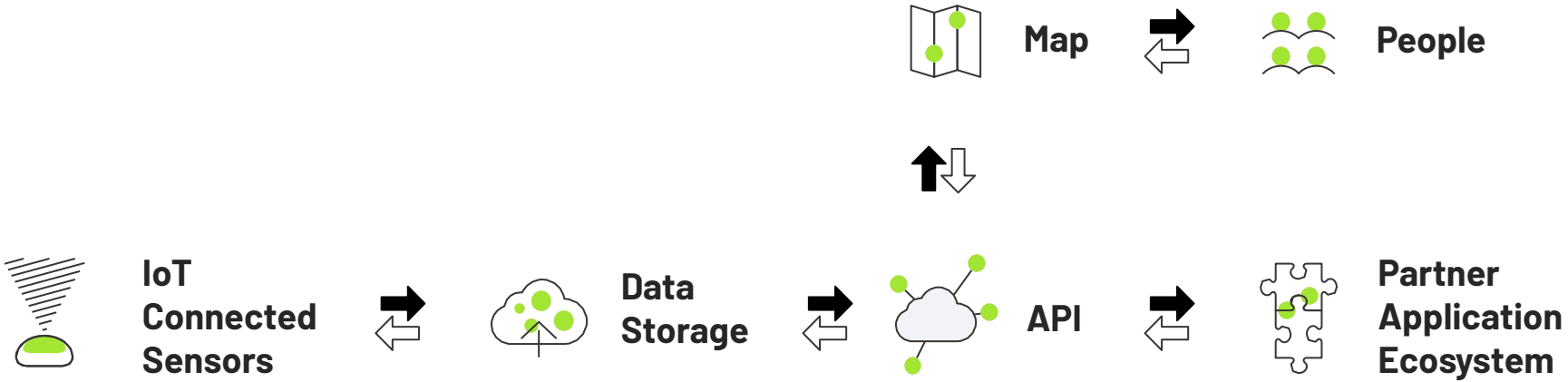
Community Environmental Working Group - CEWG

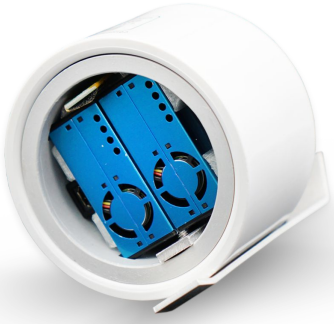
BRIEF INTRODUCTION

Founded in 2015, PurpleAir is an industry leader in air quality monitoring. From our hardware to our API tools and real-time data visualization through the PurpleAir Map, we provide a complete end-to-end solution for community scientists, researchers, and organizations worldwide.

HOW IT WORKS


Map
People
IoT
Connected
Sensors
Data
Storage
API
Partner
Application
Ecosystem

WHAT OUR MONITORS MEASURE



Report PM1.0, PM2.5, & PM10

- A laser counter counts particles in six size bins: 0.3, 0.5, 1, 2.5, 5, and 10 microns.

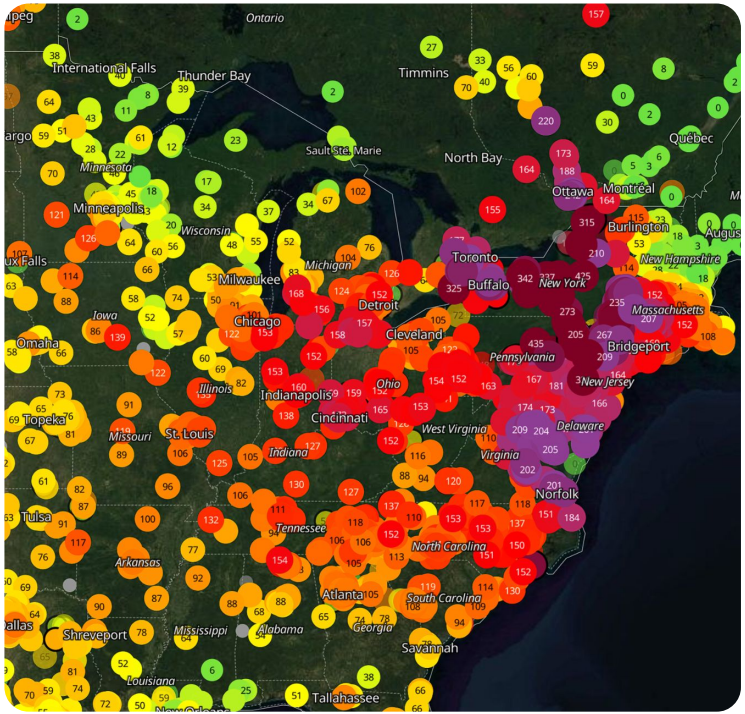
Environmental Parameters

- Like temperature, humidity and pressure.
- Temperature and humidity are offset due to heat generated by the sensor. This provides information on the conditions under which the laser counters themselves are operating.

(We do not pre-process data on the monitor.)

CHANGING THE INDUSTRY

1. Filling the gaps between government monitors
2. Pairing indoor & outdoor data
3. Democratizing air quality data



2023 Canadian wildfires spread smoke across the US Eastern Seaboard

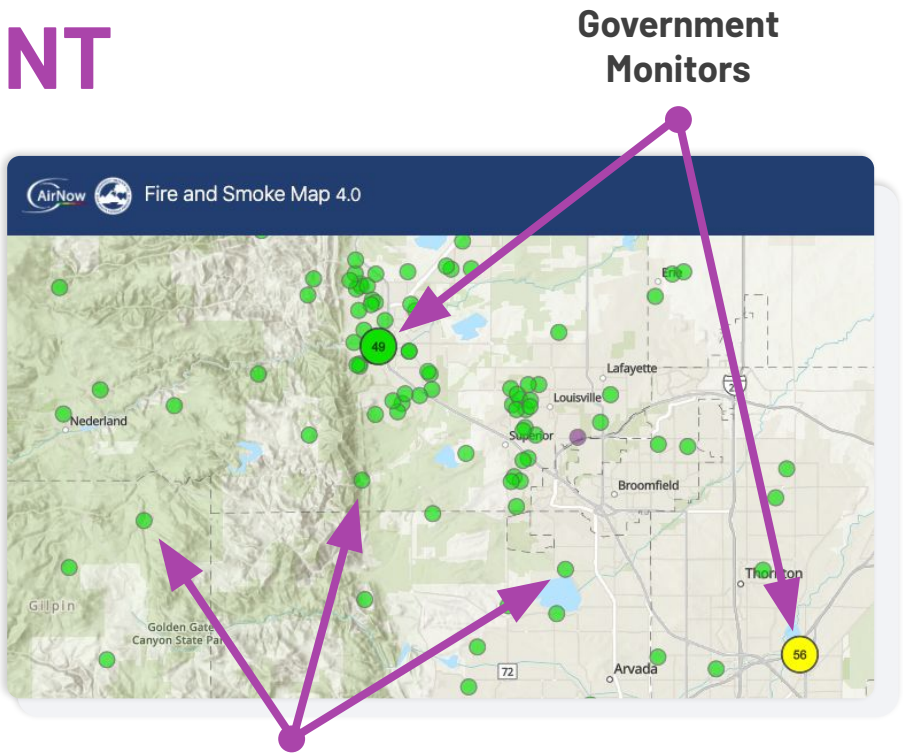
FILLING THE GAPS BETWEEN GOVERNMENT MONITORS

High-Density Network

- Their low price makes PurpleAir sensors cost-effective to deploy across various communities
- Can be managed by non-specialist community members

Data Quality and Resolution

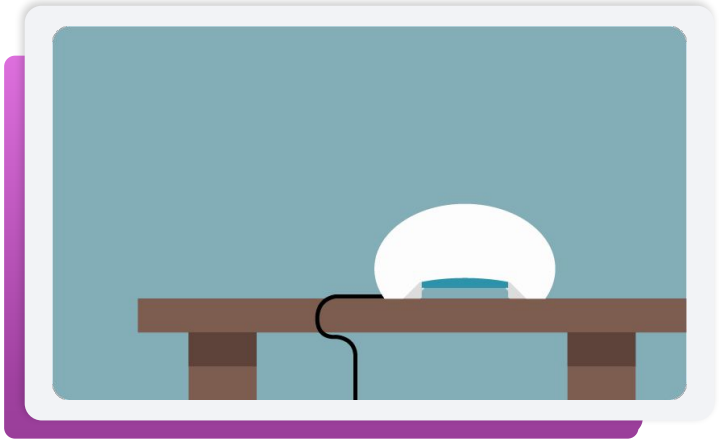
- Algorithms developed by EPA, ECCC, etc., make it possible to align PurpleAir data with FRM/FEM data.
- Real-time updates offer insight on rapid AQ changes when government monitors haven't reported recently.



INDOOR & OUTDOOR AQ DATA

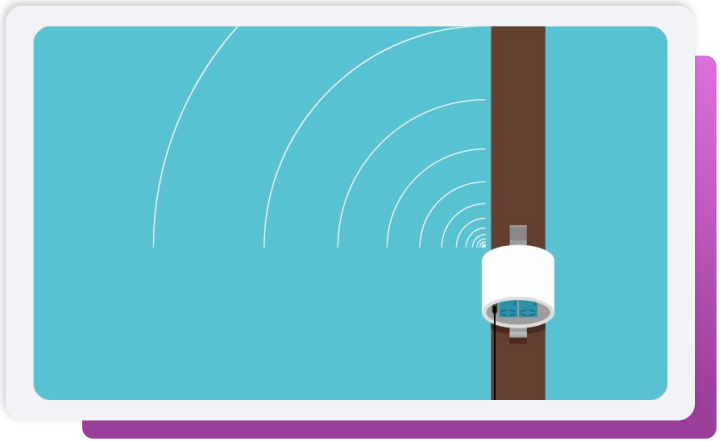
New Frontiers in Air Quality Research

With both indoor and outdoor sensors, PurpleAir is facilitating research into how wildfire smoke infiltrates buildings, providing valuable data that wasn't previously available at this scale.



Infiltration Factor

Knowing how smoke from wildfires moves into homes and other buildings offers insight for effective ways to protect indoor environments.



DEMOCRATIZING AQ DATA

The expansion of the PurpleAir sensor network is fueled by community members who are passionate about air quality.

Community-based efforts tend to be highly successful, as they are driven by those who have a stake in the air quality in their area.