

Find address or place

Map navigation icons: Zoom In, Zoom Out, Home, Full Screen, Print, Layers, Full Screen, Print, Layers, Full Screen, Print

**Legend** ✕

**EJScore**

EJScore

0 - 0.5
0.51 - 0.75
0.76 - 0.9
0.91 - 1
No Data

# Park Equity Mapper v2.0:

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**Maryland Institute for Applied Environmental Health**  
**Maryland School of Public Health**  
**February 18, 2020**

# Outline

*Funded by grant #306-10B 14-19-2531 CZM 153 from  
Maryland Department of Natural Resources and NOAA*

## Background

Environmental Justice  
EJ & Mapping  
Tool Development

**COMMUNITY  
ENGAGEMENT,  
ENVIRONMENTAL  
JUSTICE, &  
HEALTH**

[ceejhlab.org](http://ceejhlab.org) | [@ceejhlab](https://twitter.com/ceejhlab)



## Updating the Tool

Improvements (demo)  
Limitations  
Future Steps



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ENVIRONMENTAL HEALTH

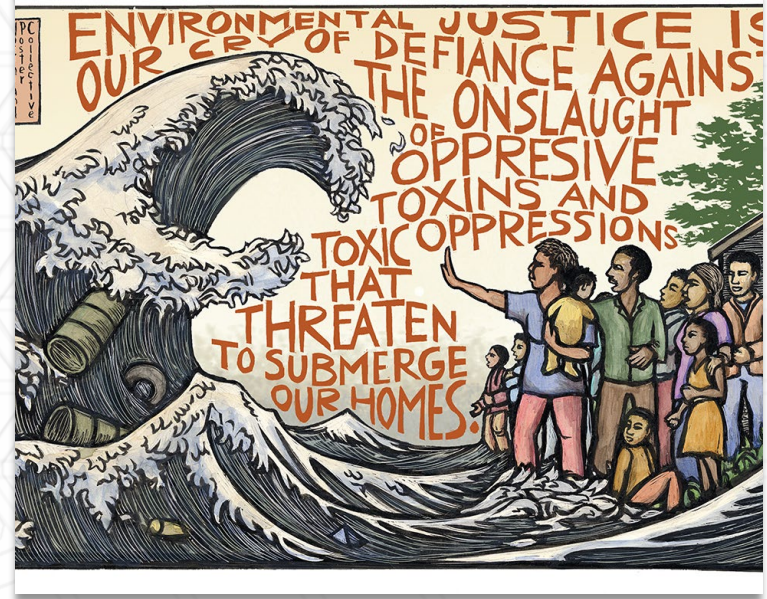


CENTER FOR GEOSPATIAL  
INFORMATION SCIENCE

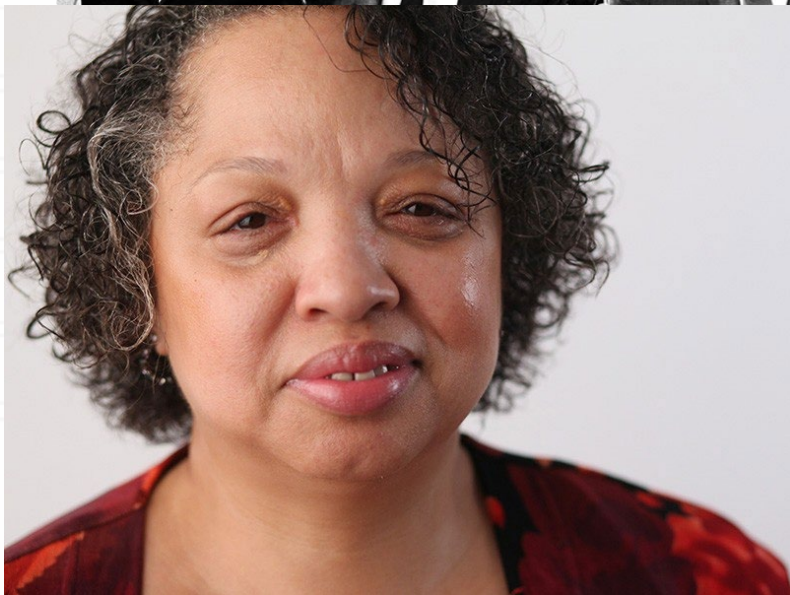
# Environmental Justice (EJ)

“Environmental Justice is the fair treatment and **meaningful involvement** of all people regardless of race, color, national origin, or income with respect to the **development, implementation, and enforcement** of environmental laws, regulations, and policies.”

--United States Environmental Protection Agency







# DUMPING IN DIXIE



Race, Class, and  
Environmental Quality

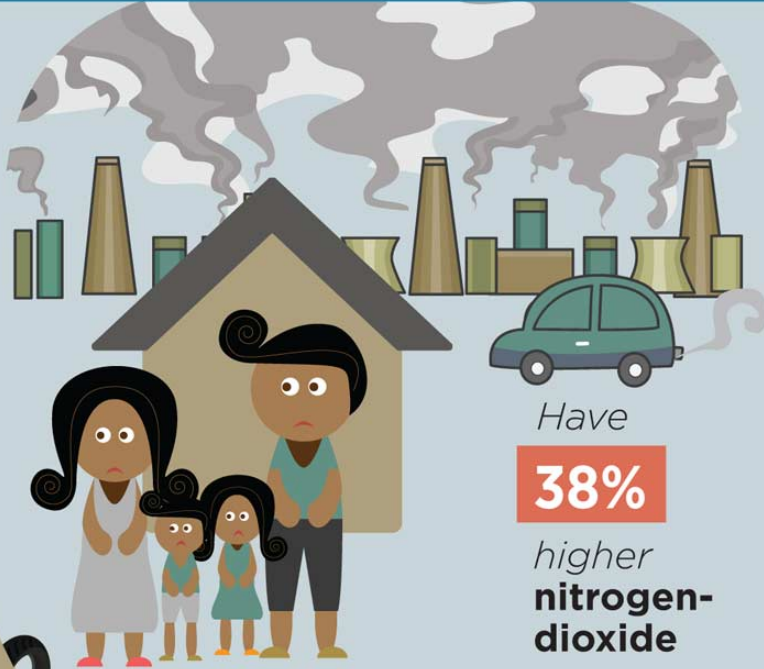
Robert D. Bullard

# Environmental Racism Is Nothing New

Race is the most significant predictor of a person living near contaminated air, water, or soil.

**56%**

*of the population near toxic waste sites are people of color.*



*People of color:*

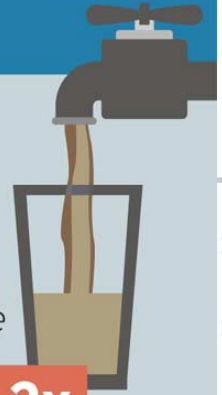
**38%**

*Have higher nitrogen-dioxide exposure.*

*Are*

**2x**

*more likely to live without potable water and modern sanitation.*



**THE NATION**  
150  
INVESTIGATING PROGRESS SINCE 1865

*Have seen*

**95%**

*of their claims against polluters denied by the EPA.*

*All models are wrong  
but some are useful*



George E.P. Box

*All **maps** are wrong,  
but some are useful*



Michael W. Binford



All **maps** are wrong,  
but some are useful

SO WHY  
USE THEM  
FOR EJ?



Michael W. Binford



# E.g., Superfund Sites in the US

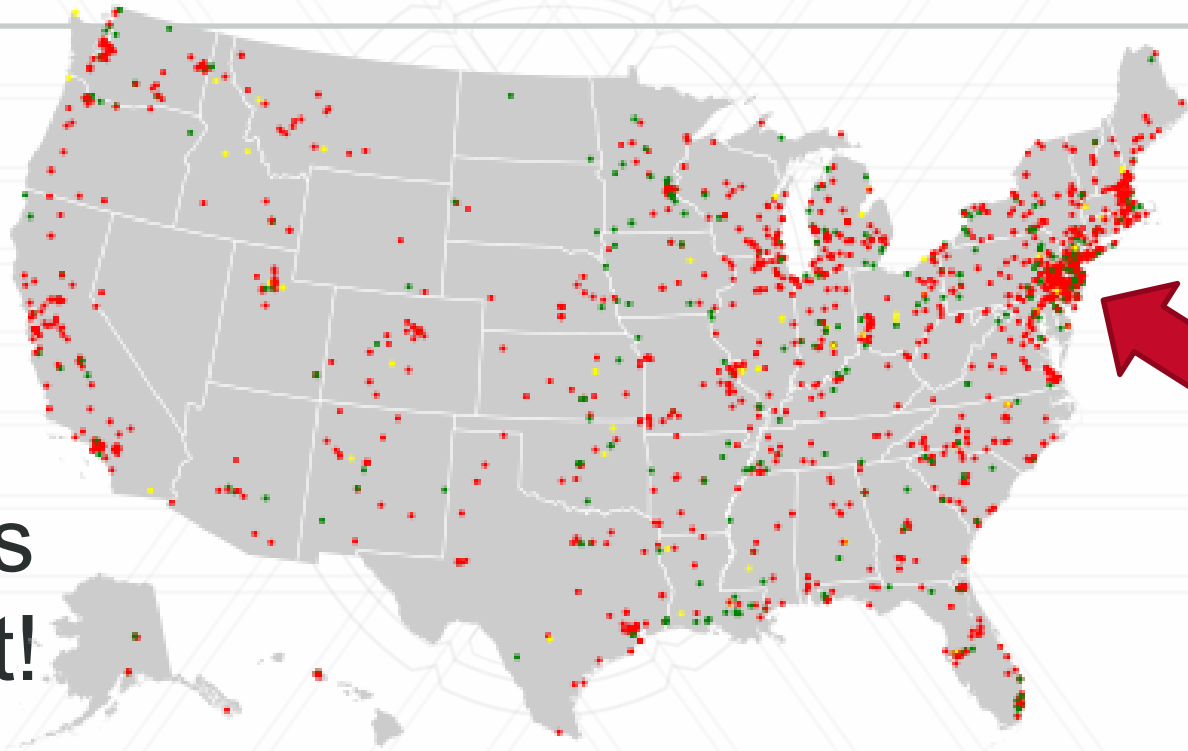
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- 1344 total
- Top 5 States
  - 116 in NJ
  - 98 CA
  - 95 PA
  - 93 NY
  - 69 MI

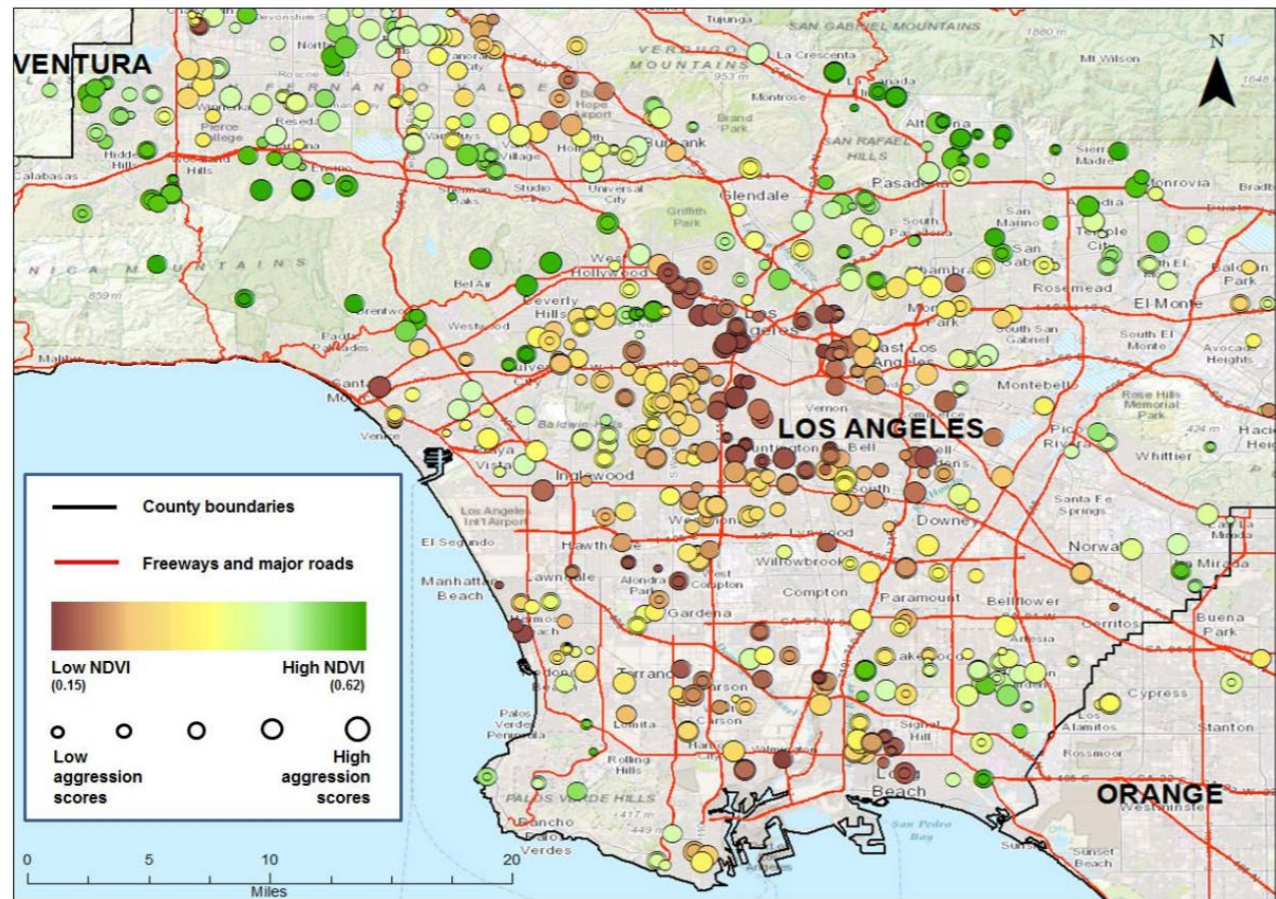


# A Map Is Worth 1,344 Hazardous Sites

Spatial  
Context is  
Important!



- Participants living near the highest quartile of green space (1000m buffer) were more likely to be:
  - White
  - Higher SES household
  - Have a better perception of neighborhood quality
  - Be born to non-smoking mothers



[https://www.niehs.nih.gov/research/supported/translational/peph/webinars/green\\_spaces/urban\\_green\\_space\\_disparities\\_and\\_health\\_508.pdf](https://www.niehs.nih.gov/research/supported/translational/peph/webinars/green_spaces/urban_green_space_disparities_and_health_508.pdf)

# Purpose

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## Park Equity Mapper:

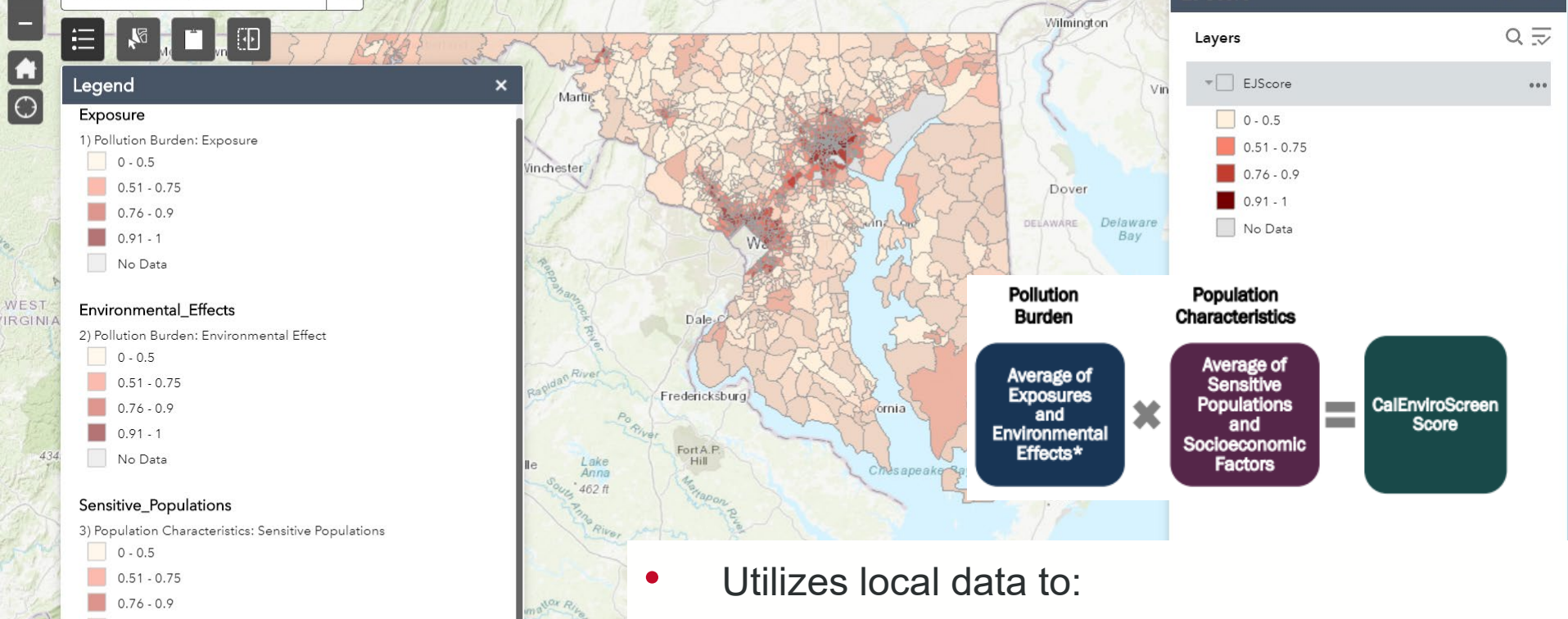
“...provide an initial quantitative tool to extend public access to nature to underserved communities, foster community connections, and grow future stewards of our natural world.”

– *DNR Park Equity webpage*

## Maryland EJSCREEN:

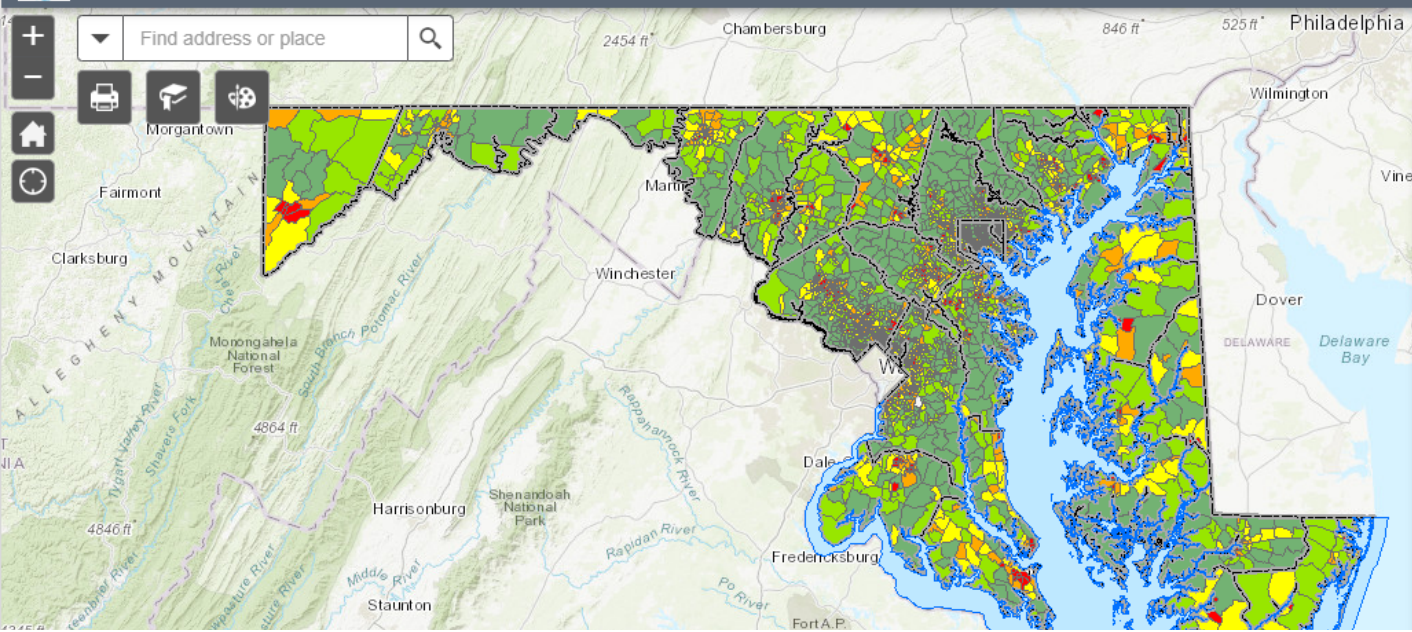
Allow users to explore layers of environmental justice concern, determine the overall ‘EJ Score’ for census tracts in the state, and view additional context layers relevant to their area of concern or story they would like to tell.





# Maryland EJSCREEN

- Utilizes local data to:
  - Determine an EJ Score for each Census tract in MD
  - Compare public health access/risk vs socioeconomics in environmental justice communities
  - Make tool potentially adoptable for state policymaking



**About**

This interactive map is a tool to identify areas across the state in need of public park space. This analysis was developed to provide an initial quantitative tool to help expand public access to nature for underserved communities, and to provide a tool that employs national, statewide and local data in a consistent and strategic manner for the state and its local partners.

The analysis is built upon the combination of four data layers, and prioritizes areas in need of park space by

- High concentration of both children under the age of 17, and adults over the age of 65
- High concentration of populations below the poverty line
- High population density
- Low access to public park space

# MD DNR Park Equity Mapper

- 2008: Maryland Partnership for Children in Nature
- 2015/2016 Update:
  - Improved local data
  - Prince George’s Co. data for “park poor” and “under canopied” senior citizens (65+) and minors (<18)

# Natural Point for Collaboration

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- Access to green space is an environmental justice issue
  - **Dozens of peer-reviewed articles point to the individual and social benefits of time-in-nature**
    - Lee, A. C., & Maheswaran, R. (2011). The health benefits of urban green spaces: a review of the evidence. *Journal of public health*, 33(2), 212-222.
  - **Communities of color and low wealth communities have historically had less access to green space—particularly in urbanized areas**
    - Dai, D. (2011). Racial/ethnic and socioeconomic disparities in urban green space accessibility: Where to intervene?. *Landscape and Urban Planning*, 102(4), 234-244.

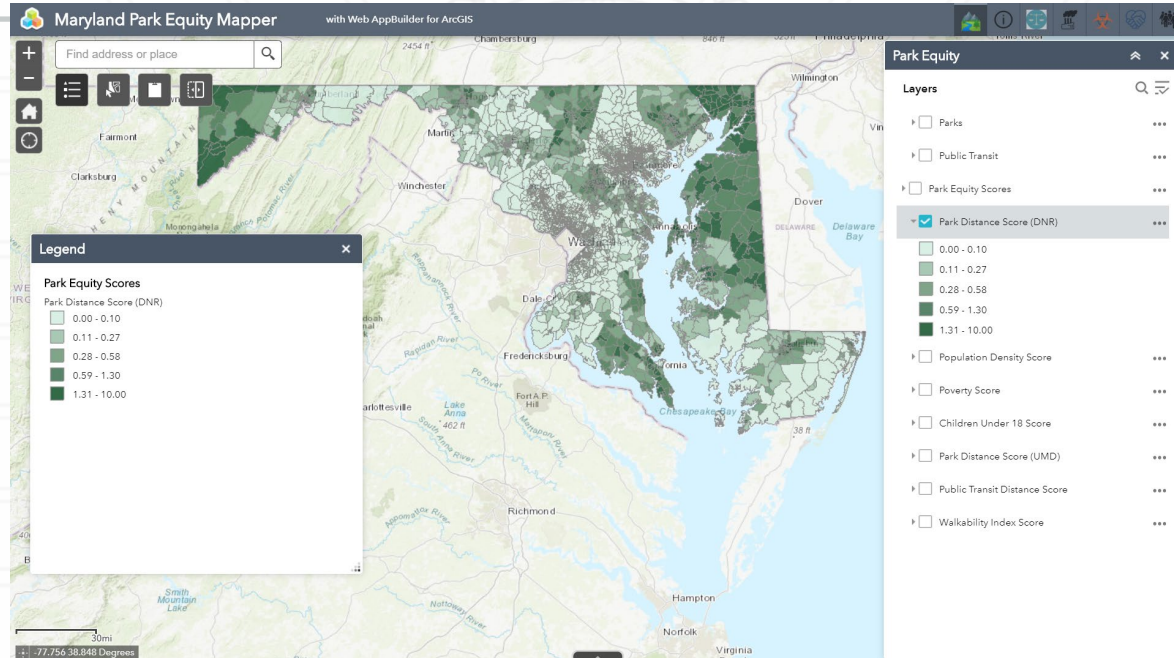
# Stated Project Goals (Phase 1)

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- Model analysis
  - Combined score =  
Concentration of Children (0-10) + Concentration of Low Income (0-10) +  
Density (2 x (0-10)) + Proximity to Park Space (4 x (0-10)) x 1.25
  - Engaging communities to validate scoring model that represents lived experiences of underrepresented populations
- Expand/improve geospatial data used
  - Groundtruthing LPRP dataset
  - Collect complementary public health and infrastructure datasets
- Establish integration of Park Equity Mapper and MD EJSCREEN



# Short Link: [go.umd.edu/parkequitymapper](https://go.umd.edu/parkequitymapper)



(True Link: <https://p1.cgis.umd.edu/ParkEquityEJ/>)

# Next Steps

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- Look & Feel Tweaks
  - Iconography, Color ramps, Orientation & tool tips
- Documentation:
  - Source Data, Metadata, Changelog, Help Guide
- Health and Climate Data
  - Collaborating with sister agencies to gather hospitalization, meteorological, hydrological, and other datasets
- Community Training Workshops/Demos
- Fact sheet on policy applications

**SAVE THE DATE!**

**Registration is  
now open!**



ENVIRONMENTAL JUSTICE

& HEALTH DISPARITIES

**SYMPOSIUM**

**5.9.2020. | 9 - 5:30PM**

**ADELE H. STAMP STUDENT UNION**

**[go.umd.edu/EJSymposium6](https://go.umd.edu/EJSymposium6)**



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