



2001 Air Monitoring Network

New Jersey Department of Environmental Protection

NETWORK SUMMARY

The Bureau of Air Monitoring maintains 47 Ambient Air Monitoring Sites in New Jersey. The Air Monitoring Sites can be divided into two primary networks; the Continuous Monitoring Network and the Manual Sampling Network. The data collected by the program is used to provide the public with information on pollutant levels and are collected in accordance with state and federal regulations. Monitoring data is provided to various public and media outlets and are used to provide hourly updates on air quality to the Bureau's web page www.state.nj.us/dep/airmon.



Figure 1: Air Monitoring Trailer located at Rutgers University Ambient Air Monitoring Site



Figure 2: Continuous Monitoring Equipment located within an Air Monitoring Trailer



Figure 3: Manual Particulate Samplers located atop an Air Monitoring Trailer

THE CONTINUOUS MONITORING NETWORK

The Continuous Monitoring Network consists of automated sites which measure carbon monoxide (CO), oxides of nitrogen (NO_x), ozone (O₃), sulfur dioxide (SO₂), particulate matter, and meteorological data (not all pollutants are measured at all sites). The data is transmitted to a centralized computer system in Trenton, New Jersey, once every minute, thus providing near real-time data. A map showing the location of the continuous monitoring sites is shown in Figure 4 and the parameters recorded at each site are displayed in Table 1. Many of these locations are also part of the manual monitoring network, which is described later in this section.

Figure 4
2001 Continuous Network
Monitoring Site Locations

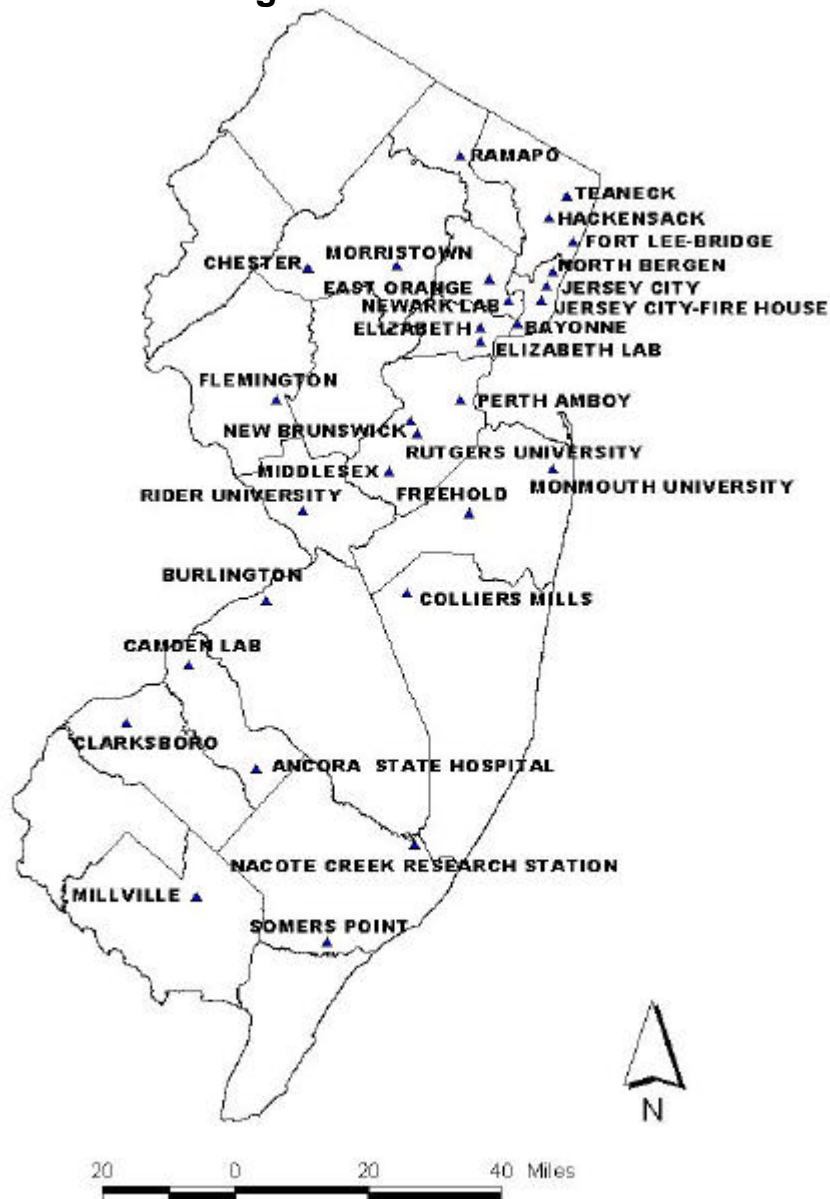


Table 1
Continuous Network
Parameters Measured

Continuous Parameter Codes

CO - Carbon Monoxide

NOx - Nitrogen Dioxide and Nitric Oxide

O3 - Ozone

SO2 - Sulfur Dioxide

SS - Smoke Shade

TEOM - Continuous PM2.5 Analyzer

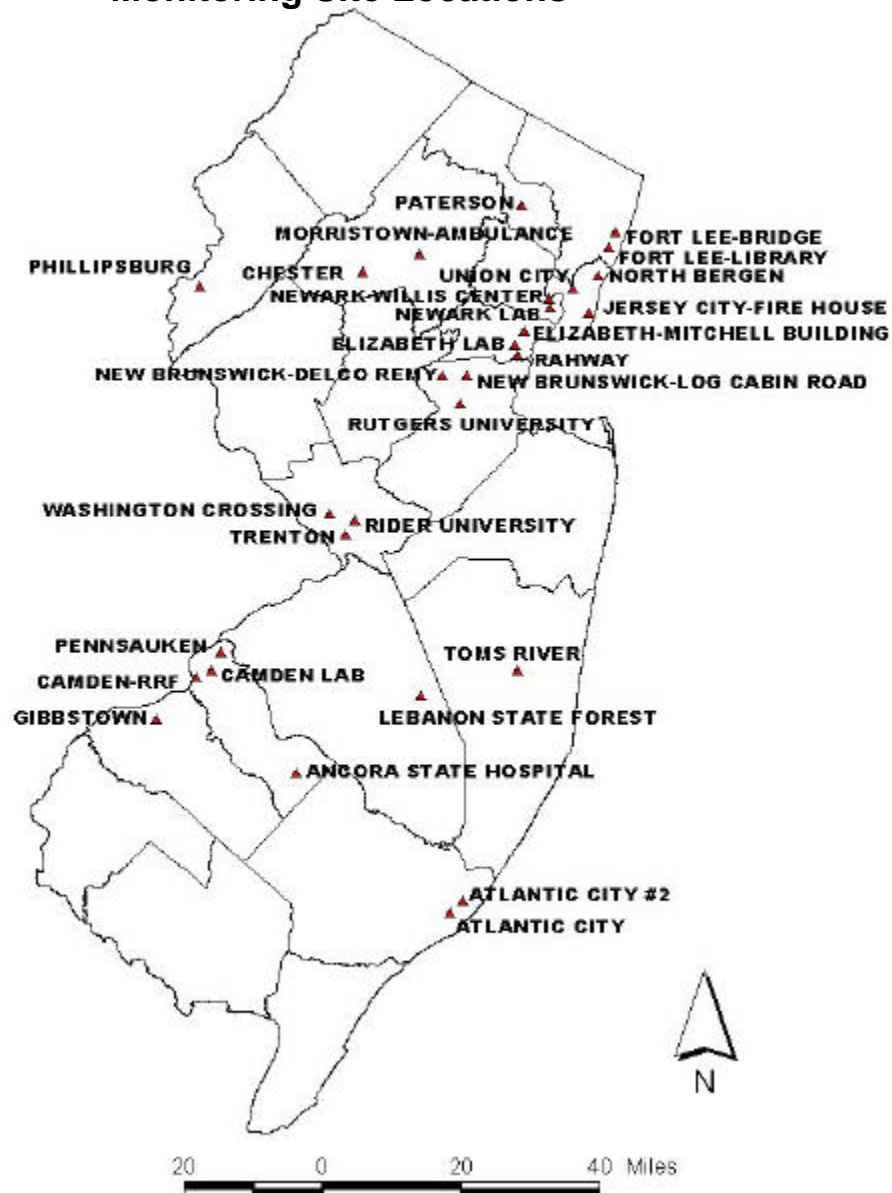
MET - Meteorological Parameters

SITE	CO	NOx	O ₃	SO ₂	SS	TEOM	MET
Ancora State Hospital	X		X	X	X		
Bayonne		X	X	X			
Burlington	X			X	X		
Camden Lab	X	X	X	X	X	X	X
Chester		X	X	X			X
Clarksboro			X	X			
Colliers Mills			X				
East Orange	X	X					X
Elizabeth	X			X	X		
Elizabeth Lab	X	X		X	X	X	X
Flemington			X		X		X
Fort Lee-Bridge	X					X	
Freehold	X				X		
Hackensack	X			X	X		
Jersey City	X			X	X		
Jersey City-Fire House						X	
Middlesex	X						
Millville		X	X	X			
Monmouth University			X				
Morristown	X				X		
Nacote Creek Research Station			X	X			
Newark Lab	X	X	X	X	X	X	
New Brunswick						X	
North Bergen	X						
Perth Amboy	X			X	X		
Ramapo			X				
Rider University		X	X				X
Rutgers University		X	X				X
Somers Point		X		X			
Teaneck		X	X				
TOTAL	15	11	15	15	12	6	7

MANUAL MONITORING NETWORK

The Manual Monitoring Network does not transmit data in near real-time like the Continuous Monitoring Network. The manual network consists primarily of equipment that collects samples for subsequent analysis in a laboratory. The network provides data on fine particulates (particles smaller than 2.5 micrometers in diameter or $PM_{2.5}$), inhalable particulates (PM_{10}), lead (Pb), several parameters associated with atmospheric deposition, pollutants important in the formation of ground level ozone (ozone precursors), and numerous toxic pollutants. Sites that measure ozone precursors are part of the national Photochemical Assessment Monitoring Station (PAMS) program. While some ozone precursors are automatically measured every hour, the data are usually only retrieved once a day. A map of the manual sampling sites is shown in Figure 5 and a list of the pollutants measured at each location is shown in Table 2.

Figure 5
2001 Manual Network
Monitoring Site Locations



**Table 2
Manual Network
Parameters Measured**

Parameter Codes

PM2.5	- FRM (Federal Reference Method) Manual PM2.5 Sampler	PAMS	- Photochemical Assessment Monitoring Station (Photo-Chemical Volatile Organic Compounds)
PM10	- FRM Manual PM10 Sampler	CARB	- Carbonyls
PB	- Lead	VOCs	- Volatile Organic Compounds
TSP	- Total Suspended Particulate	SVOCs	- Semi-Volatile Organic Compounds
PM2.5 Spec	- FRM Manual PM2.5 Speciation		

SITE	PM2.5	PM10	PB	TSP	PM2.5 Spec	PAMS	CARB	VOCs	SVOCs	Acid Deposition	
										Dry Deposition	Wet Deposition
Ancora State Hospital											X
Atlantic City		X									
Atlantic City #2	X	X									
Camden Lab	X	X			X	X	X	X	X	X	
Camden-RRF		X									
Chester	X				X		X	X	X		
Elizabeth Lab	X	X			X		X	X	X	X	
Elizabeth-Mitchell Building	X										
Fort Lee-Bridge		X								X	
Fort Lee-Library	X										
Gibbstown	X										
Jersey City-Fire House	X	X									
Lebanon State Forest											X
Morristown-Ambulance	X										
New Brunswick-Log Cabin Road	X				X		X	X	X		
New Brunswick-Delco Remy			X	X							
Newark Lab	X	X									
Newark-Willis Center	X										
Paterson	X										
Pennsauken	X	X	X	X							
Phillipsburg	X										
Rahway	X										
Rider University						X					
Rutgers University						X					
Toms River	X										
Trenton	X	X									
Union City	X										
Washington Crossing	X										X
TOTAL	20	10	2	2	4	3	4	4	4	3	3