Environmental Justice Webinar Series for Tribes and Indigenous Peoples
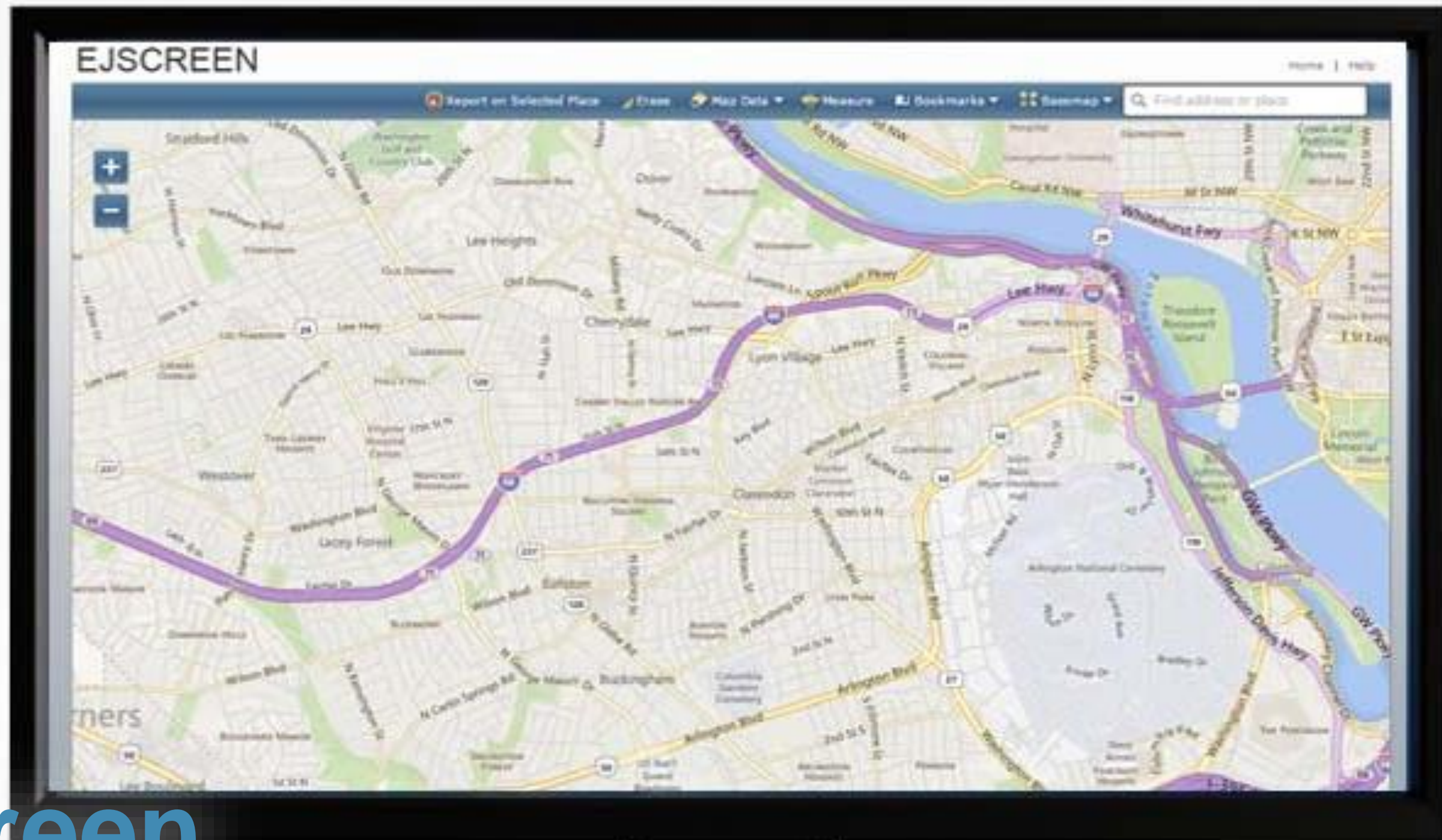
EJScreen 2.0 & Demonstration for Tribes and Indigenous Peoples

May 3, 2022

* Please note that this webinar will be recorded and posted on EPA's webpage for public access.

Panelists

- Tai Lung, EJScreen Lead, Office of Environmental Justice, U.S. EPA

- Melissa Robinson, Director, Environmental Assessment, Environmental Protection Services, Department of Risk Management, Division of Legal and Compliance, Choctaw Nation of Oklahoma

- Kimberly Merryman, Environmental Assessment, Environmental Protection Services, Department of Risk Management, Division of Legal and Compliance, Choctaw Nation of Oklahoma

- Lakesha Hawkins, Environmental Assessment, Environmental Protection Services, Department of Risk Management, Division of Legal and Compliance, Choctaw Nation of Oklahoma

- Danny Gogal, Tribal and Indigenous Peoples Program Manager, Office of Environmental Justice, U.S. EPA (Facilitator)

EJScreen
EPA's Environmental
Justice Screening Tool

Overview of the Training

EJScreen Overview

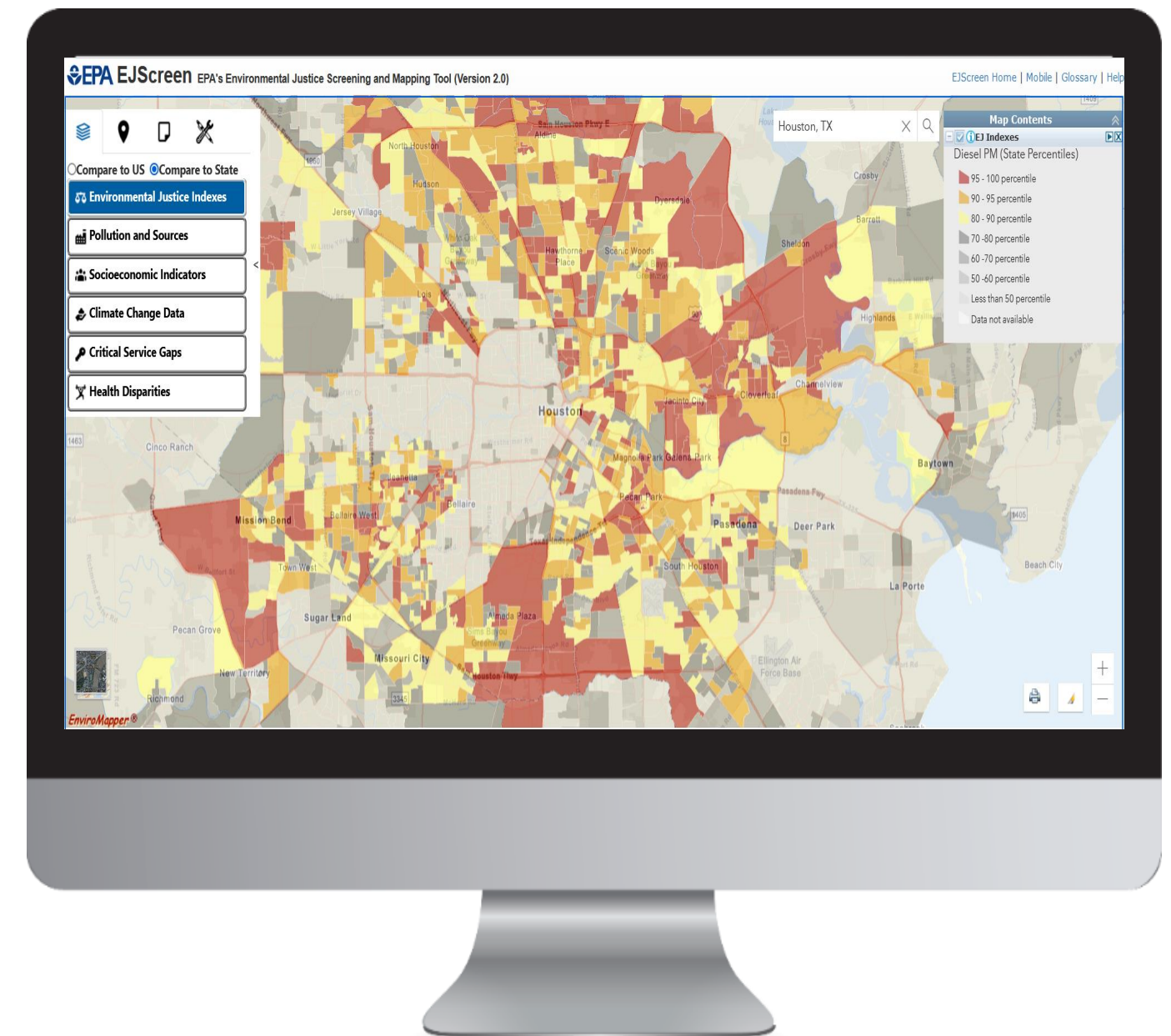
EJScreen Data

EJScreen Use

Beyond EJScreen

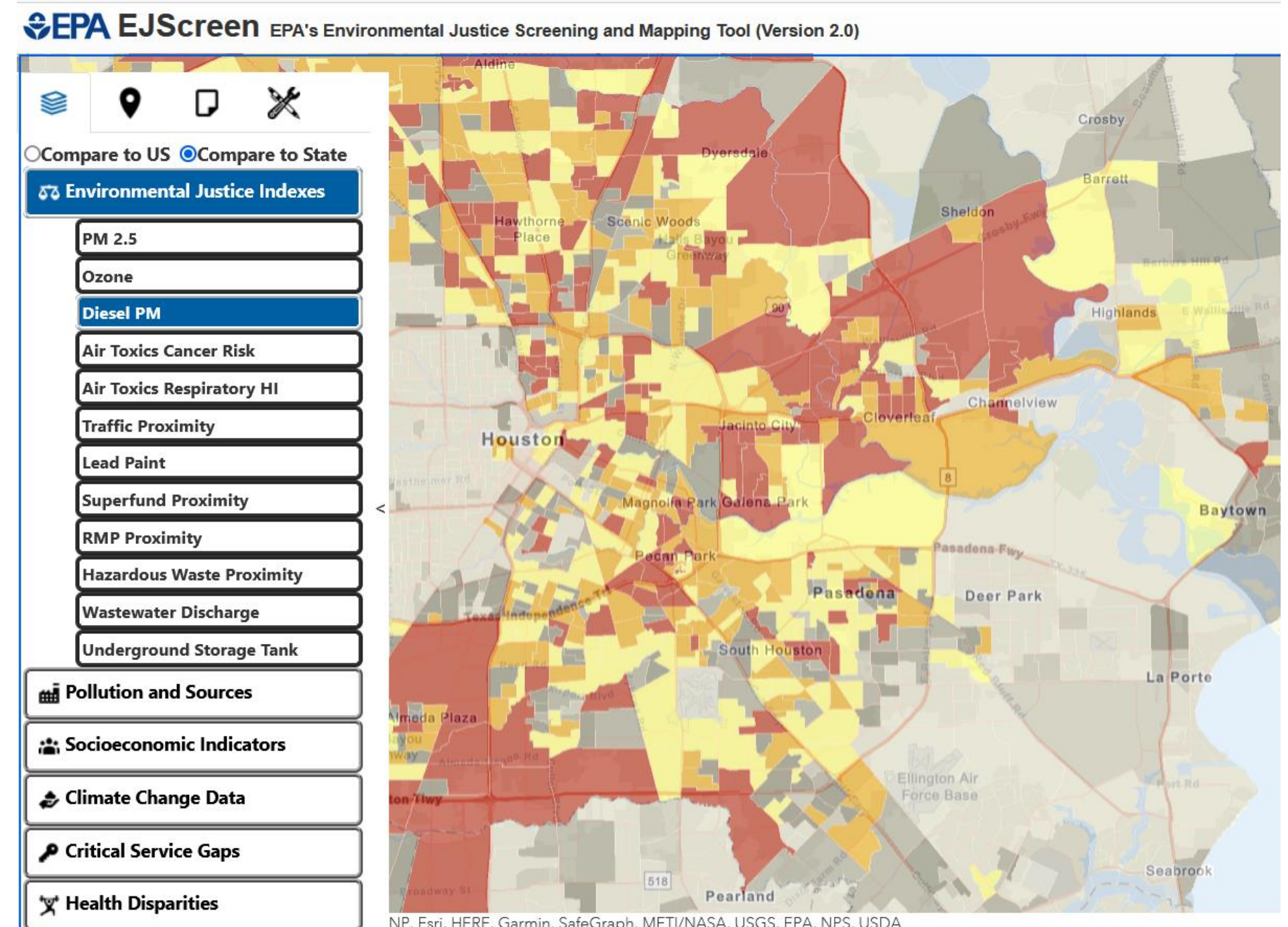Demonstration of the Tool

EJScreen Overview

What is EJScreen?

- EPA's web-based GIS tool for nationally consistent EJ screening and mapping

- Combines environmental and demographic data to highlight areas where vulnerable populations may be disproportionately impacted by pollution

- Starting point for agency considerations of environmental justice

EJScreen Key Features

- 12 EJ Indexes – one for each environmental indicator

- 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

2022 New EJSCREEN Features

Updated environmental and demographic data

Version 2.0 with more intuitive interface

Downloadable data at the tract level

New environmental and demographic indicators, and a new EJ index

New health, climate, and critical service map layers

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

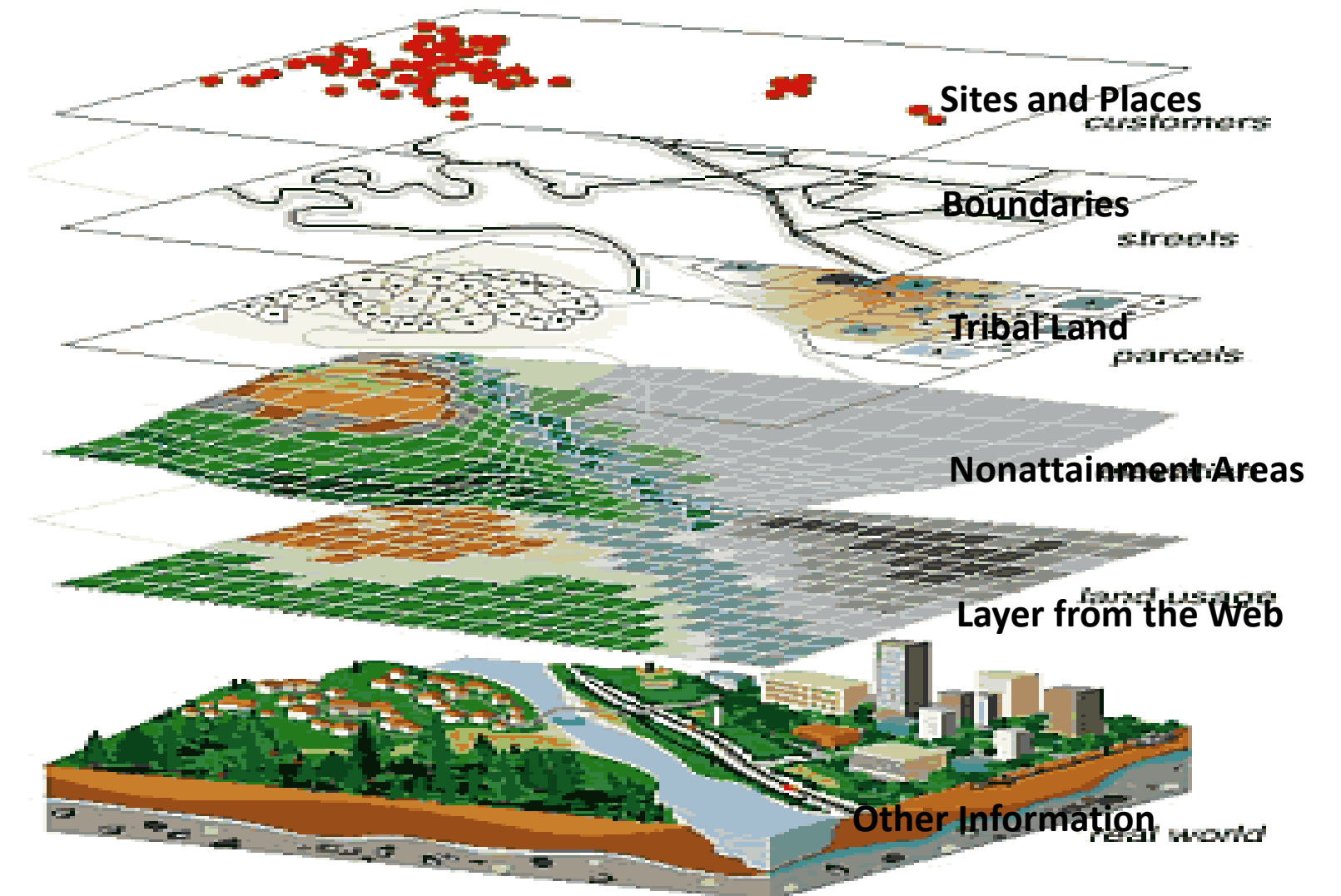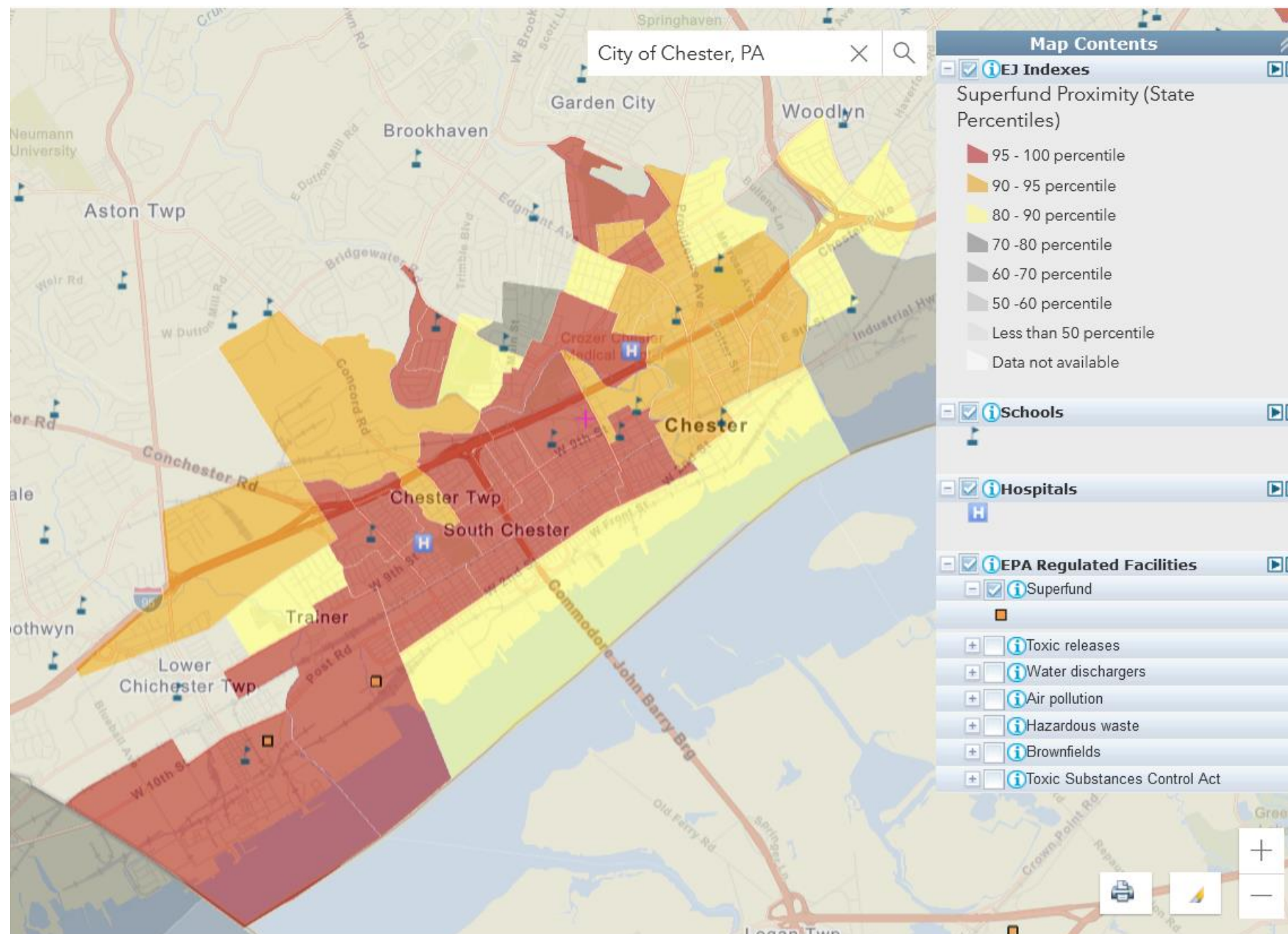Census data has limitations and can obscure small communities

Results should be verified on the ground when possible

EJScreen does not label EJ communities
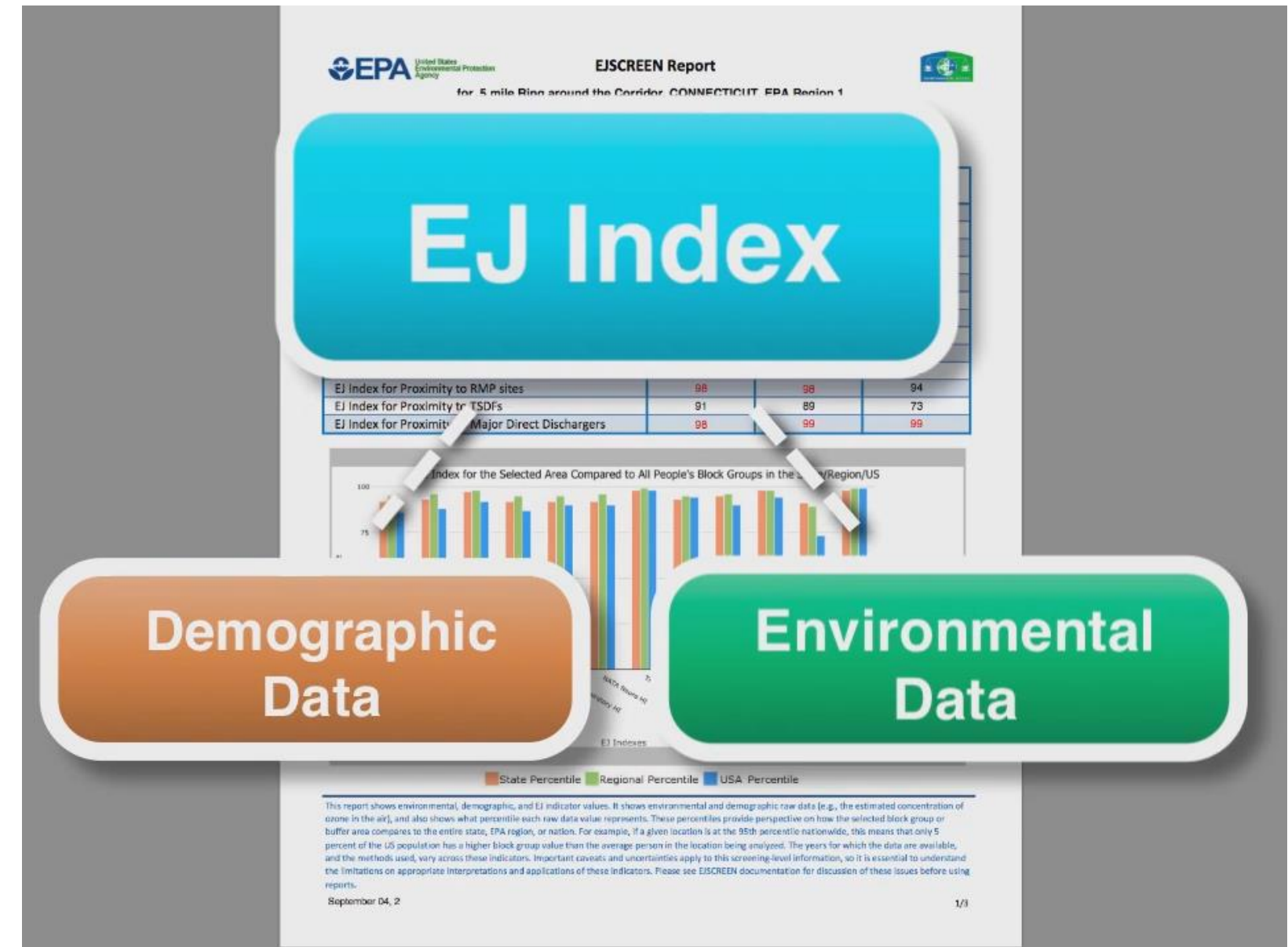
EJScreen Data

EJScreen Data
EJScreen adds many types of data
by overlaying various datasets or "layers"

Primary EJScreen Datasets

- **EJ Indexes** (12 indexes)

- **Environmental** (12 indicators)

- **Socioeconomic** (7 indicators)

- **Health** (3 indicators)

- **Climate** (5 indicators)

- **Critical Service Gaps** (3 indicators)

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.

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).
Linguistic isolated	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
Demographic index	(Low income + People of Color) / 2

Environmental Indicators

Indicator	Description	Year
Particulate matter 2.5	Annual average of PM 2.5 levels in the air	2018
Ozone	Ozone summer seasonal avg. of daily maximum	2018
Diesel particulate matter	Diesel particulate matter level in air	2017
Air toxics cancer risk	Lifetime cancer risk from inhalation of air toxics	2017
Air toxics respiratory hazard index	Air toxics respiratory hazard index (ratio of exposure concentration to health-based reference concentration)	2017
Traffic proximity and volume	Count of vehicles on major roads, divided by distance in meters	2019

Environmental Indicators (cont'd)

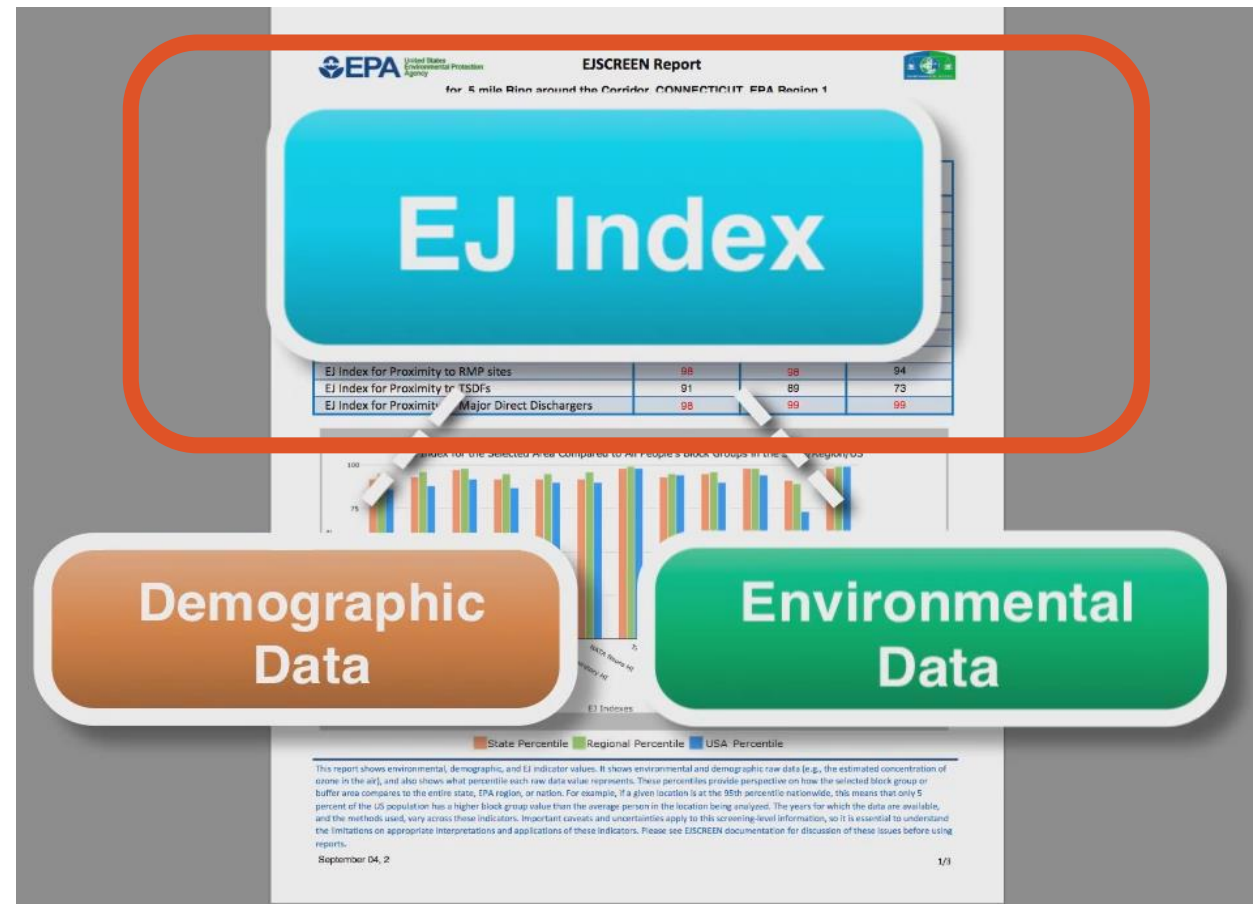| Indicator	Description	Year
Lead paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure	2015 - 2019
Superfund proximity	Count of proposed or listed NPL - also known as Superfund - sites within 5 km, each divided by distance in kilometers	2021
Risk management plan facility proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km, each divided by distance in kilometers	2021
Hazardous waste proximity	Count of hazardous waste facilities (TSDFs and LQGs) within 5 km, each divided by distance in kilometers	2021
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	2021
Wastewater Discharge Indicator	RSEI modeled Toxic Concentrations at stream segments within 500 meters, divided by distance in kilometers	2021

Tribal and Indigenous Data in EJScreen

Currently:

- Alaska Native Allotments
- Alaska Native Villages
- American Indian Reservations
- Off-reservation Trust Lands
- Oklahoma Tribal Statistical Areas
- Virginia Federally Recognized Tribes

Coming this Summer:

- Alaska Native Regional Corporations
- State-recognized Reservations
- Hawaiian Native Home Lands
- Tribal Cession Boundaries
- State-designated Tribal Statistical Areas
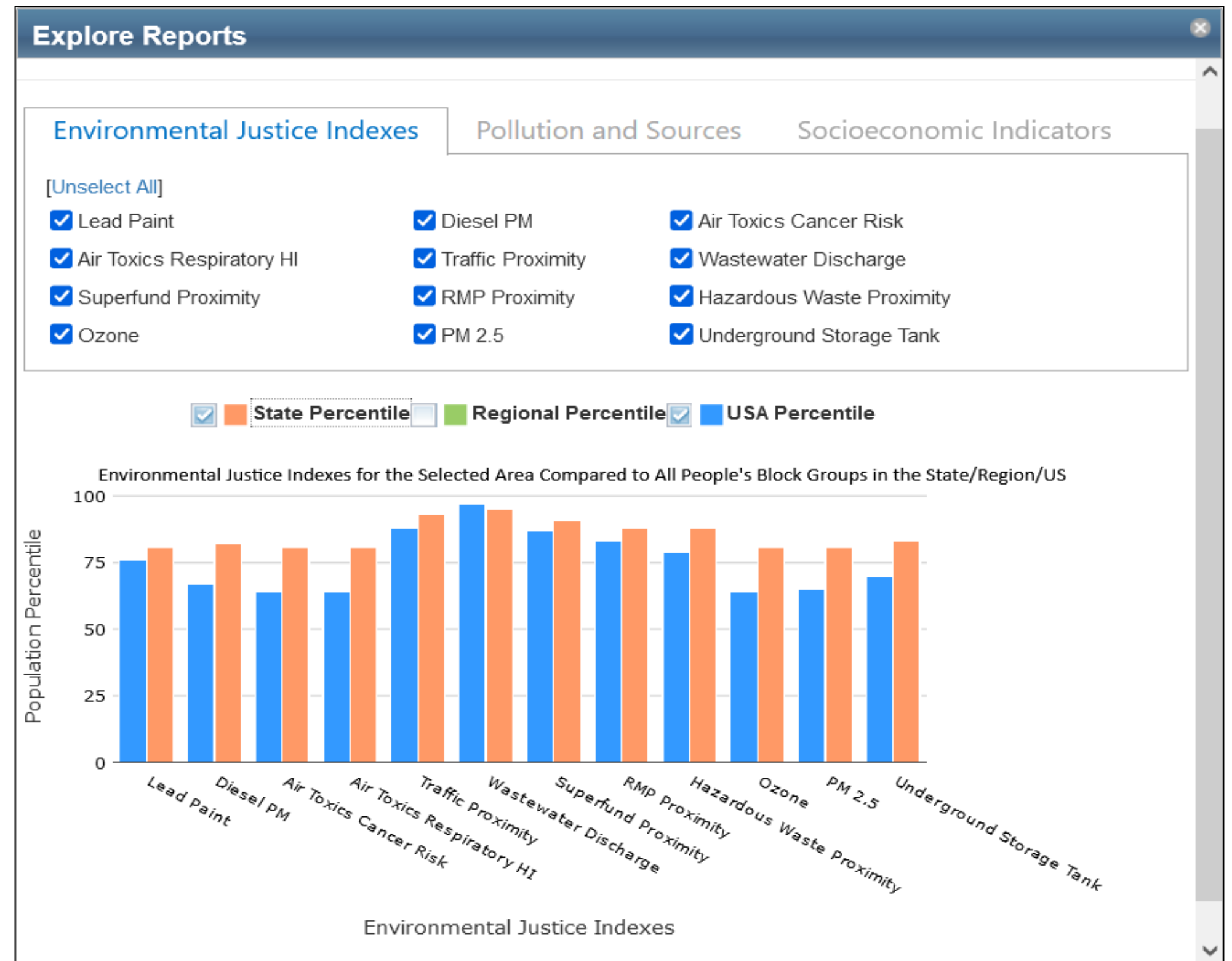
What does the EJ Index mean?

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

EJ Index Calculation:

| Single Environmental Indicator |
| X (Demographic Index – US Average Demographic Index) |
| X Block Group Population |

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.

EJScreen Uses

EJScreen in Action at EPA

EPA uses of EJScreen:

- for public outreach and engagement
- enforcement targeting
- inclusion in inspection reports
- permitting and NEPA reviews
- reviews of grant projects
- other placed-based initiatives
- retrospective reporting

Various EJScreen "platforms" for Integration:

- Web-based platform (https://ejscreen.epa.gov/mapper/)
- ArcGIS platform (https://www.epa.gov/ejscreen/download-ejscreen-data)
- ECHO platform
  (https://echo.epa.gov/)
- Other EPA mapping tools & databases also incorporate EJScreen data

EJScreen: External Uses

- **Federal Government:**
  - DOT, ACE, FEMA, and others use in their programs
- **State Governments:**
  - Many states are building their own EJ tools based on EJScreen
  - This allows them to incorporate state specific information and other datasets
- **Local and Tribal Governments:**
  - Use to implement environmental programs and regulations
  - Rely on EJScreen data as they often don't have the resources to build their own tools
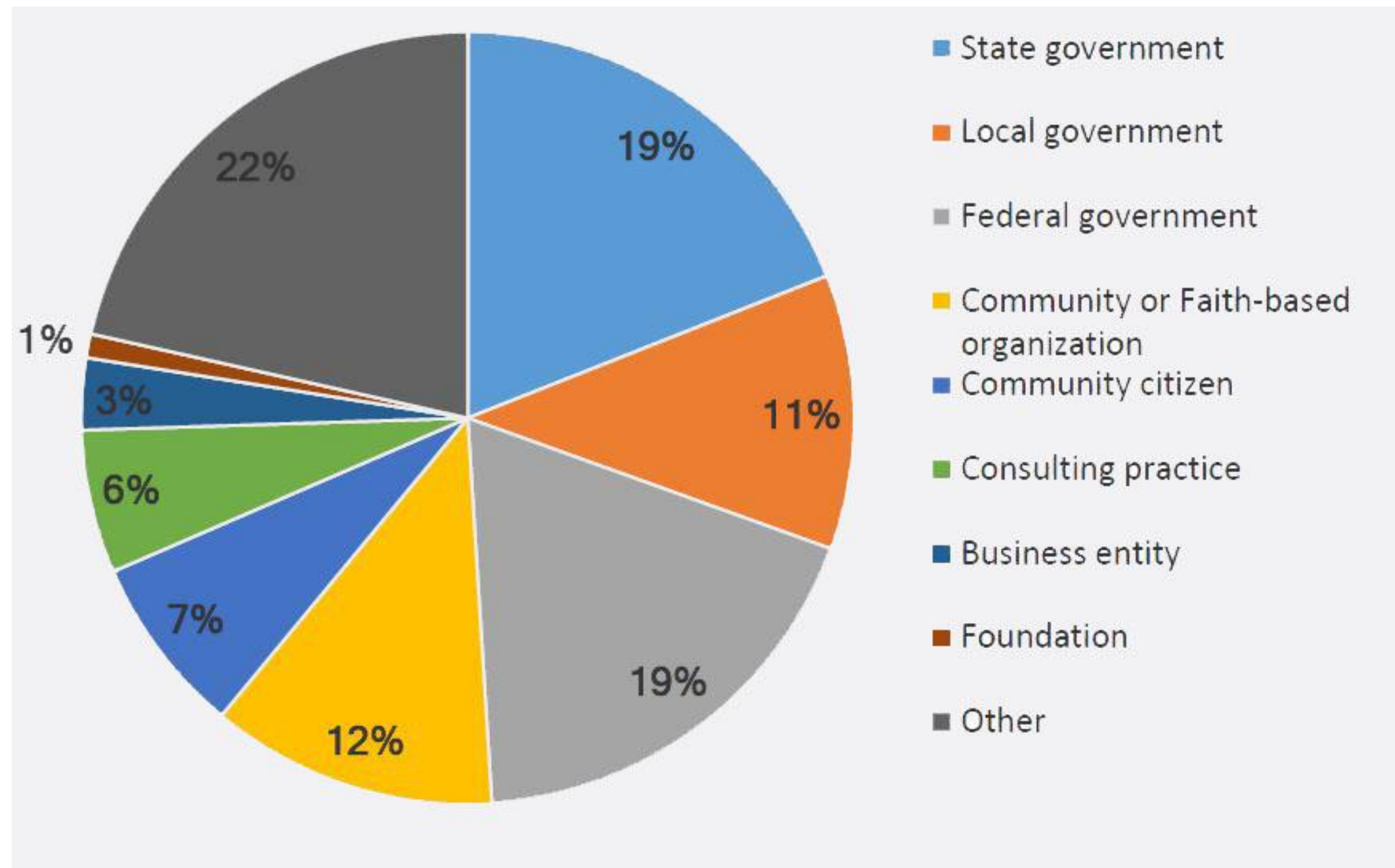
EJScreen: External Uses

- **Communities**
  - Identifying potential issues
  - Grant writing
  - Comparing environmental burdens
- **Academia**
  - Teaching about environmental justice
  - Research
- **Industry**
  - Intersection with ESG

EJScreen in Action: External Users

- EJ analyses

- Community outreach

- Prioritization

- Retrospective reports

- Environmental analysis

- Education and teaching

- Research

Who is using EJScreen?

Legend:
- State government — 19%
- Local government — 11%
- Federal government — 19%
- Community or Faith-based organization — 12%
- Community citizen — 7%
- Consulting practice — 6%
- Business entity — 3%
- Foundation — 1%
- Other — 22%

Beyond EJScreen

Future of EJScreen

Examining EJ relevant data to incorporate (water, CAFOs, pesticides)

Potential for addressing cumulative impacts

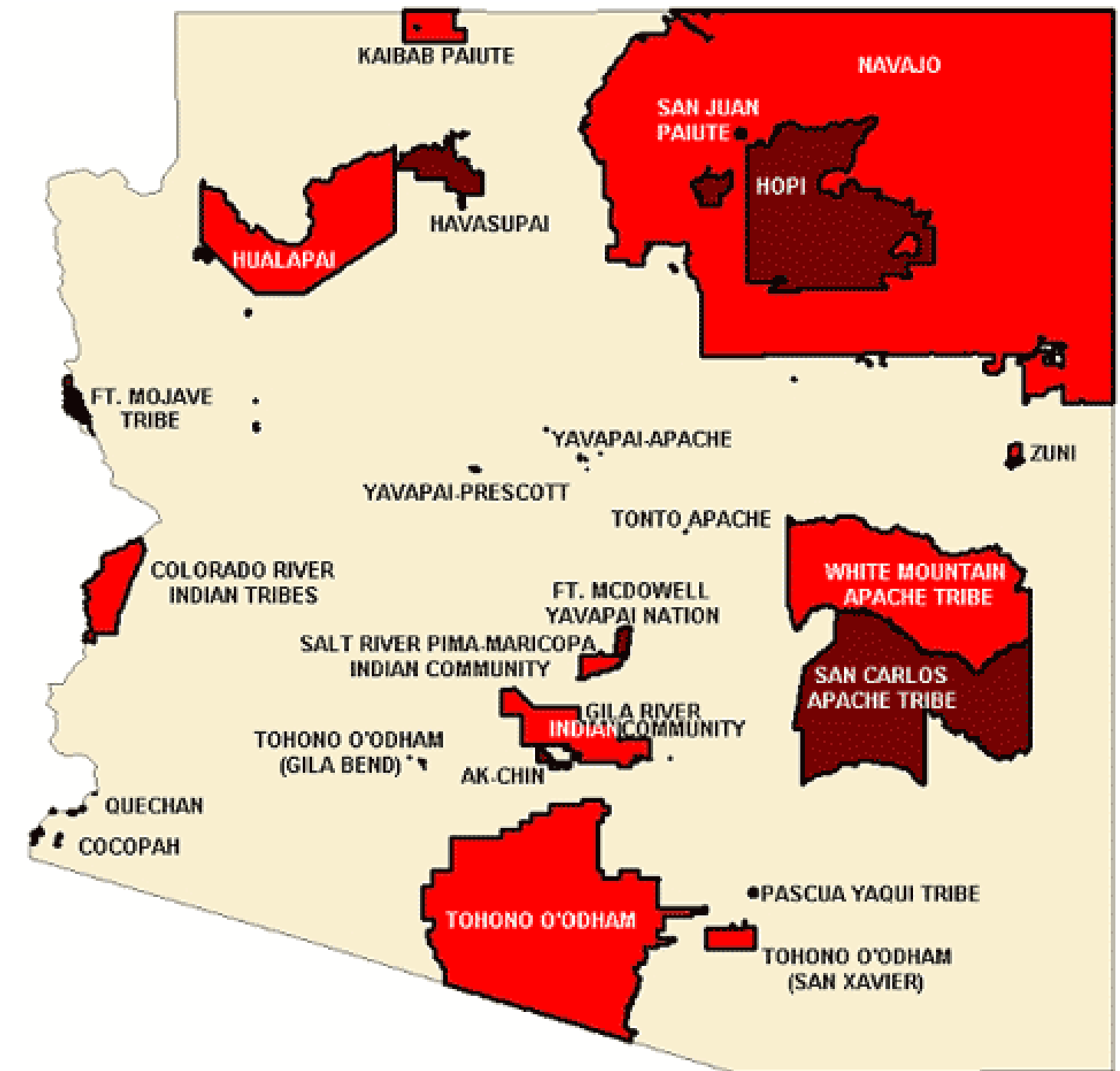Considering inclusion of an alternative EJ index with different demographics

Continued work with states to address local needs/data

Development of threshold maps that make the tool easier to use

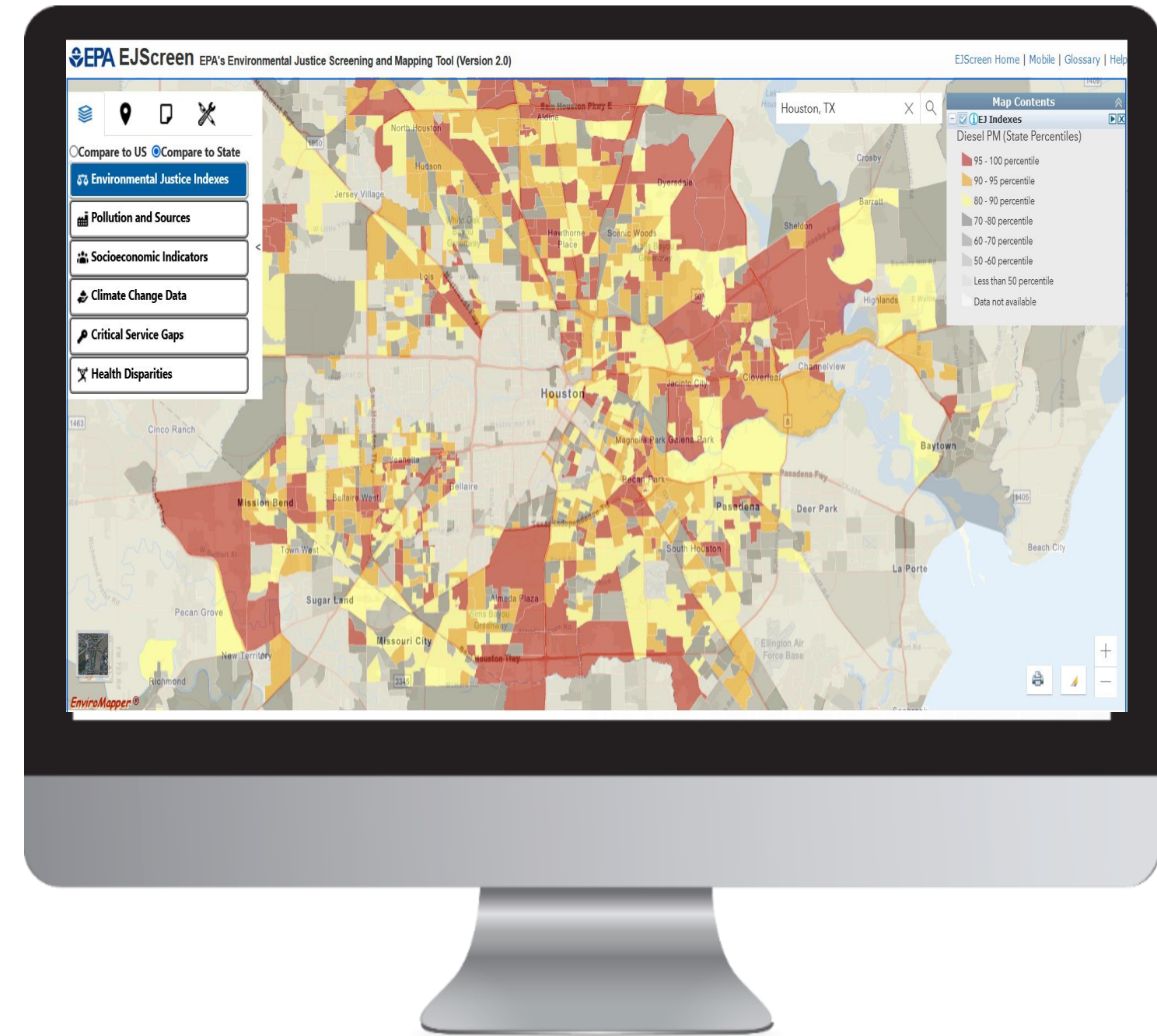Focus on incorporation into EPA programs and activities

Other Tribal Efforts

- EPA has been examining the available data to find some datasets that speak more to the unique issues faced by Tribes.

- Input on data that would be important to Tribes.

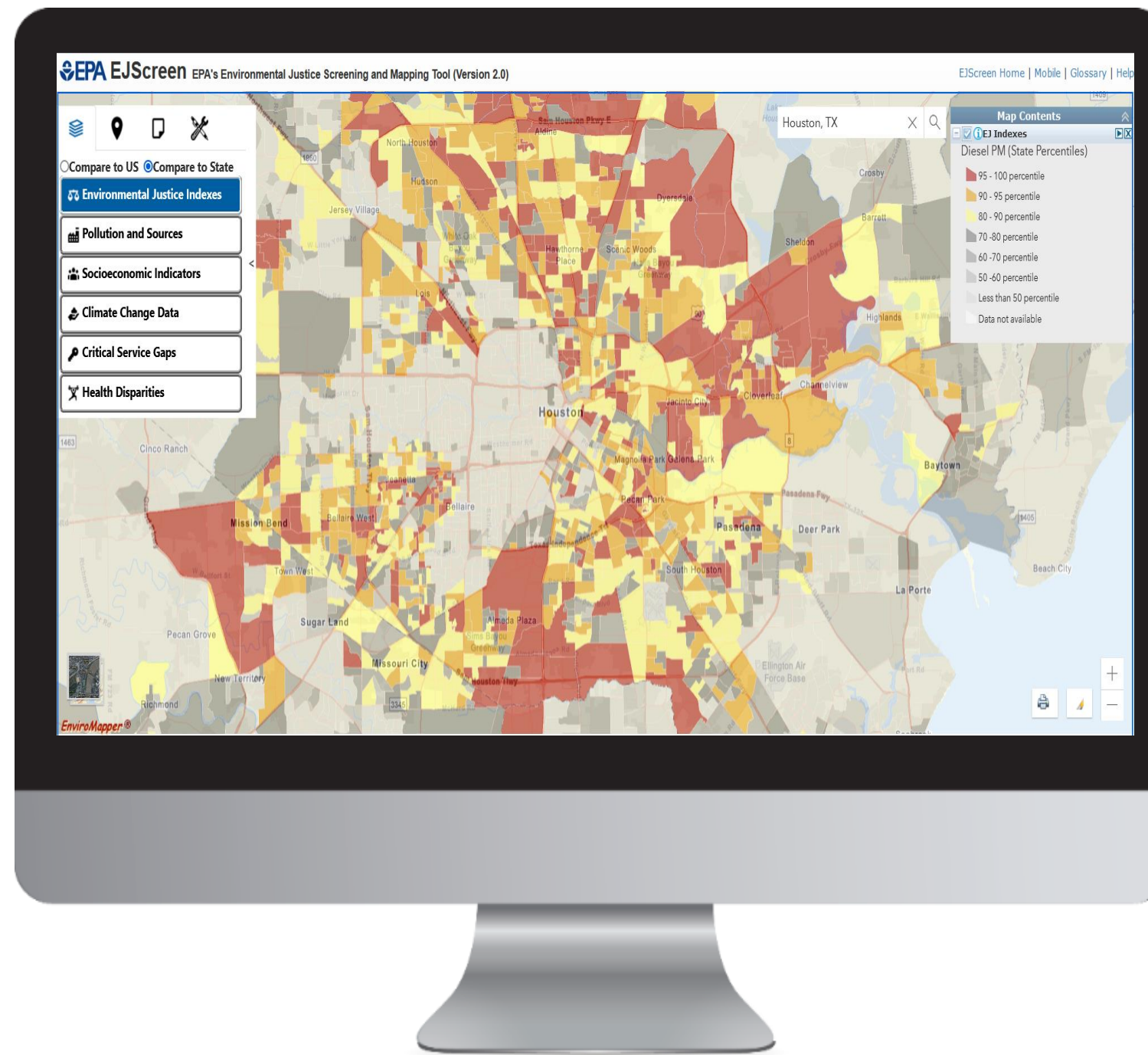- Support available to help tribal governments utilizing EJScreen data

EJScreen Tool Learning Resources

- EJScreen website

- Guidance documents

- Video tutorials

- Technical information

- Understanding results

- Other tools and resources

Click to access EJScreen Tool

LIVE DEMO

Click to access EJScreen Tool

Questions and Answers Period
&
Evaluation

- Please type your questions in the chat box.

- We would appreciate your feedback on the webinar and ask that you complete the short online survey. Link posted in chat box: https://forms.gle/7kCqBVL7qLY2zrZy6

Contacts

Tai Lung, EJScreen Lead, Office of Environmental Justice, U.S. EPA Lung.tai@epa.gov	Melissa Robinson, Director, Environmental Assessment, Environmental Protection Services, Department of Risk Management, Division of Legal and Compliance (DLC), Choctaw Nation of Oklahoma, melissarobinson@choctawnation.com
Kimberly Merryman, Environmental Assessment, Environmental Protection Services, Department of Risk Management, DLC, Choctaw Nation of Oklahoma kmerryman@choctawnation.com	Lakesha Hawkins, Environmental Assessment, Environmental Protection Services, Department of Risk Management, DLC, Choctaw Nation of Oklahoma lhawkins@choctawnation.com
Matt Lee, EJScreen Staff, Office of Environmental Justice, U.S. EPA Lee.matthew@epa.gov	Danny Gogal, Tribal and Indigenous Peoples Program Manager, Office of Environmental Justice, U.S. EPA, Gogal.Danny@epa.gov