Connecticut Environmental Justice Screening Tool

Connecticut Environmental Justice Screening Tool:
Environmental Justice for Resilient Pathways through Geospatial Information

12/1/23

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CIRCA
Connecticut Institute for Resilience and Climate Adaptation

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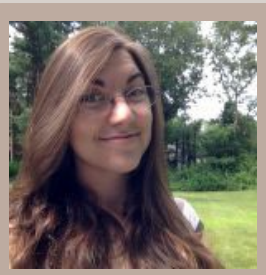

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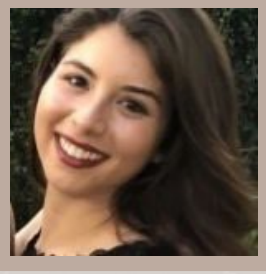

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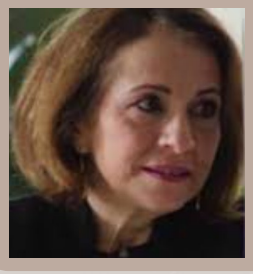

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Outline

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How can the mapping tool be used?

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Environmental Justice Screening Tool

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

EPA EJScreen

The mapping tool aims to

Data Integration

Supplemented with local information and experience

Easy Access

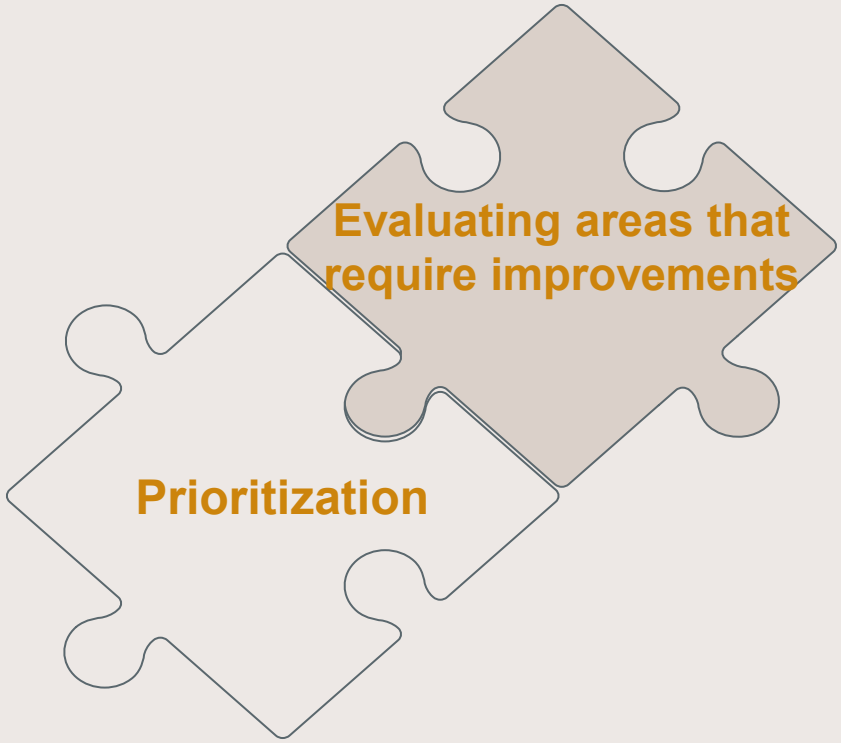
Web-based GIS tool for statewide

Policy making

The first screening for State, County, and Municipal decision making

How can you use the tool?

How can you use the tool?



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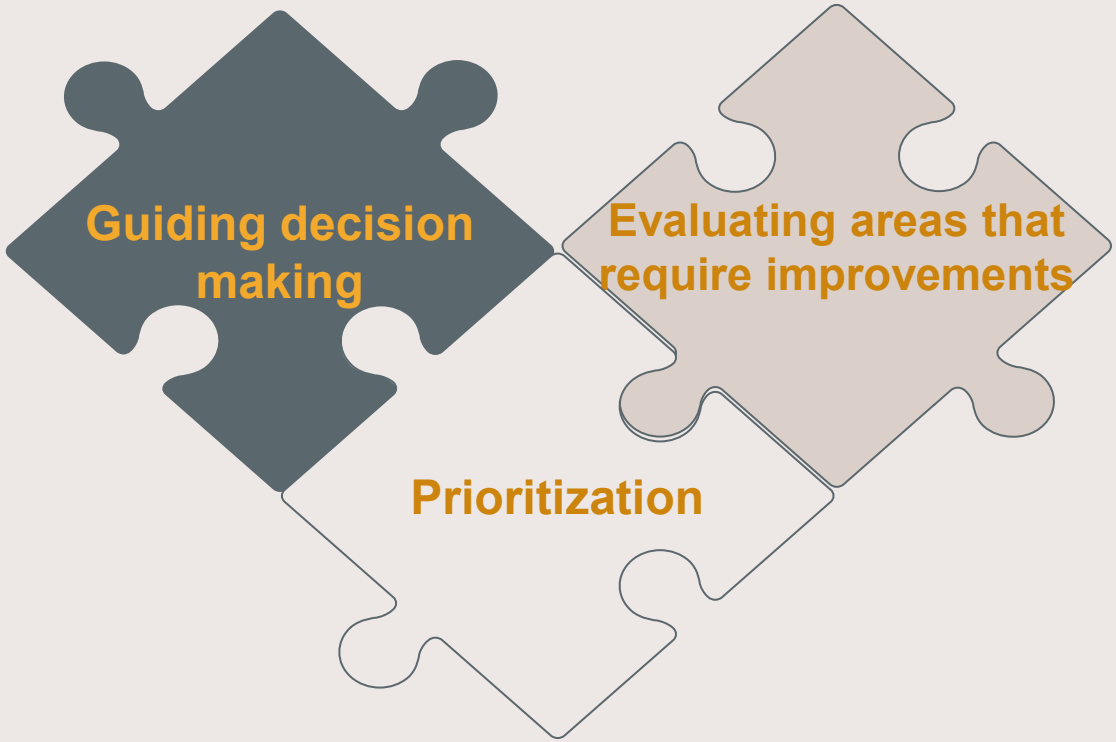

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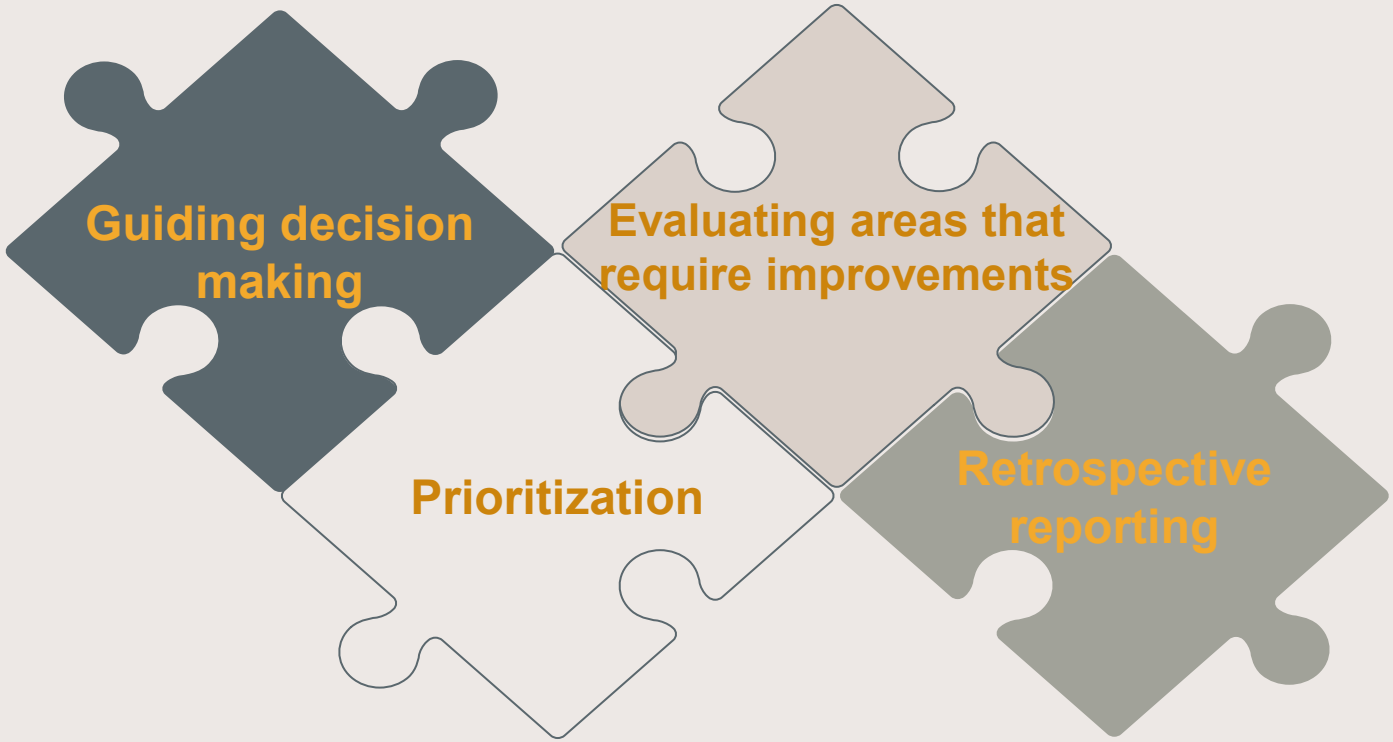

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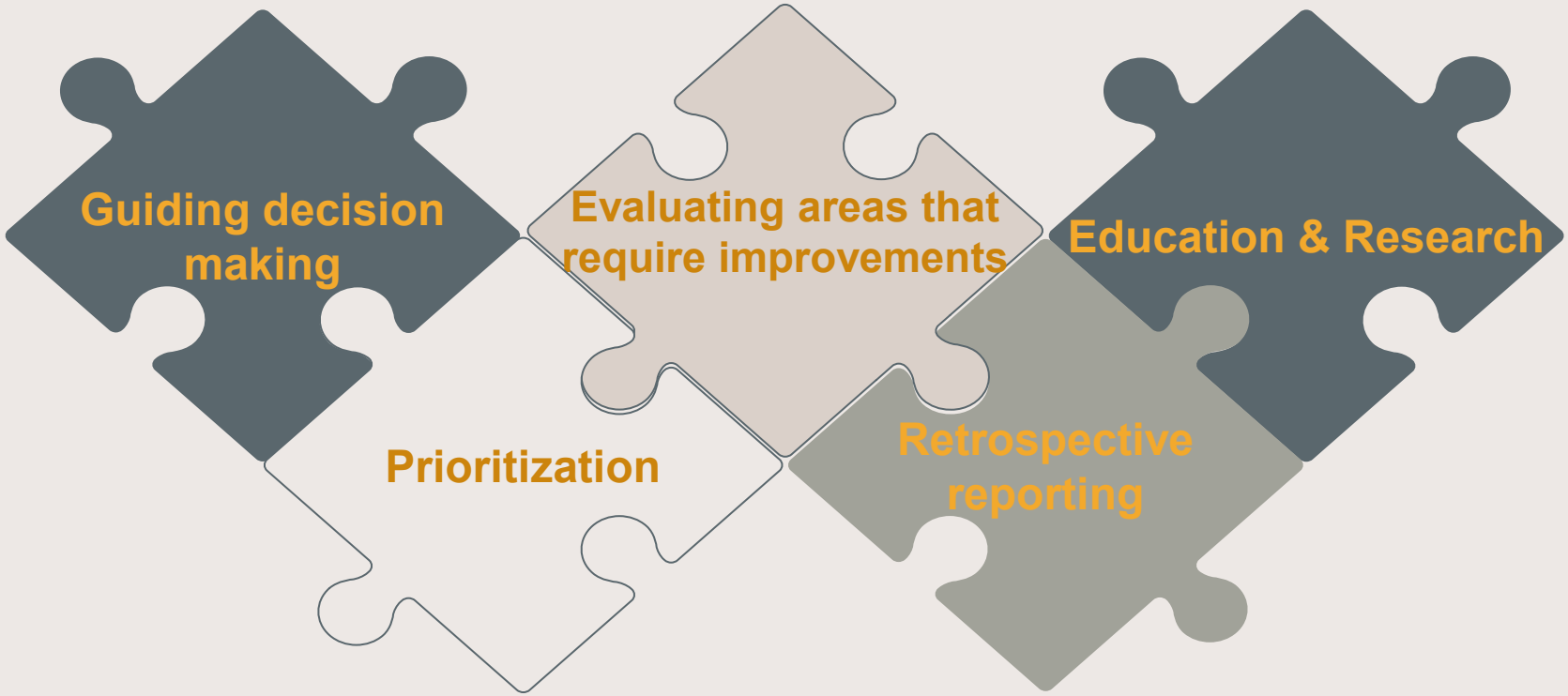
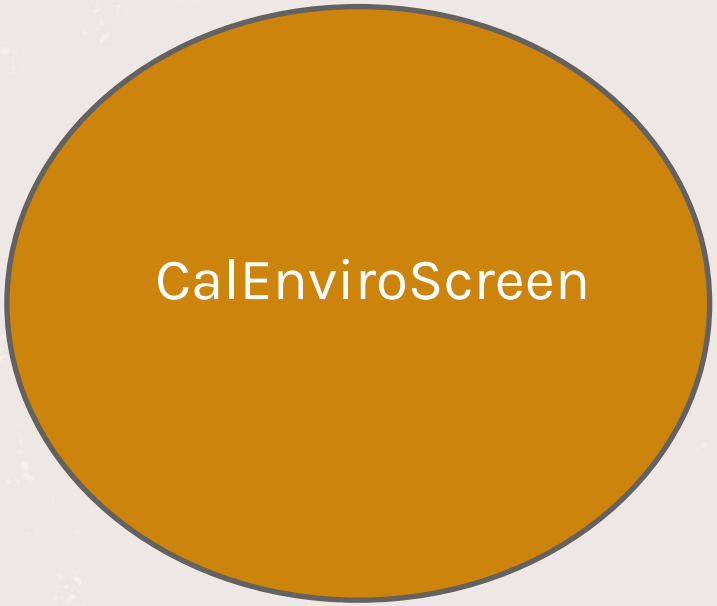


Examples from Other States

New Jersey Environmental Justice Mapping, Assessment and Protection Tool

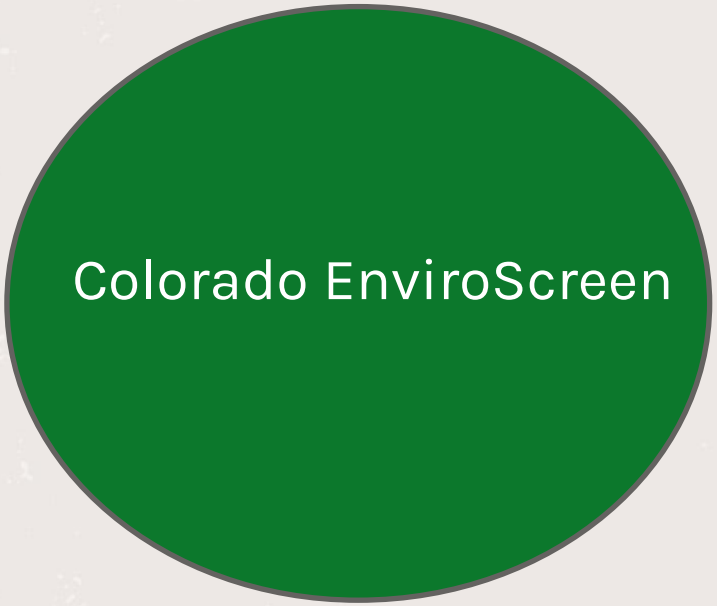
- Incorporated into rules for implementing New Jersey's EJ Law.
- Informs permitting decisions for new facilities in overburdened communities.
- Identifies overburdened communities and triggers additional assessment of cumulative impact during permitting process.

Examples from Other States



- Top 25 percent of census tracts in CalEnviroScreen 4.0 are targeted for investment of proceeds from the State's cap-and-trade program.
- Incorporated into grant application criteria for Transformative Climate Communities (TCC) Program.
- Department of Toxic Substance Control uses CalEnviroScreen to prioritize enforcement, complaints, and groundwater investigations.

Examples from Other States



- Informs prioritization of public water system inspections through Colorado Department of Public Health & Environment Safe Drinking Water Program.
- Informs MOU and work plan between Colorado Department of Public Health & Environmental and federal EPA Region 8 regarding compliance and enforcement activities to reduce pollution.

Examples from Other States

- Incorporated into implementation of Washington's Clean Energy Transformation Act, which requires that disproportionately impacted communities must benefit equitably from the transition to a clean energy economy.

- Utilities must identify these communities in the Clean Energy Implementation Plans submitted to the Department of Commerce every 4 years, must describe expected costs/benefits to these communities and how the utility will reduce risks to these communities

The intended use for Connecticut

- Prioritizing DEEP and other State agency policy and legislative matters that seek to address env'l inequities
- Informing enforcement of environmental regulations
- Targeting funding for infrastructure improvements;
- Identify communities that qualify within certain funding criteria for state and local government grant applications;
- Identifying areas to conduct health assessments and providing health and environmental burdens data;
- Provide data to support local planning and zoning efforts;
- Ensure adaptation and mitigation strategies contribute towards equity rather than exacerbating existing inequalities

The mapping tool's capacity

This Mapping Tool DOES:

- Identify potential sources of pollution.
- Identify areas that present potential hazards in the event of an accident or emergency.
- Identify census tracts near potential pollution sources.
- Identify the degree to which a community, by census tract, is vulnerable due to socioeconomic and health disparities.

This Mapping Tool DOES NOT:

- Does not reflect actual exposures to pollution
- Does not model the overall pollution burden nor reflect the number of individuals that may be affected by pollution.
- Does not model the positive or negative likelihood of an individual's risks for poor health outcomes.
- Does not release private addresses, information, or names.

Limitations of the mapping

Various Dataset

Nothing is really “equal weight”

Resolution

Inconsistent data representation

Realistic

The impact of the pollution may be inadequate

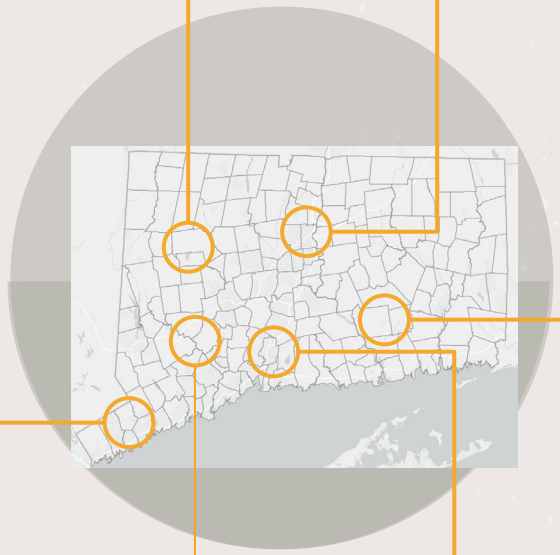
Expert need

Evaluation of need multidisciplinary expert collaboration

Project Development

Literature

Mapping Tool Advisory Committe



State Data Advisory Committee

Forums

Additional Feedback

Public Comment Period

State Data Advisory Committee (SDAC)

- Office of Policy & Management
- Yale Center on Climate Change & Public Health
- DataHaven
- Department of Economic and Community Development
- Department of Transportation
- Department of Public Health
- Department of Emergency Services and Public Protection
- Clean Air Association of the Northeast States (NESCAUM)
- Connecticut Data Collaborative

Mapping Tool Advisory Committee

- **Goal:** Fund organizations and individuals to advise on environmental justice mapping efforts for Connecticut
- **Members:** 2 organizations and 4 individuals
- **Eligibility:** Individuals with lived experience or representatives from community-based organizations (CBOs)
  - Operation Fuel
  - Groundwork Bridgeport
  - Individuals from Bridgeport, Windsor, New Haven, Hartford

Forums

Bridgeport - East End NRZ
Waterbury - Waterbury Health Department and Bridge to Success
Hartford- Center for Latino Progress
Groton - City of Groton
New Haven - Junta Progressive Action

Methodology

- GC3 Report Suggestions
- CT Specific Data Updates
- Environmental, Pollution, Health and Socioeconomic data sources

Methodology

Data Collection → Indicator Selection and Calculation → Cumulative Index Calculation → Mapping

- Each indicator is equal within the category.
- If the data inside the indicator is weighted based on either proximity, value range or rate difference.
- Percentile and Rank calculation among census tracts.
- Allows relative comparison between census tracts.

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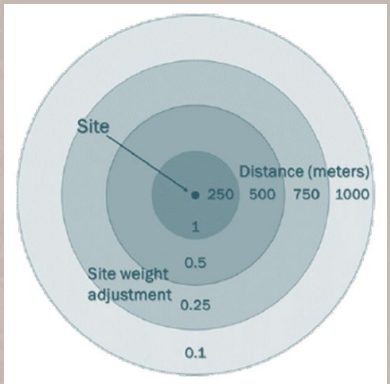

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"Percentiles are normalized to ranks from 0 to 10 to standardized units among the indicators"

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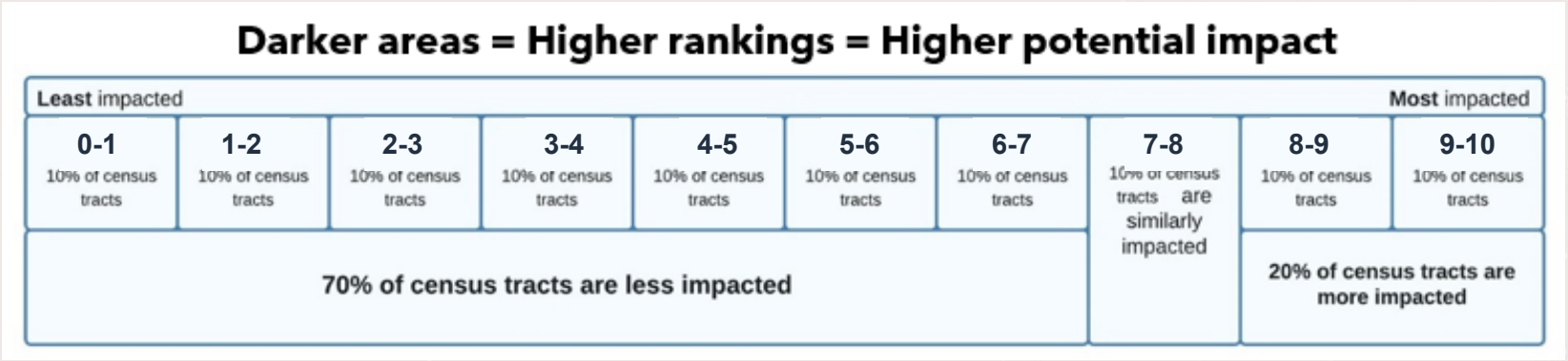
Methodology

Data Collection → Indicator Selection and Calculation → **Cumulative Index Calculation** → Mapping

Overall Score	Environmental Justice Index Score = Pollution Burden x Sensitive Populations			
Composite Category	**Pollution Burden** $\frac{0.5 \times average(PPS) + average(PPE)}{1.5}$		**Sensitive Populations** $\frac{average(SF) + average(HS)}{2}$	
Category	*Potential Pollution Sources (PPS)*	*Potential Pollution Exposure (PPE)*	*Socioeconomic Factors (SF)*	*Health Sensitivity (HS)*

Methodology

Data Collection → Indicator Selection and Calculation → Cumulative Index Calculation → Mapping



Data Categorization

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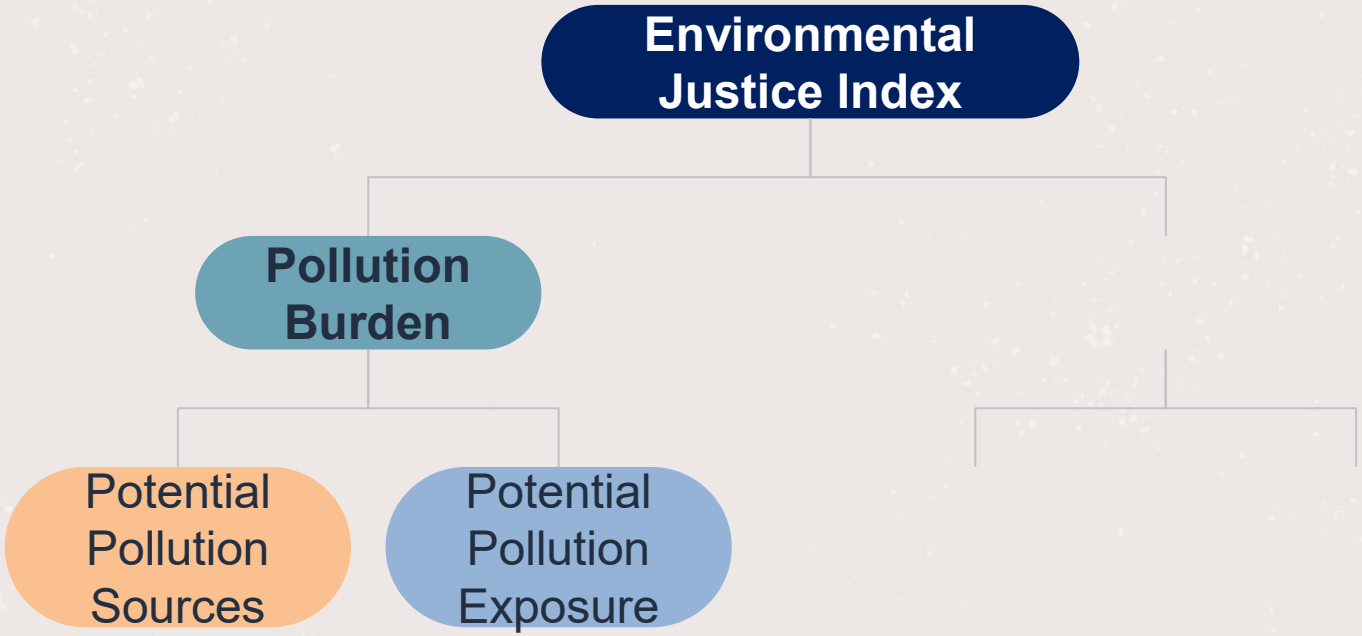

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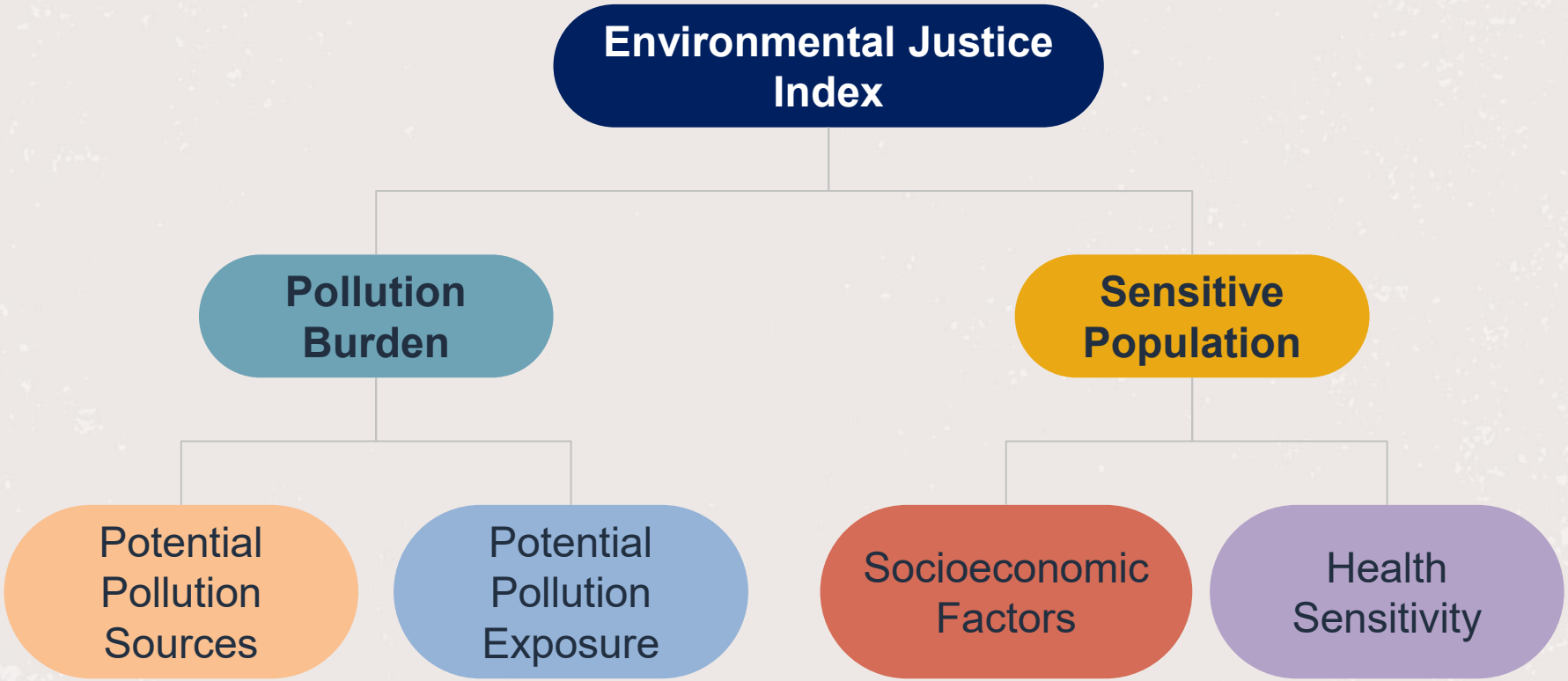

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Category	*Potential Pollution Sources (PPS)*	*Potential Pollution Exposure (PPE)*	*Socioeconomic Factors (SF)*	*Health Sensitivity (HS)*
Indicator	• Brownfield sites • Proximity to Superfund Sites • Impervious Surfaces • Incinerators • Landfills • Housing Lead Risk • Municipal Transfer Stations • Potentially Contaminated/Clean-Up Sites • Recycling Processing Facilities • Significant Environmental Hazards • Underground Storage Tanks • Facilities Managing Hazardous Chemicals • Wastewater Discharges	• Diesel PM Emissions • Noise • Ozone • Particulate Matter 2.5 • Facilities Releasing Toxics • Major Sources of Air Pollution • Minor Sources of Air Pollution • Minor Air Pollution Facilities • Traffic Density • EPA Cancer Risk Index • EPA Respiratory Hazard Risk Index	• Housing Burden • Linguistic Isolation • Poverty levels • Unemployment • Race/Ethnicity • Educational Attainment • Energy Burden • Median Income • Population Age < 5 • Population Age > 65 • No Health Insurance • Mobile Homes • Multi-unit Housing • Rent-ownership Ratio • Disability • Single Parent Households • Food Insecurity	• Asthma Emergency Dept. Visit Rate • Coronary Heart Disease • Emergency Dept. Visits for Chronic Lung Disease • Diabetes • Low Birthweight Rate of Infants • Declined Mental Health • Depression Rates

Resources

Web Interface

CT EJ Screen Project Website in English and Spanish

CT EJ Screen Web Application in English and Spanish

Data Hub for Shapefiles

User Guides

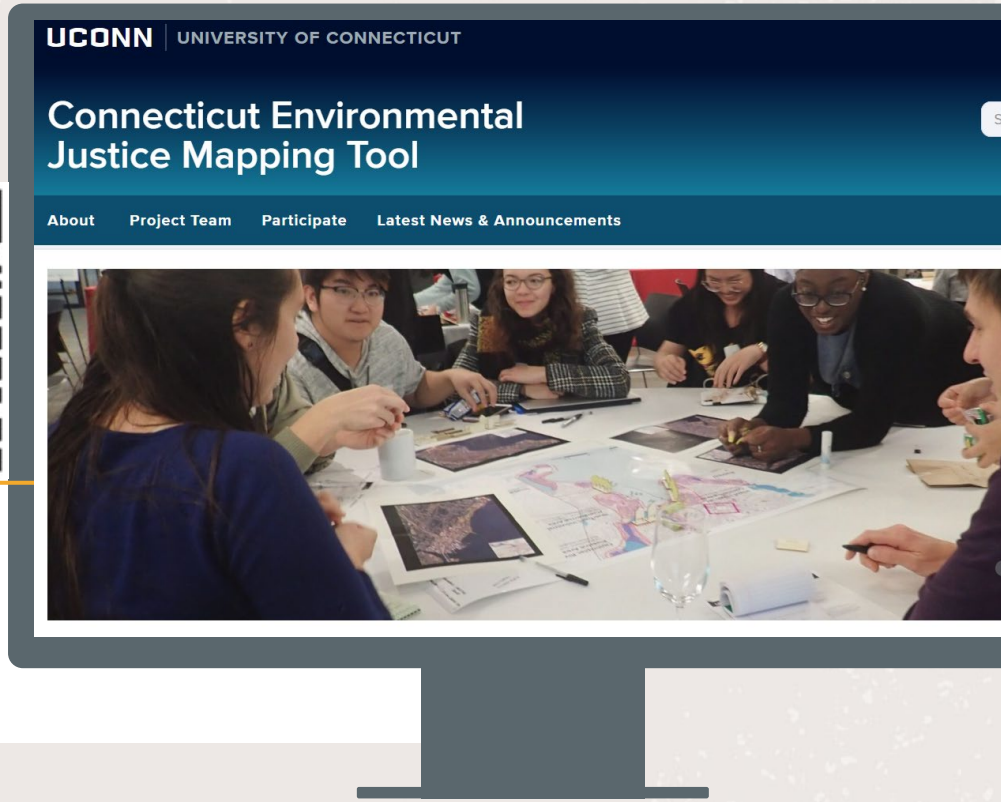
2-Pager User Guide explaining the interface
Widget Description User Guide
Web Application Tutorial Document
Web Application Video Tutorial
All materials Translated into Spanish

Engagement Materials

Factsheet
General Audience Guide on What to Do with CT EJ Screen Tool
List of Community Resources, Grants, and Financial Assistance Opportunities
Ideas for What to do with the CT EJ Screening Tool
Applications of Statewide Mapping Tools
Second Language Speaker High School Curriculum
Final Report

Connect

https://connecticut-environmental-justice.circa.uconn.edu/



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Thank you!

Do you have any questions?

Credits: Slidesgo