

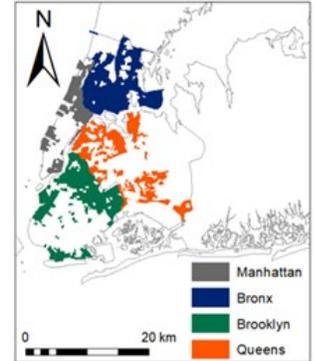
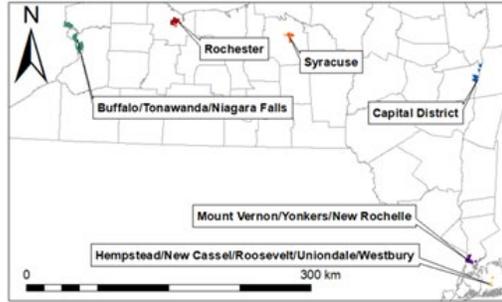
MOBILE AIR MONITORING



Department of Environmental Conservation

Community Air Monitoring Initiative 2022-2023

In accordance with New York State's Climate Leadership and Community Protection Act, the New York State Department of Environmental Conservation (DEC) is undertaking community air quality monitoring in 10 Disadvantaged Communities (see maps to the right). These areas were identified as the Disadvantaged Communities with the highest air pollution burdens. New York State is working with Aclima, Inc., to screen for local sources of air pollution street-by-street in these communities for one year.

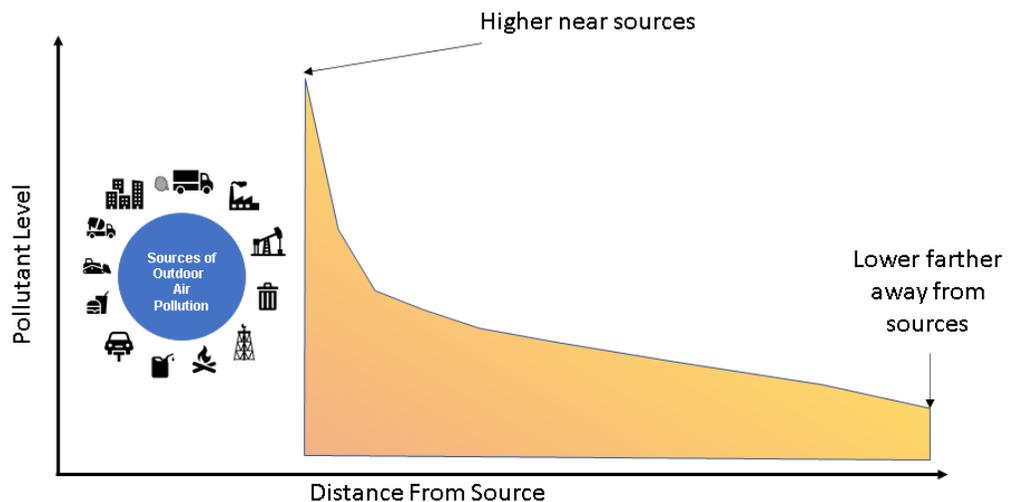


Aclima's mobile fleet of air sensor-equipped, low-emissions vehicles are driven on public roads in the study areas at least 20 times across different seasons, different days of the week, and different times of the day, over the course of the year. The data collected will be used to create maps that show annual average air pollutant estimates for every 100 meters (about 330 feet of road) across the study areas. This information will help identify air quality issues and guide actions to reduce localized pollutant levels and target sources of greenhouse gases. The pollutants that will be measured include carbon dioxide, carbon monoxide, nitric oxide, nitrogen dioxide, ozone, fine particulate matter, methane, ethane, black carbon, and targeted toxics. Maps displaying results will be made available to the public at the end of the year-long monitoring initiative.

Pollution Exposure

People are exposed to air pollution every day from industrial emissions, motor vehicle exhaust, road dust, smoke, and other outdoor and indoor sources. Outdoor air pollution levels vary considerably depending on the time of day, the day of the week, the weather, and the season. Stationary monitoring data captures the variability in air pollution from the same location over long periods of time.

Pollution levels are higher closer to the source



Mobile monitoring provides short-term measurements for many pollutants over a large area. It collects a snapshot of data from the road where pollution from traffic is higher. People in Disadvantaged Communities are living in areas disproportionately impacted by a combination of air pollution, climate change risk, and health and social and economic stressors. Mobile monitoring can capture short-term measurements throughout the year in neighborhoods where people live near sources and this information can help to identify sources and look at areas where pollution levels are higher in a community.

People change locations throughout a day. They move from outdoors to indoors, go to work, school, or shopping, and these changes in location can increase or decrease someone's exposure to air pollution. New York State's mobile monitoring initiative is not designed to characterize an individual's overall exposure to pollution or health risks.

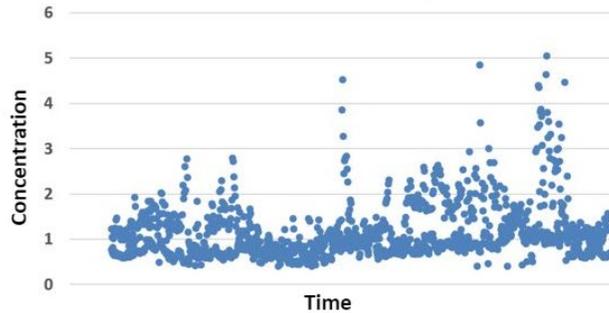
What is the difference between stationary and mobile monitoring?

DEC operates a network of more than 50 stationary monitors containing high-quality instruments that measure continuously, 24 hours a day, seven days a week, from the same location. DEC's stationary monitors are used for regulatory purposes and meet rigorous performance and accuracy standards set by the U.S. Environmental Protection Agency (EPA). Mobile monitoring uses fast response sensors and collects local measurements over a larger area. Sensor data may be used to complement stationary data, but sensor data cannot be compared to federal air quality standards or used alone for enforcement. The sensor's ability to collect accurate results can also be affected by temperature, humidity, other pollutants, and variable environmental conditions. Over time, some sensors may undergo a gradual decrease in accuracy (also called drift) and require routine checks, calibrations, and corrections. Aclima uses a quality assurance protocol for this project to correct for changes in sensor performance. The figure below shows the differences between continuous stationary monitoring in one location and mobile monitoring collecting short-term measurements across a larger area.

DEC Stationary Monitor



Measurements from Stationary Monitor



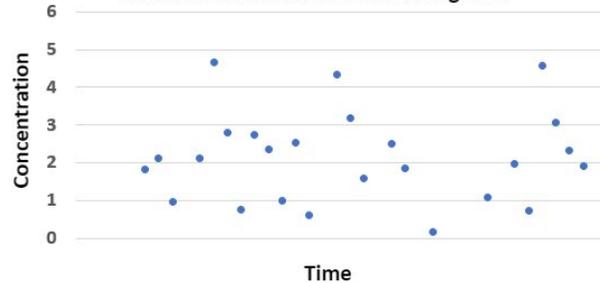
Collected in One Location



Mobile Monitoring



Measurements from One Road Segment



Collected on Each Road



How will DEC use mobile monitoring data to identify sources of concern?

DEC scientists will review mobile monitoring data in addition to data collected through stationary monitors to identify specific sources of air pollution. DEC will use this information to advance potential solutions to address this pollution. Mobile measurements are best reviewed in combination with additional data. For instance, in areas with heavy traffic and significant vehicle emissions, it can be challenging to characterize other local pollution sources. Additional measurements, collected over longer time periods near sources of concern, may be needed to completely characterize pollution.

Repeated high pollution levels or peaks in the same location on a road may indicate a local emissions source of concern. However, short-term peaks require further evaluation to determine if there is a persistent air pollution problem. EPA has not defined health-based pollutant thresholds for shorter time periods and more research is needed to understand the potential health effects associated with short-term peak concentrations. DEC will be evaluating the short-term peaks to identify sources and determine if follow-up monitoring is needed to collect additional information to inform pollution reduction strategies.

Public Engagement

Your help and information about your community is critical for the success of this initiative. DEC is holding regular public meetings to provide updates on this program. DEC is also working with local partners to develop community advisory committees (CAC) in each of the 10 communities. Email your air quality concerns and interest to participate in the CAC to CLCPA.CAM@dec.ny.gov or call 518-402-8402. Information and updates will be posted on the NYS DEC Community Air Monitoring website at <https://www.dec.ny.gov/chemical/125320.html>.

CONTACT INFORMATION

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