

About the Measure

About the Measure	
Domain:	Social Determinants of Health
Measure:	Environmental Justice Screening and Mapping Tool
Definition:	The Environmental Justice Screening and Mapping Tool (EJSCREEN) is created using nationwide constant data and an approach that combines environmental and demographic indicators in maps and reports.
Purpose:	<p>The Environmental Justice Screening and Mapping Tool (EJSCREEN) allows users to access environmental and demographic information for locations in the United States at the census block level. Users can compare selected locations with the rest of the state, Environmental Protection Agency region, or the nation.</p> <p>EJSCREEN can help highlight geographic areas and the extent to which these areas may be candidates for further review, including additional consideration, analysis, or outreach. The tools also allow users to explore locations at a detailed geographic level, across broad areas, or across the entire nation.</p>
Essential PhenX Measures:	Current Address
Related PhenX Measures:	Neighborhood Concentrated Disadvantage School Social Environment Healthy Food Environments
Measure Release Date:	

About the Protocol

About the Protocol	
Protocol Release Date:	
PhenX Protocol Name:	Environmental Justice Screening and Mapping Tool (EJSCREEN)
Keywords:	EJSCREEN, Environmental Justice, Mapping Tool, Screening
Protocol Name from Source:	Environmental Protection Agency (EPA) Environmental Justice Screening and Mapping Tool (EJSCREEN)
Description:	The Environmental Justice Screening and Mapping Tool (EJSCREEN) is an environmental justice mapping and screening tool that provides a nationally consistent dataset and approach for combining environmental and demographic indicators.

EJSCREEN users choose a geographic area that can be as small as a census block; the tool then provides demographic and environmental information for that area. All the EJSCREEN indicators are publicly available data. EJSCREEN provides a way to display this information and includes a method for combining environmental and demographic indicators into environmental justice (EJ) indexes.

The 11 EJ index names are as follows:

1. National Scale Air Toxics Assessment Air Toxics Cancer Risk
2. National Scale Air Toxics Assessment Respiratory Hazard Index
3. National Scale Air Toxics Assessment Diesel PM (DPM)
4. Particulate Matter (PM_{2.5})
5. Ozone
6. Lead Paint Indicator
7. Traffic Proximity and Volume
8. Proximity to Risk Management Plan Sites
9. Proximity to Treatment Storage and Disposal Facilities
10. Proximity to National Priorities List Sites
11. Proximity to Major Direct Water Dischargers

There are six demographic indicators:

1. **Percent low income**
 - Percentage of a [block group](#)'s population in households where the household income is less than or equal to twice the federal "poverty level."
2. **Percent minority**
 - Percentage of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino (i.e., all people other than non-Hispanic, white-alone individuals). The word "alone" in this case indicates that the person is of a single race, not multiracial.
3. **Less than high school education**
 - Percentage of people aged 25 or older in a block group whose education is short of a high school diploma.
4. **Linguistic isolation**
 - Percentage of people in a block group living in linguistically isolated households. A household in which all members aged 14 years or older speak a non-English language and speak English less than "very well" (have difficulty with English) is linguistically isolated.
5. **Individuals younger than age 5**
 - Percentage of people in a block group younger than age 5.
6. **Individuals older than age 64**
 - Percentage of people in a block group older than age 64.

EJSCREEN provides two indexes that are based on the aforementioned demographic indicators:

- **A demographic index** is based on the average of two demographic indicators: percent low income and percent minority.

Each EJ index combines demographic indicators with a single environmental indicator. From the map, the user can select an area to generate a downloadable report from a selected area and compare it with the state, Environmental Protection Agency region,

	or the nation. The report includes data that the user can use to compare populations with any of the indexes.
Specific Instructions:	None
Protocol:	Learn to Use EJSCREEN: https://www.epa.gov/ejscreen/learn-use-ejscreen https://ejscreen.epa.gov/mapper/help/ejscreen_help.pdf
Selection Rationale:	EJSCREEN was chosen because it uses standard and nationally consistent data and enables users to access environmental and demographic information, at high geographic resolution, across the entire country.
Source:	U.S. Environmental Protection Agency (EPA). (2018). <i>EJSCREEN: Environmental Justice Screening and Mapping Tool</i> . Retrieved from https://www.epa.gov/ejscreen Demographic information that is obtained from the U.S. Census Bureau’s American Community Survey (ACS). The 2018 version of EJSCREEN includes 2012–2016 ACS 5-year summary file data, which are based on 2014 census boundaries.
Availability:	Publicly available
Life Stage:	Any Age
Language:	English
Participant:	Not applicable; derived from publicly available secondary data
Personnel and Training Required:	None
Equipment Needs:	Access to the Internet
General References:	Cifuentes, P., Reichard, J., Im, W., Smith, S., Colen, C., Giurgescu, C., ... Hood, D. B. (2019). Application of the Public Health Exposome Framework to estimate phenotypes of resilience in a model Ohio African-American women's cohort. <i>Journal of Urban Health, 96</i> (Suppl 1), 57–71. Driver, A., Mehdizadeh, C., Bara-Garcia, S., Bodenreider, C., Lewis, J., & Wilson, S. (2019). Utilization of the Maryland Environmental Justice Screening Tool: A Bladensburg, Maryland case study. <i>International Journal of Environmental Research and Public Health, 16</i> (3). Rowangould, D., Rowangould, G., Craft, E., & Niemeier, D. (2018). Validating and

	<p>refining EPA's traffic exposure screening measure. <i>International Journal of Environmental Research and Public Health</i>, 16(1).</p> <p>U.S. Environmental Protection Agency (EPA). (2019). <i>Technical Documentation for EJSCREEN</i>. Retrieved from https://www.epa.gov/ejscreen/technical-documentation-ejscreen</p>										
Mode of Administration:	Secondary data analysis										
Derived Variables:	None										
Requirements:	<table border="1"> <thead> <tr> <th>Requirements Category</th> <th>Required (Yes/No):</th> </tr> </thead> <tbody> <tr> <td>Major equipment</td> <td>No</td> </tr> <tr> <td>Specialized training</td> <td>No</td> </tr> <tr> <td>Specialized requirements for biospecimen collection</td> <td>No</td> </tr> <tr> <td>Average time of greater than 15 minutes in an unaffected individual</td> <td>No</td> </tr> </tbody> </table>	Requirements Category	Required (Yes/No):	Major equipment	No	Specialized training	No	Specialized requirements for biospecimen collection	No	Average time of greater than 15 minutes in an unaffected individual	No
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Major equipment	No										
Specialized training	No										
Specialized requirements for biospecimen collection	No										
Average time of greater than 15 minutes in an unaffected individual	No										
Annotations for Specific Conditions:	No annotations at this time										
Process and Review:	Not applicable										