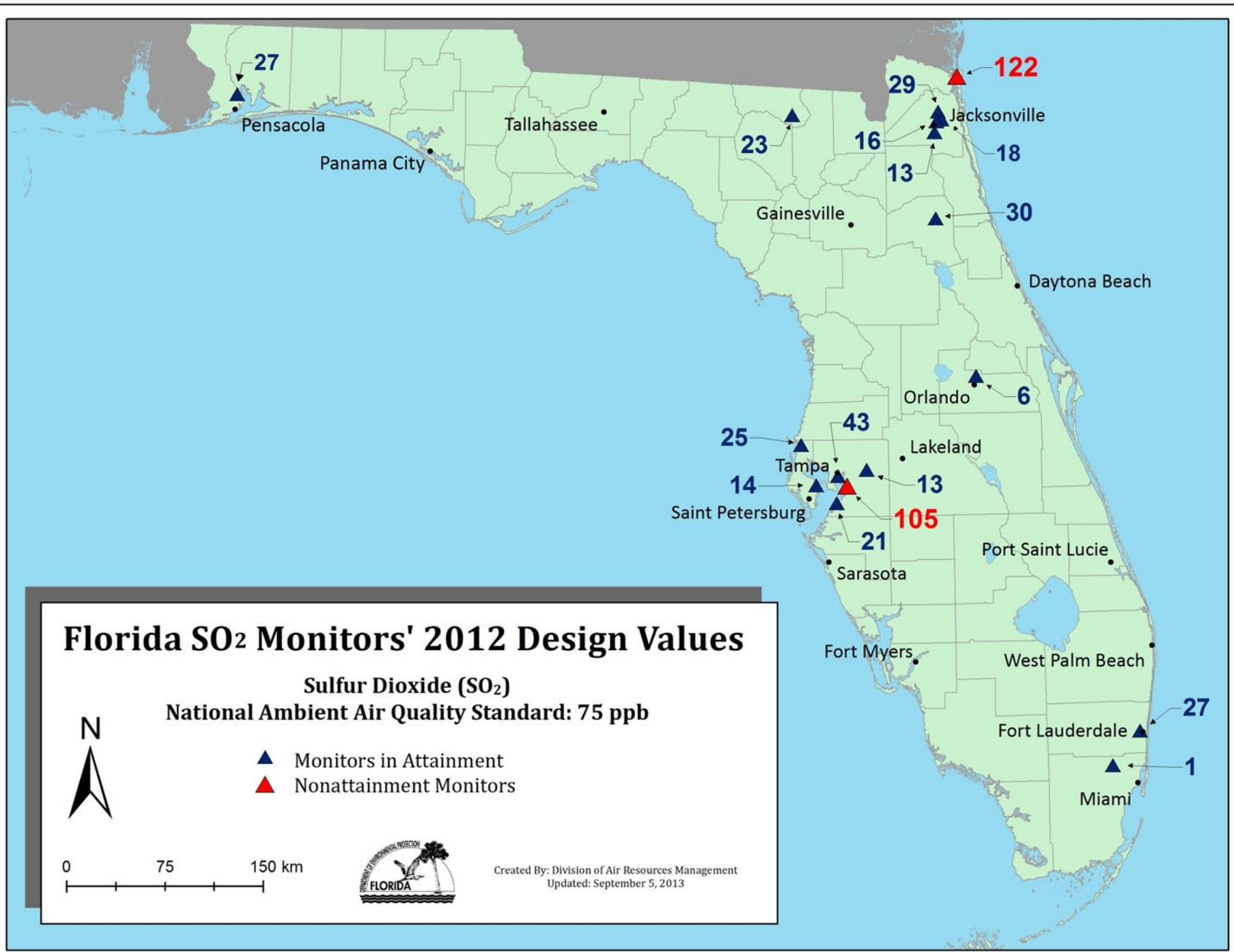
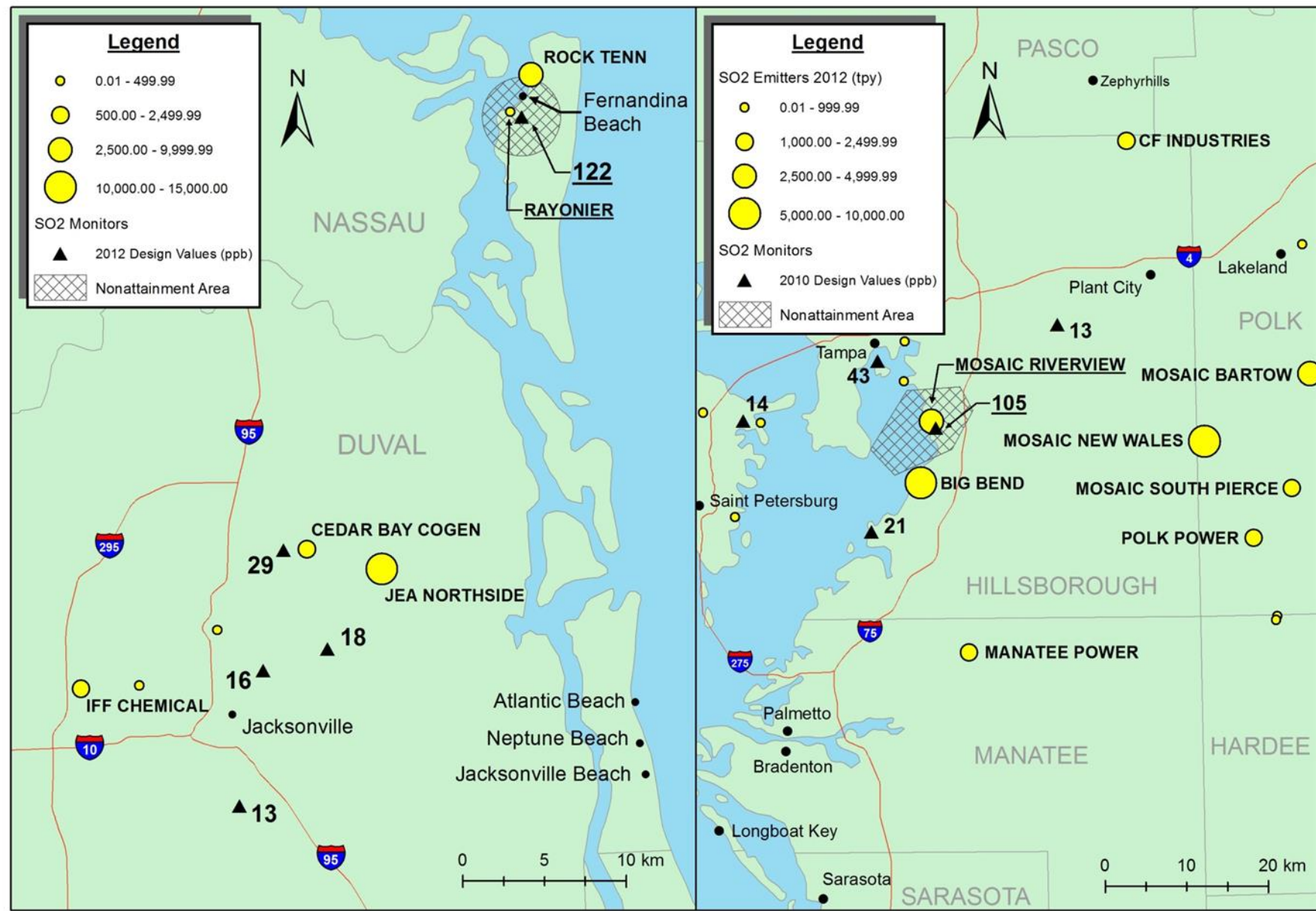


US EPA ARCHIVE DOCUMENT

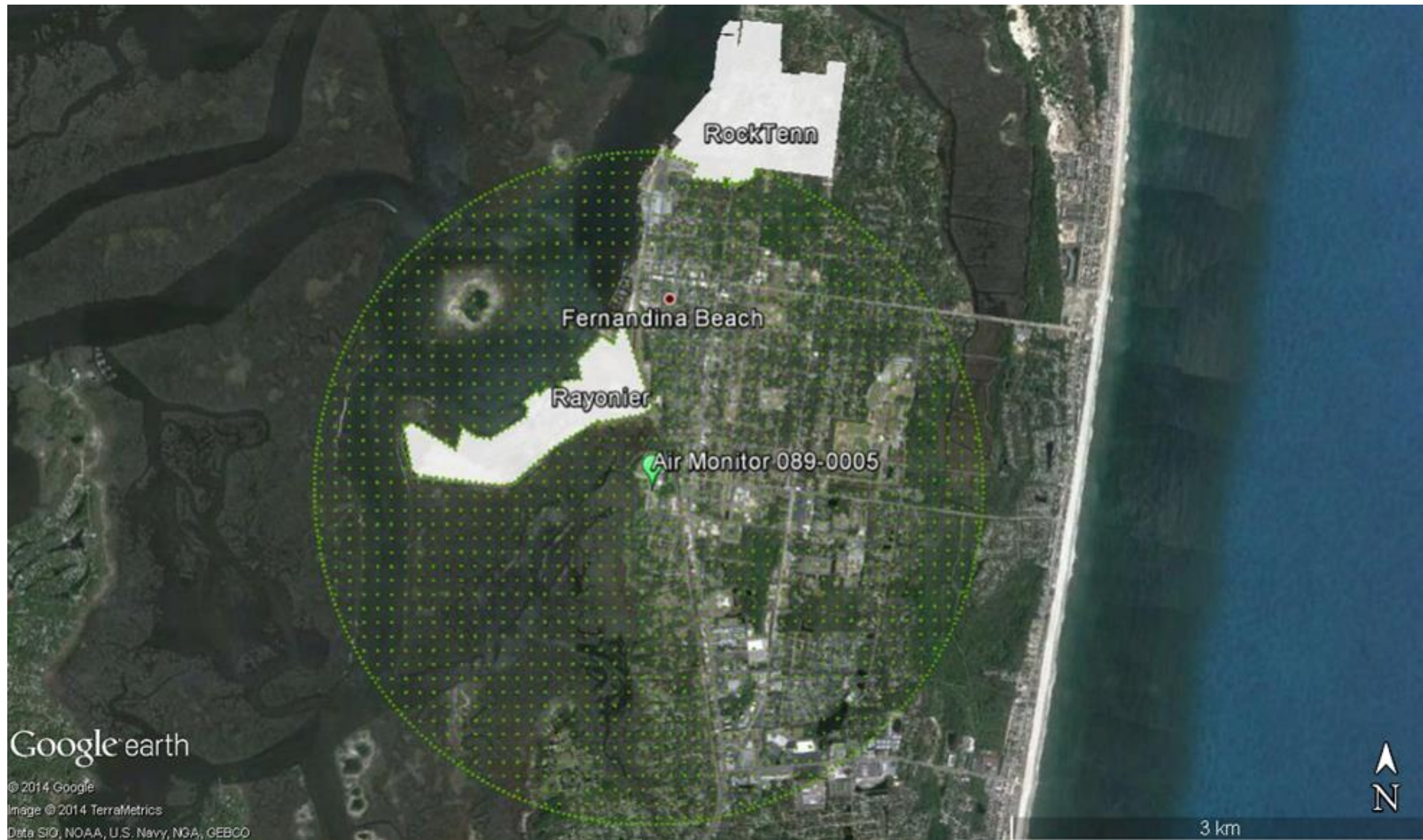


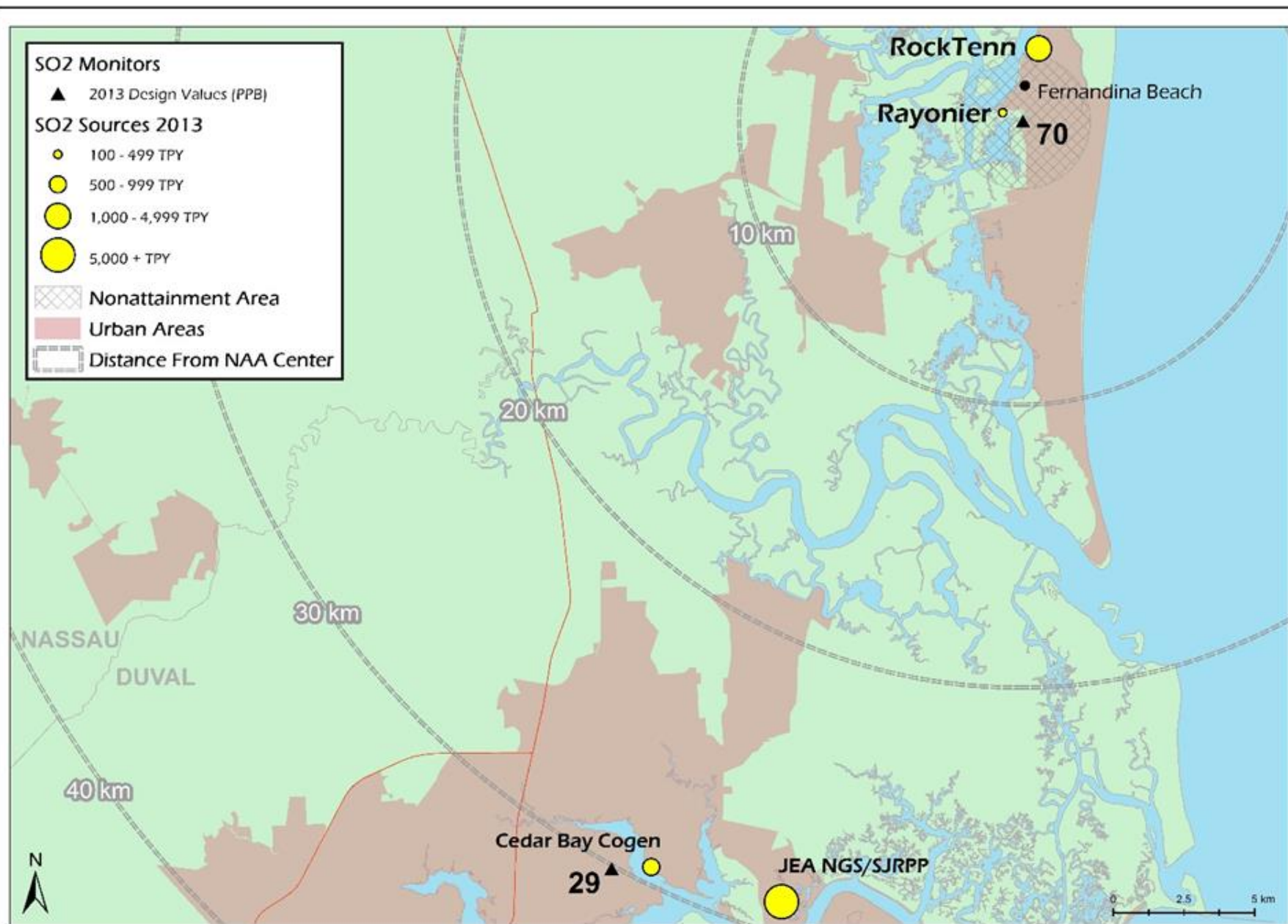


Florida SO₂ Nonattainment Areas 2013

Created By: Division of Air Resources Management
Updated: September 5, 2013





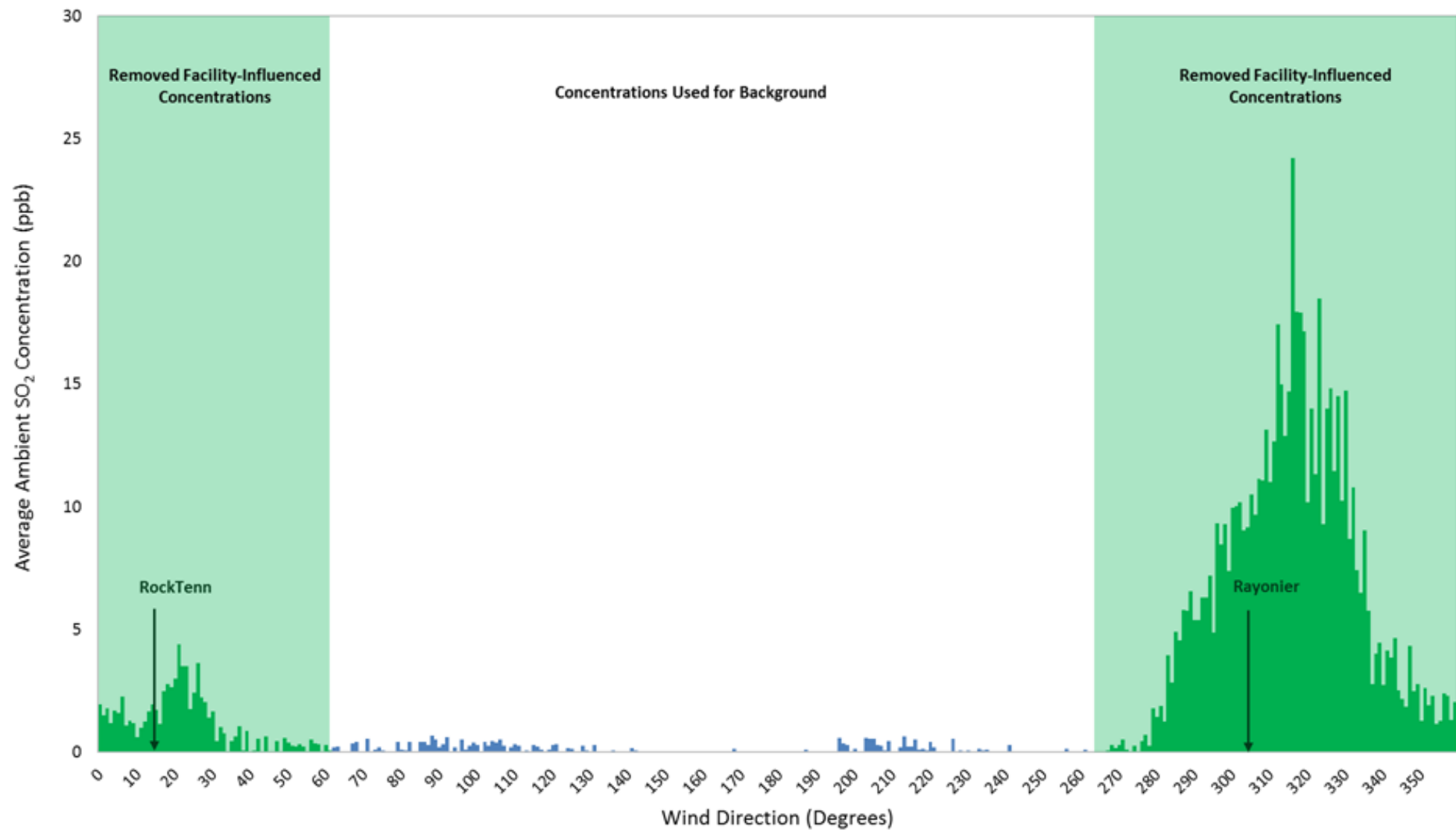


Fernandina Beach, Florida - SO₂ Nonattainment Area

Florida Department of Environmental Protection | Division of Air Resource Management | September 2, 2014

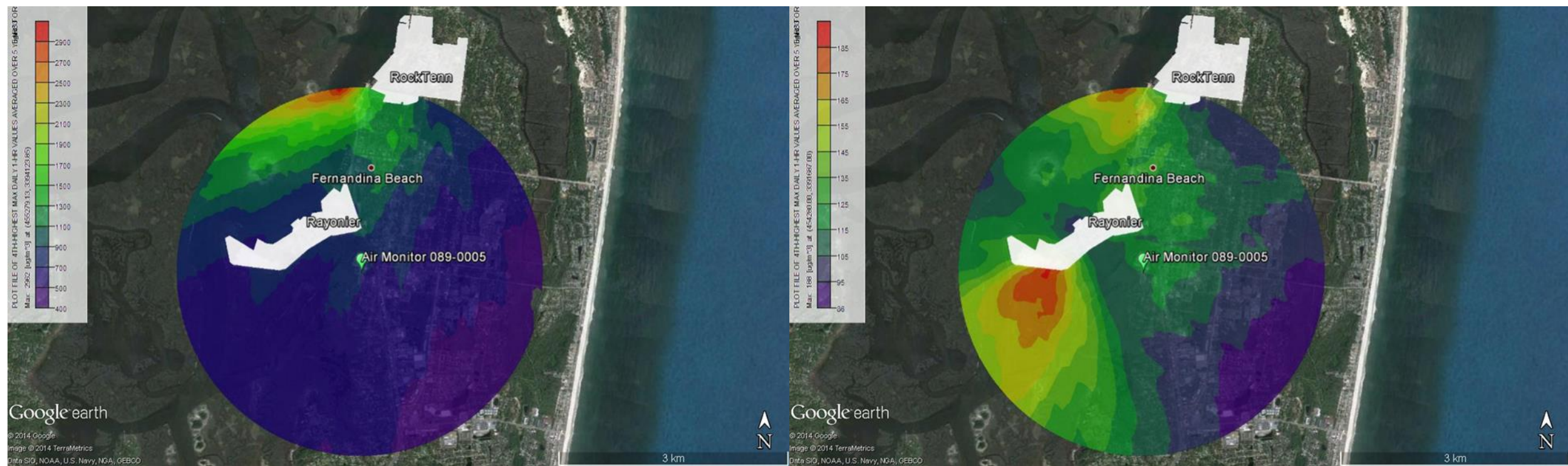


2012-2013 Average Ambient SO₂ Concentration at Monitor 089-0005 in Fernandina Beach, FL

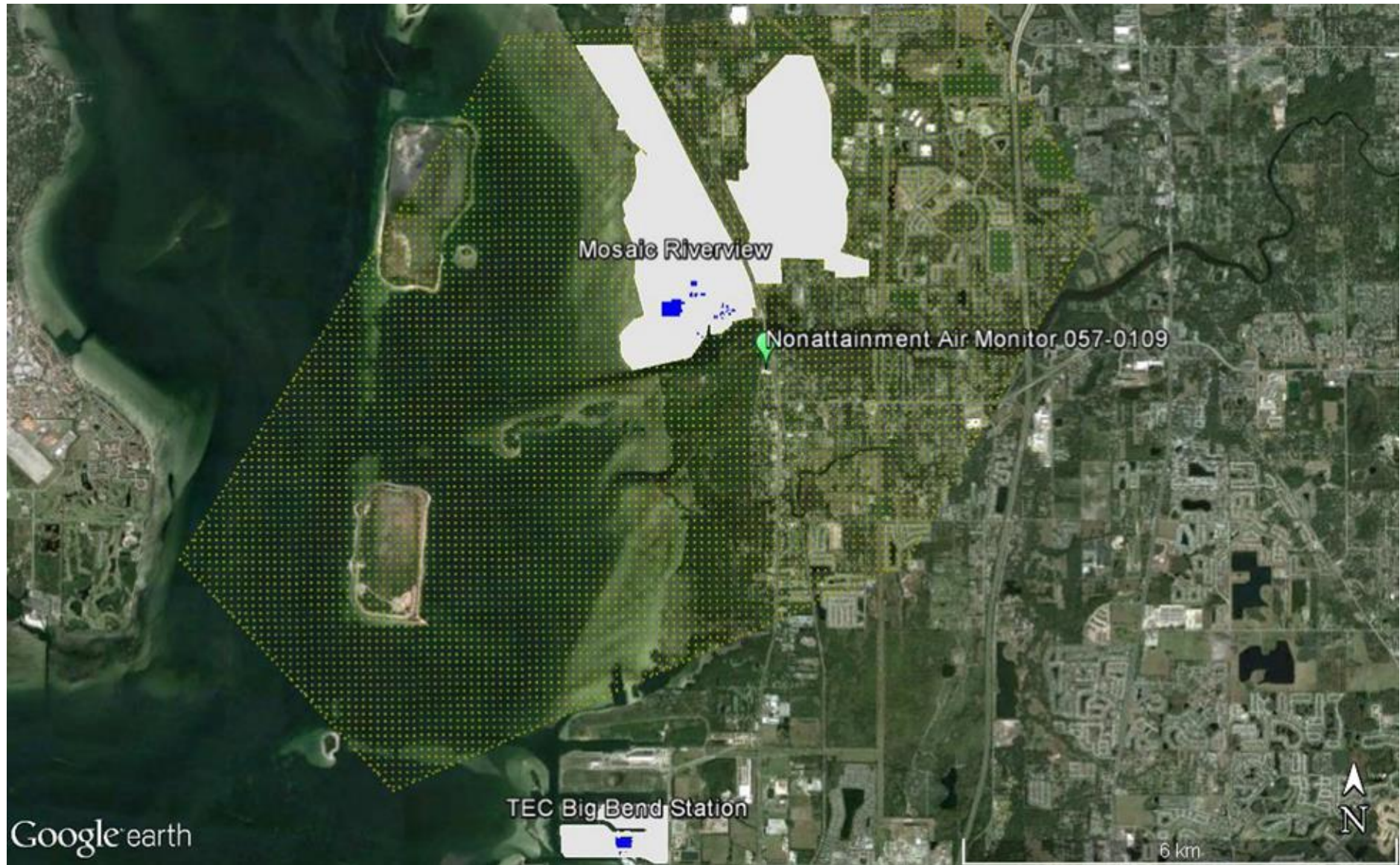


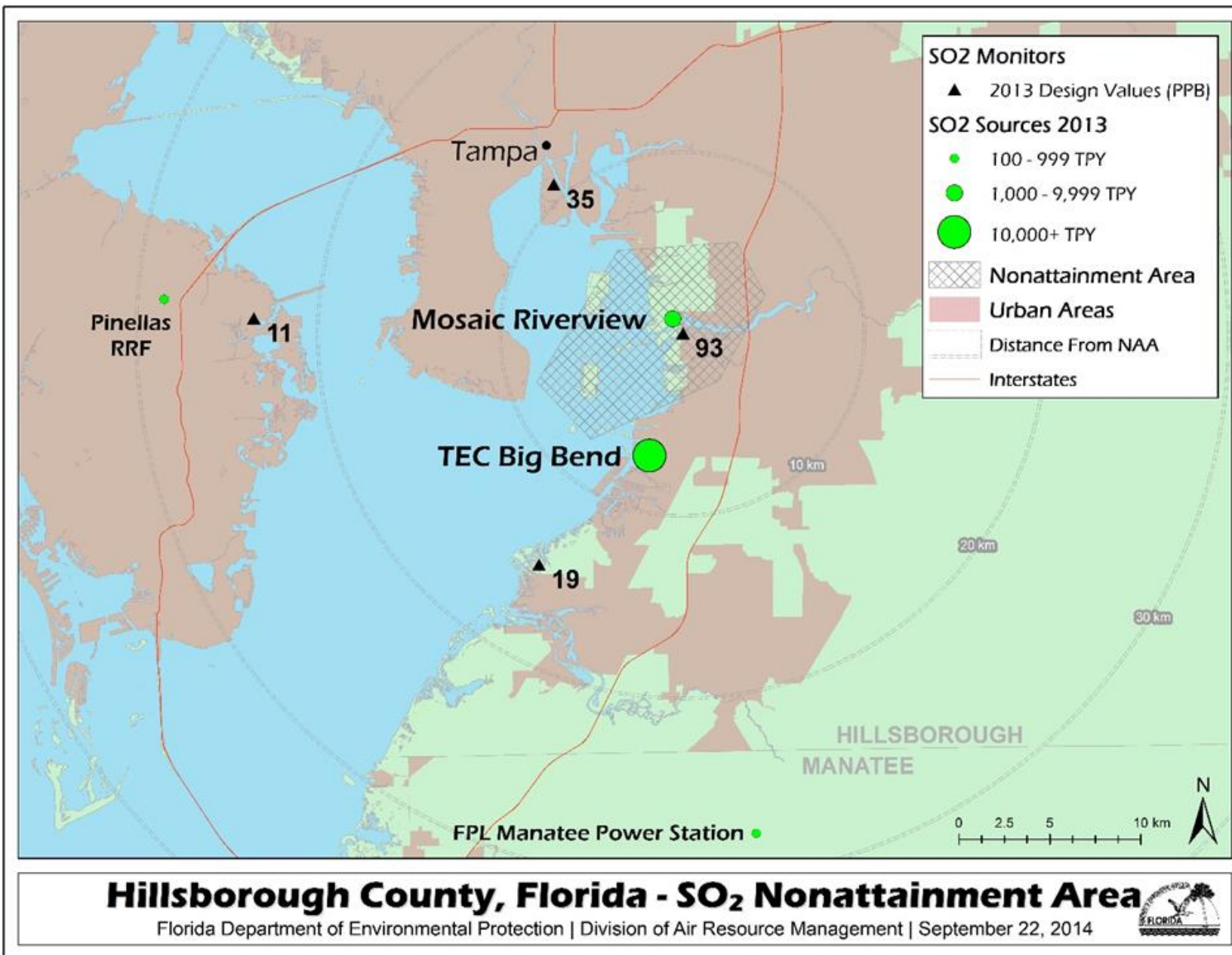
SO₂ Background Concentrations by Hour-of-Day by Season for Monitor 089-0005 (ppb)									
Hour	Winter	Spring	Summer	Fall	Hour	Winter	Spring	Summer	Fall
0:00	2	2	2	8	12:00	5	5	4	6
1:00	3	2	2	5	13:00	5	4	3	4
2:00	5	1	2	3	14:00	3	4	2	4
3:00	3	1	3	4	15:00	3	2	2	4
4:00	4	1	3	4	16:00	2	3	4	4
5:00	3	2	6	6	17:00	2	2	2	4
6:00	3	2	4	5	18:00	3	3	4	4
7:00	3	2	5	5	19:00	1	2	2	4
8:00	3	2	5	6	20:00	3	2	1	2
9:00	5	4	11	6	21:00	3	1	1	5
10:00	5	4	9	9	22:00	1	2	2	5
11:00	7	3	6	6	23:00	2	5	5	4

Fernandina Beach SO ₂ Attainment Demonstration Modeled SO ₂ Emission Rates						
Source ID	Type	Company	Description	EU ID	Modeled Emission Rate	
					New pounds/hour	Old lb/hr
RAYVGS	Point	Rayonier	Vent Gas Scrubber	5	25.32	63.3
RAYRECB	Point	Rayonier	Sulfite Recovery Boiler	6	297.00	356.4
RAY6	Point	Rayonier	No. 6 Power Boiler	22	180.00	420
RTN6	Point	RockTenn	No. 5 Power Boiler	6	15.00	550
RTN15	Point	RockTenn	No.7 Power Boiler	15	1225.22	1225.22
RTN7	Point	RockTenn	No. 4 Recovery Boiler	7	150.00	no limit
RTN11S	Point	RockTenn	No. 5 Recovery Boiler South Stack	11	75.00	no limit
RTN11N	Point	RockTenn	No. 5 Recovery Boiler North Stack	11	75.00	no limit
RTN21	Point	RockTenn	No. 4 Lime Kiln	21	21.00	21.0
4SDT	Point	RockTenn	No. 4 Smelt Dissolving Tank	13	1.03	1.03
5SDT	Point	RockTenn	No. 5 Smelt Dissolving Tank	14	1.18	1.18



Maximum Modeled SO ₂ Impact in Nonattainment Area (µg/m ³)							
Pollutant	Averaging Time	Max Predicted Impact		Background	Total Impact	NAAQS	Greater Than NAAQS?
		Rayonier	RockTenn				
SO ₂	1-Hour	67.00	105.67	15.17	187.85	196.4	No

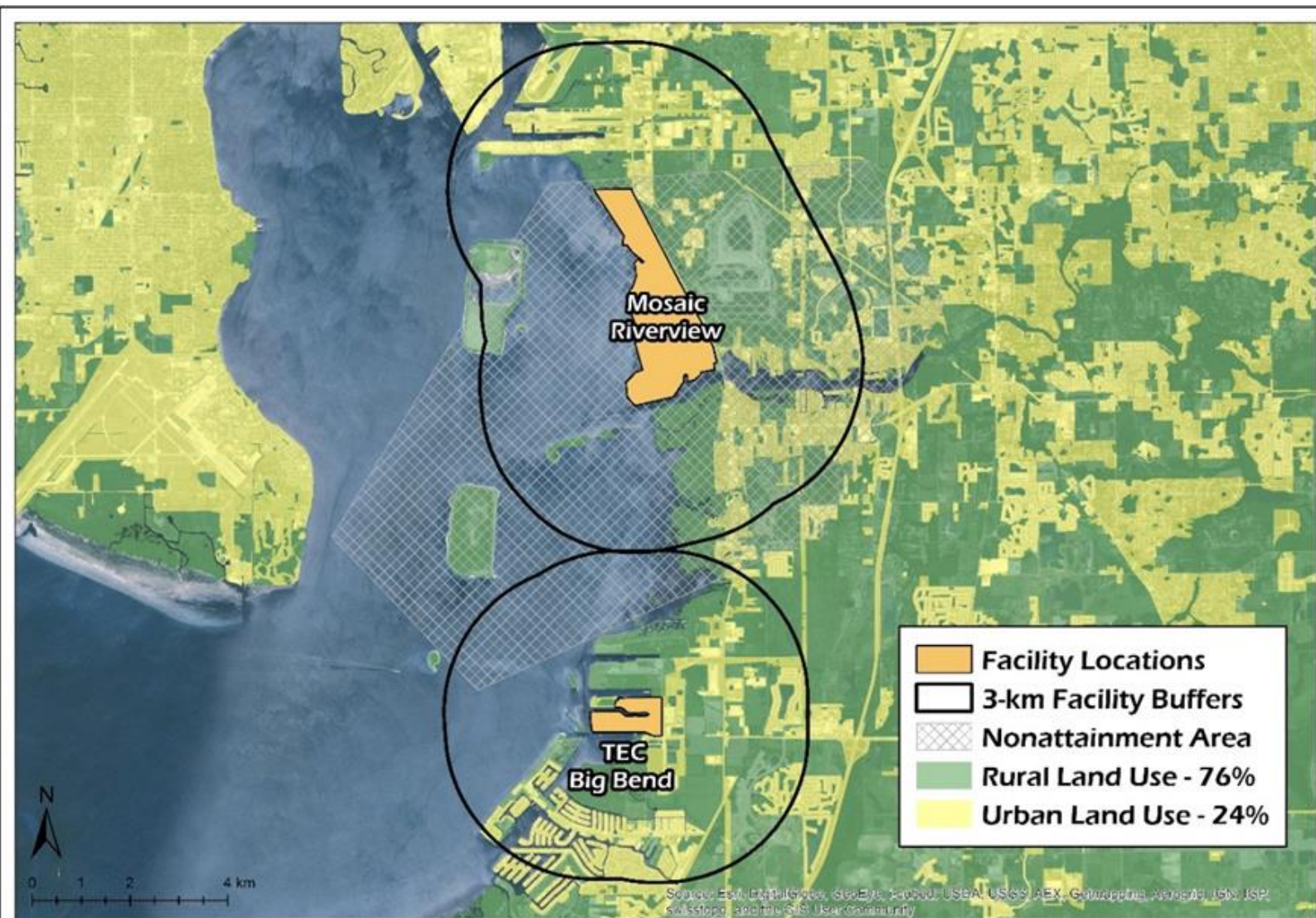




Hillsborough County SO ₂ Attainment Demonstration Modeled SO ₂ Emission Rates						
Source ID	Type	Facility	Description	EU ID	Modeled Emission Rate	
					New pounds/hour	Old lb/hr
SAP7	Point	Mosaic	SAP7 Individual Limit	4	415.37 (571 -2 units, 597 3 units)	415.37
SAP8	Point	Mosaic	SAP8 Individual Limit	5	327.10 (571 -2 units, 597 3 units)	327.10
SAP9	Point	Mosaic	SAP9 Individual Limit	6	441.33 (571 -2 units, 597 3 units)	441.33
TBB12	Point	TEC	FFSG Units 1-2	1 & 2	2,139.14	2,789
TBB3	Point	TEC	FFSG Unit 3	3	1,095.80	1,429
TBB4	Point	TEC	FFSG Unit 4	4	1,153.06	4,932
TBB41	Point	TEC	SCCT 4A	41	1.905	1.905
TBB42	Point	TEC	SCCT 4B	42	1.905	1.905

Mosaic Source Emission Rate Variability Analysis			
Source	99th Percentile Rate (lb/hr)		Ratio 24-Hr/1-Hr
	1-Hr Average	24-Hr Average	
SAP 7, 8, 9	992	956	0.963
Calculations based on CEMS data from 1/1/2010 – 12/31/2012.			

TEC Source Emission Rate Variability Analysis			
Source	99th Percentile Rate (grams/second)		Ratio 30-Day/1-Hr
	1-Hr Average	30-Day Average	
FFSG Unit 1	168	117	0.698
FFSG Unit 2	159	99	0.624
FFSG Unit 3	159	97	0.612
FFSG Unit 4	315	233	0.738
TEC FFSG 1-4 Average:			0.668
Calculations based on CEMS data from 1/1/2010 – 12/31/2012.			

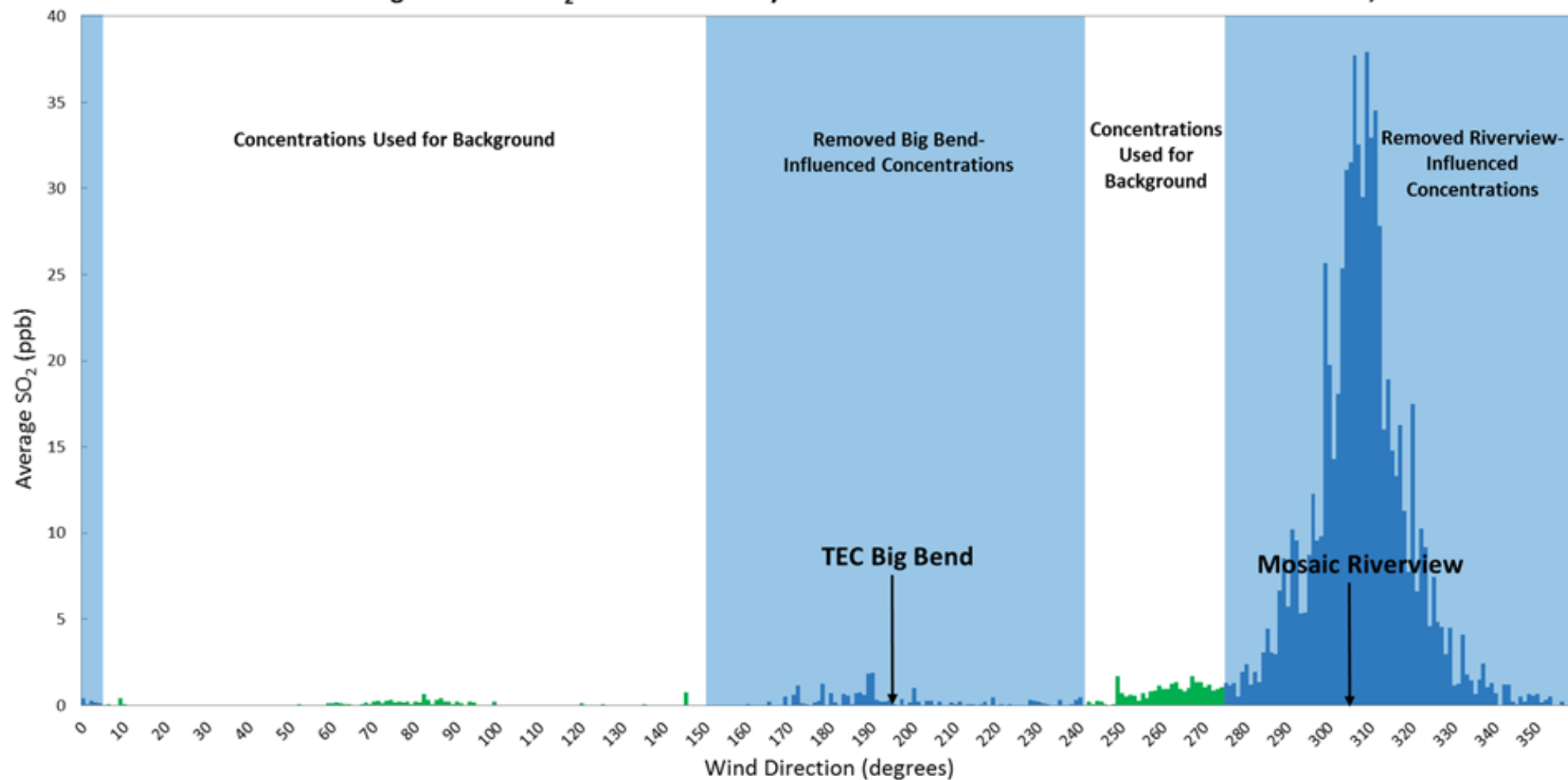


Hillsborough County, Florida - SO₂ Nonattainment Area Land Use

Florida Department of Environmental Protection | Division of Air Resource Management | September 22, 2014



2012-2013 Average Ambient SO₂ Concentration by Wind Direction at Monitor 057-0109 in Gibsonton, FL



SO₂ Background Concentrations by Hour-of-Day by Season for Monitor 057-0109 (ppb)									
Hour	Winter	Spring	Summer	Fall	Hour	Winter	Spring	Summer	Fall
0:00	2	5	2	7	12:00	5	6	13	4
1:00	1	3	4	4	13:00	5	6	7	4
2:00	5	2	2	3	14:00	6	7	9	2
3:00	3	2	1	2	15:00	6	3	4	2
4:00	2	1	1	1	16:00	9	4	3	2
5:00	1	2	1	1	17:00	3	6	3	1
6:00	2	2	1	1	18:00	3	7	5	3
7:00	2	3	2	1	19:00	2	6	6	4
8:00	3	3	3	3	20:00	6	5	2	7
9:00	5	4	8	9	21:00	3	4	2	7
10:00	3	3	10	4	22:00	3	15	10	4
11:00	7	5	11	3	23:00	3	9	4	4

Modeled Mosaic Emissions Scenarios and Results					
Emissions Distribution	SAP7 Rate (lb/hr)	SAP8 Rate (lb/hr)	SAP9 Rate (lb/hr)	Total Cap (lb/hr)	Max Conc. (µg/m³)
Catalyst Limited at Max Production	184.31	162.75	252.94	600	192.5
3-Unit Operation Scenarios					
run3a – SAP7 Max	415.37	80.39	101.24	597	196.2
run3b – SAP8 Max	130.86	327.10	139.04	597	195.8
run3c – SAP9 Max	84.43	71.24	441.33	597	188.9
2-Unit Operation Scenarios					
run2a – SAP7 and SAP8, 7 at Max	415.37	155.63	0	571	193.9
run2b – SAP7 and SAP8, 8 at Max	243.90	327.10	0	571	194.6
run2c – SAP8 and SAP9, 9 at Max	0	129.67	441.33	571	188.5
run2d – SAP7 and SAP9, 7 at Max	415.37	0	155.63	571	190.1
run2e – SAP8 and SAP9, 8 at Max	0	327.10	243.90	571	188.5
run2f – SAP7 and SAP9, 9 at Max	129.67	0	441.33	571	188.5
1-Unit Operation Scenarios					
run1a – SAP7 Max	415.37	0	0	415.37	188.4
run1b – SAP8 Max	0	327.10	0	327.10	188.4
run1c – SAP9 Max	0	0	441.33	441.33	188.4

