



**Department of  
Environmental  
Conservation**

# **NYSDEC LISTOS Data Update**

**Data Availability: Ozone, NO<sub>x</sub>, PAMS, Flight Canister and Sprinter Van Canister Data**

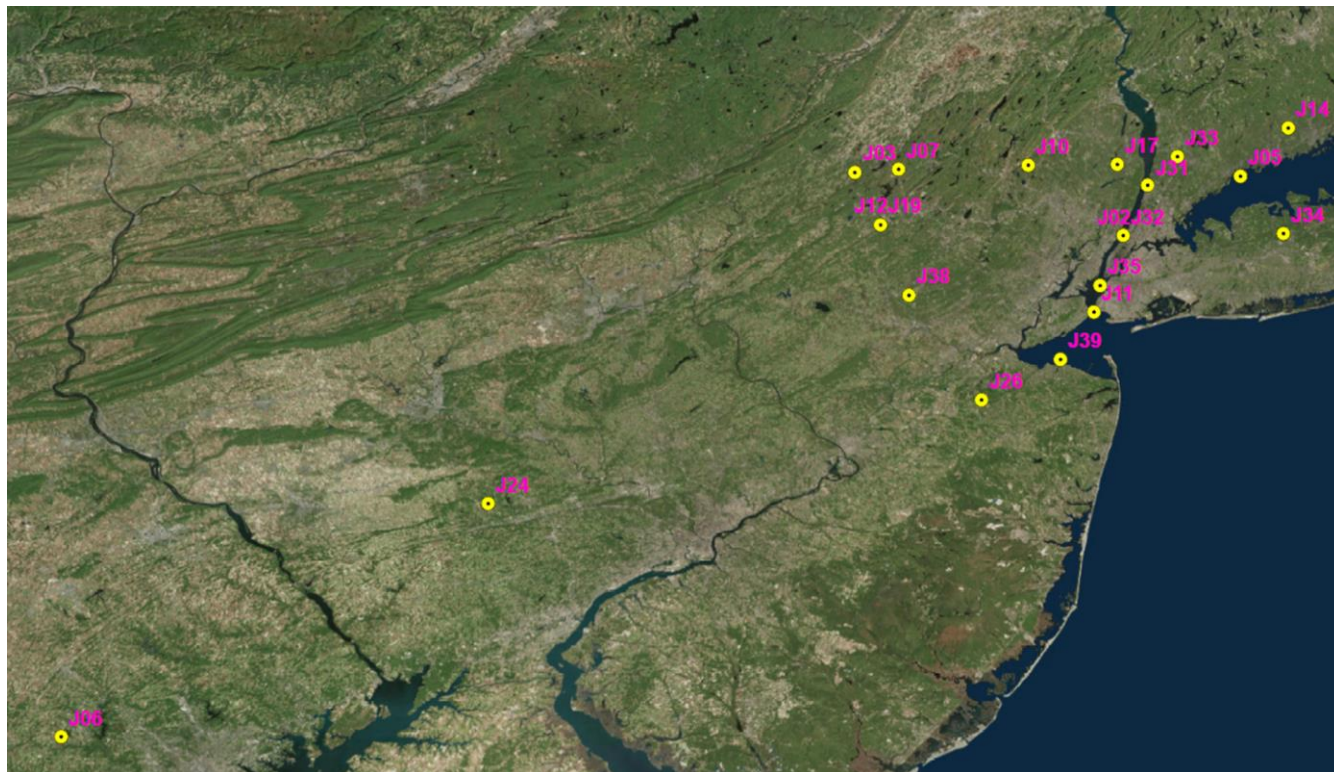
**NESCAUM WebEx September 6, 2018**

**In No Particular Order: Felton, Furdyna, Perry, Carpenter, Shipley, Hirsch, Valis, Sierzenga, Drummond, Hayner, Costello, Walsh, Fleishaker, Christophersen, Mahat, Villafana, Radcliff, Wheeler, Lay, Valis, Ku, Kent, Stuart, Gaza**

# March 26<sup>th</sup> UMD Flight 20 Canisters

# March 26<sup>th</sup> UMD Flight

Can Number	Sample Time (Eastern)	Location
J06	13:05-13:07	W of Baltimore
J24	13:37-13:39	W of Philadelphia
J03	14:10-14:12	12W
J12	14:15-14:17	NYC Downwind
J19	14:15-14:17	NYC Downwind
J38	14:20-14:22	NYC Downwind
J26	14:29-14:31	NYC Downwind
J39	14:46-14:48	After CHAIR
J11	14:50-14:52	Hudson River
J35	14:52-14:54	Hudson River
J02	14:56-14:58	Hudson River
J32	14:56-14:58	Hudson River
J31	15:00-15:02	Hudson River
J33	15:03-15:05	Hudson River
J14	15:12-15:14	Upwind
J34	17:07-17:09	Upwind
J05	17:12-17:14	Upwind
J17	17:21-17:23	Northern transect
J10	17:26-17:28	Northern transect
J07	17:33-17:35	Northern transect



# March 26<sup>th</sup> UMD Flight

VOC Target List is the EPA PAMS List (ppbv)

Included the EPA Air Toxics Target List (TO-15) (ppbv)

Note: PAMS and Air Toxics use different standards

Note: Additional compounds not on target list included

Samples were reduced using an Entech 7200 preconcentrator in cold dehydration mode and analyzed using an Agilent 7890B and 5977B Extractor Ion Source Quadrapole.



# March 26<sup>th</sup> UMD Flight

Four Canisters (J-14, J-32, J35, J-38) from the 3/26 flight event were analyzed on the Bronx AutoSystem in order to obtain C2 data. (Ethane, Ethene)

Note: Units are ppbc

Note: Only Plot Column Data provided - BP1 compounds not quantified due to large number of interferants



## March 26<sup>th</sup> UMD Flight

PAMS Sites typically do not run except June – August  
Hourly Data are available from the New York Botanical Gardens  
(NYBG) PAMS site (Note: units are ppbc)  
Data analyzed on site by a Markes/Agilent 2 Column  
Autosystem with a Kori and a CIA Advantage  
Co-pollutant data are included: Ozone, NO<sub>x</sub>, CO, SO<sub>2</sub>  
24-Hr DNPH Data (TO-11A) from 3/27 (not 3/26) available for  
this site



# July 9th UMD Flight 9 Canisters

# July 9<sup>th</sup> UMD Flight

VOC Target List is the EPA PAMS List incl. TO-11A (ppbv)

Included the EPA Air Toxics Target List (TO-15) (ppbv)

Note: PAMS and Air Toxics use different standards

Note: Additional compounds not on target list included

Samples were reduced using an Entech 7200 preconcentrator in cold dehydration mode and analyzed using an Agilent 7890B and 5977B Extractor Ion Source Quadrapole.





# August 15<sup>th</sup> UMD Flight 15 Canisters

# August 15<sup>th</sup> UMD Flight

VOC Target List is the EPA PAMS List incl. TO-11A (ppbv)

Included the EPA Air Toxics Target List (TO-15) (ppbv)

Note: PAMS and Air Toxics use different standards

Note: Additional compounds not on target list included

Samples were reduced using an Entech 7200 preconcentrator in cold dehydration mode and analyzed using an Agilent 7890B and 5977B Extractor Ion Source Quadrapole.



# ASRC Sprinter Van 22 Canisters

June 6<sup>th</sup>, July 11<sup>th</sup>  
August 5<sup>th</sup>



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# Locations of Canister Samples



# 22 Canisters over 3 Deployments

Location	Number	Date
Flax Pond (40° 57' 39"N; 73° 08' 20" W)	17	<b>06/24</b> 11:00-11:50; 16:45-17:37 <b>06/30</b> 14:22-15:12; 18:22-19:13 <b>07/01</b> 14:15-15:04; 19:06-19:55 <b>07/02</b> 10:30-11:18; 15:31-16:20 <b>07/10</b> 12:11-12:55; 17:10-17:59 <b>07/15</b> 13:52-14:41; <b>07/16</b> 10:19-11:08; 18:11-18:59 <b>08/05</b> 12:54-13:44; 18:51-19:42 <b>08/06</b> 10:39-11:30; 18:20-19:08
Sands Point (40° 51' 13" N; 73° 43' 02" W)	3	<b>07/01</b> 16:57-17:54 <b>07/02</b> 13:00-13:50 <b>08/06</b> 15:15-16:03
Robert Moses State Park (40° 37' 37"N; 73° 14' 35" W)	1	<b>06/30</b> 16:21-17:10
Long Beach (40° 35' 20"N; 73° 39' 43" W)	1	<b>06/24</b> 13:40-14:31



# NY's Fixed Site Gas Pollutant Data

PAMS, Ozone, NO<sub>x</sub>, CO, PM



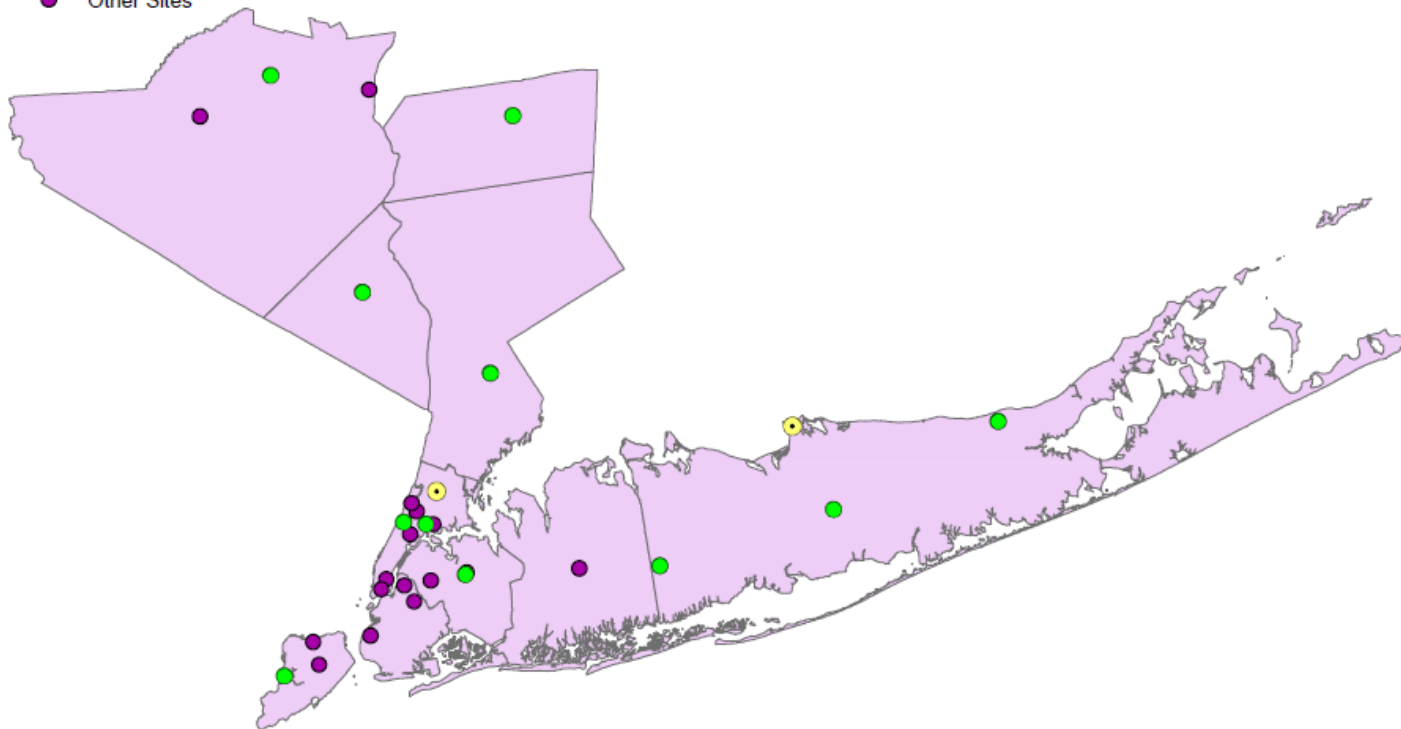
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# LISTOS Relevant Fixed Monitoring Sites

28 Sites Included on Map and Table

## Legend

- PAMS
- Ozone
- Other Sites







# NYSDEC PAMS Sites and Closest Mesonet Sites

Site AQS ID	Site Name	Site Location (Address)	County
36-005-0133	New York Botanical Garden, (NYBG) Pfizer Lab	200 <sup>th</sup> St and Southern Boulevard, NYC	Bronx
Bronx ( <u>BRON</u> ) Met Parameters Only	Bronx <u>Mesonet Site</u>	40°52'20.9"N 73°53'36.7"W	Bronx
36-103-0044	Flax Pond Marine Laboratory	15 Shore Dr. Setauket-East Setauket NY 11733	Suffolk
Stony Brook (STON) Met Parameters Only	Stony Brook <u>Mesonet Site</u>	40°55'08.8"N 73°07'54.1"W	Suffolk



# NYSDEC PAMS Sites and Closest Mesonet Sites

## Bronx (BRON)

Location	3.9 km (2.4 miles) NW of Bronx
County	Bronx
Latitude	40.872481° / N 40° 52' 20"
Longitude	-73.893522° / W 73° 53' 36"
Elevation	57.5 meters / 189 feet
Installed	September 12, 2017 4:10 pm
Station Number	26
Climate Division	4 - Coastal
NWS Forecast Office	OIXX - New York, NY
Site Type	University
Soil Type	N/A - Rooftop



## Stony Brook (STON)

Location	1.06 km (0.7 miles) SE of Stony Brook
County	Suffolk
Latitude	40.91912° / N 40° 55' 8"
Longitude	-73.13168° / W 73° 7' 54"
Elevation	43.9 meters / 144 feet
Installed	February 21, 2018 10:35 am
Station Number	2
Climate Division	4 - Coastal
NWS Forecast Office	OIXX - New York, NY



# PAMS Target List Includes Carbonyls

Plot Column  
Ethane  
Ethene  
Propane  
Propene  
isobutane  
butane  
Acetylene  
t2butene  
1-butene  
c-2butene  
Cyclopentane  
iso-pentane  
pentane  
1,3-butadiene  
t-2pentene  
1-pentene  
c-2pentene  
2,2-dimethylbutane  
2,3-dimethylbutane  
2-methylpentane  
3-methylpentane  
hexane  
isoprene  
hexene  
Total TargetsPLOT  
Total UnknownsPLOT

BP1 Column  
Methylcyclopentane  
2,4-dimethylpentane  
Benzene  
cyclohexane  
2-methylhexane  
2,3-dimethylpentane  
3-methylhexane  
224-trimethylpentane  
heptane  
methylcyclohexane  
234-trimethylpentane  
toluene  
2-methylheptane  
3-methylheptane  
octane  
ethylbenzene  
mp-xylene  
styrene  
o-xylene  
nonane  
isopropylbenzene  
alpha-Pinene  
n-propylbenzene  
m-ethyltoluene  
p-ethyltoluene  
135-TMB

o-ethyltoluene  
beta-pinene  
124-TMB  
decane  
123-TMB  
13-diethylbenzene  
14-diethylbenzene  
undecane  
dodecane  
Total Targets BP1  
Total Unknowns BP1  
TNMOC  
Total Targets  
Total Unknowns

TO-11A  
Formaldehyde  
Acetaldehyde  
Acrolein  
Acetone  
Propionaldehyde  
Crotonaldehyde  
Methacrolein  
2-Butanone (MEK)  
n-Butyraldehyde  
Benzaldehyde  
Valeraldehyde  
m-Tolualdehyde  
Hexanal



Dichlorodifluoromethane  
Chloromethane  
Dichlorotetrafluoroethane  
Vinyl Chloride  
1,3Butadiene  
Bromomethane  
Chloroethane  
Trichlorofluoromethane  
1,1Dichloroethylene  
Dichloromethane  
Trichlorotrifluoroethane  
1,1Dichloroethane  
Methyl Tert Butyl Ether  
trans 1,2Dichloroethylene  
Chloroform  
1,2Dichloroethane  
1,1,1Trichloroethane  
Benzene  
Carbon Tetrachloride  
1,2Dichloropropane  
Bromodichloromethane

Trichloroethylene  
cis1,3Dichloropropylene  
trans1,3Dichloropropylene  
1,1,2Trichloroethane  
Toluene  
1,2Dibromoethane  
Tetrachloroethylene  
Chlorobenzene  
Ethylbenzene  
m,pXylene  
Styrene  
1,1,2,2Tetrachloroethane  
oXylene  
1,3,5Trimethylbenzene  
1,2,4Trimethylbenzene  
aChlorotoluene  
1,3Dichlorobenzene  
1,4Dichlorobenzene  
1,2Dichlorobenzene  
1,2,4Trichlorobenzene  
Hexachloro1,3Butadiene

# Air Toxics Target List



# Current Data Availability

March Flight Cans - Analysis complete

PAMS NYBG data are available in AQS for June, 2018

July and Aug Flight Cans - Toxics target list Complete

Flight Cans July PAMS complete, August not yet done

Most NYMetro 24-Hr VOC data are available for Q1 and Q2, 2018, with more data in final QA.



# Thank You

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