, airports and ports.

The ideal design for NO_2 is mapped in Figure 20. The sites in the network are displayed on the map. Any gaps identified would be areas to consider if there were a required monitor in need of siting, or areas in which to locate a monitor if there was an interest in expanding the size of the network. Since the network more than meets the minimum size, there were no NO_2 monitoring gaps identified.

Figure 20. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for NO_2



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Recommendations

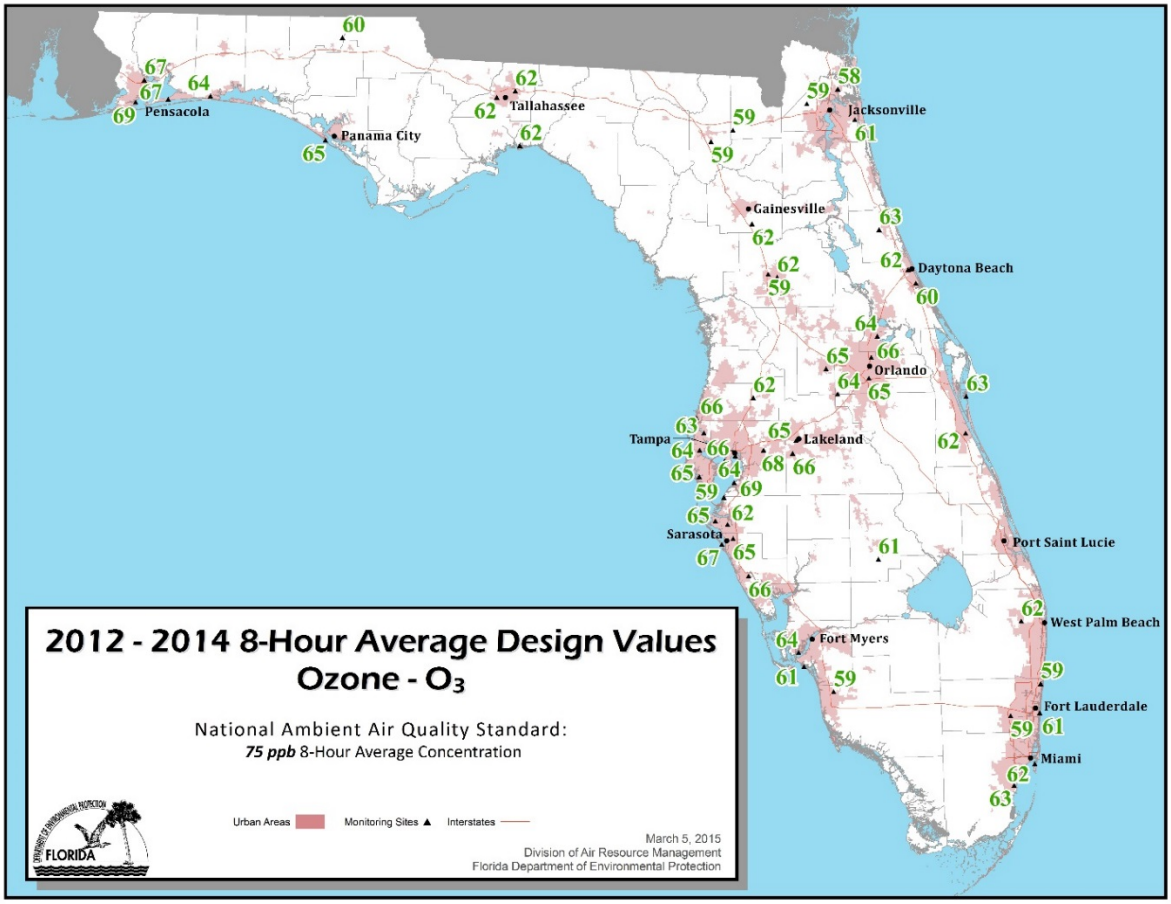
The recommendation for the NO_2 network is to meet the near-road monitoring requirements. EPA established a series of deadlines that require agencies to begin operating the NO_2 near-road monitors in three phases between January 1, 2014 and January 1, 2017. This requires completing installation of the Miami, St. Petersburg, and Orlando sites in the near future. An additional five near-road sites are required by January 1, 2017 pending direction from EPA concerning whether Phase 3 will be implemented. Initial investigations into the highest Adjusted Daily Traffic (ADT) counts for those areas have been completed.

Ozone Network

Overview

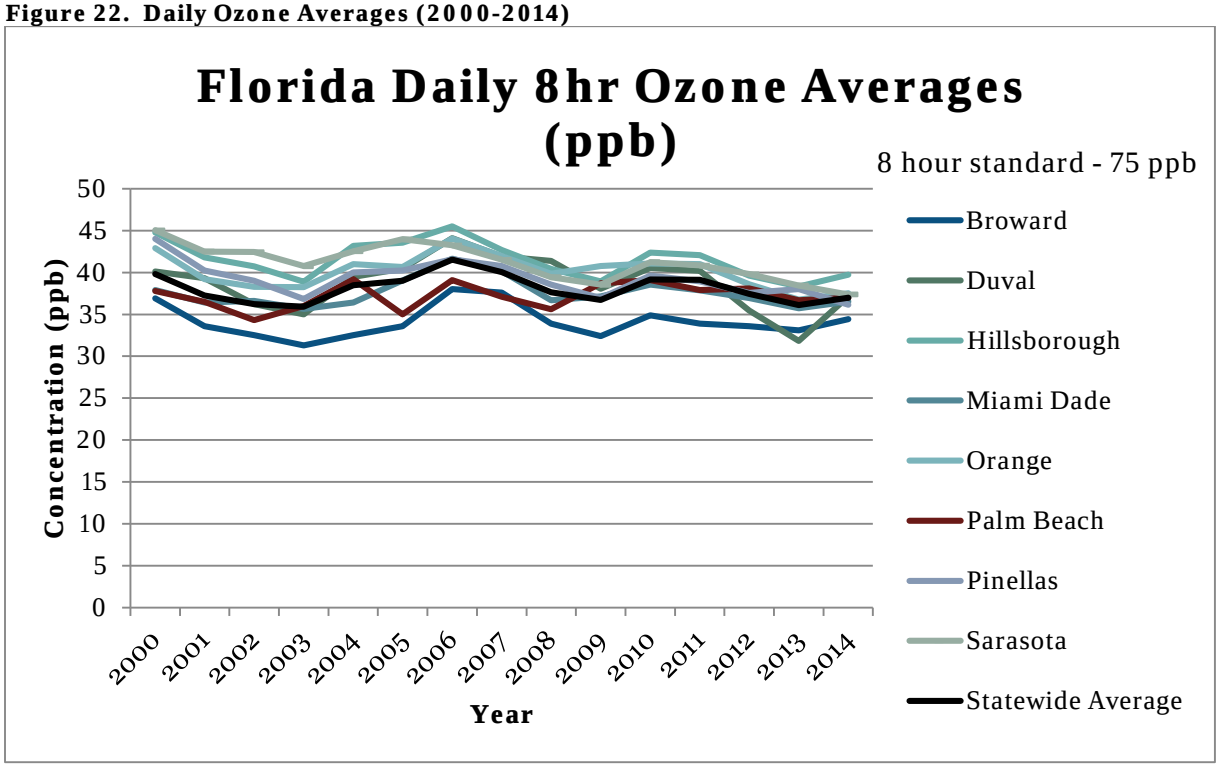
Florida currently meets the ozone standard in all areas. However, with the ozone standard under revision by EPA, the state may once again be faced with nonattainment areas if the standard is set below 70 ppb. At lower levels, meeting the standard in all parts of the state will not be possible, based on the 2012 – 2014 design value concentrations for ozone monitors in Florida, as seen in Figure 21. The figure shows that the Tampa Bay area and Pensacola, which both contain a monitoring site with a design value of 69 ppb, would not be able to meet a standard lower than 69 ppb.

Figure 21. 2012-2014 8-Hour Average Ozone Design Values



Since ozone is created in the atmosphere through photochemical reactions and not directly emitted, there is no map of ozone emissions. Ozone is largely a result of two precursor gases, volatile organic compounds (VOCs) and nitrogen oxides (NO_x), mixing in the presence of sunlight. This chemistry is affected by many factors including the availability of the VOCs and NOx, and the many meteorological factors that determine the rate at which ozone can be produced. In Figure 22, the daily maximum 8-hour ozone annual averages for a site in each of the most populous counties indicate that the ozone concentrations have decreased over time. It also illustrates the year to year variability. This variability could be related to decreases in vehicle miles traveled in 2008 and 2009, and weather conditions during 2013 when the peak season for ozone in Florida was cool and rainy. These conditions are not conducive to ozone production.

Figure 22. Daily Ozone Averages (2000-2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

In areas where ozone monitoring is required, high concentration is the monitoring objective. However, for most of the ozone network, population is the monitoring objective. It is the wealth of population exposure sites that provides a density in the monitoring network to show the variability in the ozone concentrations and afford that detail to the public. Florida has a robust network of 58 ozone monitors, nearly triple the required size of 21 monitors.

Emissions Review

Figure 23 depicts the point and mobile emission sources of VOC, a precursor gas to ozone. The emission sources of the other precursor, NO_x, are shown in Figure 16. The VOC emissions are concentrated in large population centers. These emissions and their locations were used in the evaluation of the suitability for compliance of the monitoring network with the federal requirements for the ozone network. Florida's mobile source NOx and VOC emissions have each declined by 50% since the year 2000, as shown in Figure 24. This reduction is primarily due to the federal motor vehicle controls required on new cars and trucks, combined with the turn-over of older vehicles in the fleet. Mobile sources (comprising on-road motor vehicles and non-road equipment, etc.) for NO_x currently account for nearly 80% of the total statewide emissions. VOC

emissions from mobile sources represent about 20% of the statewide total with 60% coming from natural sources.

Figure 23. Map of VOC Point Emissions Sources (green circles) and Area/Mobile Emissions by County (shaded polygons) in Florida.

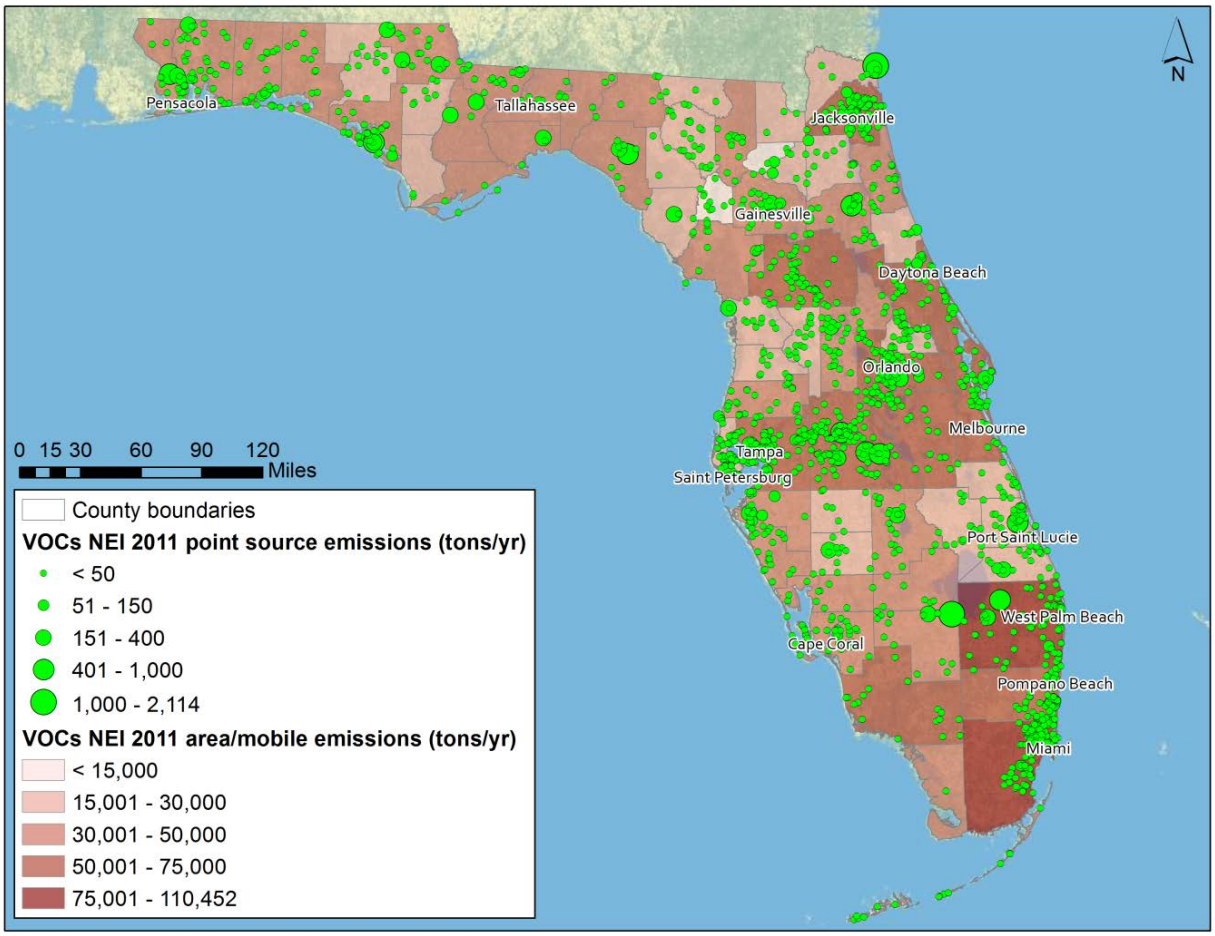
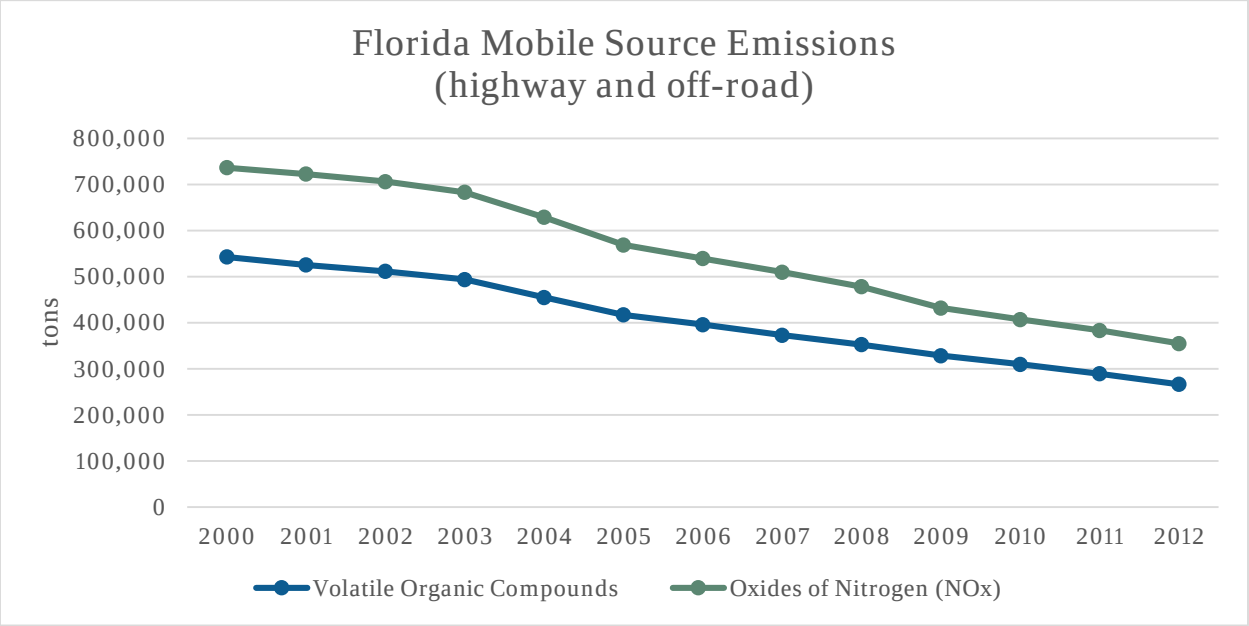


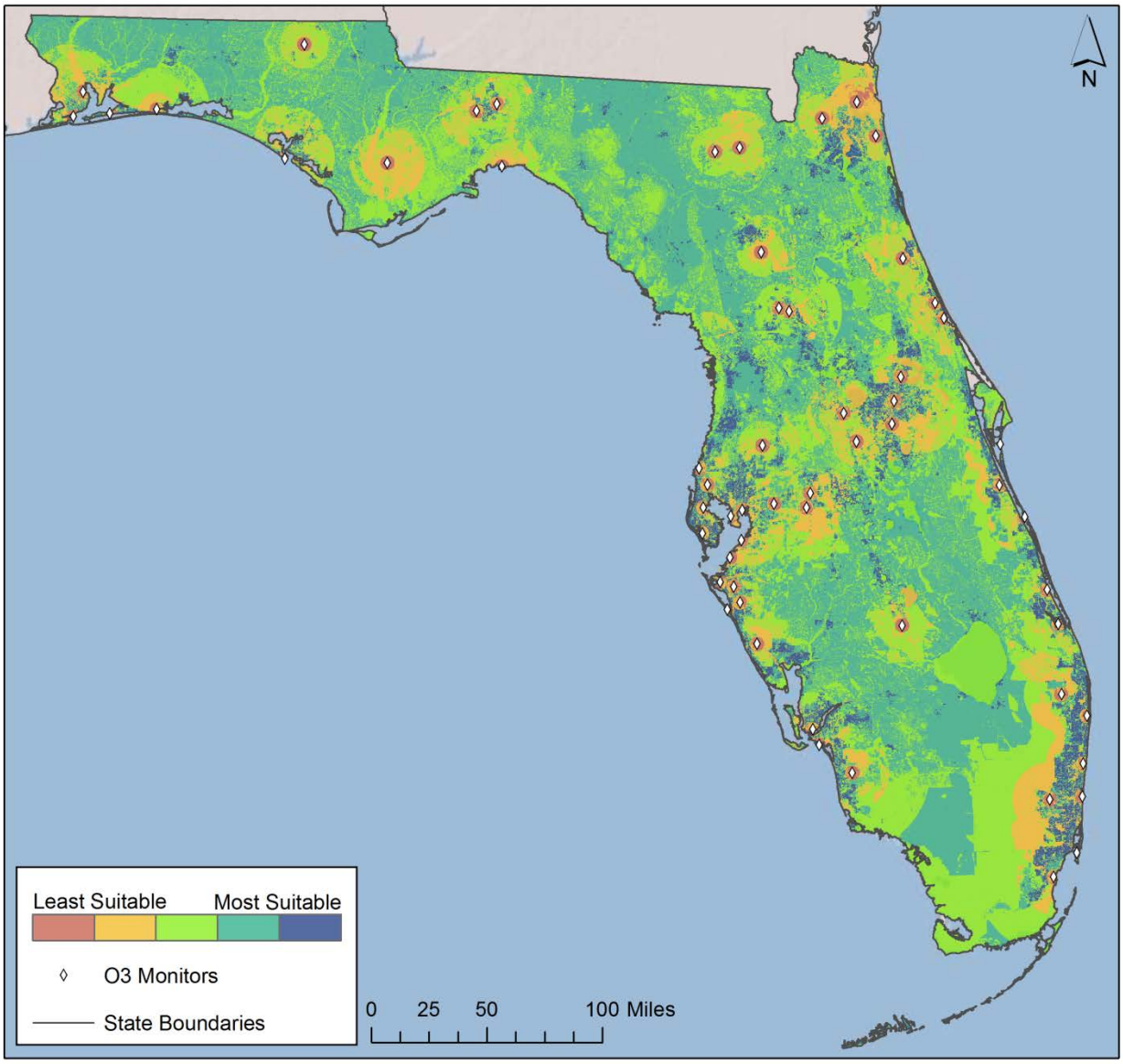
Figure 24. Mobile Source NOx and VOC Emissions (2000 – 2012)



Suitability for Compliance to Requirements

The suitability map for compliance for the ozone network is shown in Figure 25. There are 58 monitors in the network, which is almost three times greater than the 21 monitors needed to meet federal minimums. The results of the suitability analysis demonstrates the monitoring sites are located in the most suitable locations in the major population centers across the state. There are more than the minimum required, so the network is well designed for meeting federal requirements.

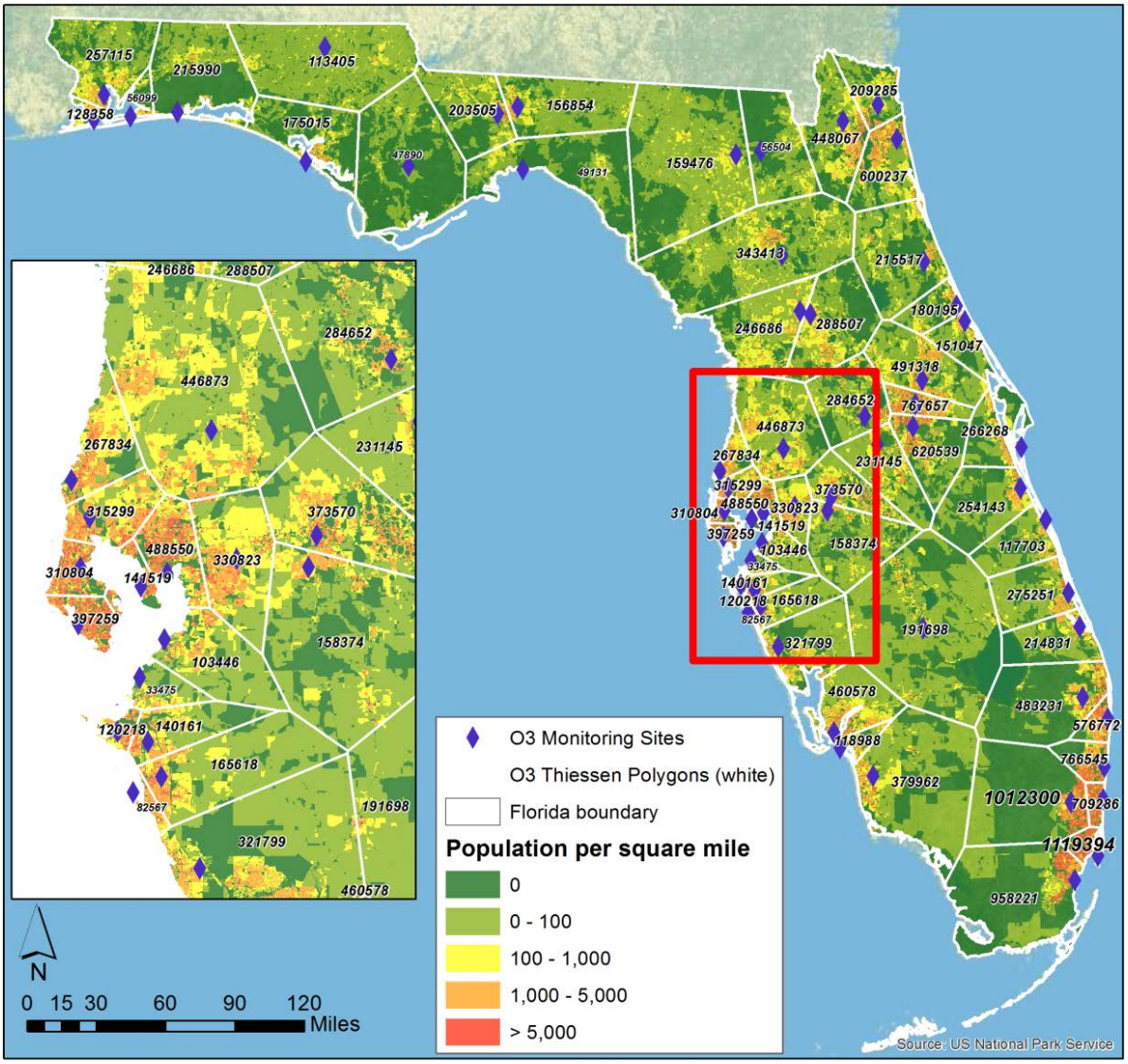
Figure 25. Suitability Map Examining Compliance to Federal Monitoring Requirements for Ozone



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Figure 26 displays the ozone monitoring area served with the total population indicated. The smallest monitor areas served are in large population centers, and mainly reflect the jurisdictional lines of local governments. This observation is reflected in the analysis of the Tampa Bay area shown in the inset of Figure 26.

Figure 26. Ozone Monitor Area Served Map



Note: Thiessen polygons indicating the population served for ozone monitors. Population density is the underlying base layer, blue diamonds indicate monitoring

Correlation Assessment

While each of the pollutants were examined for high correlation between sites, ozone was one of the two pollutants that had significant correlations between sites. There are 58monitors across the state that measure ozone and of these, a few monitors had correlation coefficients greater than 0.8 with 23 other sites. Figure 27 shows the clear spatial pattern in ozone correlations across the state. Monitors in central Florida and in the Tampa-St. Petersburg metro area were the most correlated, while those on the east coast and in the Panhandle were least correlated. This map suggests that some of these highly correlated monitors are redundant and could be removed without significant loss of information. However, with the ozone standard being revised, the requirements for monitoring may increase. Also, ozone requirements are based in part on the concentrations of ozone, and this area of the state has some of the highest ozone concentrations. If the ozone standard were set to 70 ppb, the highest of the range that was proposed, monitoring would be required in areas with design value concentrations at 59.5 ppb.

Figure 27. Map Showing the Number of Ozone Sites with which a Given Ozone Site is Highly Correlated (R>0.8)

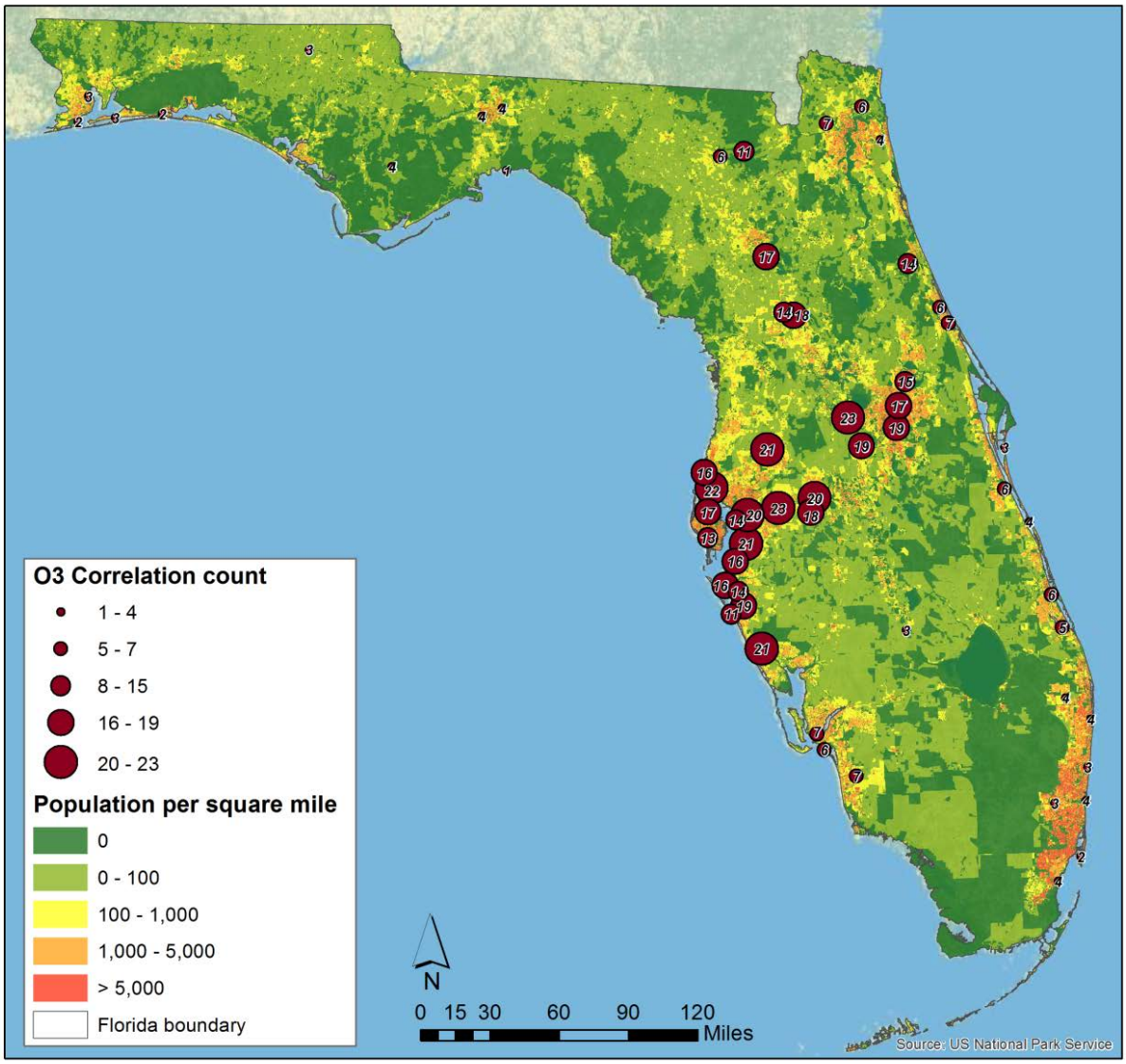
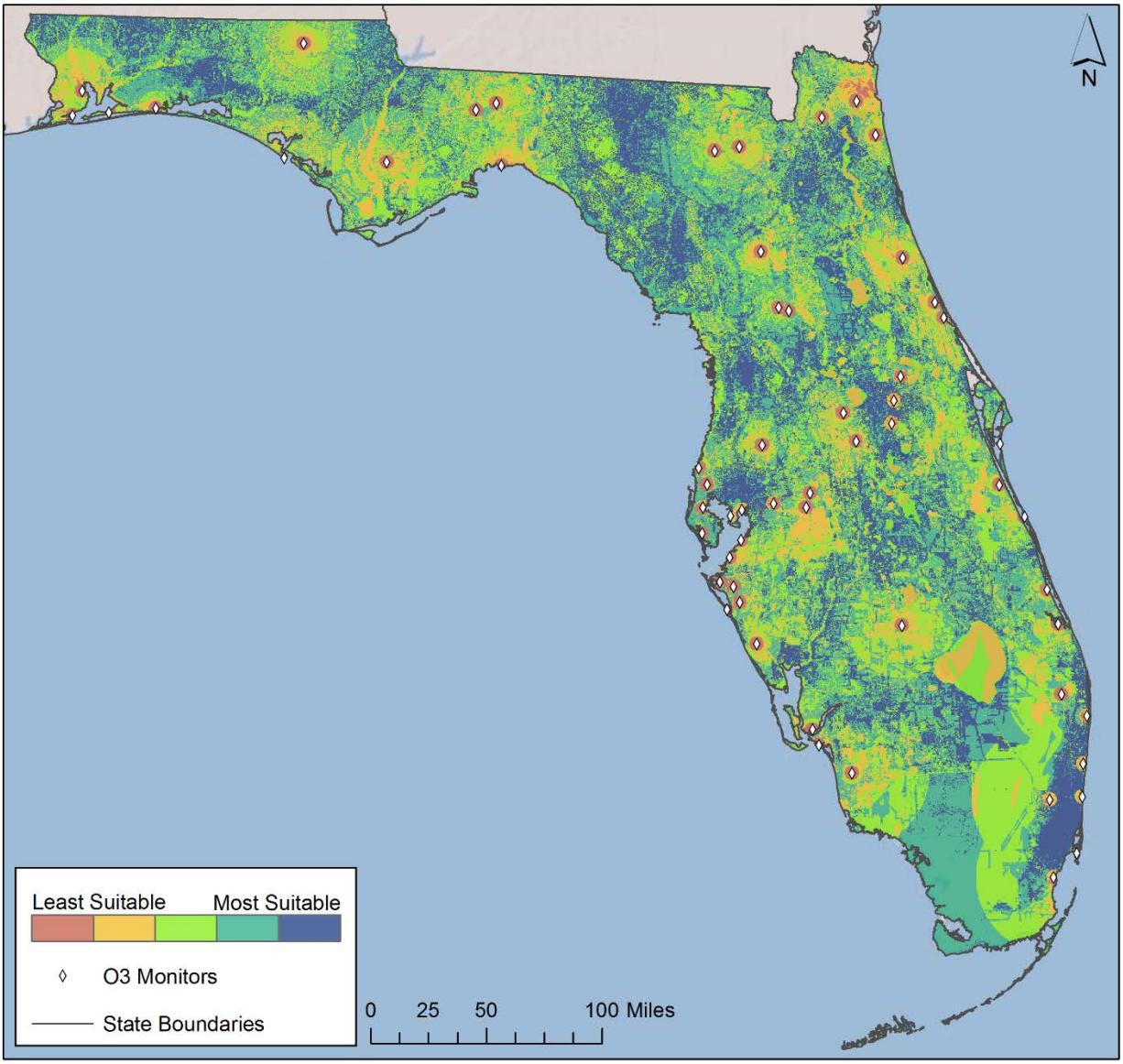


Figure 28. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for Ozone



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

The last part of the assessment of the compliance with network design criteria is to examine the impact of new regulations. The ozone NAAQS is currently being revised by EPA. Table 4 shows the number of exceedances that would have been observe in 2012 – 2014 if the standard had been lower, specifically, at the levels in the proposed standard, i.e. 60, 65 and 70 ppb. It is likely that it would be appropriate to monitor in all metropolitan statistical areas (MSAs) if the standard

is lowered. Currently, there are 4 MSAs without ozone monitoring, Punta Gorda, Vero Beach, Homosassa Springs and The Villages.

Table 4. Exceedance Days Based on Proposed Ozone Standards

Site Number	Site Name	# of Days > 60 ppb			# of Days > 65 ppb			# of Days > 70 ppb		
		2012	2013	2014	2012	2013	2014	2012	2013	2014
001-3011	Paynes Prairie State Park	6	5	3	2	3	0	0	0	0
003-0002	Olustee Ranger Station	6	3	2	2	0	0	0	0	0
005-0006	St. Andrews State Park	16	10	10	4	3	4	0	1	0
009-0007	Melbourne	8	9	2	2	2	0	1	0	0
009-4001	Freedom 7 Elem School	8	6	6	3	2	1	0	0	0
011-0033	Vista View Park	5	1	2	0	0	1	0	0	0
011-2003	Pompano Highland Fire Sta.	4	2	5	0	1	1	0	0	1
011-8002	John U Lloyd Bch State Park	3	3	7	2	2	1	1	0	1
021-0004	Laurel Oak Elem	2	4	1	0	0	0	0	0	0
023-0002	Lake City Veterans Domicile	4	3	2	1	0	0	1	0	0
031-0077	Sheffield Elementary Sch.	3	0	6	0	0	1	0	0	0
031-0100	Mayo Clinic	2	1	18	0	0	7	0	0	4
031-0106	Cisco Drive	2	3	1	1	2	1	0	0	0
033-0004	Ellyson	20	8	14	7	3	5	1	0	3
033-0018	Pensacola NAS	28	8	12	8	4	8	4	1	3
035-0004	Sawgrass Road	8	4	8	3	1	1	2	0	0
055-0003	Archbold Biological Station	6	5	1	0	0	0	0	0	0
057-0081	E.G. Simmons Park	12	15	25	6	7	10	1	3	4
057-1035	Davis Island Coast Guard Sta.	13	10	6	5	1	2	2	0	0
057-1065	USMC Reserve Center	16	8	16	8	4	4	2	0	1
057-3002	Sydney	21	14	15	12	7	5	5	0	0
059-0004	Bonifay	6	3	3	1	0	0	0	0	0
069-0002	Lost Lake Elem Sch.	10	7	11	3	1	4	1	1	2
071-2002	Rotary Park	7	10	7	1	4	1	0	0	0
071-3002	Bay Oaks Park	4	5	3	1	0	1	0	0	0
073-0012	Tallahassee Comm. College	12	6	3	6	2	0	0	0	0
073-0013	Greenways	9	4	3	4	2	0	0	0	0
081-3002	Port Manatee	3	8	3	0	2	1	0	1	0
081-4012	GT Bray Park	12	7	8	4	3	2	0	2	1
081-4013	39th St Park	4	7	9	1	3	3	1	1	0

Site Number	Site Name	# of Days > 60 ppb			# of Days > 65 ppb			# of Days > 70 ppb		
		2012	2013	2014	2012	2013	2014	2012	2013	2014
083-0003	Ocala YMCA	7	4	7	0	2	1	0	0	0
083-0004	County Sheriff Impound	3	4	1	0	0	0	0	0	0
085-0007	Stuart	5	NA	4	2	NA	1	1	NA	1
086-0027	Rosenstiel U of Miami	5	5	8	2	2	2	1	1	0
086-0029	Perdue Medical Center	4	7	5	2	5	0	0	1	0
091-0002	Ft. Walton Beach	10	6	8	2	1	4	0	0	1
095-0008	Winegard Elem. School	15	10	5	9	2	4	4	1	1
095-2002	Winter Park	16	8	6	10	2	2	5	0	1
097-2002	Osceola Co Fire Station	13	8	8	3	3	3	0	1	0
099-0009	Waste Water Treatment Plant	7	5	4	3	1	1	1	0	0
099-0020	A.G. Holley State Hospital	7	5	NA	3	1	NA	1	1	NA
101-0005	San Antonio	11	7	4	2	2	1	0	0	0
101-2001	Holiday	9	11	3	4	6	3	0	1	1
103-0004	St. Petersburg College	6	13	5	0	5	1	0	2	1
103-0018	Azalea Park	9	10	10	5	4	1	1	2	1
103-5002	John Chesnut Sr. Park	6	4	4	1	3	3	0	0	0
105-6005	Sikes Elem Sch.	13	7	6	8	2	1	4	1	0
105-6006	Baptist Children's Home	14	8	7	8	2	1	4	1	0
111-0013	Savannas	6	NA	6	2	NA	1	1	NA	1
113-0015	Woodlawn Bch Middle Sch.	18	11	14	6	3	8	1	0	3
115-1005	Lido Park	14	11	13	7	7	1	3	2	1
115-1006	Paw Park	11	10	8	5	5	0	2	2	0
115-2002	Jackson Rd	12	9	0	6	6	0	1	2	0
117-1002	Seminole Comm. College	16	5	3	8	8	1	4	4	0
127-2001	Port Orange	4	2	3	1	0	1	0	0	0
127-5002	Daytona Blind Services	6	2	9	3	1	1	1	0	1
129-0001	St. Marks Wildlife Refuge	9	4	5	2	2	1	0	0	0

Recommendations

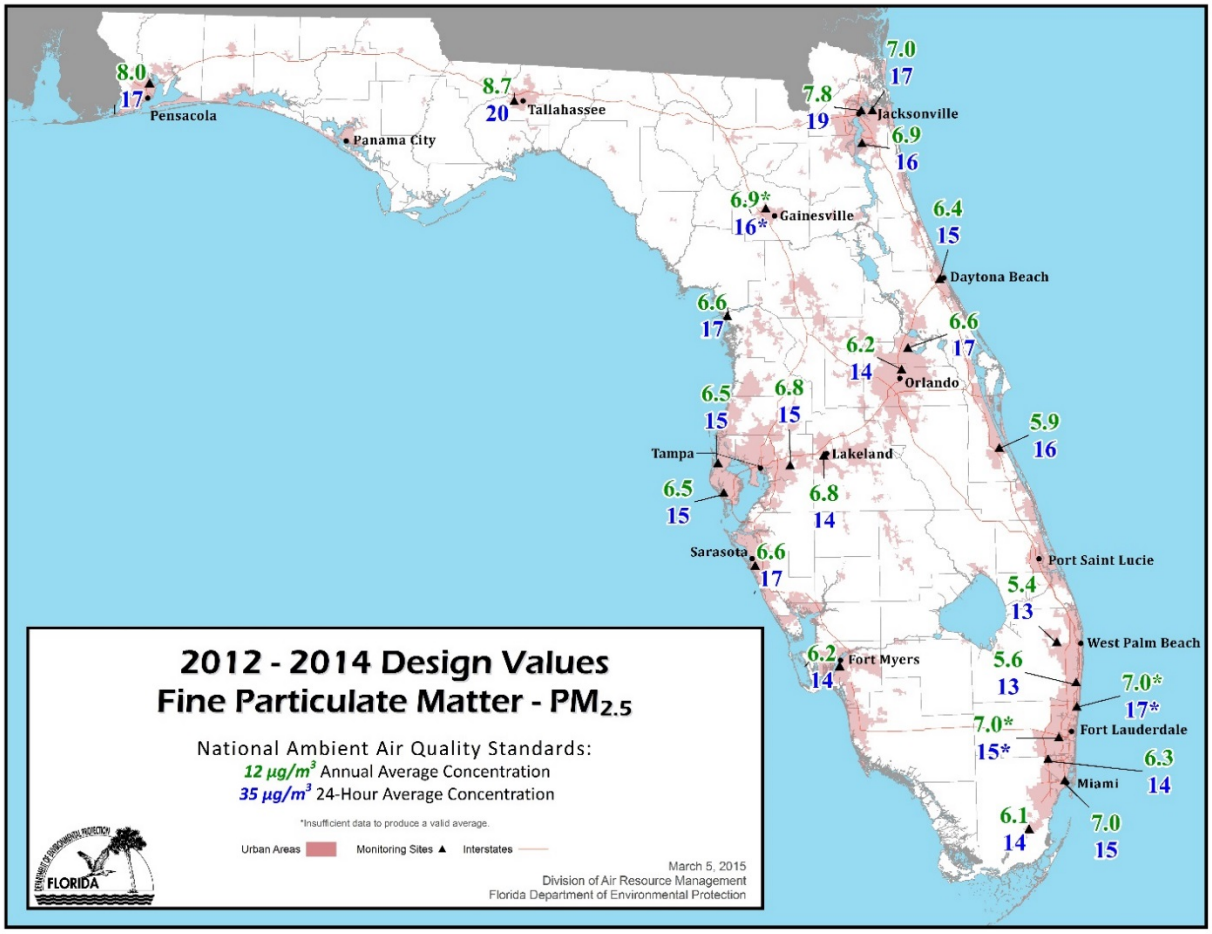
The ozone network in Florida is well designed to meet the goals of the network. It is significantly larger than required and with the expectation of a lower NAAQS those additional monitors may benefit the needed design for a new standard. There are no plans to change the network at this time.

Particulate Matter ($PM_{2.5}$) Network

Overview

$PM_{2.5}$ concentrations in Florida are some of the lowest in the southeastern part of the country. There has always been a fairly consistent gradient, with higher concentrations in the north and lower concentrations in the southern peninsula of the state. Like ozone, the $PM_{2.5}$ concentrations have been steadily declining, allowing Florida to maintain compliance with the NAAQS. Figure 29 shows the design values for the federal reference samplers in Florida. They are used to determine if the state is meeting the $PM_{2.5}$ standards. The monitoring concentration in the state closest to the annual standard is the design value for Tallahassee.

Figure 29. 2012-2014 $PM_{2.5}$ Design Value



The continuous network of $PM_{2.5}$ monitors provides the public with hourly near real time data. The network is required to have a minimum of 13 monitors; however, Florida's network is nearly triple the required size, with 36 monitors in operation throughout the state. In contrast to the hourly data from the continuous network, the federal reference monitors (FRM) provide a 24-hour average sample. The data from the continuous network will record peaks that occur during the 24 hours. Figure 30 is a box-and-whisker plot of the 2012 and 2013 continuous hourly data. The very high peaks contributed to 18 exceedances of the 24-hour standard of 35 $\mu g/m^3$ recorded with the continuous network. There were 10 exceedances recorded by the 25 federal reference monitors. These rare values are typically associated with biomass burning events. The annual averages between the two networks are comparable, with the continuous network averages slightly higher. Most sites have mean and median concentrations below 10 $\mu g/m^3$ Concentrations from the continuous $PM_{2.5}$ monitors are well below the annual NAAQS.

The distribution of concentrations of $PM_{2.5}$ has little variability across cities where there are multiple monitors. The $PM_{2.5}$ concentrations from the continuous monitoring network provides more monitoring coverage. There is also little range in the average concentrations.

Figure 30. Notched Box-Whisker Plots of 1-hr $PM_{2.5}$ Concentrations (µg/m3) in 2012 and 2013 at Monitoring Sites in Florida (top) Full-range and (bottom) Zoomed in to Show Differences in the Mean and Median Concentrations

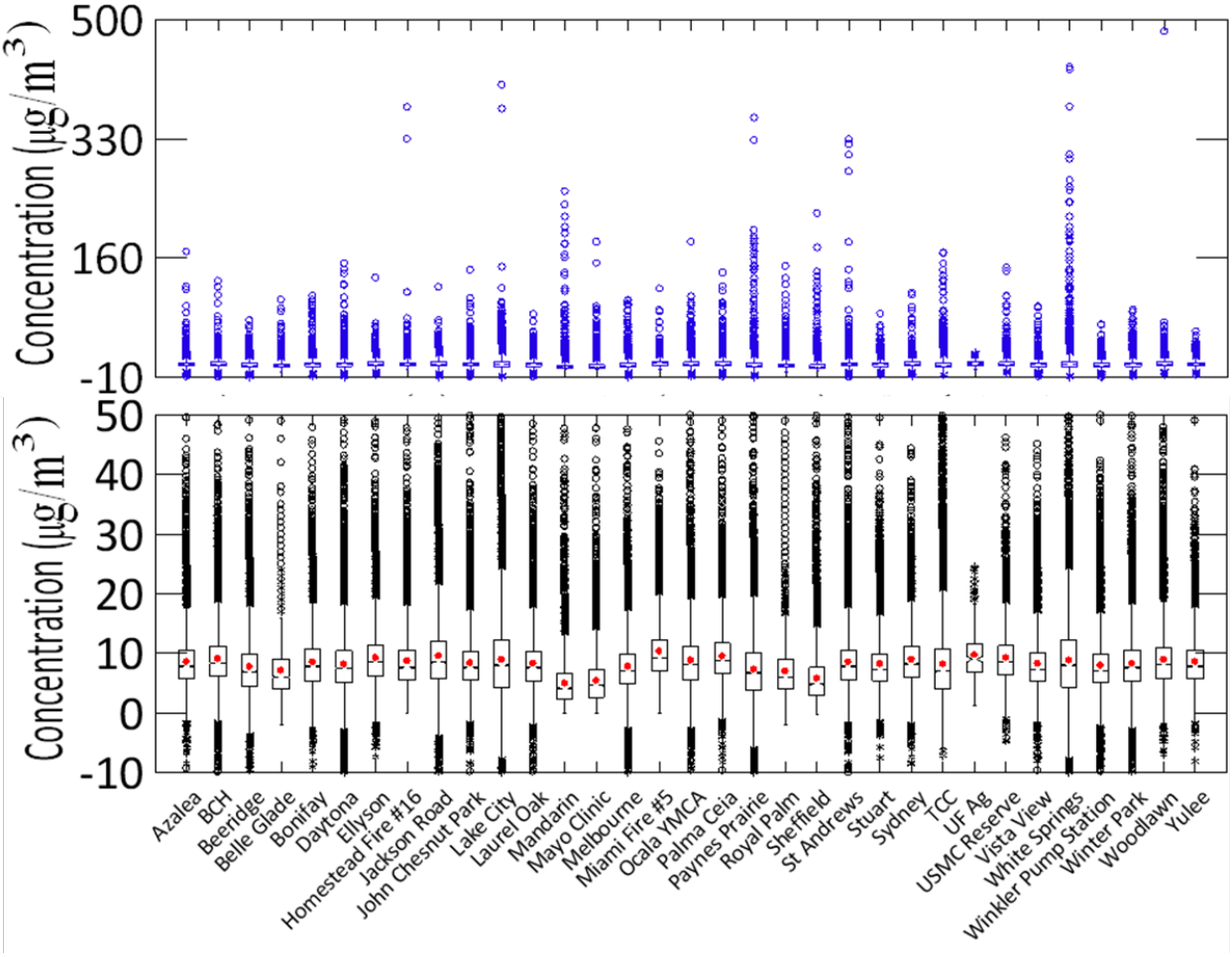
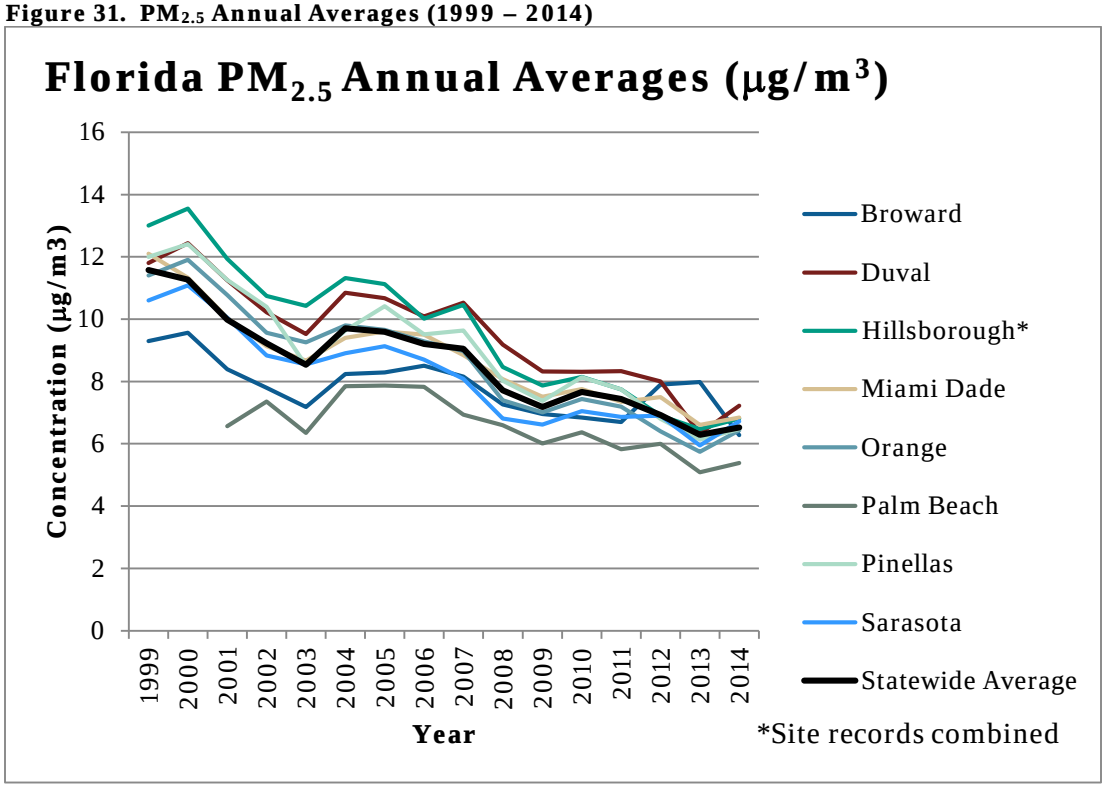


Figure 31 is a graph of the annual average of one site in each of the most populated counties for the last 15 years. Annual averages in 2014 were substantially lower than in 1999 when the $PM_{2.5}$ network was established. This improvement in air quality has allowed Florida to meet stricter standards each time EPA has lowered them.

Figure 31. $PM_{2.5}$ Annual Averages (1999 – 2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

The $PM_{2.5}$ network monitoring objective is usually high concentration. Since there is no expectation that any one type of siting would lead to high concentration monitors, most of the $PM_{2.5}$ network has population exposure as the objective. The spatial scales describe the expected area of the concentration of the pollutant. $PM_{2.5}$ is usually homogeneous across a large area and therefore the majority of sites have neighborhood scales representing 4 - 50 kilometers.

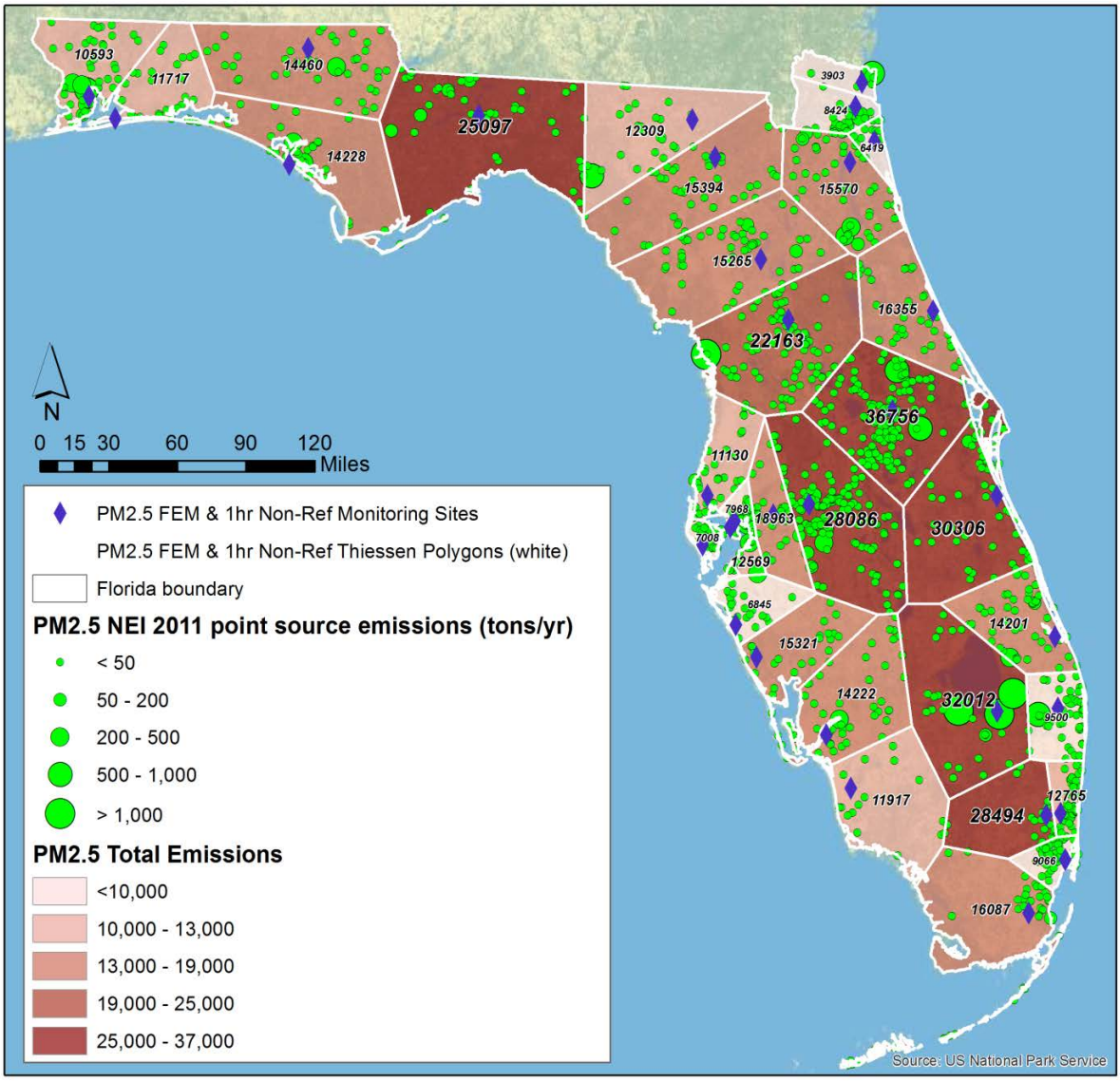
Emissions Review

$PM_{2.5}$ is a mixture of primary and secondary particles. Primary particles are directly released into the atmosphere by wind, combustion processes, or human activities. Secondary particles are those that form in the atmosphere from other gaseous pollutants. These secondary particles depend on the emissions of sulfur oxides and nitrogen oxides to form. These two precursor gases have been declining in Florida for decades, as seen in Figures 18 and 24. These decreases are contributing to the reductions in ambient $PM_{2.5}$ concentrations seen in Figure 31.

Suitability for Compliance to Requirements

More than a third of the weighting factor (35%), are used for sources of $PM_{2.5}$. These sources, with emissions data, are indicated on the $PM_{2.5}$ monitor area served map in Figure 32. The remaining total for $PM_{2.5}$ to reach 100% is weighted by population, access to land and the current monitors.

Figure 32. $PM_{2.5}$ Monitor Area Served Map with $PM_{2.5}$ Emissions

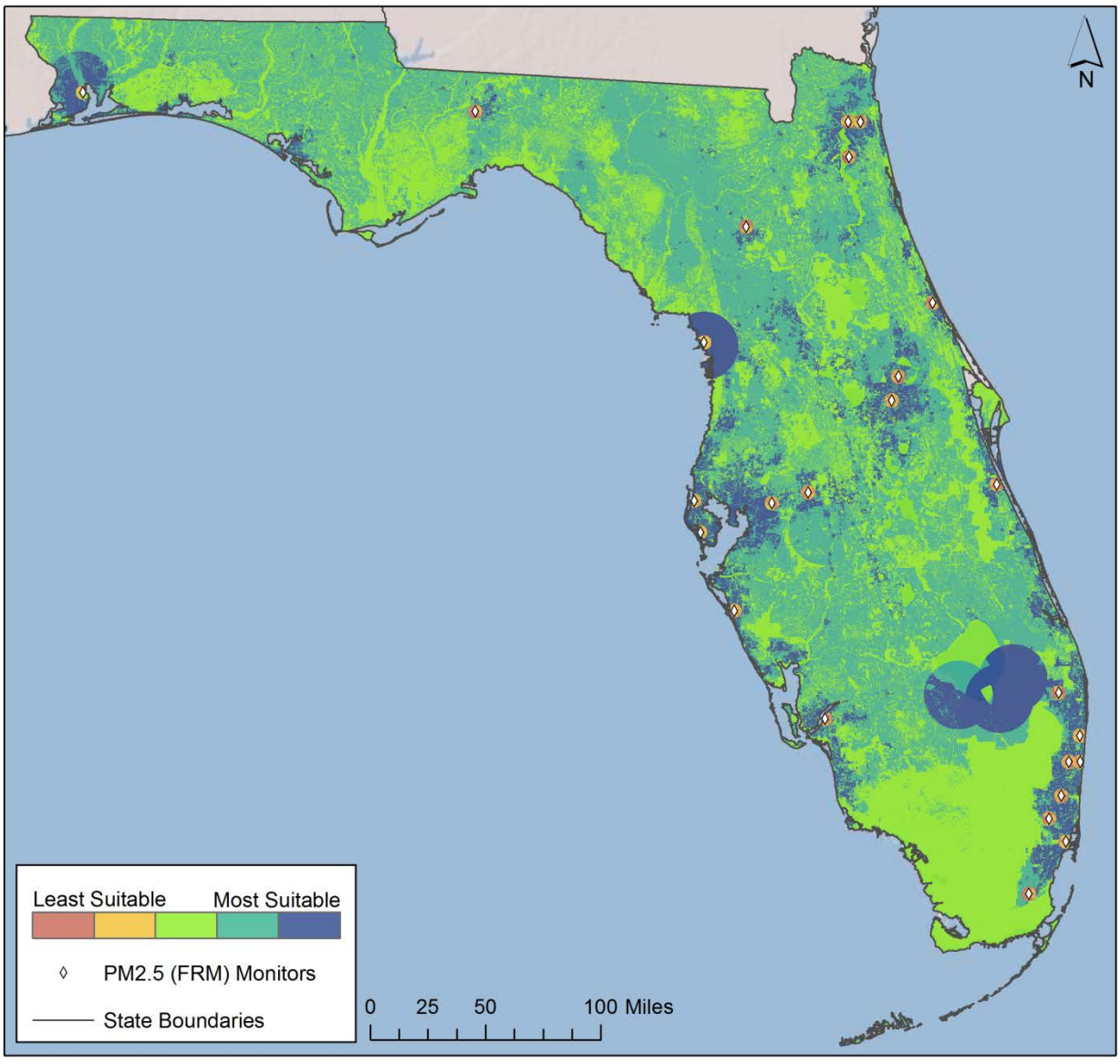


The results of an ideal design for meeting federal requirements for $PM_{2.5}$ are mapped in Figure 33. The most suitable places for the monitors of that pollutant show on the map as dark blue. The monitors in the network are shown on the map.

The regulatory network is spread across the state and located in highly suitable locations to meet the requirements to monitor in 15 locations. It is enhanced with 10 additional monitoring sites. This network is complimented by a network of continuous $PM_{2.5}$ monitors which provide hourly data used to calculate the AQI. The network requirement is for 13, while there are 36 in operation. Values from these monitors are posted to the DEP website, (www.dep.state.fl.us/air/air_quality/airdata.htm) as well as AirNow (www.epa.gov/airnow/index.html) to inform the public.

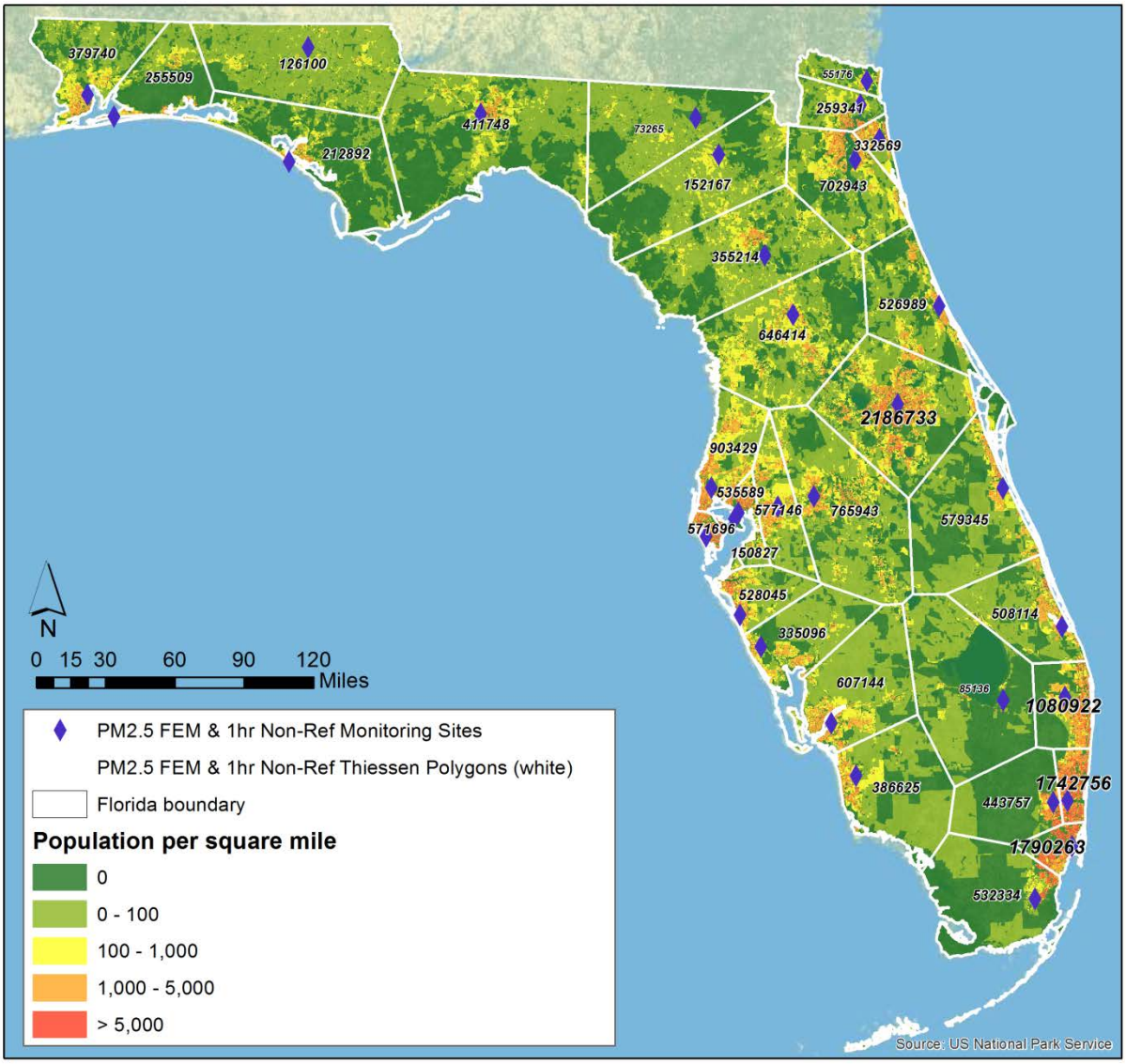
Figure 34 shows the population represented by each of these monitors. The populations are relatively uniform. With a network size nearly double the minimum required, (15 required and 25 in the network), the $PM_{2.5}$ ambient monitoring network complies with the monitoring requirements.

Figure 33. Suitability Map Examining Compliance to Federal Monitoring Requirements for $PM_{2.5}$



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Figure 34. Area Served Map for Population Represented by FEM or Hourly Non-reference $PM_{2.5}$ Monitors



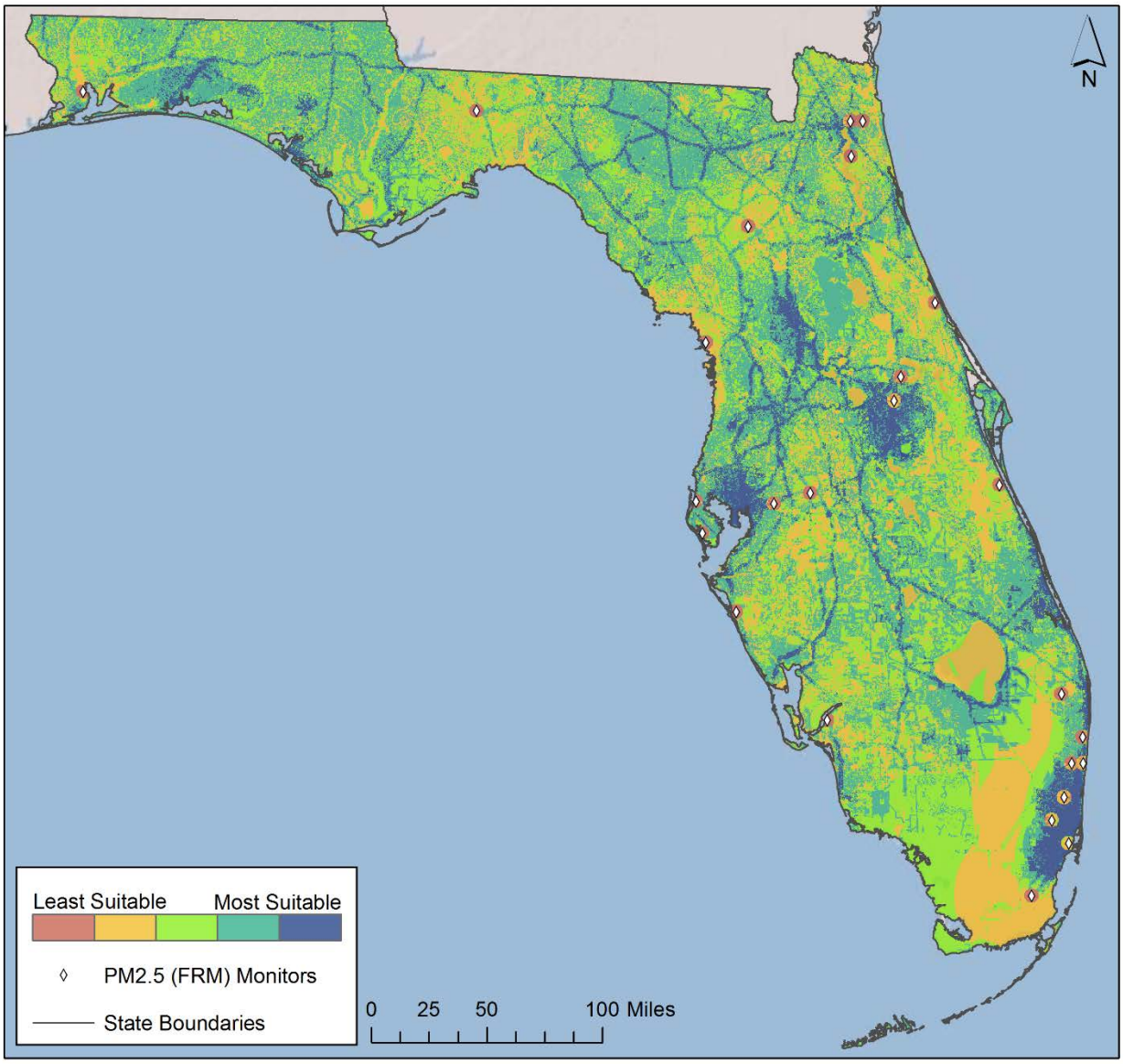
The monitor area served map for $PM_{2.5}$ shown in Figure 34 depicts one of the most uniform service areas of the monitoring network. There are 4 roadside sites that require $PM_{2.5}$ monitoring by January 1, 2017. The roadside sites will be outfitted with continuous $PM_{2.5}$ monitors, specifically TEI 5014i's, with the required collocated monitor at the Sydney NCore site in Tampa. It is anticipated that as Florida's monitoring agencies become more familiar and confident in the available continuous federal equivalent monitoring methods, their use will increase. DEP will be introducing an additional FEM, the API 602, to the network in 2015. These changes will make the network less reliant on any one technology and more resilient.

Suitability Assessing Gaps

The suitability for compliance with the federal monitoring requirements analysis demonstrated that the network could meet the requirements. The suitability map assessing spatial distribution of monitoring gaps indicated if there were places that should be monitored. The weighting factors for suitability to identify gaps included other places that $PM_{2.5}$ monitoring might be desirable such as rail lines, airports and ports and total 100%.

The ideal design for $PM_{2.5}$ is mapped in Figure 35. The sites in the network are displayed on the map. Any gaps identified would be areas to consider if there were a required monitor in need of siting or if there was an interest in expanding the size of the network. Since the network more than meets the minimum size, there were no $PM_{2.5}$ monitoring gaps identified.

Figure 35. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for $PM_{2.5}$



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Recommendations

The $PM_{2.5}$ network is well designed. There are no plans to reduce the network at this time. The recommendations are to complete the near-road monitoring and to continue to employ new federal equivalent monitors which will reduce the reliance on any single technology and make the network more robust.

Particulate Matter (PM_{10}) Network

Overview

The PM_{10} concentrations in Florida are generally low. PM_{10} has not been emphasized as much as fine particles in the last 15 years. Elevated values, like the 2nd highest 24-hour concentration values shown in Figure 36, are commonly due to the influence of smoke from fire. The 24-hour standard for PM_{10} is 150 $\mu g/m^3$. Florida's 2nd highest concentration is 67 $\mu g/m^3$, about 40% of that value, is well below the 80% required to be considered to have low concentrations. PM_{10} concentrations are low, and have continued to decrease over time, as seen in Figure 37.

Figure 36. 2nd Highest 24-Hour Averages for PM_{10}

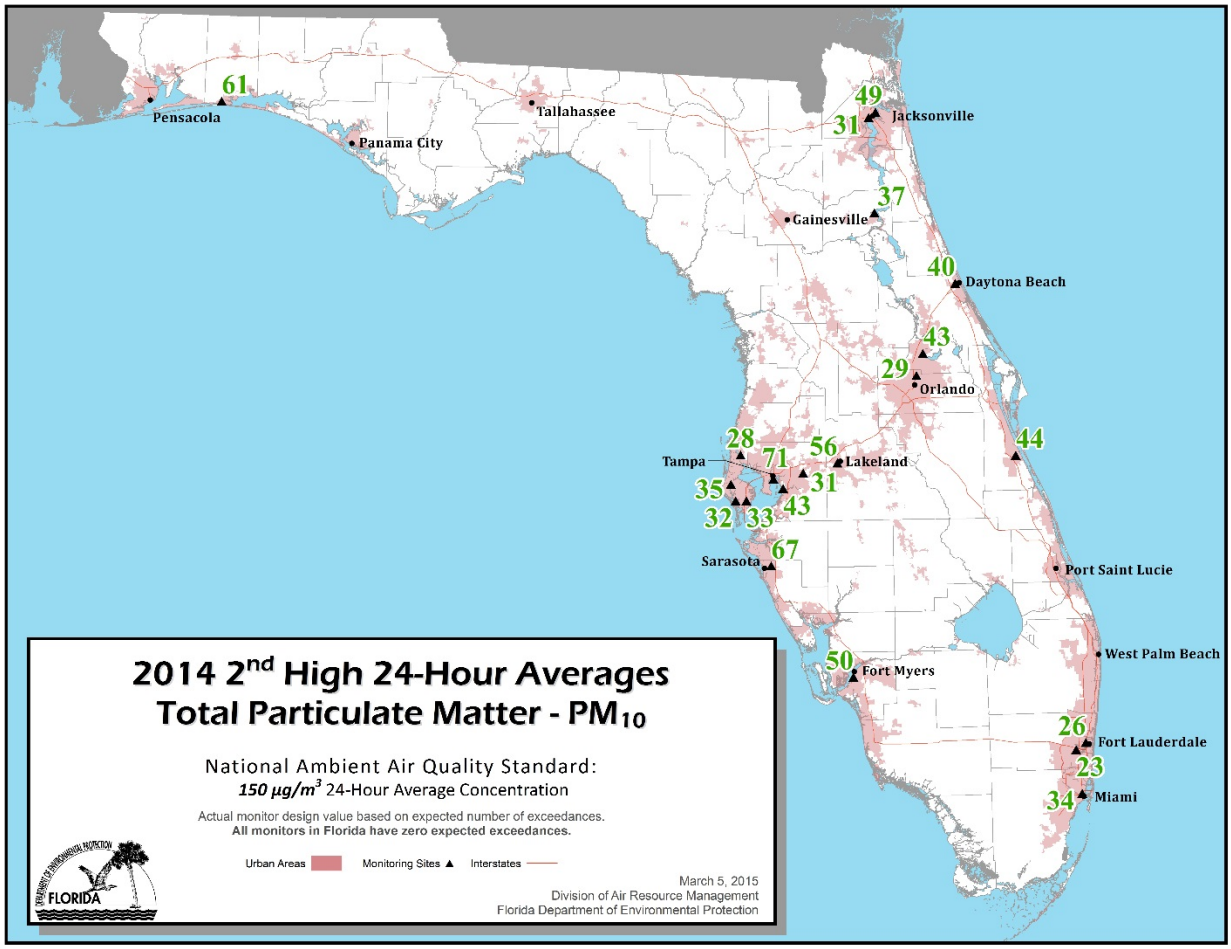
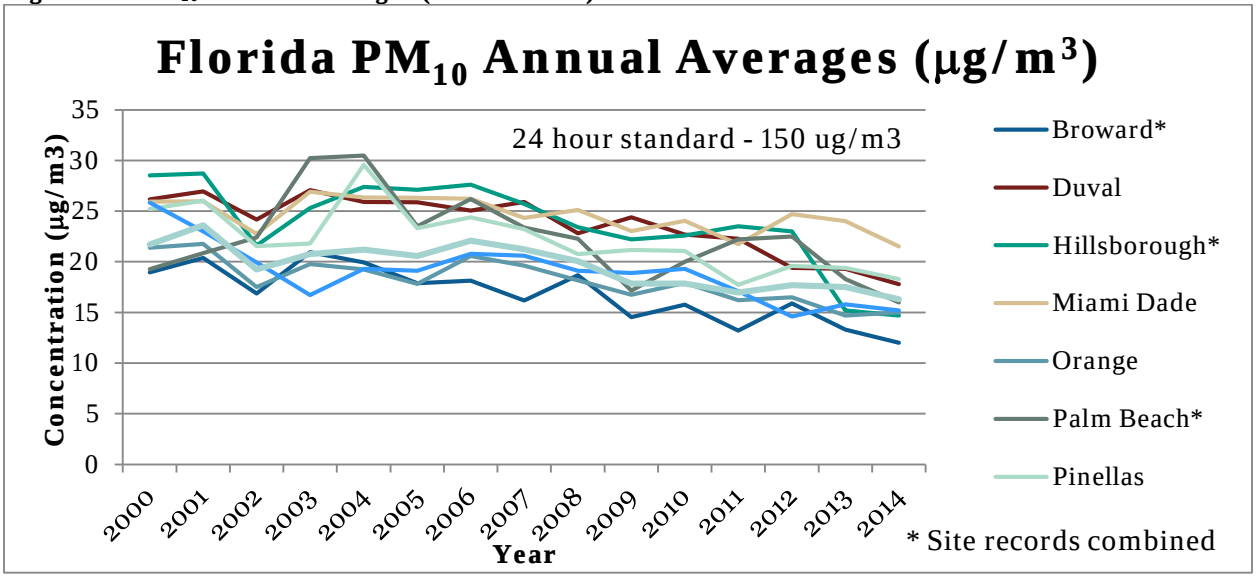


Figure 37. PM_{10} Annual Averages (2000 – 2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

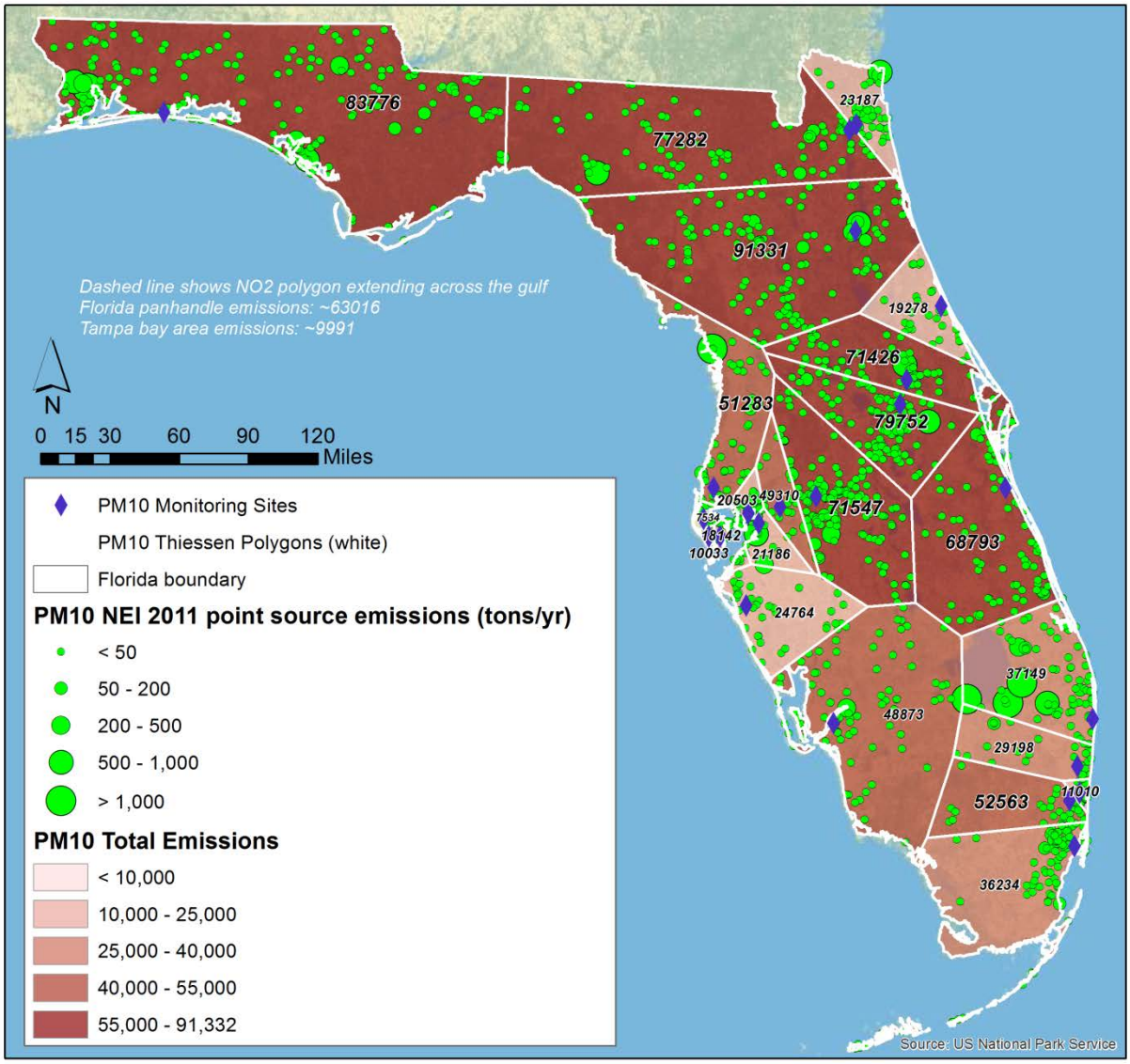
PM_{10} concentration in Florida remain well below the 24 hour NAAQS of 150 µg/m^3. PM_{10} federal monitoring requirements are reduced for areas with low PM_{10} concentrations. Even so, there are 13 monitors required for the cities in Florida. Monitoring objectives for nine are population exposure with the remainder having high concentration as the focus of the monitoring.

The majority of the PM_{10} network has a monitoring objective of population exposure. These objectives are appropriate since much of the network is deployed with other pollutants in places of high population, with the intent of providing air quality information to the public. The concentrations of PM_{10} have more variability across space than fine particles, so most of the network has a spatial scale of expected similar concentrations of Neighborhood scale, which is limited to 4 kilometers.

Emissions Review

For the PM_{10} analysis, the weighting factors are the same as those used for $PM_{2.5}$. More than a third of the weighting factor, (35%), is based on sources of PM_{10}. These sources, with emissions data, are indicated on the PM_{10} monitor area served map in Figure 38. The rest of the sum for PM_{10} to reach 100% is weighted by population, access to land and the current monitors.

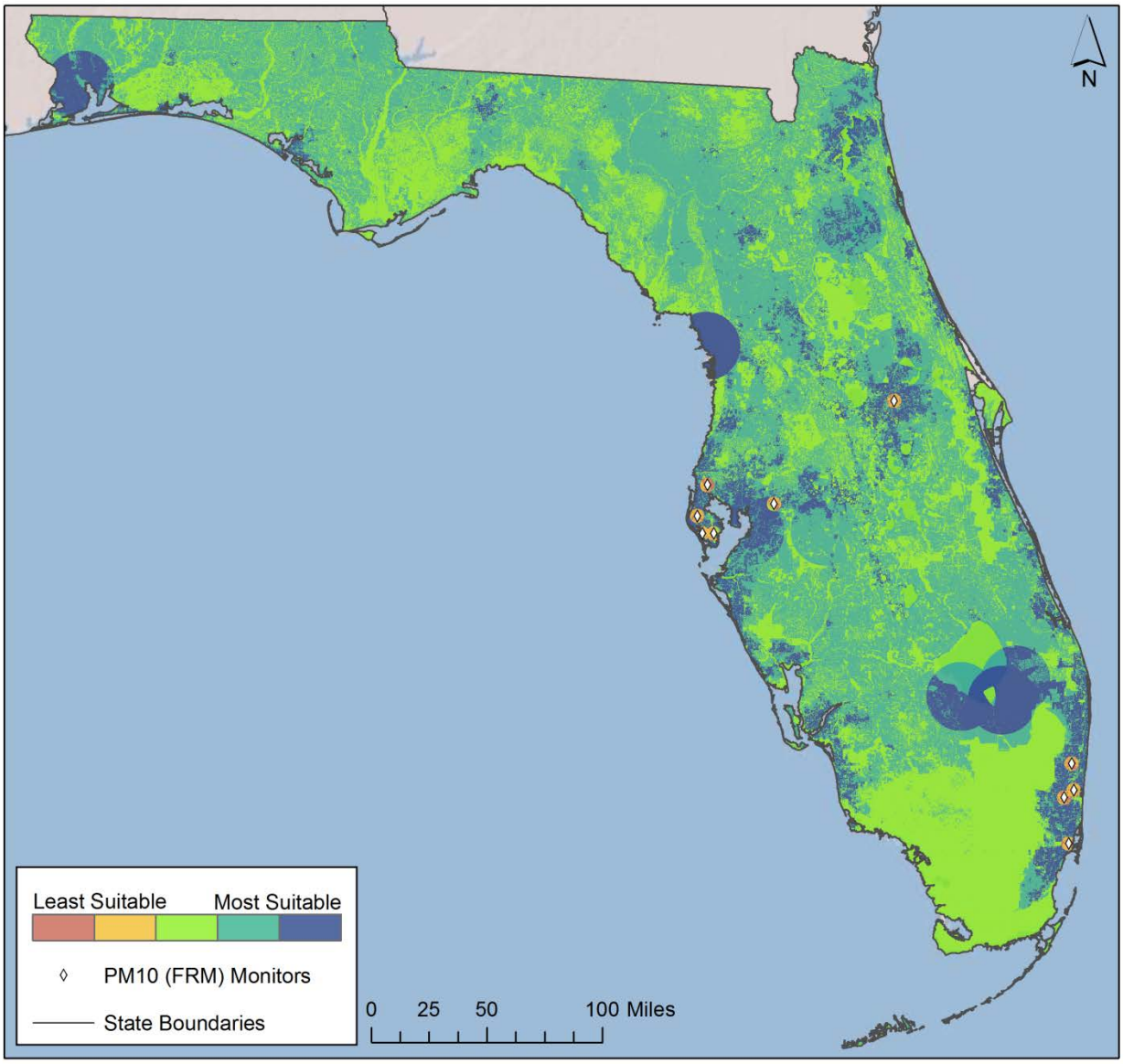
Figure 38. PM_{10} Monitor Area Served Map with PM_{10} Emissions



Suitability for Compliance to Requirements

The results of the ideal PM_{10} design are mapped in Figure 39. The regulatory network is spread across the state and located in highly suitable locations to meet the requirements to monitor in 13 locations. It is enhanced with 11 additional monitoring sites. With a network size nearly double the minimum required, 13 required and 24 in the network, the PM_{10} ambient monitoring network complies with the monitoring requirements.

Figure 39. Suitability Map Examining Compliance to Federal Monitoring Requirements for PM_{10}



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Correlation Assessment

The PM_{10} network was one of the two pollutants that showed significant correlation between monitoring sites. Table 5 shows correlations for PM_{10} monitors. Monitors in the Tampa-St. Petersburg-Clearwater and Miami-Ft. Lauderdale-Pompano Beach metropolitan statistical areas were highly correlated with one another. It may be plausible to remove a monitor from each of these areas without loss of information. The high correlation is displayed graphically in Figure 40.

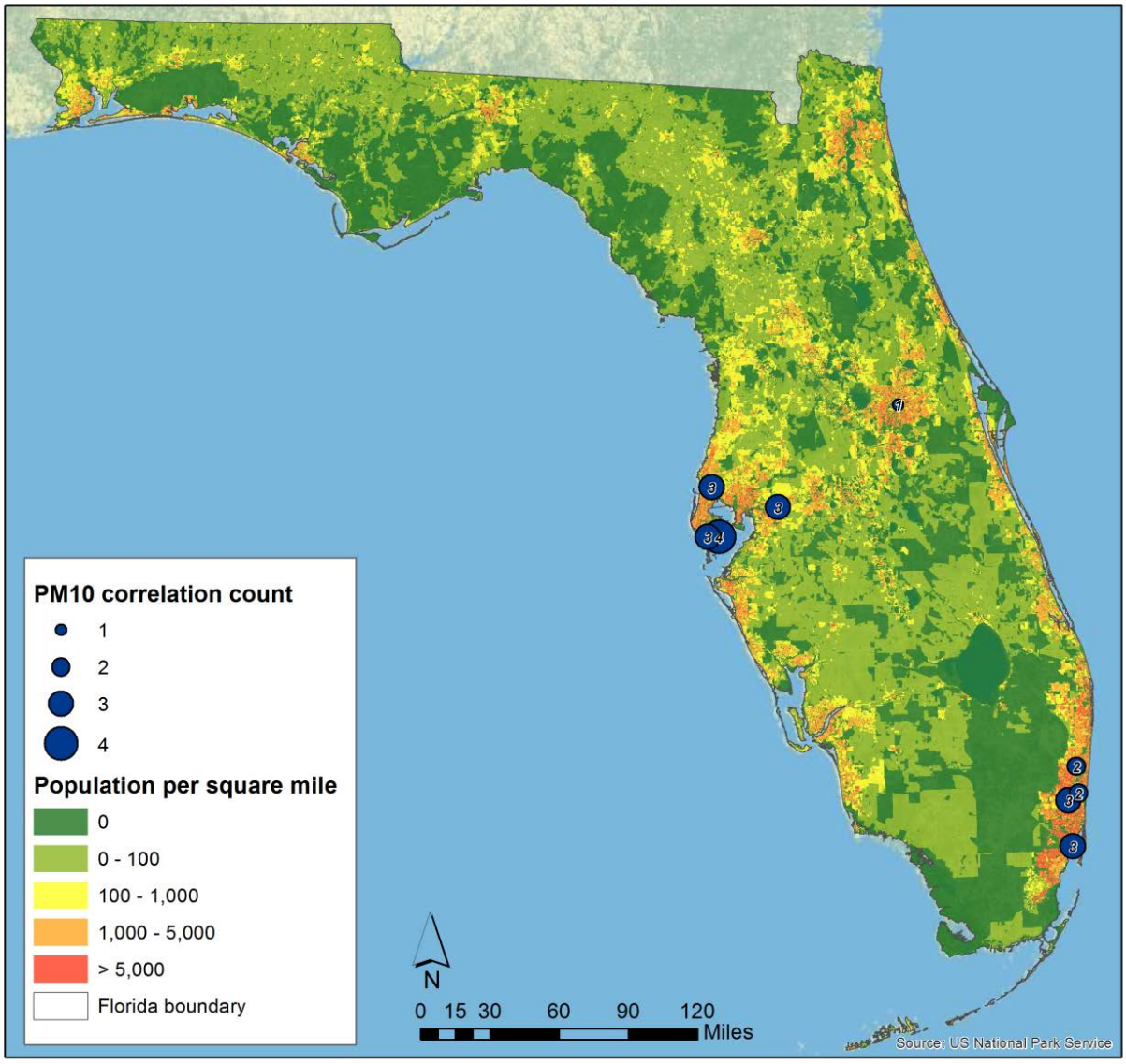
PM_{10} is most useful as an indicator of wildfire. Fine particles reflect the influence of wildfire but the federal reference method (FRM) is susceptible to being overwhelmed with high concentrations of smoke that can be generated from wildfire. The PM_{10} continuous methods have proven to be more robust. So, while there may be correlated monitors in the two MSAs, they have not been highly correlated in the presence of wildfire. As such, as long as the resources support the effort, all monitors are likely to remain. There is no expectation of growth in the network.

Table 5. Pearson Correlation Matrix for PM_{10} FRM Monitoring Sites in Florida

	13th Ave	Azalea	Coconut Creek *	County Motorpool	John Chesnut Park	Lincoln Park	Miami Fire #5	Sydney	Uf Ag	Winter Park
13th Ave	1.00									
Azalea	0.88	1.00								
Coconut Creek *	0.31	0.28	1.00							
County Motorpool	0.79	0.75	0.21	1.00						
John Chesnut Park	0.80	0.86	0.16	0.68	1.00					
Lincoln Park	0.45	0.35	0.92	0.26	0.27	1.00				
Miami Fire #5	0.33	0.28	0.87	0.22	0.21	0.89	1.00			
Sydney	0.83	0.86	0.16	0.67	0.84	0.37	0.31	1.00		
Uf Ag	0.38	0.29	0.84	0.22	0.19	0.93	0.86	0.31	1.00	
Winter Park	0.80	0.76	0.24	0.65	0.73	0.43	0.31	0.80	0.39	1.00

* Data 26.0% complete. All sample values null after 07/20/2012.

Figure 40. Number of PM_{10} Sites with which a Given PM10 Site is Highly Correlated (R>0.8)



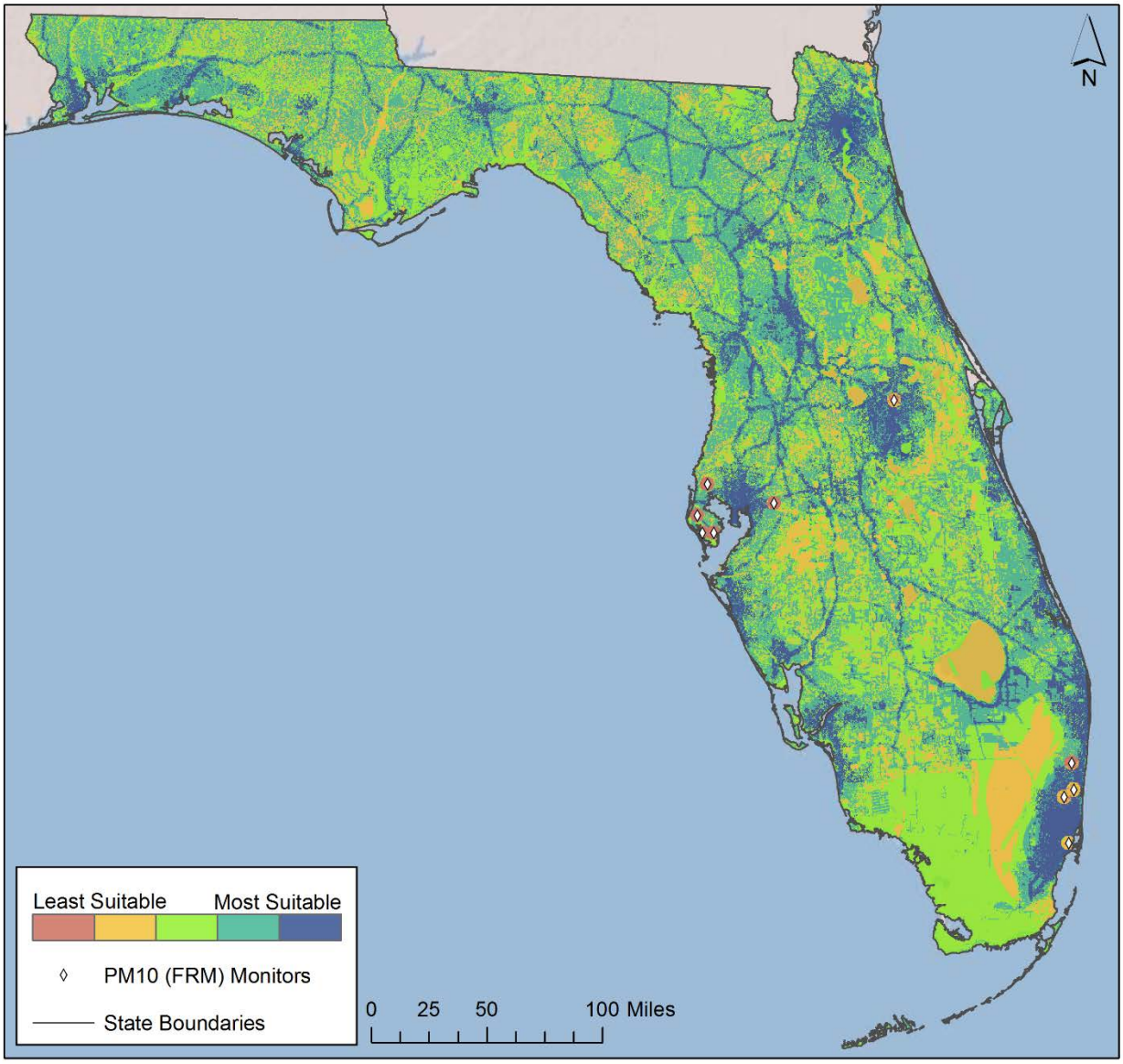
Suitability Assessing Gaps

The suitability for compliance with the federal monitoring requirements analysis showed that the network meets federal requirements. The suitability map assessing spatial distribution of monitoring gaps would indicate if there were places that should be monitored that are not currently being monitored. The weighting factors for suitability to identify gaps included other places that PM_{10} monitoring might be desirable such as rail lines, airports and ports and total 100%. The complete weighting design for PM_{10} is in Table 3.

The ideal design for PM_{10} is mapped in Figure 41. The sites in the network are displayed on the map. Any gaps identified would be areas to consider if there were a required monitor in need of

siting, or if there was an interest in expanding the size of the network. Since the network more than meets the minimum size, there were no PM_{10} monitoring gaps identified.

Figure 41. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for PM_{10}



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Recommendations

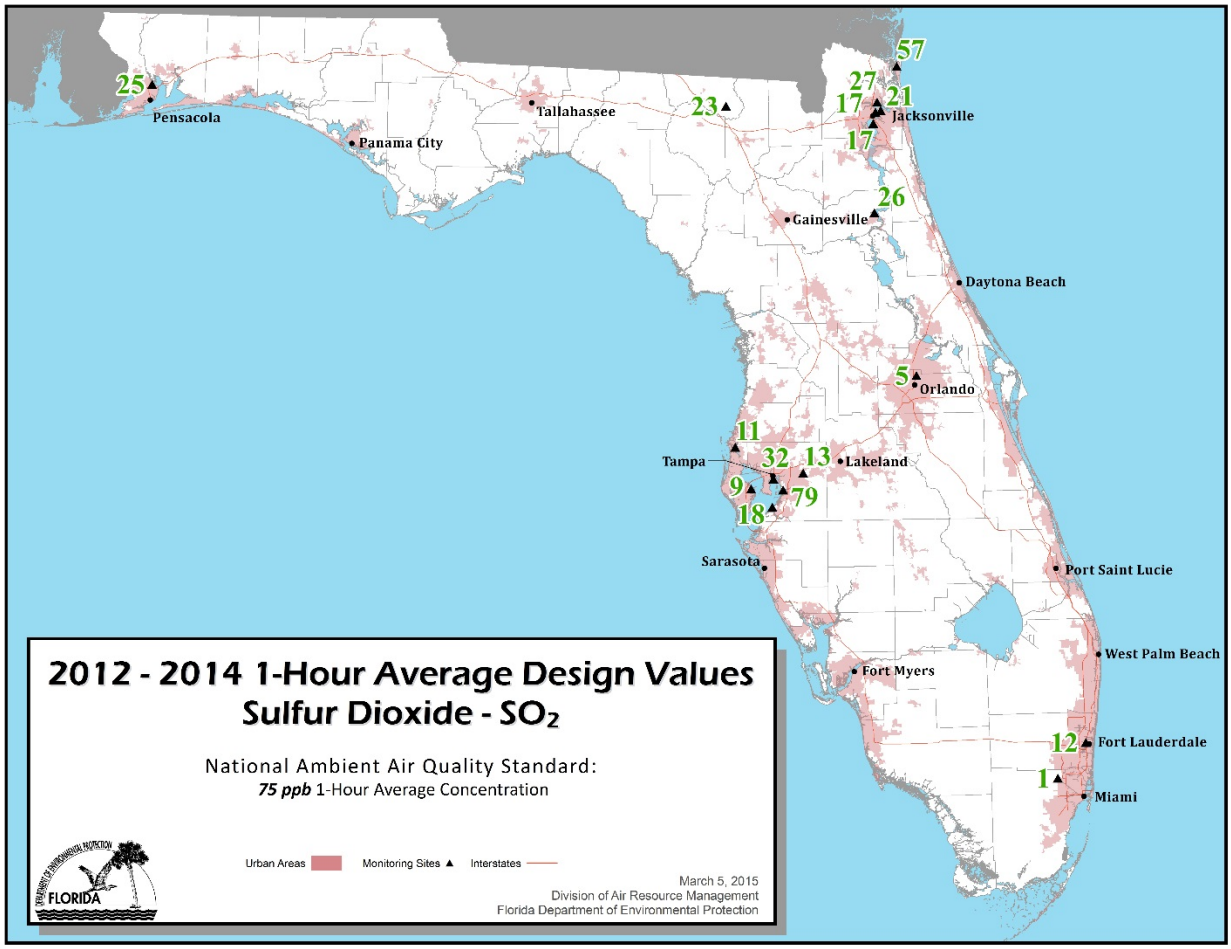
The PM_{10} network is well designed and robust enough to track the trends in PM_{10} concentrations over time. Most Florida agencies monitoring for PM_{10} have transitioned to or at least included continuous PM_{10} monitoring. The recommendation will be to continue to increase the continuous monitoring which provides more timely information to the public as well as a more complete record of PM_{10} concentrations.

Sulfur Dioxide (SO_2) Network

Overview

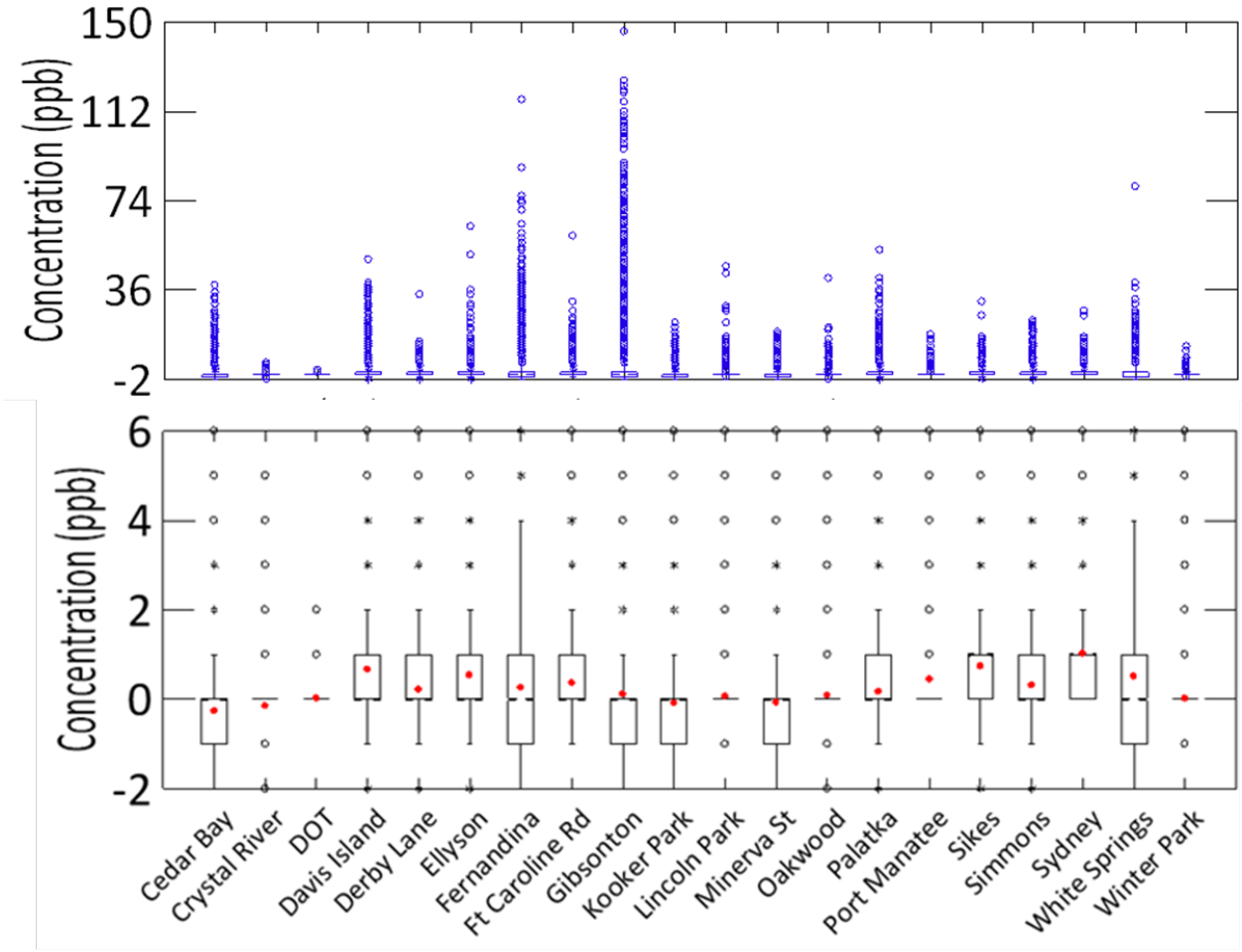
SO_2 concentrations across Florida are generally very low, but there are some exceptions. For Florida, SO_2 is one of the only two pollutants with any areas in nonattainment. For the 2012 – 2014 design values seen in Figure 42, only one monitor is not showing compliance with the standard of 75 ppb. It is located in the nonattainment area in Hillsborough County. The SO_2 monitor in the nonattainment area in Nassau County is meeting the standard with a design value of 57 ppb.

Figure 42. 1-Hour Average SO_2 Design Values



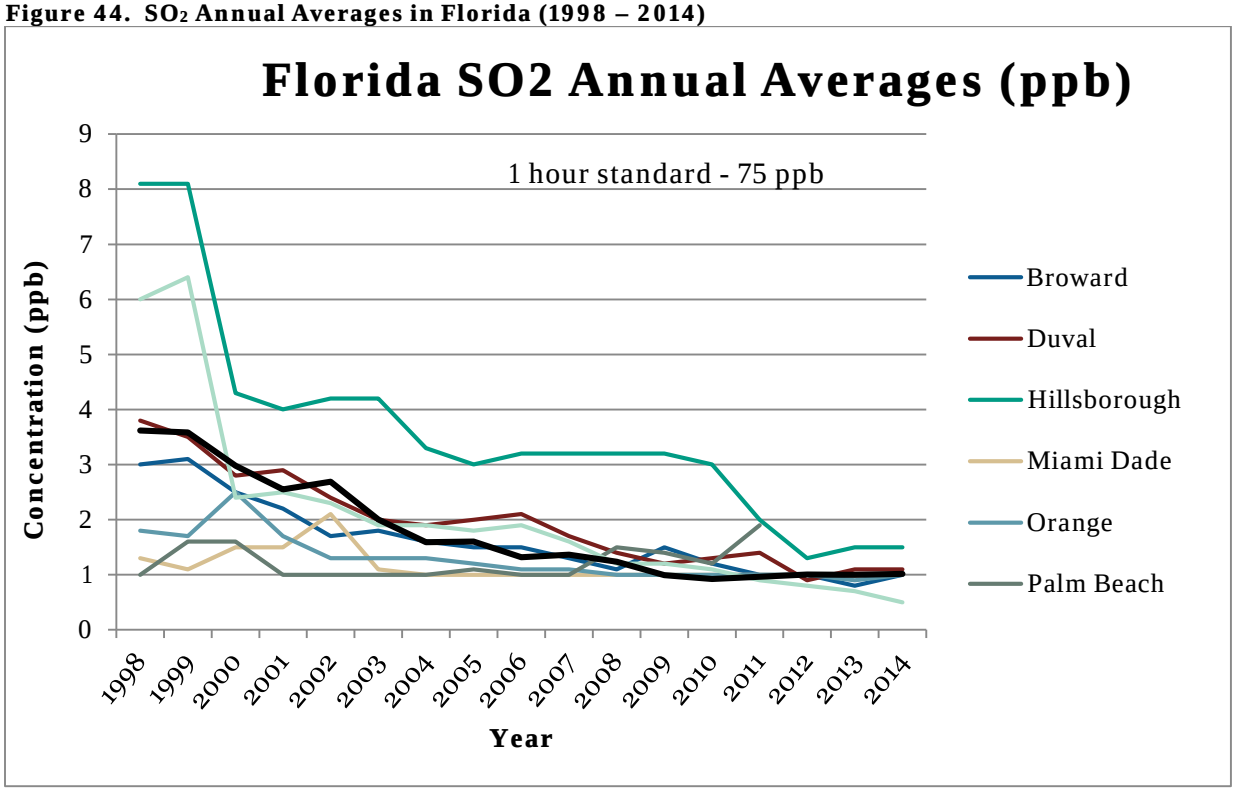
The 1-hr SO_2 NAAQS is 75 ppb. Figure 43 shows a box-and-whisker plot of the full range of SO_2 concentrations on the top and a zoomed-in image to show the median and mean concentrations on the bottom. Concentrations were highest at the Gibsonton and Fernandina sites which are located in nonattainment areas for SO_2. In contrast to the high-end concentrations, median and mean concentrations were typically very low, with median values at or below 1 ppb at all sites.

Figure 43. Notched box-whisker Plots of 1-Hr SO_2 Concentrations (ppb) in 2012 and 2013 at Monitoring Sites in Florida (top) Full-range and (bottom) Zoomed in to Show Differences in the Mean and Median Concentrations



SO_2 concentrations have been declining, similar to other pollutants driven by emissions from permitted facilities. The annual average for a site in each of the most populated counties is graphed in Figure 44. Average concentrations are dramatically lower than 15 years ago.

Figure 44. SO_2 Annual Averages in Florida (1998 – 2014)



Compliance with Network Design Criteria

Assessment of Objective Types Assigned to Monitors

Assessment of SO_2 compliance with the network design criteria starts with understanding the Population Weighted Emission Index (PWEI). SO_2 network requirements are now centered on large emission areas and population. Specific monitor requirements are for each Core Based Statistical Areas (CBSAs) whose PWEI was above 5,000. CBSAs are defined by the US Census Bureau. A single monitor is required when the PWEI is above 5,000 and 2 monitors are required when the PWEI is above 100,000 with a unit of (million persons-tons per year). PWEI values listed in Table 6 were provided by EPA.

Table 6. SO_2 Monitoring Requirements

CBSA Statistical Areas	2014 Census Population	PWEI 2012 NEI	PWEI SO_2 Needed	SO_2 Monitors in Place
Miami-Fort Lauderdale-Pompano Beach	5,929,819	147,762	2	3
Broward County	1,869,235			
Miami-Dade County	2,662,874			
Palm Beach County	1,397,710			
Tampa-St. Petersburg-Clearwater	2,915,582	94,280	2	7
Orlando-Kissimmee-Sanford	2,321,418	13,157	1	1
Jacksonville	1,419,127	32,408	1	5
North Port-Bradenton-Sarasota	728,708	5,030	1	1
Lakeland	616,158	10,666	1	1
Palm Bay-Melbourne-Titusville	556,885	3,003		
Cape Coral-Fort Myers	679,513	770		
Deltona-Daytona Beach-Ormond Beach	609,939	243		
Pensacola-Ferry Pass-Brent	474,081	13,122	1	1
Port St. Lucie-Fort Pierce	444,420	3,780		
Homosassa Springs	139,377	9,456	1	1

The SO_2 network objectives are source oriented the majority of the time. The spatial scales describe the expected area of the concentration of the pollutant. For monitors very near permitted facilities, the spatial scales are small. Those might represent micro scale which is up to 100 meters or middle scale which is as large as 0.5 kilometer.

Emissions Review

The suitability analysis for SO_2 weights the sources of SO_2 heavily because they are such a large part of the calculation of the PWEI. These sources are indicated on Figure 45 by a green circle for permitted facilities and shading of the whole county to indicate the mobile and area sources. Figure 46 is a graph of the emissions from the permitted facilities in the most populated counties. While the monitoring network is centered on large emissions sources, the magnitude of emissions from those sources have drastically decreased over the last 15 years. Similar to the emissions for NO_2, the decreases in emissions for Hillsborough were the largest. They are reflected in the ambient concentrations shown earlier.

Figure 45. Map of SO_2 Point Emissions Sources (green circles) and Area/Mobile Emissions by County (shaded polygons) in Florida

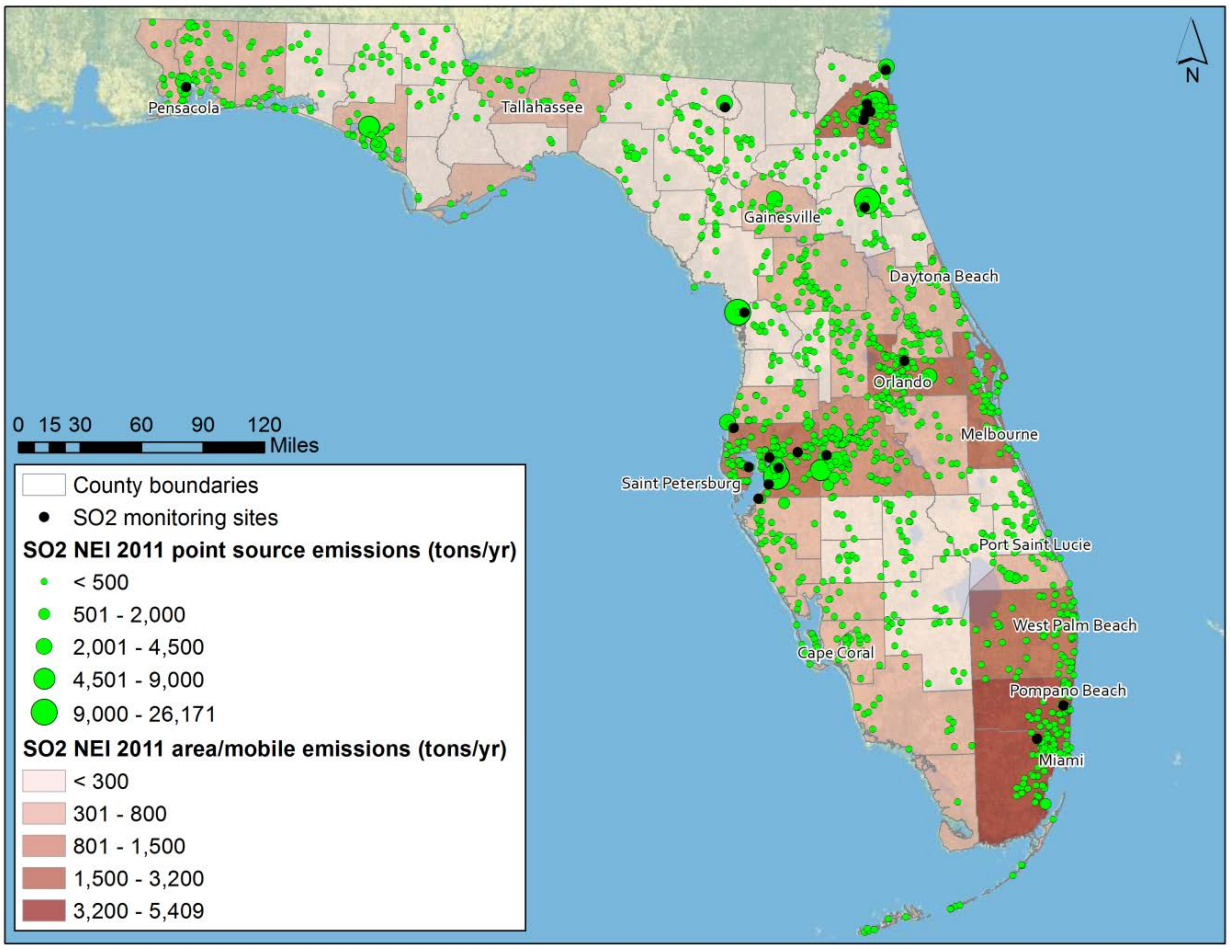
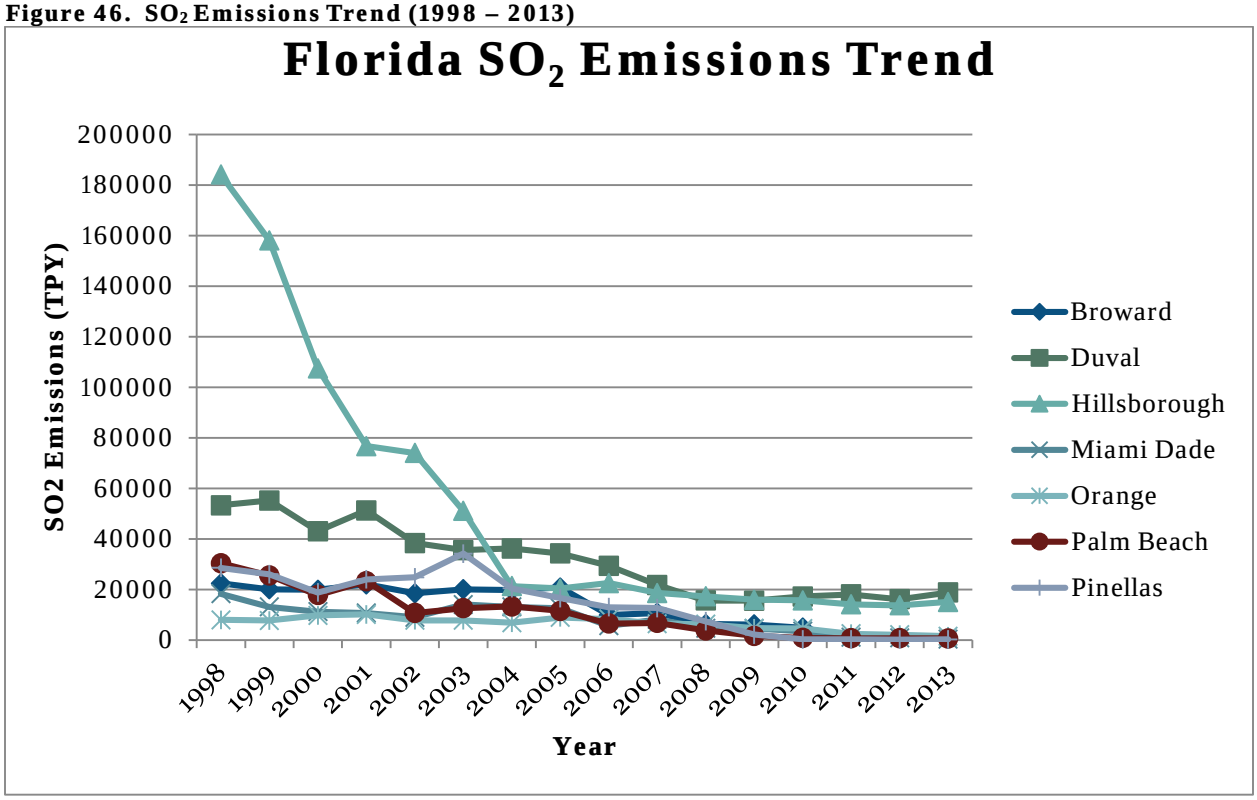


Figure 46. SO_2 Emissions Trend (1998 – 2013)



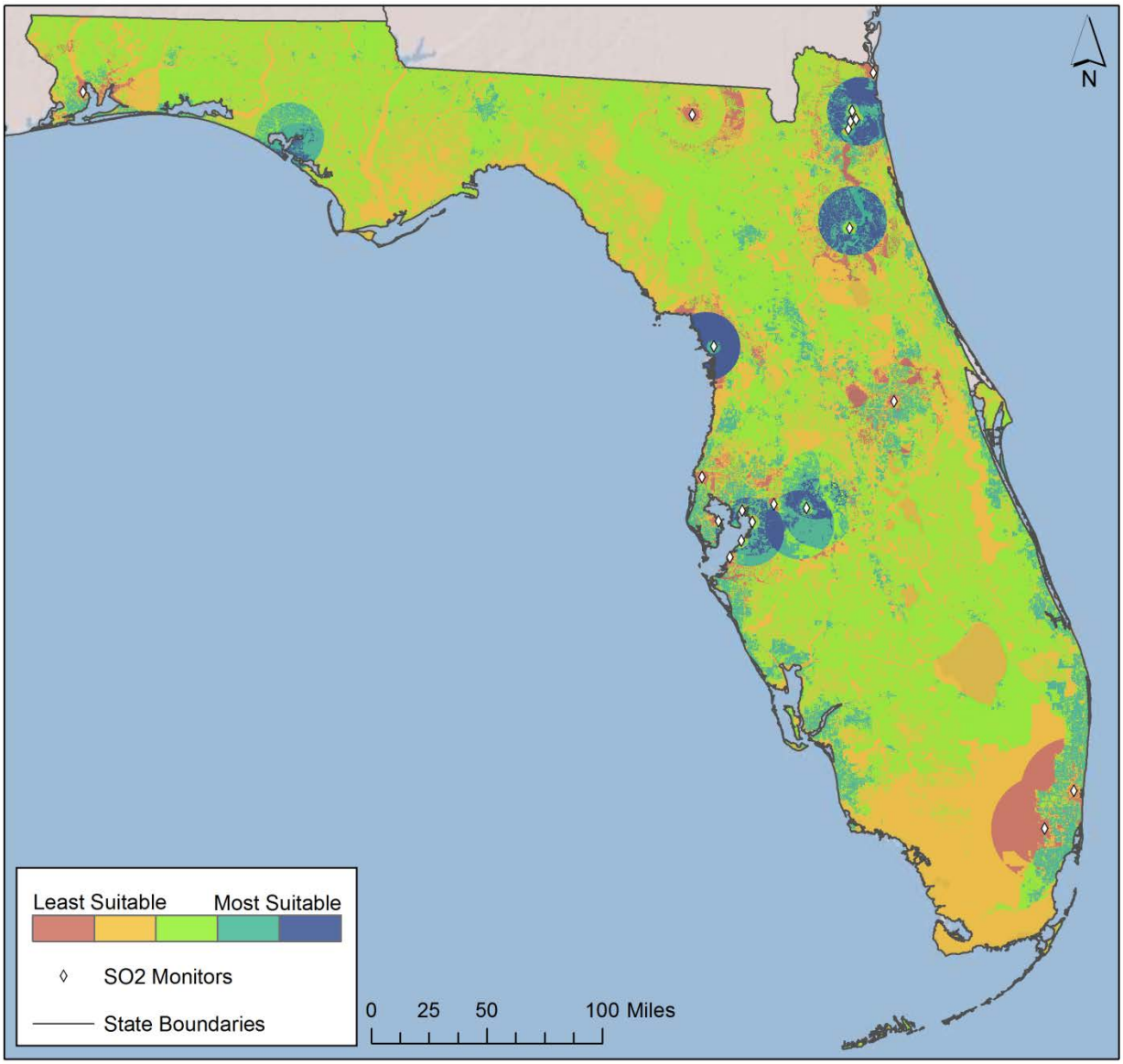
Suitability for Compliance to Requirements

SO_2 is weighted heavily by emissions. The rest of the total for SO_2 to reach 100% is weighted by population and the current monitors. These percentages are assigned to the scenarios in the list that are most appropriate to each pollutant to ideally meet the federal design requirements. The results of that ideal design for SO_2 are mapped in Figure 47.

The SO_2 network has been robust enough and designed to monitor the sources well enough to reflect the decline in emission with a like decrease in ambient concentrations as seen in Figure 45. Where those concentrations are highest, in the nonattainment areas, monitoring sites are very important. Monitoring sites that have exceeded the NAAQS in recent years or that have the highest concentration for a pollutant in nonattainment may be required to operate indefinitely.

The SO_2 Data Requirements Rule, when finalized, may necessitate adding new sites. At this time, the SO_2 network is more than double the minimum required size with 10 monitors required and 21 monitors in operation. It complies with the network design requirements.

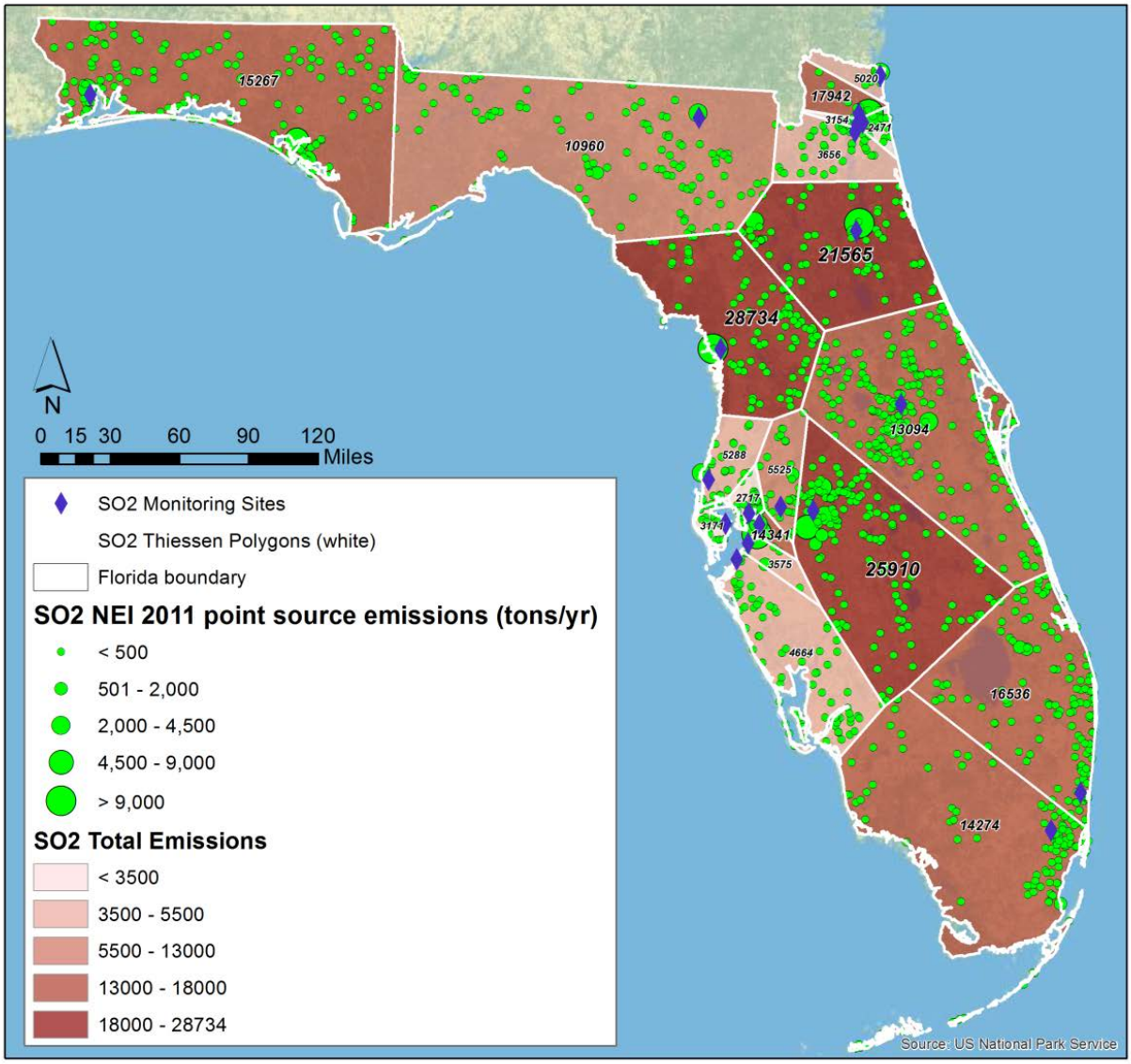
Figure 47. Suitability Map Examining Compliance to Federal Monitoring Requirements for SO_2



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Figure 48 which displays the monitor area served with emissions data indicates that areas with high emissions have SO_2 monitors. The SO_2 monitoring design is met since monitoring is already concentrated in areas of high emissions.

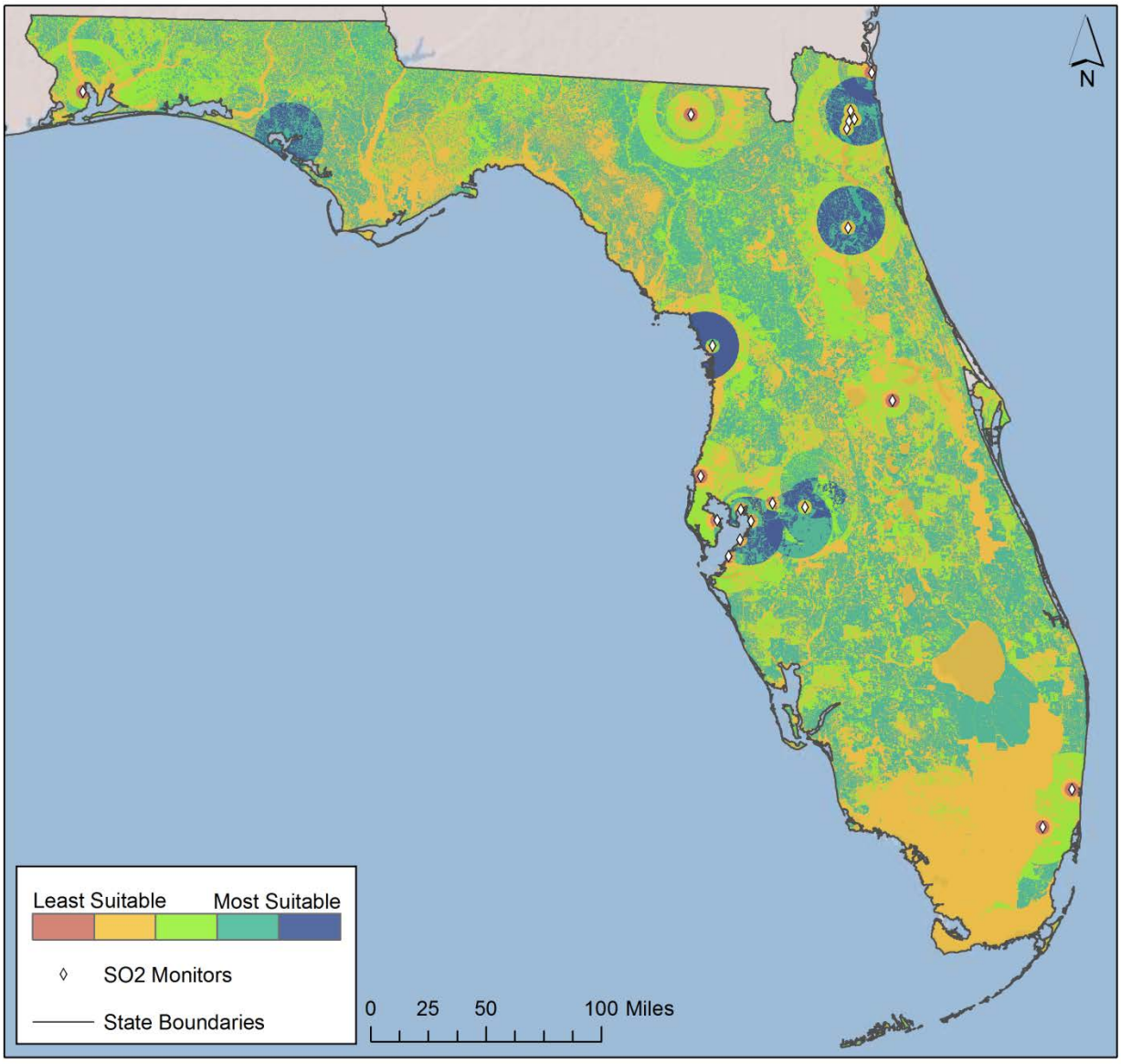
Figure 48. SO_2 Monitor Area Served Map with Emissions



Suitability Assessing Gaps

The ideal design for SO_2 is mapped in Figure 49. Sites in the network are displayed on the map. Since the network more than meets the minimum size, any gaps identified would be areas to consider if there were a required monitor in need of siting or if there was an interest in expanding the size of the network.

Figure 49. Suitability Map Assessing Spatial Distribution of Monitors and Monitoring Gaps for SO_2



Note: White diamonds show current monitoring sites for each pollutant. Each monitor is surrounded by a 5-km buffer zone.

Recommendations

As mentioned earlier, the SO_2 Data Requirements Rule may impact the design of the SO_2 network significantly. DEP is working with the major SO_2 emission sources in the state to communicate the challenges of the rule and its implications. Until the rule is final and DEP understands its implications, there are no plans to change the SO_2 network.

Technology

As DARM continues to shape the air monitoring program across the state, with our local program partners included, into one Primary Quality Assurance Organization (PQAO), new technologies will be deployed more uniformly and more quickly than in the past. Florida will continue to take advantage of annual statewide hands-on training to assist in this transition. Florida's Air Monitoring and Assessment System (FAMAS), the state regulatory data base, will continue to be used to review and improve standardization and data quality in the PQAO. Anticipated improvements to FAMAS include completing the integration of EPA's new QA transaction formats and increased automated tracking features to reduce human errors.

DARM and our local program partners have invested more than $2.5 million in Florida's ambient monitoring network over the last several years and continue to evaluate advances in ambient air monitoring technology. These upgrades and enhancements have been implemented to take advantage of remote capabilities, advanced diagnostics and automation features, wireless and digital communication for greater operational efficiency and reduced operational costs and increased flexibility and certainty in regulatory compliance.

Like home computers, contacting monitoring sites has moved from dial-up to wireless communication over the internet for greater reliability, less cost and more data transfer from the monitoring site to FAMAS. New analyzers with digital communication allow increased remote diagnostics and an enhanced ability to reconstruct events, increasing efficiency and reducing data loss. These improvements are enhanced with the introduction of the newer ESC 8872 data loggers featuring greater data storage, improved interface with the new analyzers, and each site PC can be eliminated. Replacing $PM_{2.5}$ manual federal reference method (FRM) samplers with federal equivalent method (FEM) continuous analyzers creates an even more robust network of $PM_{2.5}$ continuous instruments that can be used for regulatory decisions with increased efficiency and reduced operational costs.

Florida's air monitoring agencies have made significant progress in bringing new technology online. As other technologies are identified to make similar improvements, they will be investigated for possible use.

Conclusion

The Department of Environmental Protection is proud of its robust air monitoring network. It exceeds the federal minimum regulatory requirements and is strategically placed to cover over 91% of the state's population. The correlation analysis between some of our PM_{10} and ozone monitors demonstrated close relationships that might suggest some monitors could be removed without any significant loss of information. However, with upcoming changes to regulatory requirements and increasing growth in the state, DEP believes having a network structured with some redundancy is beneficial.

Florida's population will continue to grow creating new challenges to ensure our air quality remains among the best in the nation. Of note is that traditionally, the growth has come in metropolitan areas of the state, however, Florida's micropolitan communities are also experiencing significant growth. DEP is committed to meeting the ever changing growth patterns within the state and will strategically expand its air monitoring network to meet those needs.

DEP will continue to responsibly manage Florida's air resource that includes embracing creative and innovative technologies to continue the clean air trend well into the future. The additional monitoring efforts are important to the quality of life for our citizens and the state's economic future in attracting new businesses and industries and increasing revenues from traditional tourism and ecotourism. Florida's extensive air monitoring network demonstrates that the state is providing a healthy environment for its citizens in the face of tightened national air quality standards, increased population and industrial expansion.

Appendix A: Network Description Evaluation Summary

The network description and a summary of each monitor's value is provided. The DEP scored each existing monitor on a three-point scale (critical, credible, and supplemental) based on the value the monitor provides to the network. Critical value monitors are of high value and are used to meet an explicit federal requirement. Credible monitors provide optimal spatial coverage and are used to support AQI forecasting and reporting, and NAAQS reviews. Supplemental monitors or low value monitors support monitoring efforts but do not satisfy any explicit requirement.

Consistent with the purpose of this document, low value monitors do not mean that the monitor will be decommissioned. The DEP will continue to use the annual monitoring network plan to recommend any changes to the monitoring network.

METROPOLITAN STATISTICAL AREA: MIAMI - FT LAUDERDALE - MIAMI BEACH (BROWARD, MIAMI-DADE AND PALM BEACH COUNTIES)

Broward County

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
011-0010	600 NW 19 AVENUE	SLAMS	SO_2	TAPI T100	SOURCE	NBH	CONTINUOUS	SOURCE MONITORING	CRITICAL	SU 5/1/92 VOCATIONAL TRAINING (#28)
	26.131944,-80.166667	SLAMS	CO	TAPI T300	HI CONC	NBH	CONTINUOUS	TO MONITOR TRENDS	CRITICAL	SU 1/1/92 SLAMS 4/27/92
		SLAMS	PM_{10}	MET ONE 1020	POPULATION	NBH	CONTINUOUS	TO MONITOR TRENDS	CRITICAL	SU 7/01/2014
		NON-REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NA	SU 11/21/09
011-0033	4001 SW 142nd Ave, Davie	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 1/09
	26.073056,-80.338889	SPM	$PM_{2.5}$	R & P1400A	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CRITICAL	VISTA VIEW PARK
011-0034	PINE ISLAND ROAD PARCEL	PROP NCORE	PM_{10}	TISCH	POPULATION	URBAN	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 2/1/2015, Daniela Banu
	26.054047, -80.257608	PROP NCORE	$PM_{2.5}$	R&P 2025i	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 1/1/2015
	PINE ISLAND ROAD	PROP NCORE	PM_{10}	R&P 2025	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 3/1/2015
	SOUTH OF SW 57th ST, DAVIE	PROP NCORE	SO_2	TECO 43CTL	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/1/2015
		PROP NCORE	CO	TECO 48CTL	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/1/2015
		PROP NCORE	NO_Y	TECO NOY	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/1/2015
		PROP NCORE	Pb	R&P 2025	POPULATION	NBH	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 3/1/2015 if needed
		PROP NCORE	OZONE	TECO49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/1/2015
		PROP NCORE	$PM_{2.5}$	TEI 5014i	POPULATION	URBAN	CONTINUOUS	USED FOR AQI	CRITICAL	SU 7/1/2015
		CSN	$PM_{2.5}$	MET ONE	POPULATION	NBH	1/6 DAY	TRENDS NETWORK	CRITICAL	SU 1/1/2015
		CSN	EC/OC	URG 3000N	POPULATION	NBH	1/3 DAY	TRENDS NETWORK	CRITICAL	SU 1/1/2015
		NON-REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NEW	SU 1/1/2015
011-0035	799 N I-95, FT LAUDERDALE	SLAMS	NO_2	TEL-API T200	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU APRIL 2015
	26.131256, -80.167847	SLAMS	CO	TECO 48i TL	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU APRIL 2016
	I-95 South /Sunrise Blvd	SPM	BC	TAPI 633	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU APRIL 2017
	33311	SPM	Ultra Fine	TSI 3031	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU APRIL 2018
		SLAMS	$PM_{2.5}$	TEI 5014i	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU APRIL 2019
011-2003	1951 NE 48TH ST	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	RELIED ON FOR SPATIAL	CREDIBLE	SU 1/1/89 MET POMPANO BEACH (#1)
	26.290833,-80.096667	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	URBAN	1/3 DAY	INTERPOLATION	CRITICAL	RELOCATED FROM SITE 18
011-5005	4010 WINSTON PARK BLVD	SLAMS	PM_{10}	WEDDING	SOURCE	NBH	1/6 DAY	SOURCE MONITORING	CRITICAL	SLAMS 10/31/95 SD TEMP. 4/00 (#30) Site temporary down - constructing new platform
	26.295556,-80.177500	NON-REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NA	VOC MONITORING #30 Site temporary down - constructing new platform
		SLAMS	$PM_{2.5}$	R&P 2025i	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CREDIBLE	SU 10/1/09 Site temporary down - constructing new platform
011-8002	JOHN U LLOYD STATE PK	SLAMS	OZONE	TECO49i	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/85 (#25)
	26.088056,-80.111389	SLAMS	NO_2	TECO 42i	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/8/90
		NON-REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	CRITICAL	SU Nov 2009

Miami-Dade County

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
086-0019	US27 & SR821	SLAMS	SO_2	TEI 43I	SOURCE	NBH	CONTINUOUS	TRENDS MONITORING	CRITICAL	SU 8/18/87 PENNSUCO
	25.897500,-80.380000									
086-0027	UNIV MIAMI ROSENSTIEL	SLAMS	NO_2	API T200	POPULATION	NBH	CONTINUOUS	ASSIST IN FORECASTING	CREDIBLE	SU 1/30/85 MET

	25.732500,-80.161944	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 3/7/84
086-0029	PERDUE MED CNTR	SLAMS	OZONE	API T400	HI CONC	URBAN	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 5/1/85 MET
	25.586944,-80.326111									TEMP MOVE AFTER ANDREW
086-0031	16000 S DIXIE HWY	SLAMS	CO	API 300E	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CRITICAL	SU 7/1/91 SLAMS 4/27/92
	25.621667, -80.344444									
086-0033	7700 NW 186th ST	SLAMS	$PM_{2.5}$	R&P 2025B	POPULATION	NBH	1/3 DAY	MONITORING GROWTH IMPACT	CREDIBLE	5/4/2005
	25.941944,-80.326388									PALM SPRINGS N FIRE STATION
086-0034	SW 127 Avenue	SLAMS	CO	API 300E	POPULATION	MIDDLE	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 4/27/05 KENDALL WASD
	17-2730.23-560.70									
086-1016	NW 20TH ST FIRE STA	SLAMS	PM_{10}	ANDERSEN 1200	HI CONC	MIDDLE	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 1/1/85
	25.794722,-80.215555	SLAMS	$PM_{2.5}$	R&P 2025B	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 2/4/99 DAILY COLLOCATED
		SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	AIRNOW POLLING 7/15/03
086-4002	864 NW 23RD ST (ANNEX)	SLAMS	NO_2	API T200	HI CONC	NBH	CONTINUOUS	ASSIST IN FORECASTING	CREDIBLE	SU 1/1/1984
	25.798333,-80.210278	SLAMS	CO	API 300E	HI CONC	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 1/1/76
086-6001	325 NW 2ND AVE	SLAMS	$PM_{2.5}$	R&P 2025B	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CREDIBLE	SU 1/27/99 , HOMESTEAD DAILY
	25.471944,-80.482778	SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 2/10/04, MAY MOVE BASED ON SAFETY
086-XXXX	NEAR ROAD NO2	SLAMS	NO_2	TEI 42i	HI CONC	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	EXPECTED SU IN 2015

Palm Beach County										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
099-0008	38145 SR 80	Non-Reg	$PM_{2.5}$	BAM 1020	SOURCE	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 5/1/09
	26.724166,-80.663333									
099-0009	980 CRESTWOOD BLVD N	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 3/1/00
	26.730833,-80.233888	SLAMS	$PM_{2.5}$	R&P 2025A	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 12/99 COLLOCATED
		Non-Reg	$PM_{2.5}$	BAM 1020	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 7/9/07 ROYAL PALM WWTP
		SLAMS	PM_{10}	BAM 1020	POPULATION	NBH	CONTINUOUS			
099-0021	8TH STREET, LANTANA	SLAMS	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 2/2015 LANTANA PRESERVE
	26.592679, -80.058491	SPM	NO_2	API T200	POPULATION	NBH	CONTINUOUS	ASSIST IN FORECASTING	CREDIBLE	SU 2/2015 Replacing 099-0020
		SLAMS	PM_{10}	BAM 1020	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 2/2015 260 m east of 099-0020
099-2005	225 S CONGRESS	SLAMS	$PM_{2.5}$	R&P 2025B	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 5/31/01
	26.456944,-80.092777									

METROPOLITAN STATISTICAL AREA: TAMPA - ST PETERSBURG - CLEARWATER (HILLSBOROUGH, PINELLAS, PASCO AND HERNANDO COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Hillsborough County										
057-0081	SIMMONS PARK	SLAMS	OZONE	TEI 49i	HI CONC	URBAN	CONTINUOUS	USED FOR AQI	CRITICAL	SU 6/14/78 MET
	27.740033,-82.465146	SLAMS	SO_2	TEI 43i	HI CONC	URBAN	CONTINUOUS	FOR EFFECTIVENESS OF NEW REGULATIONS	CREDIBLE	SU 1/1/78 SLAMS 4/27/92
057-0083	GARDINIER PARK	SPM	PM_{10}	R & P 1405	SOURCE	MIDDLE	CONTINUOUS	SOURCE MONITORING	CREDIBLE	SU 4/1/95
	27.864233,-82.383500									
057-0100	2909 N 66th ST	SPM	LEAD	HI VOL	SOURCE	MIDDLE	1/6 DAY	SOURCE MONITORING	CRITICAL	SU 4/2/10 KENLY ELEMENTARY
	27.970328,-82.38005									
057-0109	9851 HWY 41 SOUTH	SLAMS	SO2	TEI 43Ci	SOURCE	NBH	CONTINUOUS	SOURCE MONITORING	CRITICAL	SU 10/96 EAST BAY SLAMS 11/13/96
	27.853889,-82.384167									MET; REPLACED GIANTS CAMP

057-1035	DAVIS ISLAND	SLAMS	PM_{10}	TEI 1405	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/1/85 TEOM USED FOR AQI
	27.929167,-82.453611	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 1/1/73 MET
		SLAMS	SO_2	TEI 43i	POPULATION	NBH	CONTINUOUS	FOR EFFECTIVENESS OF NEW REGULATIONS	CREDIBLE	SU 1/1/74
057-1065	5121 GANDY BLVD	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CREDIBLE	SU 9/1/89 MET MARINE RESERVE
	27.893183,-82.538250	SLAMS	NO2	T-API T200	HI CONC	NBH	CONTINUOUS	COMMUNITYWIDE MONITOR	CRITICAL	SU 4/1/90 NO, NO_x
		SPM	$PM_{2.5}$	TEI 1405	HI CONC	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	1/1/2004
057-1066	1700 N 66TH ST	SLAMS	LEAD	ANDERSEN 2000	SOURCE	MIDDLE	1/6 DAY	SOURCE MONITORING	CRITICAL	SU 1/2/90 CSX RAIL YARD
	27.96950,-82.381850									COLLOCATED
057-1073	6811 E 14th ST	SPM	LEAD	HI VOL	SOURCE	MIDDLE	1/6 DAY	SOURCE MONITORING	CREDIBLE	SU 10/31/97
	27.964867,-82.379033									NE OF ENVIROFOCUS
057-1111	601 W LAUREL ST	SLAMS	NO_2	T-API T200UP	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU DECEMBER 2013
	27.95555, -82.46714	SLAMS	CO	T-API T300U	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU DECEMBER 2013
		SPM	BC	T-API 633	SOURCE	MICRO	CONTINUOUS	GRANT REQUEST	CREDIBLE	SU DECEMBER 2013
		SPM	Ultra Fine	T-API 651	SOURCE	MICRO	CONTINUOUS	GRANT REQUEST	CREDIBLE	SU DECEMBER 2013
		SLAMS	$PM_{2.5}$	TEI 5014i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU DECEMBER 2013
057-3002	SYDNEY RD	NCORE	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SYDNEY SU 01/01/04, MET
	27.965700,-82.230617	NCORE	NO_Y	TEI 42i-Y	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 01/01/04
		NCORE	CO_TL	TEI 48CTL	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 01/01/05
		NCORE	SO2_TL	TEI 43i-TLE	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 01/01/06
		NCORE	PM2.5	R&P 2025	POPULATION	URBAN	DAILY	NEEDED BY REGULATION	CRITICAL	SU 01/01/04 COLLOCATED
		NCORE	PM_{10}	R&P 2025	POPULATION	URBAN	DAILY	NEEDED BY REGULATION	CRITICAL	SU 1/4/04 COLLOCATED FOR PMCOARSE
		NCORE	PMcoarse	R&P 2025	POPULATION	URBAN	DAILY	NEEDED BY REGULATION	CRITICAL	SU 01/21/010
		NCORE	$PM_{2.5}$	TEI 5014i	POPULATION	URBAN	CONTINUOUS	USED FOR AQI	CRITICAL	SU 01/01/05
		NCORE	PM_{10}	GMW HI VOL	POPULATION	URBAN	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/04/04 PM10 MASS
		NCORE	PM10-Pb	R&P 2025	POPULATION	URBAN	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/04/04
		STN	EC/OC	URG 3000N	POPULATION	URBAN	1/3 DAY	BASELINE MONITORING	CRITICAL	SU 01/01/07
		STN	$PM_{2.5}$	METONE SASS	POPULATION	URBAN	1/3 DAY	TRENDS NETWORK	CRITICAL	SU 1/2004
		NATTS	TOXICS		POPULATION	URBAN	1/6 DAY	BASELINE MONITORING	NA	VOC/CARBONYL/METAL MONITORING
New Site	2806 POINSETTIA AVE	SPM	LEAD	TISCH HI VOL	SOURCE	MICRO	1/6 DAY	SOURCE MONITORING	CREDIBLE	SU 1/2016 JOHNSON CONTROLS
New Site	6506 DOLPHIN COVE DR	SPM	$PM_{2.5}$	TEOM 1400AB	SOURCE	NBH	CONTINUOUS	SOURCE MONITORING	NEW	SU 1/2016 APOLLO BEACH COMMUNITY
		SPM	SO_2	TEI 43C	POPULATION	NBH	CONTINUOUS	SOURCE MONITORING	CREDIBLE	SU 1/2016

Pinellas County

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
103-0004	2435 SHARKEY RD	SLAMS	OZONE	API 400E	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/1/78 CLEARWATER JC
	27.971367,-82.736650									
103-0012	1313 19TH ST N	SLAMS	PM_{10}	ANDERSEN 1200	HI CONC	NBH	1/6 DAY	TRENDS MONITORING	CREDIBLE	SU 4/1/92 SLAMS 7/20/92
	27.785683,-82.658232									WOODLAWN; WAIVER REQUESTED
103-0018	7200 22ND AVE N	SLAMS	OZONE	TEI 49I	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 4/6/78 AZALEA PARK MET
	27.791,-82.740	SLAMS	NO_2	TEI 42I	POPULATION	NBH	CONTINUOUS	FORECAST ASSISTANCE	CREDIBLE	SU 1/1/78 NO, NOX
		SLAMS	PM_{10}	ANDERSEN 1200	POPULATION	NBH	1/6 DAY	NEEDED BY REGULATION	CRITICAL	SU 4/1/92 SLAMS 7/20/92
		SLAMS	$PM_{2.5}$	R&P 2025 B	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 01/01/99 COLLOCATED 1/12 DAY
		SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 05/01/01
		NON REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NA	VOC/CARBONYL/METAL MONITORING

103-0023	10100 SAN MARTIN	SLAMS	SO_2	TEI 43C	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 1/1/79 DERBY LANE
	27.863583,-82.623483									
103-0026	8601 60th St. North	NATTS	BC	TAPI 633	POPULATION	NBH	CONTINUOUS	BASELINE MONITORING	NA	SU MET; SKYVIEW, PINELLAS PK
	27.850041, -82.714590	NATTS	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NA	VOC/SVOC/Carbonyl/PAHs/Metal/Cr+6 monitoring, Cr+6 discontinued on 6/28/13
103-1009	1360 SANDY LANE	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CREDIBLE	SU 9/12/03
	27.986283,-82.782150									
103-2008	13280 34TH ST N	SLAMS	CO	TEI 48C	HI CONC	MICRO	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 4/1/93 SLAMS 7/1/93 GATEWAY
	17-3086.245N-334.583E									
103-3004	1301 ULMERTON	SLAMS	PM_{10}	GWC 1200	HI CONC	MIDDLE	1/6 DAY	TRENDS MONITORING	CREDIBLE	SU 7/31/88 COLLOCATED 1/12 DAY
	27.895300,-82.774700									MOTORPOOL
103-5002	2200 East Lake Rd	SLAMS	PM_{10}	ANDERSEN 1200	POPULATION	NBH	1/6 DAY	TRENDS MONITORING	SUPPLEMENTAL	SU 11/1/88; SLAMS 7/20/92; EASTLAKE
	28.090000,-82.700556	SLAMS	OZONE	API 400E	HI CONC	URBAN	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 1/1/77 MET; John Chestnut Sr Park
		SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 9/5/07
103-5003	40671 US 19 NORTH	SLAMS	SO_2	TEI 43C	SOURCE	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 9/18/98 MET OAKWOOD
	28.141944,-82.740000									SLAMS 12/1/98
103-XXXX	I-275 (TBD) / UTM:(TBD)	SLAMS	NO_2	TBD	SOURCE	MICRO	CONTINUOUS	NEEDED BY REGULATION	NEW	NEAR-ROAD SITE -TO BE INSTALLED BY 10/1/2015
		SLAMS	CO	TBD	SOURCE	MICRO	CONTINUOUS	SUPPORT NEAR ROAD	NEW	NEAR-ROAD SITE -TO BE INSTALLED BY 10/1/2015
		SPM	BC	TBD	SOURCE	MICRO	CONTINUOUS	SUPPORT NEAR ROAD	NEW	NEAR-ROAD SITE -TO BE INSTALLED BY 10/1/2015

Pasco County										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
101-0005	30908 WARDER RD	SLAMS	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	URBAN SPRAWL	CREDIBLE	SU 09/07/00 MET, SAN ANTONIO
	28.331944,-82.305833									
101-2001	3452 DARLINGTON RD	SLAMS	OZONE	TEI 49i	HI CONC	URBAN	CONTINUOUS	URBAN SPRAWL	CREDIBLE	HOLIDAY
	28.194722,-82.756389									SU 1/17/92 MET SLAMS 4/27/92

METROPOLITAN STATISTICAL AREA - JACKSONVILLE (BAKER, CLAY, DUVAL, NASSAU AND ST. JOHNS COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Baker County										
003-0002	OSCEOLA RANGER OFFICE	SPM	OZONE	TEI 49i	BACKGROUND	URBAN	CONTINUOUS	REGIONAL BACKGROUND	CREDIBLE	SU 01/01/96 OLUSTEE MET
	30.201111,-82.441111									
Duval County										
031-0032	2900 BENNET ST / KP	SLAMS	SO_2	TEI 43i	HI CONC	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 1/1/74 -KOOKER PARK
	30.356111,-81.635556	SLAMS	NO_2	TEI 42i	HI CONC	NBH	CONTINUOUS	COMMUNITY-WIDE NO2 MONITORING	CRITICAL	SU 1/6/75 -KOOKER PARK
		SPM	$PM_{2.5}$	R&P 2025i	POPULATION	NBH	DAILY	COMMUNITY RESPONSE	CREDIBLE	SU 07/16/09 -KOOKER PARK
		SLAMS	PM_{10}	TEI 1405	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 2/1/08 -KOOKER PARK
031-0077	13333 LANIER RD / SE	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/79 -SHEFFIELD ELEM SCHOOL
	30.476944,-81.586667	SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 9/1/08 -SHEFFIELD ELEM SCHOOL
031-0080	1605 MINERVA ST	SLAMS	SO2	TEI 43i	SOURCE	MIDDLE	CONTINUOUS	SOURCE MONITORING	CREDIBLE	SU 1/1/79 -SOUTHSIDE PLAYGROUND
	30.308889,-81.653056	SLAMS	CO	TEI 48i	HI CONC	NBH	CONTINUOUS	TRENDS MONITORING	CRITICAL	SU 10/18/79-SOUTHSIDE PLAYGROUND
031-0081	6801 CEDAR BAY RD / CB	SLAMS	SO_2	TEI 43i	SOURCE	MIDDLE	CONTINUOUS	SOURCE MONITORING	CRITICAL	SU 1/1/78 -CEDAR BAY

	30.431111,-81.631944									
031-0084	ROSSELLE & COPELAND / RC	SLAMS	PM10	TEI 1405	HI CONC	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/1/87 COLLOCATED SD 9/29/02 CONVERT CONTINUOUS 2/11/08 (RC)
	30.320556,-81.686667	SLAMS	CO	TEI 48i	HI CONC	MIDDLE	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 1/1/80 -SLAMS 1/1/81 (RC)
031-0097	6241 FORT CAROLINE RD / FC	SLAMS	SO_2	TEI 43i	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 9/7/91 (FC)
	30.367222,-81.594167									
031-0098	14932 MANDARIN ROAD / MN	SLAMS	$PM_{2.5}$	TEI 2025i	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 06/01/99 DAILY (MN)
	30.135861,-81.634083	SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/2004 (MN)
031-0099	9429 MERRILL ROAD / SA	SLAMS	$PM_{2.5}$	TEI 2025i	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 06/01/99 DAILY - COLLOCATED (SA)
	30.354722,-81.547777	SLAMS	$PM_{2.5}$	R&P 2025B	POPULATION	NBH	1/12 Day	COLLOCATED	CRITICAL	SUNNY ACRES (SA)
031-0100	13600 Wm. DAVIS PKWY / MO	SLAMS	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CREDIBLE	SU 9/1/02 -MAYO CLINIC
	30.260278,-81.453611	SPM	$PM_{2.5}$	TEI 504i	POPULATION	URBAN	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 1/1/04 -MAYO CLINIC 5014i collocated
031-0106	4770 CISCO DR / CS	SPM	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 9/28/2009 (CS)
	30.378056,-81.840556									
031-0107	1216 DAY AVE / LEE HIGH	SPM	CO	TEI 48i	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 5/3/2012 -LEE HI SCHOOL
	30.308534,-81.705577									
031-0108	5895 PEPSI PLACE	SLAMS	NO_2	TEI 42i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/2014 (PP) Near road NO_2
	30.262778, -81.606833	SLAMS	CO	TEI 48i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/2014 (PP)
		SLAMS	$PM_{2.5}$	TEI 5014i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/2014 (PP)
New site	Yellow Water Road	SPM	LEAD	R&P 2025	POPULATION	NBH	1/6 Day	SOURCE IMPACT	SUPPLEMENTAL	
Nassau County										
089-0005	WATER PLT 5TH ST	SLAMS	SO2	TEI 43i	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/76
	30.6575, -81.464167									
089-0010	96160 Nassau Place	SPM	$PM_{2.5}$	1405 TEOM	BACKGROUND	NBH	CONTINUOUS	REGIONAL BACKGROUND	CRITICAL	SU 12/21/2012 Yulee
	30.62673, -81.53597									

METROPOLITAN STATISTICAL AREA: ORLANDO - KISSIMMEE (LAKE, ORANGE, OSCEOLA AND SEMINOLE COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Lake County										
069-0002	1901 JOHNS LAKE RD	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	MONITORING EXTENDED COUNTY OF LARGE MSA	CREDIBLE	SU 06/01/00 MET LOST LAKE ELM, CLERMONT
	28.523611,-81.723611									
Orange County										
095-0008	7005 WINEGARD RD	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 9/1/88
	28.454167,-81.381389									
095-2002	MORSE BLVD & DENNING	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/76 WINTER PARK
	28.596389,-81.362500	SLAMS	CO	TEI 48i	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CRITICAL	SU 3/23/78 MET
		SLAMS	NO_2	TEI 42i	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/81
		SLAMS	SO_2	TEI 43i	HI CONC	NBH	CONTINUOUS	FOR EFFECTIVENESS OF NEW REGULATIONS	CRITICAL	SU 1/1/76
		SLAMS	PM_{10}	TEI 4015i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 5/1/91
		SLAMS	$PM_{2.5}$	R&P 2025i	POPULATION	NBH	DAILY	NEEDED BY REGULATION	CRITICAL	SU 01/01/99 DAILY COLLOCATED
		SPM	$PM_{2.5}$	TIE 1405	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 06/01/00
		NON-REG	TOXICS		POPULATION	NBH	1/6 DAY	BASELINE MONITORING	NA	VOC/CARBONYL MONITORING
095-XXXX	ADJACENT TO I-4	SLAMS	NO_2	TEI 42i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	NEW / CRITICAL	SU 12/2016 ONE YEAR EXTENSION GRANTED
		SLAMS	CO	TEI 48i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	NEW / CRITICAL	SU 12/2016 ONE YEAR EXTENSION GRANTED

		SLAMS	PM2.5	TEI 5014i	SOURCE	MIDDLE	CONTINUOUS	NEEDED BY REGULATION	NEW / CRITICAL	SU 12/2016 ONE YEAR EXTENSION GRANTED
Osceola County										
097-2002	8706 W SR 192	SLAMS	OZONE	TEI 49i	HI CONC	URBAN	CONTINUOUS	URBAN SPRAWL	CREDIBLE	SU 9/1/93 KISSIMMEE FIRE STATION
	28.345555,-81.636667									SLAMS 10/6/93 MET
Seminole County										
117-1002	SEMINOLE C.C.(AG COMP)	SLAMS	OZONE	TEI 49i	HI CONC	URBAN	CONTINUOUS	MONITORING EXTENDED COUNTY OF LARGE MSA	CREDIBLE	SU 1/1/80 SANFORD MET
	28.746111,-81.310556	SLAMS	PM_{10}	R & P 1400 AB	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/22/00
		SLAMS	$PM_{2.5}$	R&P 2025 A	POPULATION	NBH	1/3 DAY	MONITORING EXTENDED COUNTY OF LARGE MSA	CREDIBLE	SU 02/01/99 COLLOCATED

SARASOTA - BRADENTON - VENICE (MANATEE AND SARASOTA COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Manatee County										
081-0028	PORT MANATEE with 081-3002	SLAMS	SO_2	TELEDYNE 700	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 11/2013
081-3002	PORT MANATEE	SPM	OZONE	2B 202	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 4/1/92 SLAMS 12/98 MET
	27.638611,-82.547778									TEMPORARILY SD 6/1/08 to 7/09
081-4012	5502 33RD AVE W	SPM	OZONE	2B 202	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 2/99 SLAMS 12/98 GT BRAY MET
	27.475000,-82.618611									TEMPORARILY SD 6/1/08 to 7/09
081-4013	5511 39TH STREET EAST	SPM	OZONE	2B 202	POPUATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 1/99 MET SLAMS 12/98
	27.449444,-82.522222									TEMPORARILY SD 6/1/08 to 1/10
Sarasota County										
115-0013	BEE RIDGE PARK	SPM	$PM_{2.5}$	R&P 1400AB	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITCAL	SU 5/1/08
	27.290556,-82.507222	SLAMS	$PM_{2.5}$	R&P 2025i	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/06/99 1/3 CO-LOCATED
		SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/12 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/03/99 1/12 CO-LOCATED
115-1005	LIDO PARK MCKINLEY DR	SLAMS	OZONE	API 400E	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 5/31/12 NAMS 1/00 MET
	27.310000,-82.569722									
115-1006	4570 17TH STREET	SLAMS	OZONE	TEI 49I	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 5/16/11 NAMS 1/00 PAW PARK MET
	27.350000,-82.479444	SPM	NO_2	API T200	POPULATION	NBH	CONTINUOUS	USED TO ASSIST IN FORECASTING	SUPPLEMENTAL	SU 3/6/14
		SLAMS	PM_{10}	R&P 1400AB	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 9/19/03 T,RH,PRECIP
115-2002	250 S. JACKSON RD.	SPM	OZONE	TEI 49I	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 9/1/03
	27.088333,-82.362222	SPM	$PM_{2.5}$	TEOM 1405A	POPULATION	NBH	CONTINUOUS	TRENDS MONITORING	CREDIBLE	SU 4/1/09

METROPOLITAN STATISTICAL AREA: CAPE CORAL - FT MYERS (LEE COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Lee County										
071-0005	FT MYERS WTP	SLAMS	PM_{10}	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	REPLACED PM10 1200 2/22/01
	26.601667,-81.878055	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/01/99 COLLOCATED
		SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/10/08
071-2002	5505 ROSE GARDEN RD.	SLAMS	OZONE	TECO 49i	HI CONC	URBAN	CONTINUOUS	USED FOR MAPPING	CRITICAL	SU 5/7/01 CAPE CORAL
	26.548333,-81.981667									MOVED FROM 071-2001
071-3002	FT MYERS BEACH	SLAMS	OZONE	TECO 49i	POPULATION	UBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/1/95 SCHOOL & BAY MET
	26.448889,-81.939444									BAY OAKS PARKS

METROPOLITAN STATISTICAL AREA: LAKELAND (POLK COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Polk County										
105-6005	SIKES ELEMENTARY SCHOOL	SLAMS	OZONE	TECO 49i	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 6/92 LAKELAND
	27.939444,-82.000278	SLAMS	SO_2	TEI 43i	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	PWEI: 14,040
105-6006	FL BAPTIST CHILD HOME	SLAMS	OZONE	TECO 49i	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 6/17/92 LAKELAND 2 MET
	28.028889,-81.972222	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 1/1/99 CO-LOCATED
		SPM	$PM_{2.5}$	TEOM	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 8/30/07
		SLAMS	PM_{10}	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 10/23/07

METROPOLITAN STATISTICAL AREA: DELTONA-DAYTONA BEACH-ORMOND BEACH (VOLUSIA COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Volusia County										
127-2001	5200 SPRUCE ST	SLAMS	OZONE	TECO 49i	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/92 PORT ORANGE MET
	29.109722,-80.993611									
127-5002	1185-A DUNN AVE	SLAMS	OZONE	TECO 49i	HI CONC	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/92 DAYTONA MET
	29.206667,-81.052500	SLAMS	PM_{10}	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 6/26/98
		SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 01/04/99 Cont 12/20/07
		SLAMS	PM2.5	R&P 2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 2009
Flagler County										
001-3011	206 SAWGRASS RD	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	FLAGLER CO REC AREA, BUNNELL
	29.489083,-81.276833									

METROPOLITAN STATISTICAL AREA: PALM BAY - MELBOURNE - TITUSVILLE (BREVARD COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Brevard County										
009-0007	401 FLORIDA AVENUE	SLAMS	OZONE	TECO 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 3/1/00 MELBOURNE MET
	28.053611,-80.628611	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 3/1/00
		SLAMS	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 10/25/07
		SLAMS	PM_{10}	TEOM	SOURCE	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	MOVED FR FAY PARK SU 11/1/08
009-4001	400 S. 4TH ST	SLAMS	OZONE	TECO 49i	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 9/15/88 COCOA BEACH MET
	28.311117,-80.614133									

METROPOLITAN STATISTICAL AREA: PENSACOLA - FERRY PASS - BRENT (ESCAMBIA AND SANTA ROSA COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Escambia County										
033-0004	ELLYSON IND PARK	SLAMS	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 1/1/75 MET
	30.525367,-87.20355	SLAMS	SO_2	TEI 43i	SOURCE	NBH	CONTINUOUS	USED TO SEE EFFECTIVENESS OF NEW REGULATIONS	CREDIBLE	SU 1/1/76
		SPM	$PM_{2.5}$	TEOM	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 2/98
		SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	TRANSPORT	CRITICAL	SU 01/01/99 1/3 COLLOCATED
033-0018	PENSACOLA NAS	SLAMS	OZONE	TEI 49i	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 10/21/80 MET
	30.36805,-87.270967									

Santa Rosa County										
113-0015	1500 WOODLAWN WAY, GULF BR	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 3/9/05 WOODLAWN BEACH MIDDLE SCH.
	30.394133,-87.008033	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 2/19/08

METROPOLITAN STATISTICAL AREA: PORT ST. LUCIE - FT PIERCE (MARTIN AND ST LUCIE COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Martin County										
085-0007	STUART	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 6/11/10
	27.172458,-80.240689	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CRITICAL	SU 6/11/10
St Lucie County										
111-0013	SAVANAS	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 2/24/11
	27.389079,-80.311032									

METROPOLITAN AREA: TALLAHASSEE (LEON, JEFFERSON AND WAKULA COUNTIES)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Leon County										
073-0012	TALLAHASSEE COM COL	SLAMS	OZONE	TEI 49i	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 6/98 SLAMS 7/1/98 MET
	30.439722,-84.346389	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 01/01/99 FLOW RATE CHANGED FROM 3 to 1 LPM 9/9/05.
		SLAMS	$PM_{2.5}$	R&P2025	POPULATION	NBH	1/3 DAY	NEEDED BY REGULATION	CRITICAL	SU 01/01/99, COLLATED 1/12 DAY(2007) 01/01/02
		SPEC	$PM_{2.5}$	METONE	POPULATION	NBH	1/6 DAY	PART OF THE CSN AT THE HIGHEST CONCENTRATION SITE	CREDIBLE	SU 01/02/02 SPECIATION
073-0013	MICC. GREENWAYS	SLAMS	OZONE	TEI 49i	HI CONC	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 9/15/00 MET
	30.484444,-84.199444									
Wakulla County										
129-0001	ST MARKS WILDLIFE REF	SLAMS	OZONE	TEI 49i	REGIONAL TRANSPORT	URBAN	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 04/16/01 MET
	30.0925,-84.161111	NCORE	NO_Y	T-API	BACKGROUND	URBAN	CONTINUOUS	RURUAL N-CORE	NEW	EXPECTED SU SPRING 2014
		NCORE	CO_TL	T-API	BACKGROUND	URBAN	CONTINUOUS	RURUAL N-CORE	NEW	EXPECTED SU SPRING 2015
		NCORE	SO2_TL	T-API	BACKGROUND	URBAN	CONTINUOUS	RURUAL N-CORE	CRITICAL	SU 2/19/2015
		NCORE	$PM_{2.5}$	TEOM	BACKGROUND	URBAN	CONTINUOUS	RURUAL N-CORE	CRITICAL	SU 1/6/2015
										WITH IMPROVE FOR SPECIATION

METROPOLITAN STATISTICAL AREA: NAPLES - MARCO ISLAND (COLLIER COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Collier County										
021-0004	LAUREL OAK ELEMENTARY	SPM	OZONE	TEI 49i	POPULATION	URBAN	CONTINUOUS	MONITORING GROWTH IMPACT	CREDIBLE	SU 09/26/01 MET
	26.269722,-81.711111	SPM	$PM_{2.5}$	TEOM	POPULATION	URBAN	CONTINUOUS	MONITORING GROWTH IMPACT	CREDIBLE	SU 3/2/05

METROPOLITAN STATISTICAL AREA: OCALA (MARION COUNTY)									
					MONITORING	SPATIAL	OPERATING		

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	OBJECTIVE	SCALE	SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Marion County										
083-0003	SE 17TH ST & SE 30TH AVE	SLAMS	OZONE	TEI 49i	HI CONC	NBH	CONTINUOUS	MONITORING GROWTH IMPACT	CREDIBLE	SU 5/98 YMCA MET SLAMS 7/1/98
	29.171389,-82.094722	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 01/07/99 Cont 11/27/07
083-0004	692 NW 30TH AVE	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 11/8/00 MET SHERIFF'S DEPT IMPOUND
	29.192778,-82.173056									

METROPOLITAN STATISTICAL AREA: GAINESVILLE (ALACHUA AND GILCHRIST COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Alachua County										
001-0023	5400 NW 43RD ST	SLAMS	$PM_{2.5}$	R&P 2025	POPULATION	NBH	1/3 DAY	TRENDS MONITORING	CREDIBLE	SU 01/01/99 CO-LOCATED
	29.706111,-82.387778									
001-3011	100 SAVANNAH BLVD	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 8/1/97 ; SLAMS 7/1/98
	29.544722,-82.296111	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOS	AQI	CREDIBLE	MET PAYNES PRAIRIE

METROPOLITAN STATISTICAL AREA: FORT WALTON BEACH - CRESTVIEW - DESTIN (OKALOOSA COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Okaloosa County										
091-0002	720 LOVEJOY RD NW	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 12/1/08 MARY ESTHER
	30.426533,-86.666217	SPM	PM_{10}	TEOM	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU 2/1/2013

METROPOLITAN STATISTICAL AREA: PANAMA CITY - LYNN HAVEN (BAY COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Bay County										
005-0006	ST ANDREWS PARK	SLAMS	OZONE	TEI 49i	HI CONC	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	SU 7/13/00 MET
	30.130433,-85.731517	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	USED FOR AQI	CREDIBLE	SU FEB 2009

METROPOLITAN STATISTICAL AREA - SEBRING (HIGHLANDS COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Highlands County										
055-0003	123 MAIN DRIVE	SPM	OZONE	TEI 49i	BACKGRND	REGIONAL	CONTINUOUS	REGIONAL BACKGROUND	CREDIBLE	SU 06/14/01
	27.187500,-81.339444									

MICROPOLITAN STATISTICAL AREA: PALATKA (PUTNUM COUNTY)										
AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Putnam County										
107-1008	COMFORT ROAD	SLAMS	SO_2	TEI 43i	SOURCE	NBH	CONTINUOUS	SOURCE MONITORING	CREDIBLE	SU 8/15/91 BARGE PORT
	29.686667,-81.656389	SLAMS	PM_{10}	TEOM	SOURCE	NBH	CONTINUOUS	SOURCE MONITORING	CREDIBLE	SU 8/28/02; TEOM 12/13/02

MICROPOLITAN STATISTICAL AREA: LAKE CITY (COLUMBIA COUNTY)										
					MONITORING	SPATIAL	OPERATING			

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	OBJECTIVE	SCALE	SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Lake County										
023-0002	VETERAN'S DOMICILE	SLAMS	OZONE	TEI 49i	POPULATION	NBH	CONTINUOUS	TO MONITOR THE IMPACT OF HIGH TRAFFIC	CREDIBLE	SU 11/01/00 VETERAN'S DOMICILE MET
	30.178056,-82.619167	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	RURAL MONITORING	CREDIBLE	SU 5/17/07

MICROPOLITAN STATISTICAL AREA: HOMOSASSA SPRINGS (CITRUS COUNTY)

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Citrus County										
017-0005	Power Line Road	SPM	$PM_{2.5}$	R&P 2025	POPULATION	URBAN	1/3 DAY	MONITORING GROWTH IMPACT	CREDIBLE	SU 3/4/99 RUN FOR FL POWER CORP BY AMBIENT AIR SERVICES SD 12/2015
	28.980556,-82.700000									COLOCATED; CRYSTAL RIVER
017-0006	W. Power Line Road	SLAMS	SO_2	TEI 43i	SOURCE	NBH	CONTINUOUS	NEEDED BY REGULATION	CRITICAL	PWEI: 14,903
	28.958372, -82.643094	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	RURAL MONITORING	CREDIBLE	SU 10/2013

NOT IN A METROPOLITAN STATISTICAL AREA

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
Holmes County										
059-0004	BONIFAY AIRPORT	SPM	OZONE	TEI 49i	BACKGROUND	REGION	CONTINUOUS	REGIONAL BACKGROUND	CREDIBLE	SU 9/1/96 MET
	30.848611,-85.603889	SPM	$PM_{2.5}$	TEOM	POPULATION	NBH	CONTINUOUS	REGIONAL BACKGROUND	CREDIBLE	SU 6/14/07
Hamilton County										
047-0015	COUNTY RD 137	SLAMS	SO_2	TEI 43i	SOURCE	MIDDLE	CONTINUOUS	SOURCE MONITORING	SUPPLEMENTAL	SU 9/18/82 WHITE SPRINGS, OXYCHEM
	30.426111,-82.795278	SPM	$PM_{2.5}$	TEOM	SOURCE	NBH	CONTINUOUS	RURAL MONITORING	SUPPLEMENTAL	SLAMS 4/27/92 MET TEOM 11/6/01 PM2.5 TEOM 5/17/07

IMPROVE NETWORK

AQS #	SITE ADDRESS/UTM	TYPE	POL.	SAMPLER	MONITORING OBJECTIVE	SPATIAL SCALE	OPERATING SCHEDULE	STATEMENT OF PURPOSE	ASSIGNED VALUE	COMMENTS
129-0001	ST MARKS WILDLIFE REF	SPM	$PM_{2.5}$	IMPROVE	BACKGROUND	URBAN	1/3 DAY	NEEDED BY REGULATION	NA	SU 2000
	CHASSAHOWITZKA WILDLIFE REF	SPM	$PM_{2.5}$	IMPROVE	TRANSPORT	URBAN	1/3 DAY	NEEDED BY REGULATION	NA	SU 1993
086-0030	EVERGLADES NATIONAL PARK	SPM	$PM_{2.5}$	IMPROVE	BACKGROUND	URBAN	1/3 DAY	NEEDED BY REGULATION	NA	SU 1988

List of abbreviations:

AQI	Air Quality Index
CO	Carbon Monoxide
FRM	Federal Reference Method
HI CONC	High Concentration
MET	Implies that wind speed and wind direction instruments are on site
NAMS	National Air Monitoring stations
NBH	Neighborhood
NCORE	Proposed N-Core
NO2	Nitrogen Dioxide
NON-REG	Non-regulatory Monitoring

PM2.5	Particulate matter with aerodyanmic diameter of 2.5 micro meter
PM10	Particulate matter with aerodyanmic diameter of 10 micro meter
SLAMS	State and Local Air Monitoring Stations
SO2	Sulfur Dioxide
SPM	Special Purpose Monitors
S SPEC	Supplemental Speciation
SU	Start Up
TREND	Speciation Trends Network
VOC	Volatile Organic Compound