EJScreen Change Log

This page tracks the changes that have occurred to EJScreen to help users better understand how the tool and datasets have changed over time. It also provides historical information that is relevant when downloading older EJScreen datasets.

EPA updates EJScreen at least annually to ensure that the environmental and socioeconomic data is as up to date as possible. During these updates, EPA will make other changes to the tool. These changes are based upon user feedback, programmatic need, available funding, and other considerations.

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August 2024 Data Patch

The Version 2.3 data was updated in the following ways:

- The ozone data was changed to the annual mean of the top 10 of daily maximum 8-hour concentrations. Prior to that it was incorrectly using a summer seasonal average of daily maximum 8-hour concentration. Both datasets are from 2020.
- The methodology for dealing with tied values was changed. In previous versions, if a value was between two percentile cutoff values, it would round to the lower percentile. If that lower percentile was the last in a series of tied percentile cutoffs (i.e. between 0%tile and next lowest value), the final percentile would be the percentile of the first of the tied values in the series. In new method, a value between two percentile cutoff values still rounds to the lower percentile. However, if that percentile is the last in a series of tied percentile cutoffs (i.e. between 0%tile and next lowest place), the final percentile will be the last of the tied values in the series. This effectively means the last value in a series of tied percentile cutoffs is rounded up rather than down.

July 2024 Changes and Updates

Interface Changes

- Release of EJScreen 2.3
- EPA deleted the EJScreen Version 2.2
- The EJScreen tool interface has been enhanced with several features to help users learn the tool and understand the data, including: a splash screen with learning resources, enhanced popups, a new base map, accessibility improvements, and a “Contact Us” link in the tool.
- EJScreen added back the ability to produce ACS reports and to search by FIPS codes.
- The tabs within EJScreen were reordered to make data and functions easier to find.
- EJScreen Community Reports added version numbers/dates and the ability to add customizable place names to the reports.

New and Updated EJScreen Data

- All demographic indicators are from Census Bureau’s ACS 2018-2022 5-year Summary (ACS 2022).
- A new environmental indicator was added on “Nitrogen Dioxide”. It uses NASA satellite data to display average annual nitrogen dioxide (NO_2) levels.
- A new environmental indicator was added on “Drinking Water Non-Compliance”. It uses modeled drinking water system boundaries and overlays Safe Drinking Water Act violations of water systems.
- The Superfund Proximity Indicator was changed to use site boundaries (when available), rather than points for the calculations and representation of the sites.
- The air toxics dataset on cancer risk was moved from environmental indicators to the “Places” tab to better represent the data.
- The air toxics dataset on respiratory hazard index is no longer available in EJScreen version 2.3.

- The dates for the new environmental data collected can be found in the table below.

New Map Layers

- **Extreme Heat**
  This dataset provides a screening level assessment of extreme heat potential by census block group. This dataset describes the average number of days over 90° F (from 2019-2023) per block group. This is calculated from PRISM Climate Group's gridded daily Tmax estimates. Note this is dry-bulb temperature, and does not factor in humidity.
  Source data: PRISM Climate Group <https://prism.oregonstate.edu/recent/>
  Source: US EPA
- **Private Drinking Wells**
  Approximately 20% of people in the US get their water from a private domestic well. These water sources are exempt from federal regulations and often go untested for contaminates such as nitrates, nitrites, and e-coli to name just a few. These map layers developed by the US EPA describe 2020 private domestic drinking water wells by count, density, and % population served. Data is at the block group and block geographies.
  Further details: 2020 Private Domestic Well Technical Documentation
  Source: US EPA (GitHub Repository) <https://github.com/usepa/ord_water_source_2020>
- **Drinking Water Area Boundaries**
  Community water system (CWS) service areas describe the geographic area that a water system serves. This map layer describes the geographic extent of over 44,000 community water system service areas, serving 99% of all public water customers. Approximately 40% of these systems were gathered from state sources. The remaining systems were modeled using machine learning techniques.
  Further detail: Water System Service Area Technical Documentation
  Source: US EPA <https://gispub.epa.gov/serviceareas>
- **Air Toxics Cancer Risk**
  The air toxics cancer risk data is the estimated lifetime inhalation cancer risk from the analyzed carcinogens in ambient outdoor air, as provided by EPA's AirToxScreen. The value of the indicator is persons per million over a 70-year lifetime. The data is reported at the Census block level.
  Source: AirToxScreen <https://epa.gov/airtoxscreen>.
- **Environmental Justice Grants**
  This layer maps environmental justice grants and resources provided through the EPA's Office of Environmental Justice and External Civil Rights. These include funding for:

- Environmental Justice Small Grants Program
- Environmental Justice Collaborative Problem-Solving Cooperative Agreement
- Environmental Justice Government to government program
- Environmental Justice Thriving Communities Technical Assistance Centers Program
- Environmental Justice Thriving Communities Grantmaking Program
- Inflation Reduction Act Community Change Grants Program

Source: EPA's Next Generation Grants System <https://epa.gov/enviro/nggs-overview>

Methodological Changes

- The supplemental index was reformulated to include disabilities data and exclude unemployment data.
  - The old calculation was: (% Low Life Expectancy + % Low Income +% Unemployment Rate + % Limited English Speaking + % Less Than High School Education")/5
  - The new calculation is: (% Low Life Expectancy + % Low Income + % Disability + % Limited English Speaking + % Less Than High School Education")/5
- The Demographic Index and Supplemental Demographic Index calculations were changed to using z scores to standardize the indicators that feed into these indexes.
- Proximity indicator calculations were changed to provide zero scores beyond a 10 km distance.

More Information

Indicator	Details	Source	Data Year
Particulate Matter 2.5	Annual average PM2.5 levels in air, µg/m3	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-pm-25-2012-area-information>	2020
Ozone	Ozone annual mean top 10 of daily maximum 8-hour concentration in air	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-8-hour-ozone-2015-area-information>	2020
Nitrogen Dioxide (NO_2)	Average annual nitrogen dioxide (NO_2) levels expressed as part per billion (by volume).	NASA's Health and Air Quality Applied Sciences Team (HAQAST)	2020
Diesel Particulate Matter	Diesel particulate matter level in air, µg/m3	EPA Air toxics data, retrieved 2024 <https://epa.gov/airtoxscreen>	2020

Indicator	Details	Source	Data Year
Toxic Releases to Air	RSEI modeled toxicity-weighted concentrations in air of TRI listed chemicals.	Calculated from 2021 Risk-Screening Environmental Indicators (RSEI) Geographic Microdata results for the air pathway, retrieved 5/16/2023	2021
Traffic Proximity	Count of vehicles (AADT, avg. annual daily traffic) at major roads within 500 meters, divided by distance in meters (not km)	Calculated from 2020 U.S. DOT traffic data, retrieved 1/9/23 <https://catalog.data.gov/dataset/highway-performance-monitoring-system-hpms-b7a2f>	2020
Lead Paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure	Calculated based on Census/American Community Survey (ACS) data, retrieved 12/16/2023 <https://www.census.gov/programs-surveys/acs/news/data-releases.html>	2018 -2022
Superfund Proximity	Count of proposed or listed NPL - also known as superfund - sites within 5 km (or nearest one within 10 km), each divided by distance in kilometers	Calculated from EPA Superfund NPL boundaries and site (Final and Proposed) plus Superfund Alternative Approach (SAA) boundaries and sites, retrieved 2/26/2024 <http://cumulis.epa.gov/supercpad/cursites/srchsites.cfm>	2024

Indicator	Details	Source	Data Year
RMP Facility Proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one within 10 km), each divided by distance in kilometers	Calculated from EPA RMP database, retrieved 2/262024 <https://epa.gov/rmp/risk-management-program-rmp-rule-overview>	2024
Hazardous Waste Proximity	Count of hazardous waste facilities (TSDFs and LQGs) within 5 km (or nearest within 10 km), each divided by distance in kilometers	TSDF data calculated from EPA RCRAInfo database, retrieved 1/31/2024 <https://enviro.epa.gov/facts/rcrainfo/search.html>	2024
Underground Storage Tanks	Count of LUSTs (multiplied by a factor of 7.7) and the number of USTs within a 1,500-foot buffered block group	Calculated from EPA UST Finder, retrieved 2/2/2024 <https://epa.gov/ust/ust-finder>	2023
Wastewater Discharge	RSEI modeled toxic concentrations at stream segments within 500 meters, divided by distance in kilometers (km)	Calculated from RSEI modeled toxic concentrations to stream reach segments, created 12/27/2023 <https://epa.gov/rsei>	2021

Indicator	Details	Source	Data Year
Drinking Water Non-compliance	Score based on number of Safe Drinking Water Act violations not returned to compliance that community water systems have received over the past five years; violations are weighted based age and severity	Calculated from Safe Drinking Water Information System <https://epa.gov/ground-water-and-drinking-water/safe-drinking-water-information-system-sdwis-federal-reporting> violation data and Drinking Water Enforcement Response Policy, Enforcement Targeting Tool <https://epa.gov/tribaldrinkingwater/drinking-water-enforcement-response-policy-and-enforcement-targeting-tool>	2023

- To download this data, please visit the Download EJScreen Data <https://epa.gov/ejscreen/download-ejscreen-data> page
- Technical Information about EJScreen <https://epa.gov/ejscreen/technical-information-about-ejscreen>

September 2023 Data Patch

The tool was updated to include missing EJ index and supplemental index data for territories including the US Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands.

August 2023 Data Patch

The cancer risk environmental indicator and corresponding EJ/supplemental indexes were updated based on EPA air toxics data from 2019 AirToxScreen <https://epa.gov/airtoxscreen/2019-airtoxscreen>.

June 2023 Changes and Updates

Interface Changes

- Release of EJScreen 2.2
- EPA deleted the EJScreen Version 2.1
- The “Printable Standard Report” has been redesigned and renamed to the “EJScreen Community Report”.
- It now features more demographic data from the Census including break down by race, languages spoken, and gender.
- The EJScreen Community Report will also include health, climate, and critical service gap data.

- EJScreen will no longer feature ACS and decennial Census reports.
- EJScreen will no longer feature CDC reports.
- EJScreen will now include a new environmental indicator and associated EJ/supplemental index called Toxic Releases to Air.
- In Version 2.2, structural changes to EJ Index and Supplemental Index feature classes and export files include:
    - EJ Indexes and Supplemental Indexes combined into one feature class. Some data column names were also changed (pdf) <https://epa.gov/system/files/documents/2023-06/ejscreen-2-2-column-name-changes.pdf> as a result.

New and Updated EJScreen Data

- All demographic indicators are from Census Bureau's ACS 2017-2021 5-year Summary (ACS 2021).
- All territories' socioeconomic data are from the Census 2020 Demographic Profile Summary File for each territory, using the Place summary level for American Samoa, CNMI, and Guam, and Estates summary level for U.S. Virgin Islands. The Demographic Profiles were published in October 2022 by the U.S. Census Bureau.
- The ozone environmental indicator switched from using the summer seasonal average of daily maximum 8-hour concentration to the annual average of top ten daily maximum 8-hour air concentrations.
- A new 13th environmental indicator was added on "Toxic Releases to Air". It uses RSEI modeled toxicity-weighted concentrations in air of TRI listed chemicals.
- New Toxics Release to Air indicator source data retrieved on 5/16/2023.
- New PM 2.5 source data—upgraded to 2019 source.
- New Ozone source data and methodology—upgraded to 2019 source.
- New Diesel PM source data—upgraded to 2019 source.
- New Air Toxics Cancer Risk source data—upgraded to 2019 source.
- New Air Toxics Respiratory Hazard Index source data—upgraded to 2019 source.
- New Traffic Proximity and Volume source data retrieved on 1/19/2023.
- Update of Lead Paint data—upgraded to ACS 2021 source.
- New Superfund source data was extracted on November 11, 2022.
- New RMP facility source data was extracted on October 22, 2022.
- New TSDF and BR 2019 source datasets were extracted on February 9, 2023, for use in the Hazardous Waste Proximity Indicator and associated indexes.
- New UST source data was provided on February 2, 2023.

New/Deleted Map Layers

New Map Layers

- **Cancer**
  Cancer (excluding skin cancer) prevalence among adults aged 18 or older. This data is available at the Census tract level; the same tract value is then assigned to all sub block groups.
  Source: CDC Places Data
- Persons with Disabilities
  Percent of all persons with disabilities. This data is derived from Census ACS data at the tract level. Block group values are calculated by multiplying the tract value by the block population weight. The weights are derived from the same Census source used by the EJScreen buffer reports and analysis.
  Source: Download ACS Data <https://www.cdc.gov/places/index.html>
- **Lack of Health Insurance**
  Percent of all persons without Health Insurance Coverage
  Source: Download ACS Data <https://www.census.gov/programs-surveys/acs/data/data-via-ftp.html>.
- **Housing Burden**
  This dataset contains census tract level percentiles for housing cost, which is the share of households that are both earning less than 80% of Housing and Urban Development's Area Median Family Income and are spending more than 30% of their income on housing costs. The housing cost percentiles were adopted as Housing Burden for EJScreen.
  Source: Climate and Economic Justice Screening Tool (CEJST)
  <https://screeningtool.geoplatform.gov/en/downloads#3/33.47/-97.5>.
- **Transportation Access**
  The Average of Transportation Indicator uses an average of four transportation-related indicator percentiles, including Transportation Cost Burden, National Walkability Index, Percentage of Households with No Vehicle Available, and Mean Commute Time to Work. It was renamed to Transportation Access for EJScreen.
  Source: The Department of Transportation's Transportation Disadvantaged Census Tracts
  <https://www.transportation.gov/priorities/equity/justice40/transportation-disadvantaged-census-tracts-historically-disadvantaged>.
- **Facility Compliance Status**
  The map layer uses the Enforcement and Compliance History Online (ECHO) standard facility symbology to illustrate the programs each facility is regulated under, whether they are in noncompliance, and how long it has been since the last inspection. Users can choose to view all facilities or tailor the view to facilities regulated under the Clean Air Act, Clean Water Act, or Resource Conservation and Recovery Act.
  Source: This includes data about EPA-regulated facilities from the All Media Programs facility search and the ECHO Exporter <https://echo.epa.gov/tools/data-downloads#exporter>.

Deleted Map Layers

- **Drought**
  This map shows how drought conditions have changed across the contiguous 48 states from 1900 to 2020. The data are shown for small regions called climate divisions, as defined by the National Oceanic and Atmospheric Administration. Blue areas represent increased moisture; brown areas represent a decrease or drier conditions. These data can be used to identify social and economically vulnerable communities that are found in drier conditions.
  Source: U.S. Environmental Protection Agency
  <https://geodata.epa.gov/arcgis/rest/services/oar_oap/drought/mapserver>
  Spatial Metadata: Average Change in Drought (Five-Year SPEI) in the Contiguous 48 States, 1900–2020
- **Coastal Flood Hazard**
  This map depicts areas in coastal counties in the United States along the Gulf of Mexico and Atlantic Ocean that are most prone to coastal flood hazards. These data can be used to look for locations of social and economic vulnerability that are also prone to coastal flood hazards.
  Source: National Oceanic and Atmospheric Administration <https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html>
  Spatial Metadata: NOAA Office for Coastal Management
  <https://coast.noaa.gov/arcgis/rest/services/floodexposuremapper/cfem_coastalfloodhazardcomposite/mapserver>
- **Medically Underserved**
  Medically Underserved Areas/Populations are areas or populations designated by US Health Resources & Services Administration as having too few primary care providers, high infant mortality, high poverty or a high elderly population. More information can be found at: Health Resources & Services Administration <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation#mups>.

More Information

Information on the environmental data vintage

Indicate	Details	Source	Data Year
Particulate Matter 2.5	Annual average PM2.5 levels in air, µg/m3	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-pm-25-2012-area-information>	2019
Ozone	Ozone annual mean top 10 of daily maximum 8-hour concentration in air	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-8-hour-ozone-2015-area-information>	2019

Indicate	Details	Source	Data Year
Air Toxics Cancer Risk	Lifetime cancer risk from inhalation of air toxics	EPA Air toxics data, retrieved 2022 <https://epa.gov/airtoxscreen/2019-airtoxscreen>	2019
Air Toxics Respiratory HI	Air toxics respiratory hazard index (ratio of exposure concentration to health-based reference concentration)	EPA Air toxics data, retrieved 2022 <https://epa.gov/airtoxscreen/2019-airtoxscreen>	2019
Diesel Particulate Matter	Diesel particulate matter level in air, µg/m3	EPA Air toxics data, retrieved 2022 <https://epa.gov/airtoxscreen/2019-airtoxscreen>	2019
Toxic Releases to Air	RSEI modeled toxicity-weighted concentrations in air of TRI listed chemicals.	Calculated from 2021 Risk-Screening Environmental Indicators (RSEI) Geographic Microdata results for the air pathway, retrieved 5/16/2023	2021
Traffic Proximity	Count of vehicles (AADT, avg. annual daily traffic) at major roads within 500 meters, divided by distance in meters (not km)	Calculated from 2020 U.S. DOT traffic data, retrieved 1/9/23 <https://catalog.data.gov/dataset/highway-performance-monitoring-system-hpms-b7a2f>	2020

Indicate	Details	Source	Data Year
Lead Paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure	Calculated based on Census/ACS data, retrieved 2023 <https://www.census.gov/programs-surveys/acs/data/summary-file.html>	2017 -2021
RMP Facility Proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	Calculated from EPA RMP database, retrieved 10/22/2022 <https://epa.gov/rmp/risk-management-program-rmp-rule-overview>	2022
Hazardous Waste Proximity	Count of TSDFs and BR LOQs (hazardous waste management facilities) within 5 km (or nearest beyond 5 km), each divided by distance in kilometers	Calculated from EPA RCRAInfo database, retrieved 2/9/2022 Reference Document for Hazardous Waste Treatment, Storage and Disposal Facilities <https://epa.gov/hwpermitting/reference-document-hazardous-waste-treatment-storage-and-disposal-facilities> Biennial Report Summary <https://rcrapublic.epa.gov/rcrainfoweb/action/modules/br/summary/view>	2022

Indicate	Details	Source	Data Year
Superfund Proximity	Count of proposed and listed NPL sites within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	Calculated from EPA SEMS database, retrieved 11/23/2022 <http://cumulis.epa.gov/supercpad/cursites/srchsites.cfm>	2022
Wastewater Discharge	Toxicity-weighted stream concentrations at stream segments within 500 meters, divided by distance in kilometers (km)	Calculated from RSEI modeled toxicity-weighted stream concentrations, created 11/23/2022 <https://epa.gov/rsei>	2020
Underground Storage Tanks	Weighted count of USTs per sq. km	Provided by EPA Office of Underground Storage Tanks, 2/2/2023 <https://epa.gov/ust>	2022

- To download this data, please visit the Download EJScreen Data <https://epa.gov/ejscreen/download-ejscreen-data> page
- Technical Information about EJScreen <https://epa.gov/ejscreen/technical-information-about-ejscreen>

October 2022 Changes and Updates

Interface Changes

- Release of EJScreen 2.1
- EPA deleted the EJScreen Version 1.0 interface, which was temporarily made available to allow users time to become familiar with version 2.0.
- Supplemental indexes are included in the “Maps” tab.

- Threshold maps are now included in the “Maps” tab. These provide users with a new capability of specifying customized maps based on percentile ranges and a user-specified set of indexes.
- Threshold maps include a new Threshold Map Widget to produce custom threshold maps. The tool allows the user to select:
  - Data type—EJ Index or Supplemental Index
  - Data source–US or State Percentiles
  - Index Percentile Range
  - All indexes or selected subset of indexes
- Replaced “Linguistically isolated” with “Limited English Speaking” to align with the most recent nomenclature used by the U.S. Census. This dataset remains the same, but the name has been changed. It is derived from Census's ACS data and defined as “Households in which no one 14 and over speaks English only or speaks a language other than English at home and speaks English very well.”

New and Updated EJScreen Data

- Updated all socioeconomic data to Census American Community Survey (ACS) 2016-2020 5-Year Estimates (ACS 2020).
- Census block centroids with population-weights were updated to new 2020 version. These block points and associated populations and block group weights were derived from 2020 Decennial Census P.L. 94-171 Redistricting data <https://www.census.gov/programs-surveys/decennial-census/about/rdo/summary-files.html>.
- New Superfund source data was extracted on April 26, 2022.
- New RMP facility source data was extracted on April 26, 2022.
- New TSDF and BR 2019 source datasets were extracted on April 26, 2022, for use in the Hazardous Waste Proximity Indicator and associated indexes.
- New UST source data was provided on July 7, 2022.
- Update of Lead Paint—upgraded to ACS 2020 source.
- Details on other environmental data vintage for this version is below in the “More Information” section.
- Territory data is now included for the US Territories of American Samoa, Guam, Commonwealth of the Northern Mariana Islands, and the US Virgin Islands.
- All territories' socioeconomic data is from the Census 2010 Demographic Profile Summary File for each Territory, using the Place summary level for American Samoa, Guam, and Commonwealth of the Northern Mariana Islands; and Estates summary level for US Virgin Islands. The Demographic Profiles were published in 2014.
- The State Percentiles data now includes the US Territories, of American Samoa, Guam, Commonwealth of the Northern Mariana Islands, and the US Virgin Islands. American Samoa, Guam, and Commonwealth of the Northern Mariana Islands use 2013 Census Place boundaries. The US Virgin Islands use 2013 Census Estate boundaries.

- The environmental data included for the territories will be:

US Virgin Islands	Guam	American Samoa	Marianna Islands
Lead paint	Lead paint	Lead paint	Lead paint
Superfund proximity	Superfund proximity		
RMP proximity	RMP proximity	RMP proximity	
TSDF proximity	TSDF proximity		

- Supplemental indexes - The supplemental indexes are a combination of a single environmental indicator and five socioeconomic factors. Just as there are twelve EJ indexes in EJScreen, there are also twelve Supplemental Indexes, reflecting the same twelve environmental indicators. The Supplemental Indexes use the same EJScreen methodology and calculation as the EJ Indexes but are based on a new five-factor demographic index. More information on the supplemental indexes can be found on the EJ and Supplemental Indexes <https://epa.gov/ejscreen/ej-and-supplemental-indexes-ejscreen> page.
- Supplemental demographic index - Calculated by taking the average between the percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy for a block group. The current version of EJScreen uses data from the Census Bureau's ACS 2016-2020 5-year Summary.
- There are new datasets associated with the threshold maps. These include:
  - Datasets with 12 Calculated EJ or Supplemental Index Percentiles
  - 101 Percentile bin counters (0 to 100)
  - Created for both the state and nation

New/Deleted Map Layers

New tribal and indigenous map layers

- *Virginia Federally Recognized Tribes* - Contains point data for federally recognized tribes geographically located in the state of Virginia, corresponding with the administrative boundaries of EPA Region 3. These tribes are federally recognized, but do not currently have land that qualifies as Indian country. Locations are based on mailing addresses for each tribe provided by the EPA Region 3 Tribal Program Coordinator to the US EPA Office of Mission Support on May 5, 2021. Source: EPA ArcGIS for Other Federally Recognized Tribes
  <https://services.arcgis.com/cj9yhowt8tu7duyn/arcgis/rest/services/bnd___other_federally_recognized_tribes/featureserver>
- *Tribal Cession Boundaries* - U.S. Forest Service-defined boundaries depicting lands ceded to the federal government for which they may still retain rights and may not be present-day tribal boundaries. Source: USDA ArcGIS for Indian Land Cessions in the United States
  <https://apps.fs.usda.gov/arcx/rest/services/edw/edw_tribalcessionlands_01/mapserver/0>

- *Alaska Native Regional Corporations* - Census Bureau-defined, corporate entities <https://www.census.gov/programs-surveys/geography/about/glossary/aian-definitions.html> organized to conduct both for-profit and non-profit affairs of Alaska Natives pursuant to the Alaska Native Claims Settlement Act. They have legally defined boundaries that subdivide all of Alaska into twelve regions (except for the area within the Annette Island Reserve). Source: Census ArcGIS for Alaska Native Regional Corporations <https://tigerweb.geo.census.gov/arcgis/rest/services/tigerweb/aiannha/mapserver/0>
- *State-recognized American Indian Reservations* - Census Bureau-curated boundaries that depict reservations established by certain state governments for tribes recognized by the state. Source: Census ArcGIS for State American Indian Reservations <https://tigerweb.geo.census.gov/arcgis/rest/services/tigerweb/aiannha/mapserver/4>
- *Hawaiian Native Homelands* - Census Bureau-defined areas depicting the 75 Hawaiian homelands in the U.S. state of Hawaii in pursuant with the Hawaiian Homes Commission Act of 1920 (HHCA), as amended. Source: Census ArcGIS for Hawaiian Home Lands <https://tigerweb.geo.census.gov/arcgis/rest/services/tigerweb/aiannha/mapserver/5>
- *State-designated Tribal Statistical Areas* - Statistical geographic areas identified and delineated for state recognized tribes by the Census Bureau that are not federally recognized and do not have an American Indian reservation or off-reservation trust land. Source: Census ArcGIS for State Designated Tribal Statistical Areas <https://tigerweb.geo.census.gov/arcgis/rest/services/tigerweb/aiannha/mapserver/8>

New colonias map layers

- *Colonias Communities (HUD)* - This service denotes the locations of colonias communities as defined in Section 916 of the Cranston-Gonzalez National Affordable Housing Act of 1990. Per Section 916 of the Cranston-Gonzalez National Affordable Housing Act of 1990, a "colonia" refers to any community that meets the following criteria: Source: U.S. Department of Housing and Urban Development's (HUD) colonias geospatial data <https://hudgis-hud.opendata.arcgis.com/datasets/hud::colonias-communities/about>
  - **(A)** is in the State of Arizona, California, New Mexico, or Texas;
  - **(B)** is in the area of the United States within 150 miles of the border between the United States and Mexico, except that the term does not include any standard metropolitan statistical area that has a population exceeding 1,000,000;
  - **(C)** is designated by the State or county in which it is located as a colonia;
  - **(D)** is determined to be a colonia on the basis of objective criteria, including lack of potable water supply, lack of adequate sewage systems, and lack of decent, safe, and sanitary housing, and;
  - **(E)** was in existence and generally recognized as a colonia before the date of the enactment of the Cranston-Gonzalez National Affordable Housing Act.
- *TX State Colonias* - Colonias are substandard housing developments, often found along the Texas-Mexico border, where residents lack basic services such as drinking water, sewage treatment, and paved roads. They can also be a residential area lacking some basic infrastructure like a drinking water supply, sewage treatment, paved roads, adequate drainage, etc. Source: Texas Attorney General's (TX-AG) colonias geospatial database <https://www.texasattorneygeneral.gov/divisions/colonias>

- *NM State Colonias* - University of Mexico's Bureau of Business & Economic Research (BBER) has developed an innovative technique for approximating colonia geographies and tabulating data that is representative of those communities. Using this technique, BBER tabulated 2010 Census data and American Community Survey (ACS) 2006-2010 5-Year Estimates for areas that approximate the geographic extent of various New Mexico colonias under a contract with the New Mexico Mortgage Finance Authority (MFA). Source: University of New Mexico's Bureau of Business and Economic Research's (BBER) colonias geospatial database <https://bber.unm.edu/data/colonias/>
- New and deleted climate change layers include:
    - *Flood Risk (new)* - The First Street Foundation Flood Model is a nationwide probabilistic flood model that shows the risk of flooding at any location in all 50 states and Puerto Rico due to rainfall (pluvial), riverine flooding (fluvial), and coastal surge flooding. While other hydraulic and hydrologic models show refined risks of flooding in certain areas, this model provides complete coverage across the United States at 3-meter resolution. The First Street Foundation Flood Model provides a consistent and unified methodology across the entire country with continuous outputs. This extends into areas that have no previous flood modeling and even areas that do not have recorded hydrologic data. As a result, there is increased visibility into new regions of the entire country. Source: First Street Foundation <https://firststreet.org/>
    - *Wildfire Risk (new)* - The First Street Foundation-Wildfire Model (FSF-WFM) is a 30 meter resolution model representing the wildfire exposure for any specific location in the contiguous US, today and with the future climate change. The risk of wildfire is derived from a series of inputs associated with fire fuels, weather, human influence, and fire movement. Bringing all of these inputs together, at a national scale, in a high-resolution, climate-adjusted model represents a first-of-its-kind property-level wildfire risk model. In the development of the model, U.S. Federal Government open data are used for the foundational topography, fuels, weather, climate, and historical disturbances information, and additional data were added from a variety of state and local wildfire and land management sources to facilitate a both high resolution and future-facing (estimates both for today and for 30 years ahead) product. Source: First Street Foundation <https://firststreet.org/>
    - *Wildfire Hazard Potential (deleted)* - An index that quantifies "the relative potential for wildfire that may be difficult to control" in the conterminous United States. These data can be used to identify areas of potential wildfire risk that are proximate to socially and economically vulnerable communities. Source: U.S. Department of Agriculture <https://www.fs.usda.gov/rds/archive/catalog/rds-2015-0047-3>
- Toxic Substance Control Act - The layer shows only points from the TSCA (Toxic Substances Control Act) database. The Toxic Substances Control Act of 1976 provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides. Source: Facility Registry Service (FRS) <https://epa.gov/frs>

- Toxics Release Inventory - As authorized under the Emergency Planning and Community Right-to-Know Act <https://epa.gov/toxics-release-inventory-tri-program/tri-laws-and-regulatory-activities> (EPCRA) and the Pollution Prevention Act <https://epa.gov/laws-regulations/summary-pollution-prevention-act> (PPA), the Toxics Release Inventory <https://epa.gov/toxics-release-inventory-tri-program> (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. U.S. facilities in different industry sectors must report annually how much of each chemical is released to the environment and/or managed through recycling, energy recovery and treatment.

  The map shows point locations for facilities that submitted TRI reports to EPA during the most recent reporting year. Points are relatively sized based on total quantities reported as released.

  Source: EPA's Envirofacts <https://epa.gov/enviro/tri-overview> and Facility Registry Service (FRS) <https://epa.gov/frs>

  Spatial metadata: TRI
- Parks - An ArcGIS WebService representing fine level manager or administrative agency name standardized for the Nation (USFS, BLM, State Fish and Wildlife, State Parks and Rec, City, NGO, etc). This map is based on the PAD-US 3.0 Combined Proclamation, Marine, Fee, Designation, Easement feature class. DOD and Tribal areas shown with 50% transparency. Use for categorization by manager name, with detailed federal managers and generic state/local/other managers. View more information about PAD-US <https://doi.org/10.5066/p9q9lq4b>.

  Source: PAD-US Data Download <https://www.usgs.gov/programs/gap-analysis-project/science/pad-us-data-download>
- Justice 40 - This layer built by Esri assesses and identifies communities that are disadvantaged according to Justice40 Initiative criteria <https://screeningtool.geoplatform.gov/en/methodology>. Details of the assessment are provided in the popup for every census tract in the United States and its territories American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands. This map uses 2010 census tracts from Version 0.1 of the source data <https://screeningtool.geoplatform.gov/en/methodology> downloaded May 30, 2022.

Methodological Changes

- The old calculation was:

  EJ Index =

  Environmental Indicator Score
  X [[Supplemental Demographic Index for Block Group]
  - (Demographic Index for U.S.)]
  X Population Count for Block Group

- The new calculation is:

> EJ & Supplemental Index =
>
> Environmental Indicator Percentile for Block Group
> X Demographic Index for Block Group

- There are three changes when comparing EJScreen 2.1 and EJScreen 2.0 calculations:
  - Replaced the environmental indicator score with the environmental indicator percentile.
  - Removed the subtraction of the demographic index for the US from the calculation.
  - Removed weighting by block group population from the equation.
- There are two methodology changes for computing percentiles. These include:
  - Percentiles are now unweighted. The version 2.0 used population weights.
  - Percentile ties now use a floor method, instead of ceiling method. This produces lowest value for ties instead of highest value for ties.

More Information

Information on the environmental data vintage

Indicator	Details	Source	Data Year
Air Toxics Cancer Risk	Lifetime cancer risk from inhalation of air toxics	EPA Air toxics data, retrieved 2021 <https://epa.gov/airtoxscreen/2017-airtoxscreen-assessment-results>	2017
Air Toxics Respiratory HI	Air toxics respiratory hazard index (ratio of exposure concentration to health-based reference concentration)	EPA Air toxics data, retrieved 2021 <https://epa.gov/airtoxscreen/2017-airtoxscreen-assessment-results>	2017

Indicator	Details	Source	Data Year
Diesel Particulate Matter	Diesel particulate matter level in air, µg/m^3	EPA Air toxics data, retrieved 2021 <https://epa.gov/airtoxscreen/2017-airtoxscreen-assessment-results>	2017
Particulate Matter 2.5	PM2.5 levels in air, µg/m^3 annual avg. (2018)	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-pm-25-2012-area-information>	2018
Ozone	Ozone summer seasonal avg. of daily maximum 8-hour concentration in air in parts per billion (2018)	EPA, OAR (fusion of model and monitor data). For methods, see EPA Report EPA-454/S-15-001 <https://epa.gov/green-book/green-book-8-hour-ozone-2015-area-information>	2018
Traffic Proximity	Count of vehicles (AADT, avg. annual daily traffic) at major roads within 500 meters, divided by distance in meters (not km)	Calculated from 2019 U.S. DOT traffic data, retrieved 2021 <https://geo.dot.gov/server/services>	2019
Lead Paint	Percent of housing units built pre-1960, as indicator of potential lead paint exposure	Calculated based on Census/ACS data, retrieved 2021 <https://www.census.gov/programs-surveys/acs/data/summary-file.html>	2016-2020

Indicator	Details	Source	Data Year
RMP Facility Proximity	Count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	Calculated from EPA RMP database, retrieved 04/26/2022 <https://epa.gov/rmp/risk-management-program-rmp-rule-overview>	2022
Hazardous Waste Proximity	Count of TSDFs and BR LOQs (hazardous waste management facilities) within 5 km (or nearest beyond 5 km), each divided by distance in kilometers	Calculated from EPA RCRAInfo database, retrieved 04/26/2022 and 2019 BR retrieved 04/26/2022 Reference Document for Hazardous Waste Treatment, Storage and Disposal Facilities <https://epa.gov/hwpermitting/reference-document-hazardous-waste-treatment-storage-and-disposal-facilities> Biennial Report Summary <https://rcrapublic.epa.gov/rcrainfoweb/action/modules/br/summary/view>	2022
Superfund Proximity	Count of proposed and listed NPL sites within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers	Calculated from EPA SEMS database, retrieved 04/26/2022 <http://cumulis.epa.gov/supercpad/cursites/srchsites.cfm>	2022

Indicator	Details	Source	Data Year
Wastewater Discharge	Toxicity-weighted stream concentrations at stream segments within 500 meters, divided by distance in kilometers (km)	Calculated from RSEI modeled toxicity-weighted stream concentrations, created 03/2021 <https://epa.gov/rsei>	2021
Underground Storage Tanks	Weighted count of USTs per sq. km	Provided by EPA Office of Underground Storage Tanks, 07/07/2022 <https://epa.gov/ust>	2022

- To download this data, please visit the Download EJScreen Data <https://epa.gov/ejscreen/download-ejscreen-data> page
- Technical Information about EJScreen <https://epa.gov/ejscreen/technical-information-and-data-downloads>

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