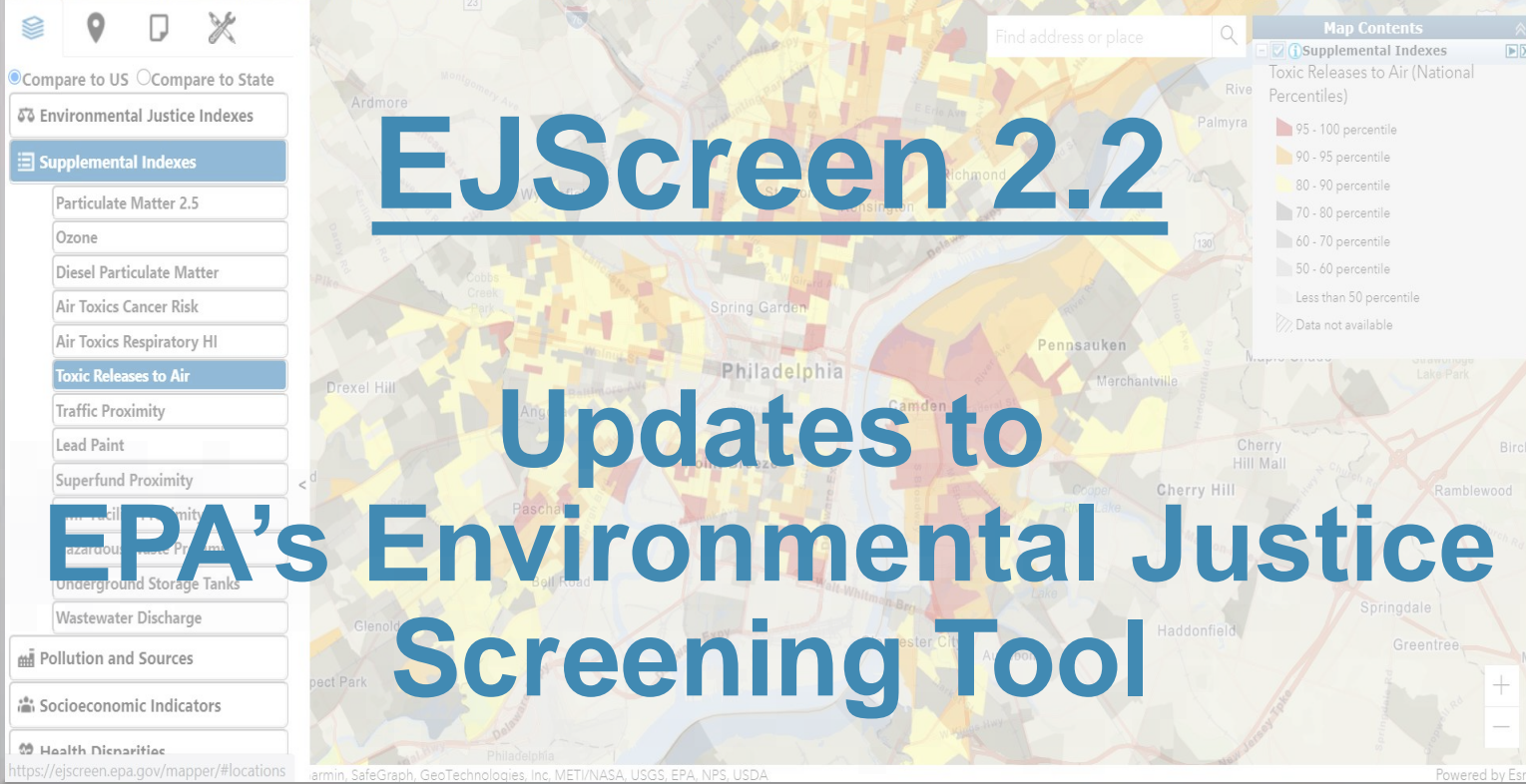
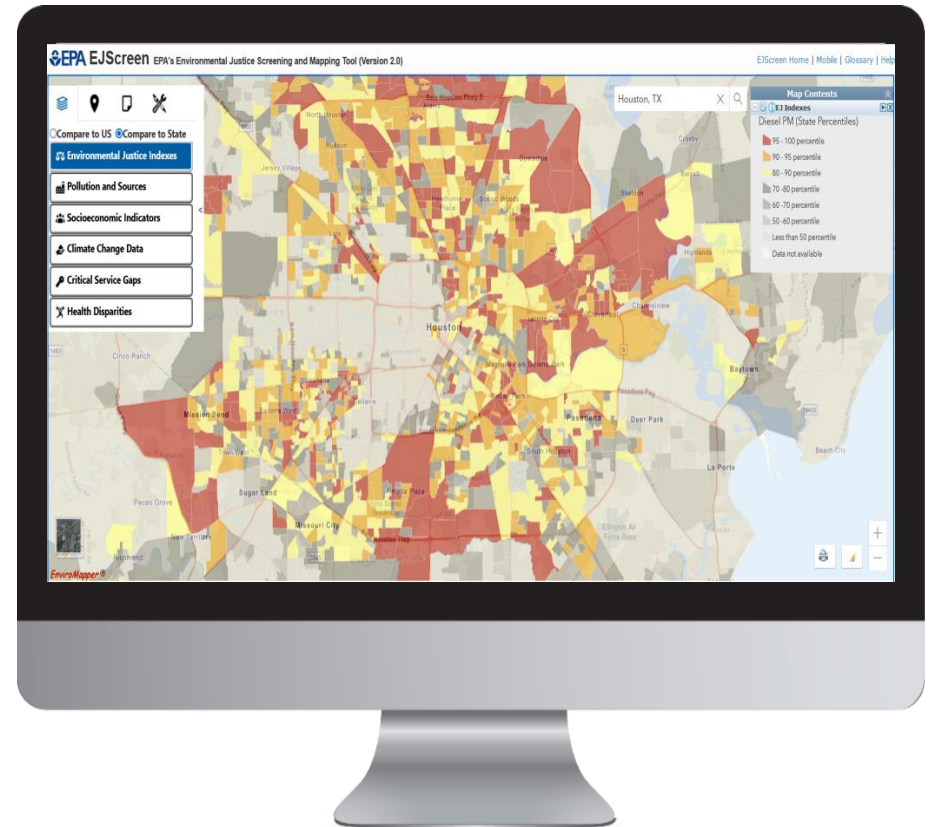


Please note: Territory data (except Puerto Rico) is not available as comparable to the US. It is only comparable to the territory itself by using the 'Compare to State' functionality. Likewise, some of the indicators may not be available for territories.



What is EJScreen?

- EPA's web-based GIS tool for nationally consistent EJ screening and mapping
- Combines environmental and socioeconomic data to highlight areas where vulnerable populations may be disproportionately impacted by pollution
- Starting point for agency considerations of environmental justice



Caveats & Limitations

EJScreen does not cover all environmental or EJ issues

Environmental indicators are mostly screening-level proxies for actual exposure or risk

Indicators vary in vintage

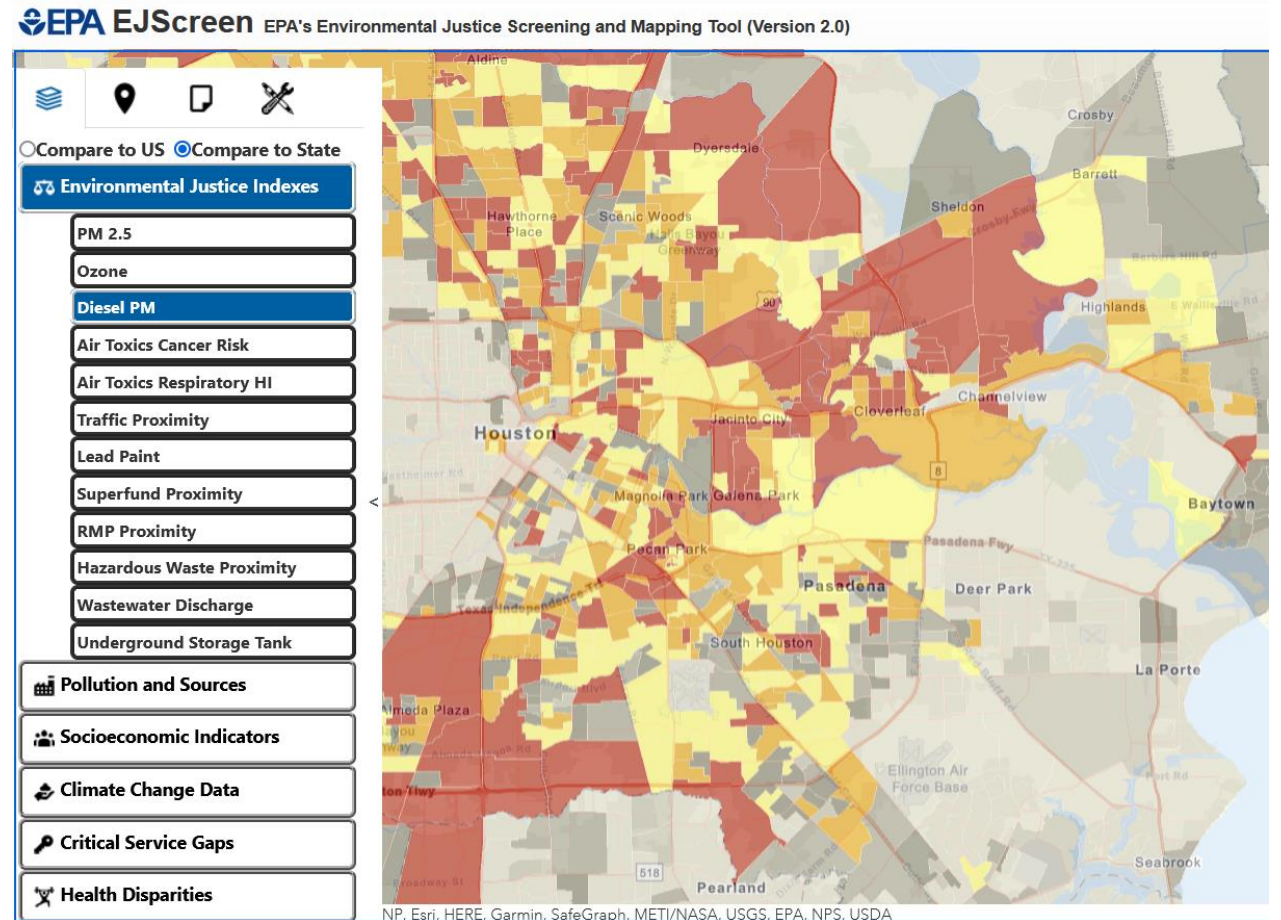
Census data has limitations and can obscure small communities

Results should be verified on the ground when possible

EJScreen is not a designation tool; does not label “EJ communities”

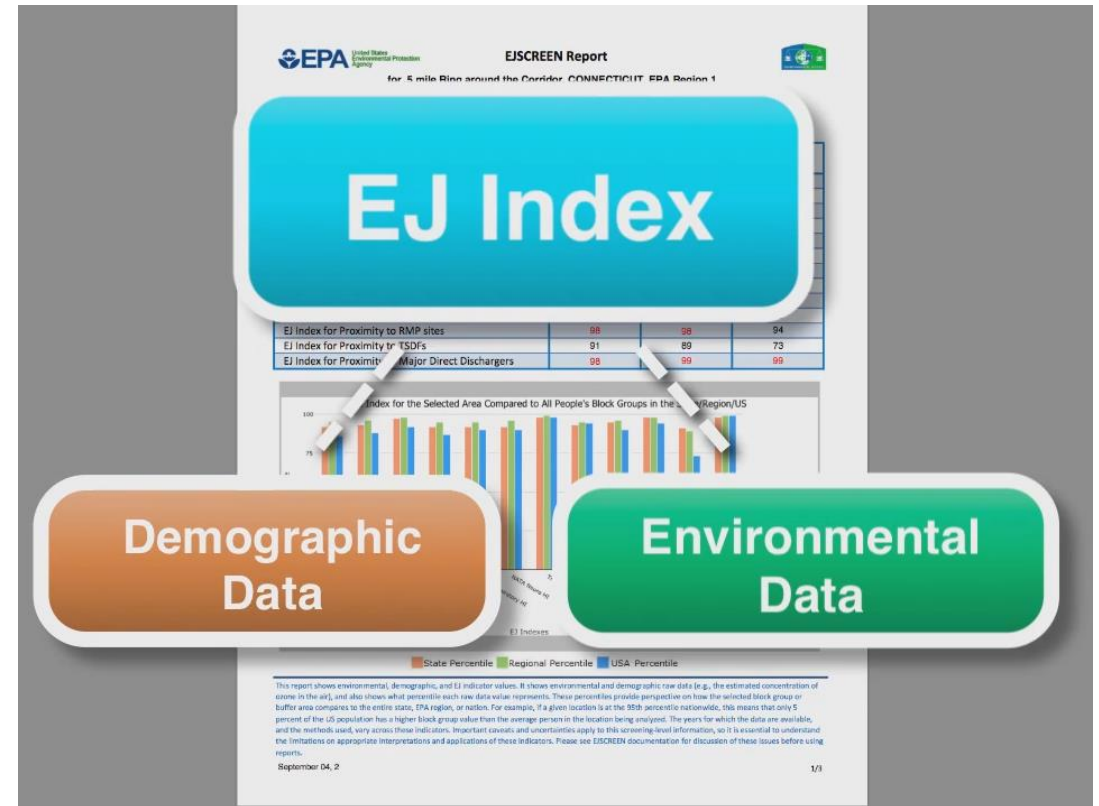
EJScreen Key Features

- Annually updated environmental data
- Annually updated demographics – from most recent U.S. Census Bureau American Community Survey (ACS)
- Highest resolution data available
- Ability to download data
- Accessibility / ease of use
- Advanced analytical capabilities



Primary EJScreen Datasets

- **EJ Indexes (13)**
- **Supplemental Indexes (13)**
- **Environmental (13 indicators)**
- **Socioeconomic (7 indicators)**
- **Health (5 indicators)**
- **Climate (4 indicators)**
- **Critical Service Gaps (5 indicators)**



EJScreen v2.2 Updates

- All environmental datasets updated
- Updated socioeconomic data to ACS 2017 – 2021
- New environmental indicator and associated indexes called “Toxic Releases to Air”, based on TRI data
- EJScreen Standard Report rebranded the EJScreen Community Report
 - new data and features in one report
- New datasets:
 - Persons with disabilities
 - Cancer
 - Lack of health insurance, as a replacement for medically underserved
 - Housing burden
 - Transportation access
 - Facilities compliance status

UNITS OF ANALYSIS



United States



State

primary governmental divisions of the United States.



County

Largest divisions within states.



Census Tract

Collection of Census block groups, mostly between 1,200 and 8,000 people.



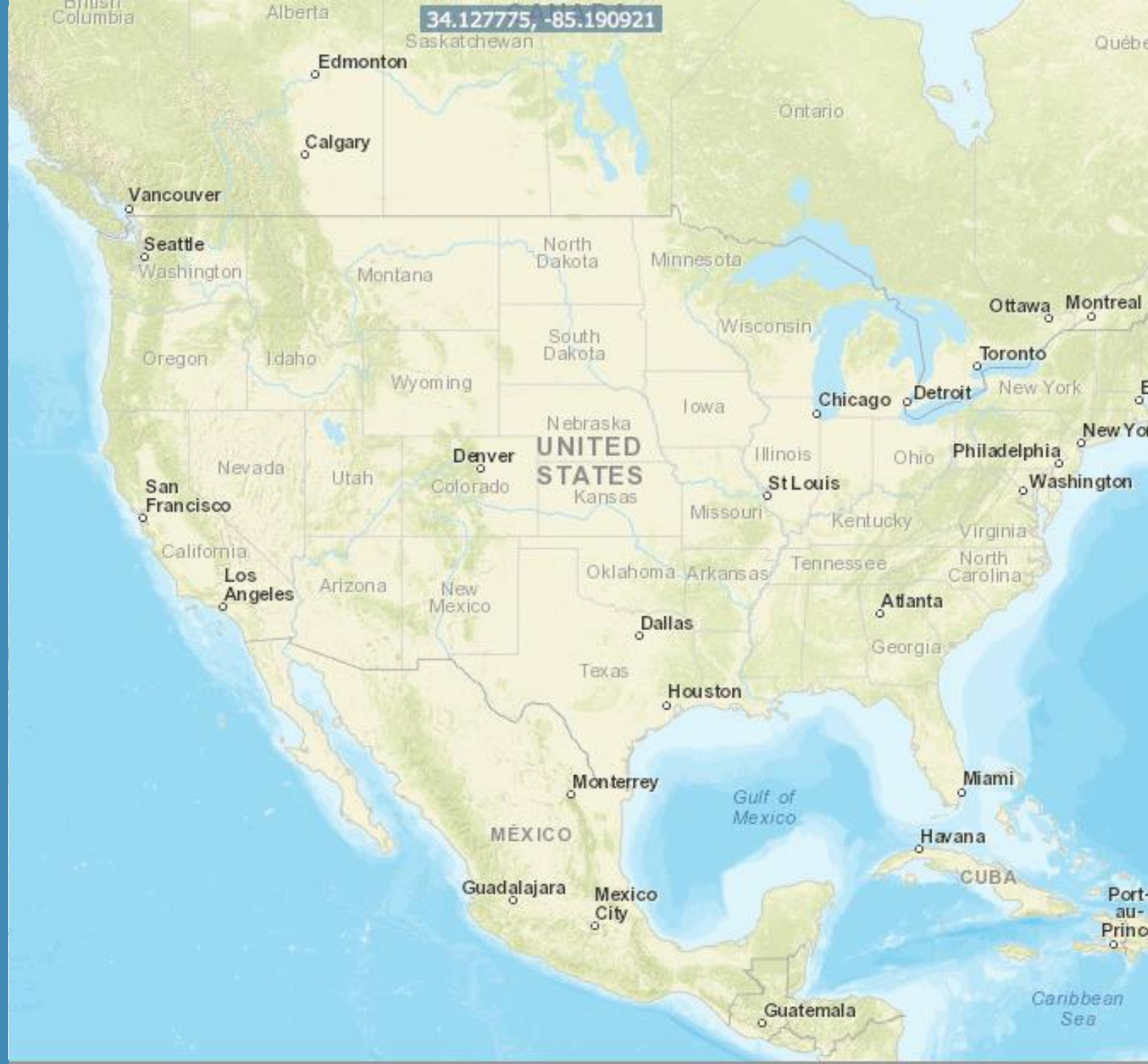
Block Group

Collection of residential blocks, mostly, between 600 and 3,000 people.



Block

Residential block, bounded on all sides by streets.



Environmental Indicators

Indicator	Description	Year
Particulate matter 2.5	Annual average of PM 2.5 levels in the air	2019
Ozone	Ozone summer seasonal avg. of daily maximum	2019
Diesel particulate matter	Diesel particulate matter level in air	2019
Air toxics cancer risk	Lifetime cancer risk from inhalation of air toxics	2019
Air toxics respiratory hazard index	Air toxics respiratory hazard index (ratio of exposure concentration to health-based reference concentration)	2019
Toxic Releases to Air	RSEI modeled toxicity-weighted concentrations in air of TRI listed chemicals.	2021
Traffic proximity and volume	Count of vehicles on major roads, divided by distance in meters	2020

Environmental Indicators (cont'd)

Indicator	Description	Year
Lead paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure	2017 - 2021
Superfund proximity	Count of proposed or listed NPL - also known as Superfund - sites within 5 km, each divided by distance in kilometers	2022
Risk management plan facility proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km, each divided by distance in kilometers	2022
Hazardous waste proximity	Count of hazardous waste facilities (TSDFs and LQGs) within 5 km, each divided by distance in kilometers	2022
Underground storage tanks (UST) and leaking UST (LUST)	Count of LUSTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500-foot buffered block group	2022
Wastewater Discharge Indicator	RSEI modeled Toxic Concentrations at stream segments within 500 meters, divided by distance in kilometers	2020

Socioeconomic Indicators

Indicator	Definition
People of color	Individuals who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino
Low-Income	Households income is less than or equal to twice the federal "poverty level"
Unemployment	All those who did not have a job at all during the reporting period, made at least one specific active effort to find a job during the prior 4 weeks, and were available for work (unless temporarily ill).
Limited English Speaking	Households in which all members age 14 years speak English less than "very well" (have difficulty with English)
Less than high school education	People age 25 or older whose education is short of a high school diploma
Under age 5	People in a block group under the age of 5
Over age 64	People in a block group over the age of 64

All Socioeconomic Data comes from the **2017-2021 ACS**

Demographic Indexes

- EJScreen now features two different indexes based on socioeconomic data

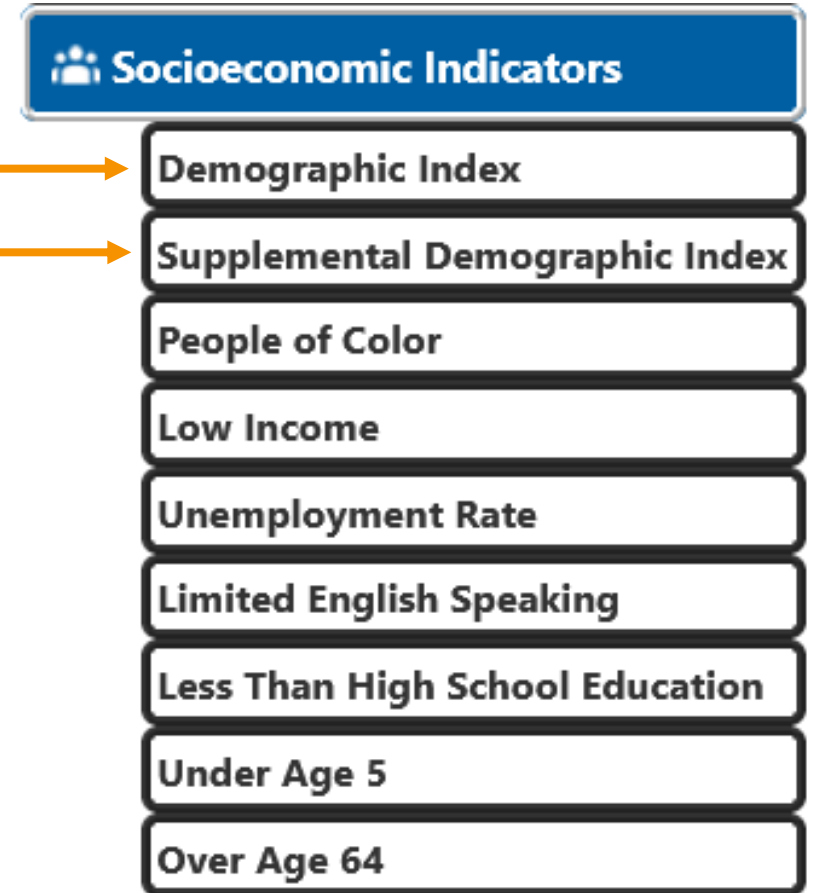
- **Demographic Index**

- % Low Income
- % People of Color

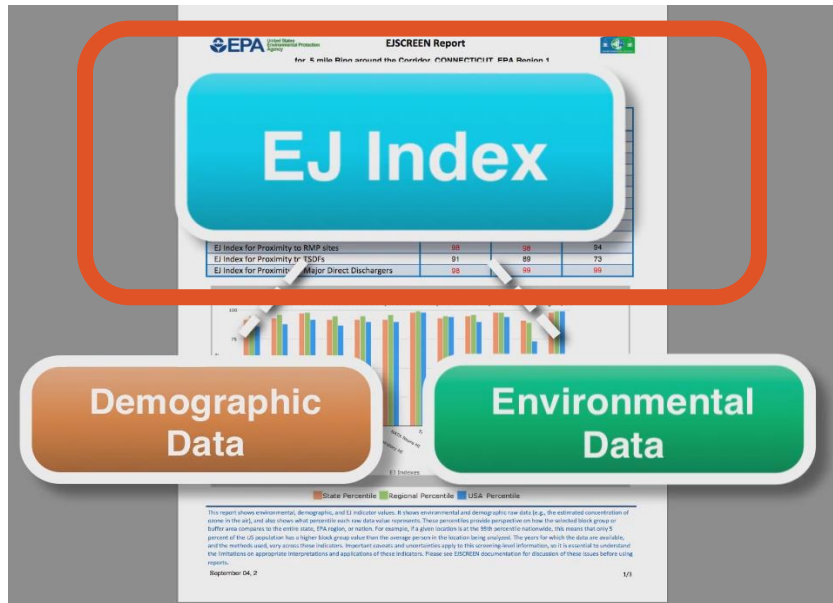
- **Supplemental Demographic Index**

- % Low Income
- % Unemployed
- % Limited English Proficiency
- % Less than High School Education
- Low Life Expectancy

- Indexes offer different perspectives on vulnerable communities



What do the indexes help identify?



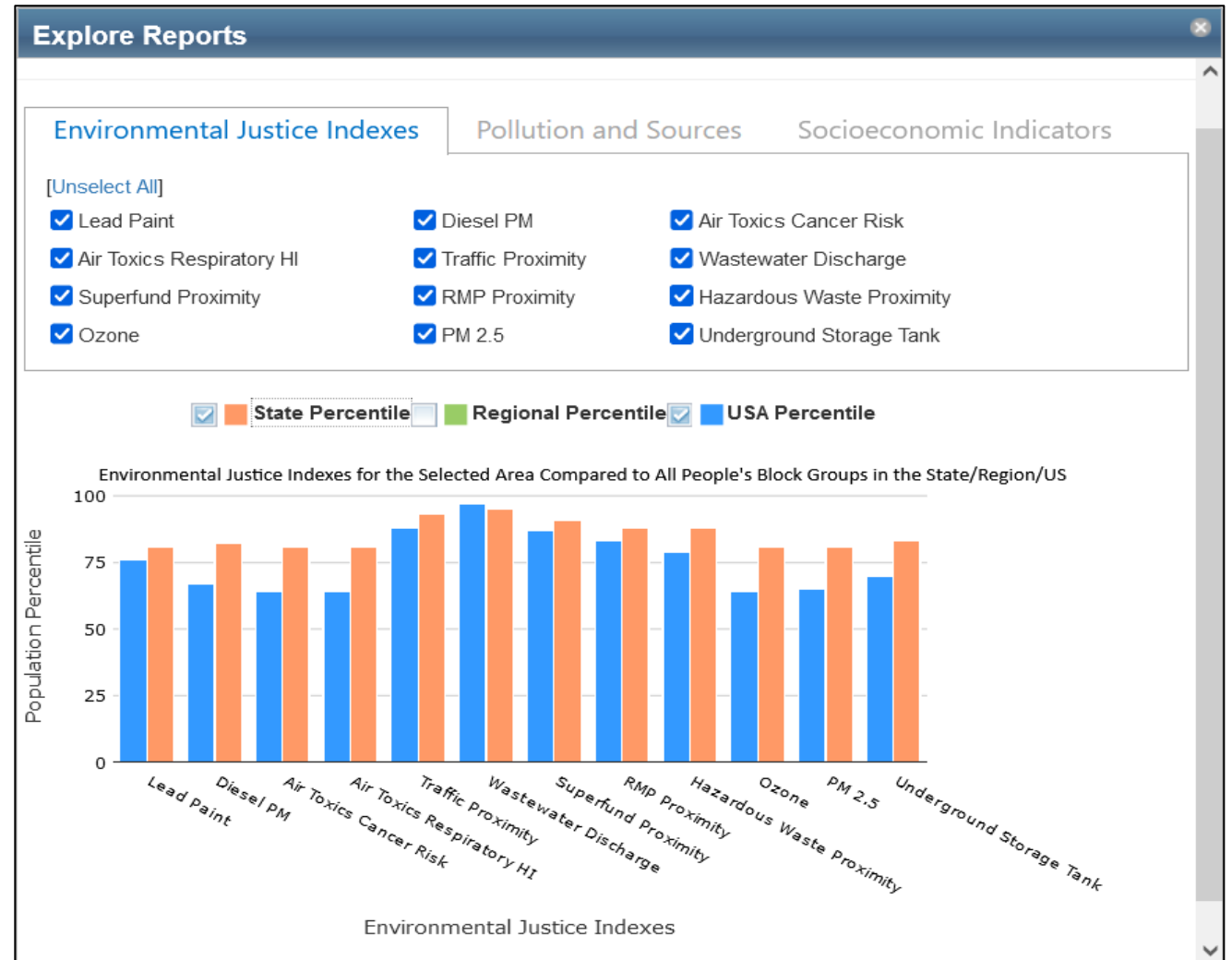
Indexes helps identify areas that may have **higher pollution burdens** and **vulnerable populations** present

$$\text{EJ Index} = \text{Environmental Indicator Percentile} \times \text{Demographic Index}$$

Applies to both EJ Indexes and Supplemental Indexes

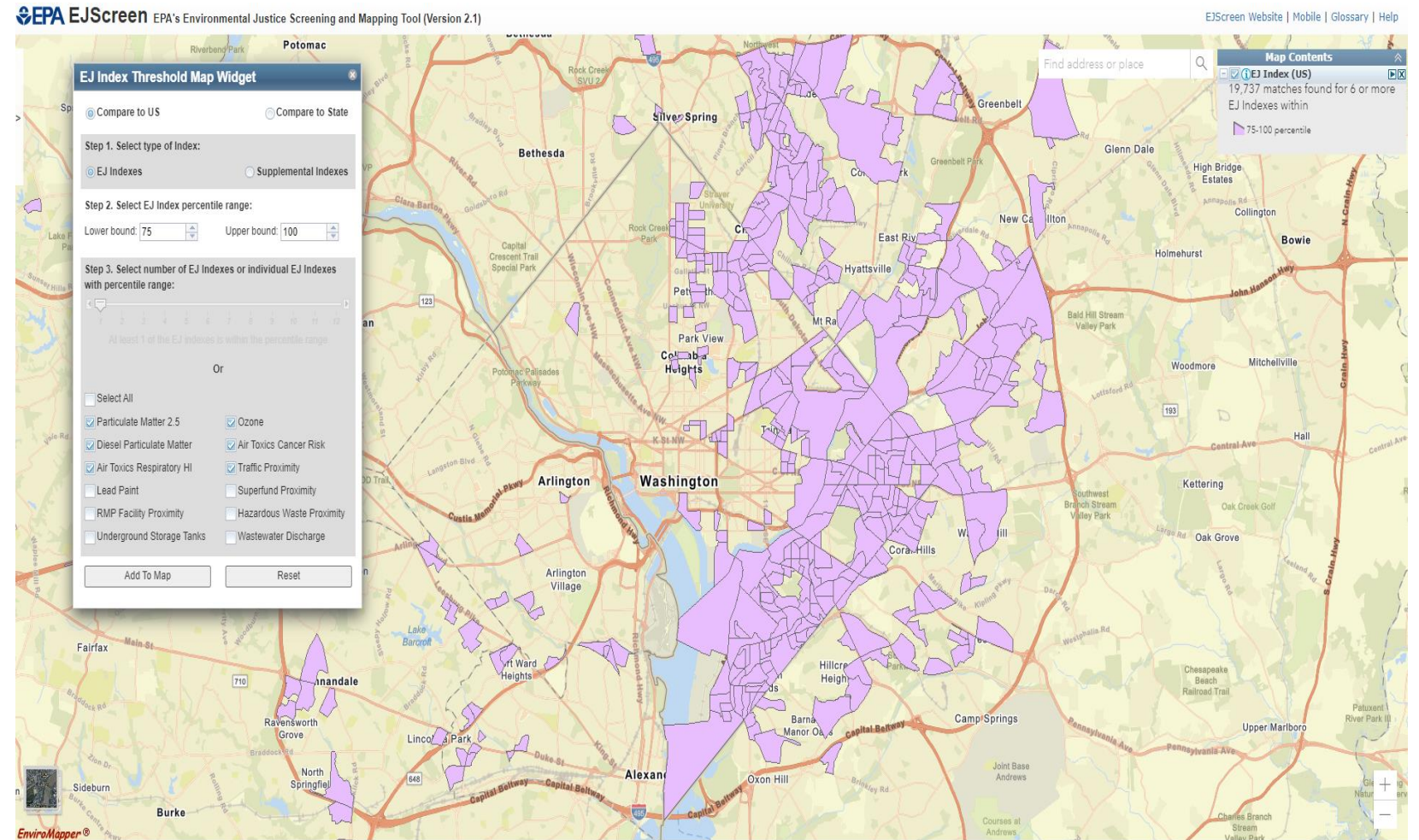
Results are Ranked as Percentiles

- Percentiles put indicators into common units of 0 – 100.
- A place at the 80th percentile nationwide means 20% of the US population has a higher value.
- Ranking values as percentiles allows comparison of indicators measured with different units. It does not mean the risks are equal or comparable.



Threshold Maps

- Allows for user defined thresholds to customize how the results are displayed
- Initial step towards providing a cumulative outlook



Health Indicators

Indicator	Definition
Low Life Expectancy	Average life expectancy
Heart Disease	Heart disease prevalence among adults aged 18 years or older
Asthma	Asthma prevalence among adults aged 18 or older
Cancer	Cancer (excluding skin cancer) prevalence among adults aged 18 or older
Persons with Disability	Percent of all persons with disabilities

All Health indicators are at the Census tract level

Climate Indicators

Indicator	Definition
Wildfire Risk*	Wildfire exposure for any specific location in the contiguous US, today and with the future climate change.
Flood Risk*	Flood model that shows the risk of flooding due to rainfall, riverine flooding, and coastal surge flooding.
100-year Flood Estimates	Estimated 100-year floodplains for the Conterminous US for 2016
Sea Level Rise	Land at risk of permanent flooding when sea level rises.

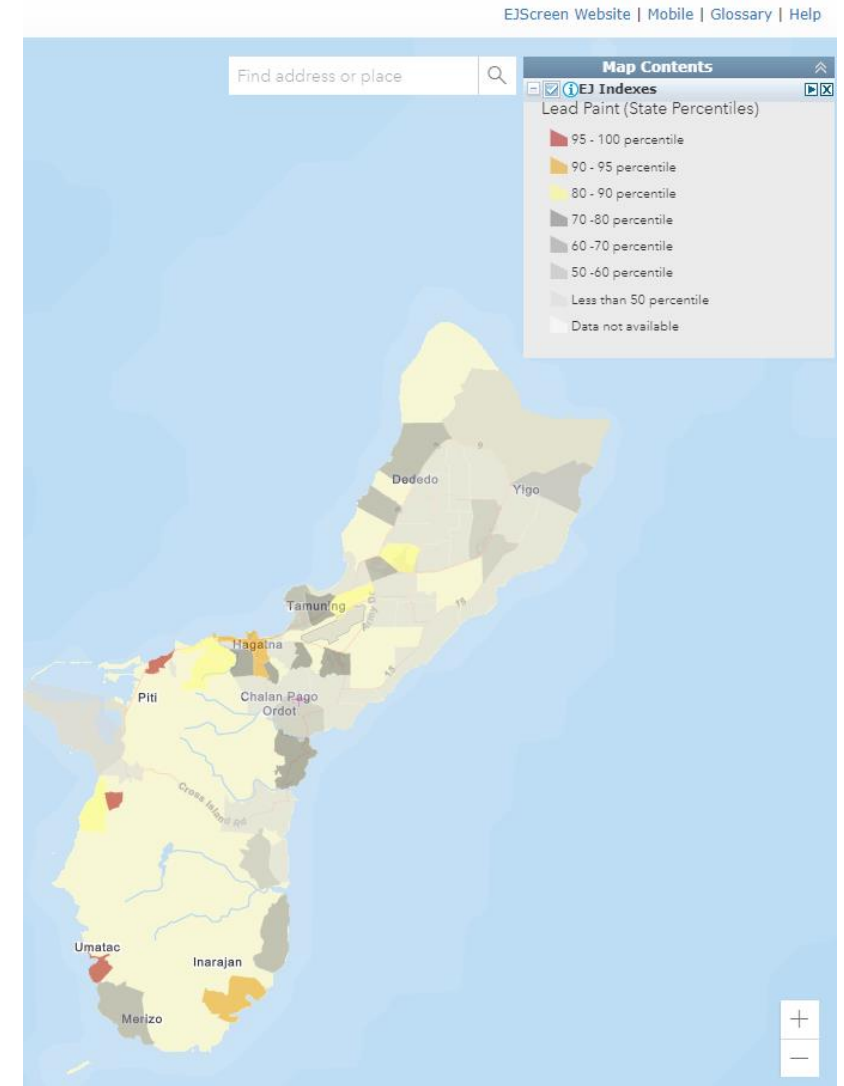
*Data from First Street Foundation

Critical Service Gaps Indicators

Indicator	Definition
Food Desert	Low income and low access to food from USDA
Lack of Health Insurance	Percent of all persons without Health Insurance Coverage
Broadband Internet Gaps	Areas where less than 50% of population has broadband
Housing Burden	Share of households that are both earning less than 80% of HUD's Area Median Family Income and are spending more than 30% of their income on housing costs.
Transportation Access	Average of four transportation-related indicator percentiles, including Transportation Cost Burden, National Walkability Index, Percentage of Households with No Vehicle Available, and Mean Commute Time to Work

Territory Data

- EJScreen features data on **US Virgin Islands, Guam, American Samoa, and Northern Mariana Islands**
- Includes select environmental indicators, demographics & associated indexes
- Important addition for the consideration of EJ in all places within the U.S.
- Data will only be compared at “state” level due to different censuses and available datasets



EJScreen Community Report

- EJScreen Printable Standard Report rebranded the EJScreen Community Report
- Data featured includes:
 - Community socioeconomic
 - Breakdown By Race & Age
 - Language Spoken at Home
 - EJ & supplemental indexes
 - Environmental and socioeconomic raw data
 - Sites reporting to EPA
 - Community features
 - Health, climate & critical service gaps

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	22%	18%	88	20%	78
Heart Disease	7	5.6	90	6.1	69
Asthma	14.1	9.5	98	10	98
Cancer	4	6.1	10	6.1	11
Persons with Disabilities	23%	10.6%	96	13.4%	92

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	4%	11%	44	12%	33
Wildfire Risk	0%	6%	0	14%	0

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	36%	10%	96	14%	93
Lack of Health Insurance	13%	7%	82	9%	77
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Footnotes

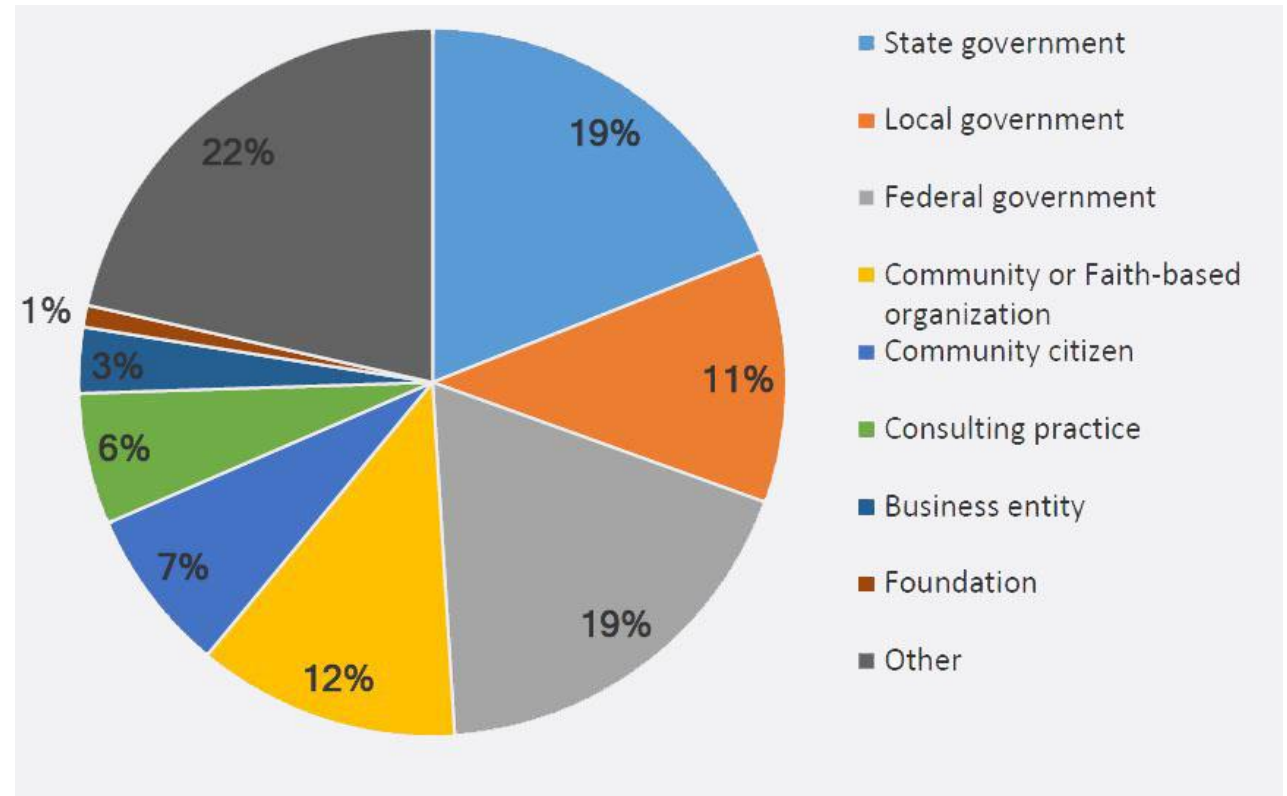
Report for Blockgroup: 340076004001

EJScreen in Action

EPA uses of EJScreen:

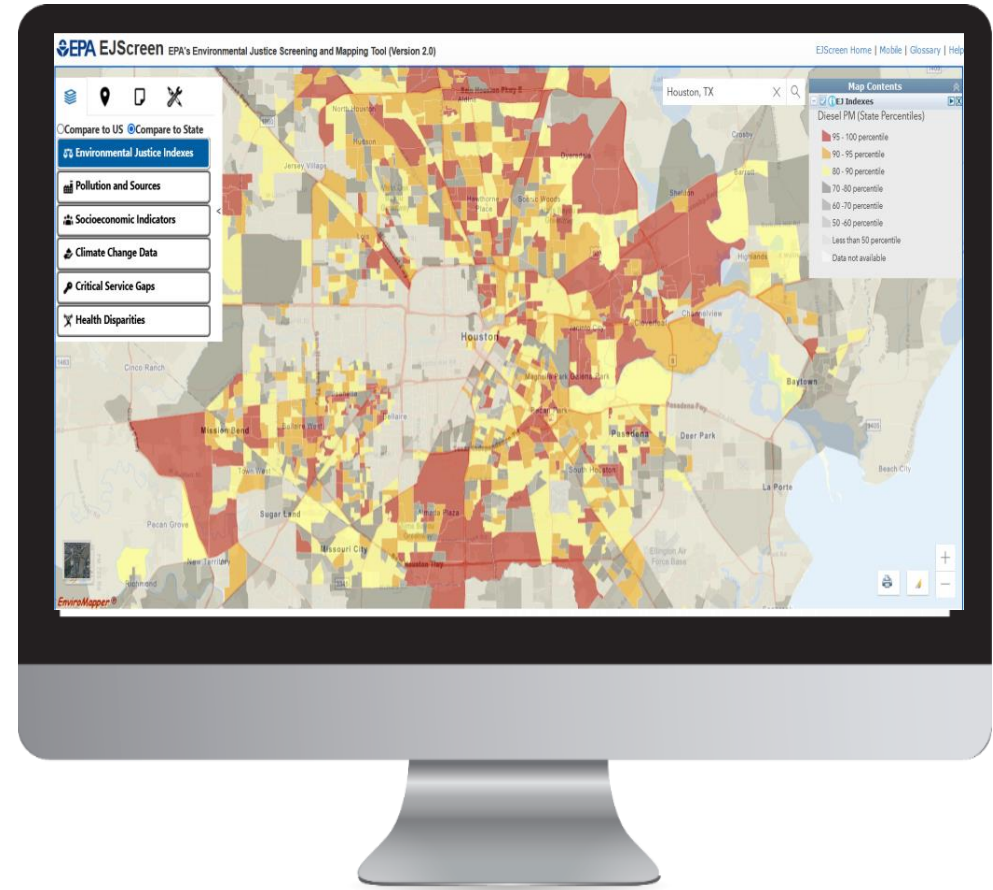
- for public outreach and engagement
- enforcement targeting
- permitting and NEPA reviews
- reviews of grant projects
- other place-based initiatives
- retrospective reporting

Who is using EJScreen outside EPA?



EJScreen Resources

- [EJScreen Website](#)
- [EJScreen Technical Document](#)
- [Trainings and Office Hours](#)
- **Next EJScreen 2.2 Training**
 - July 26th at 12 p.m. E.T.
- [Download EJScreen Data](#)



Questions?

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Office of Environmental Justice and External Civil Rights

LIVE DEMO



[Click to access EJScreen Tool](#)