



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Georgia 2020 Ozone Season Review

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Transportation Coordinating Committee
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BACKGROUND



OZONE NAAQS

- **Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.**
 - **1997 NAAQS – 84 ppb (20 counties in Atlanta)**
 - **2008 NAAQS – 75 ppb (15 counties in Atlanta)**
 - **2015 NAAQS – 70 ppb (7 counties in Atlanta)**
- **On December 23, 2020 EPA issued the Agency's final rule retaining, without revision, the existing ozone NAAQS of 0.070 ppm. The final action was effective December 31, 2020.**



ATTAINMENT STATUS IN ATLANTA

October 1, 2015

- 2015 Ozone NAAQS = 70 ppb

July 18, 2016

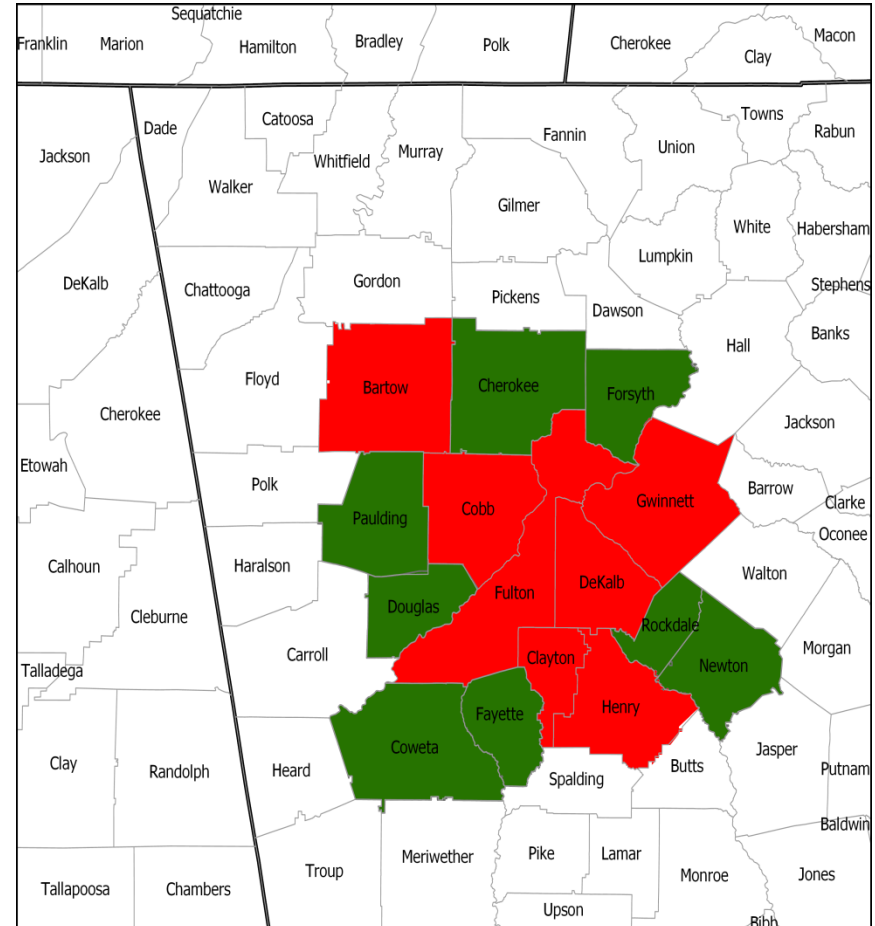
- EPD submitted maintenance plan and redesignation request for the 2008 ozone standard (75 ppb)

June 2, 2017

- EPA redesignated 15 counties in Atlanta (**green & red**) to attainment for the 2008 ozone standard

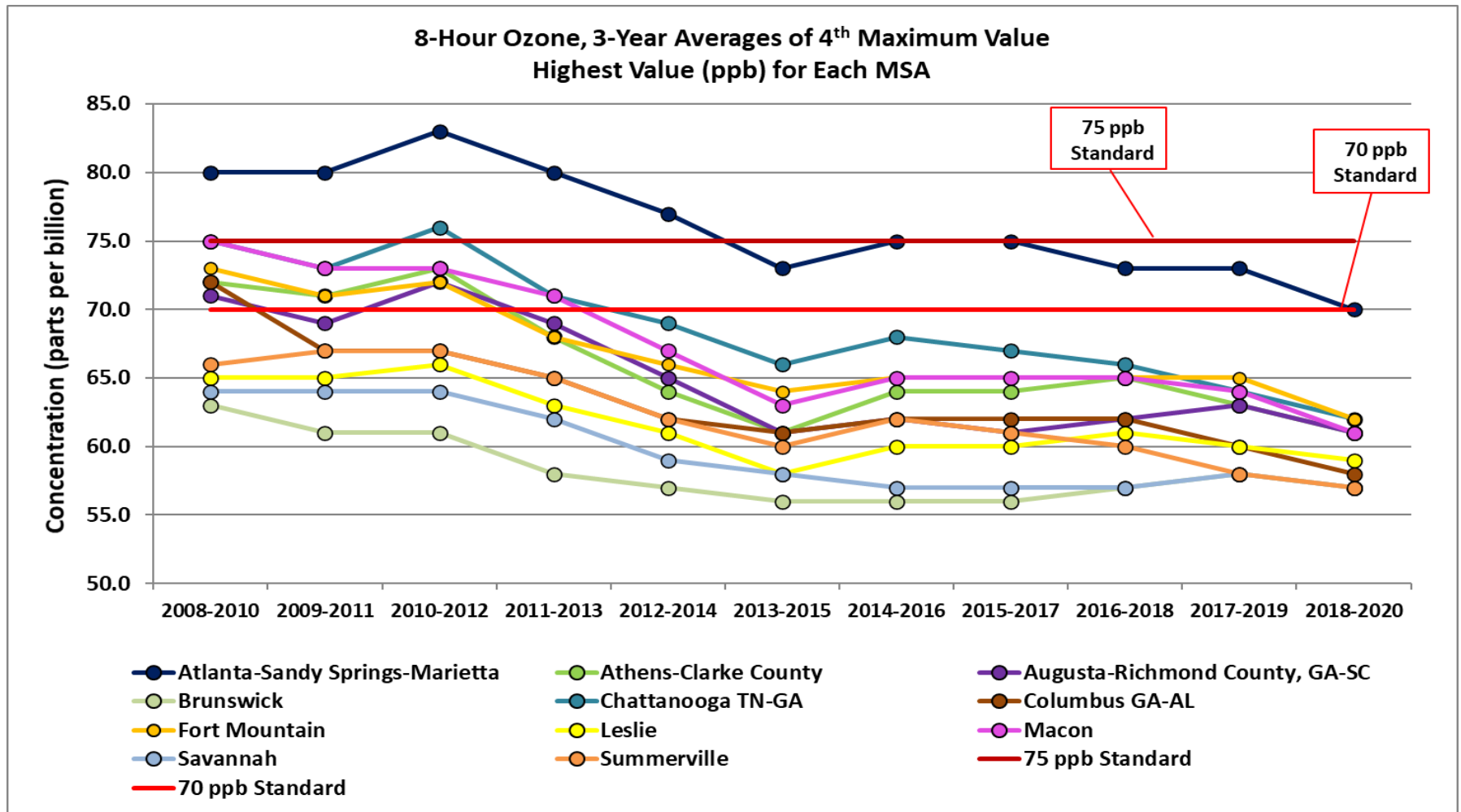
April 30, 2018

- EPA designated 7 counties in Atlanta (**red**) as nonattainment for the 2015 ozone standard





OZONE TRENDS IN GEORGIA



Ozone Season in Georgia: March 1 – October 31

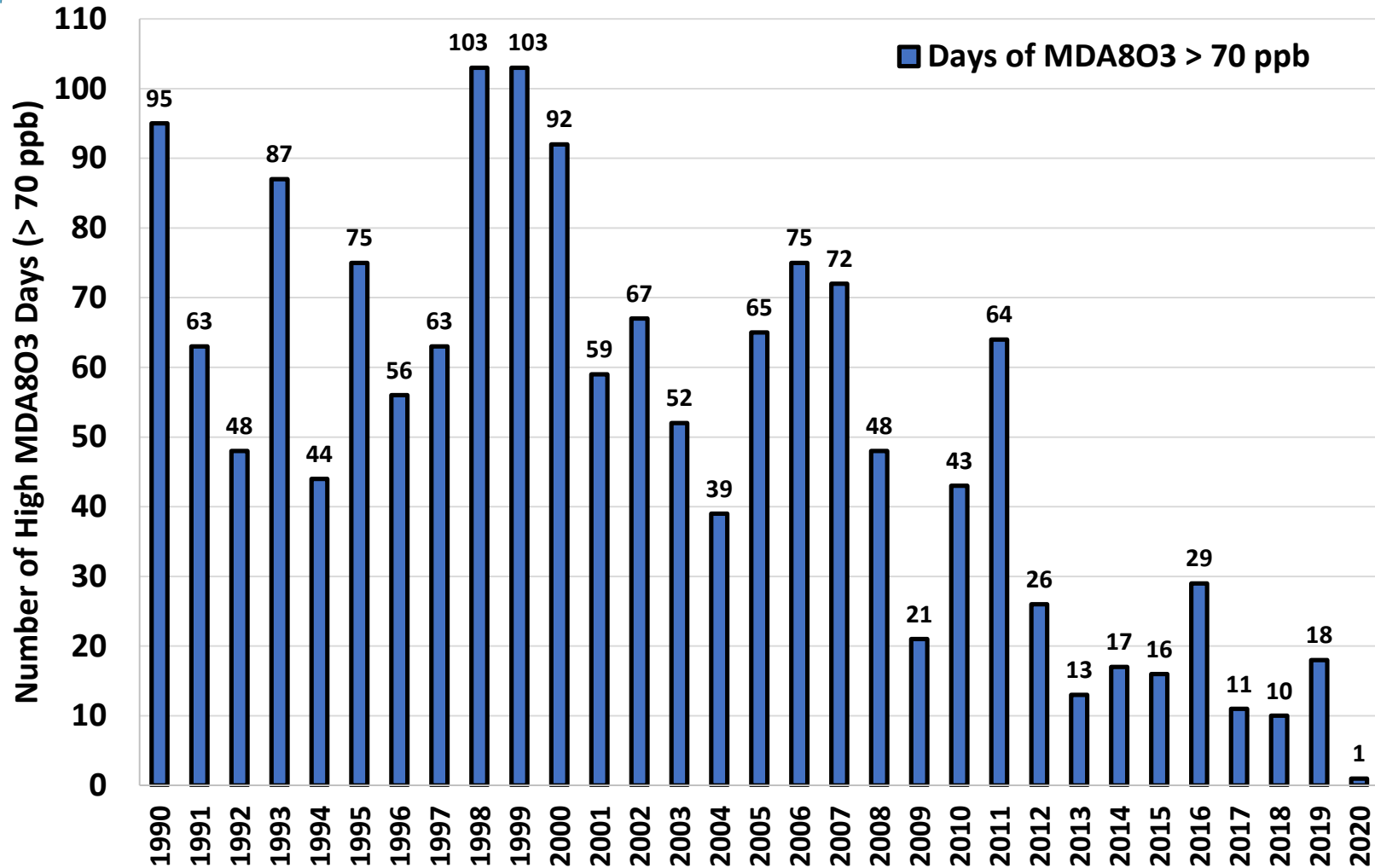


OZONE DESIGN VALUES IN 2017-2020

Site ID	County	Site Name	4 th Highest (ppb)						Design Value (ppb)			
			2015	2016	2017	2018	2019	2020	2017	2018	2019	2020
13-067-0003	Cobb	Kennesaw	66	70	65	65	67	56	67	66	65	62
13-085-0001	Dawson	Dawsonville	63	67	65	65	62	57	65	65	64	61
13-089-0002	DeKalb	South DeKalb	71	74	68	67	73	61	71	69	69	67
13-097-0004	Douglas	Douglasville	70	71	66	64	72	56	69	67	67	64
13-121-0055	Fulton	United Ave.	77	75	74	72	75	63	75	73	73	70
13-135-0002	Gwinnett	Gwinnett Tech	71	78	65	65	68	66	71	69	66	66
13-151-0002	Henry	McDonough	70	78	67	69	75	58	71	71	70	67
13-231-9991	Pike	CASTNET	68	71	62	65	68	54	67	66	65	62
13-247-0001	Rockdale	Conyers	68	76	65	69	72	60	69	70	68	67



OZONE DAYS OVER 70 PPB (1990-2020)





CONCEPTUAL DESCRIPTION

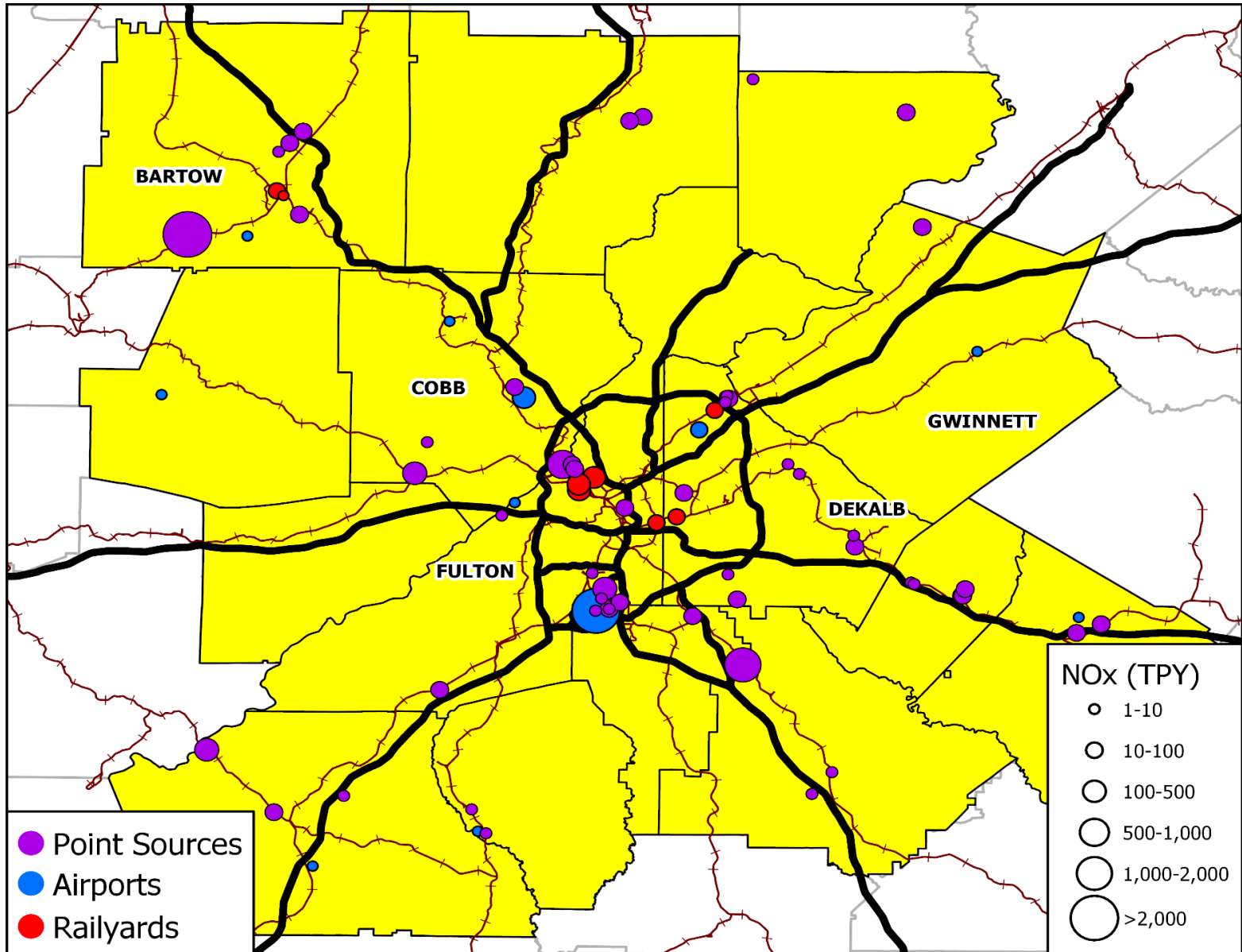


OZONE EXCEEDANCES IN ATLANTA

- **High temperature, Low RH, Low cloud coverage**
- **NOx emissions from:**
 - Passenger vehicles (cars and trucks)
 - HDD trucks (NOx controls not effective at low speeds)
 - Plant Bowen (5,732 tpy in 2017)
 - Atlanta Airport (5,845 tpy in 2017)
- **High traffic congestion, especially in the morning hours**
- **Local formation and transport, not regional transport**
 - Typically, one monitor exceeds the standard and others are well below the standard
 - Local transport of emissions from the Atlanta urban core to monitors outside the urban core.

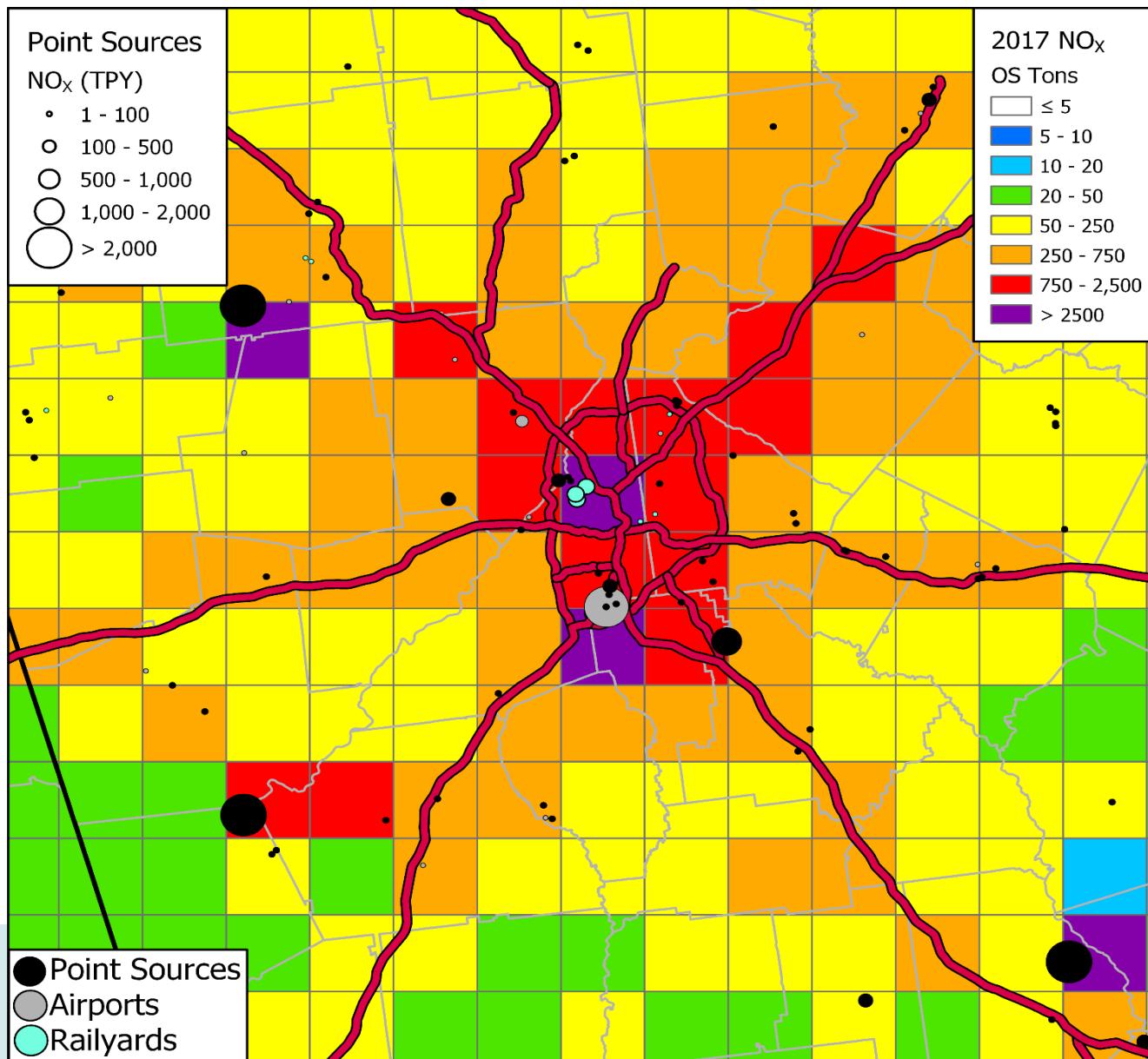


POINT SOURCE NO_x EMISSIONS





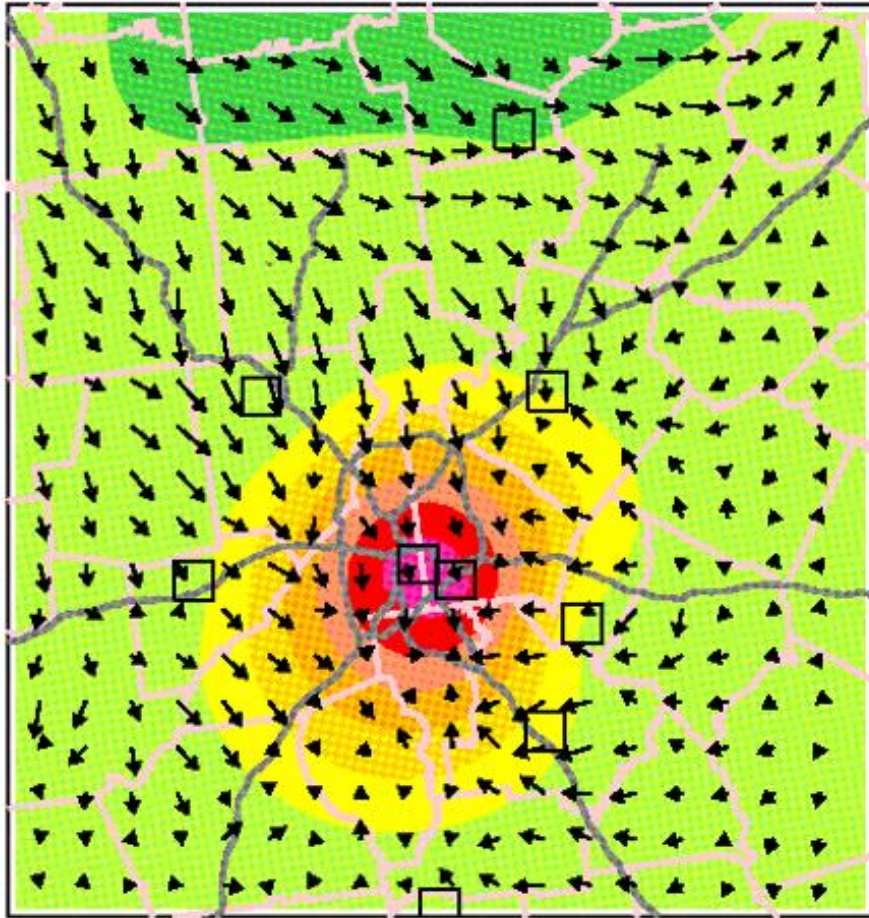
GRIDDED NO_x EMISSIONS



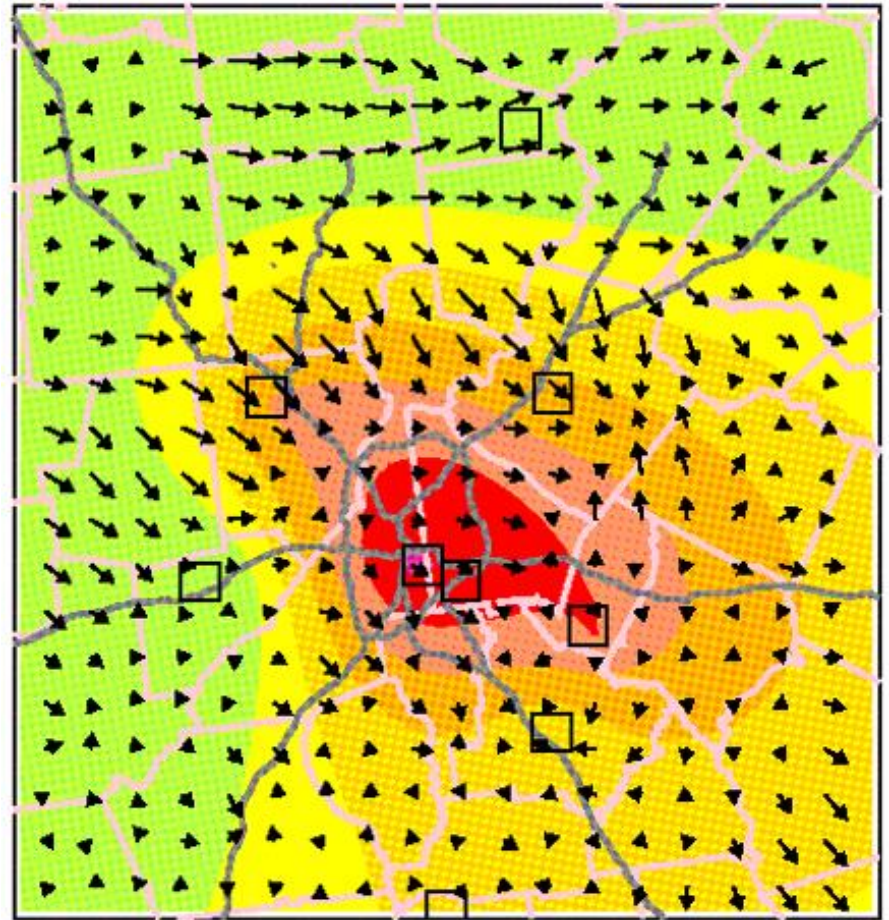


STAGNANT CONDITIONS

2018-07-09_17:00:00 (EST)

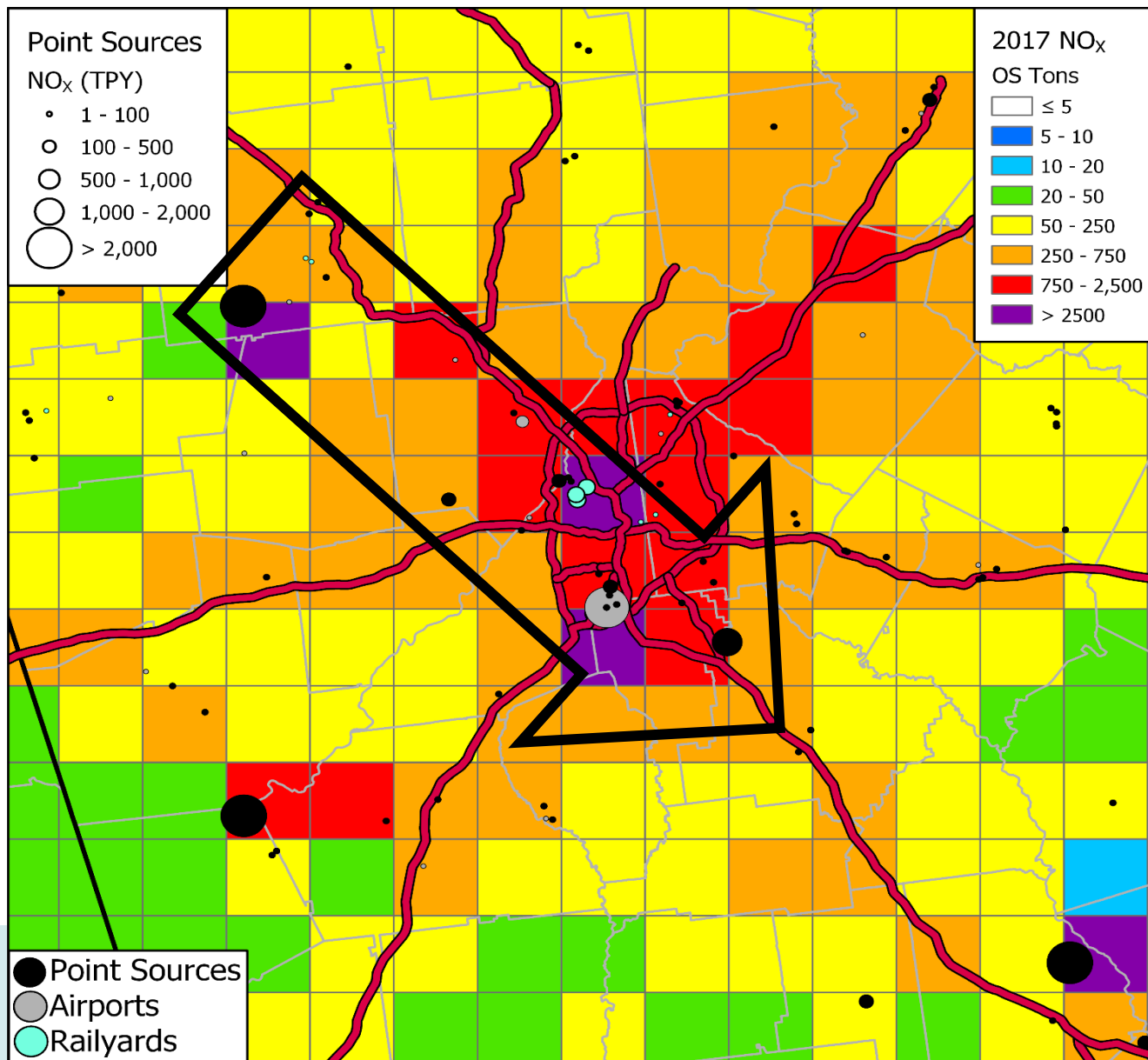


2018-08-15_14:00:00 (EST)





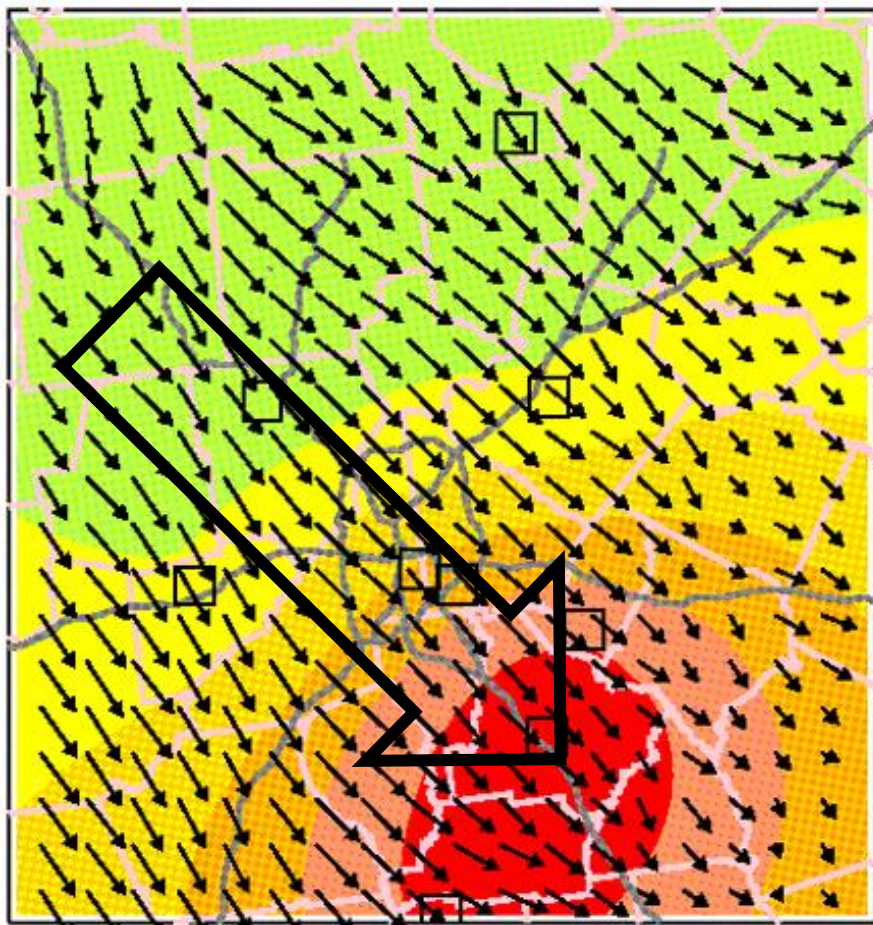
GRIDDED NO_x EMISSIONS



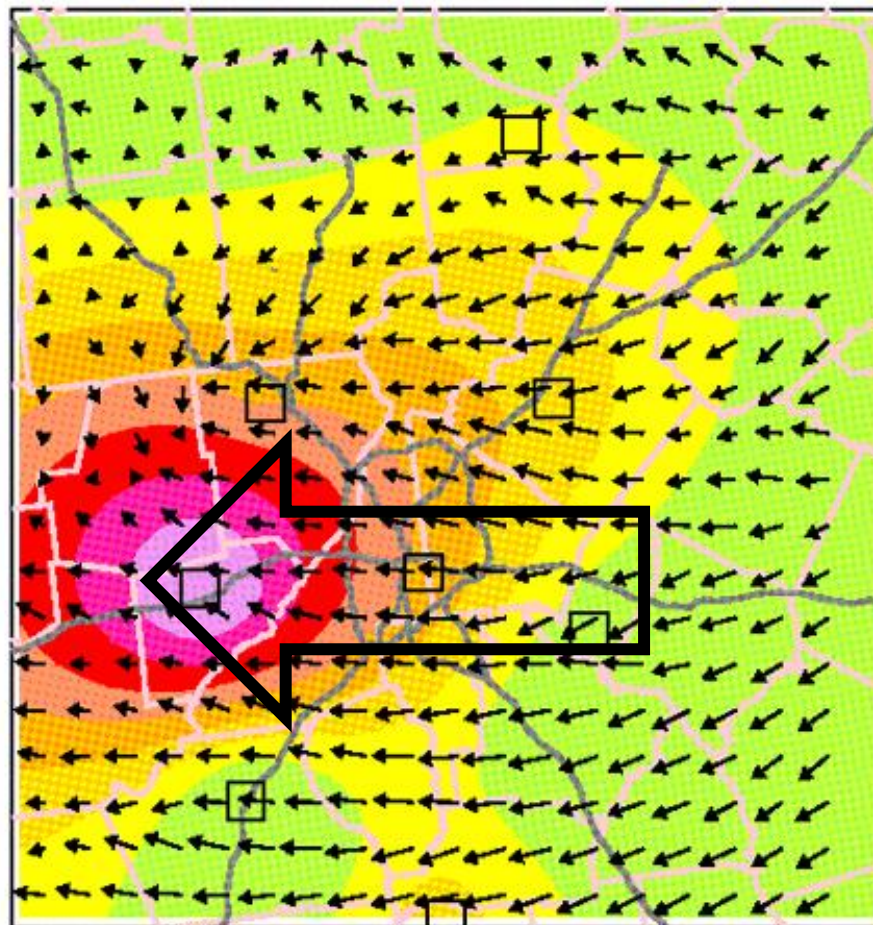


TRANSPORT FROM ATLANTA URBAN CORE

2018-06-04_14:00:00 (EDT)



2017-08-01_14:00:00 (EDT)



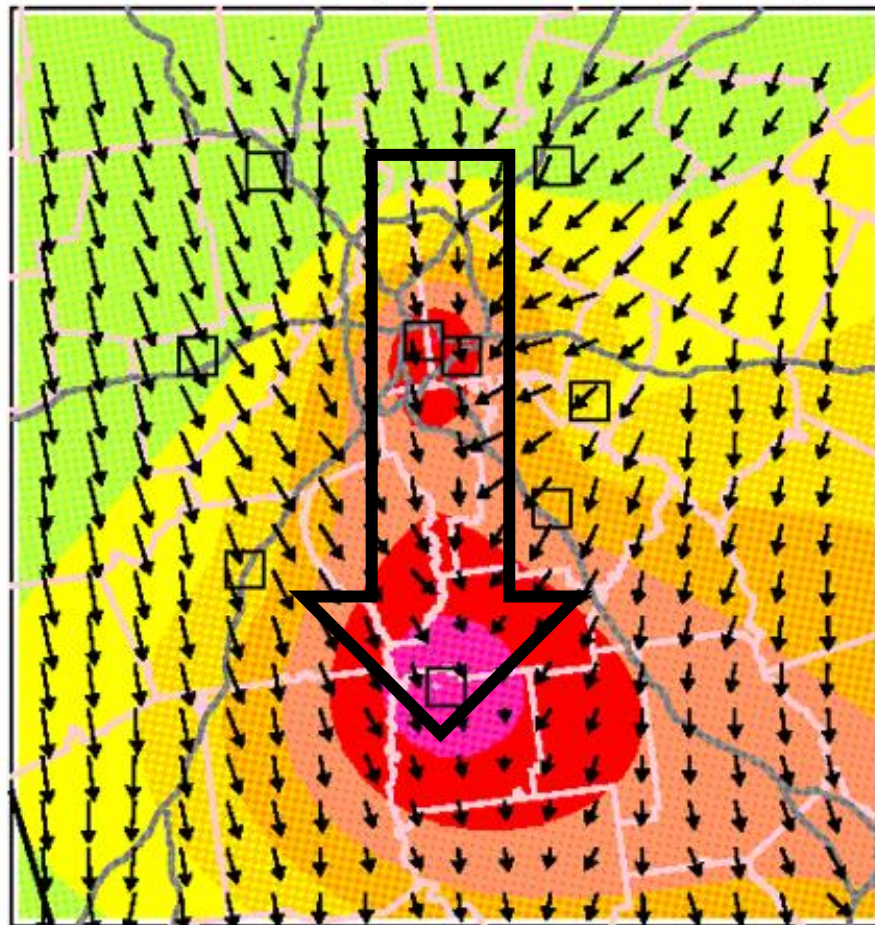


TRANSPORT FROM ATLANTA URBAN CORE

2017-05-16_16:00:00 (EDT)



2017-08-24_16:00:00 (EDT)

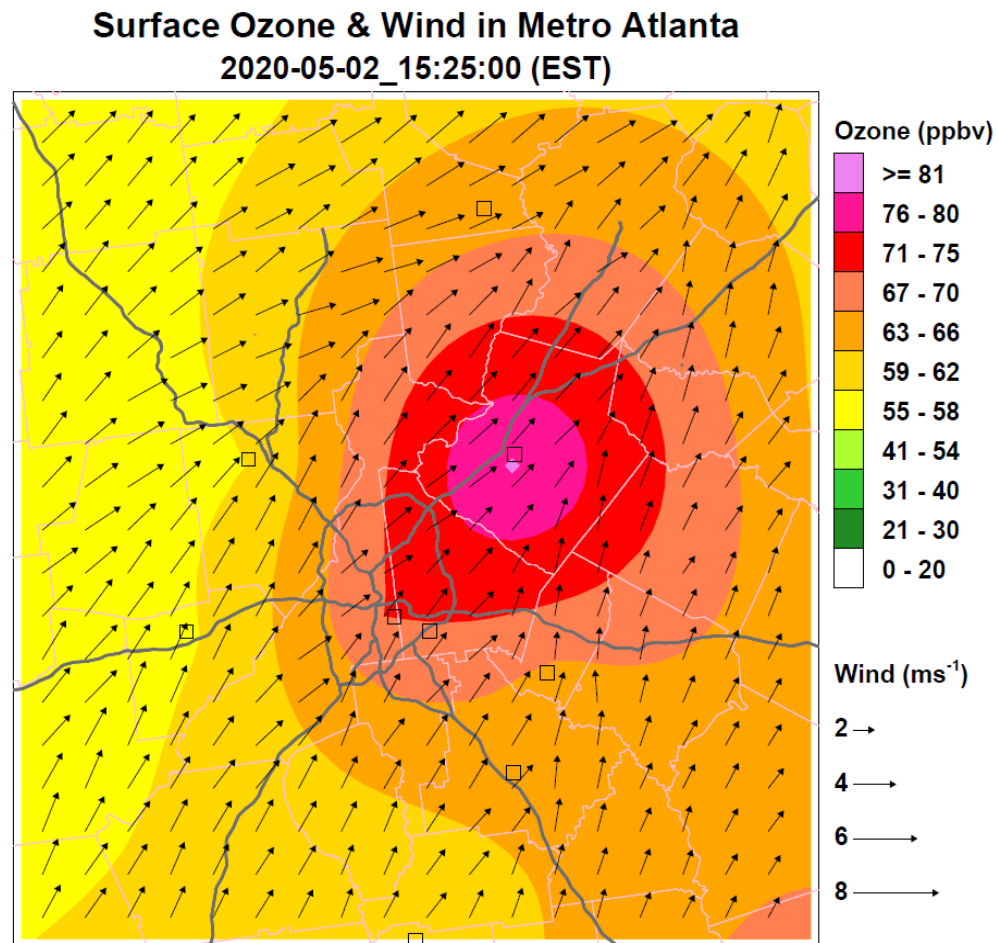
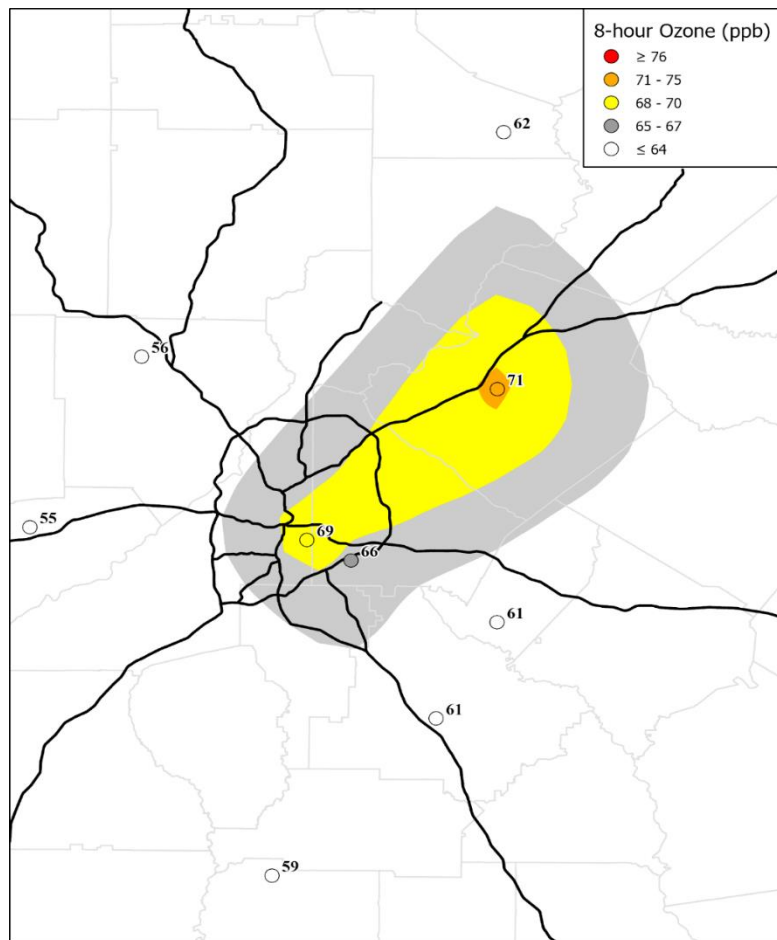




2020 OZONE SEASON

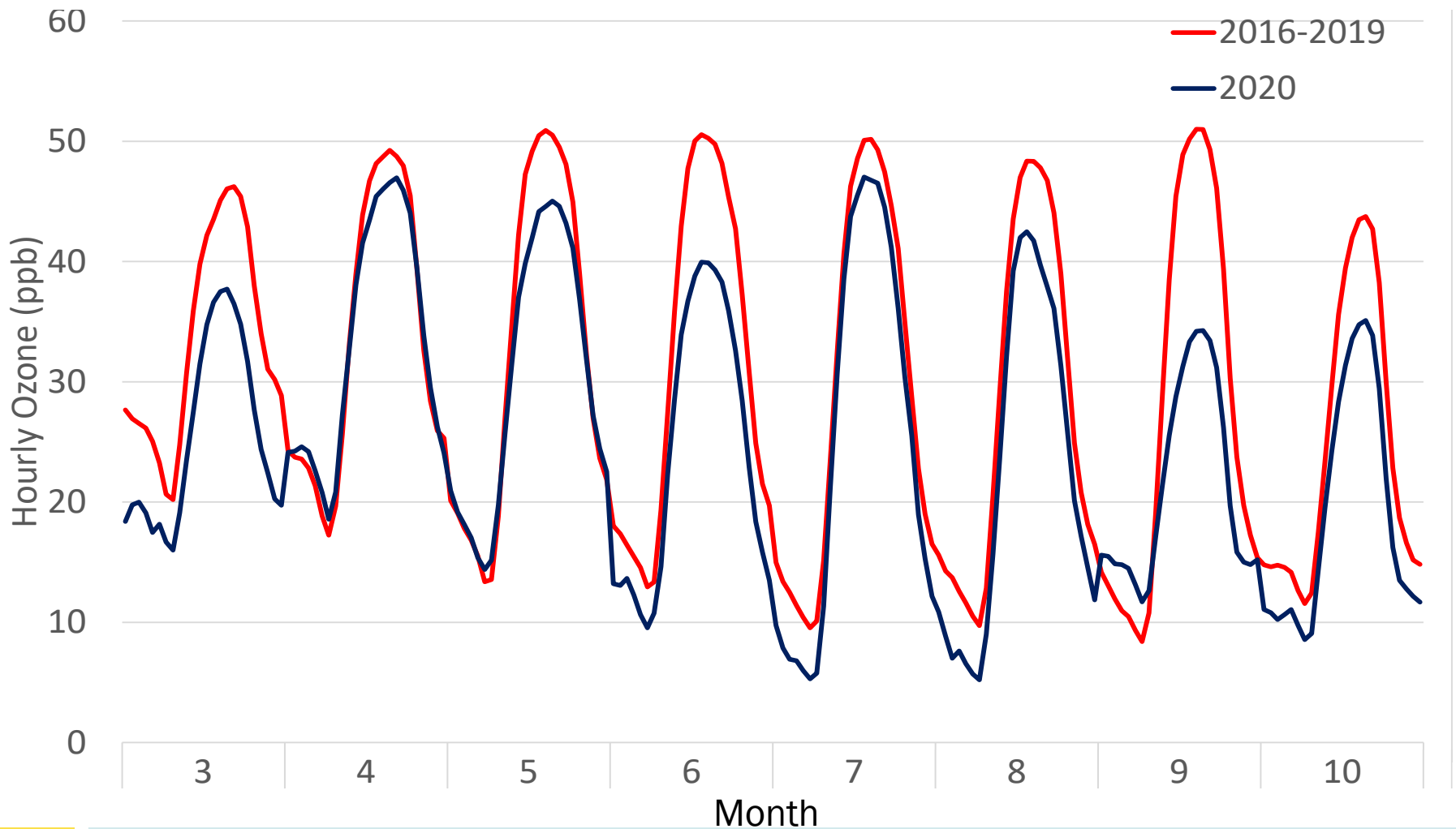


OZONE EXCEEDANCE ON MAY 2, 2020



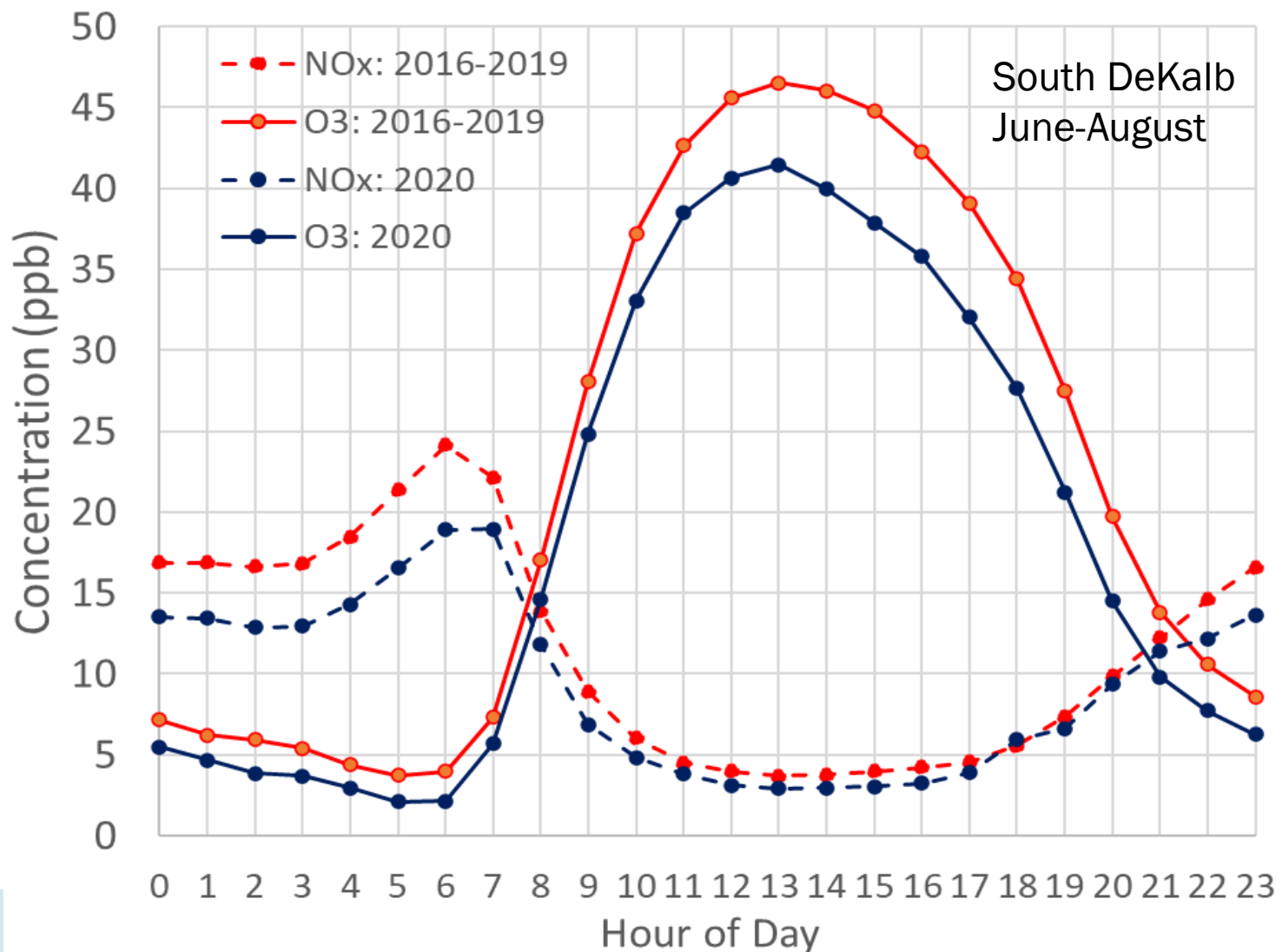


MONTHLY DIURNAL OZONE AT UNITED AVE.





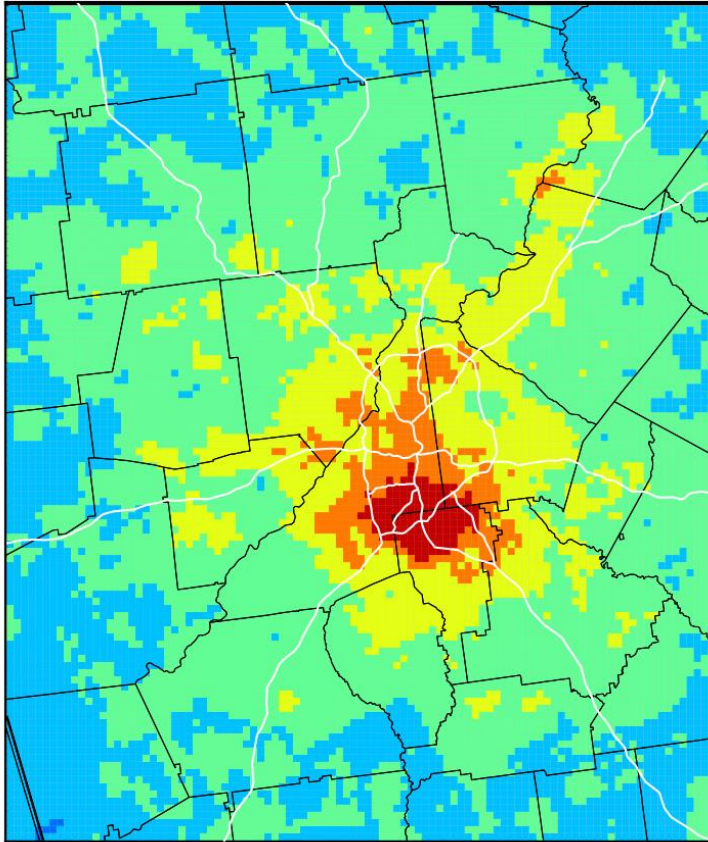
DIURNAL OZONE AND NO_x AT SOUTH DEKALB



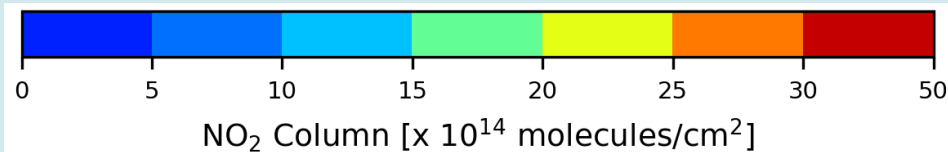
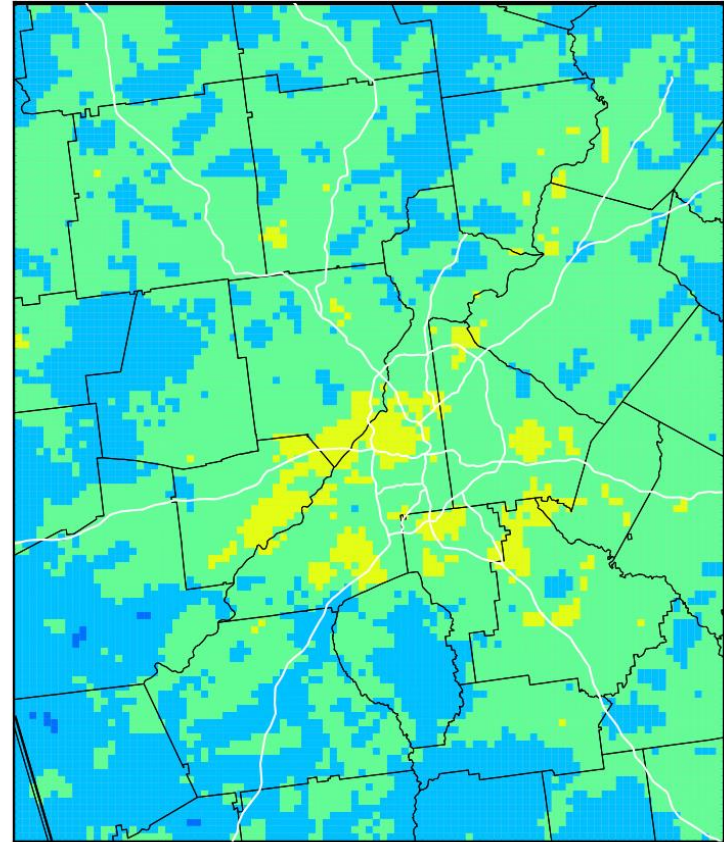


TROPOMI - AVERAGE NO₂ IN JUNE

2019



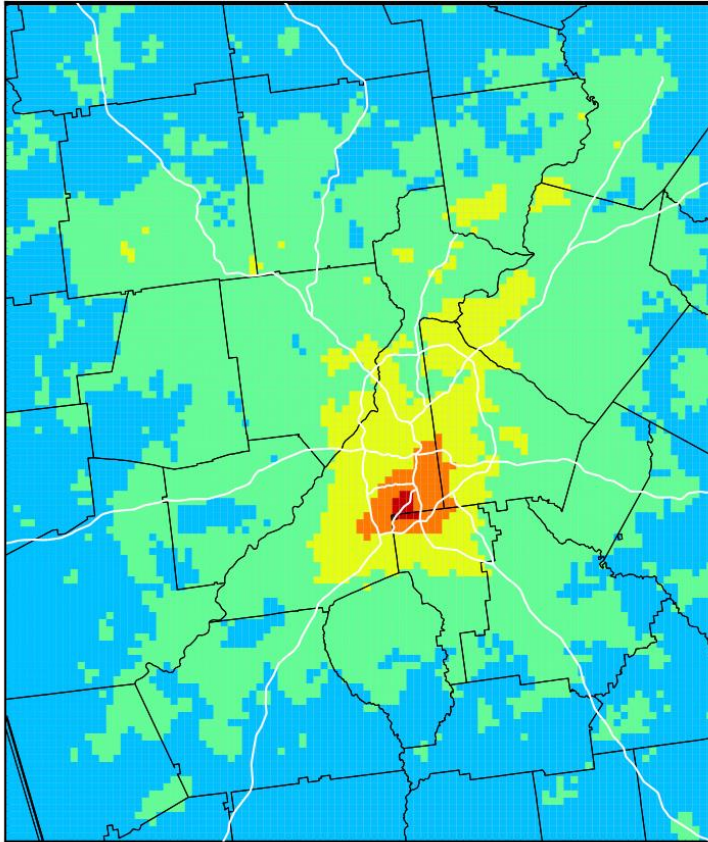
2020



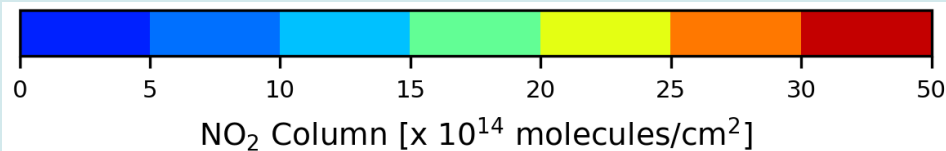
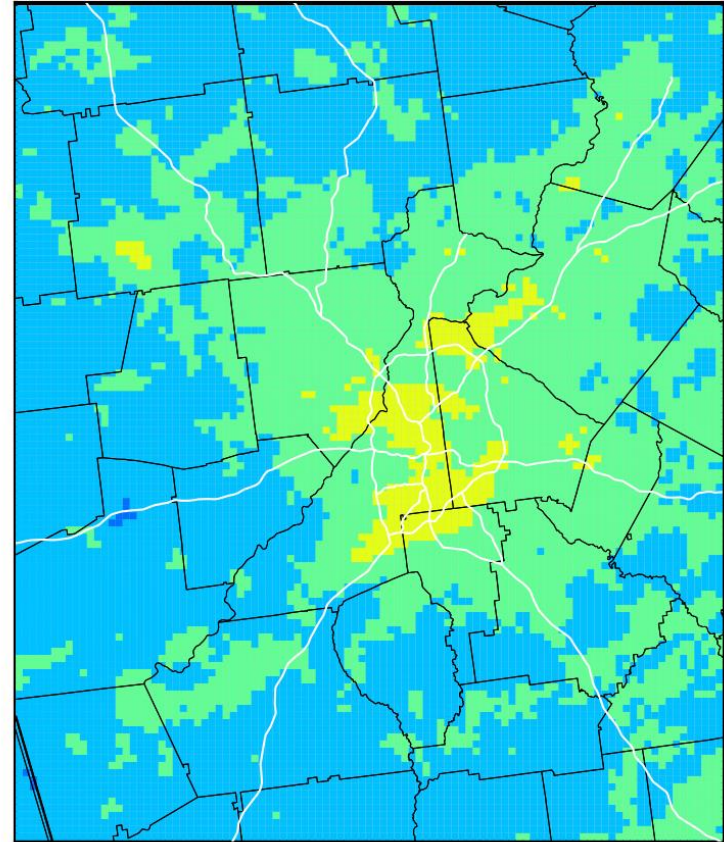


TROPOMI - AVERAGE NO₂ IN JULY

2019



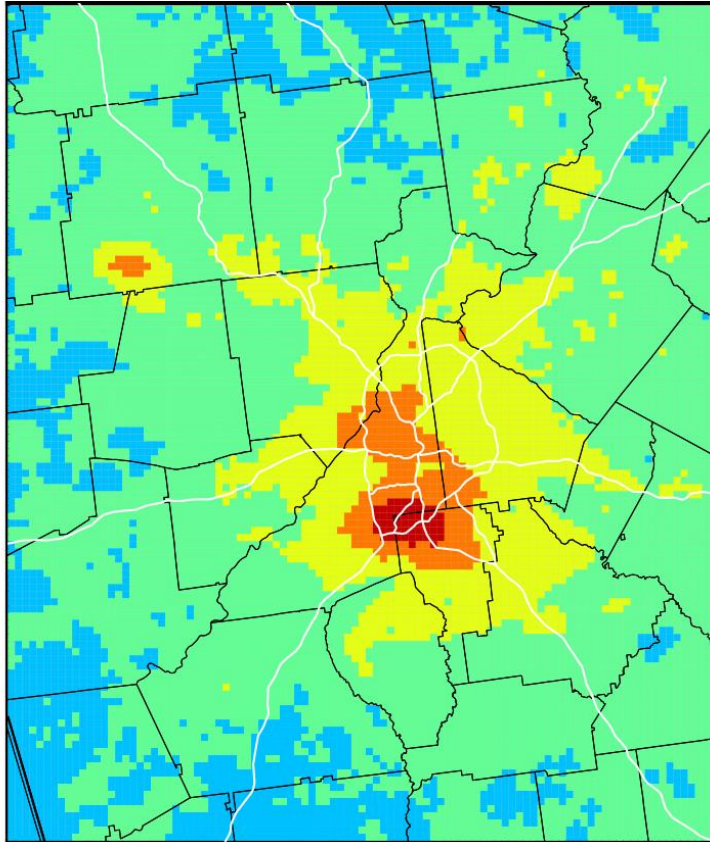
2020



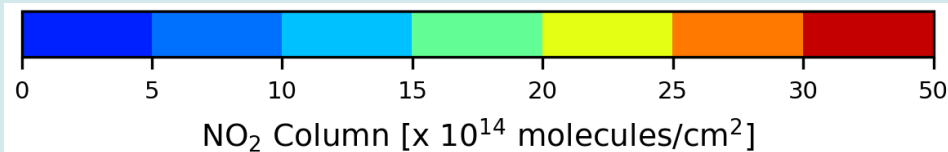
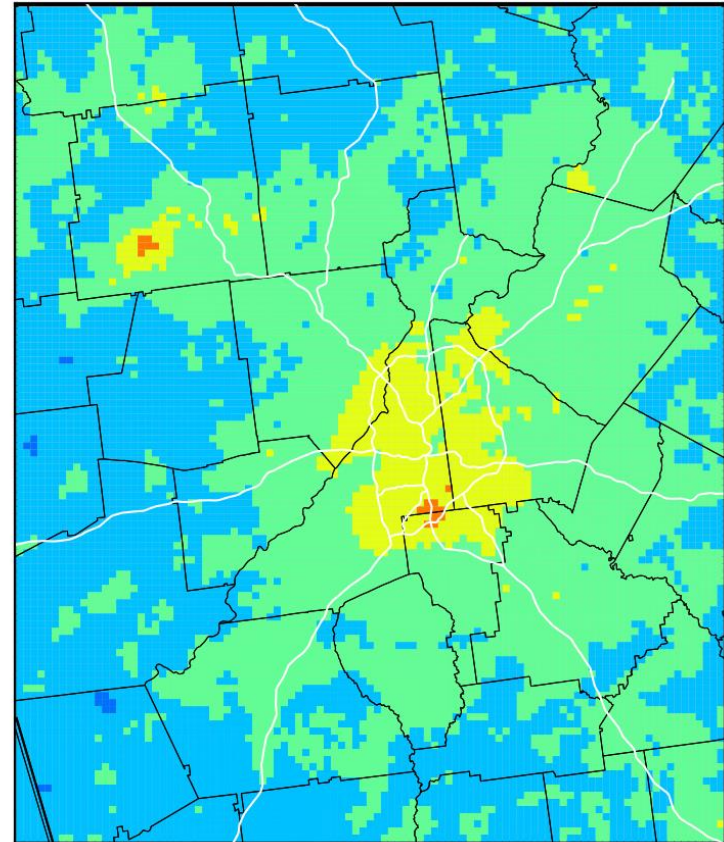


TROPOMI - AVERAGE NO₂ IN AUGUST

2019

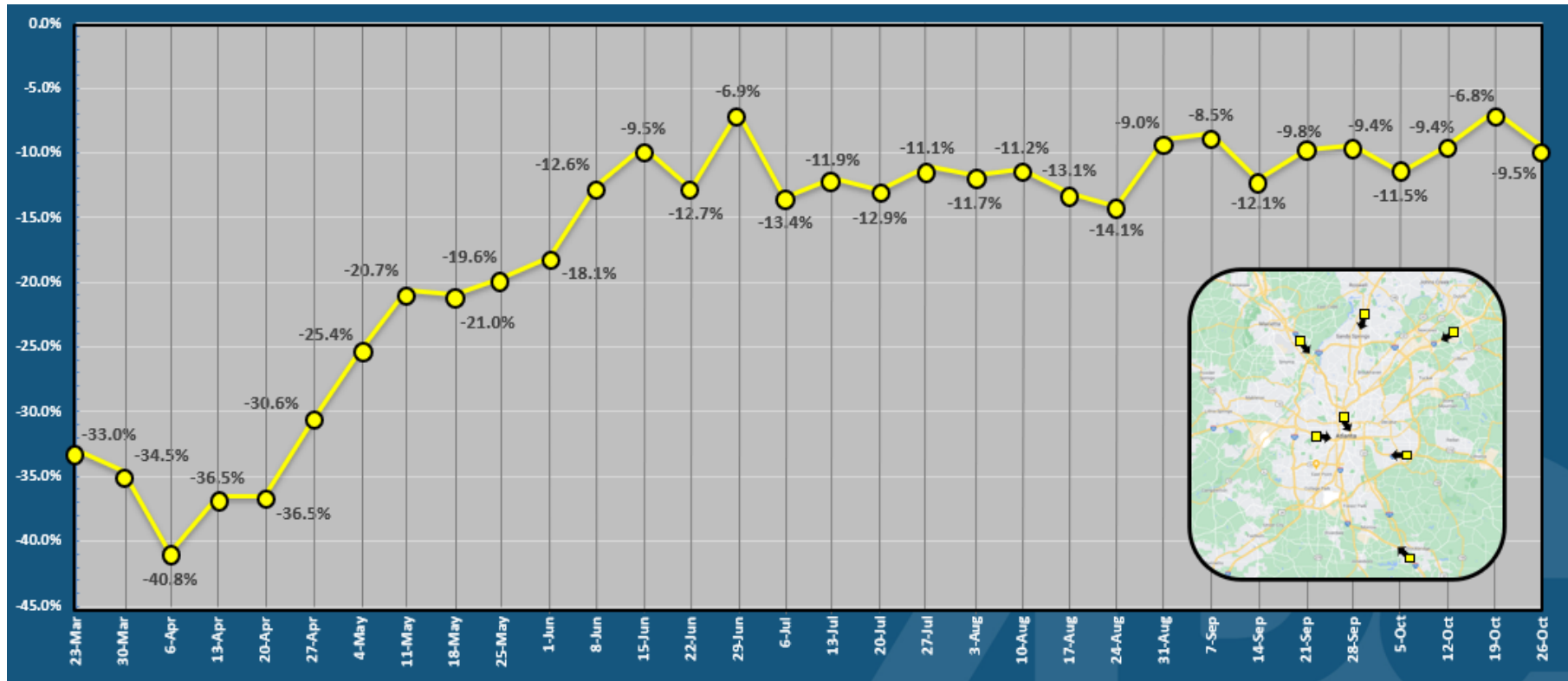


2020





CHANGE IN FREEWAY VOLUMES

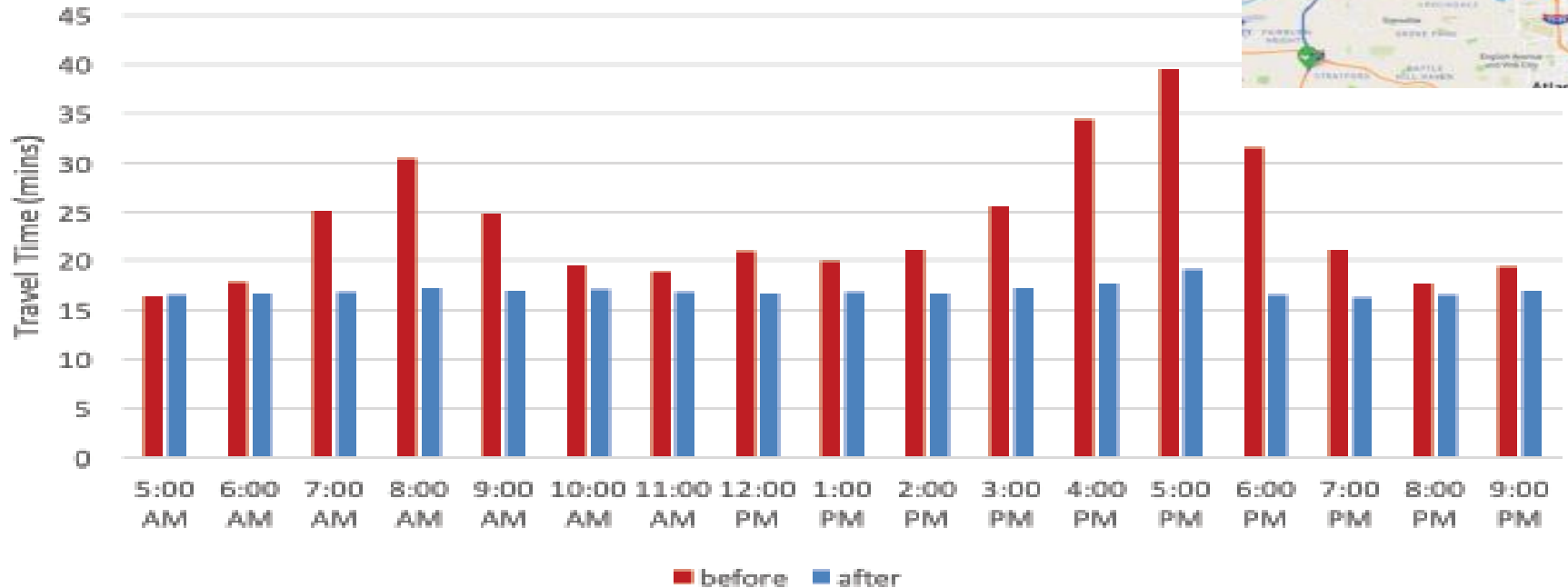


Source: GDOT (weekly average at seven locations around the region)



I-285 TRAVEL TIMES

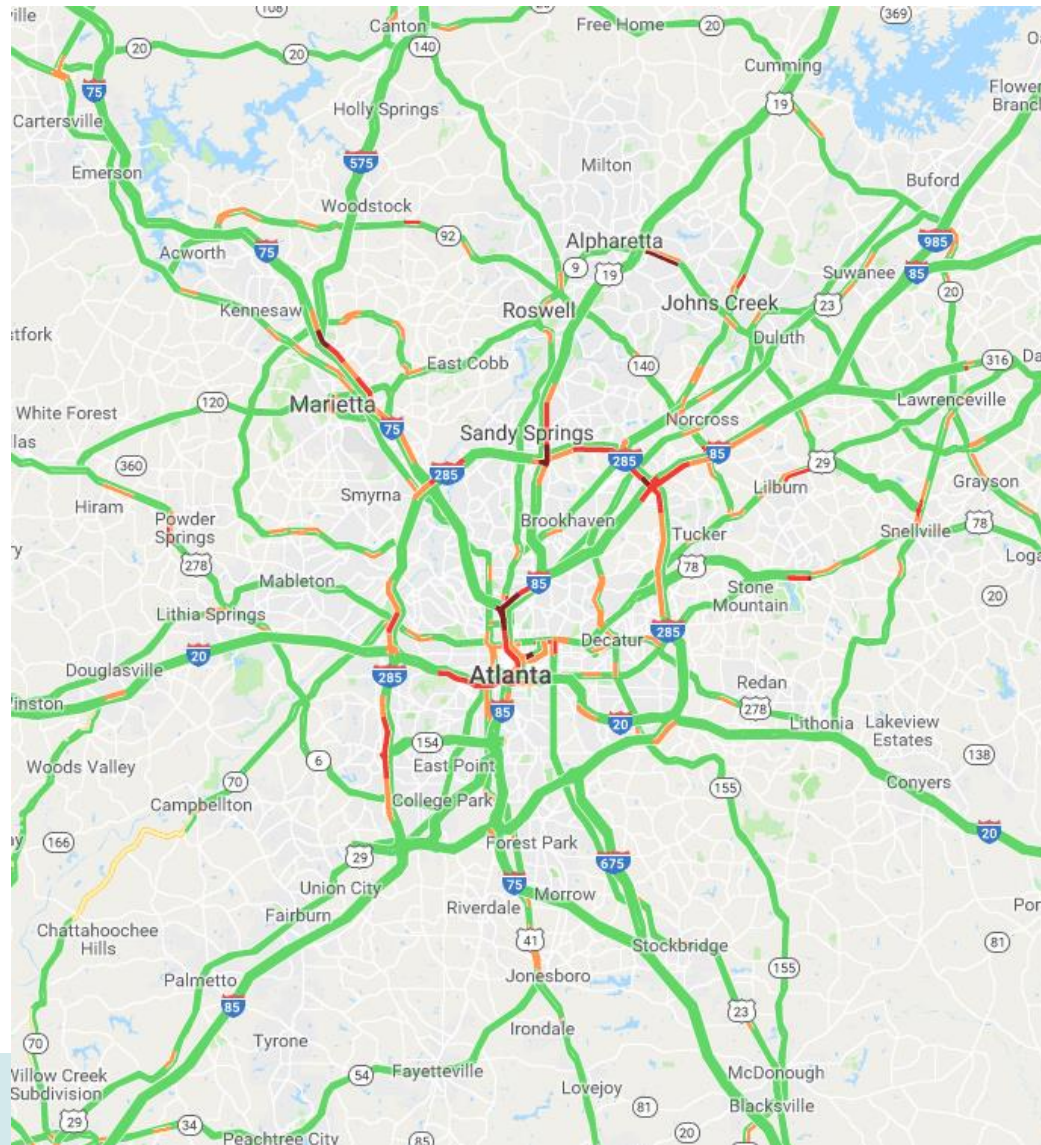
Before and After COVID Shutdown



Source: INRIX's report "COVID-19's Impact on Freight: An Analysis of Long-Haul Freight Movement During a Pandemic"



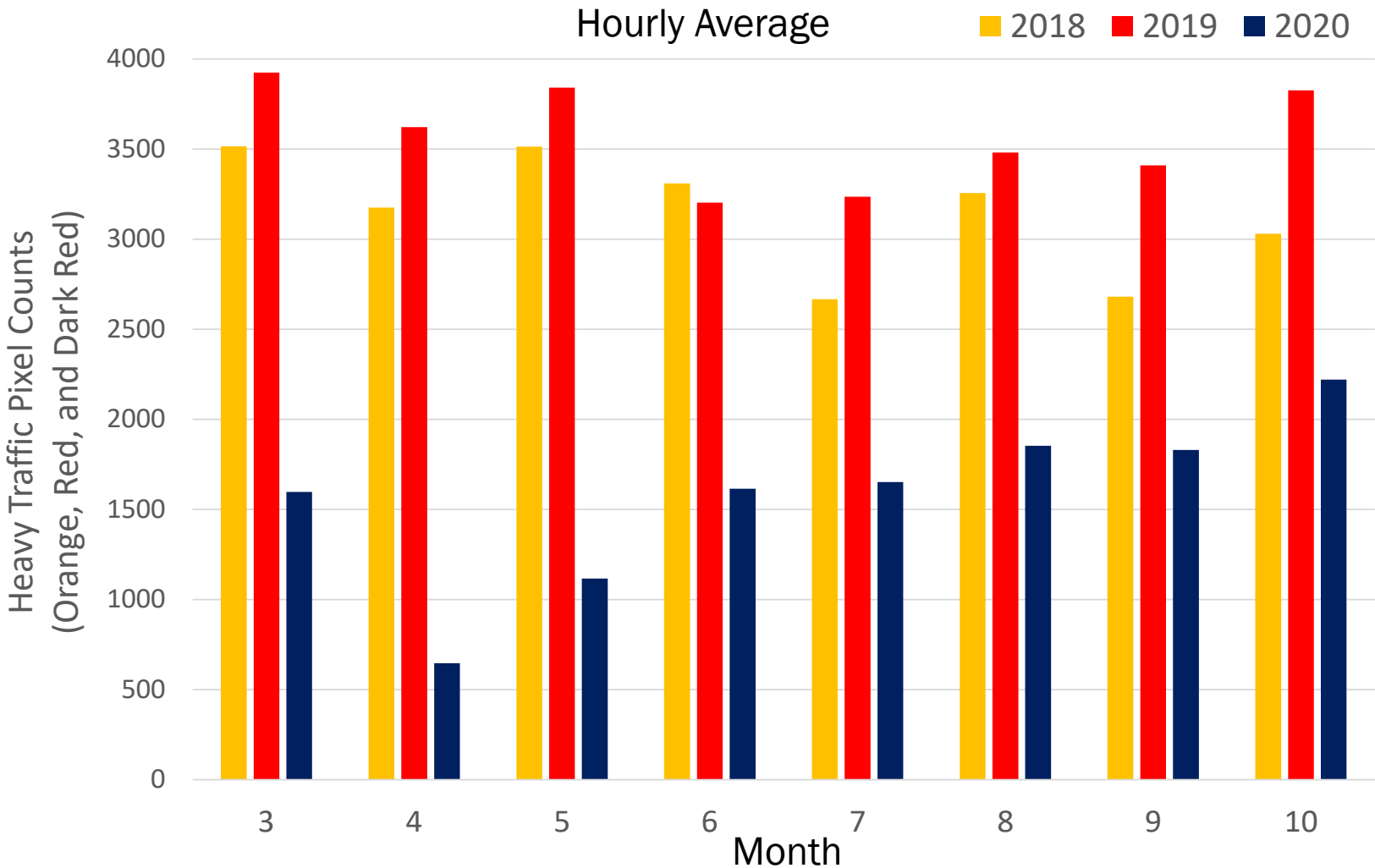
GOOGLE TRAFFIC MAPS



- Capturing Google Traffic screen every 10 minutes
- Counting and storing number of green, orange, red, and dark red pixels in each figure

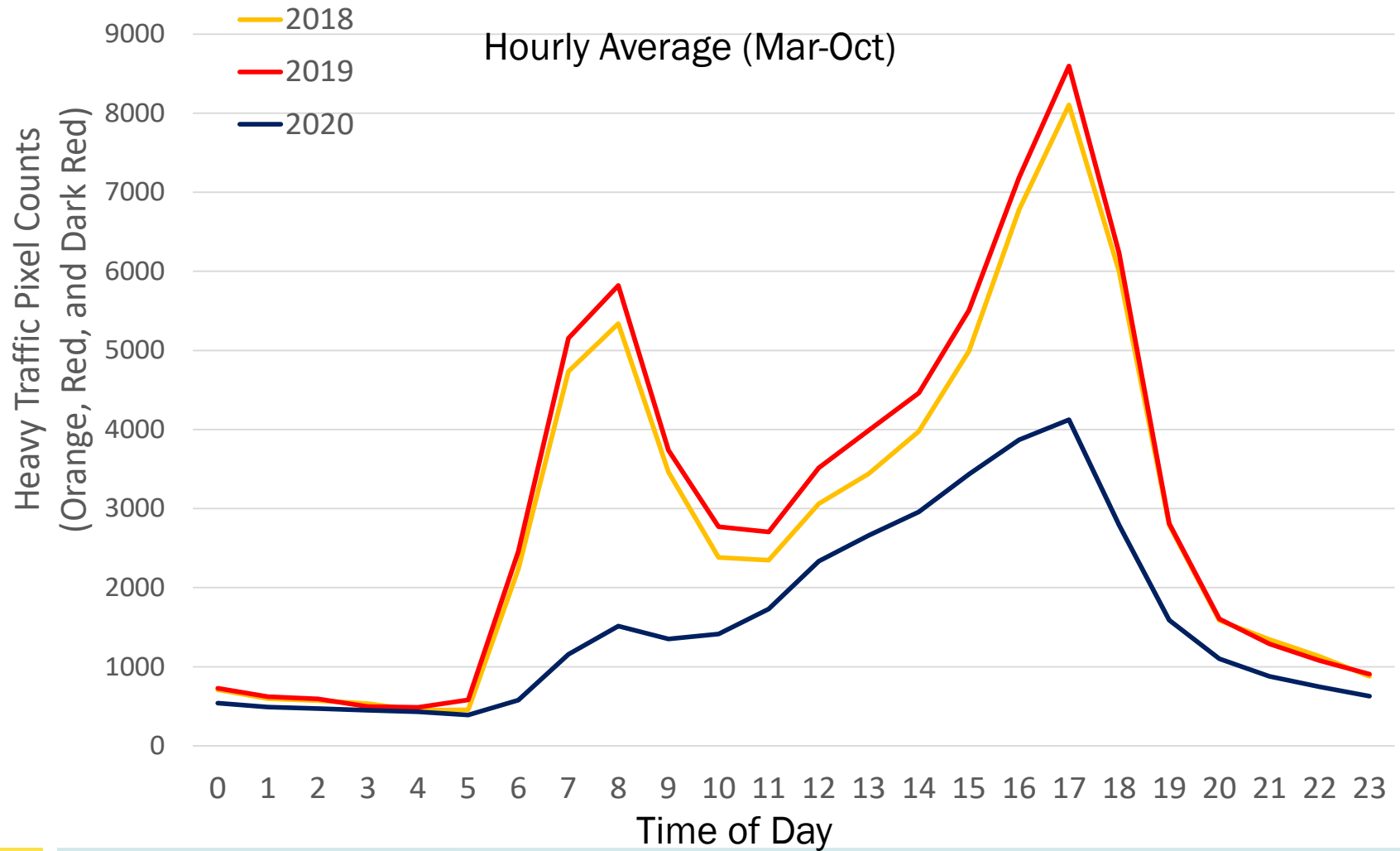


MONTHLY GOOGLE TRAFFIC (2018 - 2020)



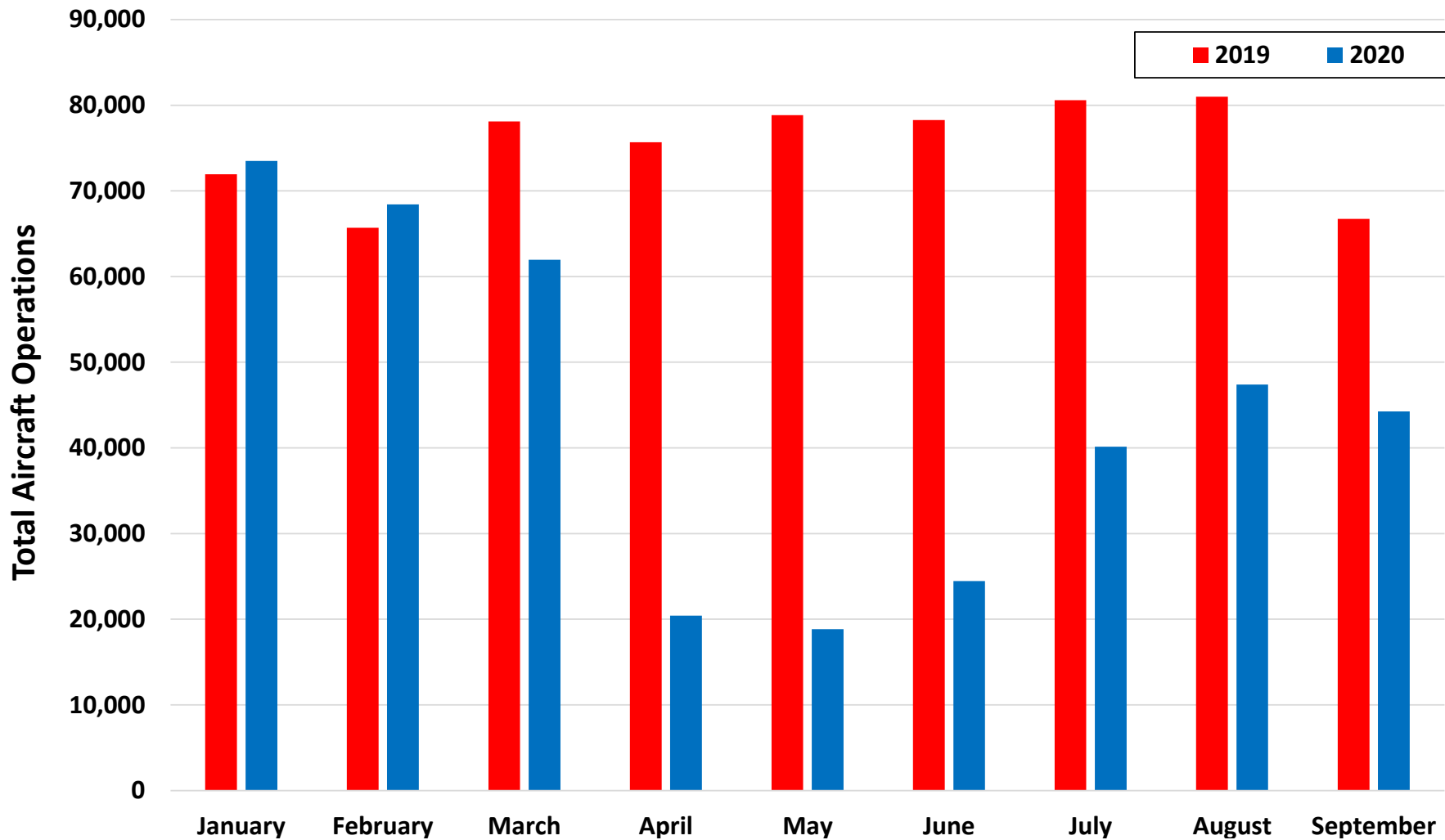


DIURNAL GOOGLE TRAFFIC (2018 - 2020)



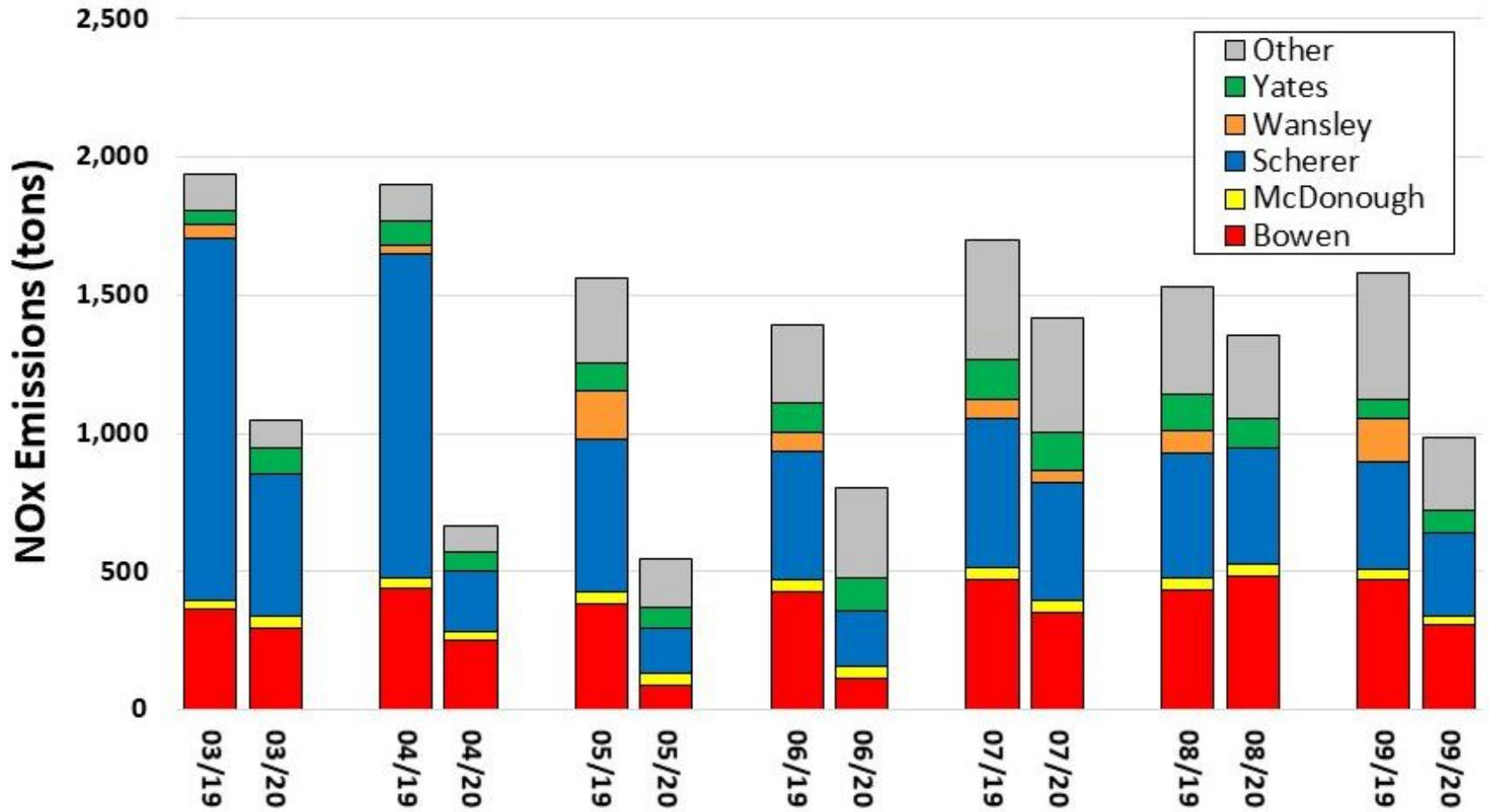


MONTHLY ATLANTA AIRPORT OPERATIONS





MONTHLY EGU NO_x IN GEORGIA





NEXT STEPS....

- **Early certify 2020 ozone monitoring data**
 - EPA concurred with AMP data certification for the 2020 ozone season data on January 6, 2021
- **Develop & submit maintenance plan and redesignation request for the 2015 ozone NAAQS**
 - MOVES3 modeling for 2018 and 2033
 - Discuss impact of COVID-19 on 2020 and future NOx emissions
 - Submit to EPA by mid-2021



CONTACT INFORMATION

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QUESTIONS?

