Environmental Justice Index
Frequently Asked Questions

General

How can individuals and community-based organizations, public health officials at local, state, and federal levels, scientists, and researchers use the EJI?

The EJI can be used to

- identify and prioritize areas that may require special attention or additional action to improve health and health equity,
- educate and inform the public about their community,
- analyze the unique, local factors driving cumulative impacts on health to inform policy and decision-making, and
- establish meaningful goals and measure progress towards environmental justice and health equity.

State public health officials can use the EJI to prioritize communities to take action to address environmental and health hazards.

Researchers can use data from the EJI to generate hypotheses. For example, researchers might want to determine whether social vulnerability or environmental burden are associated with overall life expectancy at the census tract level. Please see the section below entitled “Using the Data” if you are using the EJI for secondary analysis.

How can community organizations use the EJI?

A community organization can use the EJI to display information about the community to educate others. The organization might compare scores for several neighborhoods, highlighting those that need additional resources to address environmental burden or social determinants of health.

CS 333299-A | August 10, 2022

What indicators are included in the EJI?

The graphic below shows the modules, domains, and indicators included in the EJI.

Overall Environmental Justice Rank			
	Social Vulnerability	Racial/ Ethnic Minority Status	Minority Status
		Socioeconomic Status	Poverty
			No High School Diploma
			Unemployment
			Housing Tenure
			Housing Burdened Lower-Income Households
			Lack of Health Insurance
			Lack of Broadband Access
		Household Characteristics	Age 65 and Older
			Age 17 and Younger
			Civilian with a Disability
			Speaks English "Less than Well"
		Housing Type	Group Quarters
			Mobile Homes
	Environmental Burden	Air Pollution	Ozone
			PM2.5
			Diesel Particulate Matter
			Air Toxics Cancer Risk
		Potentially Hazardous & Toxic Sites	National Priority List Sites
			Toxic Release Inventory Sites
			Treatment, Storage, and Disposal Sites
			Risk Management Plan Sites
			Coal Mines
			Lead Mines
		Built Environment	Recreational Parks
			Houses Built Pre-1980
			Walkability
		Transportation Infrastructure	High-Volume Roads
			Railways
			Airports
		Water Pollution	Impaired Surface Water
	Health Vulnerability	Pre-existing Chronic Disease Burden	Asthma*
			Cancer*
			High Blood Pressure*
			Diabetes*
			Poor Mental Health*

TEXT-ONLY VERSION

Social vulnerability module

- Racial/Ethnic Minority Status
  - » Minority Status
- Socioeconomic Status
  - » Poverty
  - » No High School Diploma
  - » Unemployment
  - » Housing Tenure
  - » Housing Burdened Lower-Income Households
  - » Lack of Health Insurance
  - » Lack of Broadband Access
- Household Characteristics
  - » Age 65 and Older
  - » Age 17 and Younger
  - » Civilian with a Disability
  - » Speaks English "Less than Well"
- Housing Type
  - » Group Quarters
  - » Mobile Homes

Environmental Burden Module

- Air Pollution
  - » Ozone
  - » PM2.5
  - » Diesel Particulate Matter
  - » Air Toxics Cancer Risk
- Potentially Hazardous and Toxic Sites
  - » National Priority List Sites
  - » Toxic Release Inventory Sites
  - » Treatment, Storage, and Disposal Sites
  - » Risk Management Plan Sites
  - » Coal Mines
  - » Lead Mines
- Built Environment
  - » Recreational Parks
  - » Houses Built Pre-1980
  - » Walkability
- Transportation Infrastructure
  - » High-Volume Roads
  - » Railways
  - » Airports
- Water Pollution
  - » Impaired Surface Water

Health Vulnerability Module

- Pre-existing Chronic Disease Burden
  - » Asthma*
  - » Cancer*
  - » High Blood Pressure*
  - » Diabetes*
  - » Poor Mental Health*

Health vulnerability measures are marked with asterisks because they are calculated differently than other indicators. While most indicators can have a range of values, the health vulnerability indicators represent only whether a given census tract experiences a high estimated prevalence of disease or not. See the technical documentation for more information on indicators and index scoring.

How often will you be updating the EJI?

We plan to update the EJI periodically with the release of new data from three of the data sources (the U.S. Census Bureau, the U.S. Environmental Protection Agency, and the Centers for Disease Control and Prevention).

What is the suggested citation for the EJI?

Centers for Disease Control and Prevention and Agency for Toxic Substances Disease Registry. 2022 Environmental Justice Index. Accessed [Date]. https://www.atsdr.cdc.gov/placeandhealth/eji/index.html

Methodology

Where can I view the study methods and read about validation?

We are developing a manuscript that outlines the creation and validation of the index. Until this manuscript is published, please refer to the EJI Technical Documentation for information on index methods.

How were the indicators selected for the EJI selected?

Details on indicator selection and evaluation can be found in the EJI Technical Documentation.

Where can I find the definitions of the indicators?

- Definitions of the indicators can be found on the EJI Indicators page.
- Additional data documentation can be found in the EJI Technical Documentation.

Are the indicators weighted? Aren't some indicators more significant than others?

We did not weight the indicators in the EJI because it's a standard tool that's national in scope, and the importance of specific EJI indicators may vary by community. Local expertise is essential for identifying environmental justice issues at the community level, and determining which indicators are most appropriate. Users of the tool can weight and customize their data depending on community needs.

Why are Alaska and Hawaii calculated differently?

Data for some environmental indicators are not collected for Alaska and Hawaii, so the EJI scores for these states must be calculated separately.

Where are the scores for U.S. territories?

- Puerto Rico is the only U.S. territory for which EJI data is available. We provide some data for Puerto Rico, which is not included in the U.S.-wide EJI. However, data on environmental burden and health vulnerability are not collected for Puerto Rico.
- Data for Guam, American Samoa, the U.S. Virgin Islands, and the Northern Mariana Islands are unavailable or not collected at the level needed for inclusion in the EJI.

Will climate indictors be included in the next version of the EJI?

We plan to add climate indicators in future versions of the EJI.

Using the Data

How do I interpret the EJI score for a census tract?

A percentile ranking represents the proportion of tracts (or counties) that are equal to or lower than a tract of interest in environmental burden. For example, a EJI ranking of 0.85 signifies that 85% of tracts in the nation likely experience less severe cumulative impacts from environmental burden than the tract of interest, and that 15% of tracts in the nation likely experience more severe cumulative impacts from environmental burden.

Are EJI scores available at the ZIP code or Zip Code Tabulation Areas (ZCTA) level?

Not exactly. The census data used in the EJI are available at the census tract and county levels, but not at the ZIP code level. This is because ZIP codes are postal delivery areas, and their borders are subject to change by the postal service. Anyone interested in using data at the ZIP code level may benefit from using HUD USPS ZIP Code Crosswalk Files.

U.S. Census Bureau ZCTAs are relatively stable representations of ZIP codes for a snapshot in time, however neither ZIP codes nor ZCTAs are designed for comparison across long stretches of time, as census tracts are designed to do.

Can I aggregate or average the data to estimate scores for a group of areas such as counties?

Although this is mathematically possible, we do not recommend it. Aggregation introduces unmeasurable error and could misrepresent neighborhood-level variation in social, environmental, and health conditions.

What is the Social-Environmental Ranking (SER)?

The EJI Social-Environmental Ranking (SER) is calculated by combining rankings from the Environmental Burden Module and the Social Vulnerability Module, but not from the Health Vulnerability Module.

The Social-Environmental Ranking represents a measure of distributive and participatory environmental justice factors that may influence human health and well-being. The Social-Environmental Ranking is more suitable than the full EJI for research and secondary analyses where health outcomes are of interest (see below).

The Social-Environmental Ranking can also be used alongside the High Prevalence Flags (see below) for an overview of how specific health outcomes may be related to distributive and participatory environmental justice. For more information on the Social-Environmental Ranking and how it differs from the overall EJI, please see the EJI Technical Documentation.

Can I use the EJI rankings in secondary data analysis? Are there any considerations when doing this?

The EJI represents cumulative impacts on human health and well-being and has a broad range of applications for public health policy. However, the pre-existing condition disease measures within the Health Vulnerability Module are not intended for use in research and secondary analysis.

The SER (described above) was specifically designed for use in secondary analysis when health outcomes are of interest. For example, exploratory analysis into correlations between asthma prevalence and the EJI should not use the EJI score because estimates for asthma prevalence are already included in the health vulnerability module. However, the SER does not include estimates for asthma prevalence and thus can be used for this analysis.

How do I use the disease prevalence flags with the EJI Social-Environmental Ranking?

Disease prevalence flags inform whether an area is high in estimated prevalence for individual diseases. High estimated prevalence is defined as the top 33.33% of all U.S. census tracts.

Flags can be used alongside the Social-Environmental Ranking to inform whether areas that experience high levels of cumulative environmental burden and social vulnerability also experience high levels of disease burden. For example, if a user is interested in seeing how asthma rates compare to cumulative impacts from environmental and social factors for a given community, then the user should not use the full EJI because asthma is already included as an indicator and would skew the comparison. Instead, the user can overlay asthma flags on a Social-Environmental Ranking map to see where environmental burden, social vulnerability, and asthma rates align. More information on disease prevalence flags can be found in the EJI Technical Documentation.

Select Limitations of the EJI

The EJI is intended as a high-level mapping and screening tool that characterizes cumulative impacts and patterns of environmental injustice across the U.S. The tool relies on historical data generated by various institutions on varying time scales.

The EJI is not intended as

- a definitive tool for labeling environmental justice communities,
- a tool for characterizing all environmental justice issues,
- a comprehensive representation of current or future social, environmental, or health characteristics,
- a representation of risk or exposure for a community, or
- a tool to tell whether individuals are at risk.

Complete information on limitations of the EJI can be found in the data documentation.

For More Information

- Contact the EJI Coordinator at eji_coordinator@cdc.gov.
- Send media inquiries to placeandhealth@cdc.gov.