Hyper-Local Air Quality Sensor Network in the Town of Cheverly, Maryland

Air Sensors International Conference
May 11, 2022
Session 1C: Sensor Neworks
From nuts to bolts to real-world impacts

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Green Infrastructure Committee
Cheverly, Maryland

Cheverly Air Quality Monitoring M...

Map of Town boundary and location of existing Purple Air monitors, potential locations, new developments and potential sources air pollution. 203 views
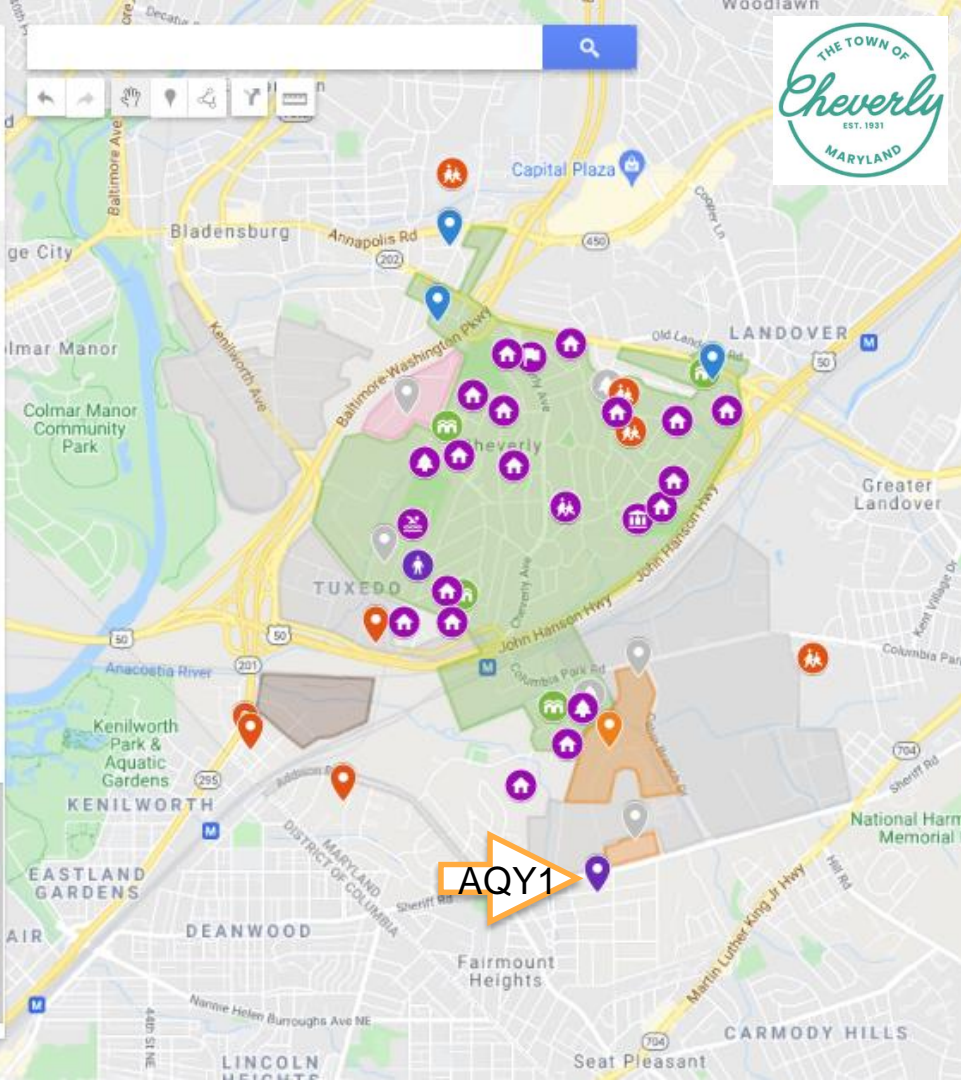
All changes saved in Drive

Add layer   Share   Preview

☑ Purple Air Residential Sites

🎏 Individual styles
- PurpleAir +1
- Potential Host
- Potential Host
- W1_1
- W1_2
- W1_3
- W1_4
- W1_5
- W2_1
- W2_2
- W2_3
- W2_4
- W3_1
- W4_1
- W4_2
- W4_3
- W5 Potential Host
- W6_1
- W6_2
- W6_3
- W6_4

AQY1

AQ Monitoring
Hyper-Local Network
- Purple Air PM2.5&10
- New Aeroqual AQY1:
  PM2.5&10, O3, NO2

Aeroqual AQY1
Purple Air
10/2021 Home
Installation

Enter search   https://mde.maryland.gov/programs/Air/AirQualityCompliance/Pages/CheverlyTargetedInspectionInitiative.aspx
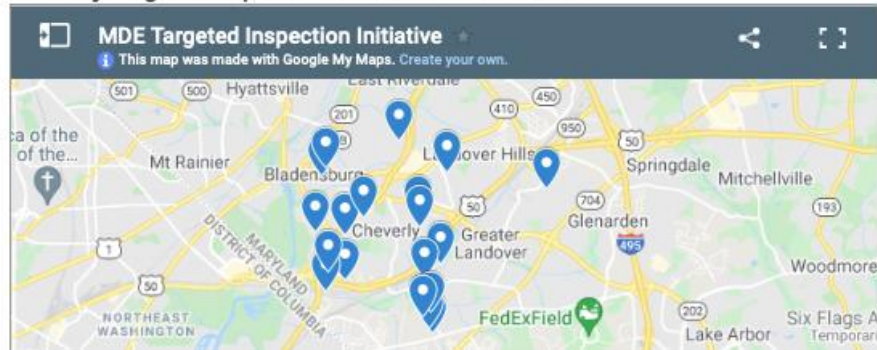
Maryland
Department of
the Environment

Air Quality Compliance »

Cheverly Targeted Inspection Initiative

MDE's Air and Radiation Administration is working in partnership with the Town of Cheverly and the Community Engagement, Environmental Justice, and Health (CEEJH) Laboratory at the University of Maryland School of Public Health to implement a local air monitoring program in the Cheverly area using low-cost sensors to look at community scale air quality. Click here to learn more about the project. A fact sheet about the project is available here.

As part of this partnership, MDE has begun to implement a targeted inspection initiative in and around the Cheverly area. MDE will be conducting inspections (on-site and virtually) and random observations(off-site) at potential sources of air pollution in the area. Below is a daily log of our activity under this initiative and links to any inspection reports that have been finalized.

Cheverly Targeted Inspection Initiative - Area Sources

MDE Targeted Inspection Initiative
This map was made with Google My Maps. Create your own.

Maryland Department of the Environment's
Air Quality Partnership Project in
Cheverly, Maryland

This document summarizes a partnership effort to use data from a community-based, hyper-local air sensor network and local traffic data to target air emissions inspections and analyze air quality in the Cheverly, MD/Sheriff Road area

October 04, 2021

The Cheverly, MD/Sheriff Road Purple Air, Hyper-Local, Air Monitoring Network

Cheverly Targeted Inspection Initiative
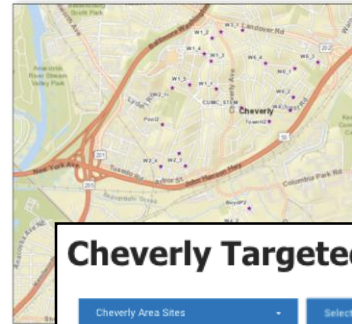
Cheverly Area Sites   Select date range

Inspection Date	Cheverly Area Sites	Additional Sites	Result	Inspection Reports
Mar 25, 2022		MDV Spartan Nash 6304 Sheriff Rd, Greater Landover, MD 20785	Delivered Idling Compliance Advisory/Leadership Request	
Mar 25, 2022		Maurice Electrical Supply 6500A Sheriff Rd, Greater Landover, MD 20785	Delivered Idling Compliance Advisory/Leadership Request	
Mar 25, 2022		Martz Group 5500 Tuxedo Rd, Hyattsville, MD 20781	Delivered Idling Compliance Advisory/Leadership Request	
Mar 25, 2022		Kelly Press Inc 1701 Cabin Branch Dr, Cheverly, MD 20785	Delivered Idling Compliance Advisory/Leadership Request	
Mar 25, 2022	Aggregate Industries		No idling or dust observed	
Mar 25, 2022	Aggregate Industries		No dust or idling observed	
Mar 25, 2022	Aggregate and Dirt Solutions		No dust or idling observed	
Mar 25, 2022	Brandywine Sand and Gravel		No dust observed, brief idling observed	
Mar 25, 2022	Greyhound Bus		No idling observed	

Cheverly AQ Monitoring Project

Cheverly MD Air Quality Data Sources:

- Cheverly & U of Maryland's "hyper-local" air quality sensor network:
  - 26 Purple Air PM2.5 monitors, 2 Aeroqual AQY1 (ozone, nitrogen dioxide)
- NASA AIST "Digital Twin" intern project for Purple Air and EPA Air Quality monitors

Cheverly Town Managers & Community Advisory Board:

- Relevant maps and data to complement sensors, e.g.,
  - Health statistics, zoning, weather patterns, AQ
- Analysis tools to explore the data, identify questions
- Actionable data products
  - Town managers and residents

Cheverly Air Quality Monitoring (AQM): Public Works Facility – Feb. 18, 2022

Cheverly PurpleAir AQ Index
Feb. 10-17, 2022
See www.purpleair.com
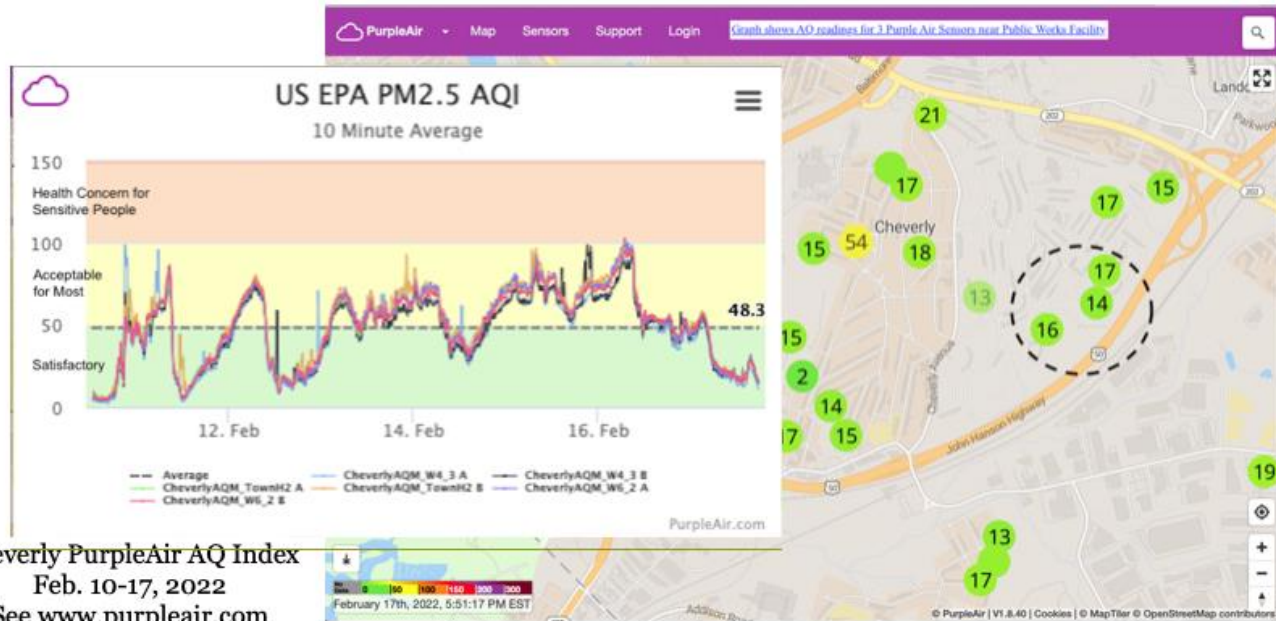
In 2020, the Cheverly AQM project partnered with the University of Maryland School of Public Health to install PurpleAir sensors to measure PM2.5 (2.5 micron particulate matter), a key air pollutant affecting public health. The goal is to monitor the environmental factors contributing to AQ and produce an AQ baseline. Monitoring the current AQ helps us assess the impact of cumulative air pollution from traffic and other industrial and residential sources, and provide useful information to the public as well as state and local government.

This AQM report shows the current range of the EPA AQ index values continually produced every 10 minutes for the 3 sensors nearest to the Public Works facility. The average AQI for this period, 48.3, is borderline acceptable, or fair with sensitive groups experiencing minor to moderate symptoms with long-term exposure.

Contact: Karen Moe <karen.moe@earthlink.net>
Cheverly Green Infrastructure Committee
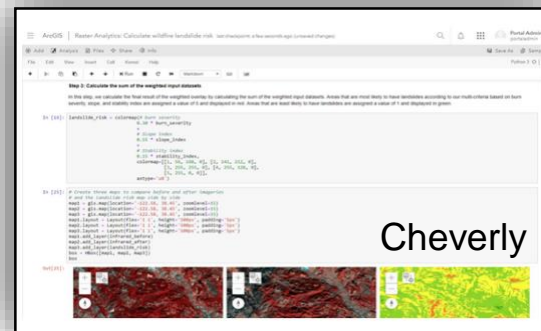
Air Quality Cluster

Promoting innovative understanding of shared needs in providing useful Air Quality information to non-traditional research users.
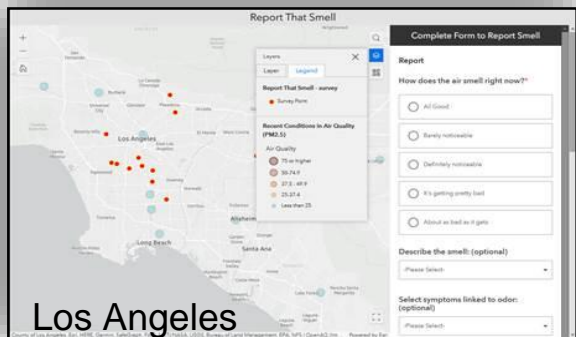
Los Angeles

How a local government can better reach individuals with actionable information regarding the threat of adverse air quality.

Cheverly

How to use citizen science to build a seasonal baseline of localized air quality to help assess and adapt to change.

Tags:
air quality, community resilience, health, GIS, citizen science, EPA

Want to be part of the Air Quality Cluster?
Contact: Beth Huffer beth@lingualogica.net
Steve Young syoung@innovateteam.com
Join: esip-aqcluster@lists.esipfed.org

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