

Baltimore OpenAir



Anna Scott

Air Sensors International 2018



Maryland leads
the US in air
pollution deaths.



RULES CHANGE. THE GAME REMAINS THE SAME.

THE WIRE



Air quality

>

gun violence



**WE DEMAND
FAIR DEVELOPMENT**

Dignity

**Health Care
= Unity**

**No More FAILED
We Demand FAIR DEVELOPMENT**

**No More FAILED
We Demand FAIR DEVELOPMENT**

**No More FAILED
We Demand FAIR DEVELOPMENT**

**No More FAILED
We Demand FAIR DEVELOPMENT**

**No More FAILED
We Demand FAIR DEVELOPMENT**

LOVE SPEED

This could be the site of the nation's largest trash burning incinerator, or it could be the site of largest solar farm on the Eastern Seaboard. ”

DESTINY WATFORD / UNITED STATES

READ MORE >



Owings Mills

Towson

Perry Hall



Randallstown

Pikesville

Parkville

N02

Milford Mill

Overlea

Lochearn

03

Rossville

Woodlawn

PM2.5

Rosedale

Baltimore

Essey

Ellicott City

Catonsville

Dundalk

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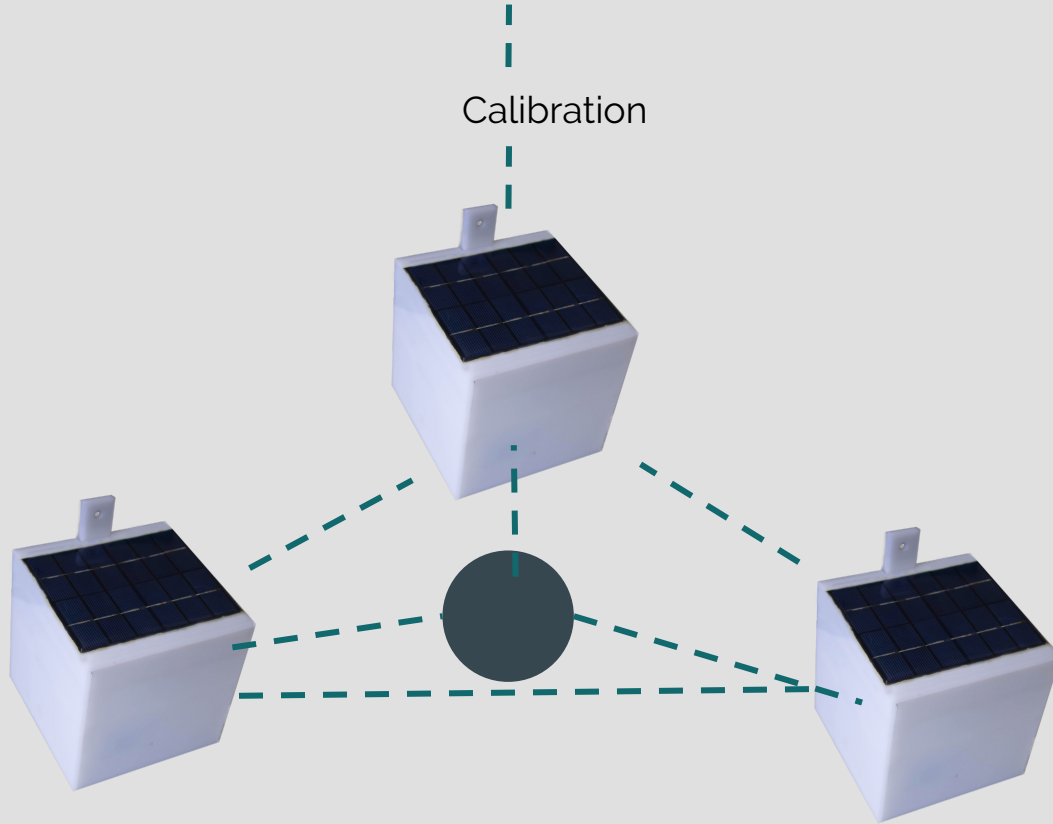
Greater Baltimore OpenAir



A community-based air monitoring network

Cloud Database

Calibration



How did we do it?

- 1) Recruit partners
- 2) Design tech
- 3) Build tech
- 4) Calibrate
- 5) Deploy

1) Recruit Partners

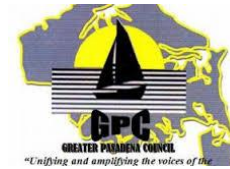
Partners



SmartCity Air Challenge



**Baltimore Office
of Sustainability**
People • Planet • Prosperity

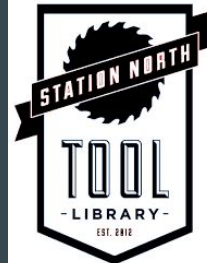


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CivicWorks
Baltimore's Service Corps





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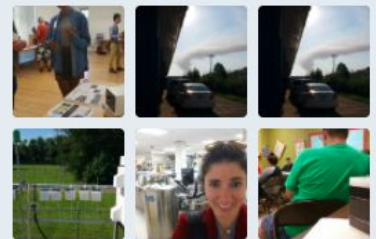
Baltimore Open Air

@BmoreOpenAir

An outdoor air quality monitoring network for Greater Baltimore, working with citizen scientists, communities, scientists, and engineers to monitor our air.

Baltimore, MD
baltimoreopenair.github.io
Joined January 2017

20 Photos and videos



Tweets Tweets & replies Media

Pinned Tweet
Baltimore Open Air @BmoreOpenAir · Aug 23

Interested in hosting a WeatherCube air quality monitor in your community? Request one here: goo.gl/forms/pTJKv64A... #citizenscience

altimore Open Air sites

altimore Open Air sites is a public project of the Baltimore Open Air project. It is a collection of sites where air quality monitors are being deployed. The project is a collaboration between the Baltimore Open Air project and the Baltimore Open Air project. The project is a collaboration between the Baltimore Open Air project and the Baltimore Open Air project.

openurl:*

https://

Baltimore Open Air sites

Are you interested in hosting a WeatherCube, our air quality monitor, for the Baltimore Open Air project? All you need is a steady wireless internet connection (Wi... docs.google.com

5 replies 1 like

Baltimore Open Air @BmoreOpenAir · Dec 4

Transportation now largest source of carbon emissions in the US bloomberg.com/amp/news/artic...

1 reply 1 like

You Retweeted Robert Rohde @rarahde · Nov 7

Replying to @rarahde

How clean is the air on your block? Baltimore 'citizen scientists' build monitors to find out





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Baltimore Open Air

Citizen Scientists Unite!

By SHEILAH KAST & MELISSA GERR • AUG 24, 2017

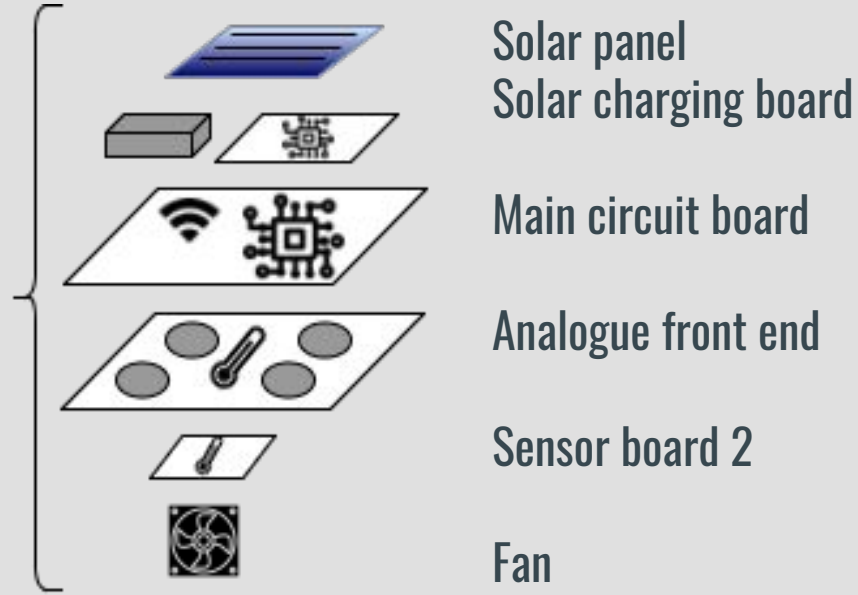
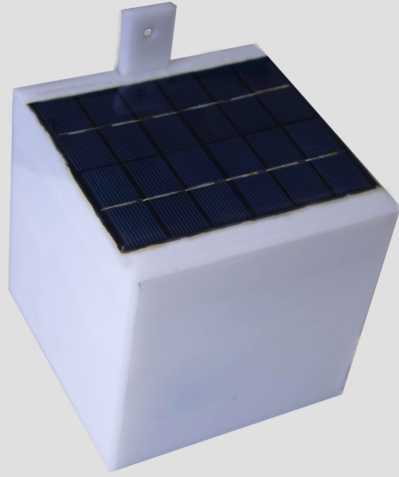


Listen

26:48

Armed with curiosity, patience, and all the right apps loaded onto a smartphone, anyone can become a citizen scientist. We talk with Anna Scott, a climate scientist who's counting on Baltimoreans to help her

2) Design Technology



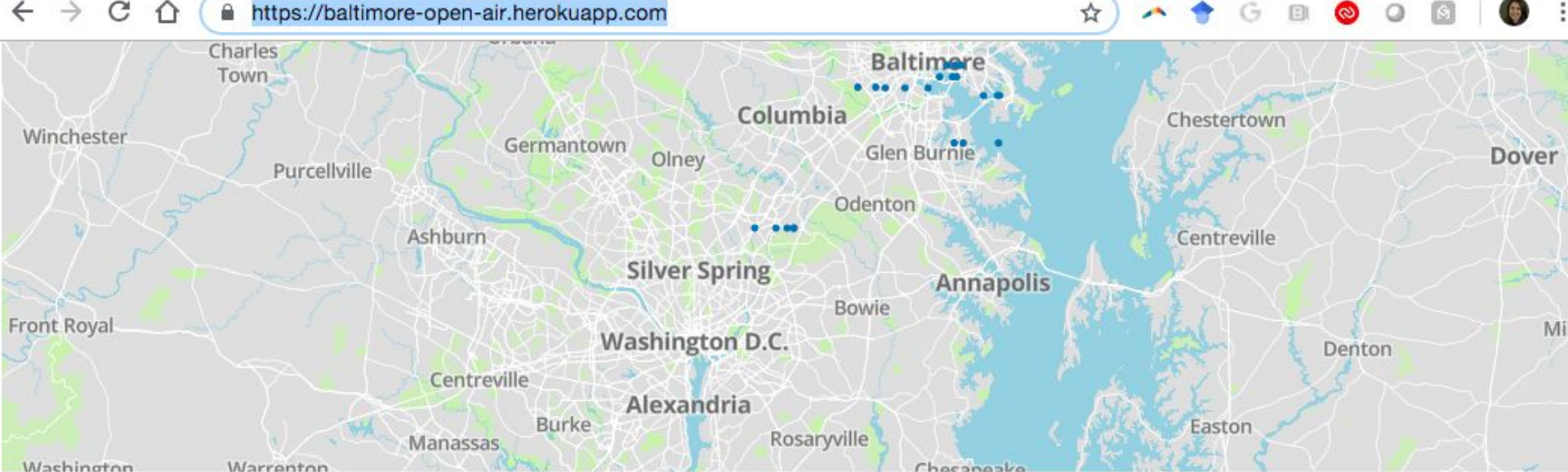
The WeatherCube

measures O₃, NO₂, H₂S, SO₂, temp, & RH



3) Build Technology





Preliminary Ozone Estimates (see below for disclaimer)



4) Calibrate



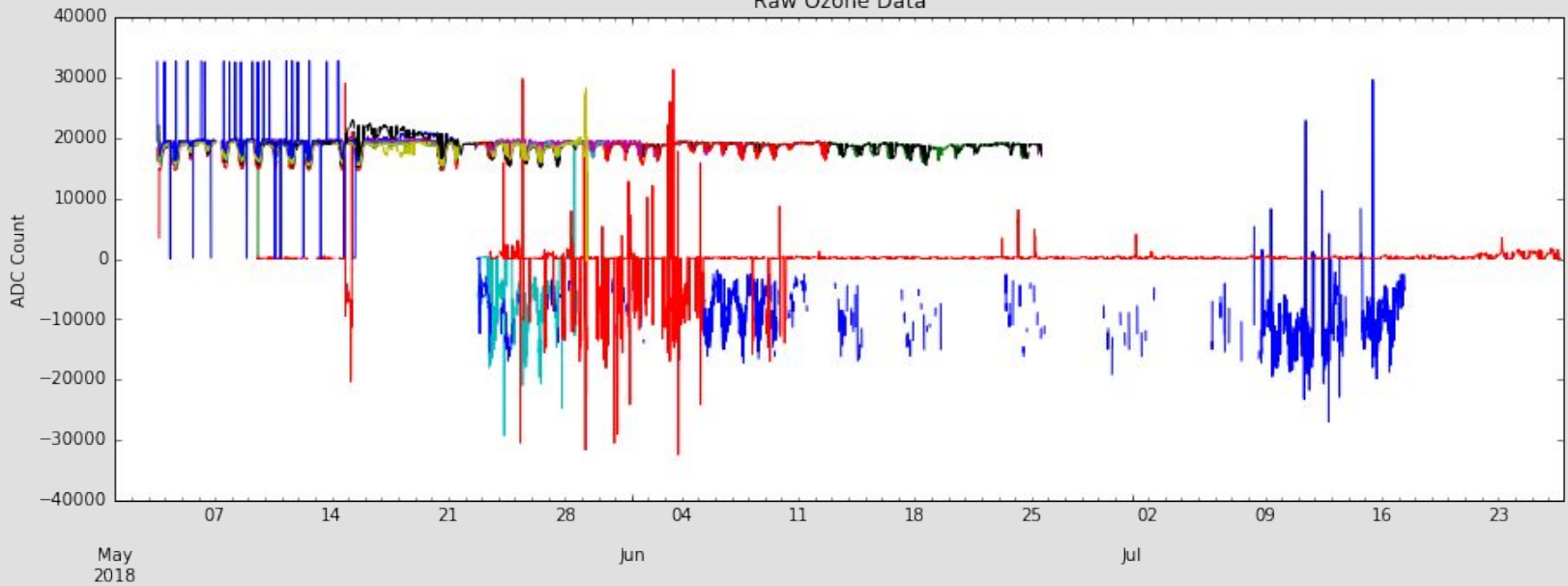
Thermo
SCIENTIFIC

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Parosky 2020

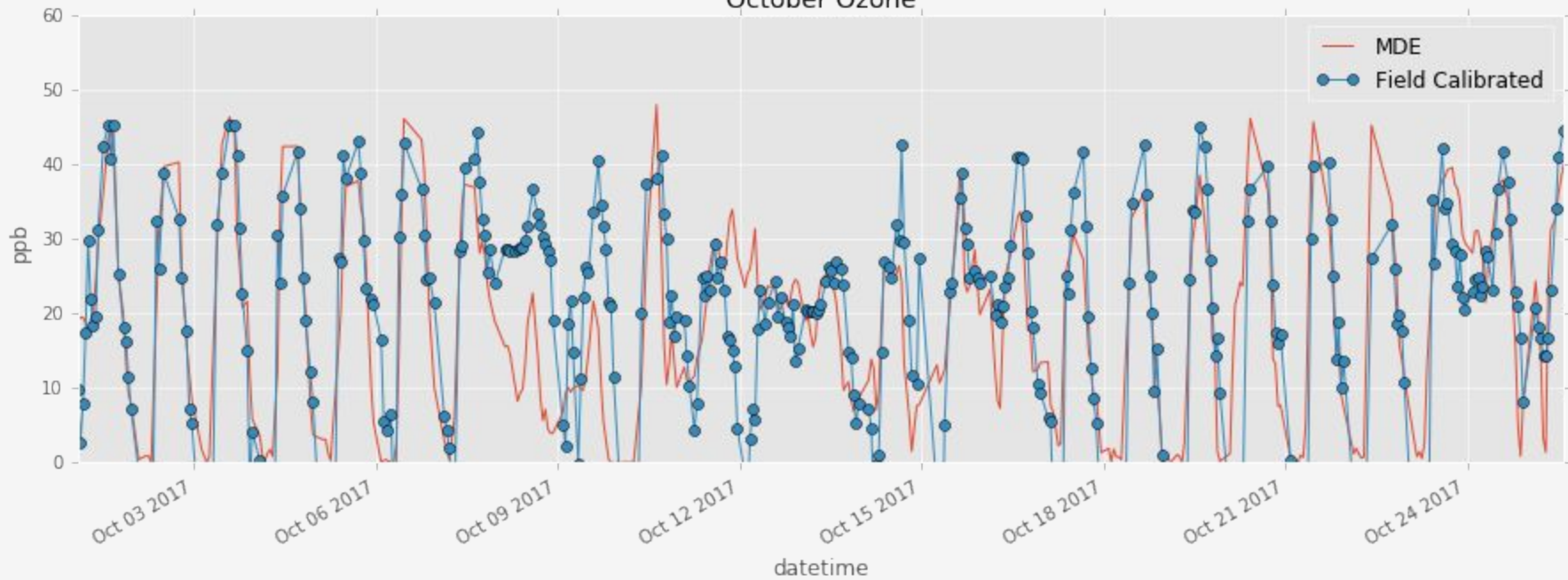


Raw Ozone Data

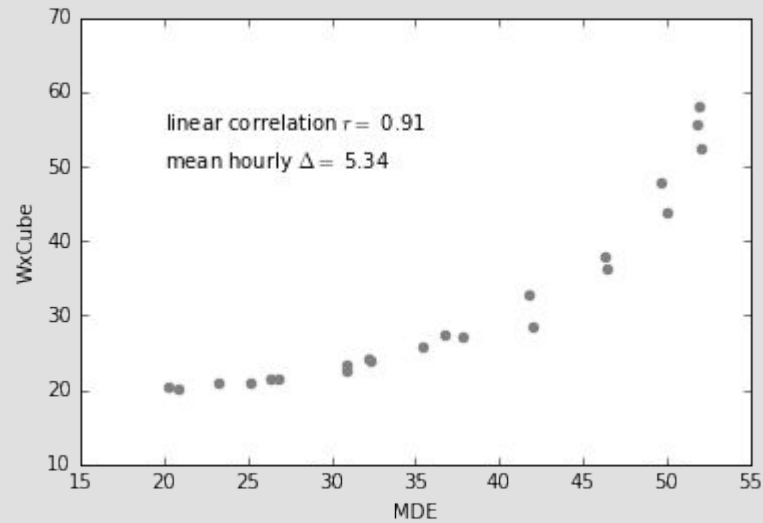
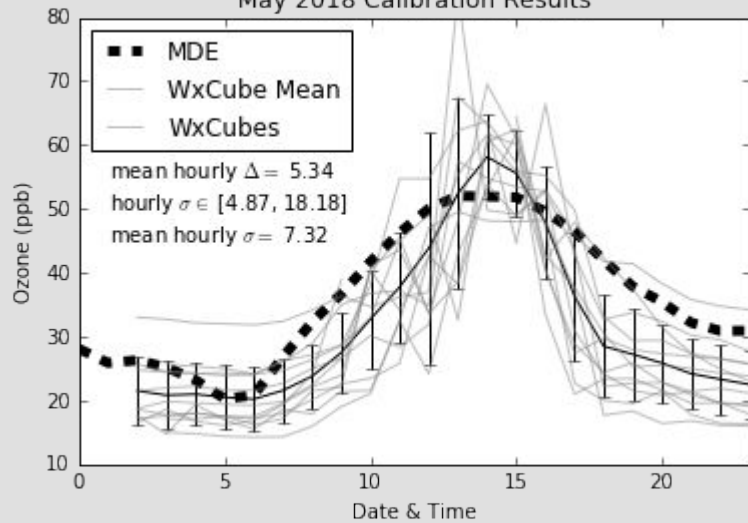


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|-----|-----|
| 14 | 94 |
| 46 | 67 |
| 99 | 79 |
| 22 | 71 |
| 80 | 87 |
| 83 | 93 |
| 92 | 106 |
| 98 | 104 |
| 109 | 78 |
| 72 | 91 |
| 70 | 82 |

October Ozone



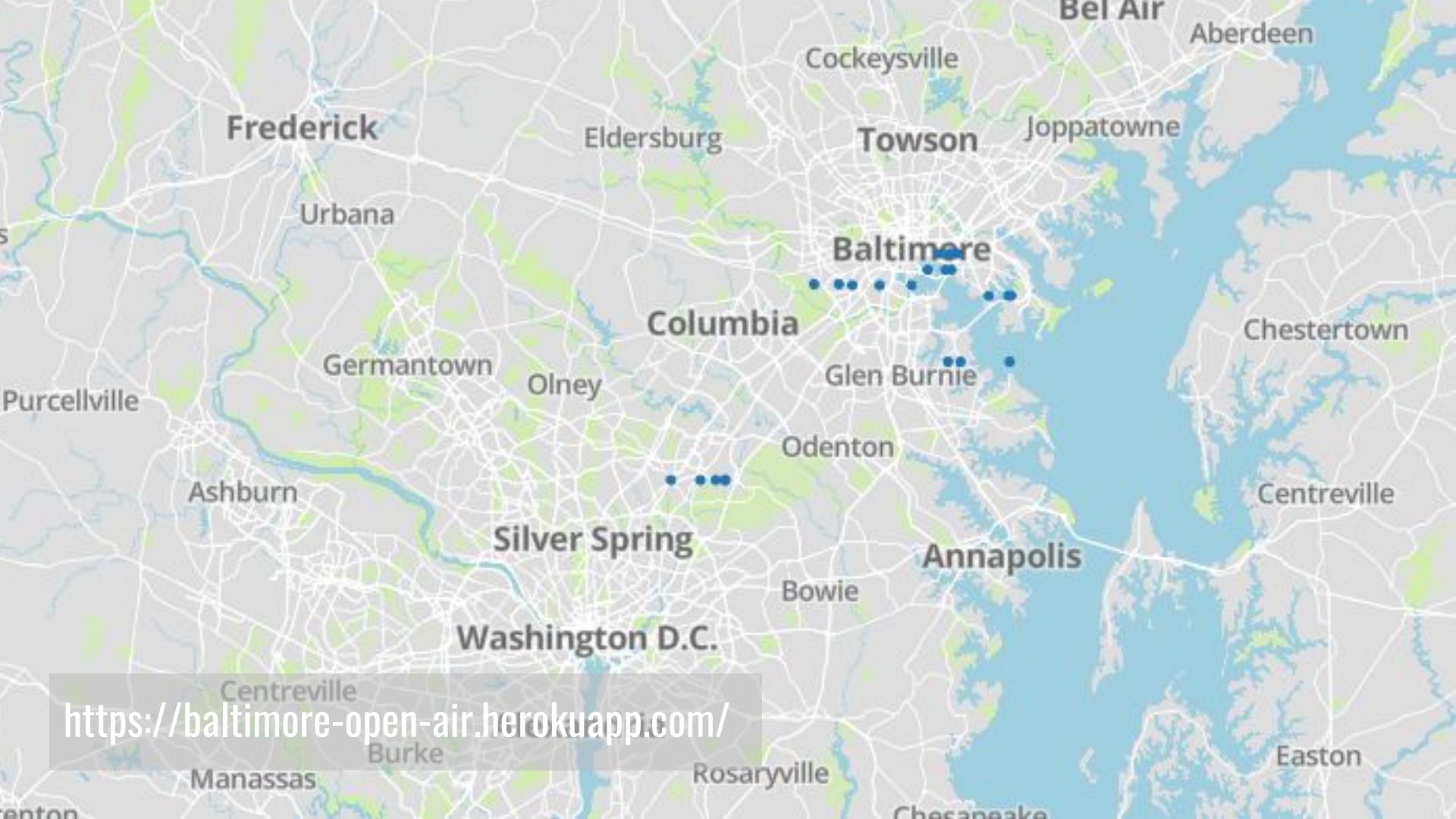
May 2018 Calibration Results



5) Deploy

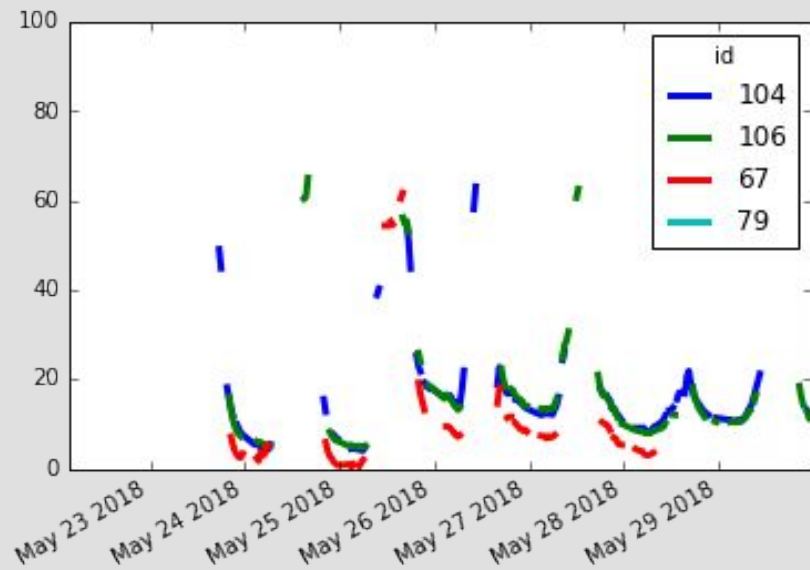
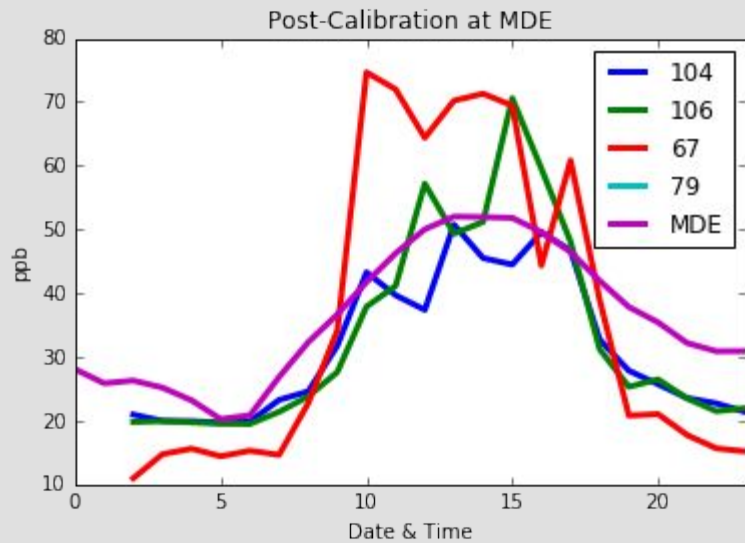


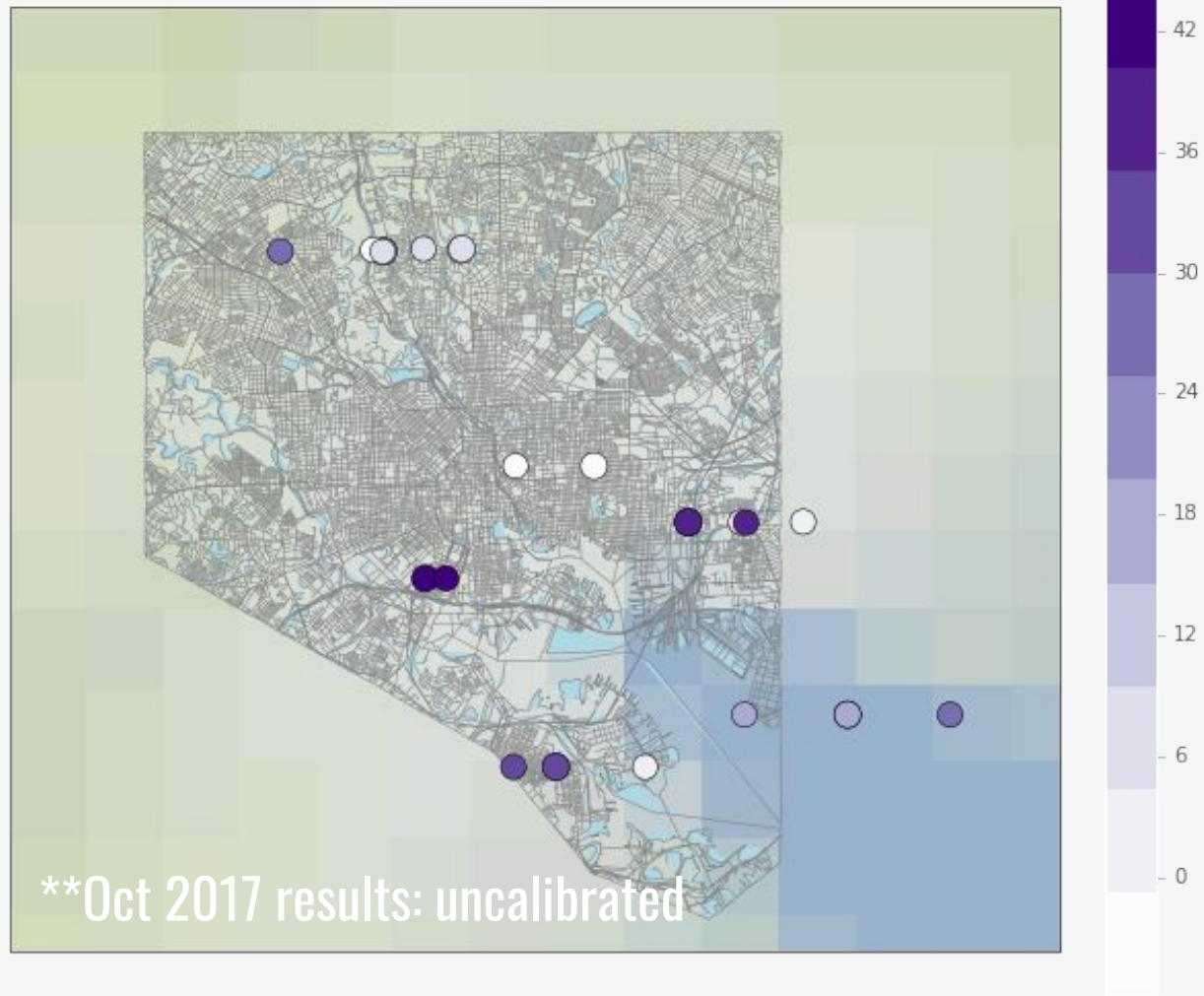




<https://baltimore-open-air.herokuapp.com/>

Results





Baltimore OpenAir



@BmoreOpenAir

anna@meetclair.com