Environmental Protection Agency

EJScreen User Guide

Version 2.3

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A. EPA EJScreen Web Application

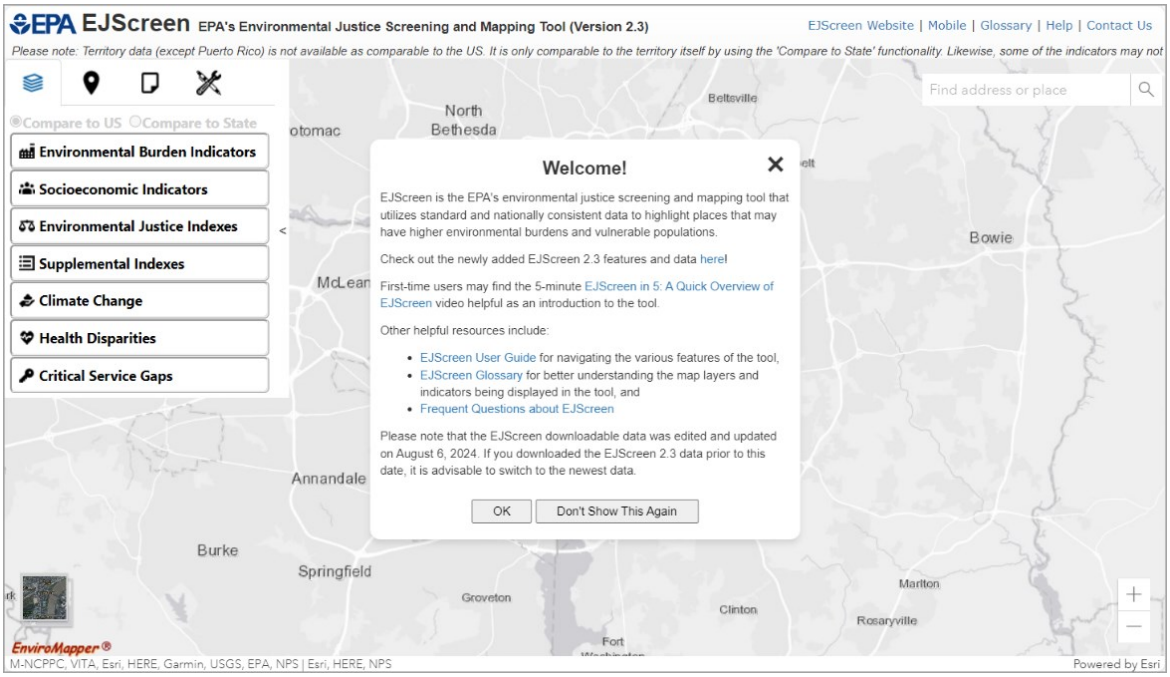
This document provides an introduction to EJScreen and walks through how to start using the tool. The EJScreen website and *EJScreen Technical Documentation* provide many more details on the data and methods behind the tool.

EJScreen is an environmental justice (EJ) mapping and screening tool that provides EPA with a nationally consistent dataset and approach that combines environmental and demographic indicators in maps and reports. This can help to highlight geographic areas and the extent to which they may be candidates for further review, including additional consideration, analysis, or outreach. The tool also allows users to explore locations at a detailed geographic level, across broad areas, or across the entire nation.

The screening tool includes various environmental factors, demographic factors, and EJ indexes. Each EJ index combines multiple demographic factors with a single environmental factor (such as proximity to traffic). The screening tool has Census block group resolution, and provides a number of capabilities, including color-coded mapping, the ability to generate a standard report for a selected area, and comparisons showing how a selected area compares to the relevant state, EPA region, or the nation as a whole.

Users should keep in mind that screening tools have substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas, such as Census block groups. Also, in many cases, data on the full range of environmental impacts and demographic factors in any given location will not be available directly through this tool, and its initial results should be supplemented with additional information and local knowledge.

To access the application, navigate to https://www.epa.gov/ejscreen.



B. EJScreen Web Application Home Screen

The EJScreen Application contains a number of user interface controls as well as data display and advanced analysis tools.

To learn more about EJScreen, click the **EJScreen Website** link in the top-right corner of the application.

To access the EJScreen Mobile application, click the **Mobile** link in the top-right corner of the application.

To access the EJScreen Glossary, click the **Glossary** link in the top-right corner of the application.

To access help documentation for the EJScreen Application, click the **Help** link in the top-right corner of the application.

To send an email to the EJScreen help desk, click the **Contact Us** link in the top-right corner of the application.

Along the left side and throughout the application, a variety of widgets are available for use. The application allows the user to perform the following tasks:

- **Maps**: See EJScreen and other supplementary map data
- **Places**: See public space identifiers on the map
- **Reports:** Pick location and see report on a user-defined place or block group
- **Tools:** Access features include:
  - **Measure**: Measure distance, find the area of a polygon, get latitude/longitude.
  - **Save Session**: Save locations for review.
  - Additional map data.
- **Clear Selected Locations**: Located in the Reports widget, remove any drawings from the map.
- **Print**: Located in the Tools widget, prints the displayed map
- **Basemap**: Located in the bottom-left corner of the application, toggle the map between street and satellite view.
- **Find address or place**: Located in the top-right corner of the application, locate a specific address or area.

For a more detailed explanation on each widget, see sections C and D below.

C. Exploring and Navigating Maps

Several data display, basemap, and navigation tools are available.

1. Territories

Available data areas now include the US Territories of American Samoa, Guam, Commonwealth of the Northern Mariana Islands (CNMI), and the US Virgin Islands. American Samoa, CNMI, and Guam use 2022 Census Place boundaries, and the US Virgin Islands use 2022 Census Estate boundaries. The demographic source is Census 2020 Island Areas Demographic Profile data released in October 2022 for each territory.

The four territories have State percentiles data and do not have National percentiles. Therefore, the EJScreen report is not available for the four territories. A banner stating this will be displayed at the top of the screen upon initial launching of EJScreen and can be closed by clicking the X.

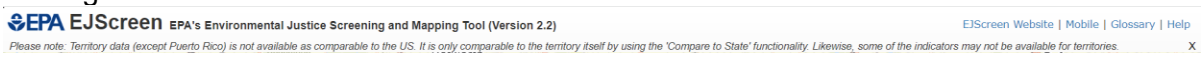


Table 1 shows availability of data for environmental variables for the territories. “Yes” indicates data is available and “No” indicates data is not available.

Table 1. Environmental Variables Availability for Territories

	American Samoa	CNMI	Guam	US Virgin Islands
Particulate Matter 2.5	No	No	No	No
Ozone	No	No	No	No
Nitrogen Dioxide (NO_2)	No	No	No	No
Diesel Particulate Matter	No	No	No	No
Toxic Releases to Air	Yes	Yes	Yes	Yes
Traffic Proximity	No	No	No	No
Lead Paint	Yes	Yes	Yes	Yes
Superfund	No	No	Yes	Yes
RMP Facility	No	No	Yes	Yes
Hazardous Waste	No	Yes	Yes	Yes
Underground Storage Tanks	Yes	Yes	Yes	Yes
Wastewater Discharge	No	No	No	No
Drinking Water Non-Compliance	No	No	No	No

Table 2 shows availability of the health and ACS information for the territories. “Yes” indicates data is available and “No” indicates data is not available.

Table 2. Health and ACS Availability for Territories

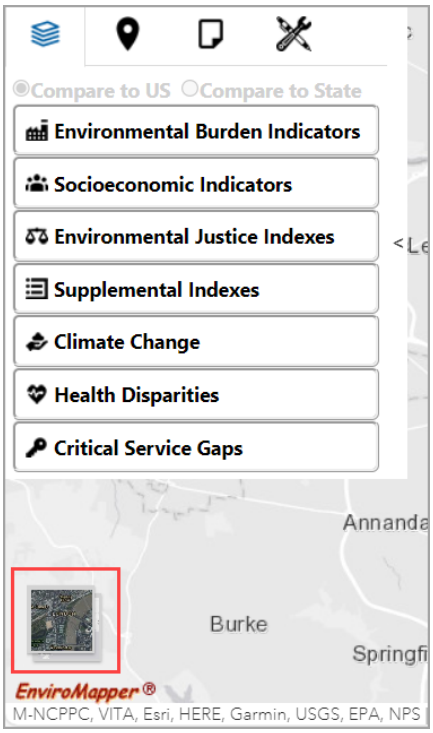
	American Samoa	CNMI	Guam	US Virgin Islands
CDC Life Expectancy	No	No	No	No
CDC Heart Disease	No	No	No	No
CDC Asthma	No	No	No	No

	American Samoa	CNMI	Guam	US Virgin Islands
CDC Cancer	No	No	No	No
ACS 2018-2022	No	No	No	No

Note: Puerto Rico is handled like the 50 states and DC.

2. Basemaps

Click either the street or satellite basemap option to change the display of the basemap. Streets is the default display.



3. Navigation

The Navigation zoom is visible in the bottom right-corner of the application. This allows manual navigation of the map display.

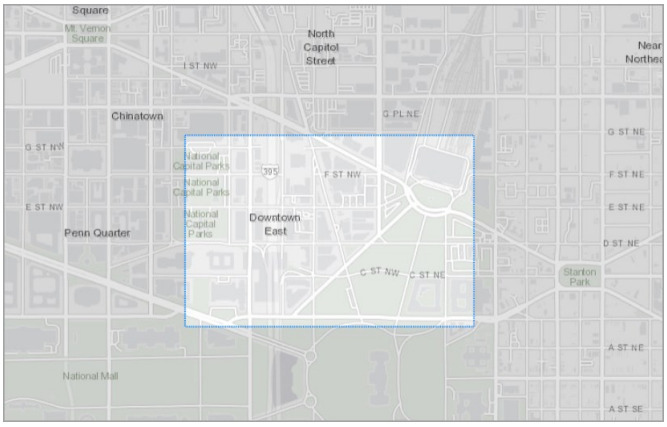
3.1 Zoom In/Out

The map display can be zoomed by using the mouse wheel to zoom in/out, using the Zoom In/Out tool, or using a bounding box.

To use the **Zoom In/Out** tool to zoom in and out of the map display:

1. Click the plus sign to zoom in to the map display.
2. Click the minus sign to zoom out of the map display.

To use a bounding box to zoom in on the map display:



1. Hold the Shift key with one hand.
2. Hold the left mouse button and drag a rectangle to the area of interest.
3. Release the mouse button to zoom to selected area.

3.2 Pan

The pan tool is used to scroll the map in the direction and by the amount chosen.

1. Click and hold on any location in the map display.
2. Drag the mouse, and the map will move in the corresponding direction.

D. Using EJScreen Common Functions and Widgets for Analysis

1. Find an Address or Place Widget

The **Find an Address** widget allows users to find a location of interest via an address or by coordinates.

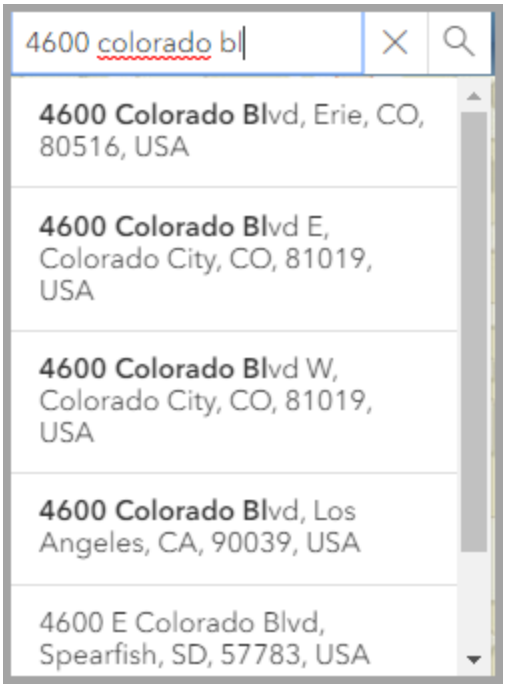
1.1 Find an Address

In the **Find address or place** text box, enter an address or location to search for that location. This can be a street address, a town, a ZIP Code, or other location.

The application will list possible matches for the input. Click the **search icon**, press the Enter key on the keyboard to go to the first location in the list, or click an entry from the list.

If no matches are found for the entered location, the map will remain unchanged.

1. Enter a location (for example: street address, town, ZIP Code, or other location) in the **Find address or place** text box.



2. Click the **search icon**.

   The map display will zoom to that location if found.

1.2 Coordinates

Searching by **Coordinates** allows the user to input longitude and latitude coordinates and zoom to that point.

1. Enter values for **Latitude** and **Longitude** (in that order) in the **Find address or place** text box.

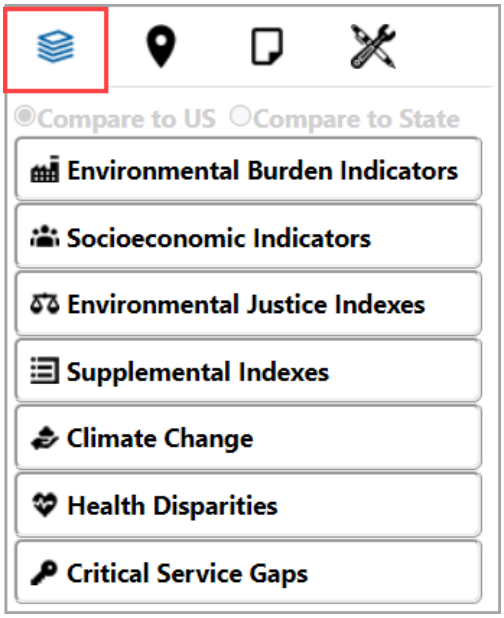
2. Click the **search icon**.
3. The map display will zoom to that location if found.

2. Maps Widget

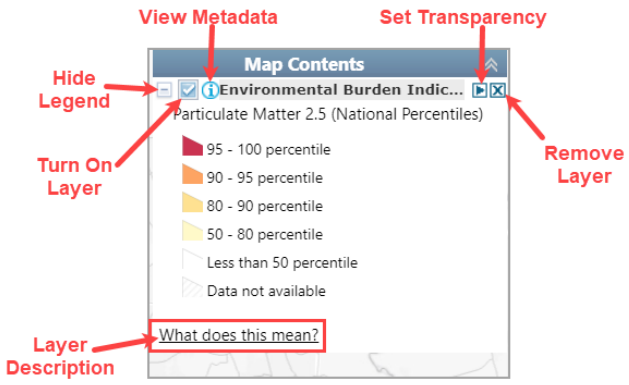
The **Maps** widget allows users to add EJScreen and other supplementary map data.

Web map layers are displayed on top of the existing map data and can be toggled on and off and controlled just like any other layer.

1. Locate the **Maps** icon at the top left of the application.
2. Click the **Maps** icon to display the map options.

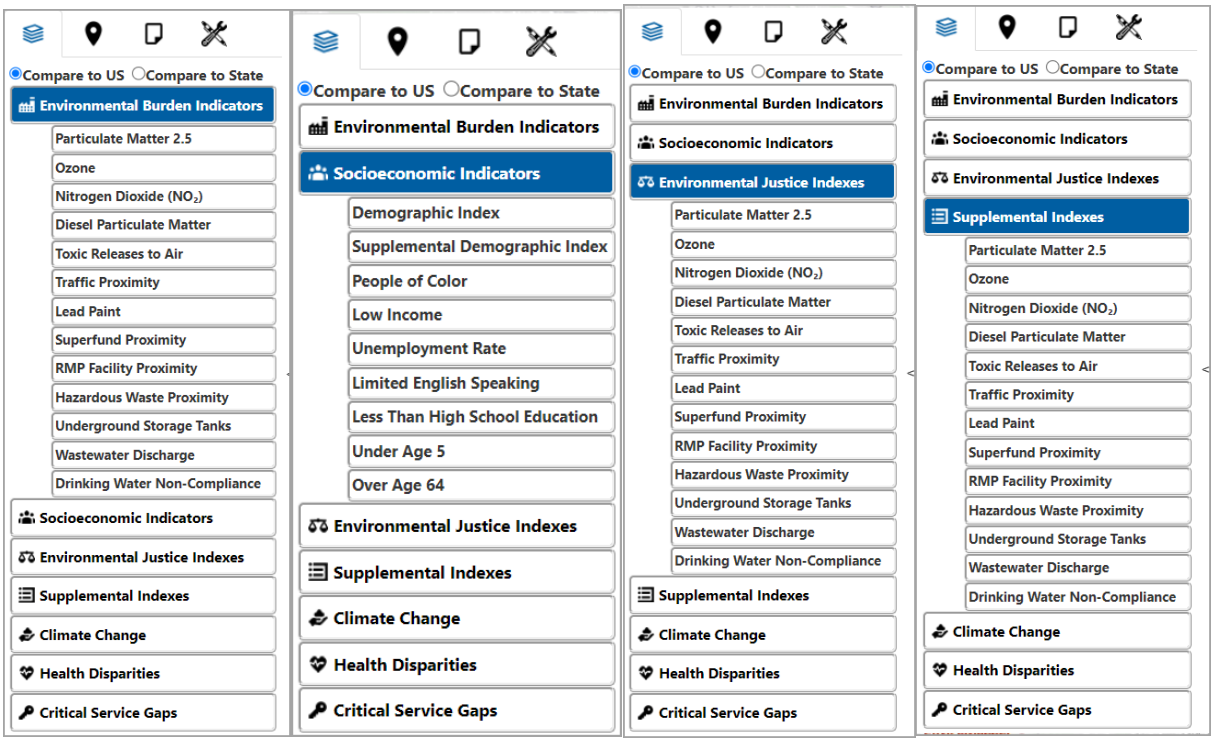


3. When map layers are added to the map, the layer legend will be added under the **Map Contents** menu on the right-hand side of the map. Layer options are available in the **Map Contents** window.

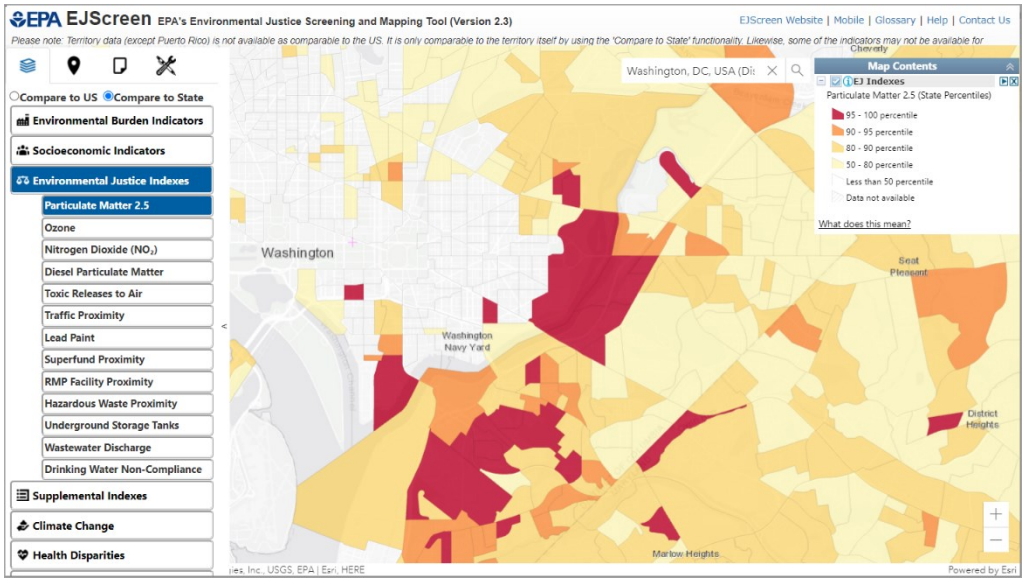


2.1 EJScreen Maps

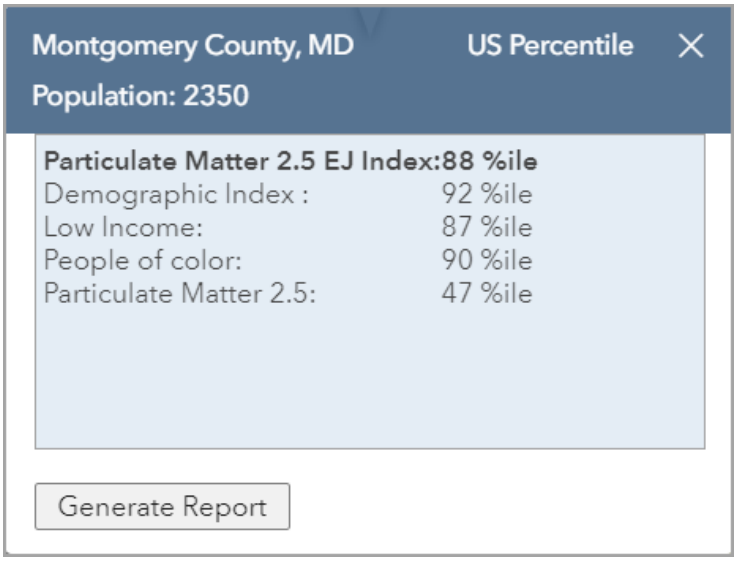
The **Maps** option allows users to display color-coded (thematic) maps for the EJ Indexes, as well as the environmental burden indicators and socioeconomic indicators that compose the EJ Indexes. The data available for each of the layer groups are shown below:



1. When the **Maps** tool is opened, **Compare to US** is selected as the default. To change the selections, click the **Compare to State** radio button if desired, select a **Category**, then select a **Variable** from the menu.
2. This adds a map layer that displays the selected variable based on national or state percentile groups as indicated in the **legend** added under Map Contents to the right hand side of the map.



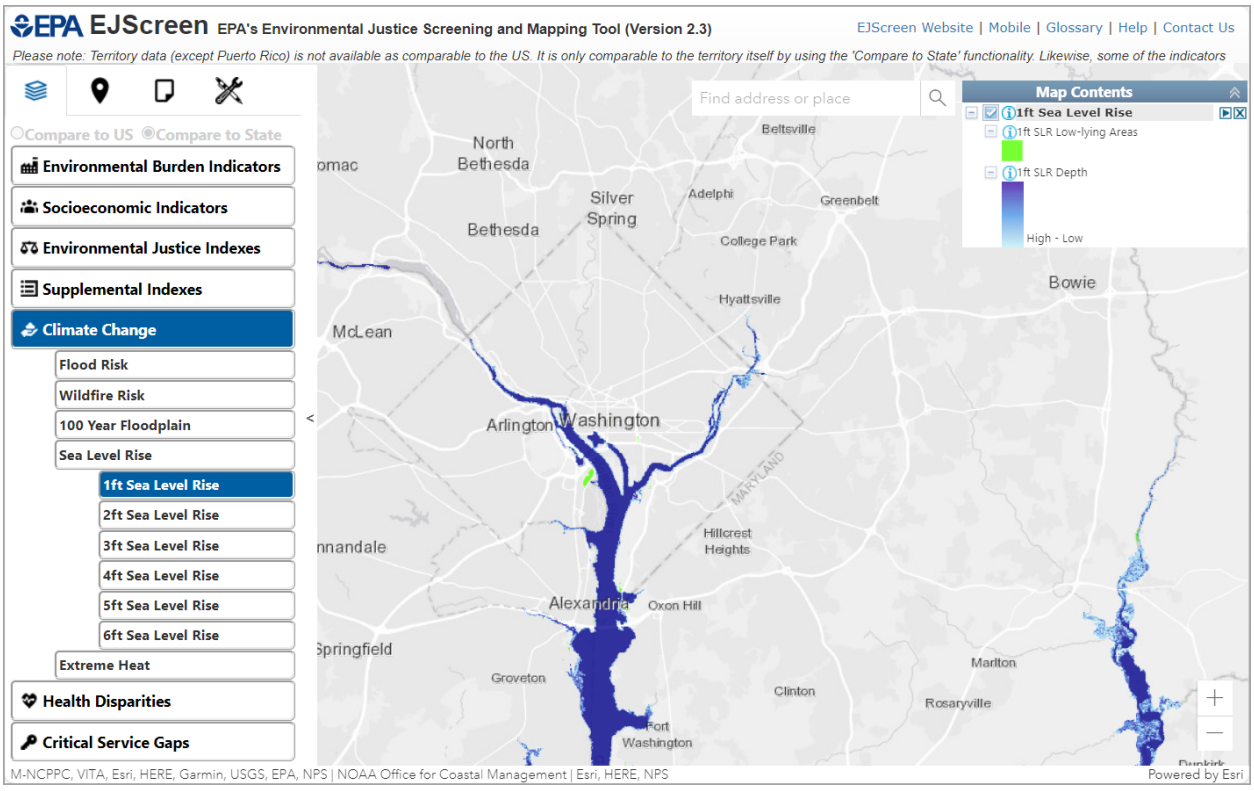
3. Clicking on a block group when any of the **Map EJ Indexes** layers are activated will show a pop-up window that includes the location's county, state, population count, indicator values, demographic index, low income, people of color, and national or state percentile. Clicking the Generate Report button will open the EJScreen Reports and Charts pop-up.



2.2 Climate Change

This map service contains locational data for Climate Change: Flood Risk, Wildfire Risk, 100 Year Floodplain, Sea Level Rise, and Extreme Heat.

1. Click the **Maps** icon in the Widget toolbar.
2. Click the **Climate Change** icon to display a dropdown list.
3. Click one of the following: **Flood Risk, Wildfire Risk, 100 Year Floodplain, Sea Level Rise, Extreme Heat.**
4. Selected Climate Change layer will be added to the Map Contents menu and as a layer to the map.

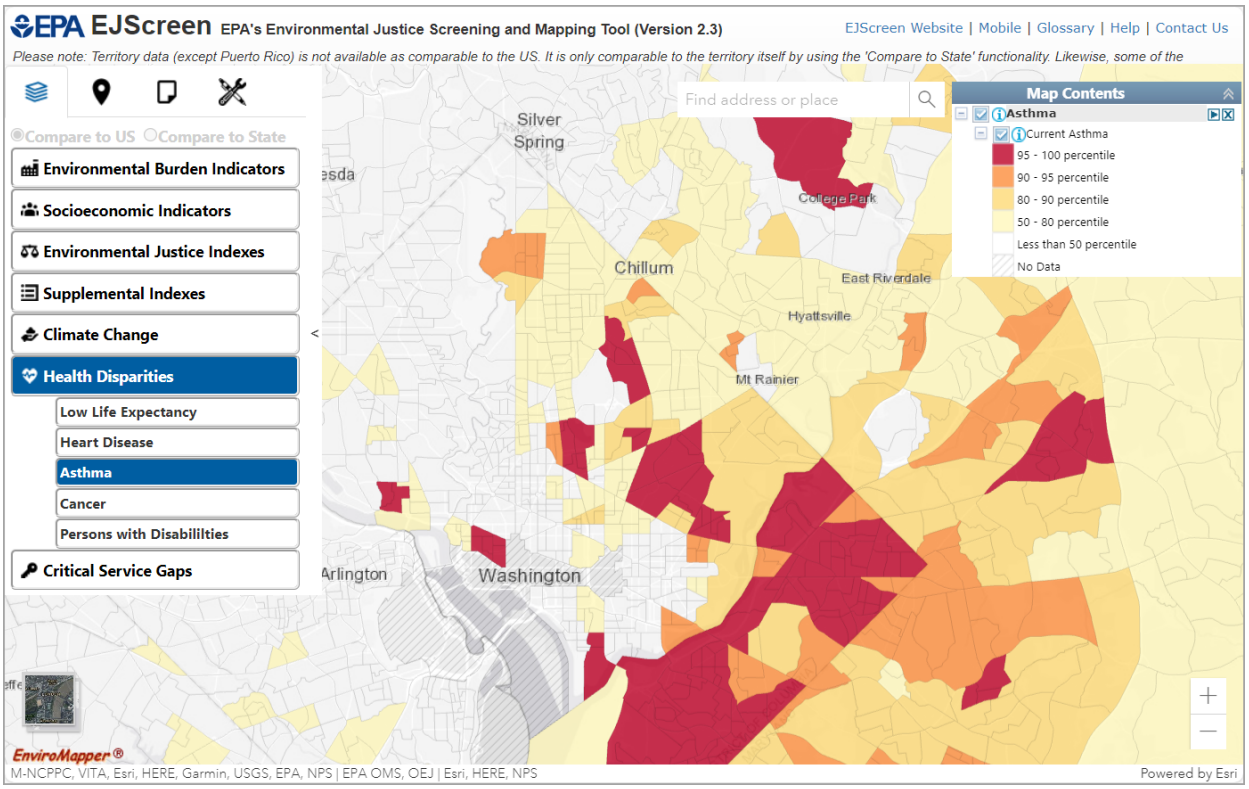


Note: Extreme Heat data is not available for Alaska, Hawaii, or the territories.

2.3 Health Disparities

This map service contains locational data for the following Health Disparities: Low Life Expectancy, Heart Disease, Asthma, Cancer, and Persons with Disabilities.

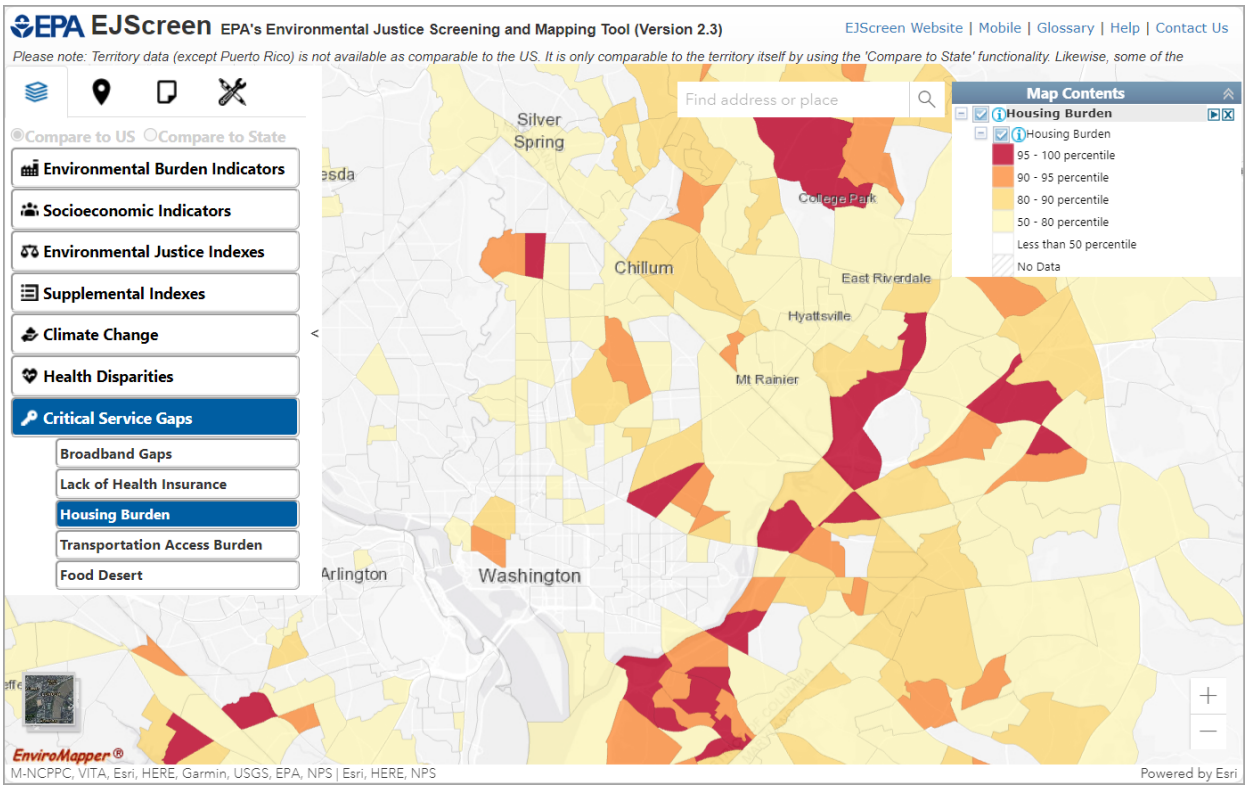
1. Click the **Maps** icon in the Widget toolbar.
2. Click the **Health Disparities** icon to display a dropdown list.
3. Click one of the following: **Low Life Expectancy, Heart Disease, Asthma, Cancer, Persons with Disabilities**.
4. Selected Health Disparity will be added to the Map Contents menu and as a layer to the map.



2.4 Critical Service Gaps

This map service contains locational data for Critical Service Gaps: Broadband Gaps, Lack of Health Insurance, Housing Burden, Transportation Access Burden, and Food Desert.

1. Click the **Maps** icon in the Widget toolbar.
2. Click the **Critical Services Gaps** icon to display a dropdown list.
3. Click one of the following: **Broadband Gaps, Lack of Health Insurance, Housing Burden, Transportation Access Burden, Food Desert.**
4. Selected Critical Service Gap will be added to the Map Contents menu and as a layer to the map.



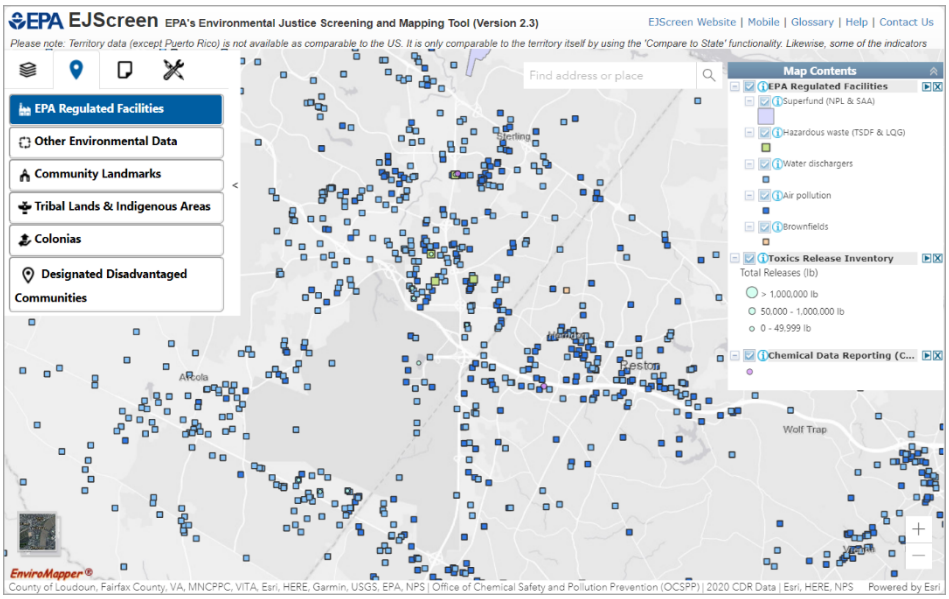
3. Places Widget

Additional layers available under the **Places** widget are shown below:

3.1 EPA Regulated Facilities

This map service contains locational data for EPA Regulated Facilities, Toxics Release Inventory, and Chemical Data Reporting (TSCA): Superfund (NPL & SAA), Hazardous waste (TSDF & LQG), Water dischargers, Air pollution, Brownfields, Toxics Release Inventory Total Releases (lb), and Chemical Data Reporting (TSCA).

1. Click the **Places** icon in the Widget toolbar.
2. Click the **EPA Regulated Facilities** icon.
3. EPA Regulated Facilities, Toxics Release Inventory, and Chemical Data Reporting (TSCA) will be added to the Map Contents menu.
4. Click one or more of the following in the Map Contents menu: **Superfund (NPL & SAA), Hazardous waste (TSDF & LQG), Water dischargers, Air pollution, Brownfields, Toxics Release Inventory, Chemical Data Reporting (TSCA).**
5. Checked boxes are added as layers to the map.



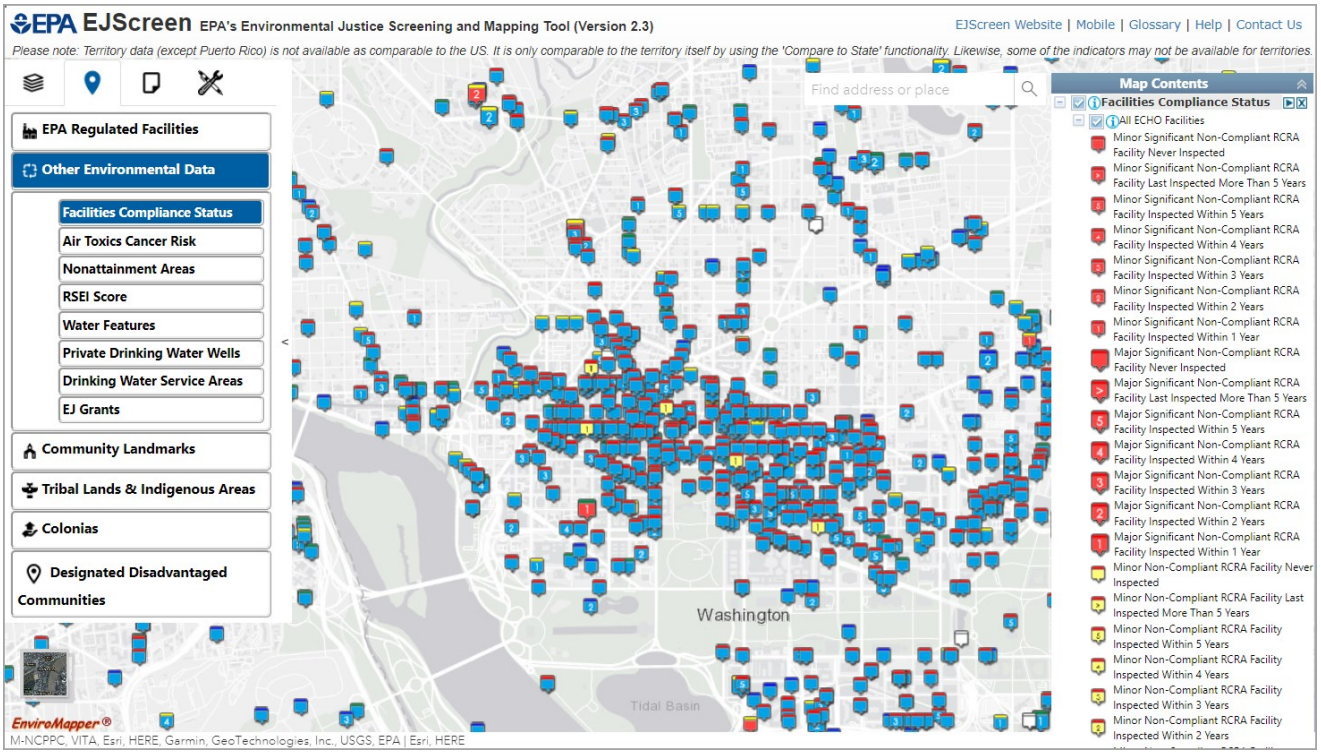
3.2 Other Environmental Data

Other Environmental Data includes Facilities Compliance Status, Air Toxics Cancer Risk, Nonattainment Areas, RSEI, Water Features, Private Drinking Water Wells, Drinking Water Service Areas, and EJ Grants.

3.2.1 Facilities Compliance Status

This map service includes data about EPA-regulated facilities from the Enforcement and Compliance History Online (ECHO) All Media Programs facility search and the ECHO Exporter. The map layer uses ECHO's standard facility symbology, illustrating the programs each facility is regulated under, whether they are in noncompliance, how long it has been since their last inspection, and whether they are a major facility. Users can choose to view all facilities, inactive facilities or tailor the view to facilities regulated under the Clean Air Act, Clean Water Act, or Resource Conservation and Recovery Act.

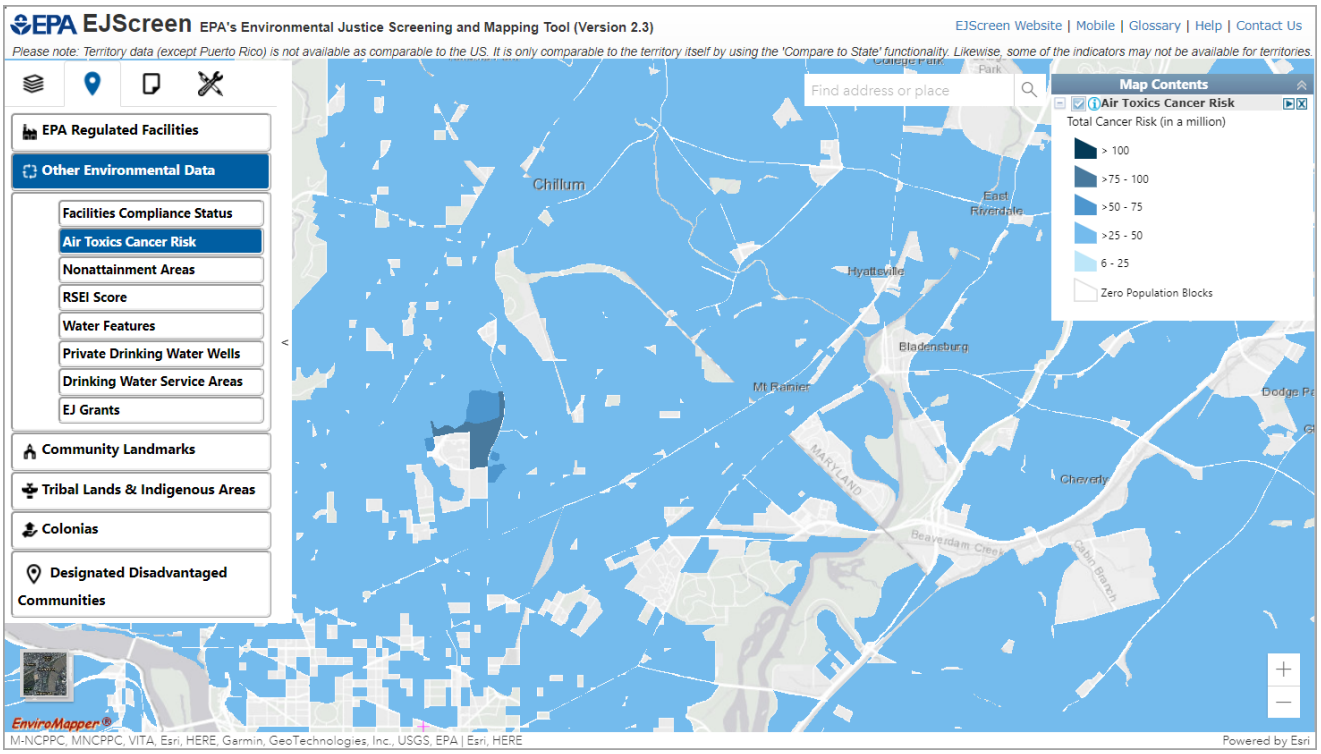
1. Click the **Places** icon in the Widget toolbar.
2. Click the Other Environmental Data icon.
3. Click **Facilities Compliance Status**.
4. Facilities Compliance Status will be added to the Map Contents menu.
5. Click one or more of the following in the Map Contents menu: **All ECHO Facilities, AIR Facilities, CWA Facilities**, **RCRA Facilities, Inactive Facilities**.
6. Checked boxes are added as layers to the map.



3.2.2 Air Toxics Cancer Risk

This map service shows the lifetime cancer risk from inhalation of air toxics, as risk per lifetime per million people.

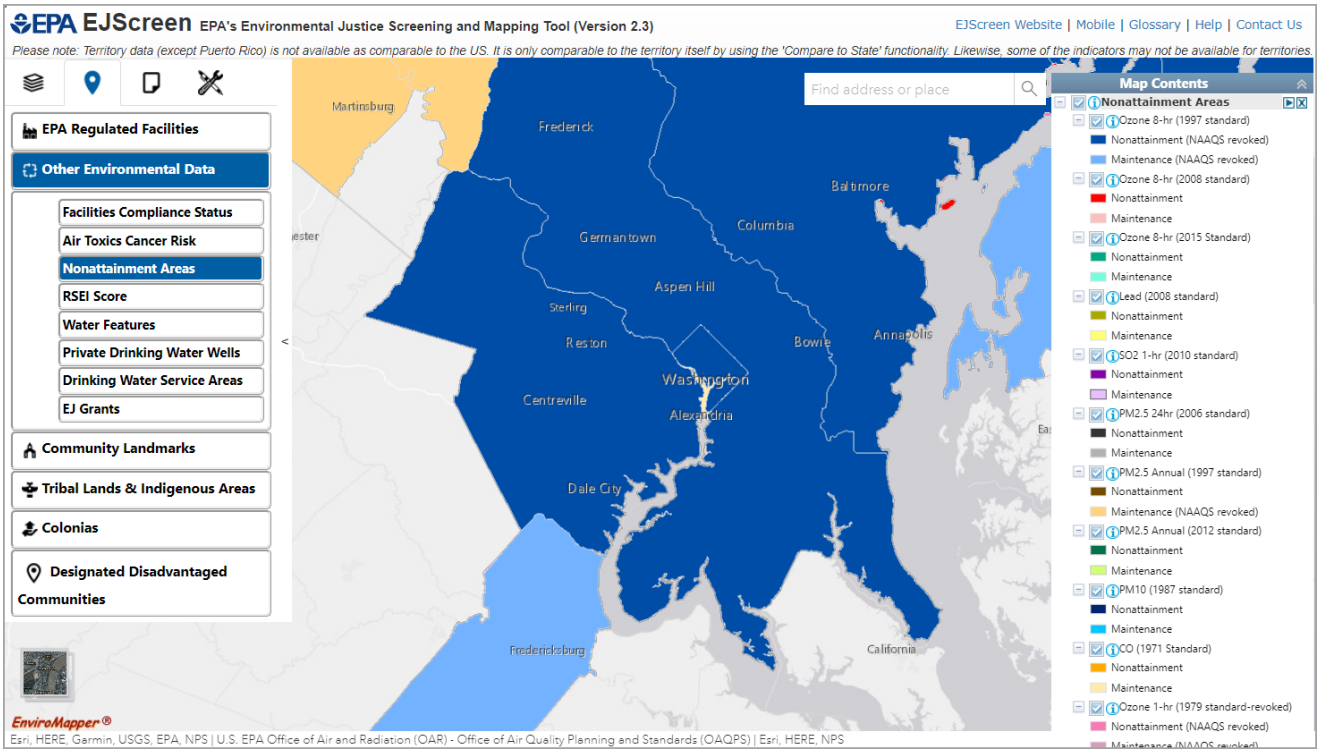
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **Air Toxics Cancer Risk**.
4. Air Toxics Cancer Risk will be added to the Map Contents menu and as a layer to the map.



3.2.3 Nonattainment Areas

This map service contains publicly available nonattainment areas data published by EPA. Further information on EPA nonattainment areas can be found at https://www.epa.gov/green-book.

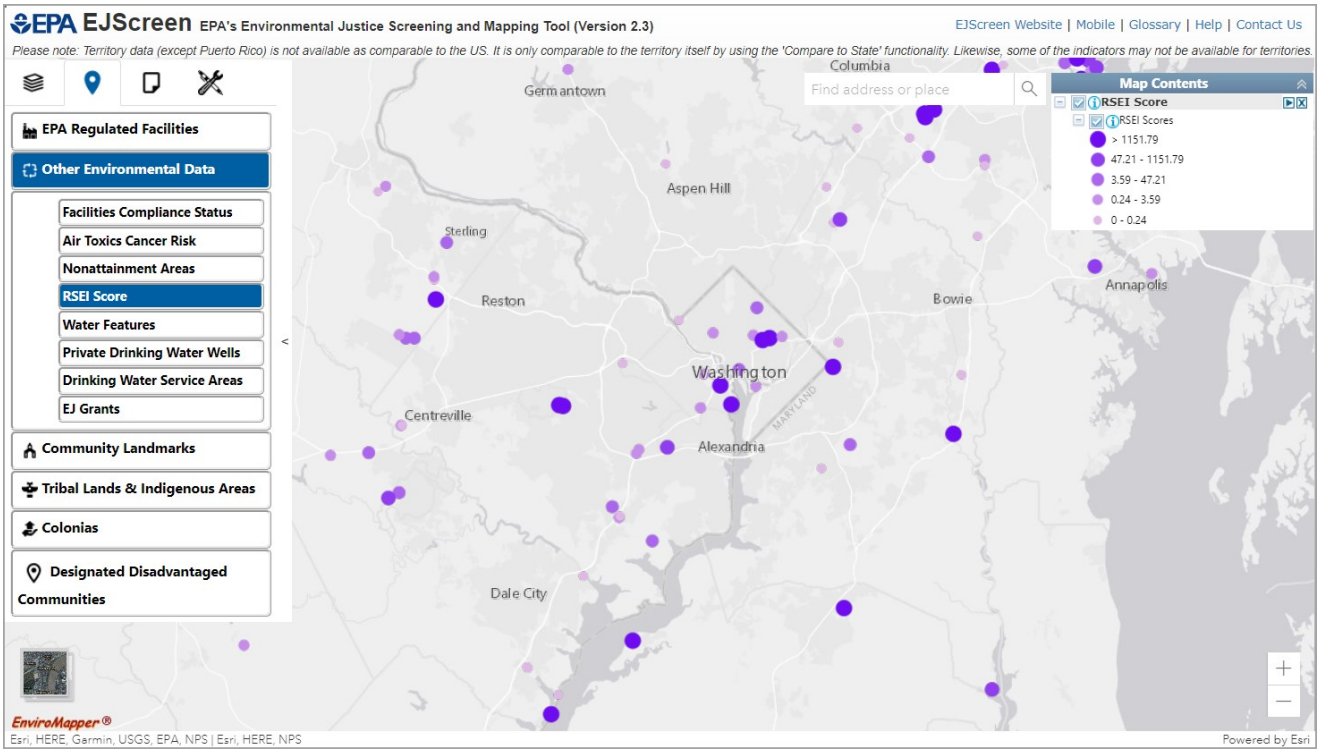
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **Nonattainment Areas**.
4. The following Nonattainment Areas will be added to the Map Contents menu and the map: **Ozone 8-hr (1997 standard), Ozone 8-hr (2008 standard), Ozone 8-hr (2015 Standard), Lead (2008 standard), SO2 1-hr (2010 standard), PM2.5 24hr (2006 standard), PM2.5 Annual (1997 standard), PM2.5 Annual (2012 standard), PM10 (1987 standard), CO (1971 Standard), Ozone 1-hr (1979 standard-revoked),** and **NO2 (1971 Standard)**.



3.2.4 RSEI

EPA's Risk-Screening Environmental Indicators (RSEI) model helps policy makers, researchers, and communities explore data on releases of toxic substances from industrial and federal facilities. RSEI incorporates information from the Toxics Release Inventory (TRI) on the amount of toxic chemicals released, together with factors such as the chemical's fate and transport through the environment, each chemical's relative toxicity, and potential human exposure. RSEI model results can be used to help establish priorities for further investigation and to look at changes in potential human health impacts over time. Further information is available at the RSEI website.

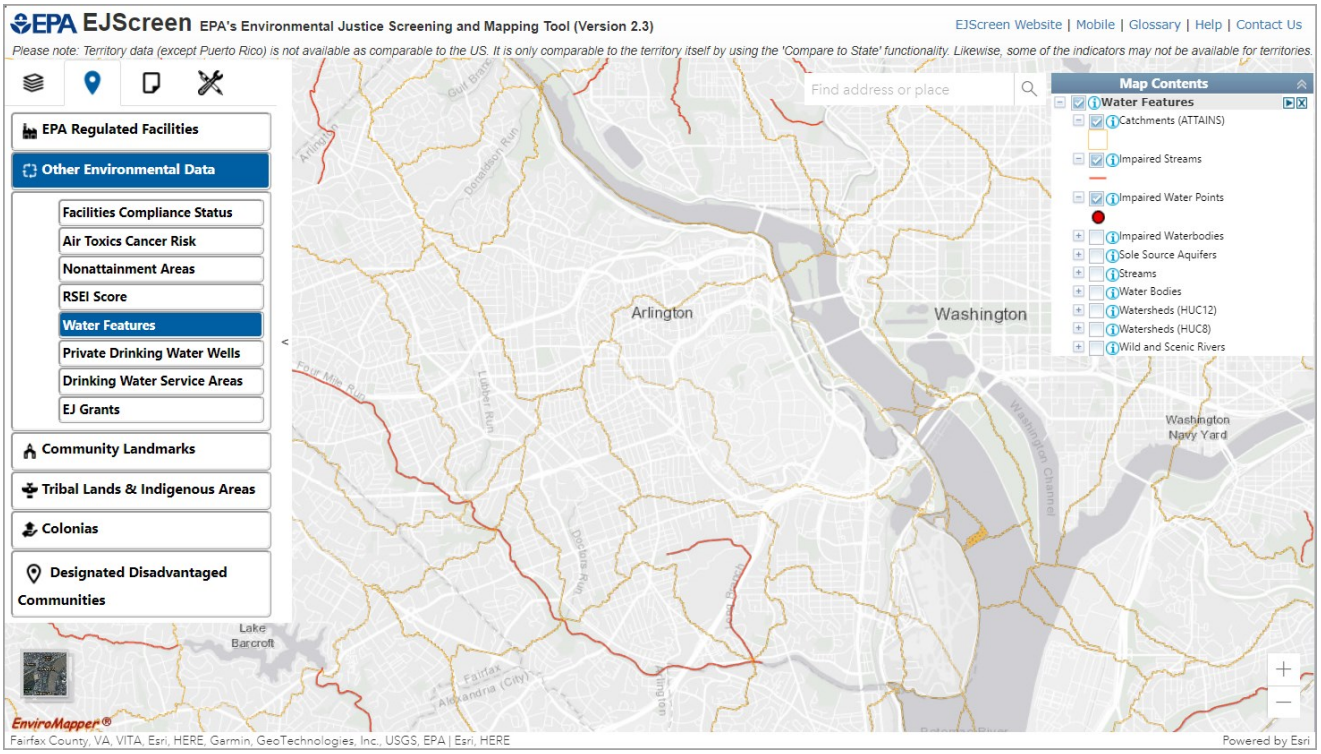
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **RSEI**.
4. RSEI will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.2.5 Water Features

This map service contains Water and Hydrological layers for Catchments (ATTAINS), Impaired Streams, Impaired Water Points, Impaired Waterbodies, Sole Source Aquifers, Streams, Water Bodies, Watersheds (HUC12), Watersheds (HUC8), and Wild and Scenic Rivers.

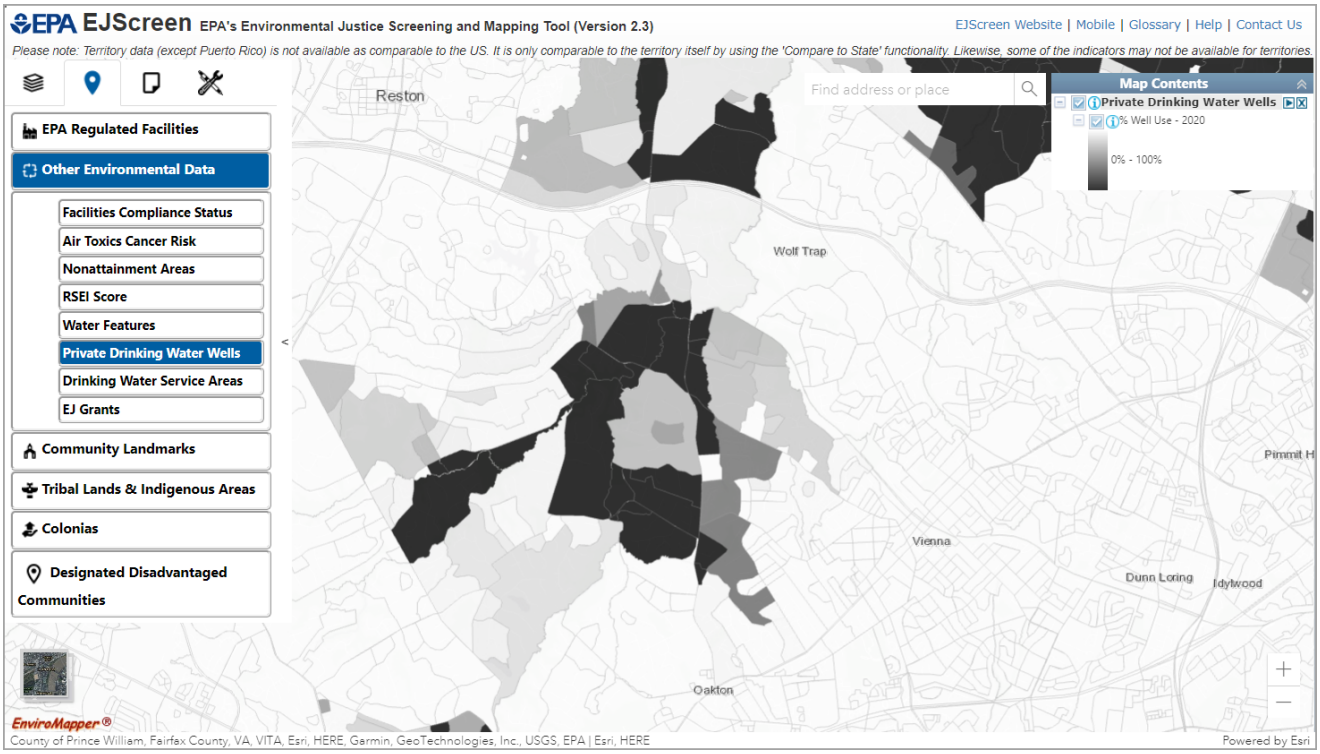
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **Water Features**.
4. Water Features will be added to the Map Contents menu.
5. Click one or more of the following in the Map Contents menu: **Catchments (ATTAINS), Impaired Streams, Impaired Water Points, Impaired Waterbodies, Sole Source Aquifers, Streams, Water Bodies, Watersheds (HUC12), Watersheds (HUC8), Wild and Scenic Rivers.**.
6. Checked boxes are added as layers to the map.



3.2.6 Private Drinking Water Wells

This map service contains the estimated percentage of private domestic water wells in 2020.

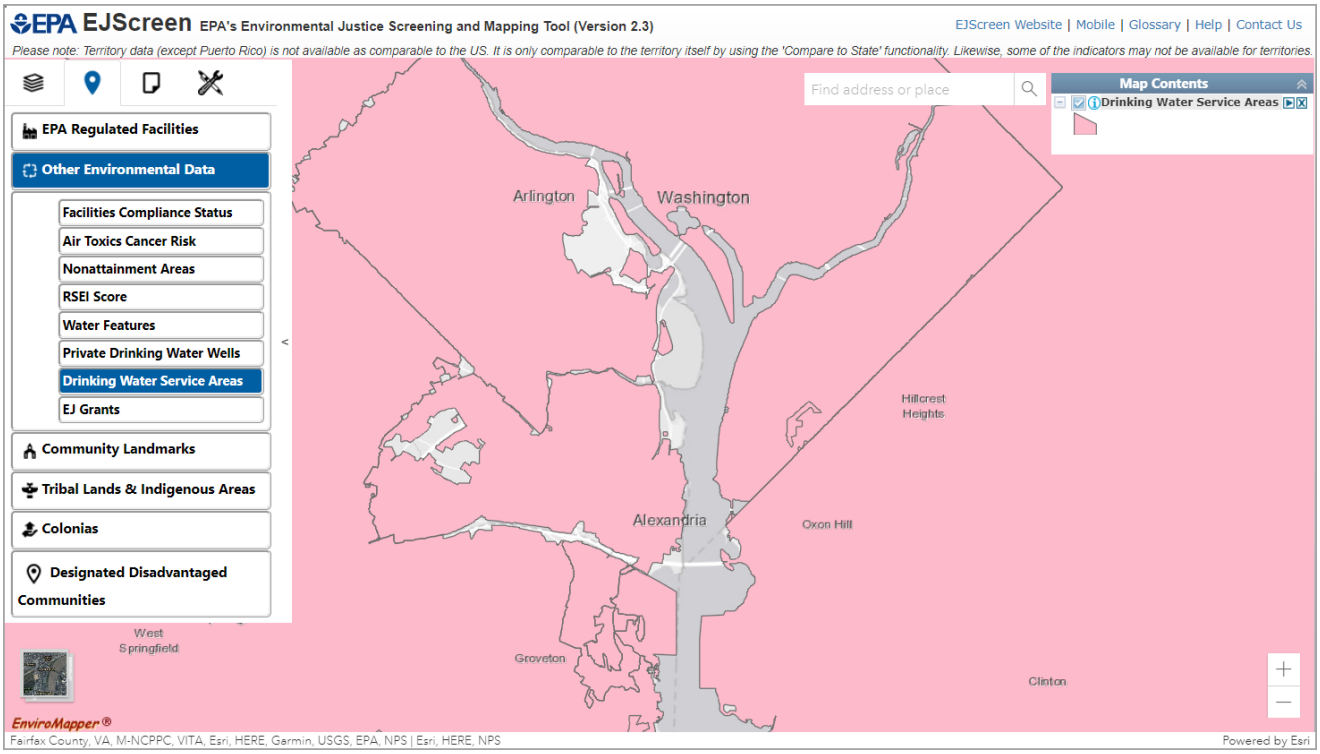
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **Private Drinking Water Wells**.
4. Private Drinking Water Wells will be added to the Map Contents menu and map.



3.2.7 Drinking Water Service Areas

This map service contains Drinking Water Service Areas.

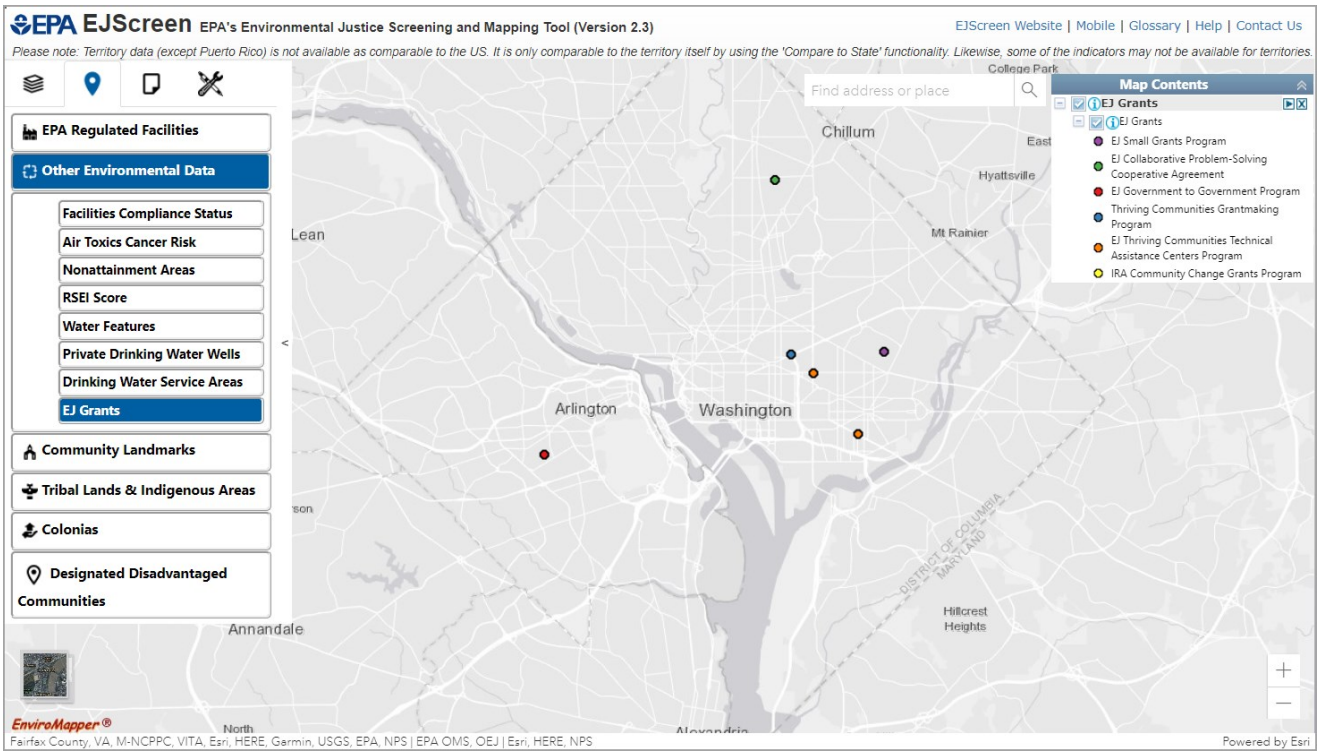
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **Drinking Water Service Areas**.
4. Drinking Water Service Areas will be added to the Map Contents menu and to the map.



3.2.8 EJ Grants

This map service contains the following EJ Grants: EJ Small Grants Program, EJ Collaborative Problem-Solving Cooperative Agreement, EJ Government to Government Program, Thriving Communities Grantmaking Program, EJ Thriving Communities Technical Assistance Centers Program, and IRA Community Change Grants Program.

1. Click the **Places** icon in the Widget toolbar.
2. Click the **Other Environmental Data** icon to display a list.
3. Click **EJ Grants**.
4. EJ Grants will be added to the Map Contents menu and as a layer to the map.



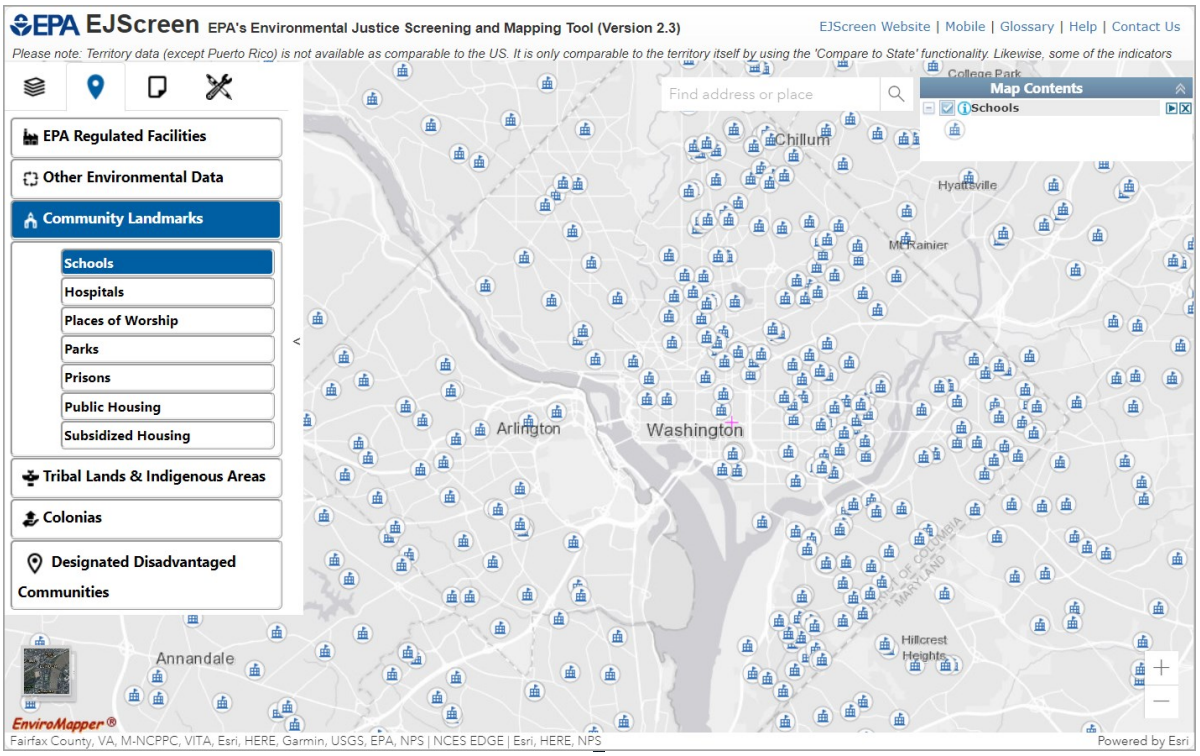
3.3 Community Landmarks

Community Landmarks includes Schools, Hospitals, Places of Worship, Parks, Prisons, Public Housing, and Subsidized Housing.

3.3.1 Schools

This map service contains locational data for public Schools via the National Center for Education Statistics (NCES) map service.

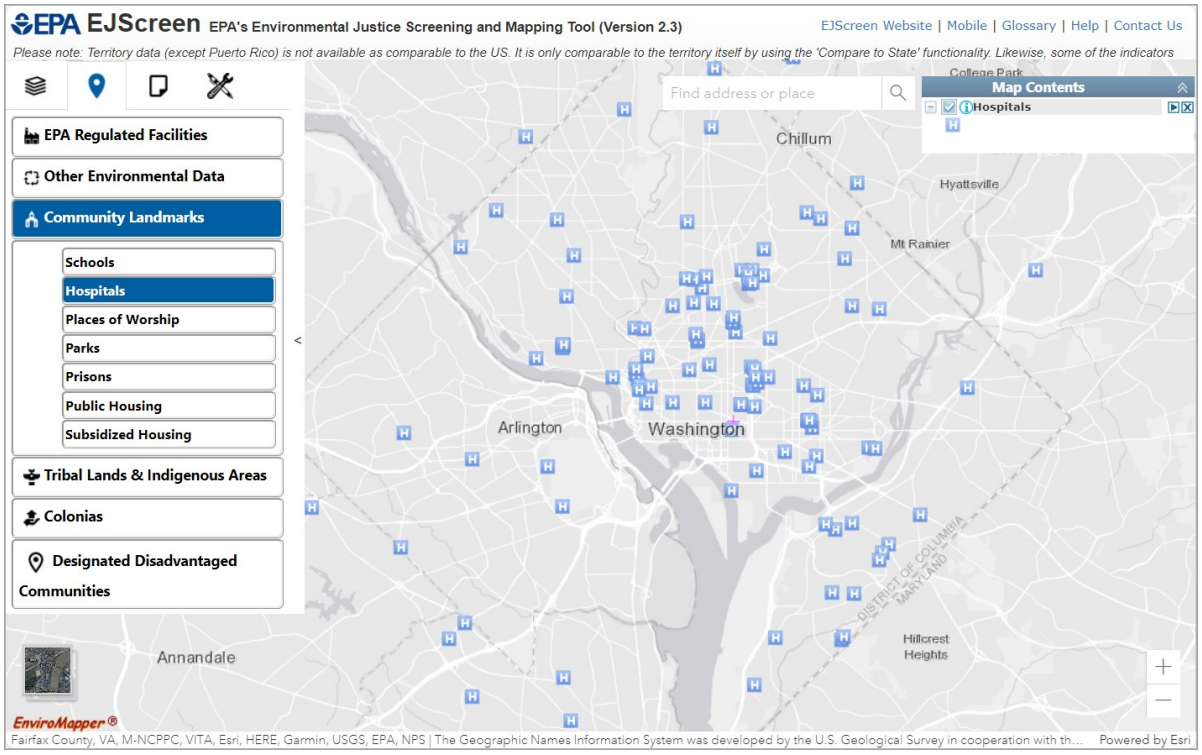
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Schools**.
4. Schools will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.2 Hospitals

This map service contains locational data for Hospitals via the United States Geological Survey (USGS) Geographic Names Information System (GNIS) service.

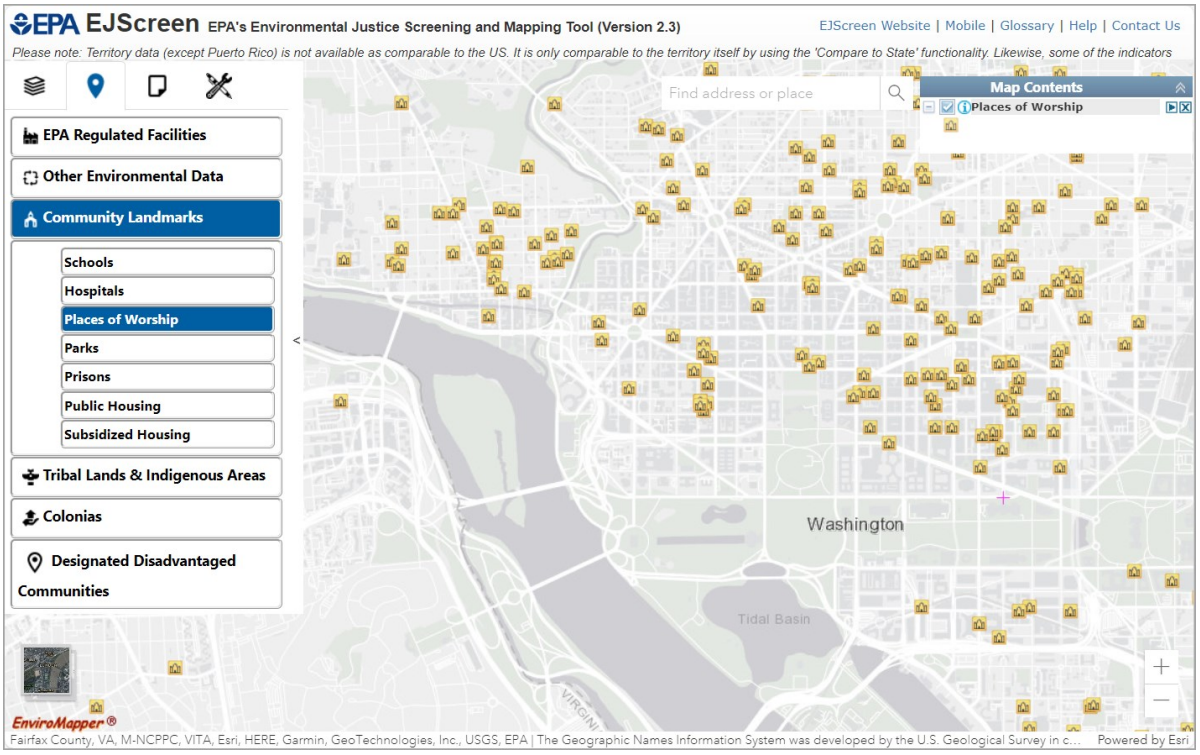
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Hospitals**.
4. Hospitals will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.3 Places of Worship

This map service contains locational data for Places of Worship via the United States Geological Survey (USGS) Geographic Names Information System (GNIS) service.

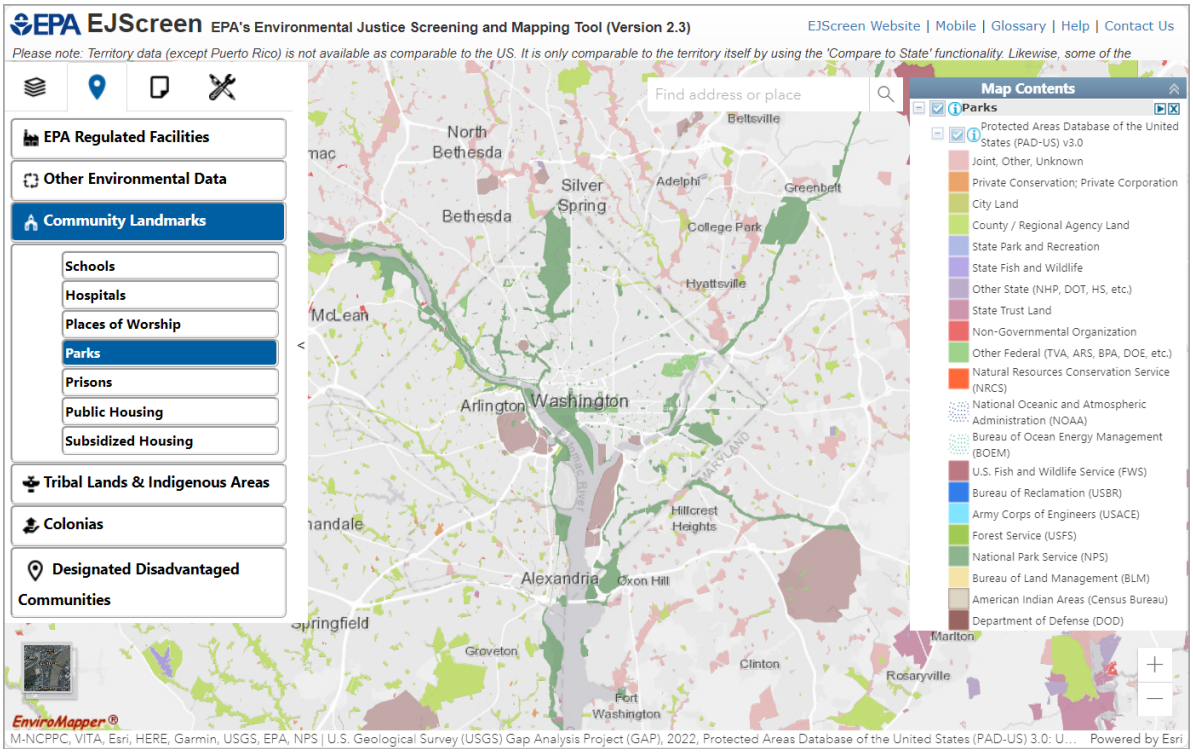
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Places of Worship**.
4. Places of Worship will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.4 Parks

This map service illustrates and describes public land ownership represented in the Protected Areas Database of the United States (PAD-US). The database is published by the United States Geologic Survey (USGS), Core Science Systems, Core Science Analytics and Synthesis, and the National GAP Analysis Program.

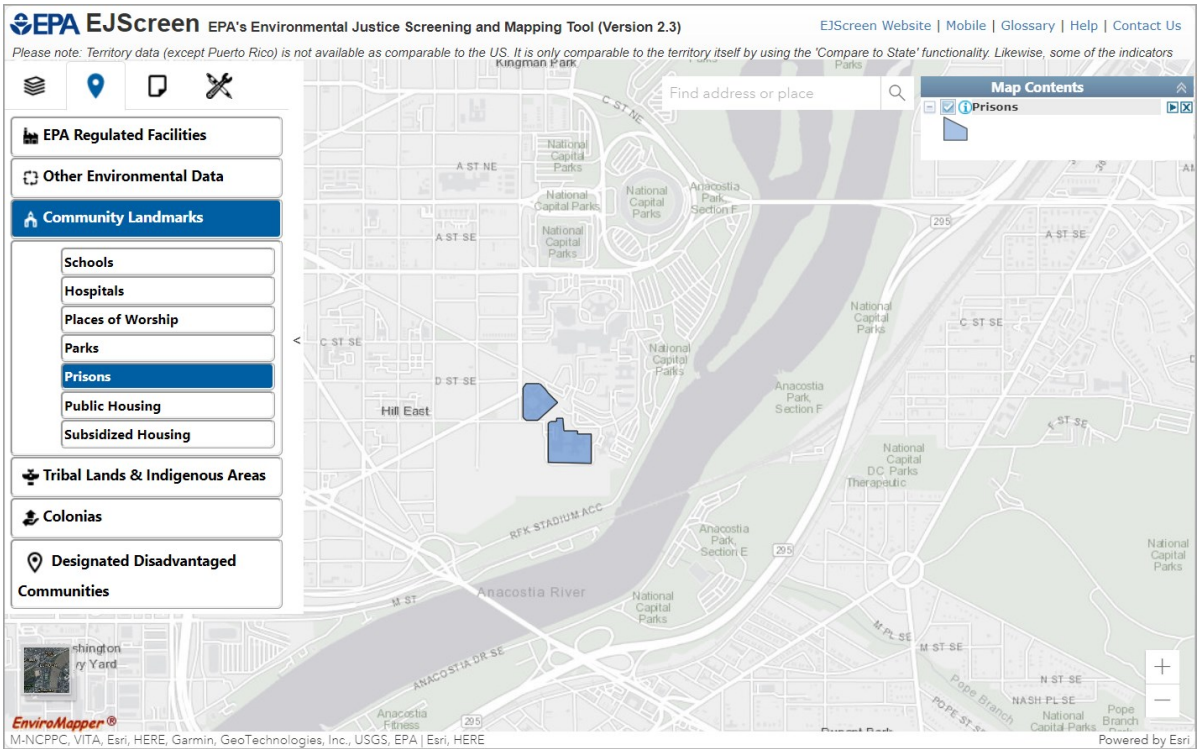
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Parks**.
4. Parks will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.5 Prisons

The prison boundary feature class contains secure detention facilities. These facilities range in jurisdiction from federal (excluding military) to local governments. Polygon geometry is used to describe the extent of where the incarcerated population is located (fence lines or building footprints). Further information is available at the Department of Homeland Security.

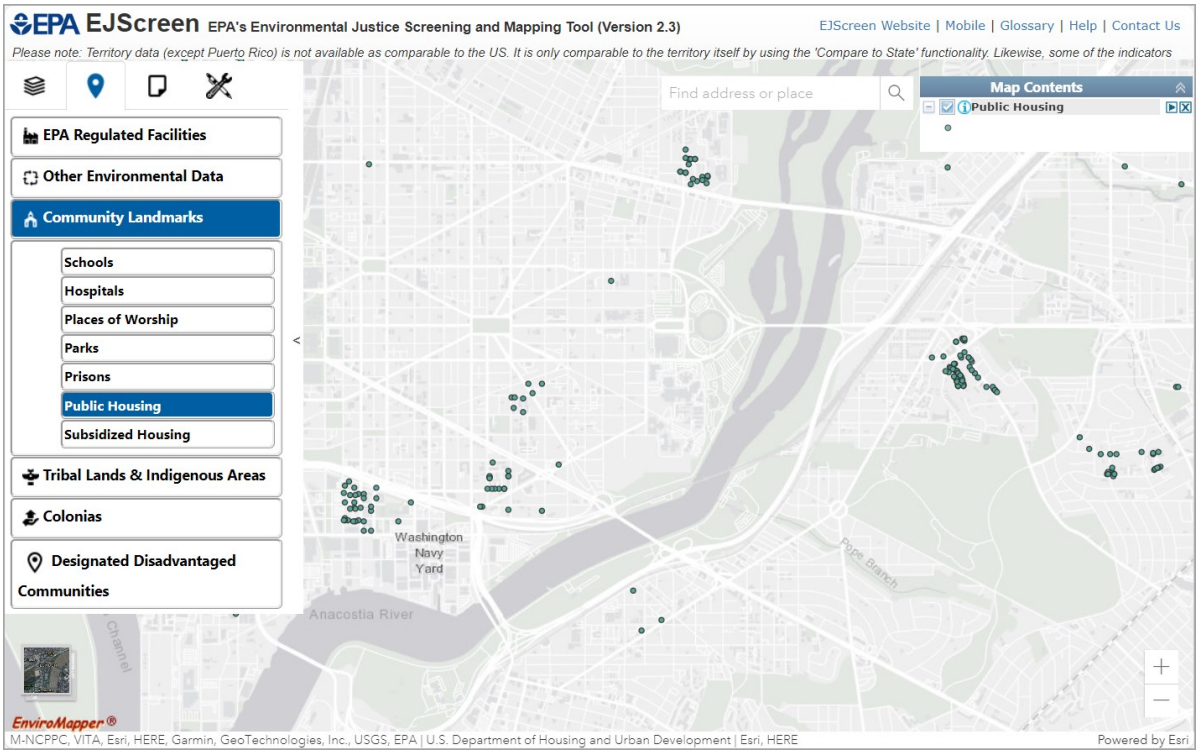
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Prisons**.
4. Prisons will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.6 Public Housing

This map service contains Public Housing data from the United States Department of Housing and Urban Development.

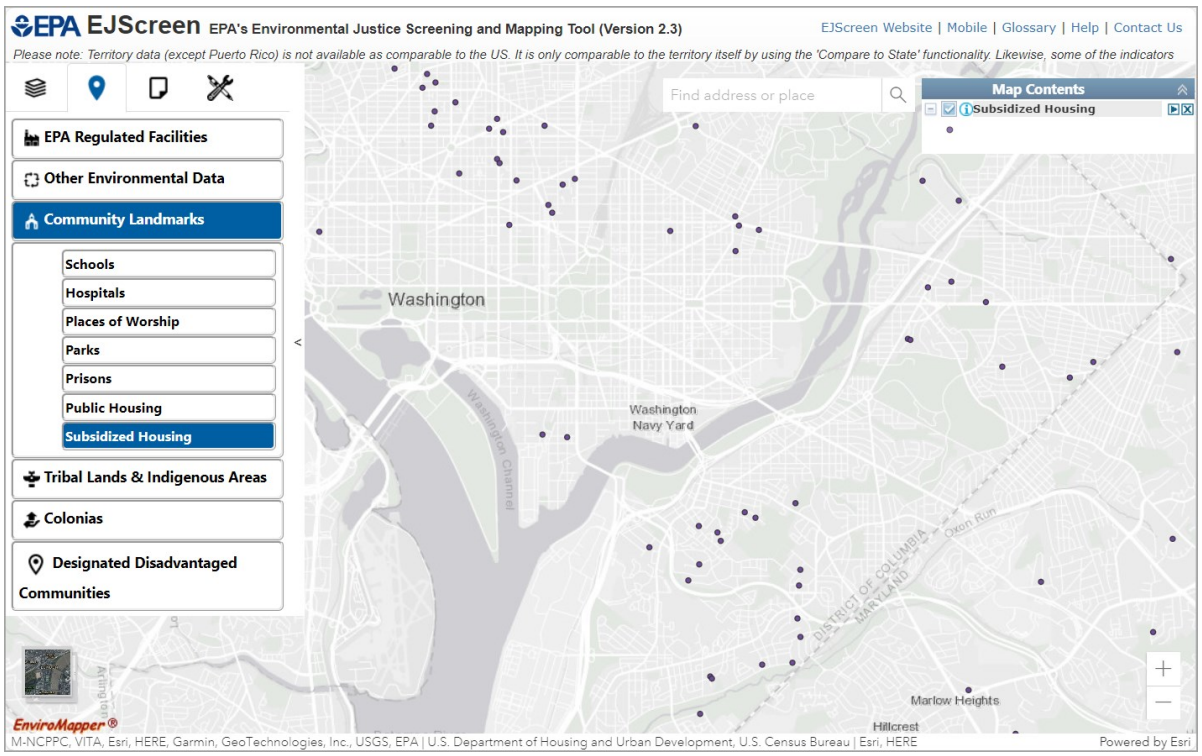
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Public Housing**.
4. Public Housing will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.3.7 Subsidized Housing

This map service contains Multifamily Properties Assisted data from the United States Department of Housing and Urban Development. HUD Multifamily Housing property portfolio consists primarily of rental housing properties with five or more dwelling units such as apartments or town houses, but can also be nursing homes, hospitals, elderly housing, mobile home parks, retirement service centers, and occasionally vacant land.

1. Click the **Places** icon in the Widget toolbar.
2. Click the **Community Landmarks** icon.
3. Click **Subsidized Housing**.
4. Subsidized Housing will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



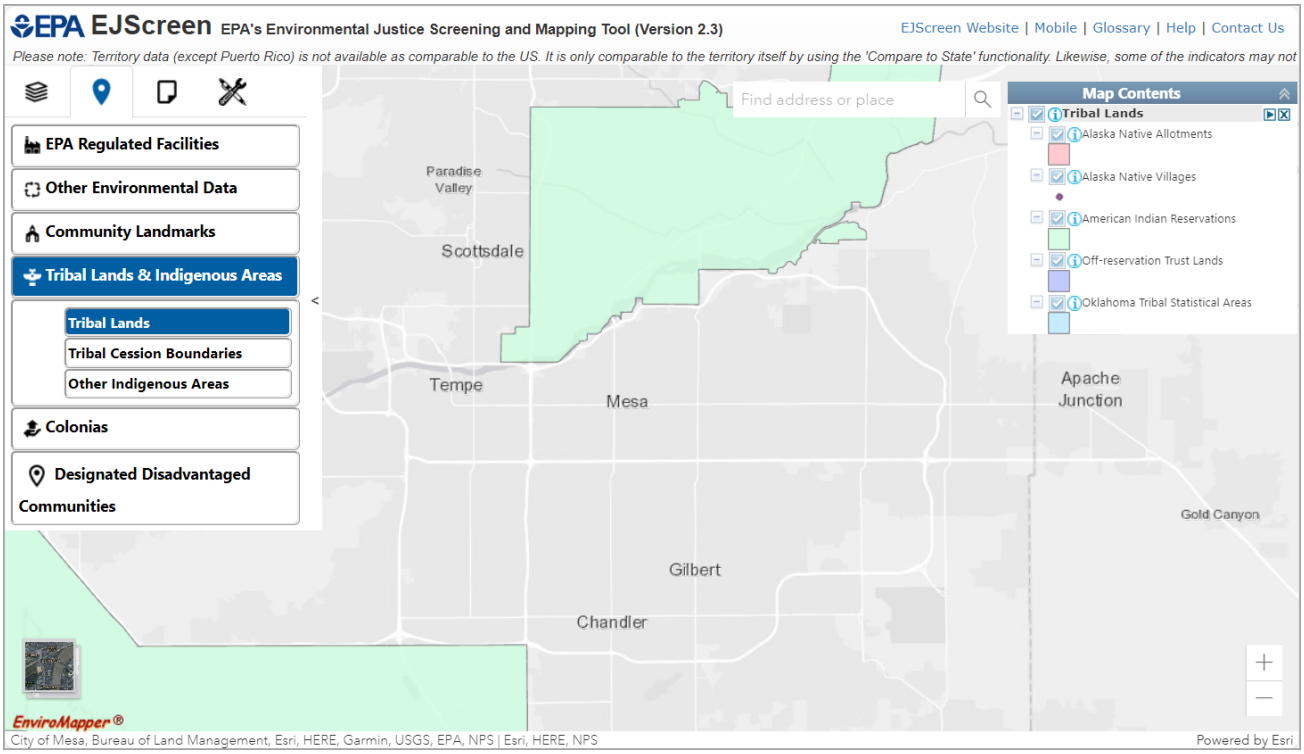
3.4 Tribal Lands & Indigenous Areas

Tribal Lands & Indigenous Areas includes information relating to Indian country locations. Please note that EPA makes no claims regarding the accuracy or precision of data concerning Indian country locations or boundaries.

3.4.1 Tribal Lands

This map service contains EPA tribal areas, including Alaska Native Allotments, Alaska Native Villages, American Indian Reservations, Off-reservation Trust Lands, and Oklahoma Tribal Statistical Areas.

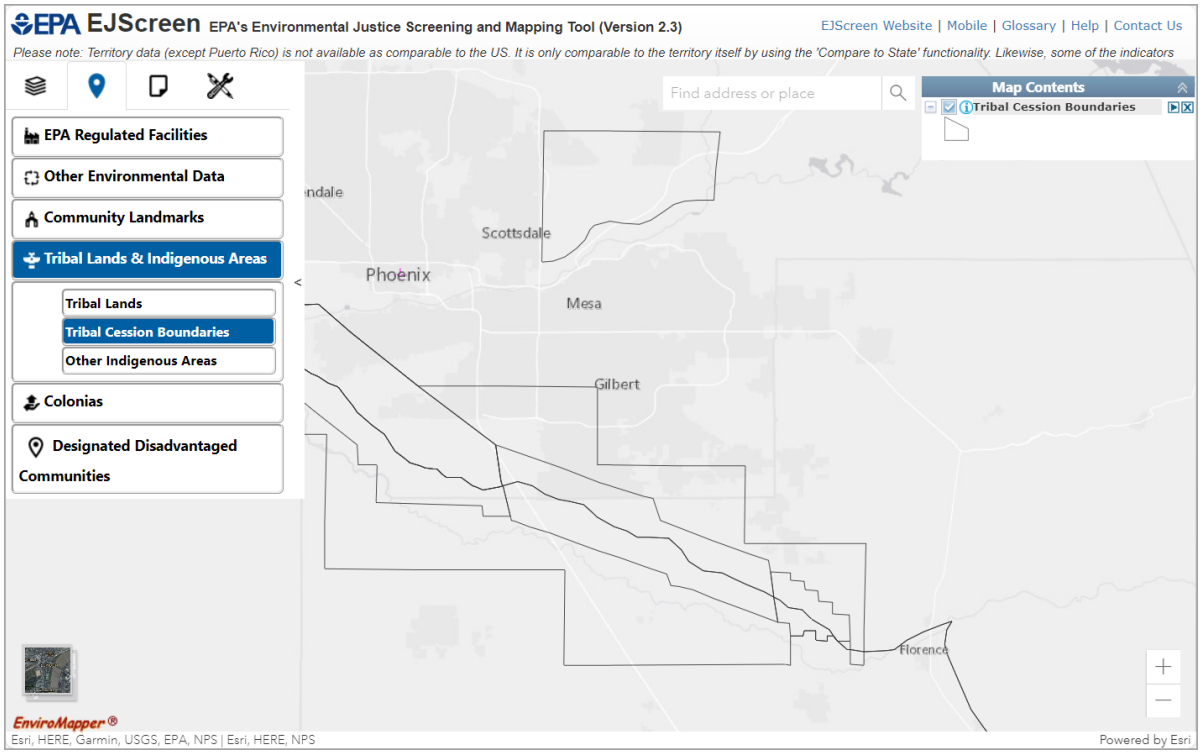
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Tribal Lands & Indigenous Areas** icon.
3. Click **Tribal Lands**.
4. Tribal Lands will be added to the Map Contents menu.
5. Click one or more of the following in the Map Contents menu: **Alaska Native Allotments, Alaska Native Villages, American Indian Reservations, Off-reservation Trust Lands, Oklahoma Tribal Statistical Areas**.
6. Checked boxes are added as layers to the map.



3.4.2 Tribal Cession Boundaries

This map service provides Tribal Land Cessions boundaries for the United States.

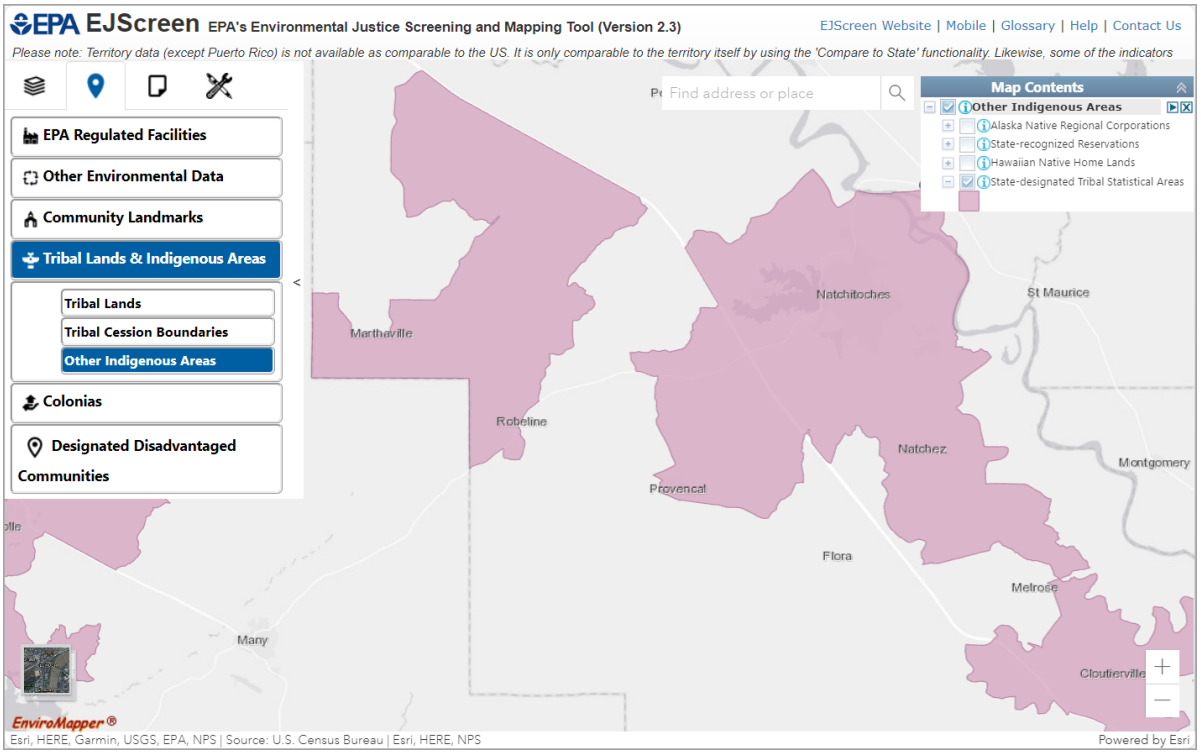
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Tribal Lands & Indigenous Areas** icon.
3. Click **Tribal Cession Boundaries**.
4. Tribal Cession Boundaries will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.4.3 Other Indigenous Areas

This map service contains Other Indigenous Areas, including Alaska Native Regional Corporations, State-recognized Reservations, Hawaiian Native Homelands, and State-designated Tribal Statistical Areas.

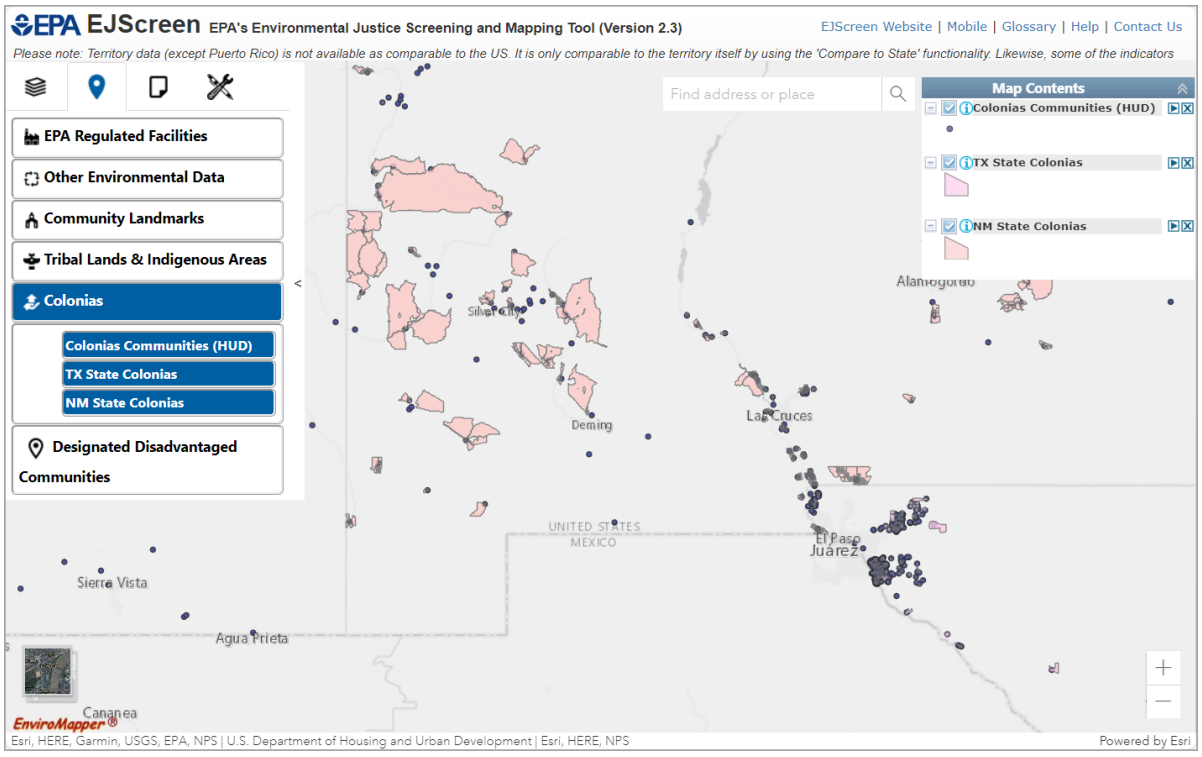
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Tribal Lands & Indigenous Areas** icon.
3. Click **Other Indigenous Areas**.
4. Other Indigenous Areas will be added to the Map Contents menu.
5. Click one or more of the following in the Map Contents menu: **Alaska Native Regional Corporations, State-recognized Reservations, Hawaiian Native Home Lands, State-designated Tribal Statistical Areas**.
6. Checked boxes are added as layers to the map.



3.5 Colonias

Colonias are rural communities in close proximity to the US-Mexico border that lack access to basic services such as water, sewer, or housing. This map service contains Colonias Communities (HUD), Texas (TX) State Colonias, and New Mexico (NM) State Colonias.

1. Click the **Places** icon in the Widget toolbar.
2. Click the **Colonias** icon to display a list.
3. Click one or more of the following: **Colonias Communities (HUD), TX State Colonias, NM State Colonias.**
4. Selected Colonias will be added to the Map Contents menu.
5. Checked boxes are added as layers to the map.



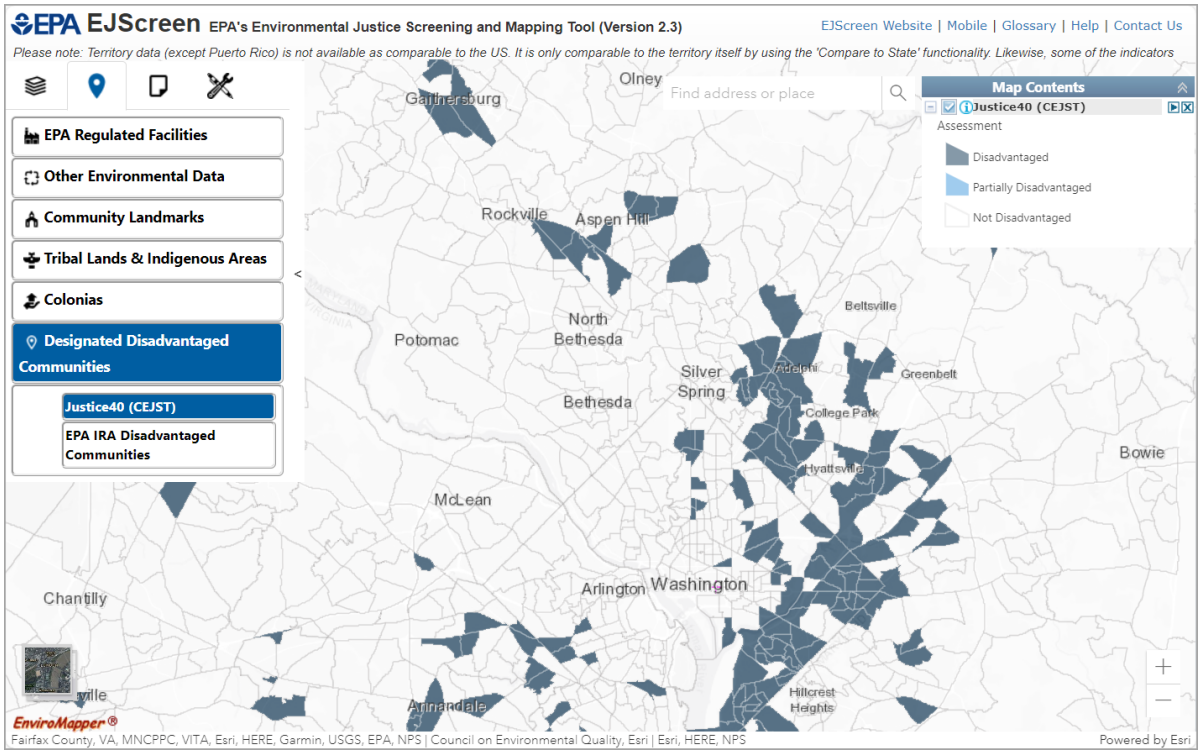
3.6 Designated Disadvantaged Communities

The Designated Disadvantaged Communities options include Justice40 (CEJST) and EPA IRA Disadvantaged Communities data.

3.6.1 Justice40 (CEJST)

This map service contains communities identified as disadvantaged by The White House Council on Environmental Quality (CEQ) for purposes of Justice40. Further information on the Justice40 Initiative and the Climate and Economic Justice Screening Tool (CEJST) is available at https://www.whitehouse.gov/environmentaljustice/justice40/.

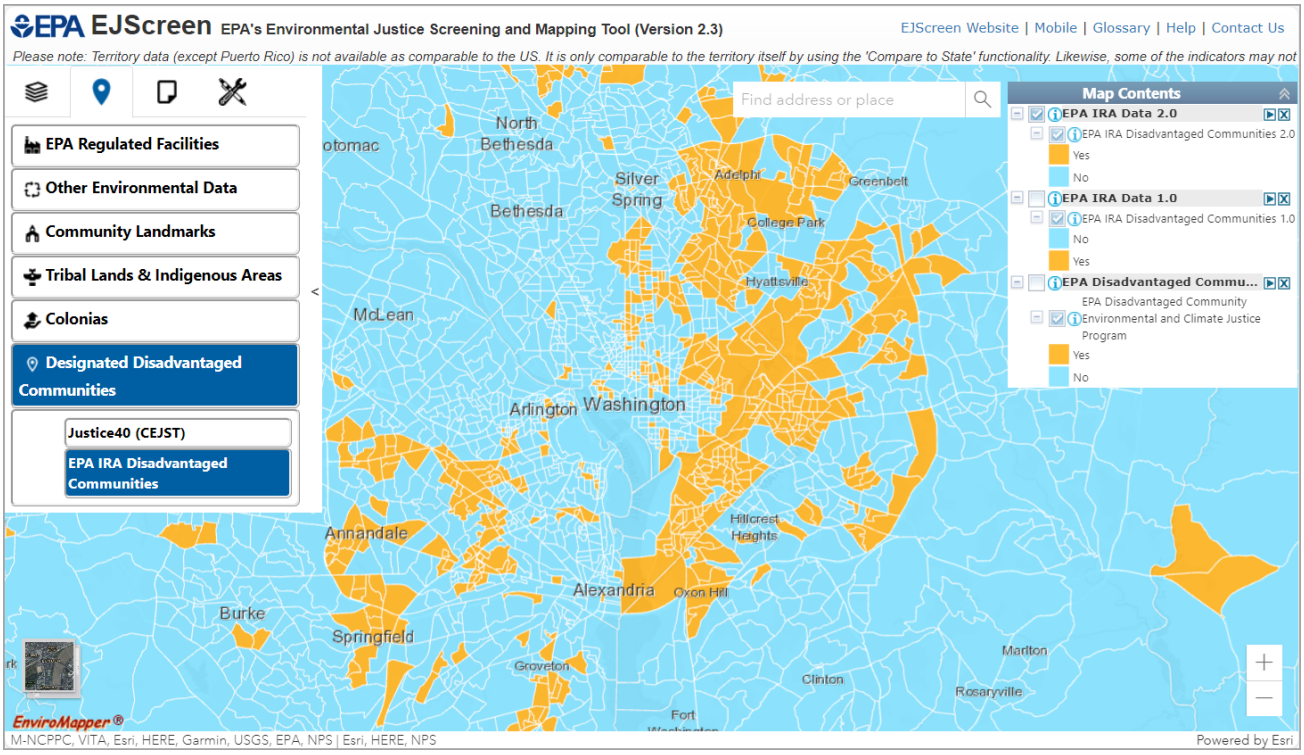
1. Click the **Places** icon in the Widget toolbar.
2. Click the **Designated Disadvantaged Communities** icon.
3. Click **Justice40 (CEJST)**.
4. Justice40 (CEJST) will be added to the Map Contents menu.
5. Checked box is added as a layer to the map.



3.6.2 EPA IRA Disadvantaged Communities

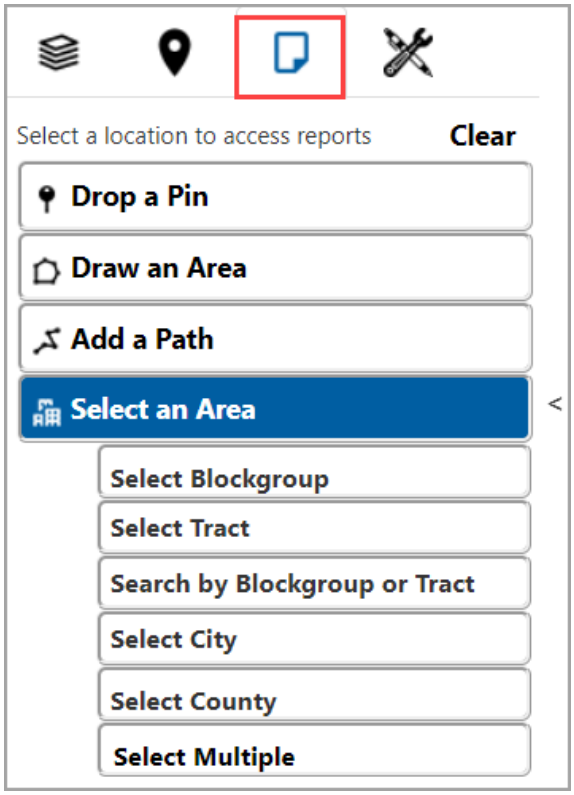
This map service contains EPA IRA Disadvantaged Communities. Further information on the EPA IRA Disadvantaged Communities is available at https://www.epa.gov/inflation-reduction-act/advancing-environmental-justice.

1. Click the **Places** icon in the Widget toolbar.
2. Click the **Designated Disadvantaged Communities** icon.
3. Click **EPA IRA Disadvantaged Communities**.
4. **EPA IRA Disadvantaged Communities** will be added to the Map Contents menu.
5. Options include **EPA IRA Data 2.0**, **EPA IRA Data 1.0**, and **EPA Disadvantaged Community Environmental and Climate Justice Program** layers.
6. **EPA IRA Data 2.0** is checked as the default and added to the map.
7. Checked boxes are added as layers to the map.



4. Reports Widget

The **Reports** widget is used to identify a location of interest or known geography and then provide EJ Indexes and Environmental and Demographic reports for that area. In addition to a bar chart (where scores for the location can be compared to state and national scores), users can generate a tabular view for downloading or a graphic standard report in PDF format.

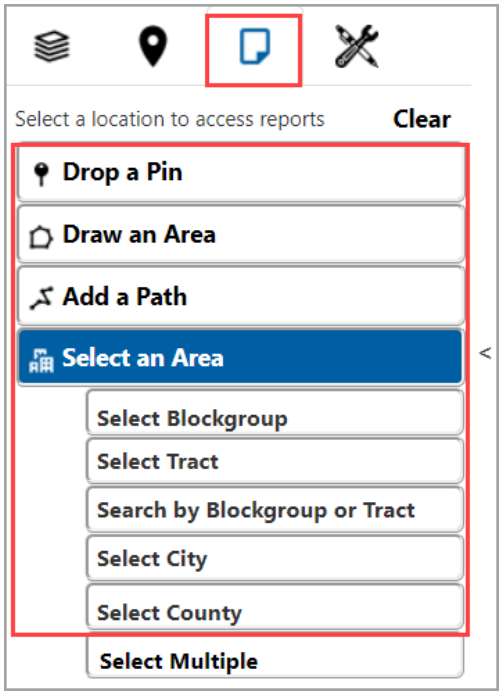


Note: Particulate Matter (PM) 2.5 and Ozone data currently are not available in EJScreen for Alaska, Hawaii, and Puerto Rico.

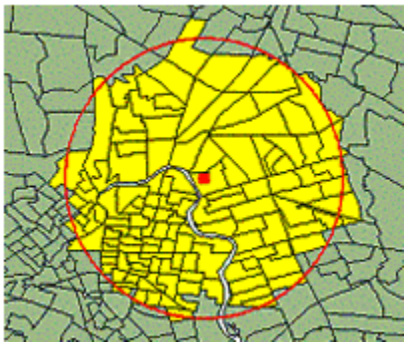
4.1 Location Selection and Buffer Options

The following location selection options are intended for examining EJ Indexes, Environmental variables, and Demographic variables across block group-level data for the United States.

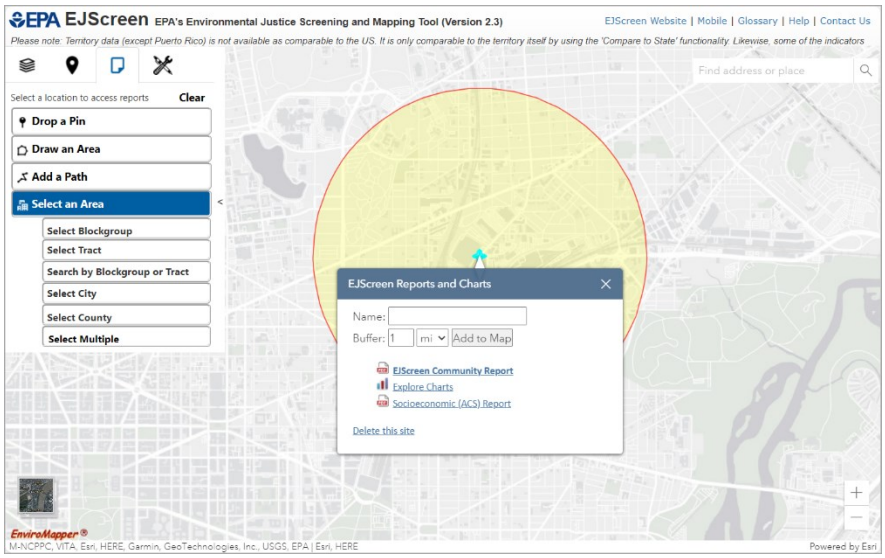
1. Locate the **Reports** icon in the Widget toolbar.
2. Select one of the various options to view additional data:
    a. **Drop a Pin** – click this to use a pushpin to select an area for review.
    b. **Draw an Area** – click this to manually draw an enclosed area for review.
    c. **Add a Path** – click this to manually draw a path area for review.
    d. **Select an Area**
        i. **Select Blockgroup** – click this to select a geographic defined area for review.
        ii. **Select Tract** – click this to select a geographic defined area for review.
        iii. **Search by Blockgroup or Tract –** click this to enter a block group or tract ID.
        iv. **Select City** – click this to select a city's limit defined area for review.
        v. **Select County** – click this to select a county's defined area for review.



When user input is a geographic point (i.e., Drop a Pin, Draw an Area, and Add a Path options), a buffer is applied around the point. The ring will aggregate appropriate portions of the intersecting block groups, weighted by population, to create a representative set of data for the entire ring area, honoring variation and dispersion of the population in the block groups within it. For each indicator, the result is a population-weighted average, which equals the block group indicator values averaged over all residents who are estimated to be inside the buffer.[1]



The map display will locate the point location and provide the option to add the buffer to the map (for example, 1-mile buffer around a pin center in Washington, DC 20050) by clicking the Add to Map button.



[1] **For buffered areas, values are calculated following these steps:**

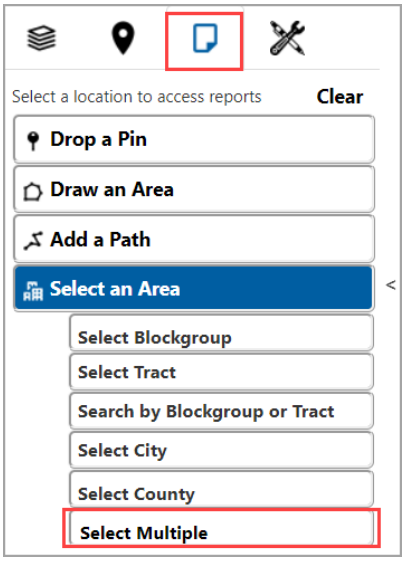
1. **The selected point is buffered using the native Geometry Service published through ArcGIS Server.**
2. **To spatially aggregate the EJScreen data for the buffered ring area for the analysis, the tool takes into account the block points that exist within the block groups to account for the block groups that are partially intersected with the ring area. A weight factor for each block group is determined by summing each block point population percentage for that block group. If the ring touches part of a neighboring block group that contains no block points, nothing will be aggregated; if a ring intersects a number of block groups, EJScreen indices will be aggregated within each block group based on the affiliated block points.**
3. **The aggregation is done by using factor-weighted block points.**

These calculated EJScreen indices are returned to the web application for display in the viewer (as population and raw values) and for comparison against the percentile tables.

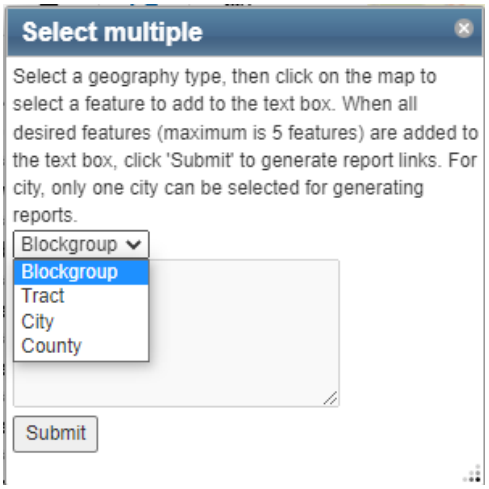
4.2 Select Multiple

The **Select Multiple** option allows reporting for one City, or one or more Counties, Tracts, or Block groups.

1. Click the **Reports** icon in the Widget toolbar.
2. Click the **Select an Area** icon.
3. Click **Select Multiple**.



The **Select Multiple** window will be displayed.

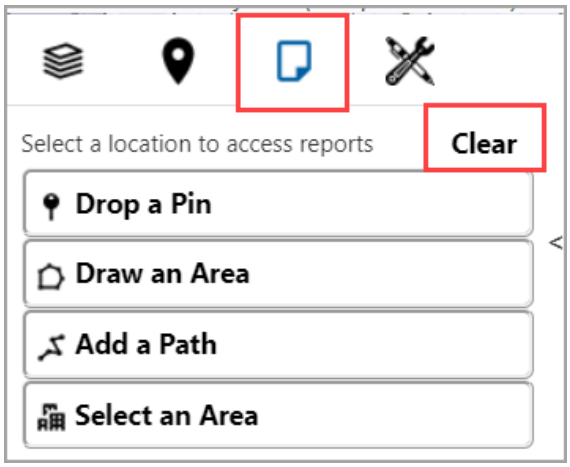


4. Select Blockgroup, Tract, City, or County from the geography type dropdown menu.
5. Click on the map to add features. Up to five features can be selected for Blockgroup, Tract, or County. Only one City can be selected for generating reports.
6. Then click the Submit button to generate reports.

4.3 Clear Selected Locations

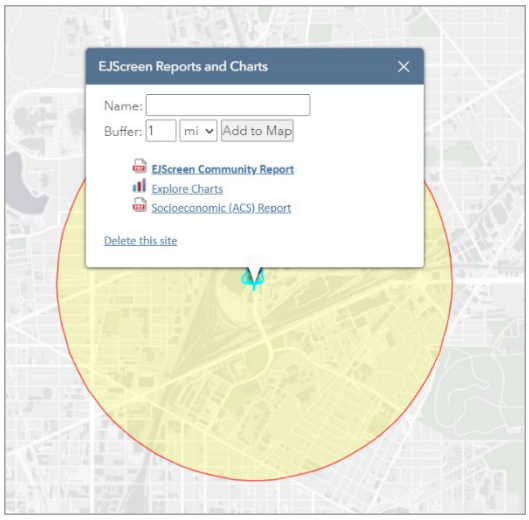
Use **Clear Selected Locations** to remove any drawings or selections from the map.

1. Click the **Reports** icon in the Widget toolbar.
2. Click **Clear** at the top of the dropdown list.
3. All added drawings and measurement markers will be removed from the map.



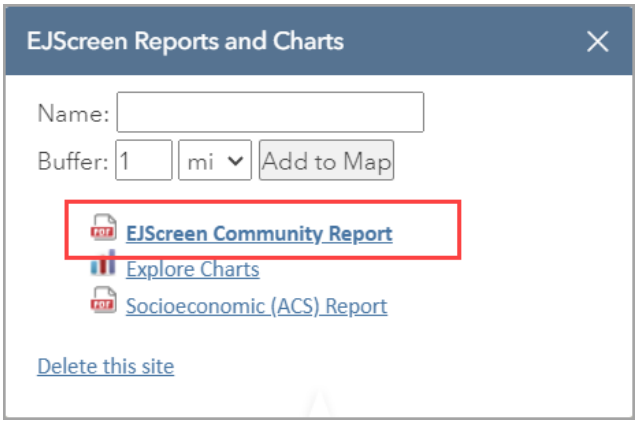
4.4 EJScreen Reports and Charts

After selecting a location selection option to view data in the area, an **EJScreen Reports and Charts** pop-up displays.



4.4.1 EJScreen Community Report

Any user who would like a more concrete representation of the data available in EJScreen can choose to export a PDF using the **EJScreen Community Report** link on the **EJScreen Reports and Charts** widget.



Note: It is important to wait for the report to finish creating, which may take up to two minutes. Do not click the **EJScreen Community Report** link again until a report has been returned.

Once the report is created, the user will then have the option of saving the report as a PDF by clicking the Print icon in the top-right corner.

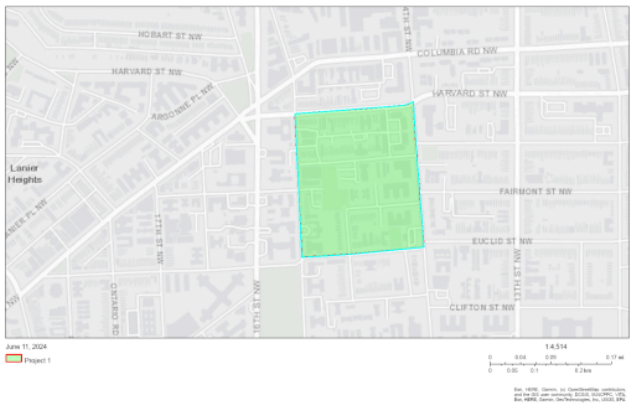
EPA

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

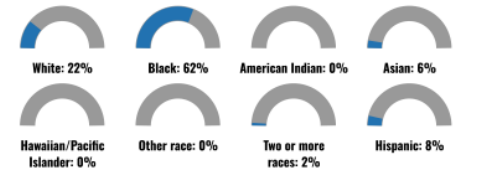
Washington, DC

Blockgroup: 110010037022
Population: 2,246
Area in square miles: 0.03



COMMUNITY INFORMATION

BREAKDOWN BY RACE



BREAKDOWN BY AGE

LIMITED ENGLISH SPEAKING BREAKDOWN

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	89%
Spanish	5%
French, Haitian, or Cajun	1%
Korean	1%
Other and Unspecified	3%
Total Non-English	11%

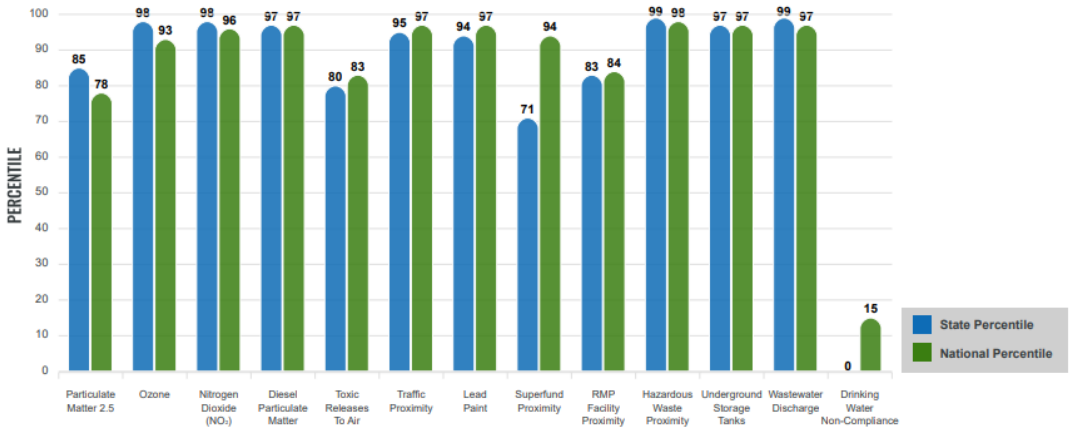
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

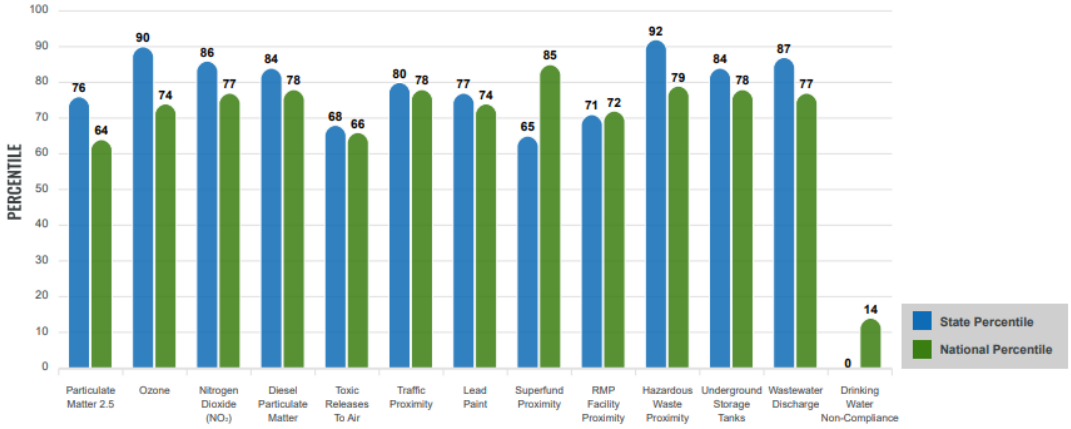
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for Blockgroup: 110010037022

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu g/m^3$)	7.03	7.04	35	8.45	19
Ozone (ppb)	41.6	41.3	77	41	56
Nitrogen Dioxide (NO_2) (ppbv)	12	11	68	7.8	85
Diesel Particulate Matter ($\mu g/m^3$)	0.356	0.347	59	0.191	89
Toxic Releases to Air (toxicity-weighted concentration)	130	180	30	4,600	26
Traffic Proximity (daily traffic count/distance to road)	4,900,000	5,000,000	55	1,700,000	91
Lead Paint (% Pre-1960 Housing)	0.64	0.55	53	0.3	83
Superfund Proximity (site count/km distance)	0.16	0.38	23	0.39	67
RMP Facility Proximity (facility count/km distance)	0.12	0.18	41	0.57	36
Hazardous Waste Proximity (facility count/km distance)	31	22	81	3.5	99
Underground Storage Tanks (count/km^2)	14	12	72	3.6	93
Wastewater Discharge (toxicity-weighted concentration/m distance)	8,400	7,100	68	700,000	87
Drinking Water Non-Compliance (score)	0	0.043	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.52	N/A	N/A	0	93
Supplemental Demographic Index USA	0.2	N/A	N/A	0	66
Demographic Index State	1.42	0	91	N/A	N/A
Supplemental Demographic Index State	0.41	0	71	N/A	N/A
People of Color	78%	59%	63	40%	81
Low Income	69%	24%	97	30%	94
Unemployment Rate	21%	7%	91	6%	96
Limited English Speaking Households	1%	3%	63	5%	59
Less Than High School Education	8%	7%	66	11%	50
Under Age 5	0%	3%	0	6%	0
Over Age 64	4%	13%	19	18%	7

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

- Superfund 0
- Hazardous Waste, Treatment, Storage, and Disposal Facilities 0
- Water Dischargers 0
- Air Pollution 1
- Brownfields 0
- Toxic Release Inventory 0

Other community features within defined area:

- Schools 1
- Hospitals 0
- Places of Worship 1

Other environmental data:

- Air Non-attainment ..... Yes
- Impaired Waters ..... No

- Selected location contains American Indian Reservation Lands* ..... No
- Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... No
- Selected location contains an EPA IRA disadvantaged community ..... Yes

Report for Blockgroup: 110010037022

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	21%	45	20%	63
Heart Disease	2.2	3.8	15	5.8	1
Asthma	11.3	11.1	63	10.3	79
Cancer	3	5.2	4	6.4	2
Persons with Disabilities	10.6%	10.7%	57	13.7%	34

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	0%	8%	0	12%	0
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	2%	11%	25	13%	18
Lack of Health Insurance	2%	3%	41	9%	11
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for Blockgroup: 110010037022
Report produced June 11, 2024 using EJScreen Version 2.3

The **EJScreen Community Report** will include the following:

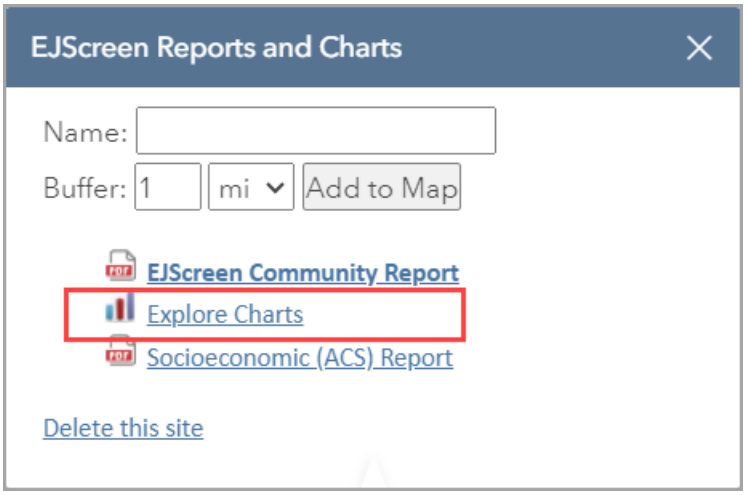
- The latitude and longitude of the center of the buffered ring (Buffer ring selection)
- The block group that the data represents (Block group selection)
- The city or county and state that the data is encompassed by
- Approximate population
- Input area (in square miles)
- Community Information
- Breakdown by Race
- Breakdown by Age
- Limited English Speaking Breakdown
- EJ Indexes for the selected location
- Supplemental EJ Indexes for the selected location
- A table of all the variables available in the widget and for each variable the following:
    - Raw value
    - State average
    - Percentile in State
    - USA average
    - Percentile in USA
- A list of the number of sites reporting to EPA within the selected location
- A list of other community features within the selected location
- A list of other environmental data
- A table with Indian Land and Disadvantaged Community information
- Tables with Health Indicators, Climate Indicators, and Critical Service Gaps

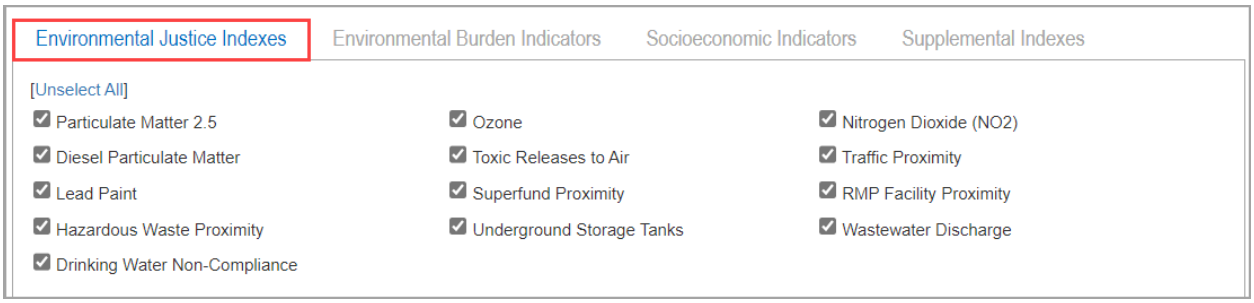
Data that displays “0” or “0%” is a known and valid value for a data element. Data that displays “N/A” (not available or “null”) means that no value was calculated for that data element. For example, Ozone and Particle Matter (PM) 2.5 concentrations were not available for Alaska, so all associated data elements are set to “null”.

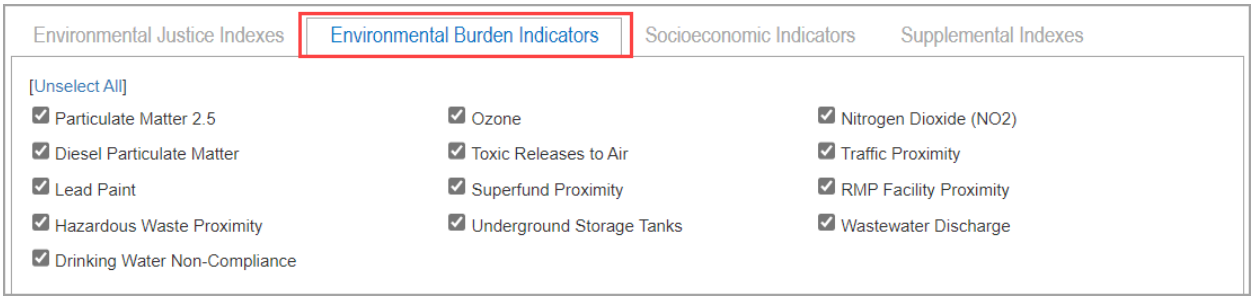
Multiple reports can be created per session.

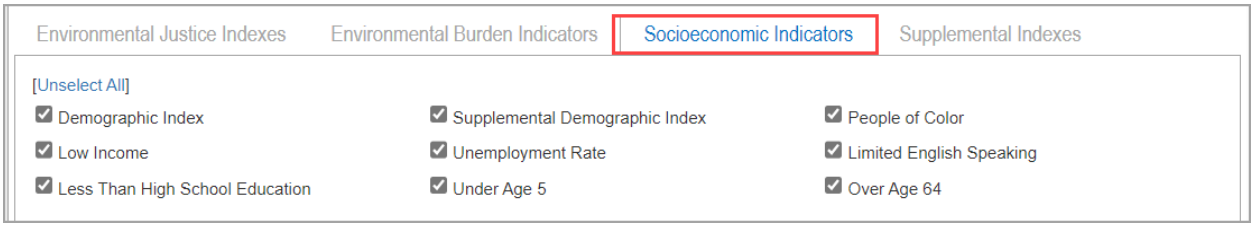
4.4.2 Explore Charts

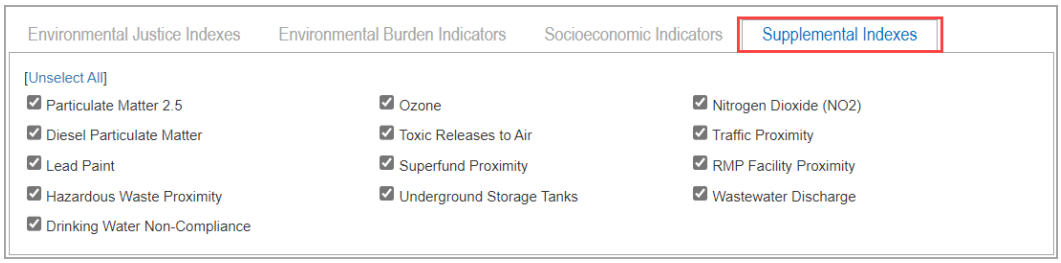
Click the **Explore Charts** option link on the **EJScreen Reports and Charts** widget to display the data variables.











These data variables represent the data that can be displayed in the bar chart on the bottom half of the widget. As the default, all data layers in the chosen group are selected. Once a data layer is visible, it is displayed in the **Chart of Data Comparisons** as well as in the **Tabular Data** table (if currently visible).

For detailed descriptions of the Environmental Justice Indexes, Environmental Burden Indicators, Socioeconomic Indicators, and Supplemental Indexes see the glossary at https://www.epa.gov/ejscreen/ejscreen-map-descriptions2.

4.4.2.1 Chart of Data Comparisons

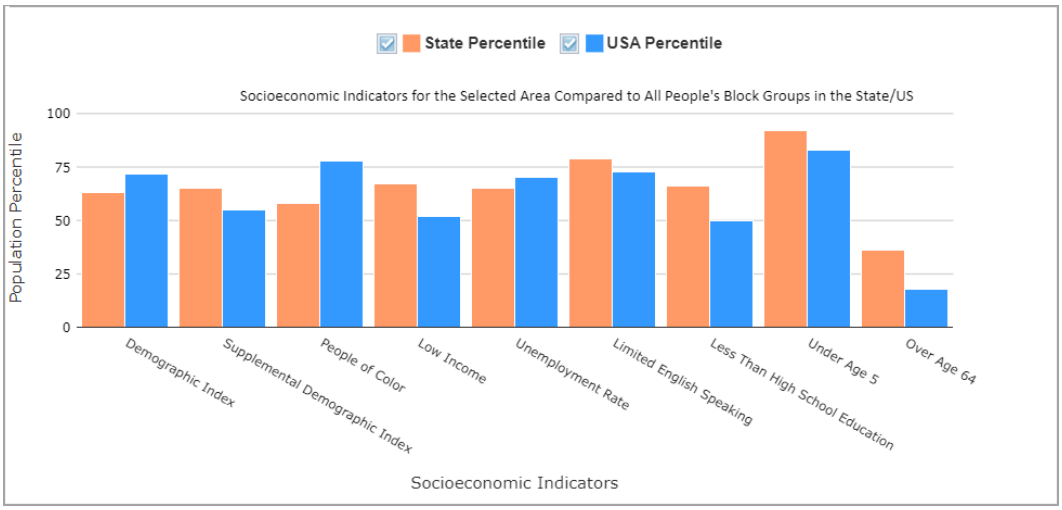
Above the main chart in the **Explore Charts** option, there is a listing of which block group is currently selected for data display along with its State, EPA Region, and total population:

This graphic is slightly different for a buffer ring-based analysis, which displays the x,y coordinates of the center of the circle along with radius and aggregate population (estimated):

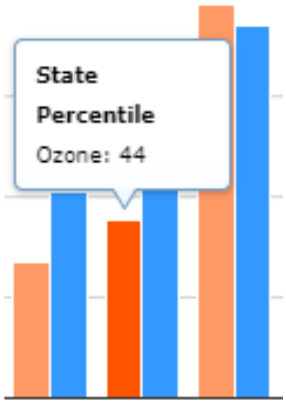
Below the identifying text are two checkboxes that allow the user to control which comparative geographies are visible on the chart. The chart is built to handle one geography (State or USA) or both at the same time, so the user may select whichever comparison is most relevant.

The chart itself displays a series of bar graphs, comparing the currently selected area (either block group or buffered ring) to the state and national statistics for each variable.

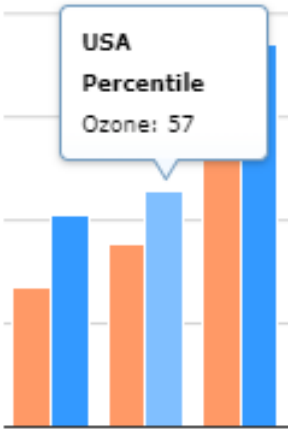
The y-axis of the chart runs from 0 to 100 showing percentiles. The x-axis displays different data variables, as selected by the user.



Pointing the mouse to a bar will show a pop-up window including the bar's geography, the variable displayed, and the percentile that the selected block group or ring represents when compared to a larger group. For example, if an area is at the 44th Percentile in the state, this means that for the average person the block group score is greater than (or equal to) 44% of the state population.



44th Percentile in State

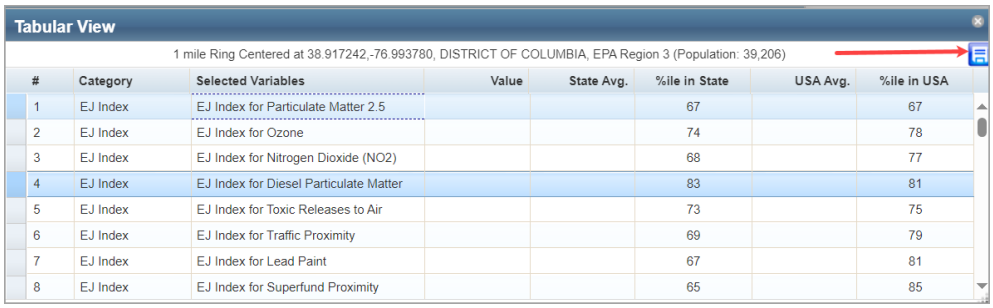


57th Percentile in USA

4.4.2.2 Tabular View

Below the chart data, the Get Data Table button takes the displayed data and creates a table in a pop-up window within the application. Whichever variables are selected ("checked") in the data tables are displayed in this table.

EJ indexes do not display raw data, but the rest of the data types include a raw score, state average and percentile, and national average and percentile.



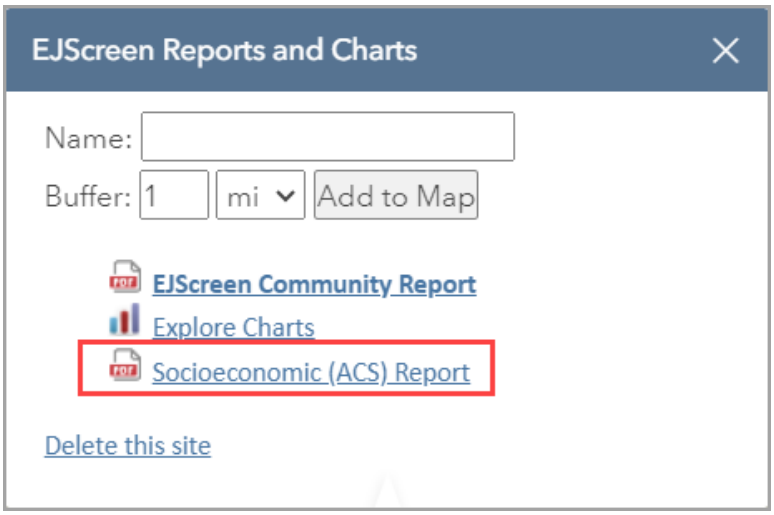
#	Category	Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
1	EJ Index	EJ Index for Particulate Matter 2.5			67		67
2	EJ Index	EJ Index for Ozone			74		78
3	EJ Index	EJ Index for Nitrogen Dioxide (NO2)			68		77
4	EJ Index	EJ Index for Diesel Particulate Matter			83		81
5	EJ Index	EJ Index for Toxic Releases to Air			73		75
6	EJ Index	EJ Index for Traffic Proximity			69		79
7	EJ Index	EJ Index for Lead Paint			67		81
8	EJ Index	EJ Index for Superfund Proximity			65		85

The user can adjust column widths, scroll through the table, and sort the table by clicking on the column heading. The tabular view also includes the block group Federal Information Processing Standards (FIPS) code, the state, and population. This table is functional for both the block group selection method and the buffer ring selection method.

In the top-right corner of the **Tabular View** window, there is a download icon that will allow the user to download data as a text file. This functionality will save the tabular data to a comma separated value (CSV) file at a location of the user's choice. The data can be imported to a spreadsheet program or opened as a text file for archiving or future analysis.

4.4.3 Socioeconomic (ACS) Reports

Under the the **EJScreen Reports and Charts**, the **Socioeconomic (ACS) Report** link provides a report with US Census Bureau American Community Survey (ACS) 2018 - 2022 data in PDF format.

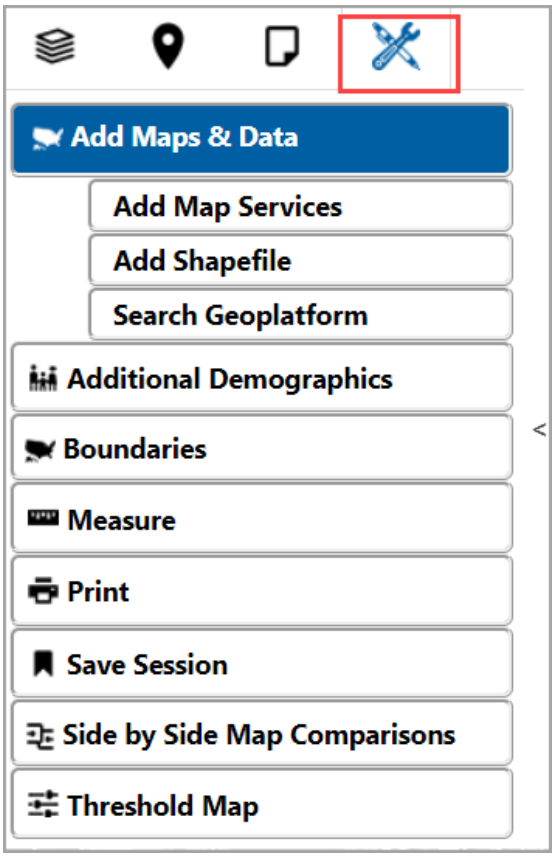


5. Tools Widget

Click the **Tools** icon to print and interactively measure map data. Users may also use other available tools to search for maps via the Geoplatform or to add publicly available data from the web.

5.1 Add Maps and Data

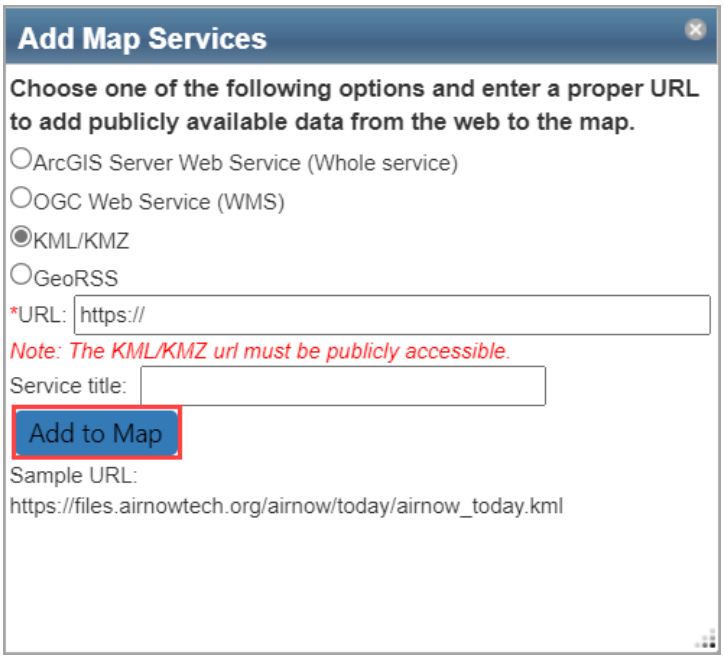
The Add Maps and Data options include: Add Map Services, Add Shapefile and Search Geoplatform.



5.1.1 Add Map Services

The Add Map Services allows a user to add publicly available data from the web to the map.

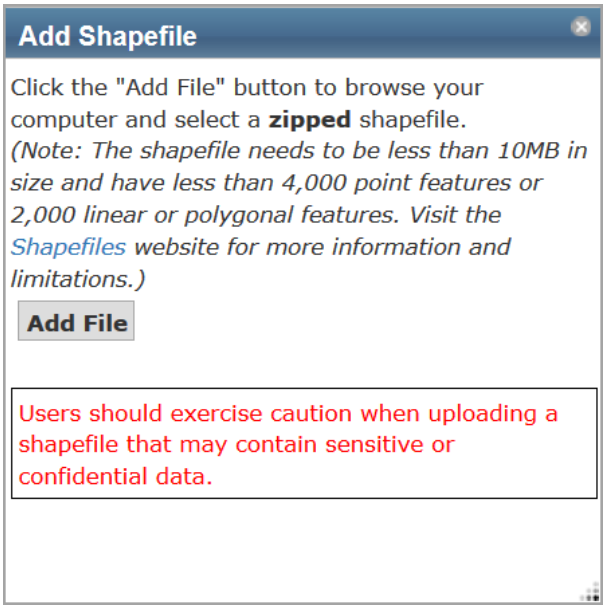
1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Add Maps & Data** icon.
3. Click **Add Map Services**.
4. In the **Add Map Services** pop-up, select from the options by clicking the appropriate radio button.
5. Enter a valid, publicly available URL in the URL text box.
6. Enter the Service title in the text box if desired.
7. Click the Add to Map button.



5.1.2 Add Shapefile

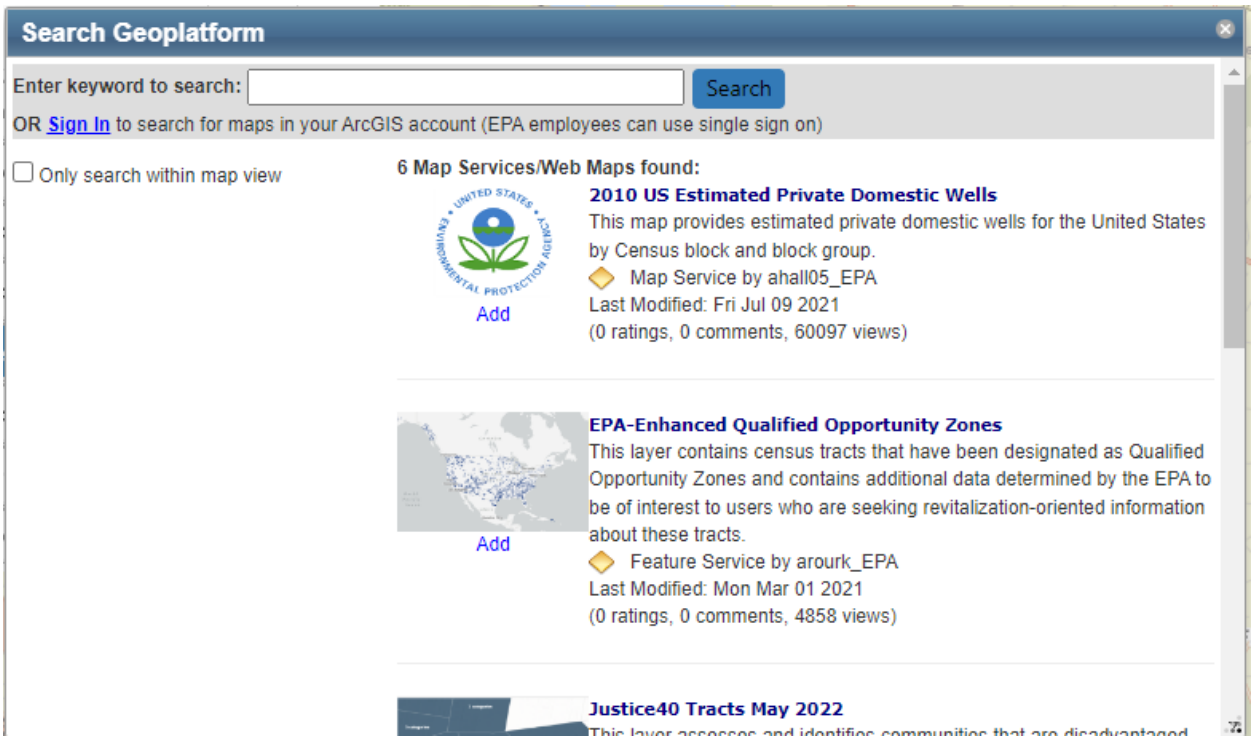
Located in the **Tools** widget, the **Add Shapefile** option can be used to add a saved shapefile from a user's computer. When the file is selected from the computer, the layer will be added in the Map Contents panel. Please note that users should exercise caution when uploading a shapefile that may contain sensitive or confidential data.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Add Maps & Data** icon.
3. Click **Add Shapefile**.
4. In the **Add Shapefile** pop-up, click the Add File button.

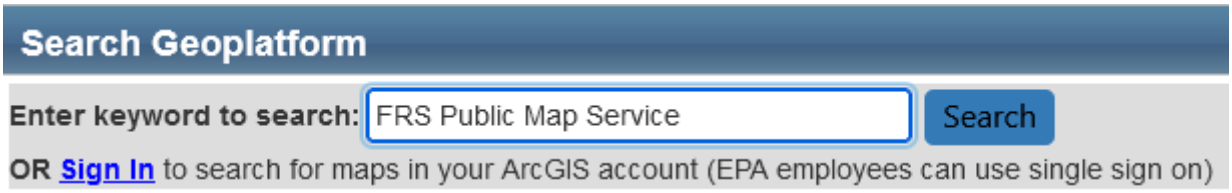


5.1.3 Search Geoplatform

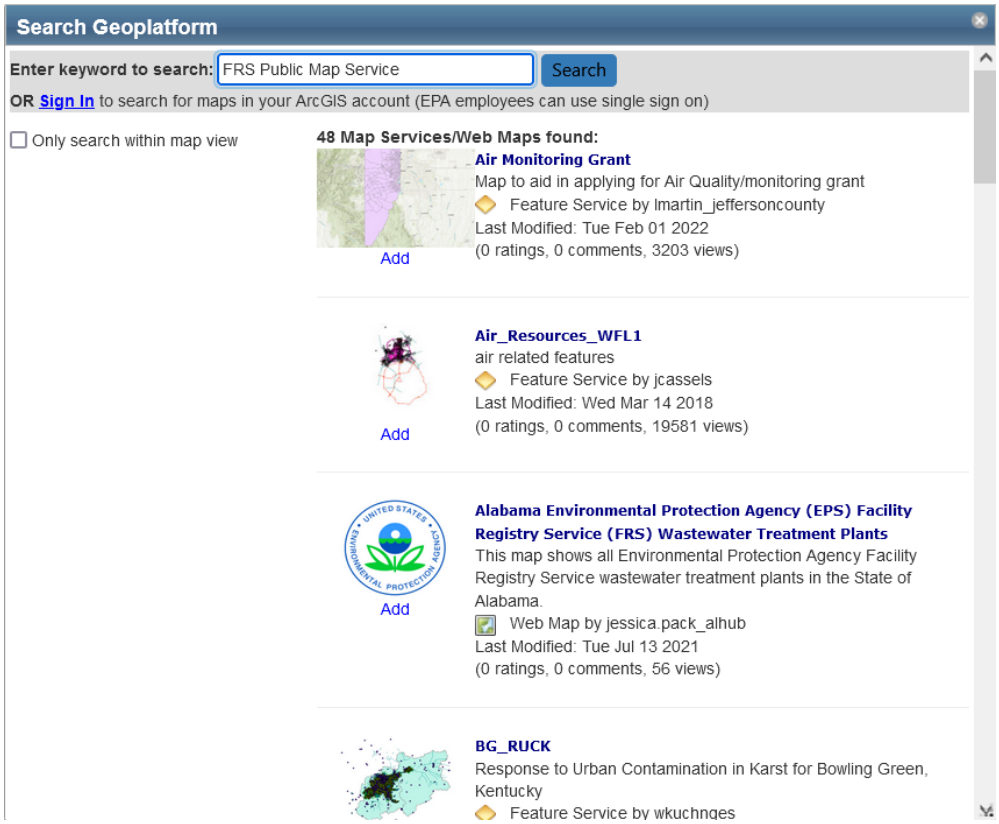
Search Geoplatform allows the user to search content on ArcGIS Online. Users with an account through ArcGIS.com can click "Sign In" on the top left-corner to sign in and view additional available information through the platform.



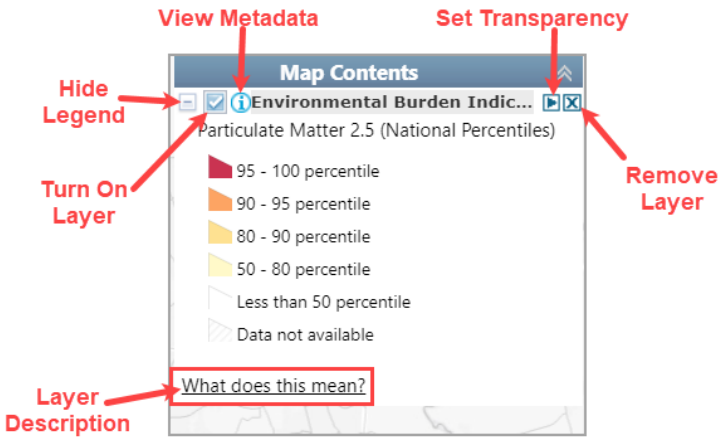
1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Add Maps & Data** icon.
3. Click **Search Geoplatform**.
4. To search for layers, enter a keyword in the **Enter keyword to search** text box. Press Enter on the keyboard or click Search**.**



5. Search results display in the window.

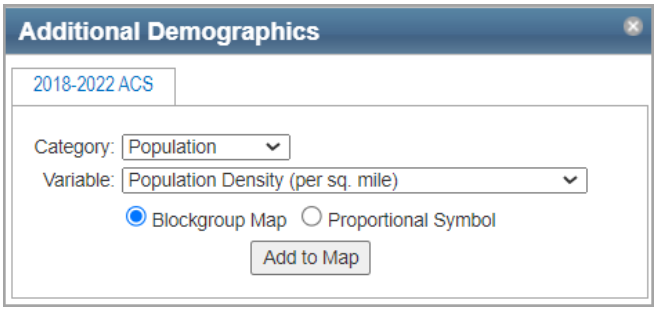


6. Click Add to add a layer to the **Map Contents** menu.
7. The layers can be controlled or toggled on and off in the **Map Contents** menu.



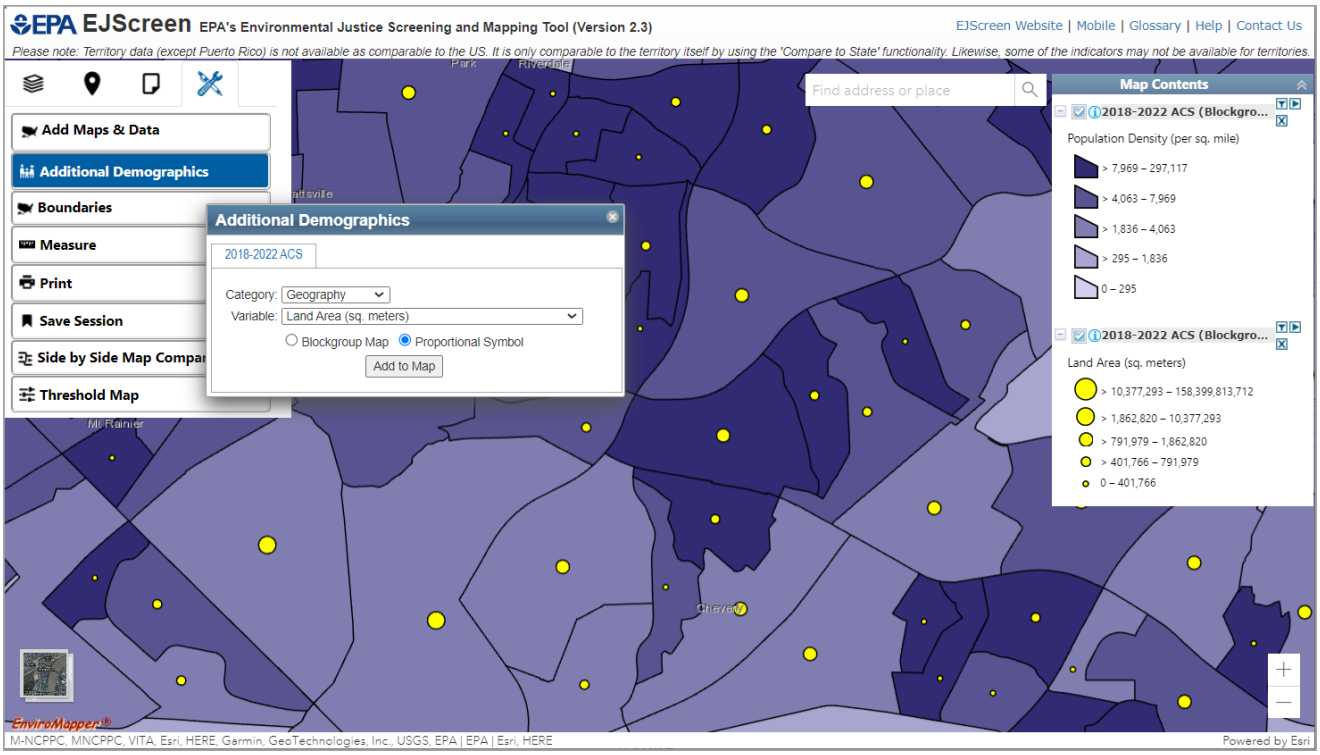
5.2 Additional Demographics

Located in the **Tools** widget, the **Additional Demographics** option allows users to display supplementary demographic information from the Census Bureau in the map.



Additional Demographic data is available for 2018-2022 ACS.

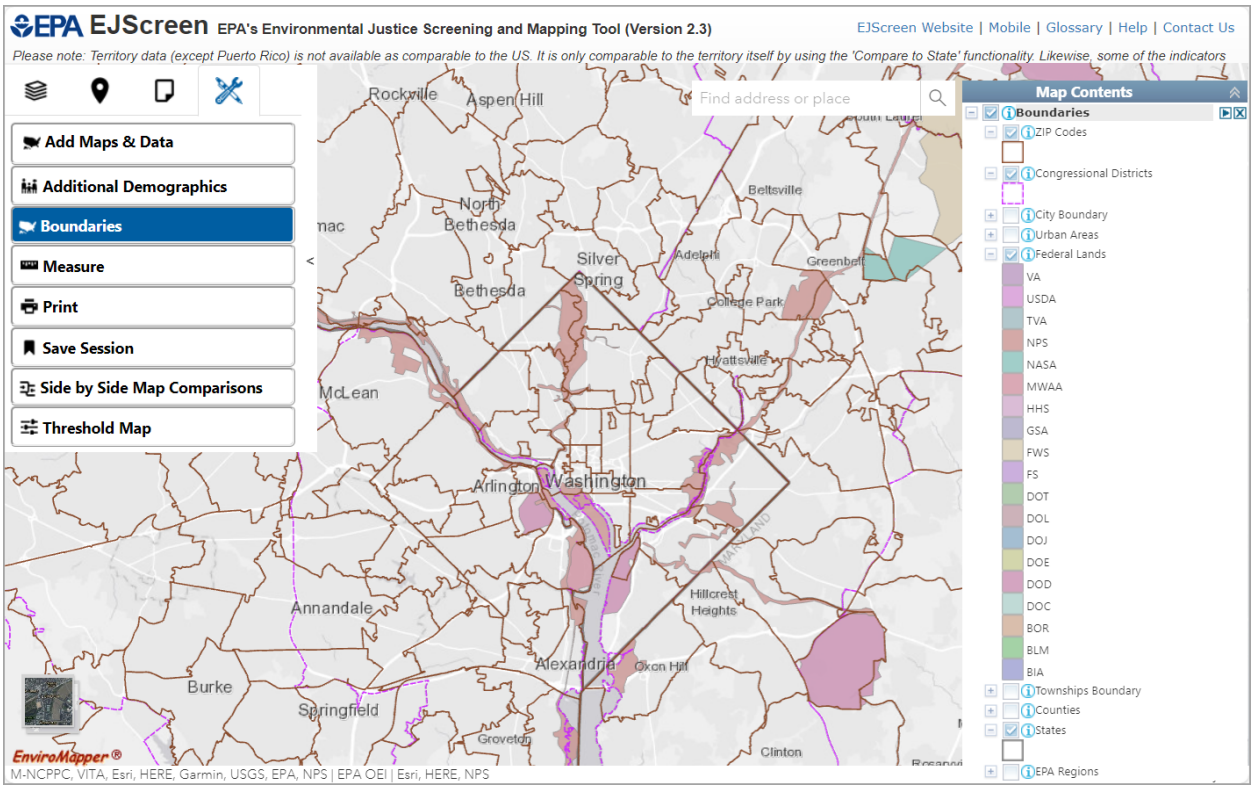
1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Additional Demographics** icon.
3. Choose Category from the dropdown menu.
4. Select Variable from the dropdown menu.
5. Choose either Blockgroup Map or Proportional Symbol.
6. Click the Add to Map button to add the layer to the map and to the Map Contents menu and legend.



5.3 Boundaries

This map service contains boundary data for ZIP Codes, Congressional Districts, City Boundary, Urban Areas, Federal Lands, Townships Boundary, Counties, States, and EPA Regions.

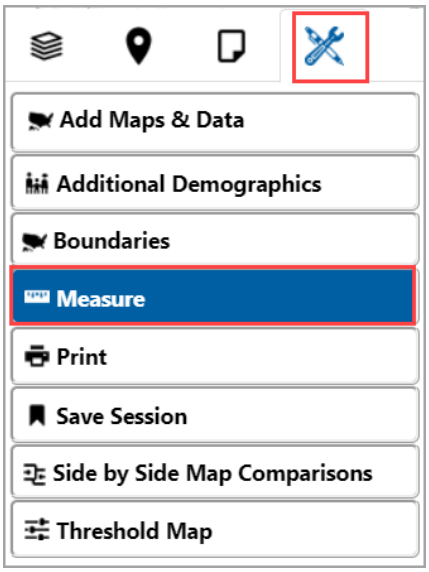
1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Boundaries** icon.
3. Boundaries will be added to the Map Contents menu.
4. Click one or more of the following in the Map Contents menu: **ZIP Codes, Congressional Districts, City Boundary, Urban Areas, Federal Lands, Townships Boundary, Counties, States, EPA Regions.**
5. Checked boxes are added as layers to the map.



5.4 Measure

The **Measure** feature allows the user to measure geographic distance as well obtain the longitude and latitude for a location on the map.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Measure** icon.

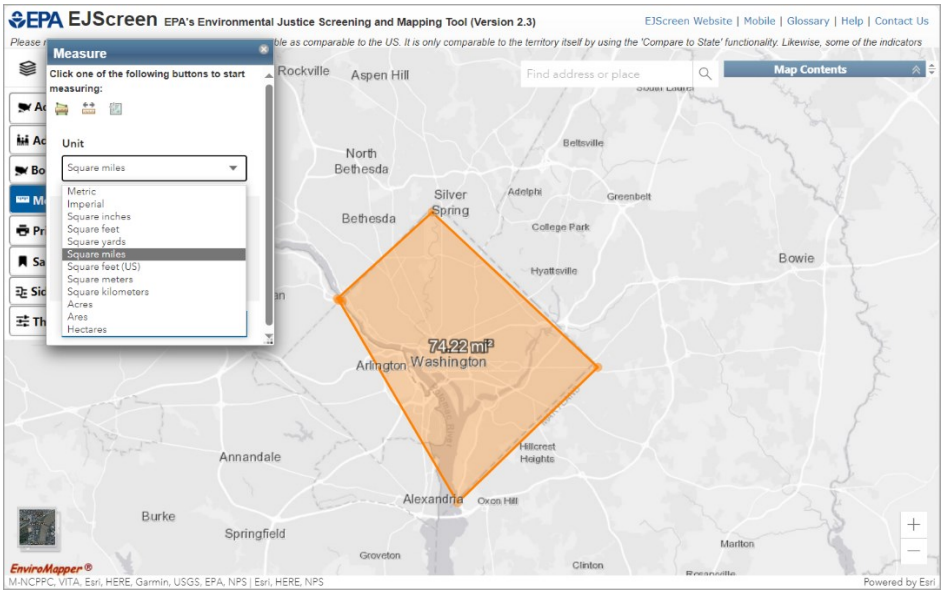


The **Measure** pop-up window displays after clicking the icon.

5.4.1 Measure Area

The **Measure Area** tool allows the user to measure the area of a polygon.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Measure** icon.
3. In the **Measure** pop-up, click the **Measure Area** icon .
4. Click the New measurement button, then click on the map to add the first point.
5. Click on the map to begin drawing the polygon. Continue clicking to add to the polygon and double-click to complete the drawing.
6. Area Units of Square Miles is the default unit. A dropdown menu with all unit options will appear in the window when three points have been clicked on the map.

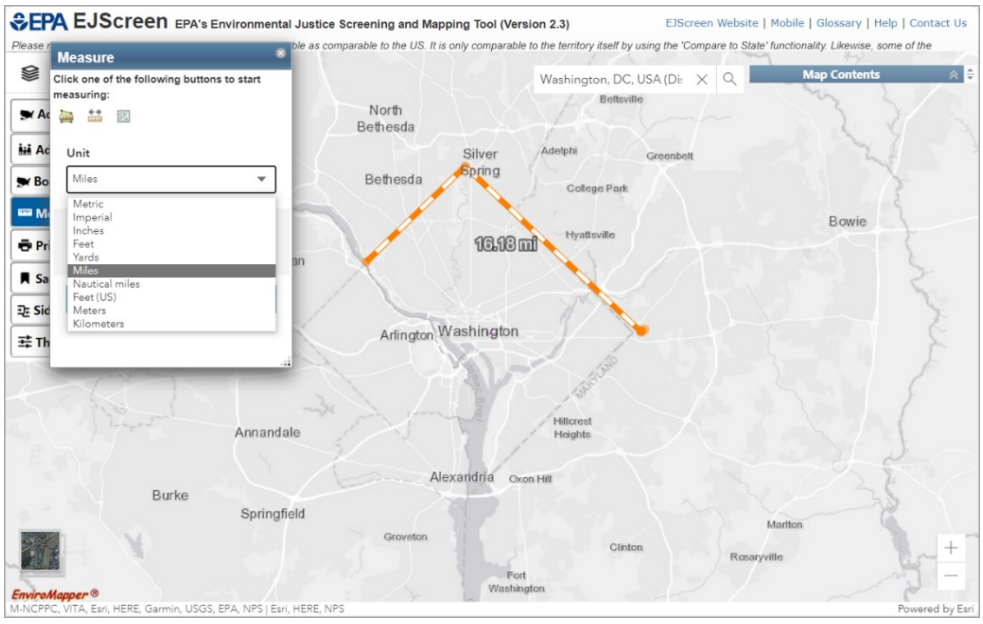


7. Select a different unit, if desired.
8. The area measurement will appear in the Measure window.
9. To remove the drawing, click the New measurement button to begin a new drawing, or close the Measure tool.

5.4.2 Measure Line

The **Measure Line** tool allows the user to measure distance on the map display.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Measure** icon.
3. In the **Measure** pop-up, click the **Measure Line** icon .
4. Click the New measurement button, then click anywhere on the map display to begin a line. Click to add points along the line or to add angles to the line, and double-click to complete the drawing.
5. Distance Units of Miles is the default unit. A dropdown menu with all unit options will appear in the window.
6. Select a different unit, if desired.
7. The distance measurement will appear in the Measure window.

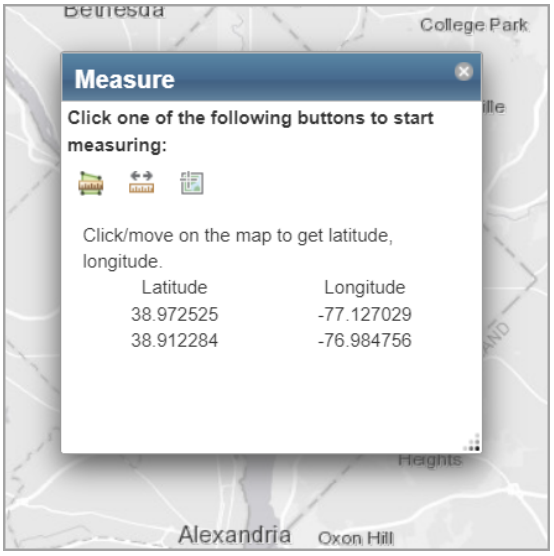


8. To remove the line, click the New measurement button to begin a new drawing, or close the Measure tool.

5.4.3 Latitude and Longitude for a Point

The **Measure Location** tool allows the user to obtain the latitude and longitude measurements for a point.

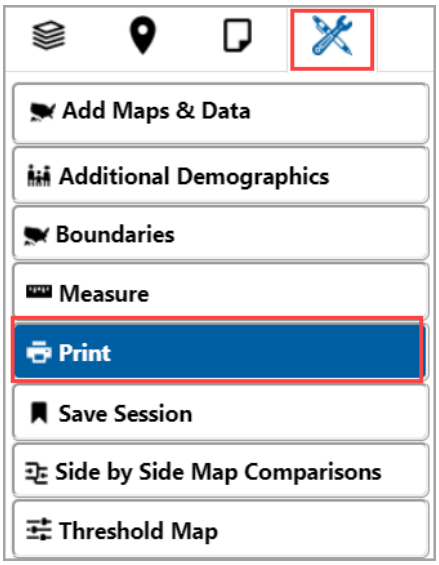
1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Measure** icon.
3. In the **Measure** pop-up, click the **Locate a point** icon.
4. As the mouse is moved over the map, the current location will display in the Measure window.
5. Click on the map to freeze the location in the Measure window.



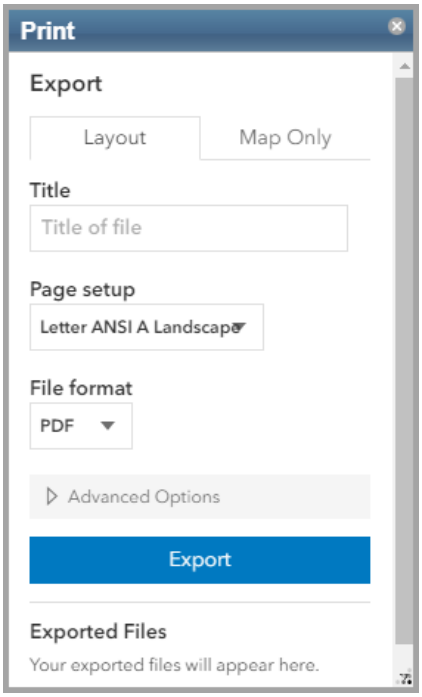
6. The location measurement can be copied from the Measure window.
7. The top measurement will change as the mouse is moved over the map. The bottom measurement will show the last clicked location.

5.5 Print

To print the map shown on a personal device, click Print.



1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Print** icon.
3. The print map option allows selection of various page setups and formats.



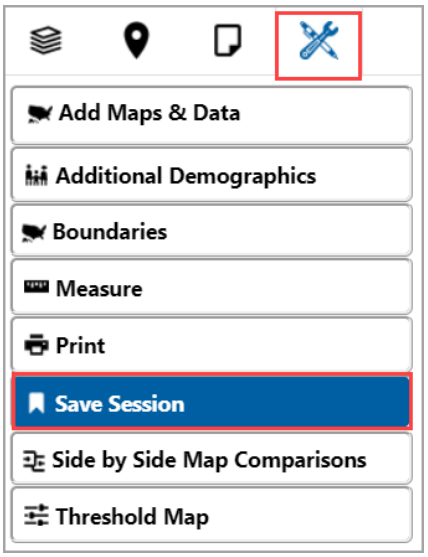
4. For printing a map and its associated legend, choose the Layout option and select the **Include legend** checkbox under Advanced Options.
5. Click the Export button**.**

5.6 Save Session

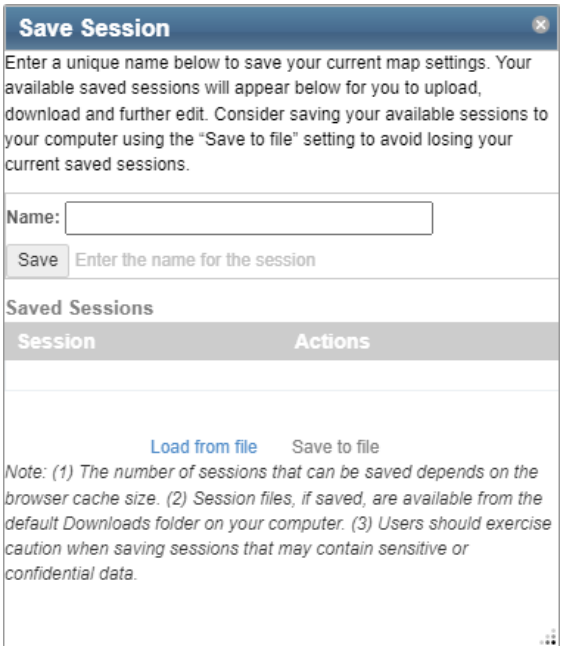
5.6.1 Saved Sessions List

The **Save Session** widget stores a collection of map view extents with added map content. Users can add their own sessions and then use these to return to a previous view or switch between views.

1. Locate the Widget tool at the top left of the application.
2. Click the **Tools** icon.
3. Click the **Save Session** icon.



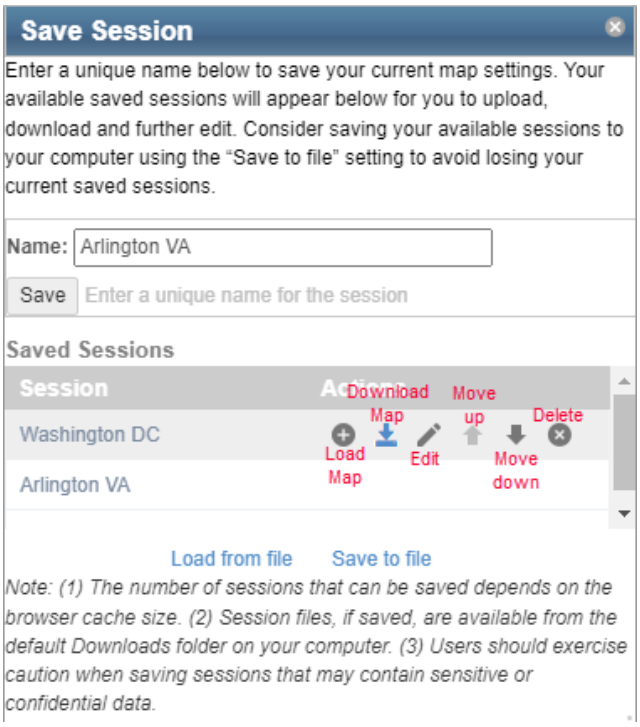
The Save Session window will be displayed.



5.6.2 Creating a Saved Session

Use the **Save Session** widget to create a saved session based on the current map extent.

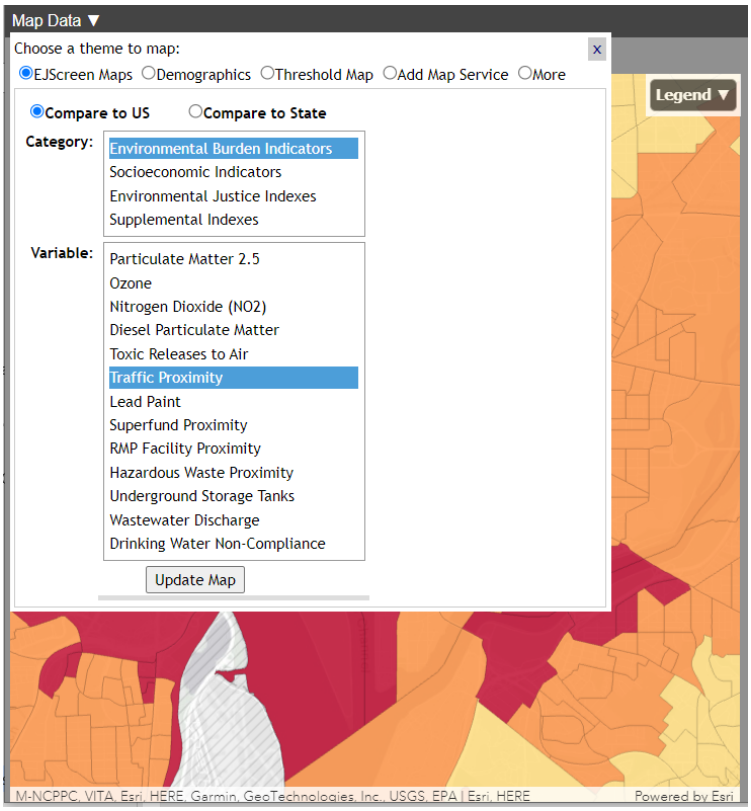
1. Zoom to a location of interest.
2. Click **Save Session** widget in the Tools dropdown.
3. Enter the name of the location of interest in the text box.
4. Click the Save button. This will add the session to the list of saved sessions.
5. From the Saved Sessions list hover over the session name to see the options:
    a. Load Map – click this to load the saved session.
    b. Download Map – click this to save the session to a computer as a json file. This file can be shared with other users who can load the file using the Save Session widget.
    c. Edit – click this to edit the session name.
    d. Move up/Move down – click these to adjust the order of saved sessions in the list.
    e. Delete – click this to remove the saved session.
6. Load from file – click this to load sessions that have been saved to a computer or to load sessions from a json file provided from the download map option.
7. Save to file – click this to save all of the saved session(s) in the “Saved Sessions” list to a computer as a json file.



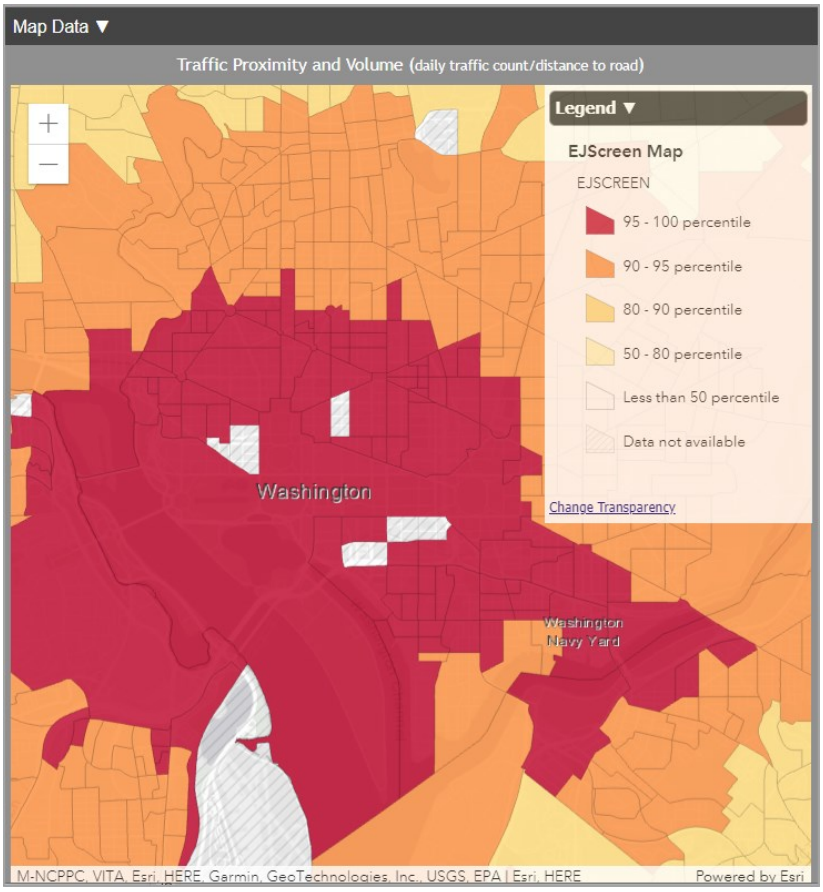
5.7 Side by Side Map Comparisons

Located in the **Tools** widget, the **Side by Side Map Comparisons** option allows users to compare different map layers for a location on side-by-side maps in a new window.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Side by Side Map Comparisons** icon.
3. When the **Side by Side Map Comparisons** tool is opened, Traffic Proximity and Volume and Pct. Ratio of Income to Poverty Level <2.0 are selected as the default map data. To change the selections, click the Map Data button, then select a layer from the menu, and then click the Update Map button.This will update the map to display the selected layer.



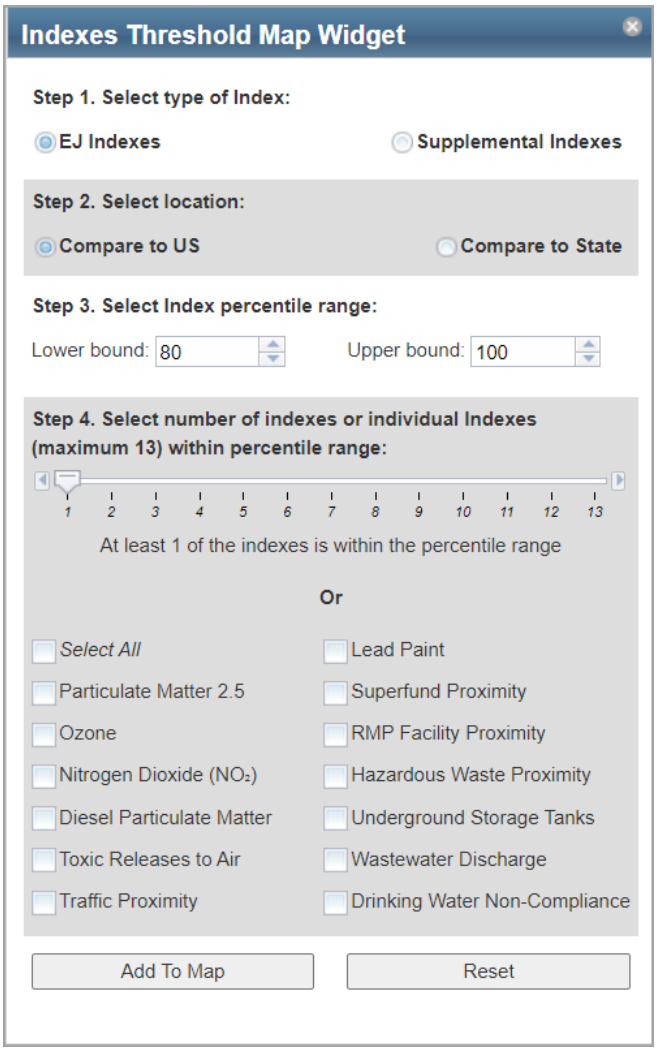
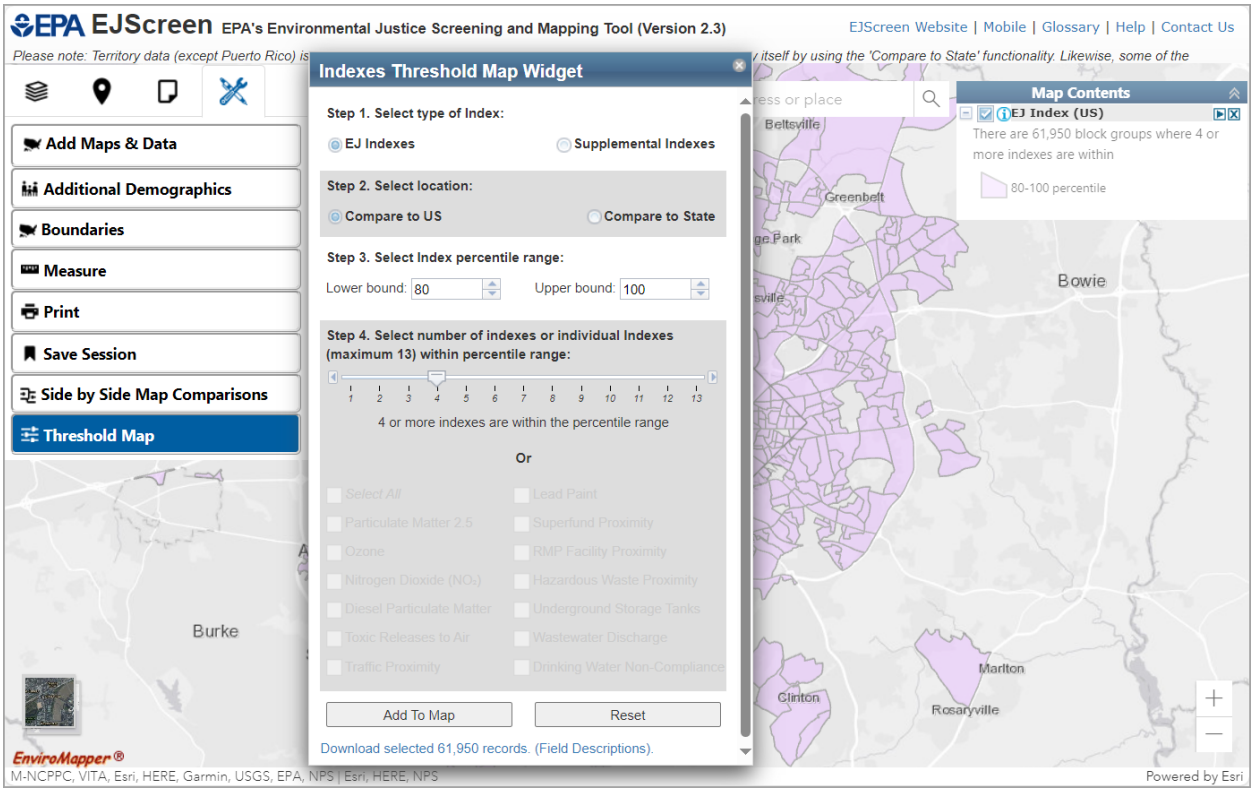
4. To display the Legend, click the Legend button in the upper right-hand corner of the map.



5.8 Threshold Map

The Threshold Map allows users to display EJ or Supplemental indexes compared to US or state within a percentile range.

1. Click the **Tools** icon in the Widget toolbar.
2. Click the **Threshold Map** icon.
3. In the Indexes Threshold Map Widget, select type, location, percentile range, and number of indexes or individual indexes within the percentile range.



4. Click the Add To Map button to add the layer to the map and to the Map Contents menu and legend.