Identifying and Prioritizing Environmentally Impacted and Vulnerable Communities

State Environmental Justice Training Webinar

California Environmental Protection Agency

Minnesota Pollution Control Agency

U.S. Environmental Protection Agency

April 16, 2019

Introduction

- State Environmental Justice Training Webinar Series
- Identifying and Prioritizing Environmentally Impacted and Vulnerable Communities
- Important Logistical Information
- Special Remarks – Myra Reece

Charles Lee
Senior Policy Advisor for Environmental Justice
U.S. Environmental Protection Agency
Moderator

https://www.epa.gov/environmentaljustice/environmental-justice-learning-center

Special Remarks

Myra Reece

Director of Environmental Affairs
South Carolina Department of Health and Environmental Control

Identifying and Prioritizing Environmentally Impacted and Vulnerable Communities – Overview

Alan Walts

Director

Multi-Media Programs Office, Region 5

U.S. Environmental Protection Agency

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Environmental Justice (EJ) Definitions

U.S. EPA	Minnesota PCA	California
EJ is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.	The Minnesota Pollution Control Agency will, within its authority, strive for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.	EJ is "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies." *Gov. Code §65040.12(e)*

Why is identifying and prioritizing environmentally impacted and vulnerable communities critical to achieving environmental justice?

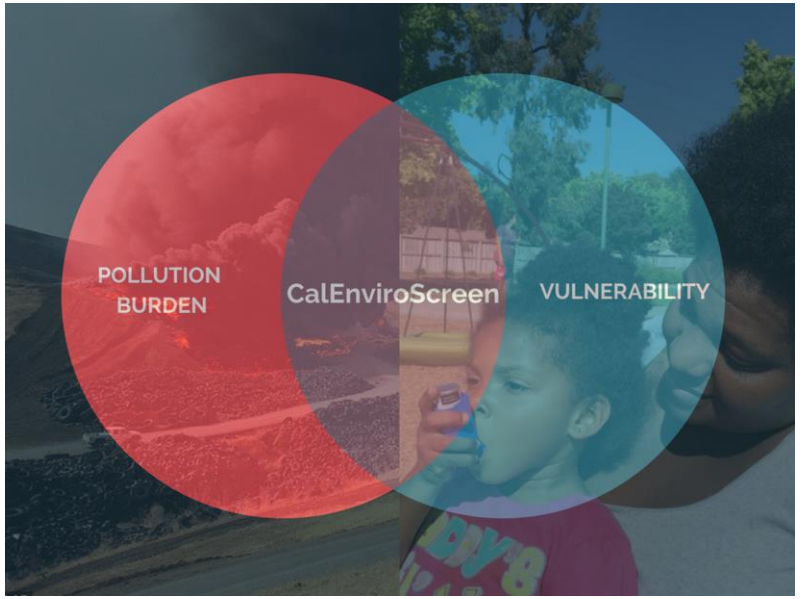
To achieve fair treatment and meaningful involvement, we must identify communities with greatest needs and devote attention to them

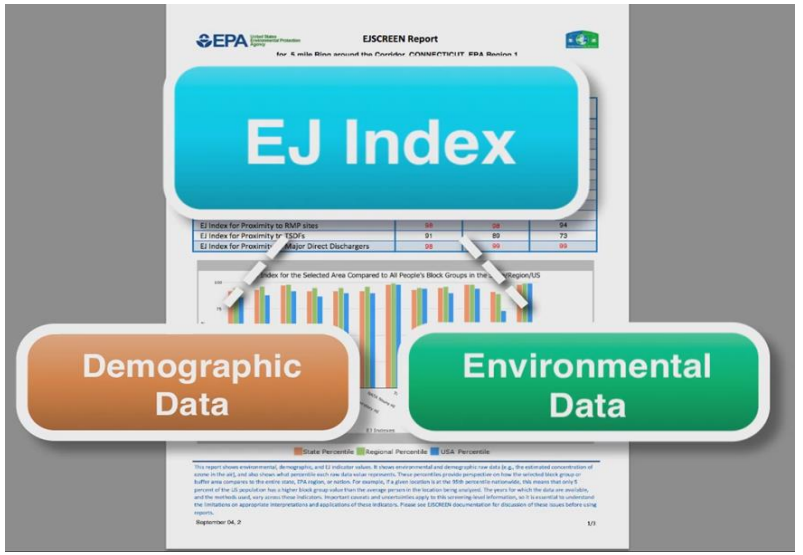
Identifying environmentally impacted and vulnerable communities is first step in integrating EJ in agency programs, policies and activities

Our goal is to apply this information to make positive change in communities

Key Points about EJ Analysis

- Originally, EJ assessments used only demographics and trigger points
- Ample evidence of disproportionate impacts now exists, with a consistent pattern of greater exposure to multiple environmental and social stressors among certain population groups
- Analytic frameworks combining environmental and social factors evolved, such as CalEPA's CalEnviroScreen and USEPA's EJSCREEN tools
- EJ concerns are a combination of environmental impacts and social vulnerability that results in multiple and cumulative impacts





Contributors to Environmental Justice Concerns

Pollution Burden

Exposures

Ozone

PM2.5

Diesel Particulate Matter

Drinking Water Contaminants

Toxic Releases from Facilities

Traffic

Pesticide Use

Environmental Effects

Solid Waste Sites and Facilities

Cleanup Sites

Groundwater Threats

Impaired Water Bodies

Hazardous Waste Generators and Facilities

Population Characteristics

Sensitive Populations

Asthma

Cardiovascular Disease

Low Birth Weight Infants

Socioeconomic Factors

Educational Attainment

Housing Burden

Linguistic Isolation

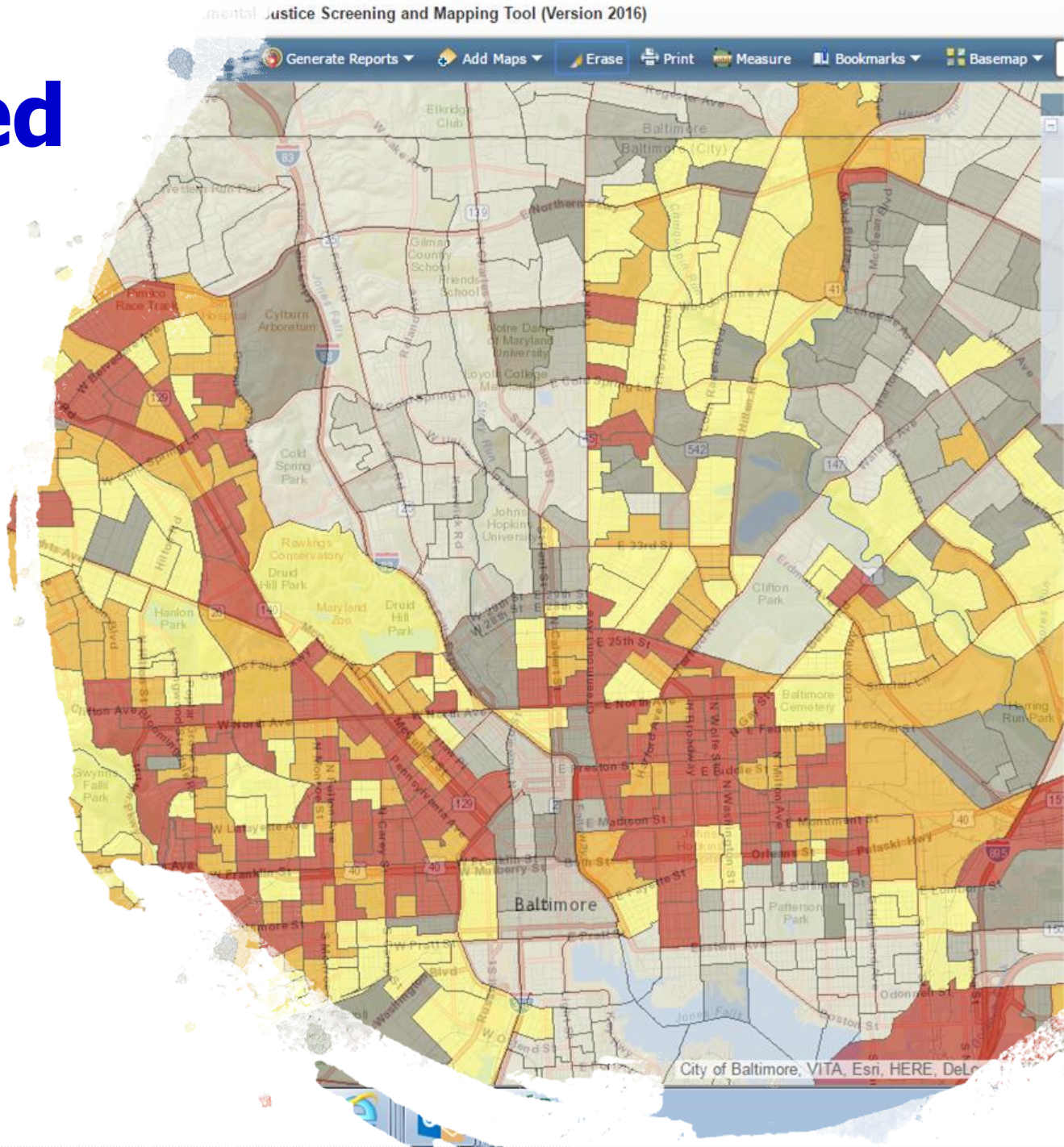
Poverty

Unemployment

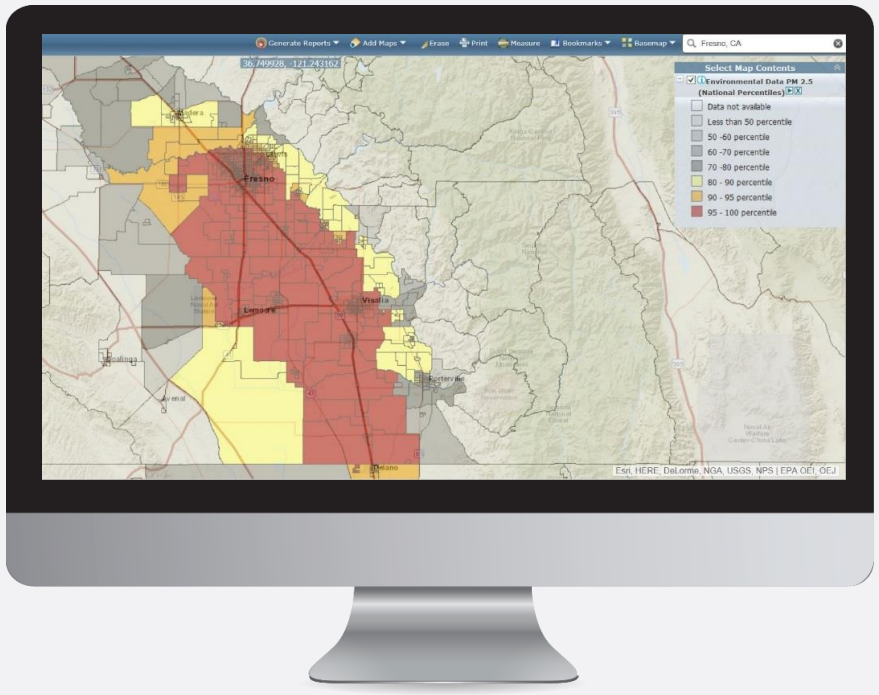
Source: CalEPA

Screening and Refined Analysis

- Supports transparent, routine, and consistent analysis
- Avoids paralysis by analysis
- Uses a subset of factors as indicators
- Iterative approach – first screen, then refine analysis as needed to support action



Environmental Indicators



Indicator Types

Potential health effects: NATA Air Toxics Cancer Risk, NATA Respiratory Hazard Index,

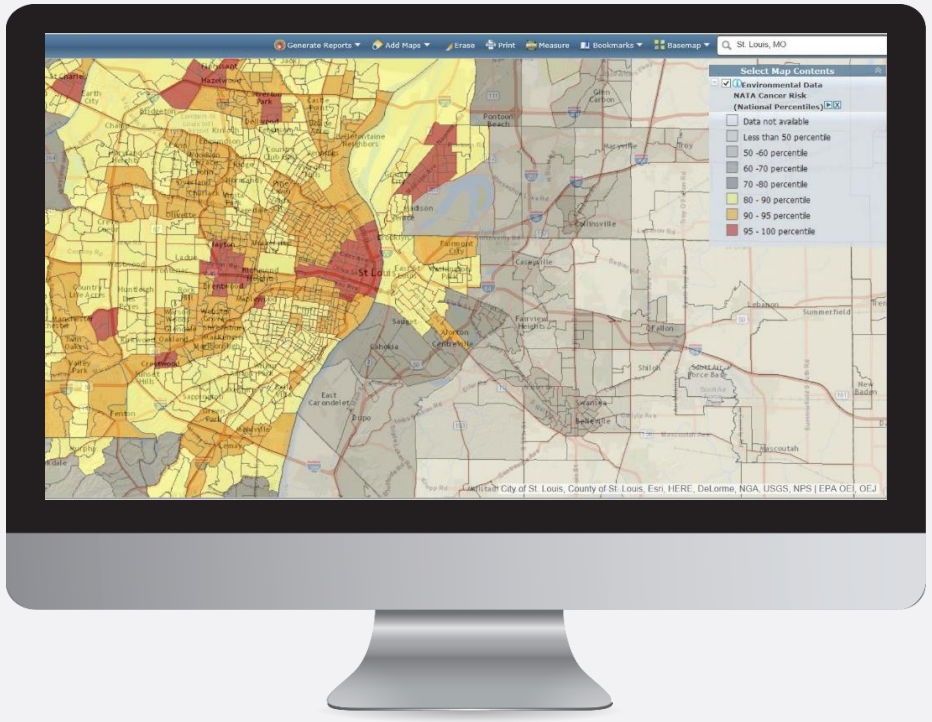
Potential exposure: Diesel Particular Matter, PM2.5, Ozone, Lead

Proximity: Traffic, Waste Water Discharger, Superfund sites, Treatment Storage & Disposal Facilities, Risk Management Plan Facilities

EJSCREEN Training Videos

https://www.epa.gov/ejscreen/ejscreen-videos

Environmental Indicators – Potential Health Effects



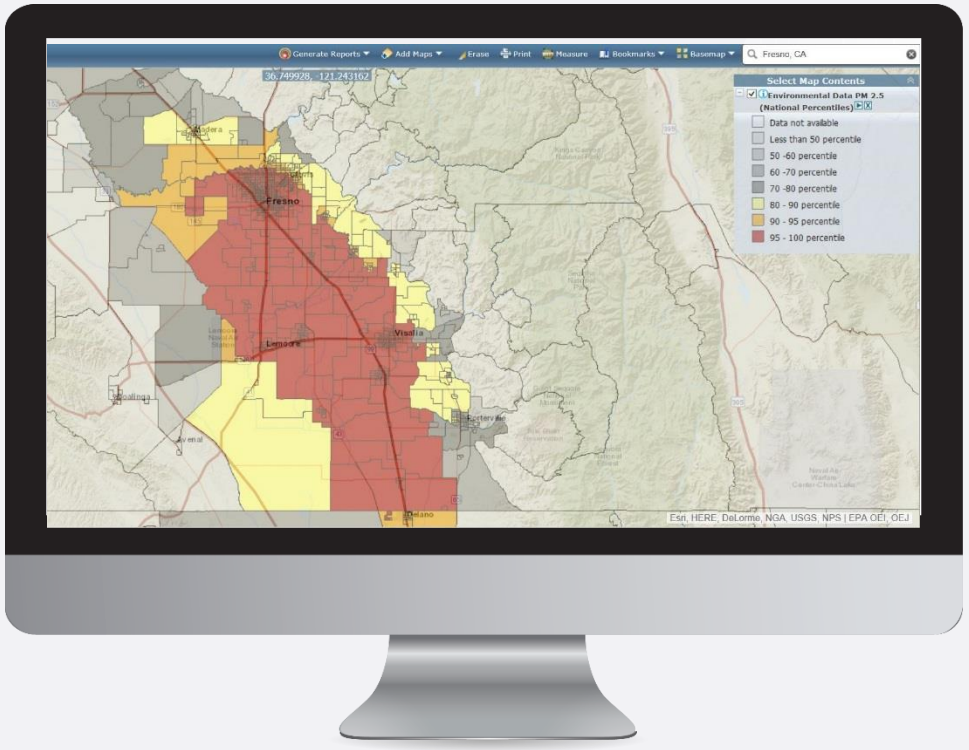
Indicator: NATA Air Toxics Cancer Risk

Description: Lifetime cancer risk from inhalation of air toxics, including known carcinogens such as formaldehyde, benzene and polycyclic aromatic hydrocarbons. Sources include power plants, industrial facilities, mobile sources.

Indicator: NATA Respiratory Hazard Index

Description: Focuses on negative health effects on the respiratory system, such as asthma or allergies, based on estimated continuous inhalation exposure. Sources include stationary and mobile sources, wildfires.

Environmental Indicators – Potential Exposure



Indicator: NATA Diesel Particulate Matter
Description: Particles in air that are a component of diesel exhaust. Sources include diesel exhaust from vehicles.

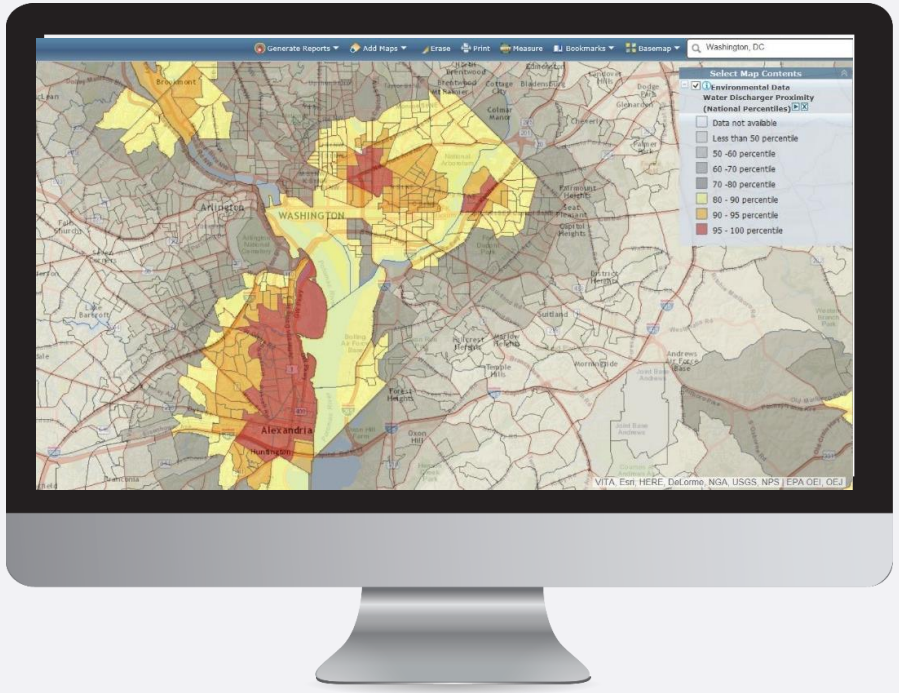
Indicator: PM2.5
Description: PM 2.5 is particulate matter that is 2.5 microns. Sources include power plants, industrial facilities and vehicles.

Indicator: Ozone
Description : Created at ground level by a chemical reaction between oxides of nitrogen and volatile organic compounds in the presence of sunlight.

Indicator: Lead Paint
Description: Stock of housing pre-1960 as a proxy for increased likelihood for exposure. Sources include older housing.

EPA

Environmental Indicators – Proximity



Indicator: Traffic

Description: Average daily number of cars that pass by the average household in each block group.

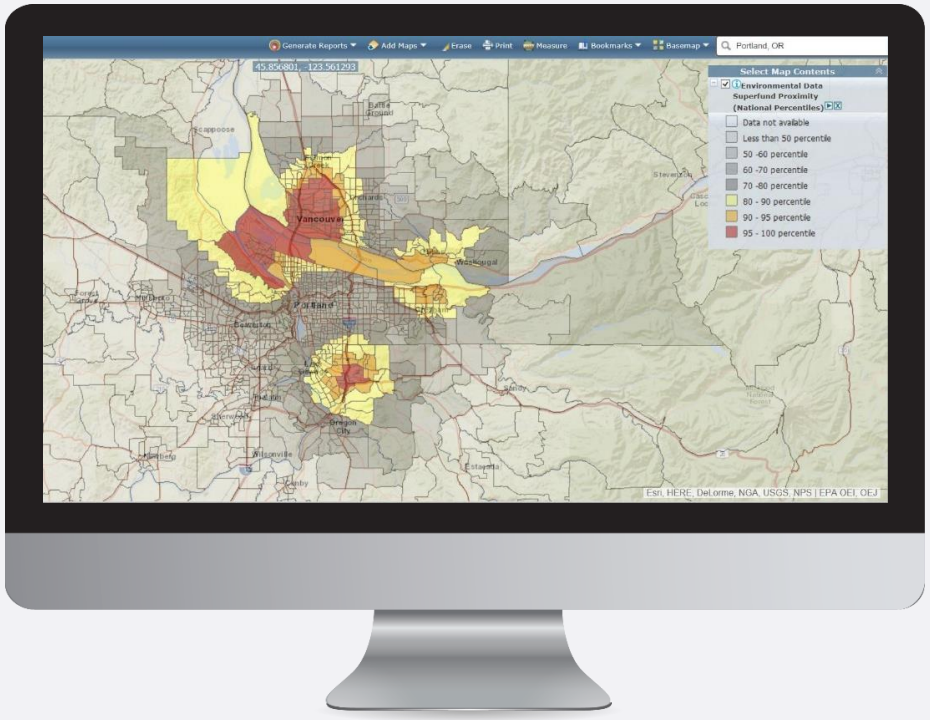
Indicator: Wastewater Dischargers

Description: Proximity to modeled toxic concentrations of pollutants in waters of the United States. Includes information about reported point source discharges.

Indicator: Risk Management Plan (RMP) Facilities

Description: Facilities storing substances regulated because of acute toxicity or because of their flammable or explosive potential; and required to have risk management plans.

Environmental Indicators – Proximity



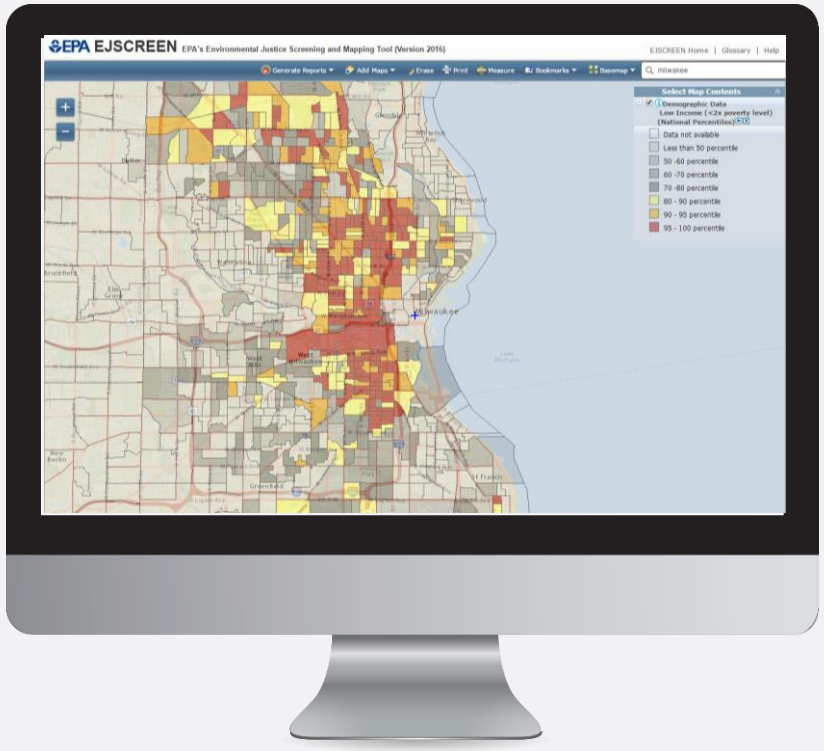
Indicator: Proximity to Superfund Sites

Description: EPA places sites on the National Priorities List (NPL) (a key subset of all "Superfund" sites) based on a defined set of criteria and a public comment process. Sources include abandoned industries, accidental spills, illegal dumping, etc.

Indicator: Proximity to Treatment, storage or disposal facilities (TSDFs)

Description: TSDFs are large permitted facilities that maintain and transport volumes of municipal and industrial hazardous waste generated nationwide.

Demographic Indicators and Index



Indicator: Minority

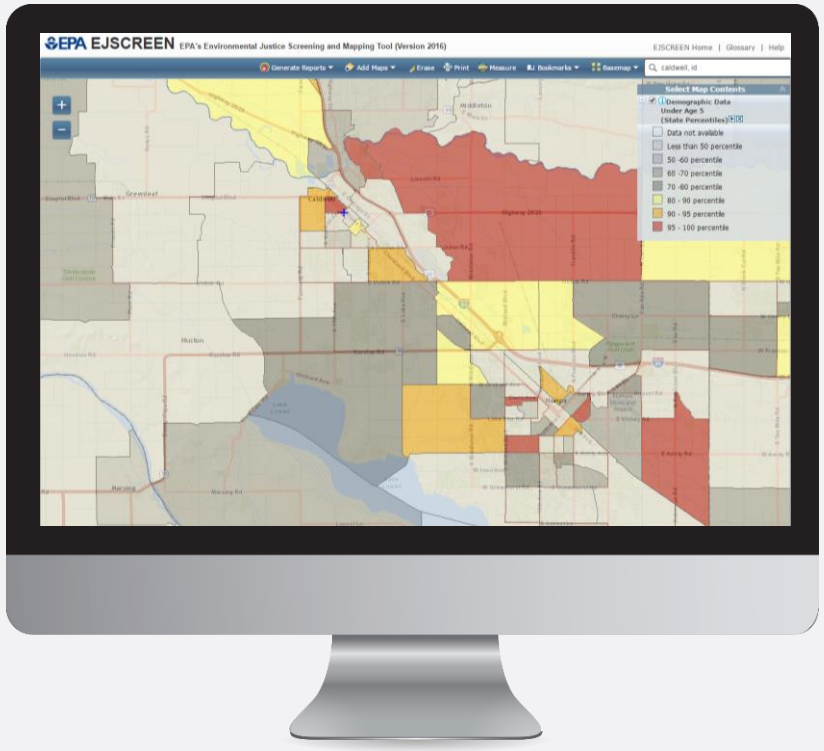
Definition: Percentage of individuals who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino.

Indicator: Low-Income

Definition: Percentage of households with income less than or equal to twice the federal "poverty level."

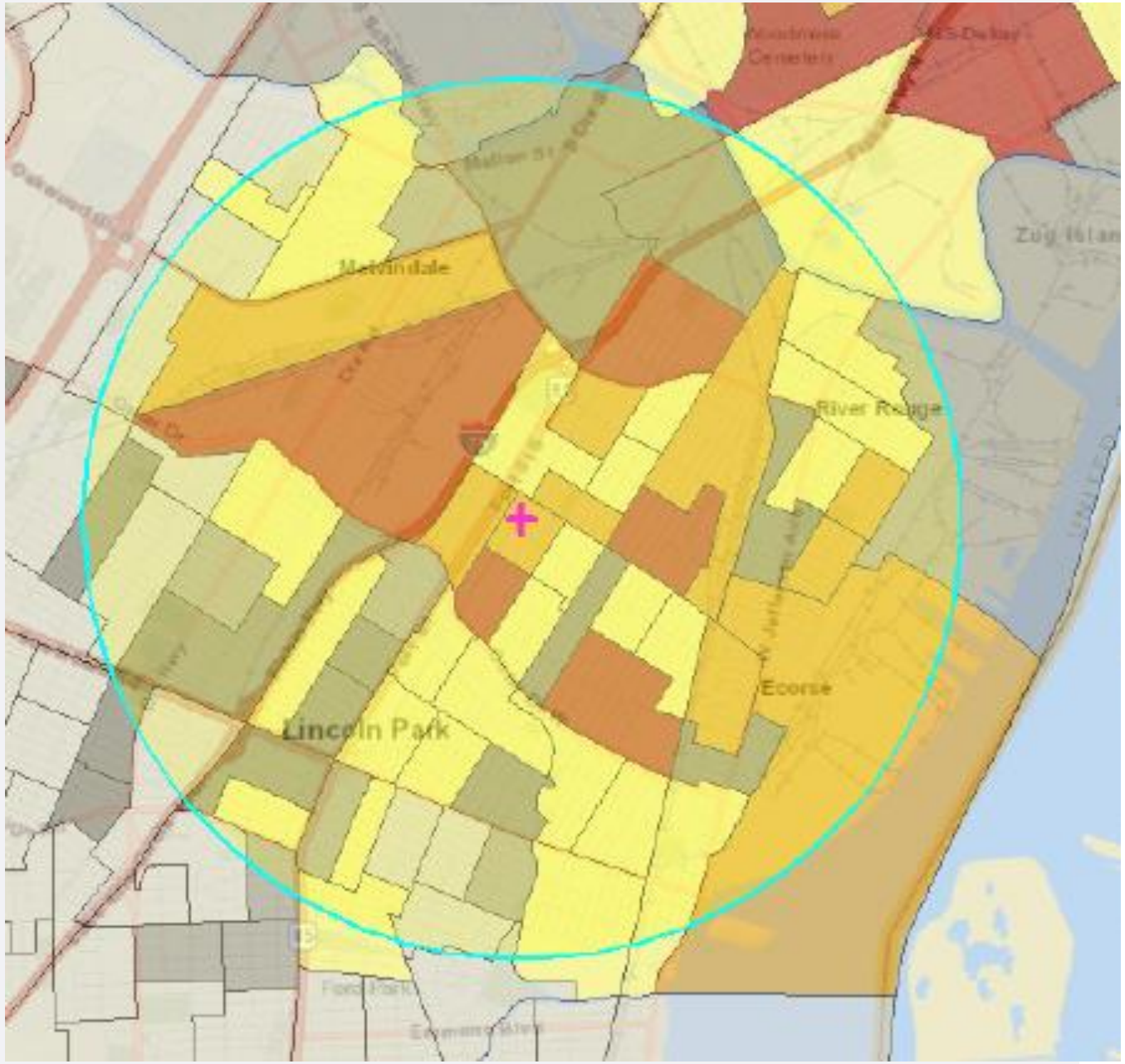
Index: Calculated as (Low income + minority) / 2; used in EJ Index

Demographic Indicators – Additional Factors



Indicators:

- Linguistic isolation
- Less than high school education
- Individuals over age 64
- Individuals under age 5



EJSCREEN Report (Version 2018)

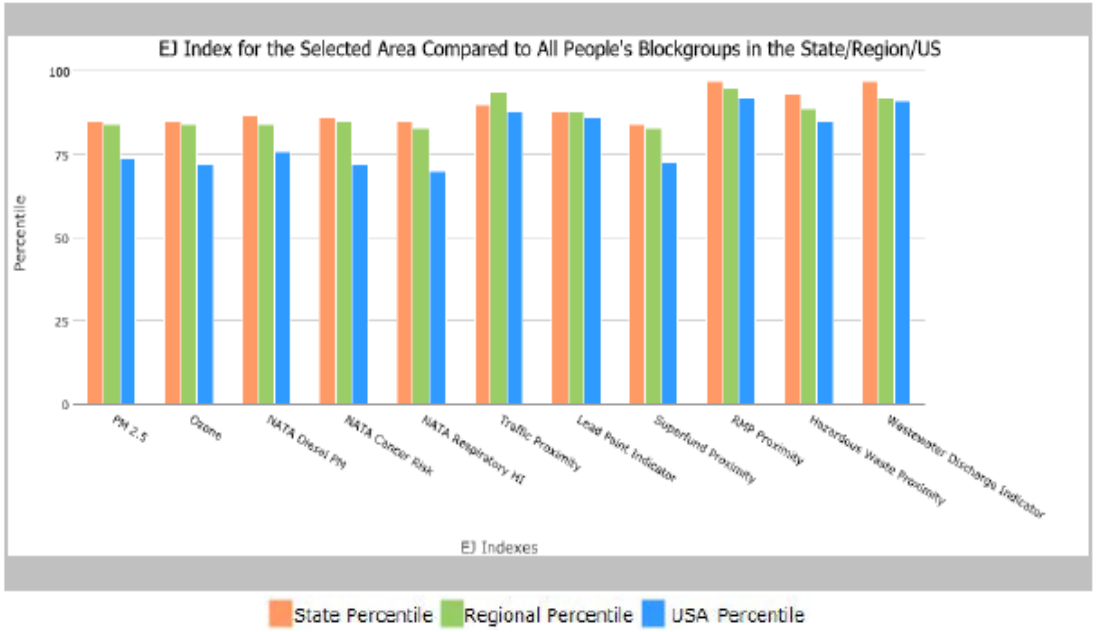
2 mile Ring Centered at 42.266234,-83.160490, MICHIGAN, EPA Region 5

Approximate Population: 54,506

Input Area (sq. miles): 12.56

SW Detroit (The study area contains 2 blockgroup(s) with zero population.)

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	85	84	74
EJ Index for Ozone	85	84	72
EJ Index for NATA* Diesel PM	87	84	76
EJ Index for NATA* Air Toxics Cancer Risk	86	85	72
EJ Index for NATA* Respiratory Hazard Index	85	83	70
EJ Index for Traffic Proximity and Volume	90	94	88
EJ Index for Lead Paint Indicator	88	88	86
EJ Index for Superfund Proximity	84	83	73
EJ Index for RMP Proximity	97	95	92
EJ Index for Hazardous Waste Proximity	93	89	85
EJ Index for Wastewater Discharge Indicator	97	92	91



Health Effects and Data Sources

Significant Impacts

- Morbidity/Mortality

https://catalog.data.gov/dataset/cdc-wonder-mortality-infant-deaths

- Low Birthweight

https://www.cdc.gov/nchs/pressroom/sosmap/lbw_births/lbw.htm

- Cancer Incidence/Mortality

https://www.cdc.gov/nchs/pressroom/sosmap/cancer_mortality/cancer.htm

- Chronic Lower Respiratory Disease

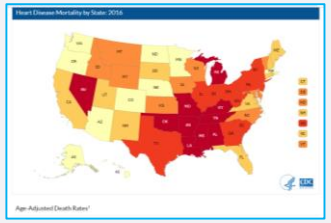
https://www.cdc.gov/nchs/pressroom/sosmap/lung_disease_mortality/lung_disease.htm

- Elevated Blood Lead Levels

https://www.cdc.gov/nceh/lead/programs/default.htm

- Cardiovascular (Heart) Disease

https://www.cdc.gov/nchs/pressroom/sosmap/heart_disease_mortality/heart_disease.htm



CDC National Environmental Public Health Tracking Network

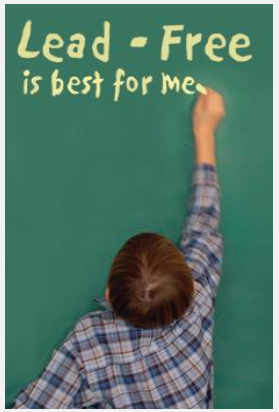
https://ephtracking.cdc.gov/

- Provides health data and environment data from national, state, and city sources
- Use Data Explorer to view interactive maps, tables, and charts
- View Info by Location for county level data snapshots
- Visit tracking websites of 25 states and one local government

Using EJ Information to Prioritize Communities

EPA Programs

- Compliance and Enforcement
  - Region 9 Small Drinking Water System Action Plan
  - Lead compliance initiative
- Incorporating EJ Criteria in Diesel Emissions Reduction Act Grants



External Partners

- Idaho DOT, OCR and City of Coeur d'Alene collaboration
- Illinois Future Energy Jobs Act EJ prioritization requirement

State Leadership and Action

EPA's approach to identifying and prioritizing vulnerable, disproportionately impacted communities exists alongside important efforts being led by states across the country.

States are critical "laboratories of democracy" and EPA continues to learn a great deal from working side-by-side with states on how to advance environmental justice in agency decision-making.

Today you'll hear about the ongoing work in California and Minnesota - two important state examples among others.

CalEnviroScreen 3.0: A Tool for Evaluating California Communities

Yana Garcia

Assistant Secretary for Environmental Justice and Tribal Affairs

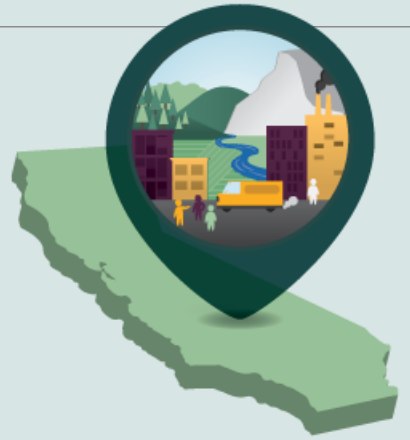
California Environmental Protection Agency

John Faust

Chief, Community and Environmental Epidemiology Research Branch

Office of Environmental Health Hazard Assessment

California Environmental Protection Agency



CalEnviroScreen 3.0

A Tool for Evaluating California Communities

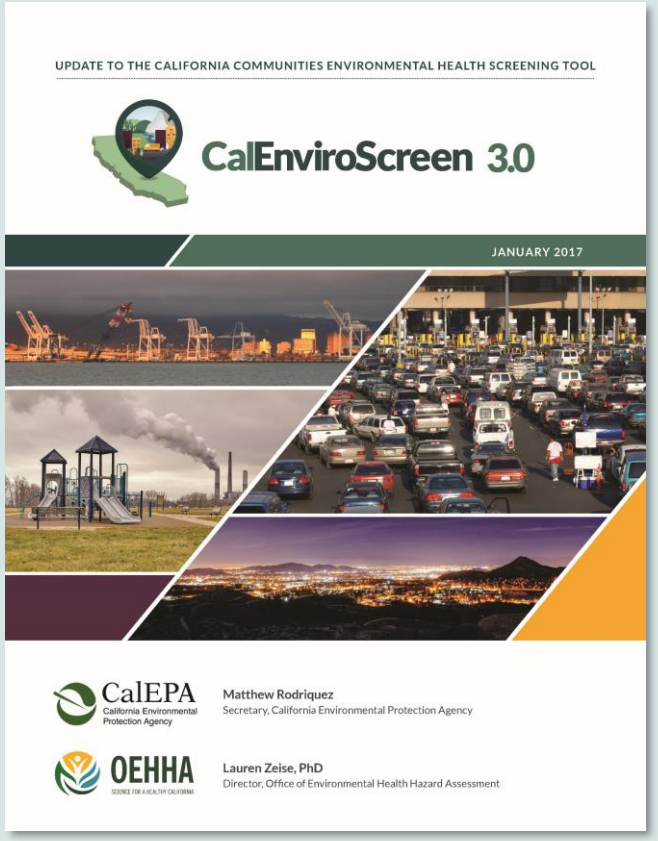
CalEnviroScreen 3.0 Overview

Office of Environmental Health Hazard Assessment

California Environmental Protection Agency

CalEnviroScreen 3.0

Released January 2017



- Spatial analysis of relative burdens in California communities from pollution and population vulnerability.
- 20 indicators combined into a single ranked score.
- Census tract scale (~8,000).

Available at: http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

California's Environmental Justice Laws

Statutory Definition of EJ

- "… the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies."

Government Code §65040.12(e)

CalEPA's Responsibilities

- "…identify and address any gaps in existing environmental programs, policies, or activities that may impede the achievement of environmental justice."
- Required development of interagency environmental justice strategy for CalEPA

Public Resources Code §71113

Focus of CalEnviroScreen

Cumulative Impacts

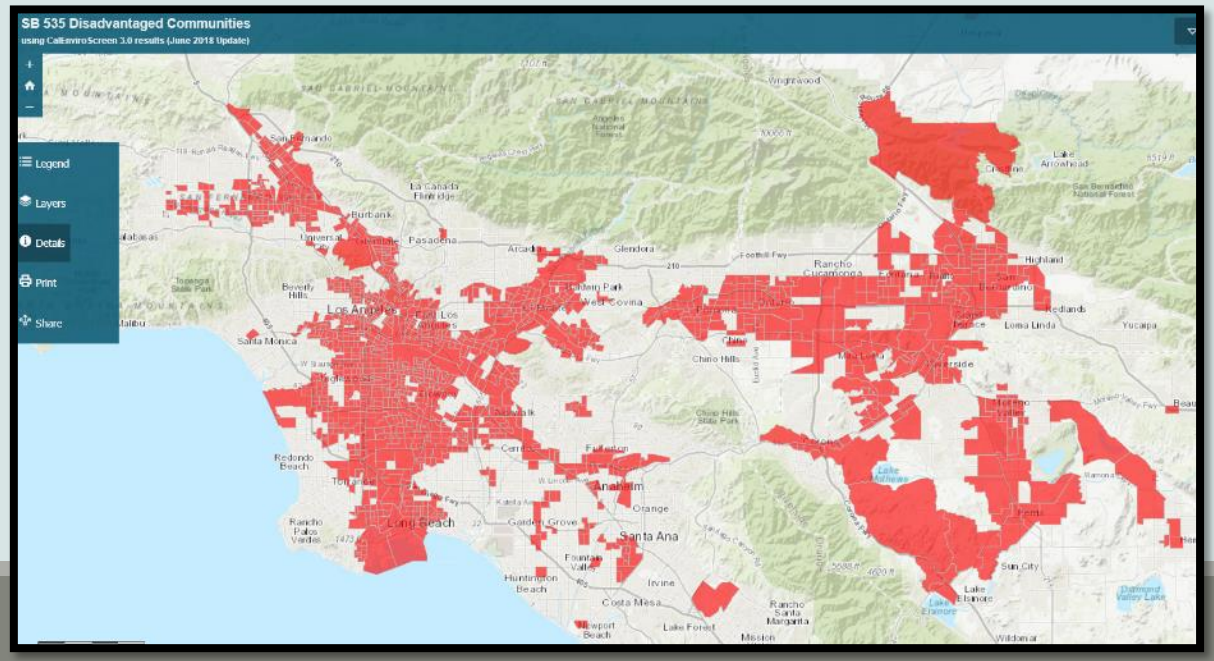
"…exposures, public health or environmental effects from the combined emissions and discharges in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socioeconomic factors, where applicable and to the extent data are available."

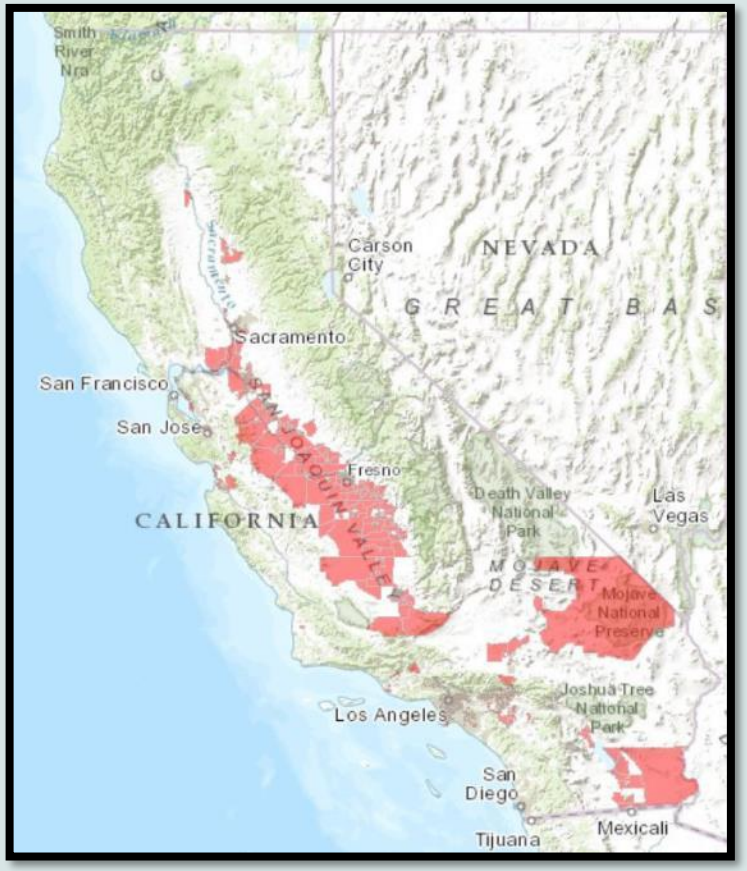
2010 OEHHA Report:

- *Cumulative Impacts: Building a Scientific Foundation* http://oehha.ca.gov/ej/pdf/CIReport123110.pdf

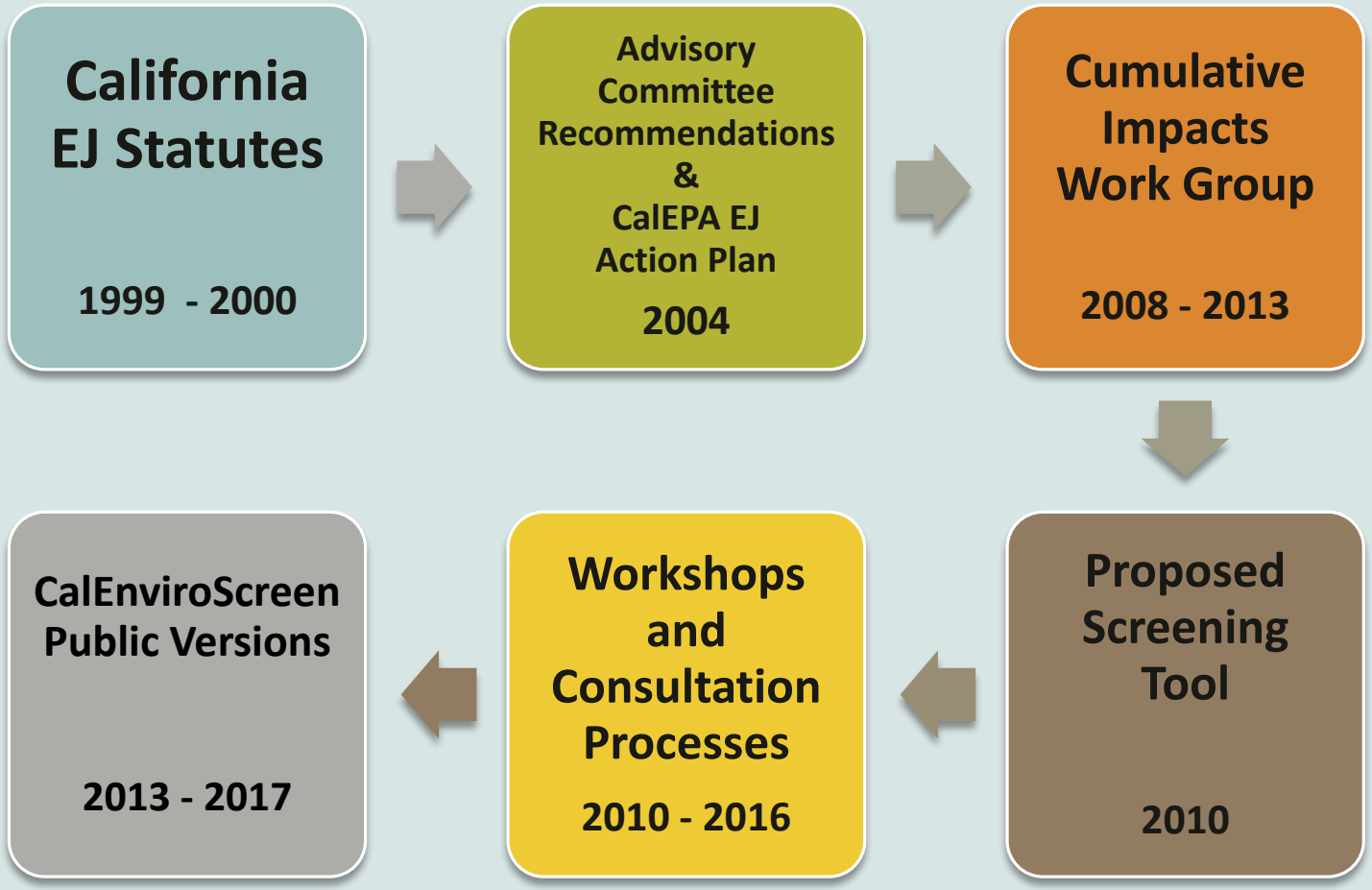
SB 535 Disadvantaged Communities

"Disadvantaged communities" means an area identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or an area that is a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.





Development of CalEnviroScreen



CalEnviroScreen Process

CalEnviroScreen Components

Exposures	*Contact with pollution*
Environmental Effects	*Adverse environmental conditions caused by pollutants*
Sensitive Populations	*Populations with biological traits (including health status) that may magnify the effects of pollutant exposures*
Socioeconomic Factors	*Community characteristics that result in increased vulnerability to pollutants*

Features of Screening Tool

- Relatively simple
- Combines information from multiple media

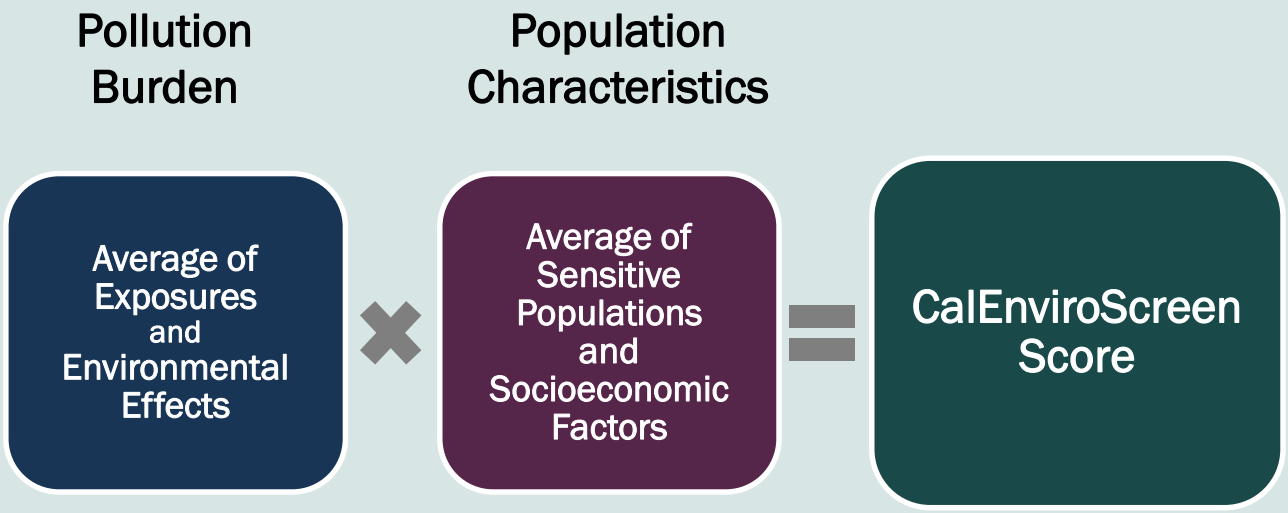
- Data (indicators) represent multiple factors
  - *Exposures, environmental conditions, population sensitivity, health conditions, and socioeconomic factors*
- Provides information at roughly community scale
  - *Geography based (census tract)*
- Allows for comparison between geographic areas
  - *Relative ranking*

CalEnviroScreen 3.0

Indicators

Pollution Burden		Population Characteristics	
Exposures	Environmental Effects	Sensitive Populations	Socioeconomic Factors
Ozone	Solid Waste Sites and Facilities	Asthma	Educational Attainment
PM2.5	Cleanup Sites	Cardiovascular Disease	Housing Burden
Diesel Particulate Matter	Groundwater Threats	Low Birth Weight Infants	Linguistic Isolation
Drinking Water Contaminants	Impaired Water Bodies		Poverty
Toxic Releases from Facilities	Hazardous Waste Generators and Facilities		Unemployment
Traffic			
Pesticide Use			

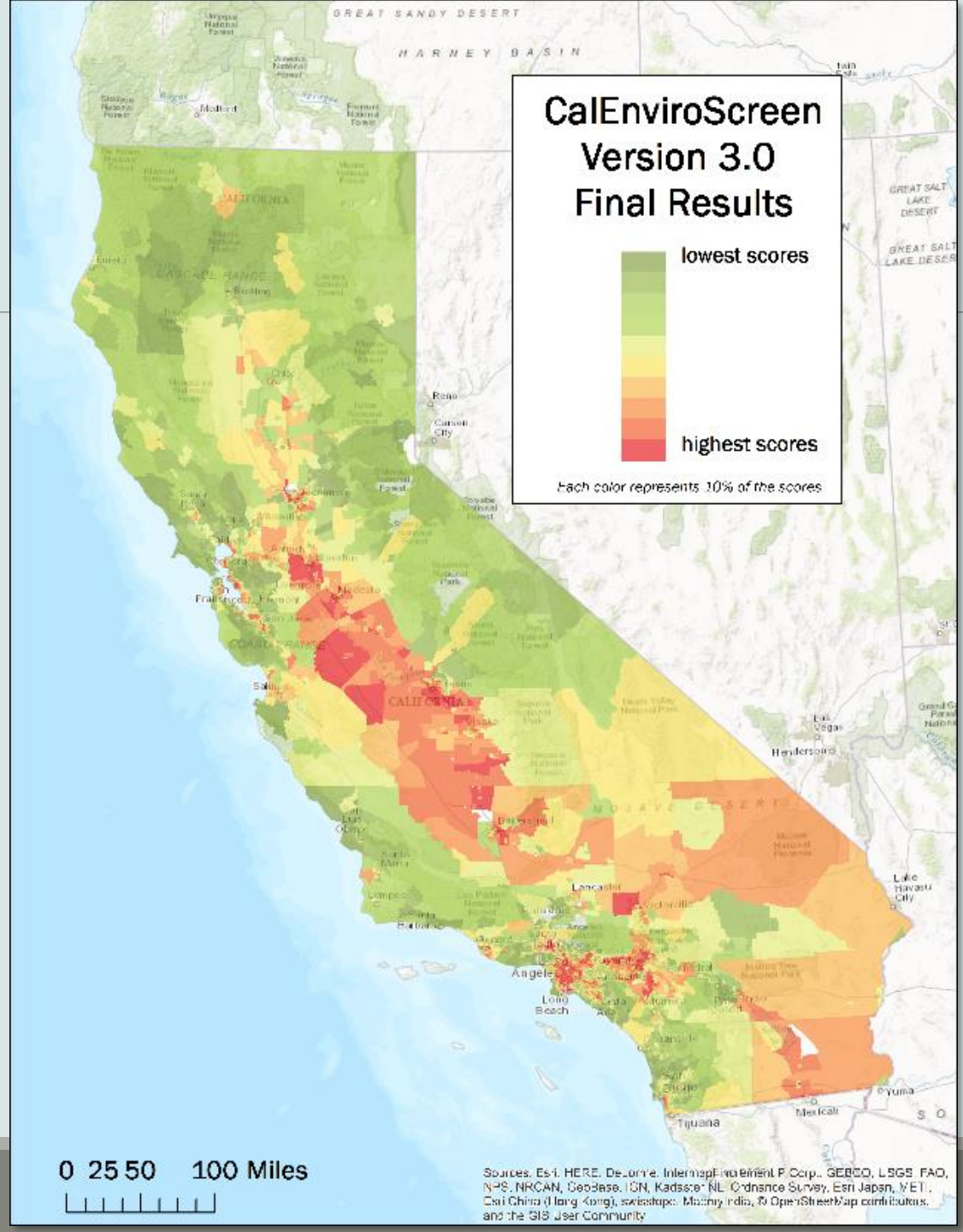
Calculating CalEnviroScreen Scores



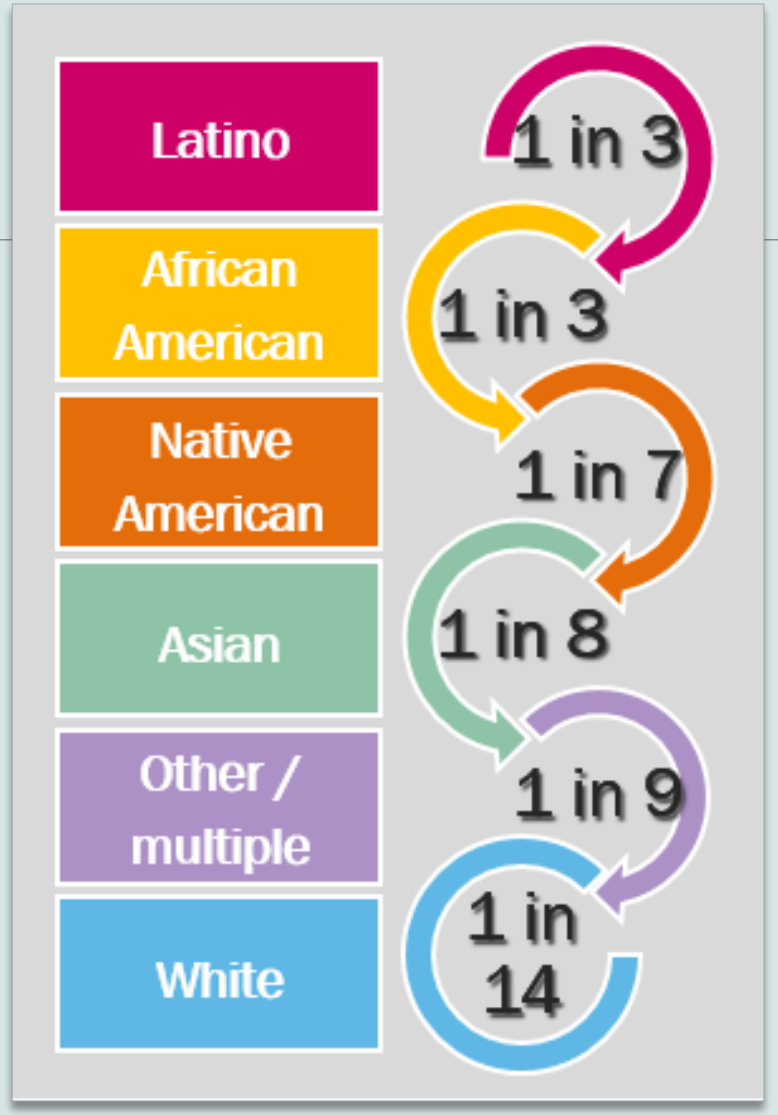
- CalEnviroScreen score is calculated by combining all indicator scores; allows for comparison of different areas
- Higher scores mean greater pollution burdens and population vulnerability.

Results

[Available as an interactive web map]



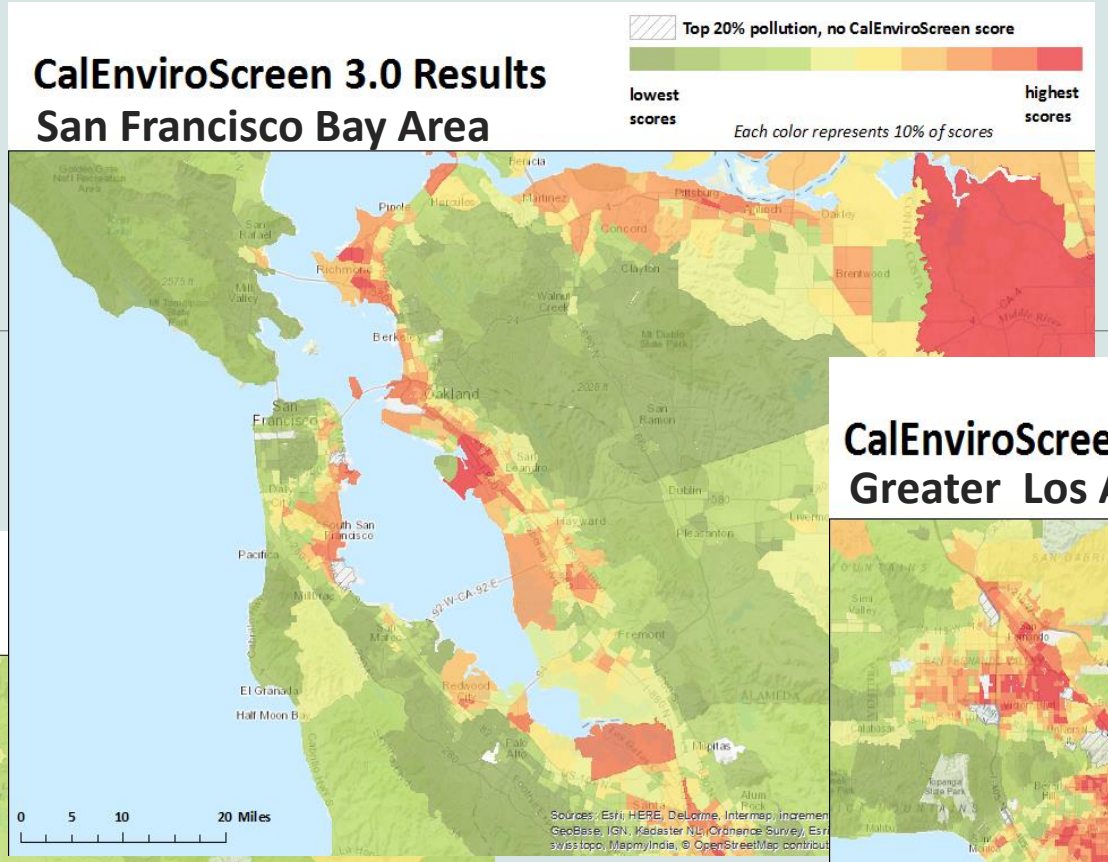
CalEnviroScreen and Race

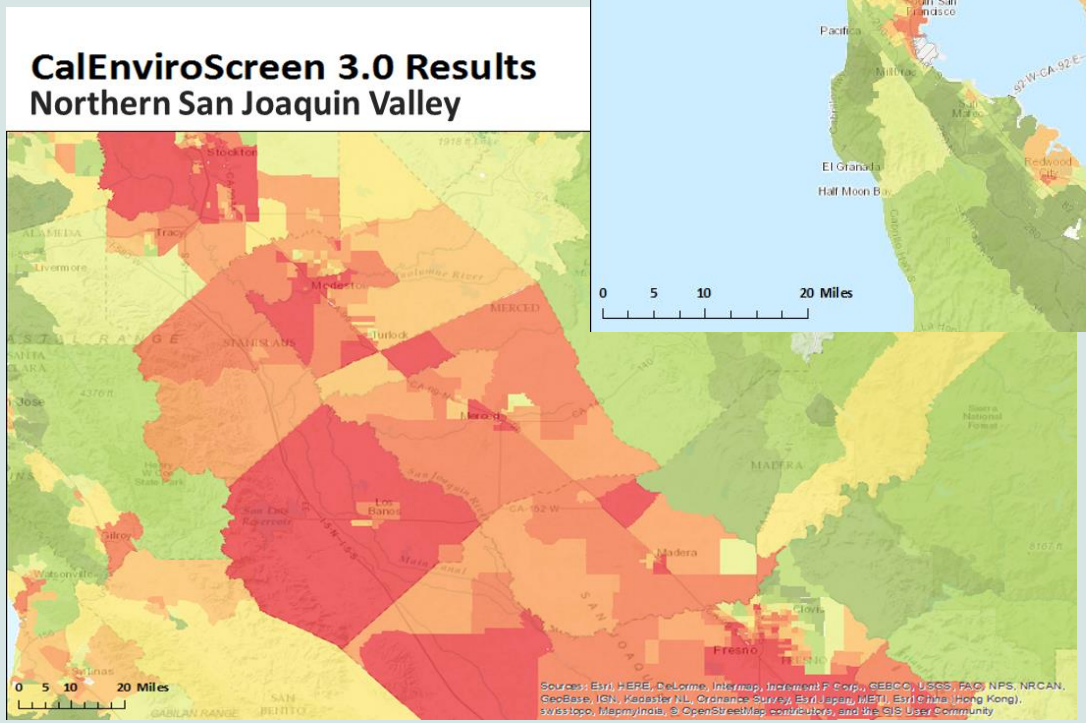


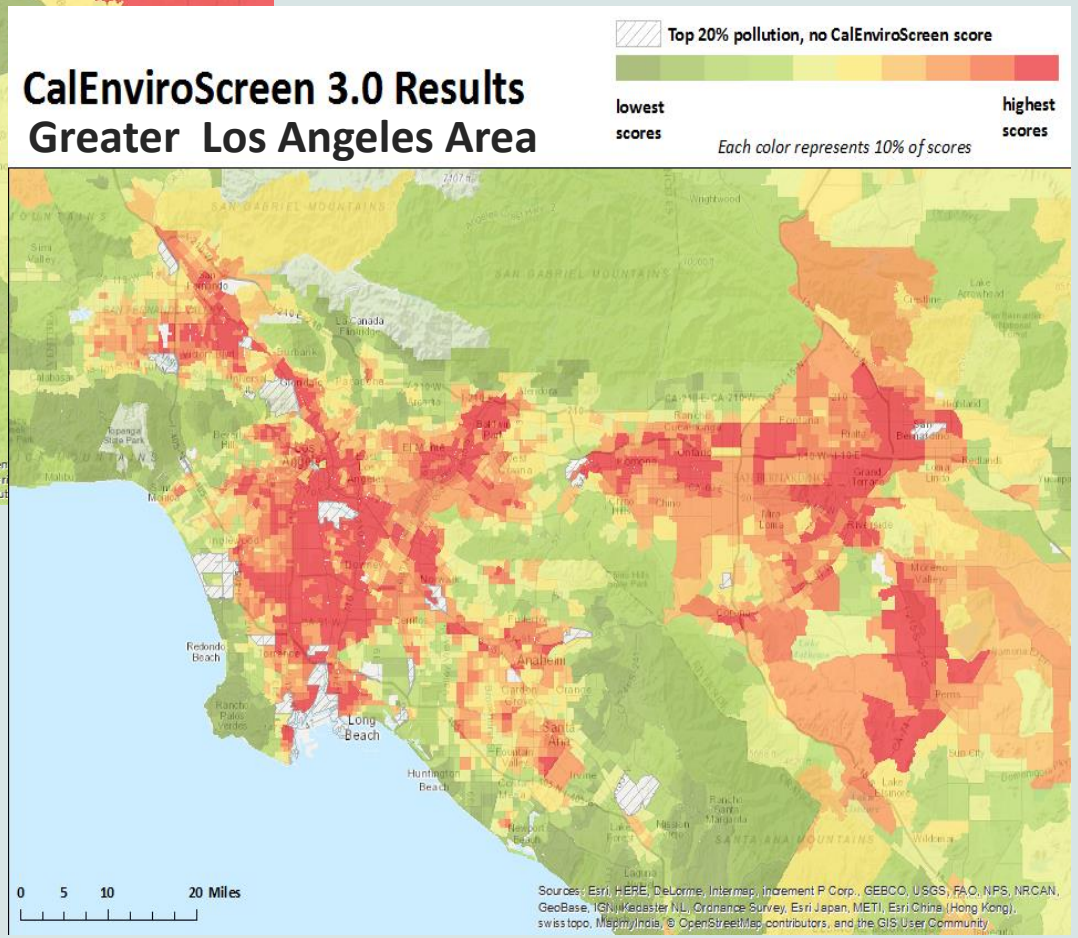
Fraction of Each Racial/Ethnic Group Living in the Top 20% Census Tracts

https://oehha.ca.gov/media/downloads/calenviroscreen/document-calenviroscreen/raceageces3analysis.pdf

Results


CalEnviroScreen 3.0 Results
San Francisco Bay Area
Top 20% pollution, no CalEnviroScreen score
lowest scores
highest scores
Each color represents 10% of scores
0 5 10 20 Miles


CalEnviroScreen 3.0 Results
Northern San Joaquin Valley
0 5 10 20 Miles


CalEnviroScreen 3.0 Results
Greater Los Angeles Area
Top 20% pollution, no CalEnviroScreen score
lowest scores
highest scores
Each color represents 10% of scores
0 5 10 20 Miles

Uses of CES

California Environmental Protection Agency

Planning and Decision Making, Investments

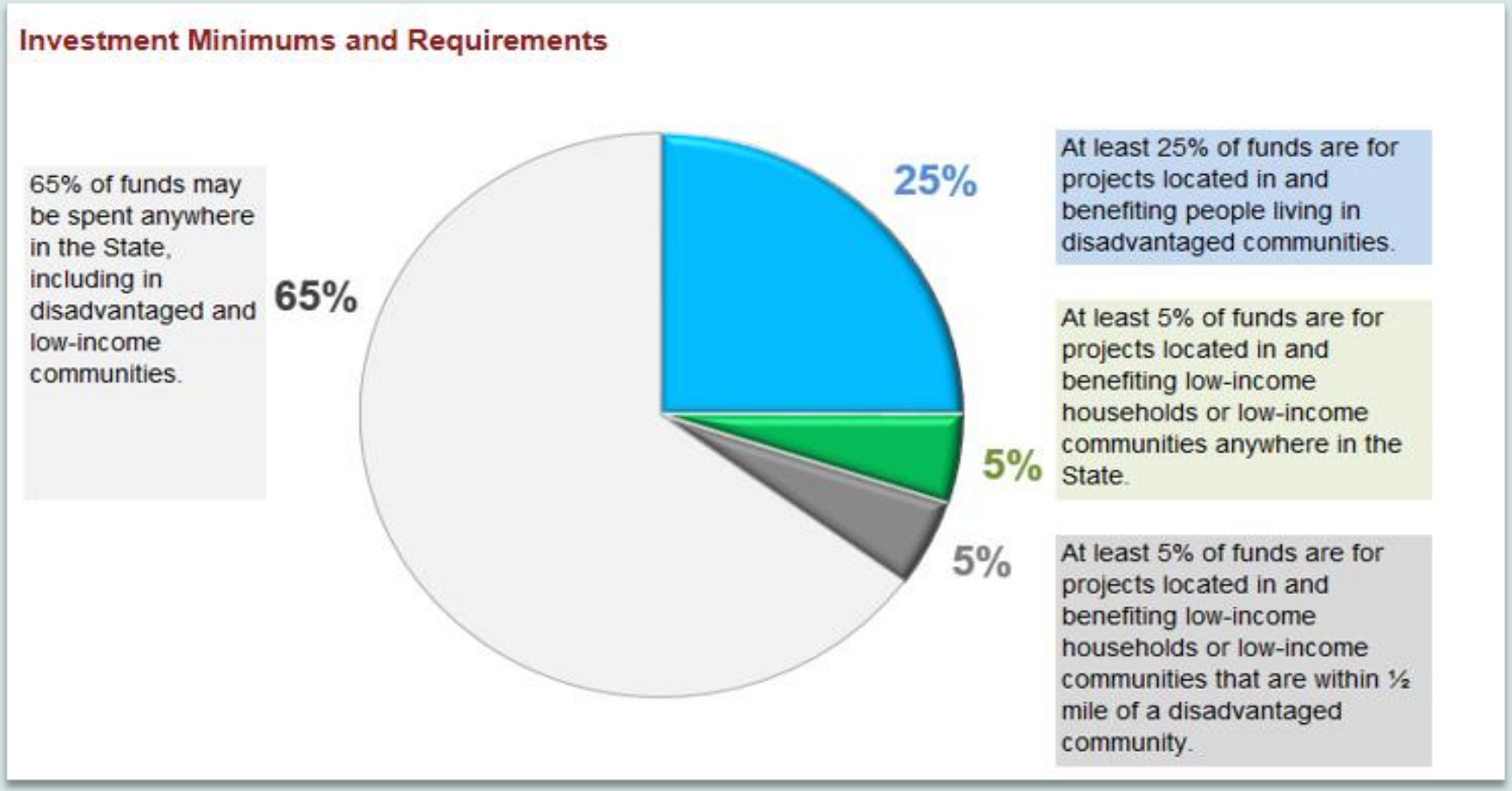
Required Elements in General Plans

Governor's Office of Planning and Research · State of California

California Climate Investments · Cap and Trade Dollars at Work

Targeted Funding

CalEnviroScreen and Prioritized Investments
SB 535 and AB 1550



https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm

Contacts

Yana Garcia
Assistant Secretary for Environmental Justice and Tribal Affairs
California Environmental Protection Agency
(916) 323-0444
Yana.Garcia@calepa.ca.gov

John Faust
Chief, Community and Environmental Epidemiology Research Branch
Office of Environmental Health Hazard Assessment
(510) 622-3185
John.Faust@oehha.ca.gov

Areas of concern for environmental justice – identifying and prioritizing vulnerable communities in Minnesota

Ned Brooks

Environmental Justice Program Director

Minnesota Pollution Control Agency

MINNESOTA POLLUTION CONTROL AGENCY

Areas of concern for environmental justice – identifying and prioritizing vulnerable communities in Minnesota

Ned Brooks | Environmental Justice Program Director

April 16, 2019

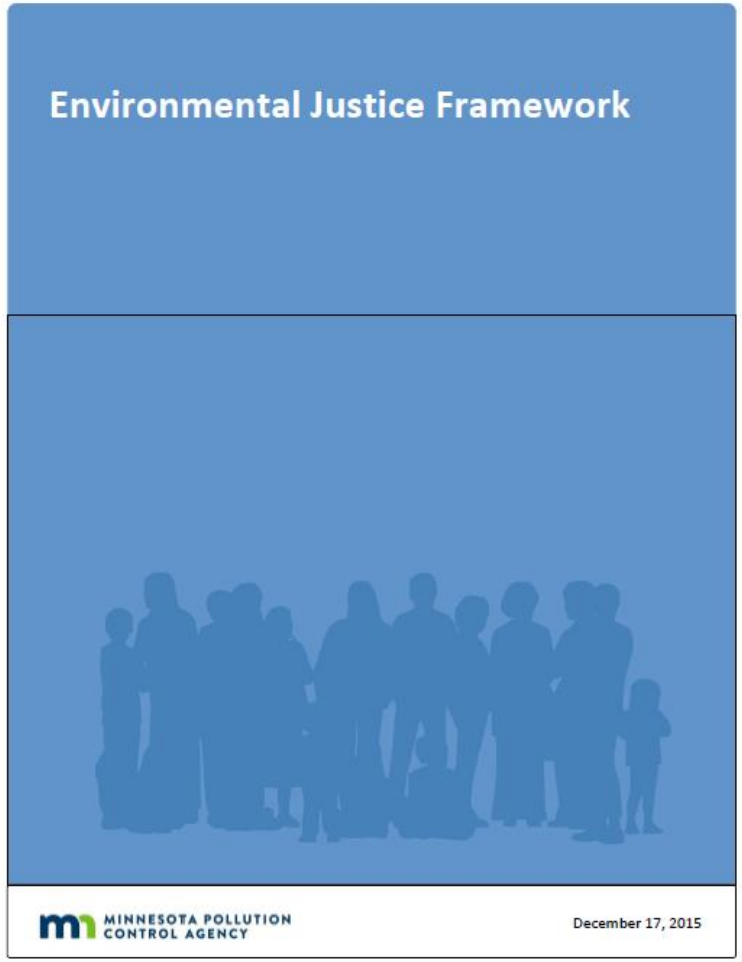
MPCA environmental justice work

- Renewed commitment in 2013
- Developed EJ Framework, our vision and strategy for integrating EJ
- Significant internal and external engagement
- Working to embed EJ into all aspects of our work
- Formed external advisory group in 2016

Main framework approaches

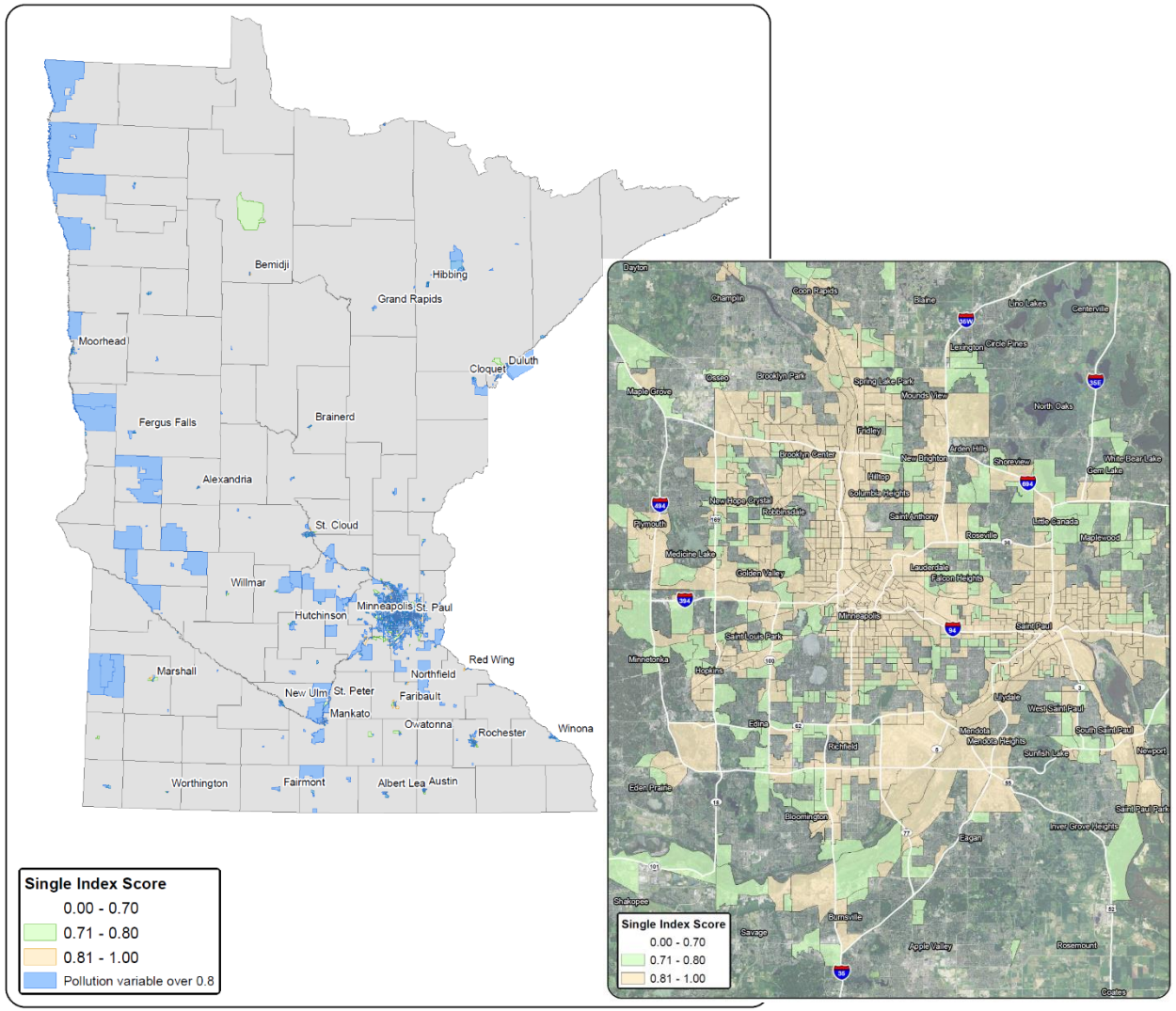
- Identify areas where lower income Minnesotans, people of color and others may be experiencing more harm
- Change our approach and increase our work in these areas:
  - Better understand sources of pollution and risks
  - Reduce pollution, improve livability
  - Communicate more and better

www.pca.state.mn.us/ej



Identifying areas of concern – our Journey

- Surveyed other state efforts (pre-EJSCREEN)
- Developed preliminary CA-like composite score
- Challenge: finding diverse environmental and health indicators that applied statewide
- Decided to use race and income as first screen, supplement with other information



Demographic – first screen

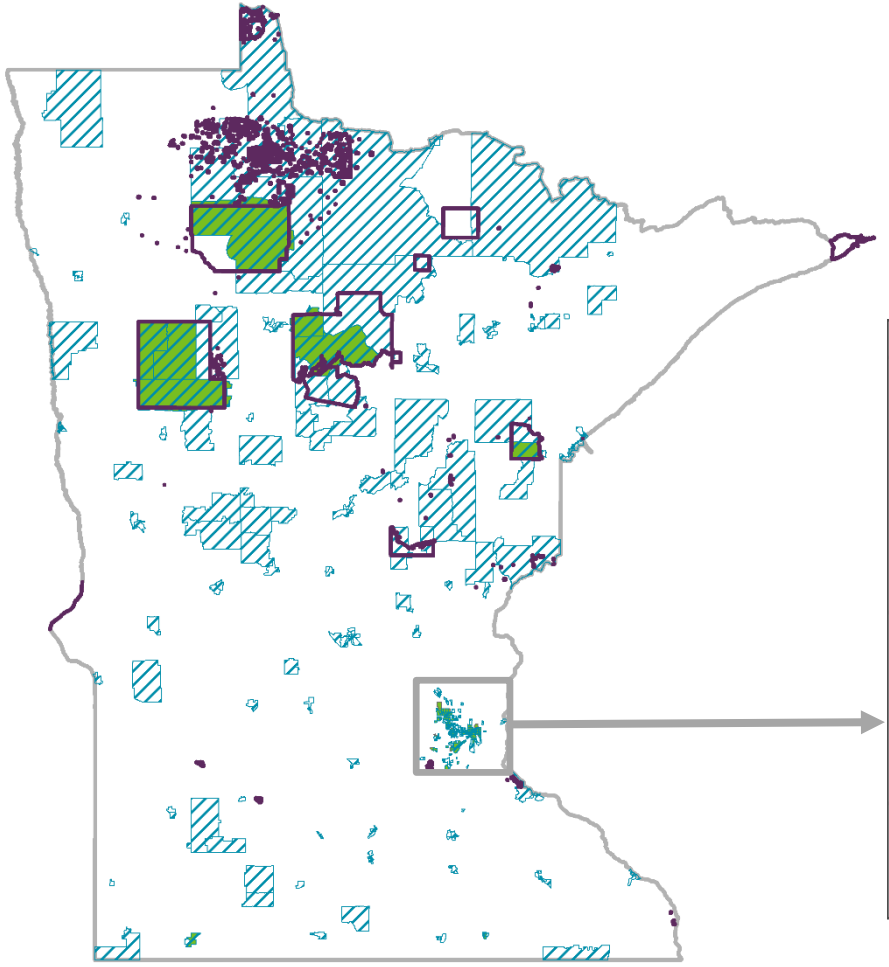
- US Census, American Community Survey
- Census tracts are considered to be areas of concern if
  - 50% or more people of color
  - 40% or more of people 185% below the federal poverty level
  - Federally-recognized tribal areas
- Data on languages, age and education levels

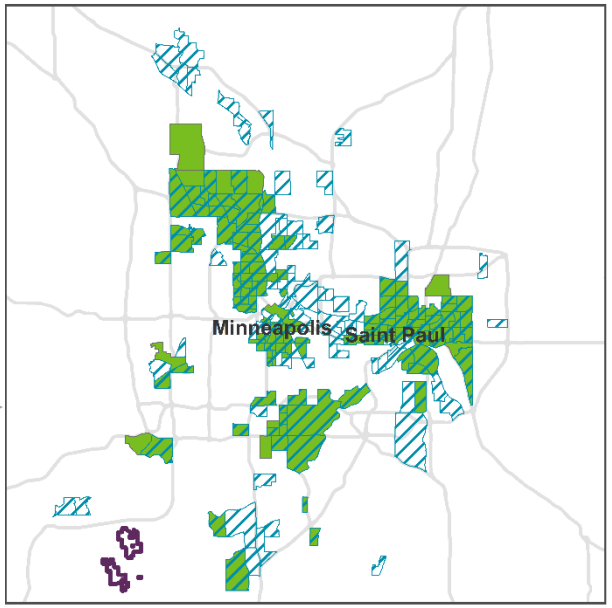
Identify areas that meet demographic criteria

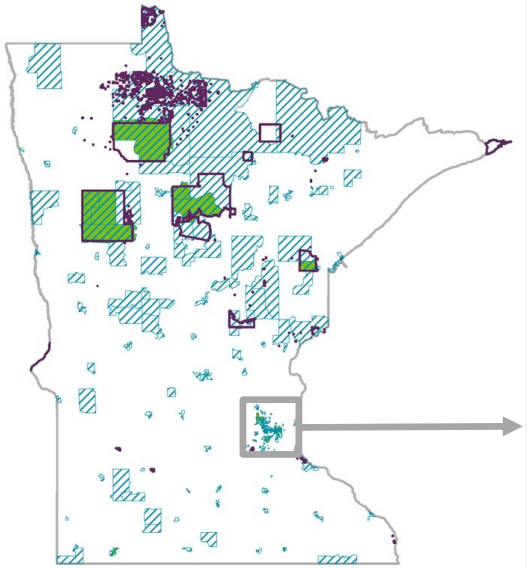
- 40% or more people with household income less than 185% of federal poverty level
- 50% or more people of color
- Tribal Areas

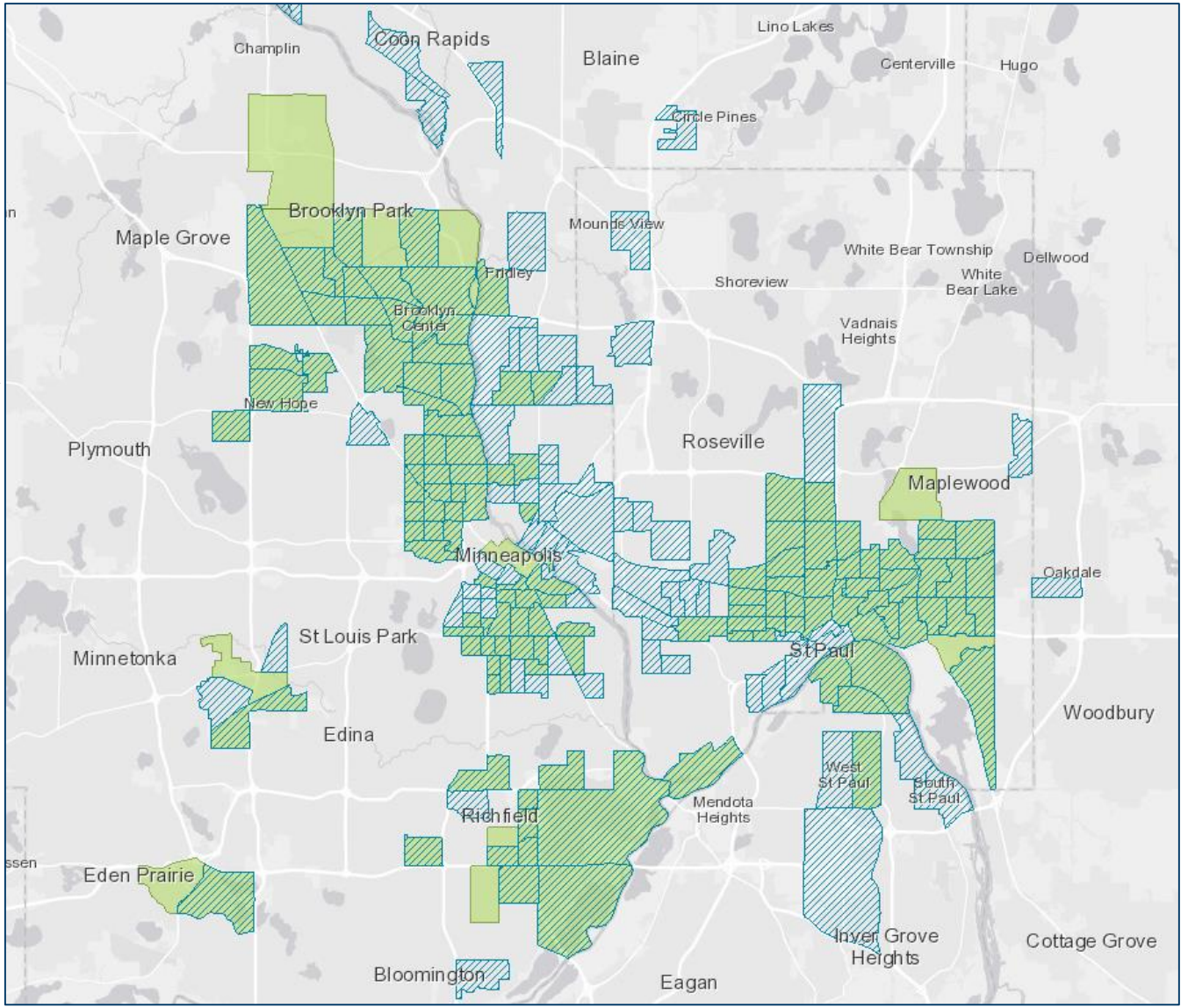
Most commonly found in:

- Twin Cities
- Northern half of Minnesota.









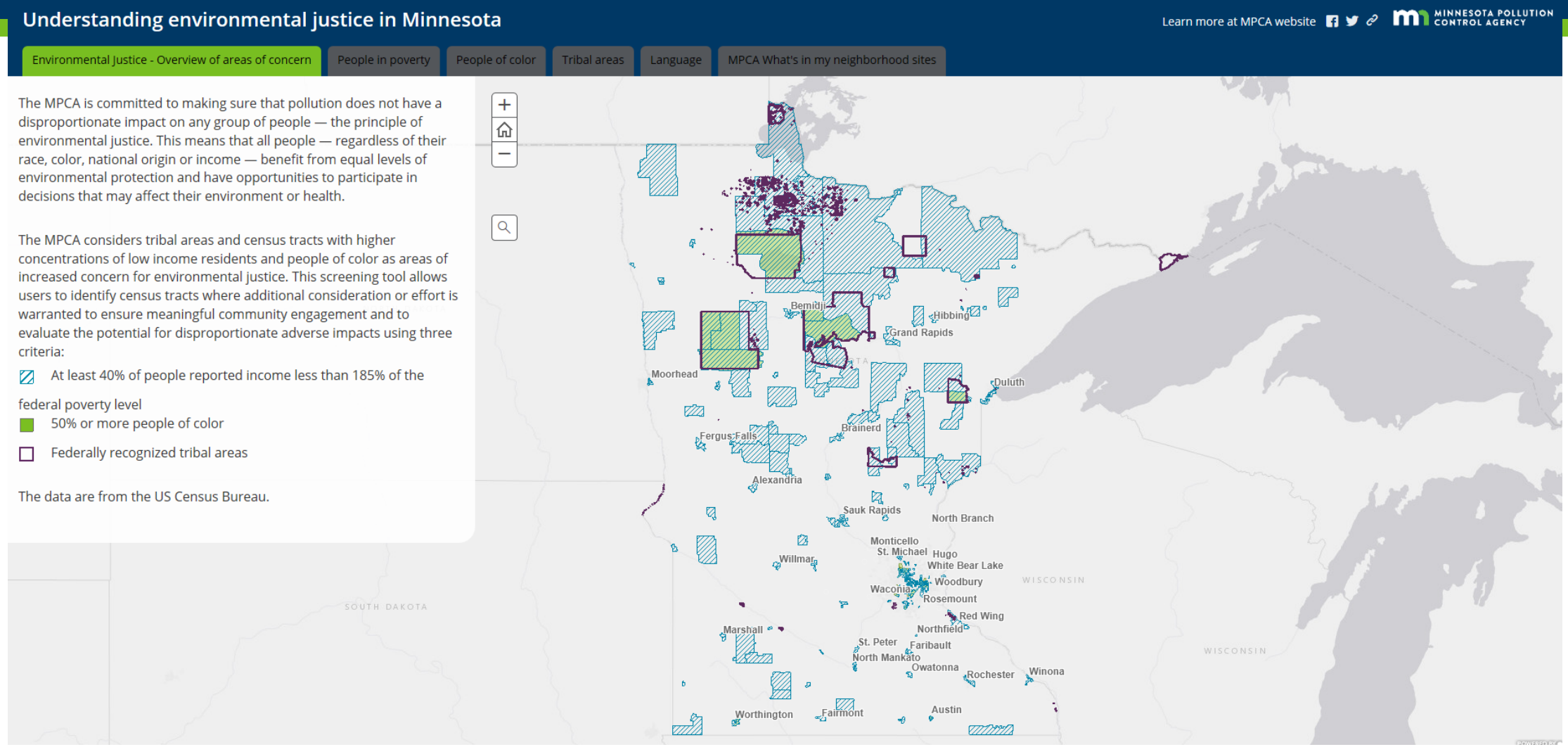
At least 40% of people reported income less than 185% of the federal poverty level

50% or more people of color

Federally recognized tribal areas

Twin Cities – areas of concern for environmental justice

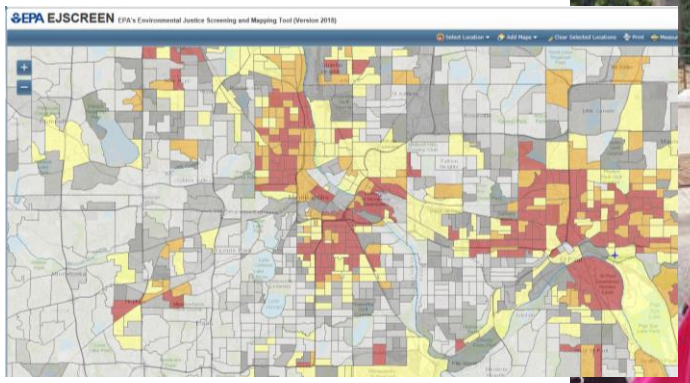
Online Screening Tool

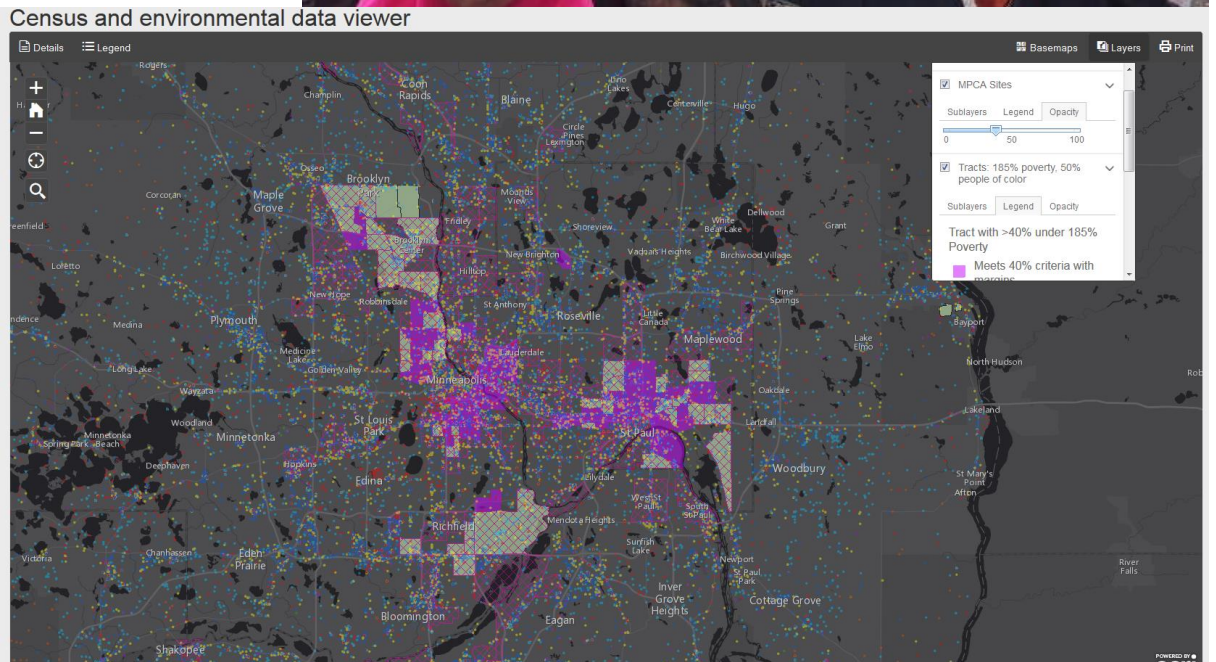


www.pca.state.mn.us/ej

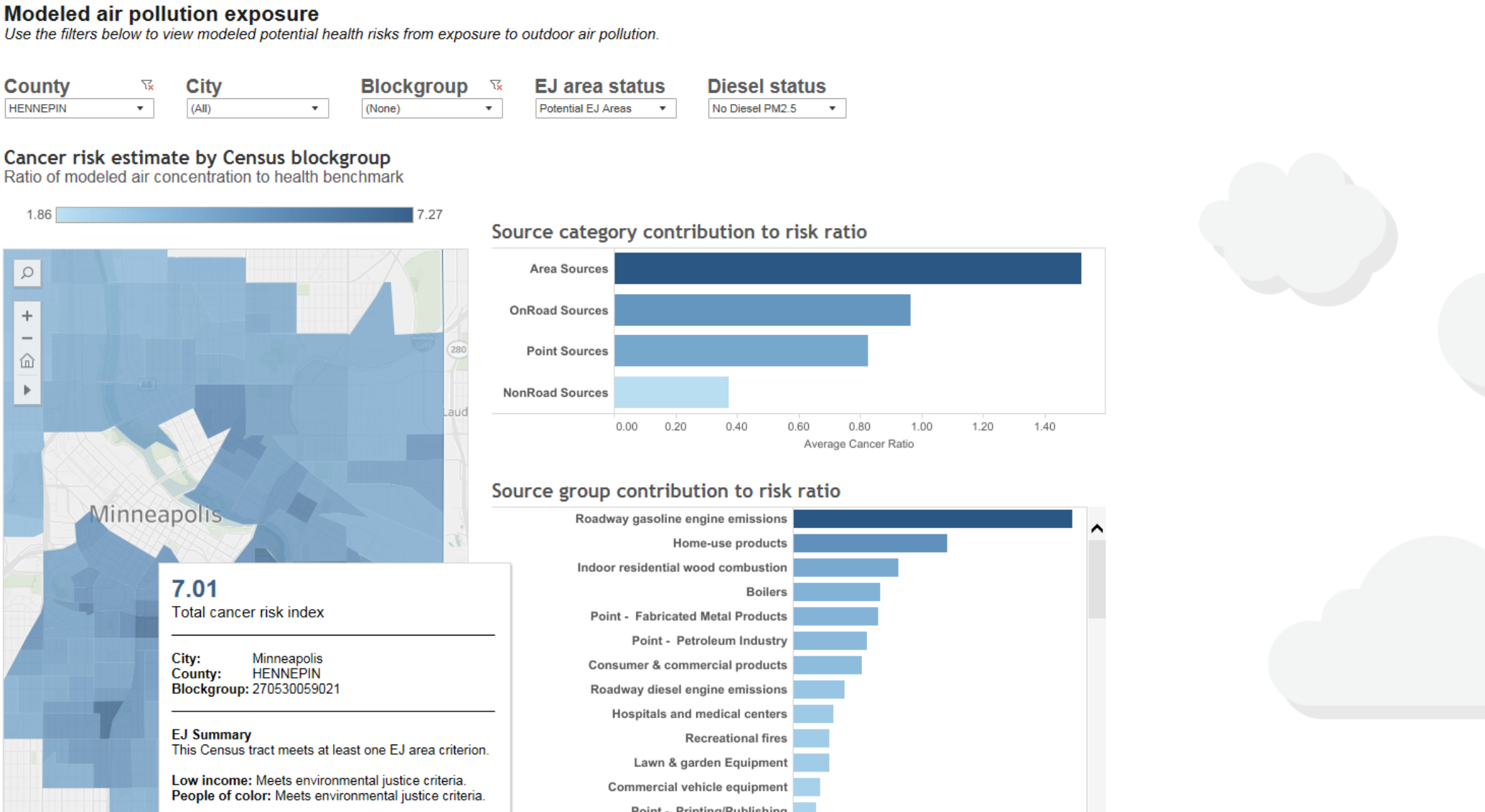
Supplementing demographic information

- Community knowledge
- EJ SCREEN
- Environmental data - MN
- Health data
- Proximity to other sources/sites
- Other

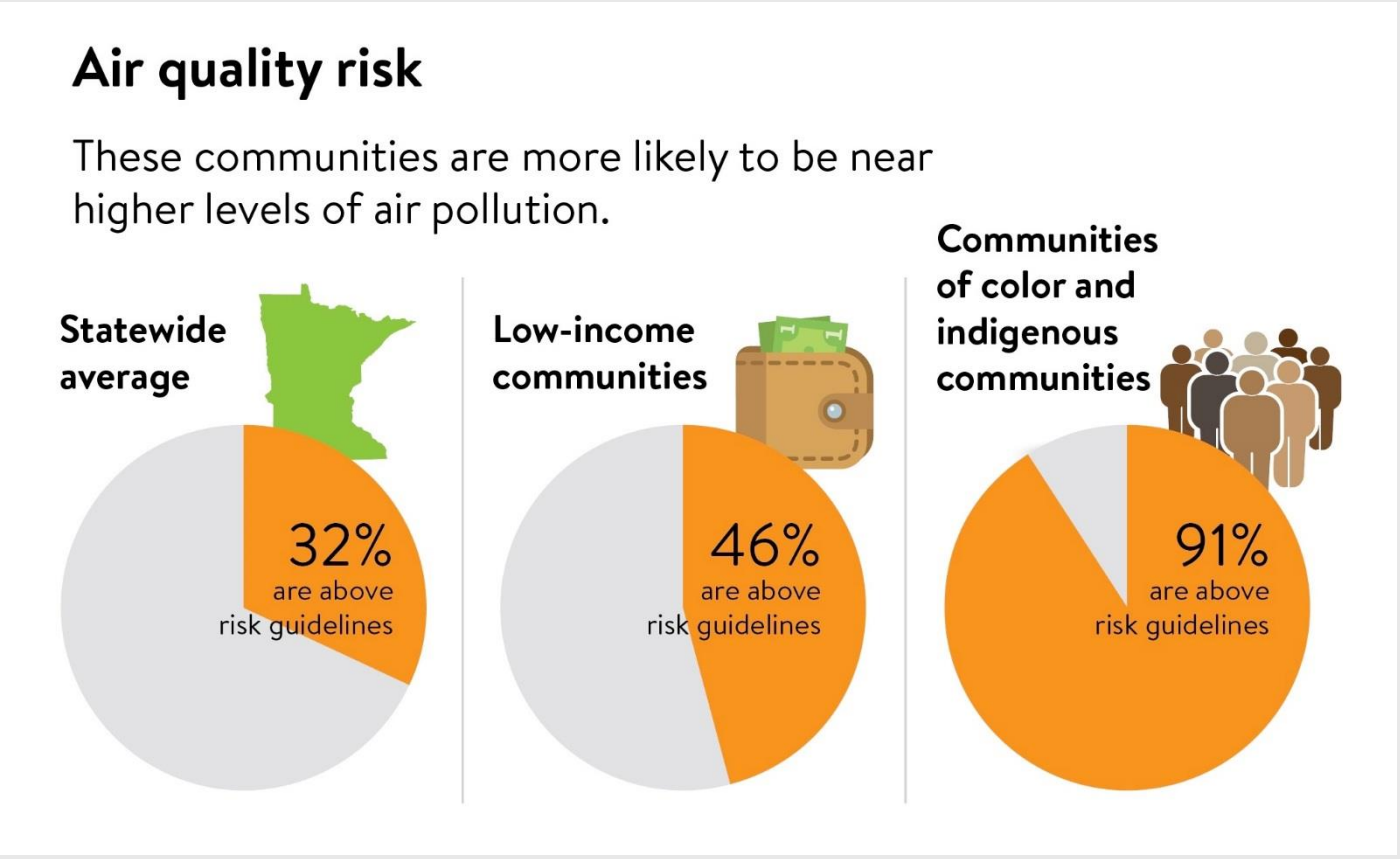




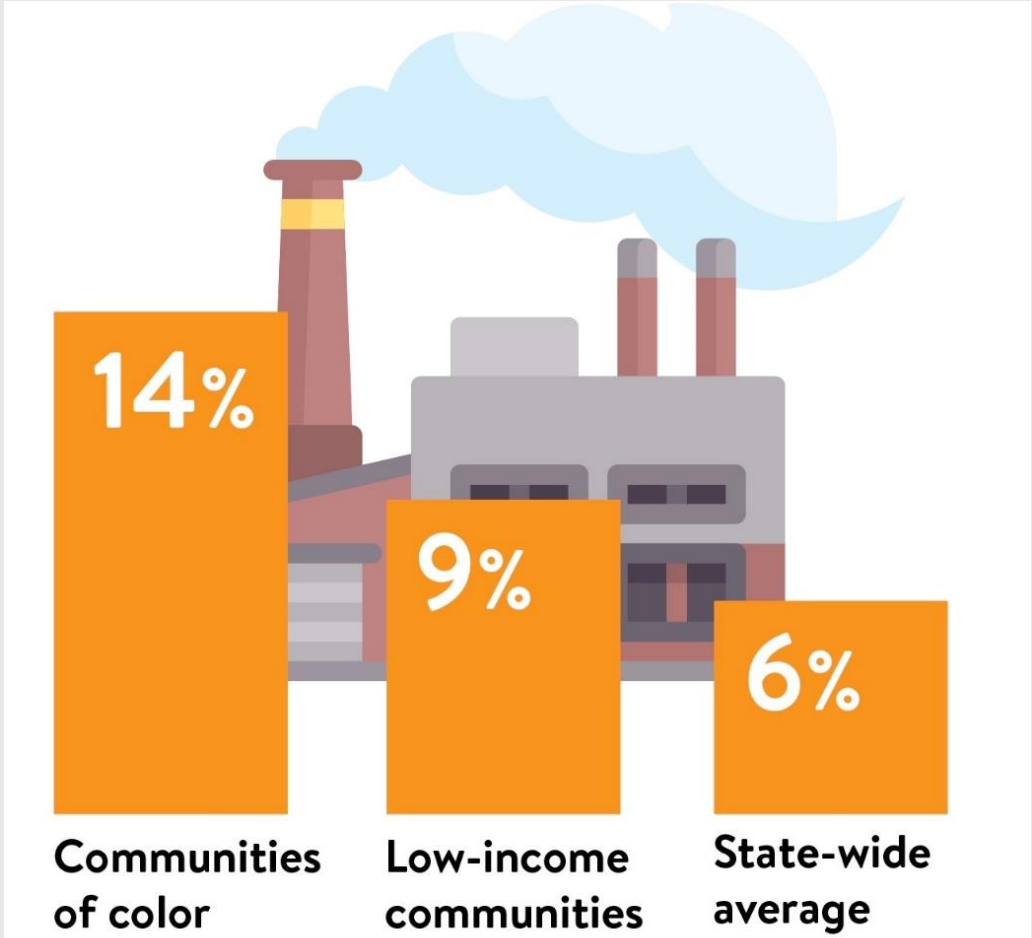
Modeled air pollution exposure and EJ areas



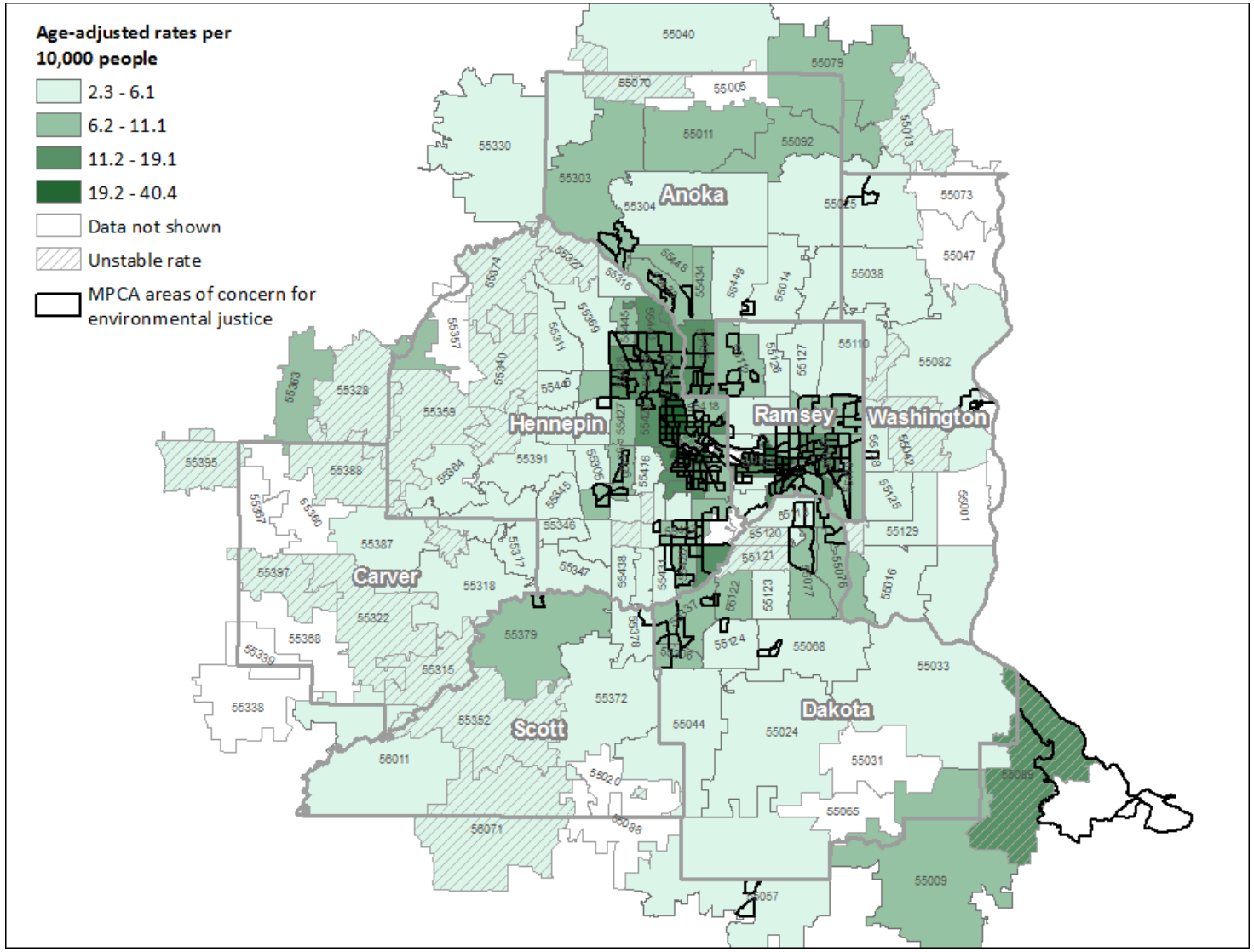
Identifying those with greatest risk for air pollution



Living near permitted emissions sources

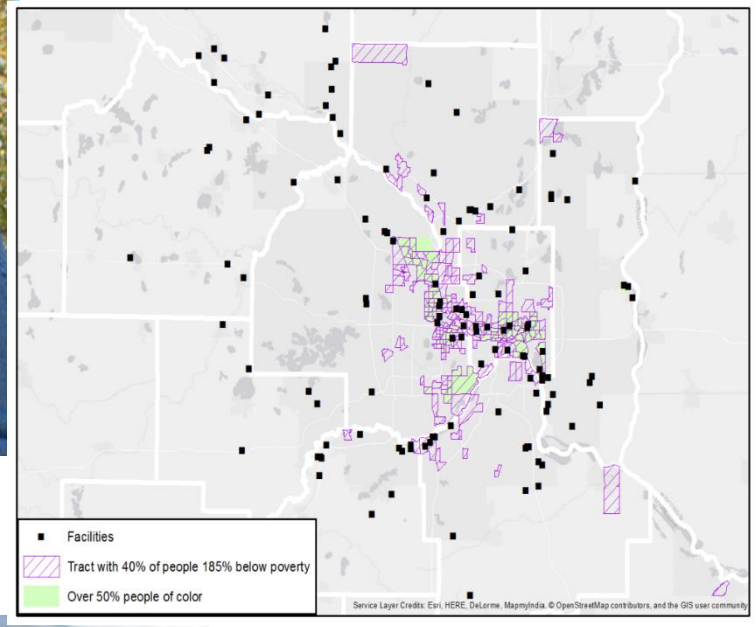


Asthma hospitalization and EJ areas
Twin Cities Metro Area - 2011-2015



Modifying our approach to address issues in EJ areas

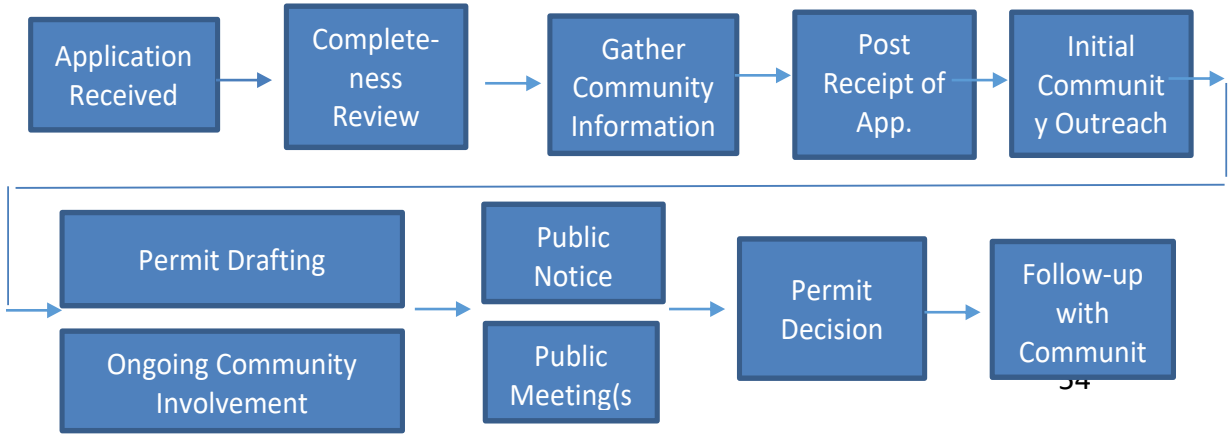
- Monitoring
- Regulating pollution sources
  - Permitting
  - Inspections
- Prevention, grants and technical assistance
  - VW settlement project targeting
  - Environmental assistance grants
  - VOC reduction grants
- Rulemaking, program dev./planning



Increased outreach and engagement in EJ areas

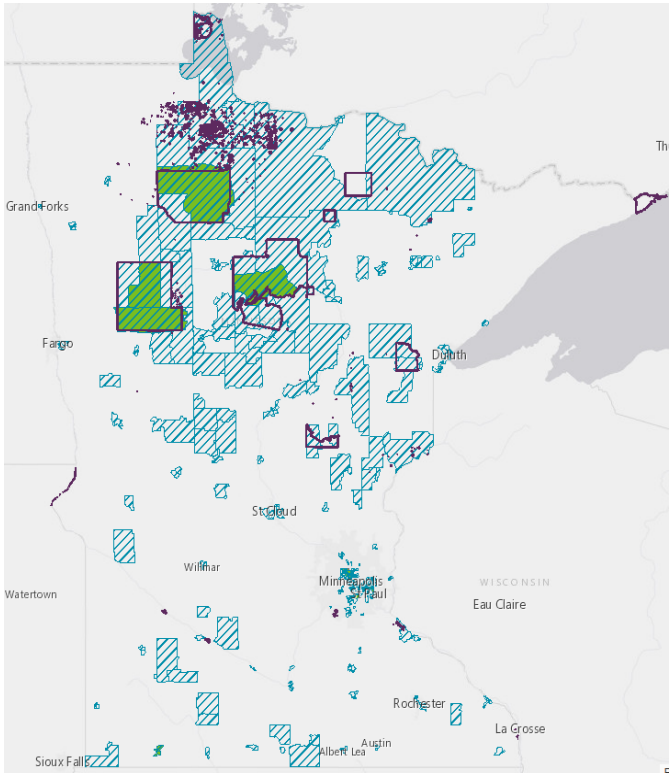
- Building relationships
- Earlier and more frequent engagement during regulatory actions
- Promoting grants and assistance
- Use trusted community sources of information
- Meetings and events
- Plain, understandable language

Overview of Enhanced Outreach in the Air Quality Permitting Process



Experience in Minnesota with screening tool

- Straightforward “in” or “out” allows staff, community and regulated party to make an easy determination
- Benefits of simplification vs. risk of oversimplification?
- Challenge: how embed into our work so that is doesn’t feel like an add-on in EJ areas
- Area for future development: quantify environmental and health indicators
- Building in community engagement resources to on-line tool



Discussion

- Summary
- Questions and Answers
- For more information, tools and resources, go to EPA Environmental Justice Learning Center

https://www.epa.gov/environmentaljustice/environmental-justice-learning-center

State Environmental Justice Training Webinar
Identifying and Prioritizing Environmentally Impacted and Vulnerable Communities
Learning Objectives

(1) Learn about factors that are being used to identify areas of environmental justice concern and sources of data about these factors.

(2) Gain knowledge about how information identifying the most environmentally impacted and vulnerable communities is being used to prioritize agency attention and resources.

(3) Understand how identifying and prioritizing environmentally impacted and vulnerable communities is a fundamental first step in integrating environmental justice into policies and programs.

(4) Obtain detailed information about how two states (i.e., California and Minnesota) are approaching how they identify and prioritize areas of EJ concern.

(5) Recognize different pathways states can take to develop approaches for identifying and prioritizing areas of environmental justice concern.

(6) Appreciate how state progress on EJ mapping tools has resulted from combined efforts of communities, academia and government working together.

State Environmental Justice Training Webinar
Identifying and Prioritizing Environmentally Impacted and Vulnerable Communities
Speakers Biographies

Myra Reece

Myra Reece serves as the director of Environmental Affairs, overseeing DHEC's Office of Environmental Quality Control and Office of Ocean and Coastal Resource Management. A member of the DHEC team for more than 30 years, Ms. Reece previously served as chief of the agency's Bureau of Air Quality. Before serving as Air Quality bureau chief, Reece served as director of DHEC's Environmental Quality Control District in Aiken.

Ms. Reece received a bachelor's degree in microbiology from Clemson University and a master's degree in public health with an emphasis on hazardous materials management from the University of South Carolina. She is also a graduate of the Management Academy for Public Health at the University of North Carolina at Chapel Hill, a graduate of the Southern Center of Excellence in Environmental Health at Emory University and has obtained professional certification as a Certified Hazardous Materials Manager. Reece is also serving on the U.S. Environmental Protection Agency's Clean Air Act Advisory Committee, making her the sole state representative from the southeastern states.

Alan Walts

Alan Walts is Director of the Multimedia Programs Office in U.S. EPA Region 5, which serves Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin and 35 tribes. This Office manages the Region's Tribal, Environmental Justice, National Environmental Policy Act, Children's Health, and International programs. From 2007-2019, Mr. Walts was Director of the Office of Enforcement and Compliance Assurance. From 1996-2007, he was a staff attorney in Region 5's Office of Regional Counsel. Mr. Walts is a graduate of Wesleyan University and the University of Michigan Law School.

Yana Garcia

Yana Garcia was appointed by Governor Edmund G. Brown Jr. in June 2017, to serve as Assistant Secretary for Environmental Justice and Tribal Affairs at the California Environmental Protection Agency (CalEPA).

Prior to joining CalEPA, Yana was an associate attorney at Earthjustice, in the California regional office, in San Francisco. Ms. Garcia was also a staff attorney at Communities for a Better Environment, serving in Huntington Park and Oakland. Her legal practice areas have focused on environmental justice issues, civil rights, land use, toxics and chemical disclosure, oil and gas extraction, and crude transport. Between 2011 and 2012, Yana served as a legal research attorney at the San Francisco Superior Court's Civil Division, Office of the Presiding Judge.

Prior to practicing law, Ms. Garcia worked on various environmental justice and civil rights projects aimed at achieving equitable access to clean air, clean water, and sustainable food and energy systems in the states of Texas, New Mexico and Massachusetts. She also worked for the White Earth Land Recovery Project and the Honor the Earth Foundation in Minnesota, where she supported the work of indigenous communities as they worked to reclaim access to their traditional lands, and sustain their

traditional cultural practices. Ms. Garcia holds a degree in politics from the University of California, Santa Cruz and a law degree from Northeastern University School of Law. She lives in Oakland with her husband.

John Faust

Dr. John Faust is a toxicologist in the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment, and chief of its Community and Environmental Epidemiology Research Branch. Dr. Faust has managed the development of the California Communities Environmental Health Screening Tool (CalEnviroScreen) as a way to consider the combined burden of environmental pollutants in decision-making. This work has included evaluating scientific data on health and exposure disparities, population vulnerability, especially in low-income or minority populations. Other branch activities include conducting epidemiological investigations on the health effects of criteria air pollutants and climate change, assessing the potential impacts of oil and gas production, and developing tools to assess the state's drinking water quality, accessibility, and affordability.

Dr. Faust has also provided technical expertise to the office in the areas of toxicology, carcinogenic mode of action, dose-response assessment, and risk assessment. Other work has involved identification of new carcinogenic hazards, establishing cancer potencies and standards for contaminants in drinking water. He received his bachelor's degree in Biochemistry from Virginia Tech and his Ph.D. from Duke University in Pharmacology and Toxicology.

Ned Brooks

For most of his professional career, Ned Brooks has worked at the Minnesota Pollution Control Agency developing and implementing a wide variety of programs to protect Minnesota's environment and protect people's health. Currently he is the director of Minnesota Pollution Control Agency's work around environmental justice, a role he has been in since 2013. Prior to that, while on sabbatical from the MPCA, Mr. Brooks worked for the Montreal-based North American Commission for Environmental Cooperation, a US-Canada-Mexico intergovernmental organization formed to coordinate environmental initiatives, policy and enforcement between the 3 countries. Mr. Brooks has also lived and worked in Mexico with the Mexican federal environmental agency and has worked with the United Nations Environment Programme and the government of Costa Rica on mercury pollution reduction initiatives. Mr. Brooks has degrees in Environmental Studies and Economics from Hamline University in St. Paul MN.

Charles Lee (Moderator)

Mr. Lee is widely recognized as a true pioneer in the arena of environmental justice. He was the principal author of the landmark report, *Toxic Wastes and Race in the United States*. He helped to spearhead the emergence of a national environmental justice movement and federal action including the First National People of Color Environmental Leadership Summit, Executive Order 12898, EPA's Office of Environmental Justice, National Environmental Justice Advisory Council (NEJAC), and the Federal Interagency Working Group on Environmental Justice.

Charles Lee is currently the Senior Policy Advisor for Environmental Justice at the U.S. Environmental Protection Agency (EPA). He led the development and implementation of EPA's agency-wide environmental justice strategic plans, e.g., Plan EJ 2014 and EJ 2020. He has served in multiple capacities, ranging from creating the United Church of Christ's environmental justice program to

directing EPA's environmental justice office. In these capacities, he led efforts to incorporate environmental justice into EPA's rulemaking process, develop models for collaborative problem-solving, transform brownfields redevelopment into a community revitalization paradigm, advance approaches to address cumulative risks and impacts, and lay a strong science foundation for integrating environmental justice into decision-making. Mr. Lee has authored numerous papers and articles on environmental justice over the past three decades and received numerous awards.

December 11, 2018

Department of Environmental Quality

EJ Tool for NC

"DEQ will develop an EJ geographical information tool that will allow DEQ programs to conduct environmental justice analyses"

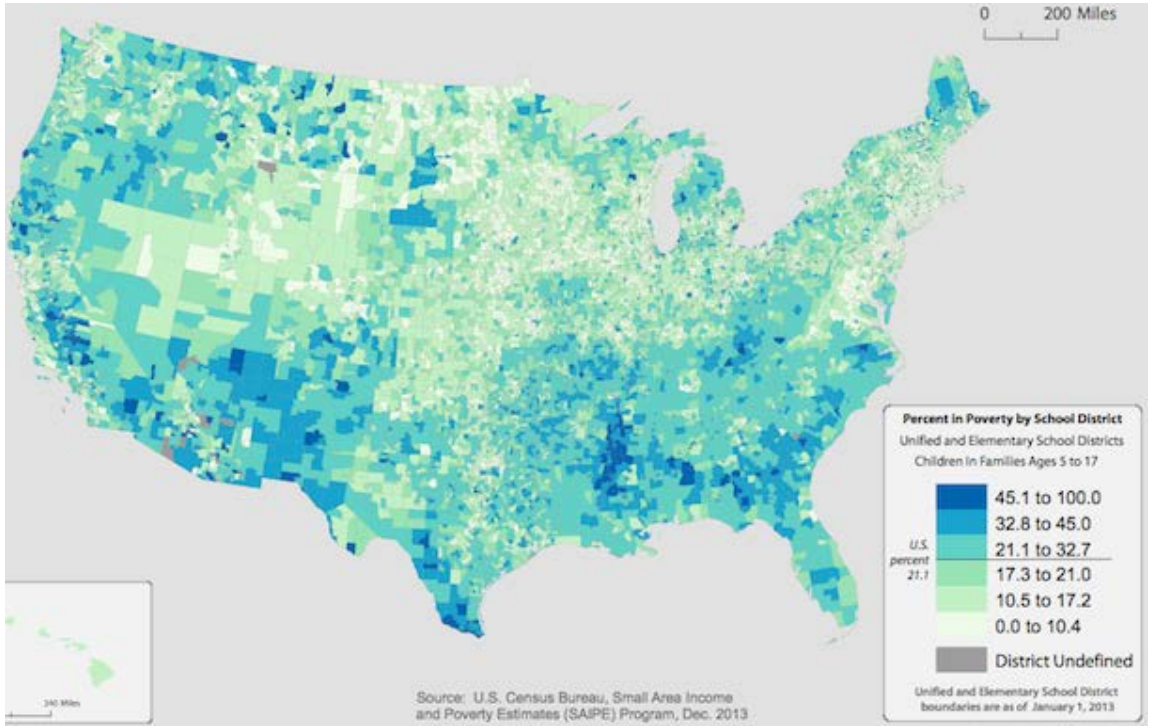
--Title VI Settlement Agreement

1. Incorporate available data that are relevant to environmental, demographic, and health factors
2. Stakeholder process to gather public input on the development of tool
3. Internal deadline for completing development of tool is April 1, 2019

Existing EJ tools by other States' Environmental Agencies

- California
- Connecticut
- Illinois
- Massachusetts
- Minnesota
- New Mexico
- New York
- Pennsylvania
- Washington

All of these tools are publicly available and most explicitly encourage public engagement as its primary use



Department of Environmental Quality

California -"CalEnviroScreen"

Purpose:

Identify communities that face pollution and socioeconomic disadvantages so CalEPA can prioritize its work in the state's most burdened communities. The tool is used for:

- Administration of EJ grants
- Promotion of compliance with environmental laws
- Prioritization of site cleanup activities
- Identification of opportunities for sustainable economic development
- Identification of disadvantaged communities in CA

Data Layers:

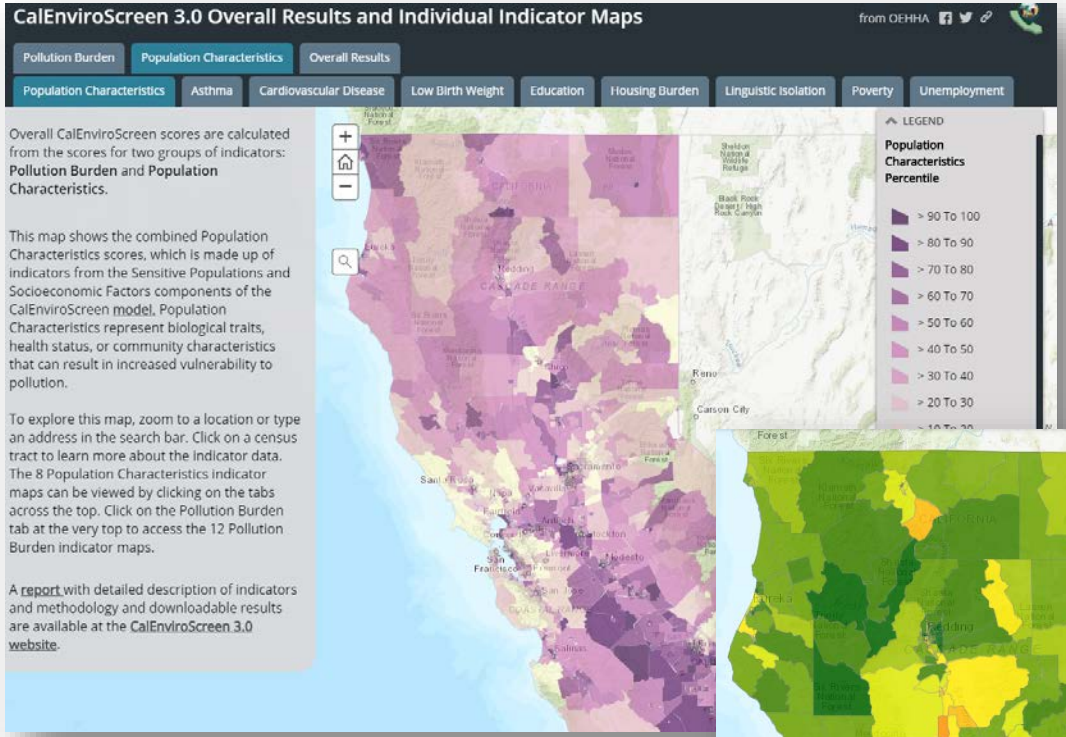
GIS model is made up of hazard criteria in four categories:

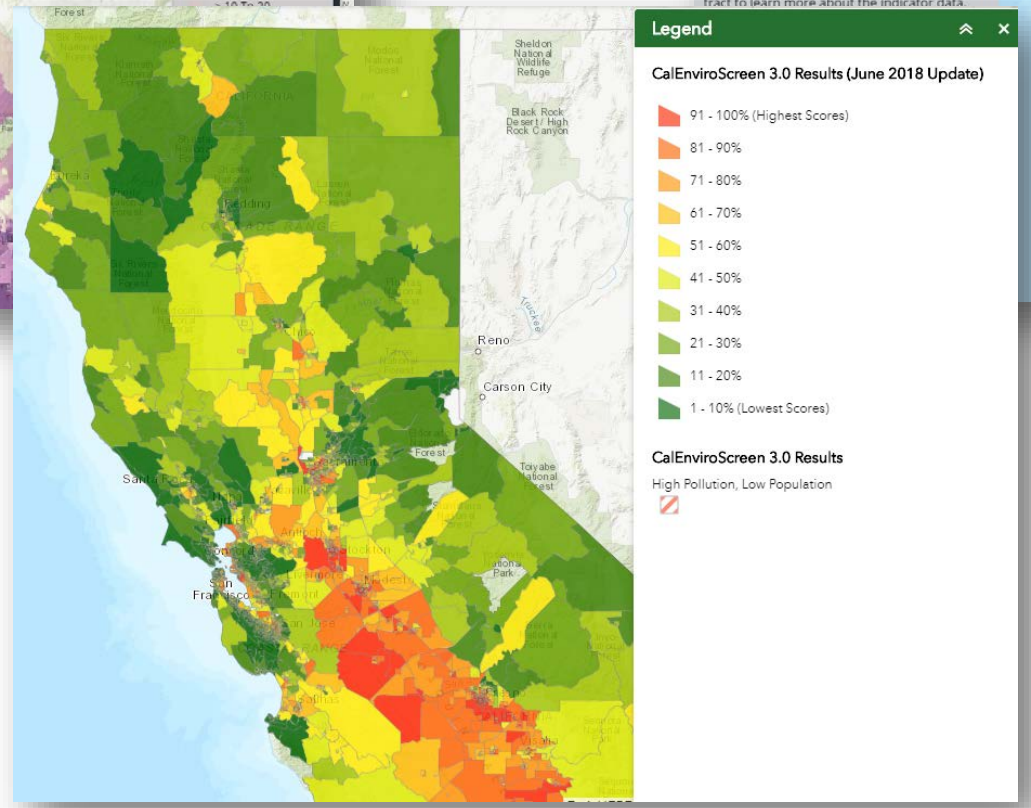
- Geographic
- Socioeconomic
- Public health
- Environmental

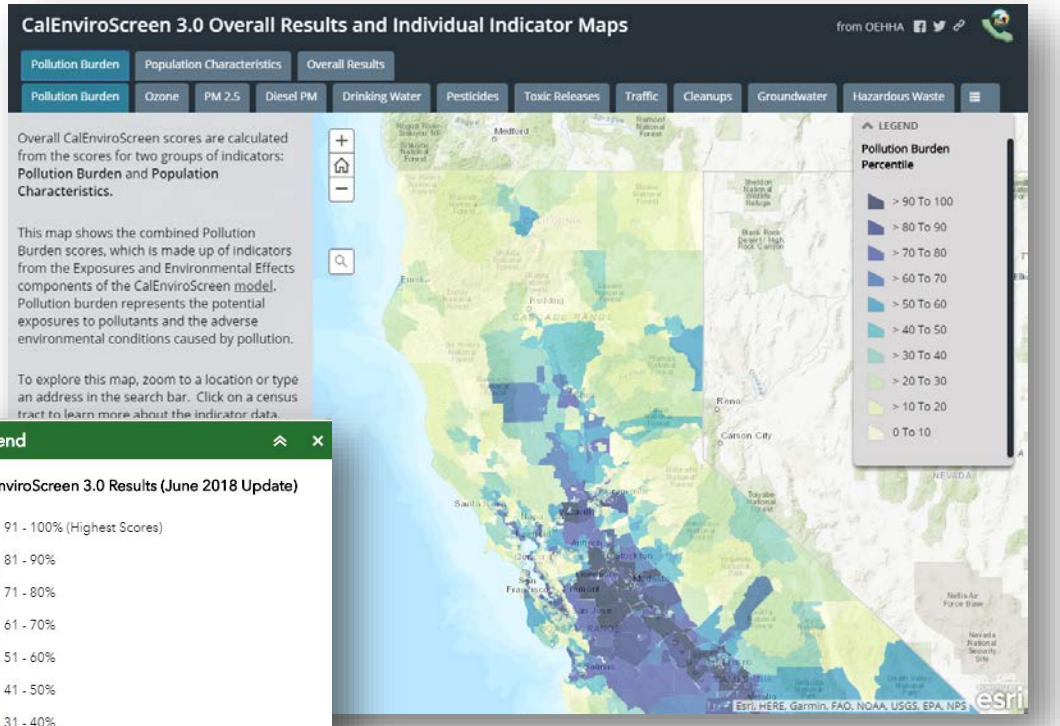
19 indicators across these four categories (12 for pollution burden and seven for population characteristics)

Each indicator scored for each census tract, which are then weighted and added together to get a pollution burden score and a population characteristics score.

These two scores are multiplied to give the CalEnviroScreen score.







https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30

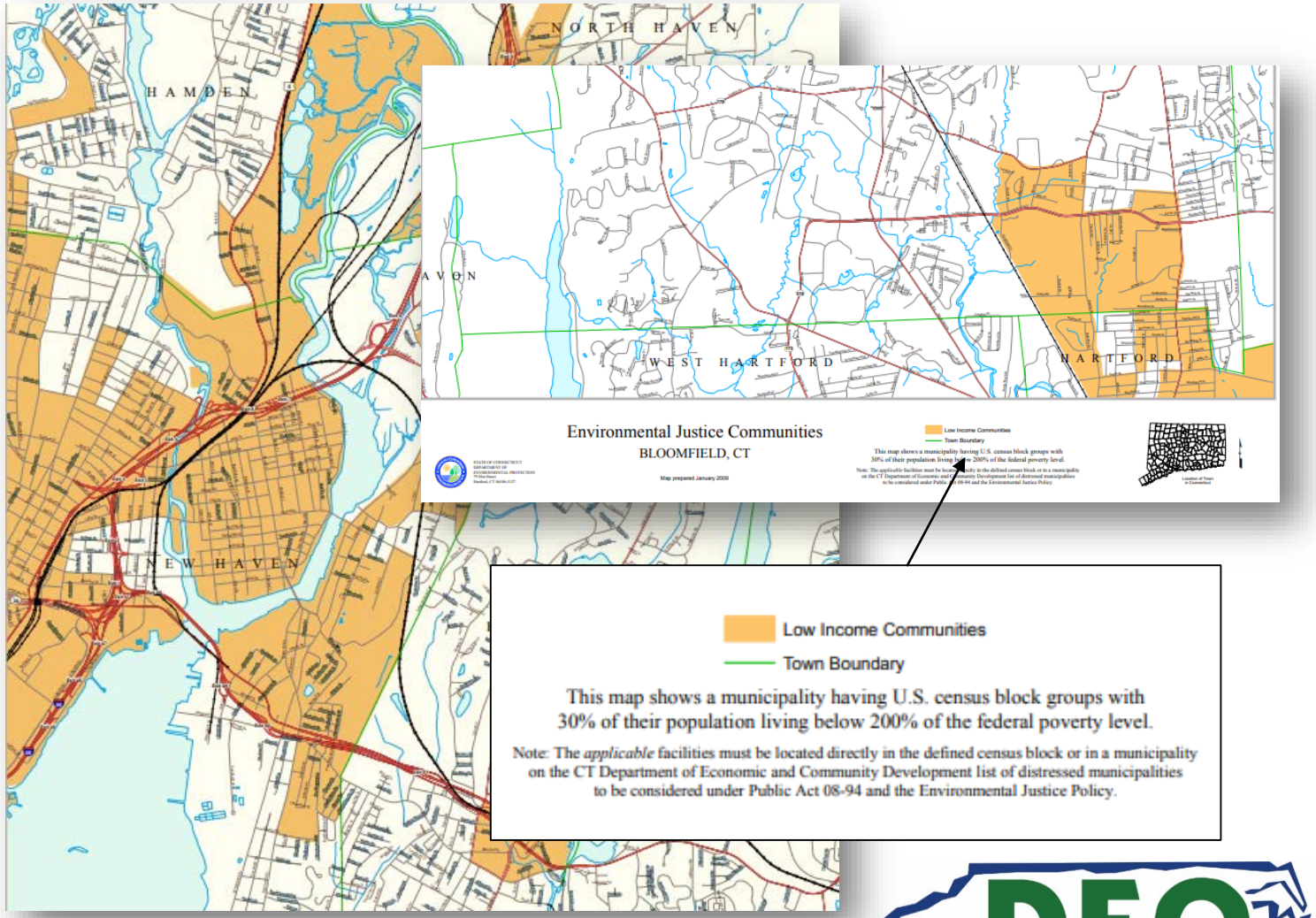
NORTH CAROLINA
Department of Environmental Quality

Connecticut -"Environmental Justice Communities"

Purpose: To help ensure that no segment of the population should, because of its racial or economic makeup, bear a disproportionate share of the risks and consequences of environmental pollution or be denied equal access to environmental benefits.

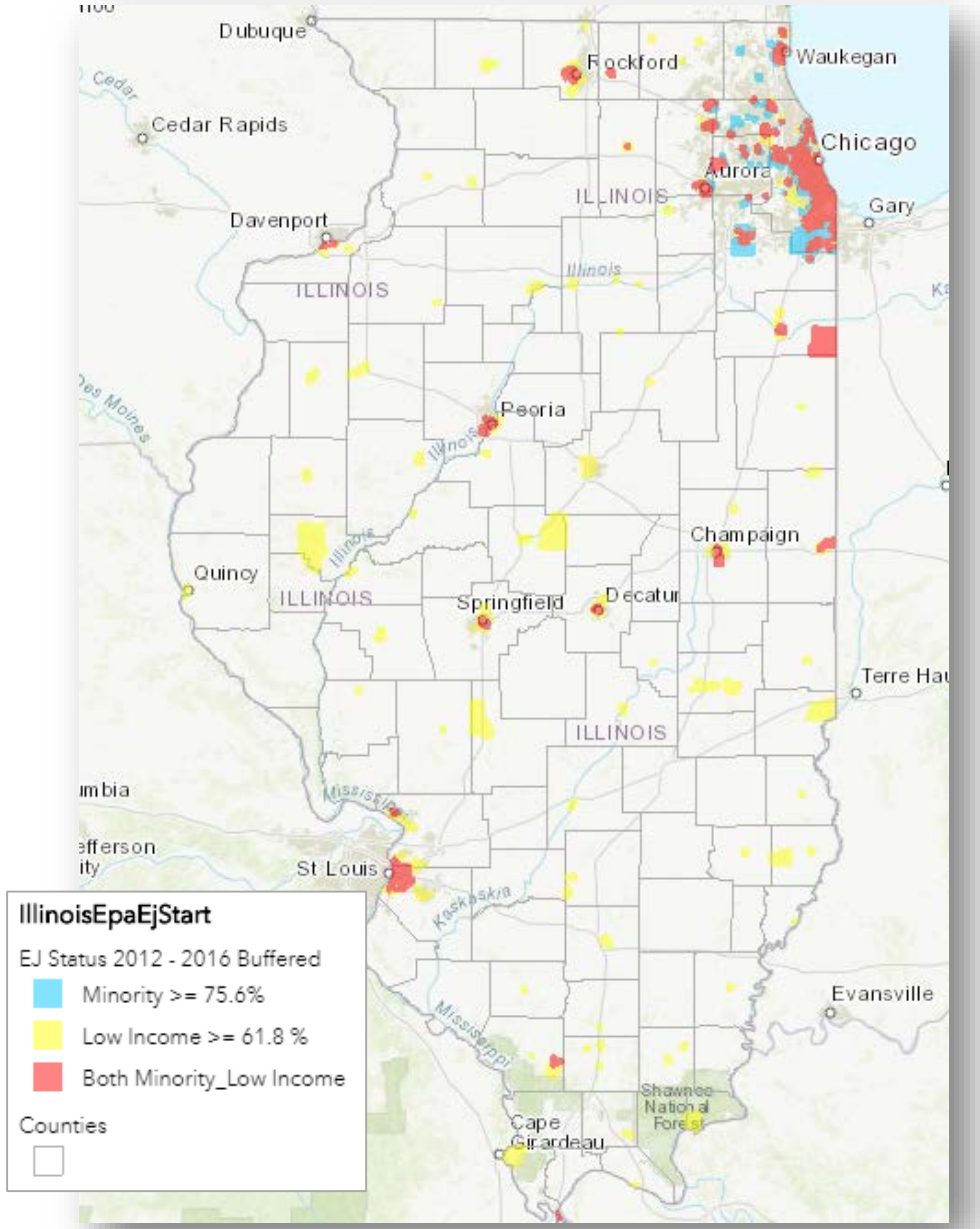
Use: PDF maps indicating different environmental justice communities, defined as communities:

- On the Connecticut Department of Economic and community Development list of distressed municipalities; or
- Have census block groups with 30% of their population living below 200% of the federal poverty level



https://www.ct.gov/deep/cwp/view.asp?a=2688&q=322378&deepNav_GID=1511

NORTH CAROLINA
Department of Environmental Quality



Illinois- "EJ Start"

Purpose: Identifies designated EJ areas by low-income, minority, and both low-income and minority

Use: Bureau will review permit applications and other actions to determine whether the action will take place in an area of EJ concern as determined by the EJ Start tool.

- For areas of EJ concern, the EJ officer will recommend the appropriate outreach, if any, based on, among other considerations, the type of permit, potential impact of the project or Agency action, type of source and level of interest.

Data Layers: Minority and low income

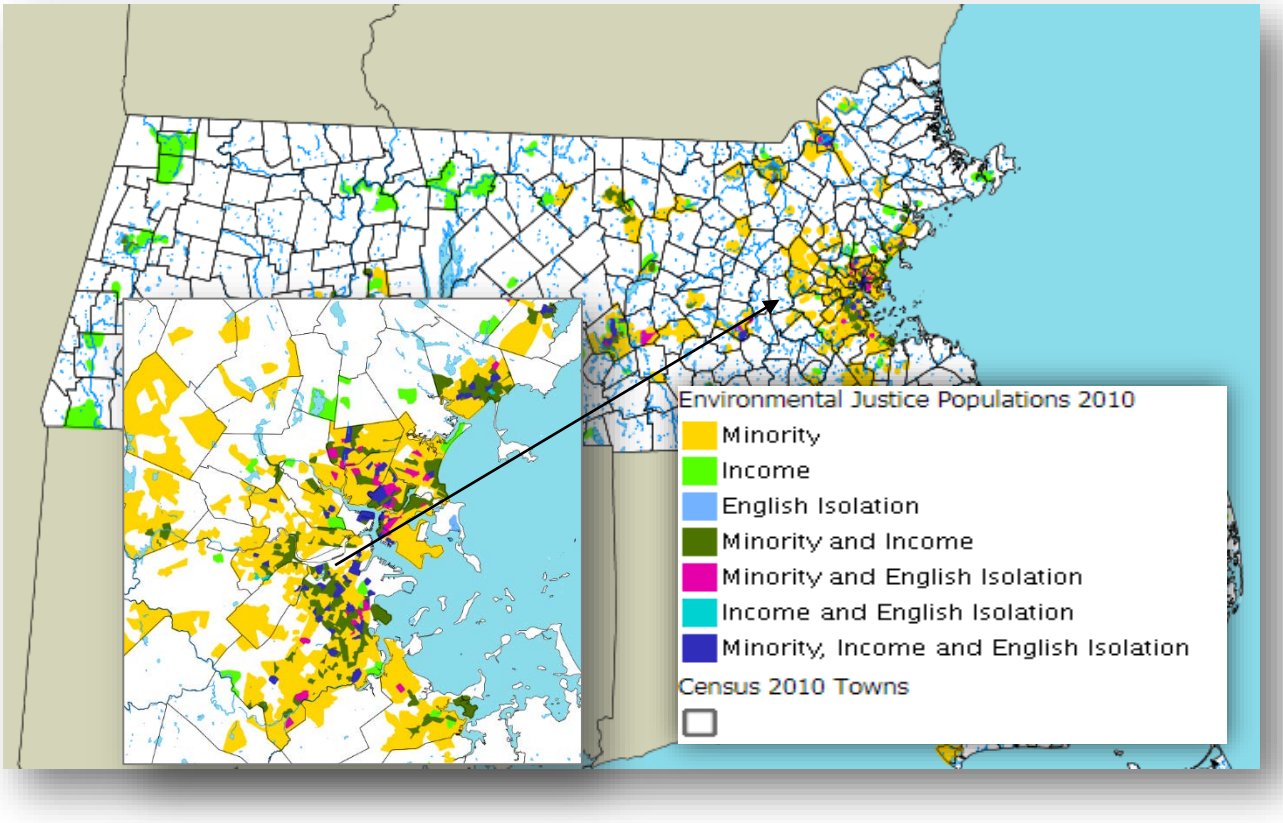
https://www.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c

NORTH CAROLINA
Department of Environmental Quality

Massachusetts- Environmental Justice Viewer

Purpose: to provide information for EJ communities in order to

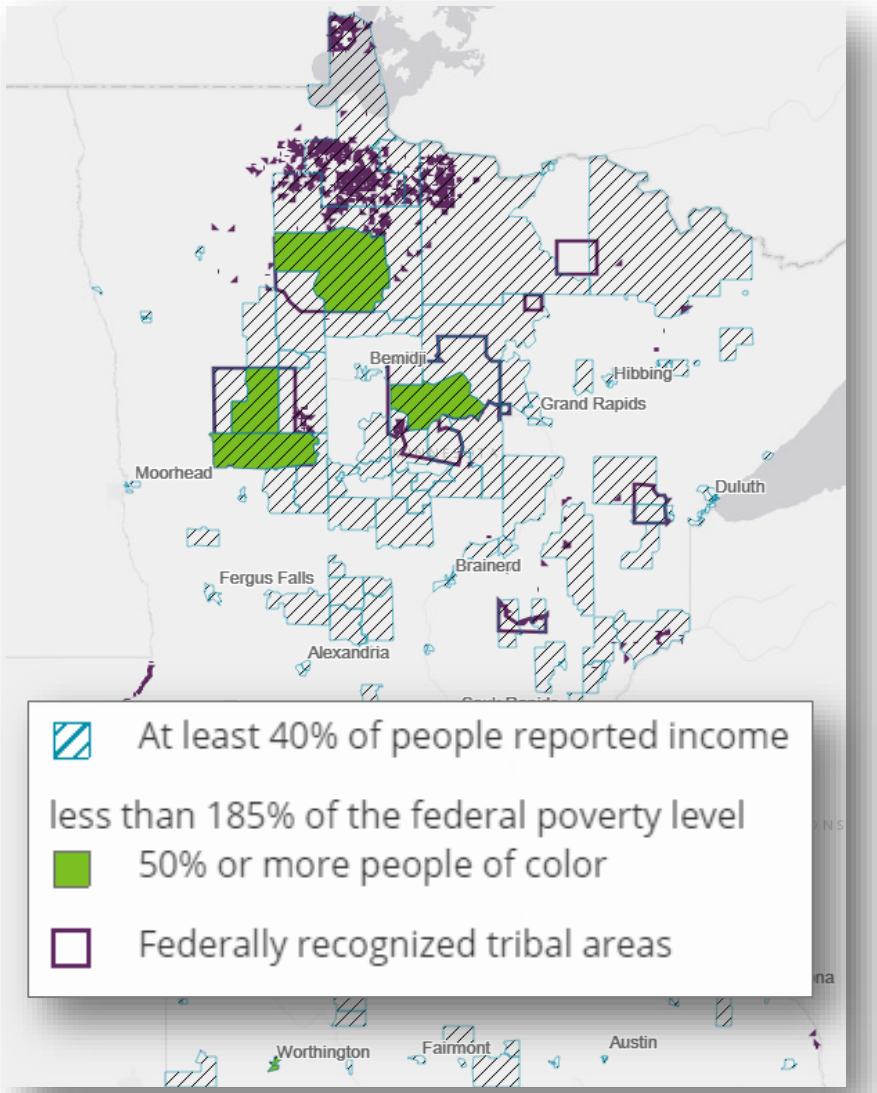
- enhance public participation and engagement
- target compliance assessment and assistance efforts
- address health disparities
- enhance review of significant new or expanding facilities presenting potential adverse impacts



https://docs.digital.mass.gov/dataset/massgis-data-2010-us-census-environmental-justice-populations?_ga=2.136113713.1644684508.1535475426-1781668787.1535475426

Department of Environmental Quality

Minnesota- Understanding Environmental Justice in Minnesota



Department of Environmental Quality

Purpose:

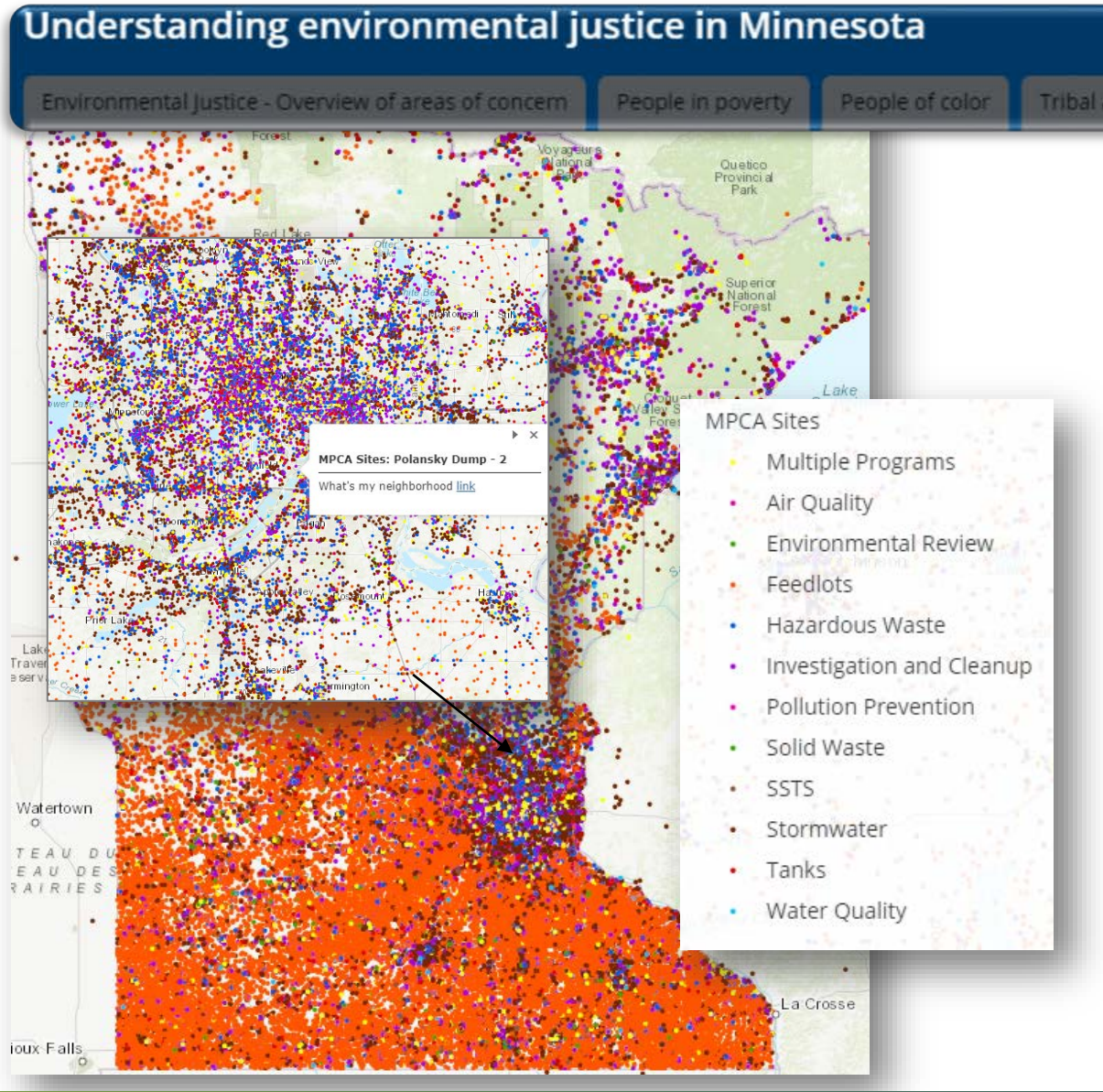
This screening tool allows users to identify census tracts where additional consideration or effort is warranted to ensure meaningful community engagement and to evaluate the potential for disproportionate adverse impacts

Data Layers:

- People in poverty -More than 40% of the households have a household income of less than 185% of the federal poverty level
- People of color - The number of people of color is greater than 50%;
- Tribal areas
- Language
- “What’s in My Neighborhood”

http://mpca.maps.arcgis.com/apps/MapSeries/index.html?appid=f5bf57c8dac24404b7f8ef1717f57d00

Minnesota's "What's in My Neighborhood



Use:
A tool for searching out information about sites and facilities all around Minnesota to learn details about locations in your community

While the "What's in My Neighborhood" Map is available on a tab adjacent to the EJ map, the two layers cannot be combined

DEQ
NORTH CAROLINA
Department of Environmental Quality

New Mexico- EJ Mapper

Purpose:

To provide various tools and maps to share environmental and health information with the public.

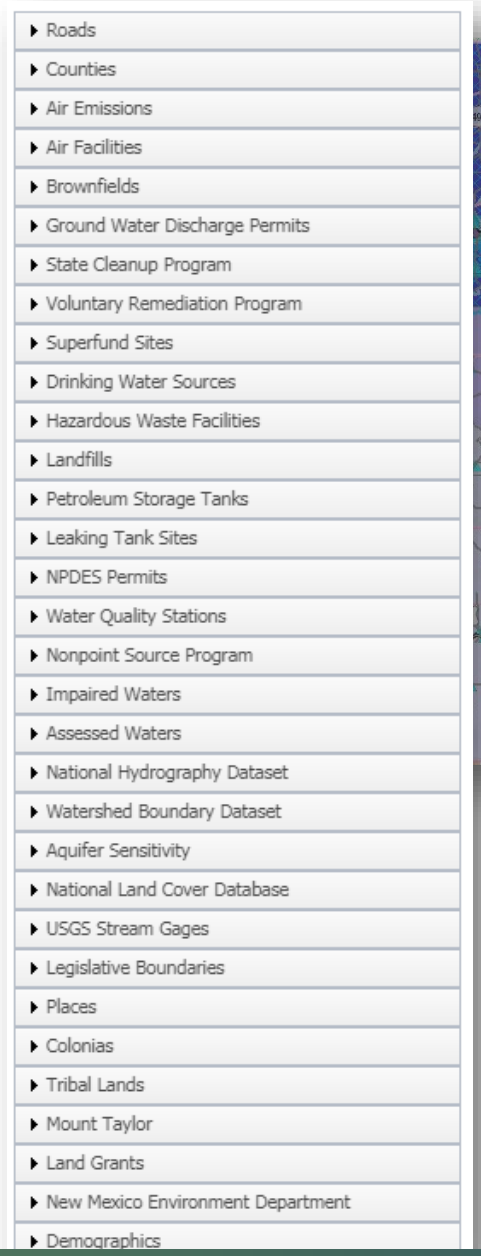
https://www.env.nm.gov/general/tools-maps-links/

Data Layers:

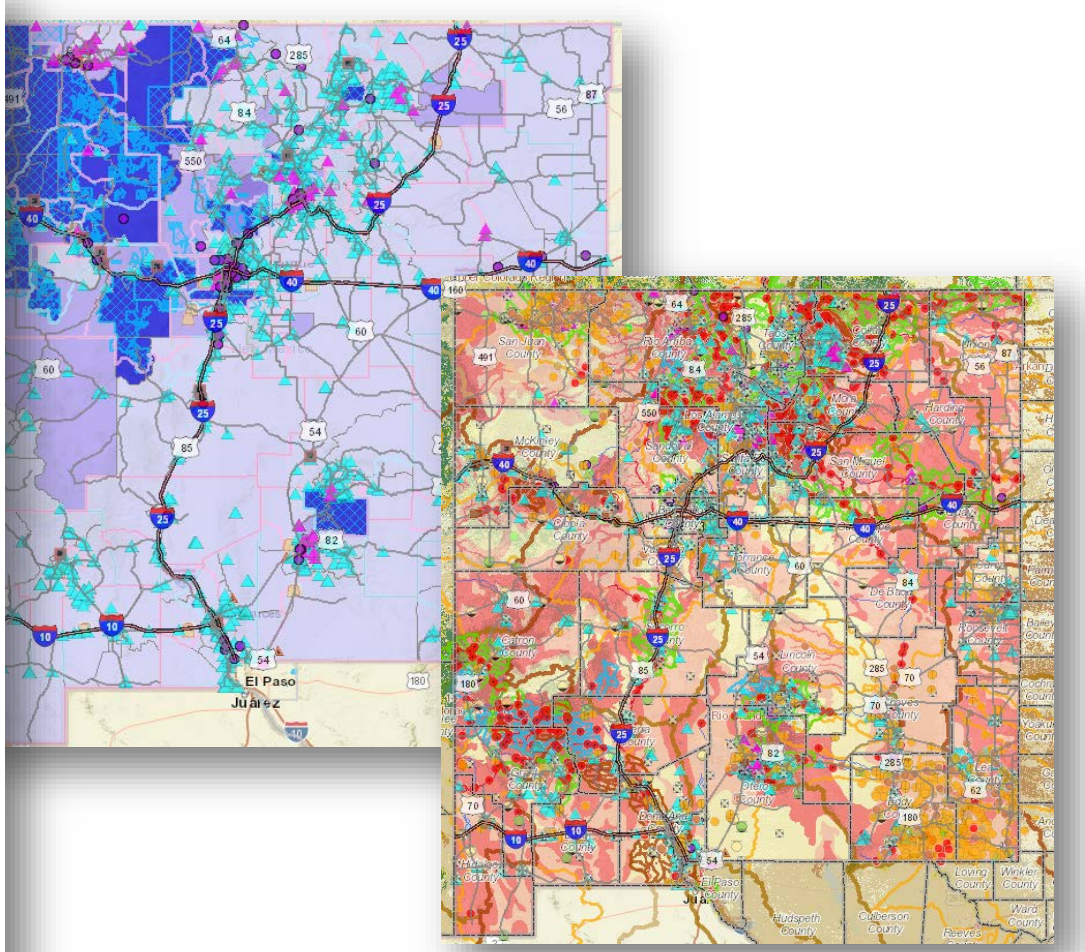
This map is comprehensive and includes categories of air emissions, air facilities, brownfields, ground water discharge permits, state cleanup program, superfund sites, landfills, hazardous waste, NPDES permits, impaired water, legislative boundaries, tribal lands, and demographics with sub layers under each of the mentioned folders

There are dozens of layers and possibilities in an online format that operates like Arcmap Desktop

https://gis.web.env.nm.gov/oem/?map=egis

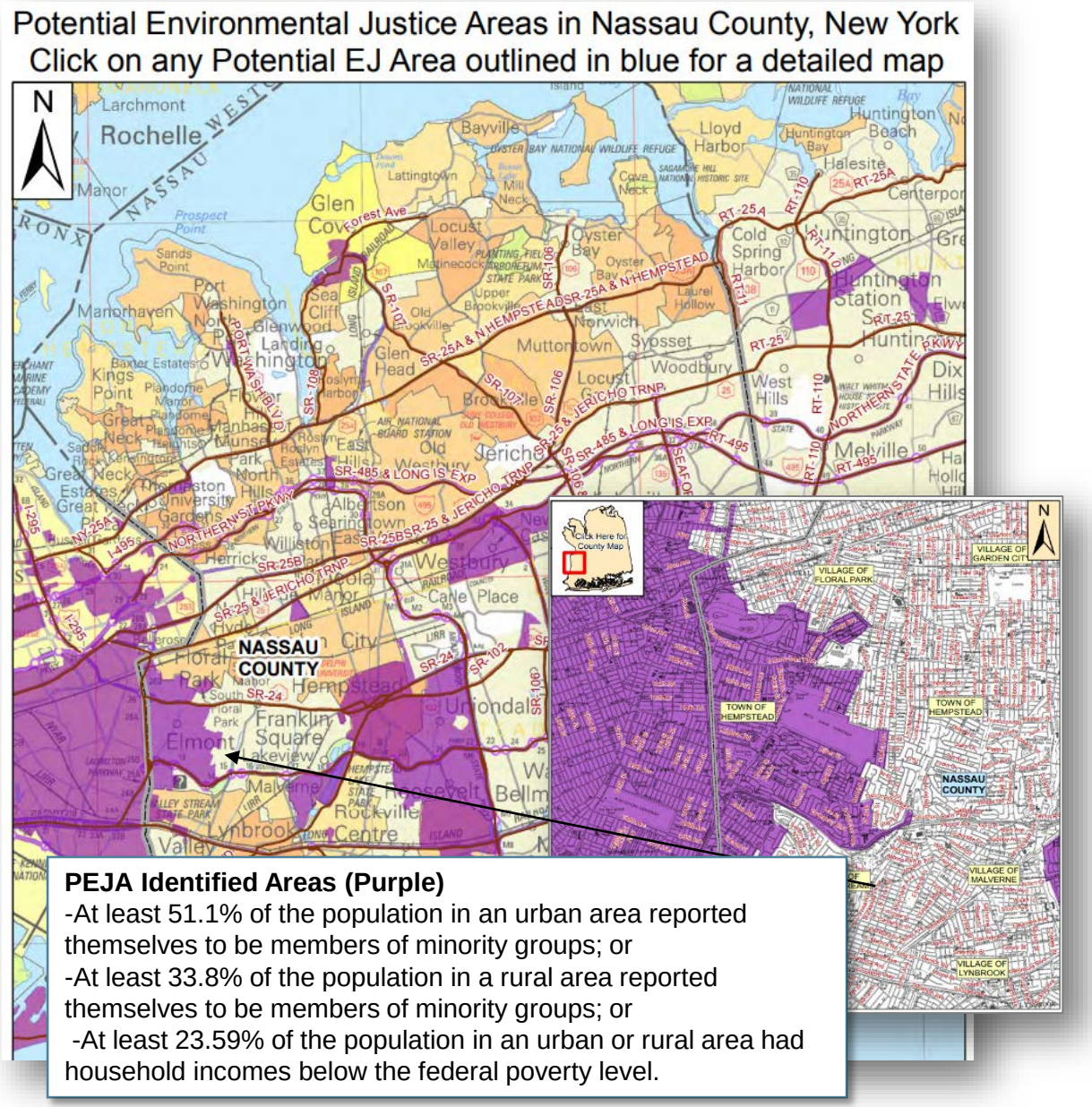


Examples of possible layer combinations



Department of Environmental Quality

New York- Potential Environmental Justice Areas



PEJA Identified Areas (Purple)
-At least 51.1% of the population in an urban area reported themselves to be members of minority groups; or
-At least 33.8% of the population in a rural area reported themselves to be members of minority groups; or
-At least 23.59% of the population in an urban or rural area had household incomes below the federal poverty level.

Purpose:

Provides guidance for incorporating environmental justice concerns into the New York State Department of Environmental Conservation (DEC) environmental permit review process and the DEC application of the State Environmental Quality Review Act.

Where a Potential Environmental Justice Area is identified by the preliminary screen, the applicant shall submit a written Public Participation Plan as part of its complete application.

Data Layers have been made into maps by county in PDF format but the entire zip file is available as a KMZ to be used in Google Earth Pro

https://www.dec.ny.gov/public/911.html

Department of Environmental Quality

NORTH CAROLINA
Department of Environmental Quality

Pennsylvania- eMap

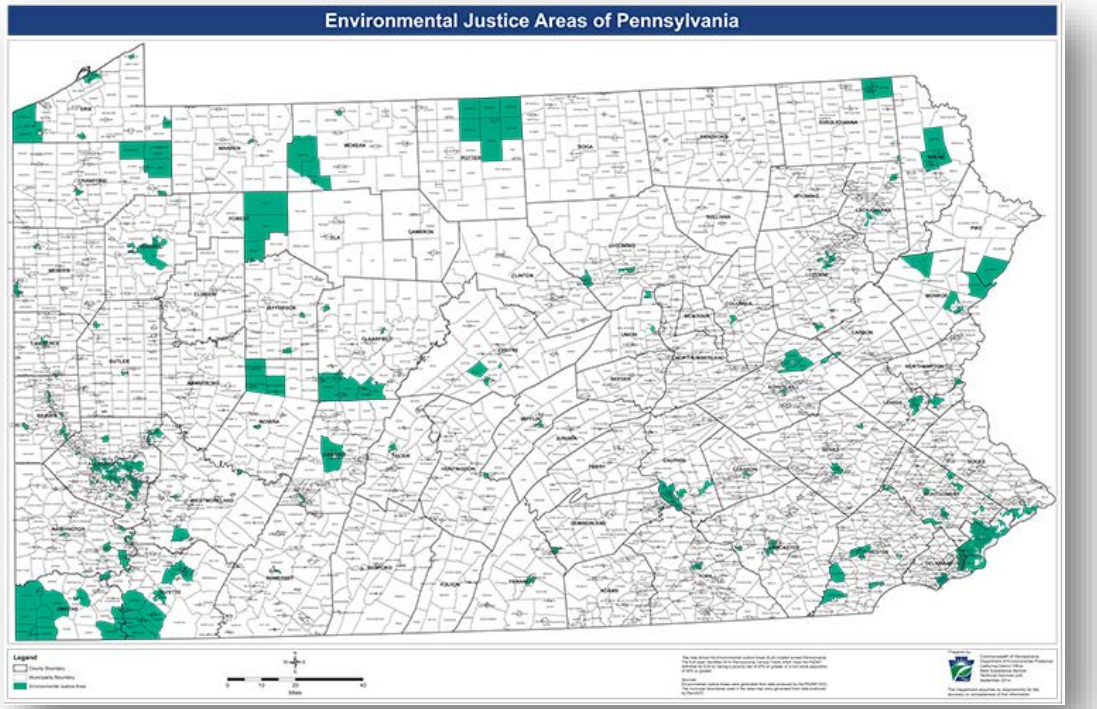
Purpose: A comprehensive map where the community can look at environmental layers, permitting layers, and EJ areas all in one mapping platform.

Data Layers:

- Regulated Facilities
- Complaints
- Points of Interest (environmental, geological, social)

Environmental Justice Area

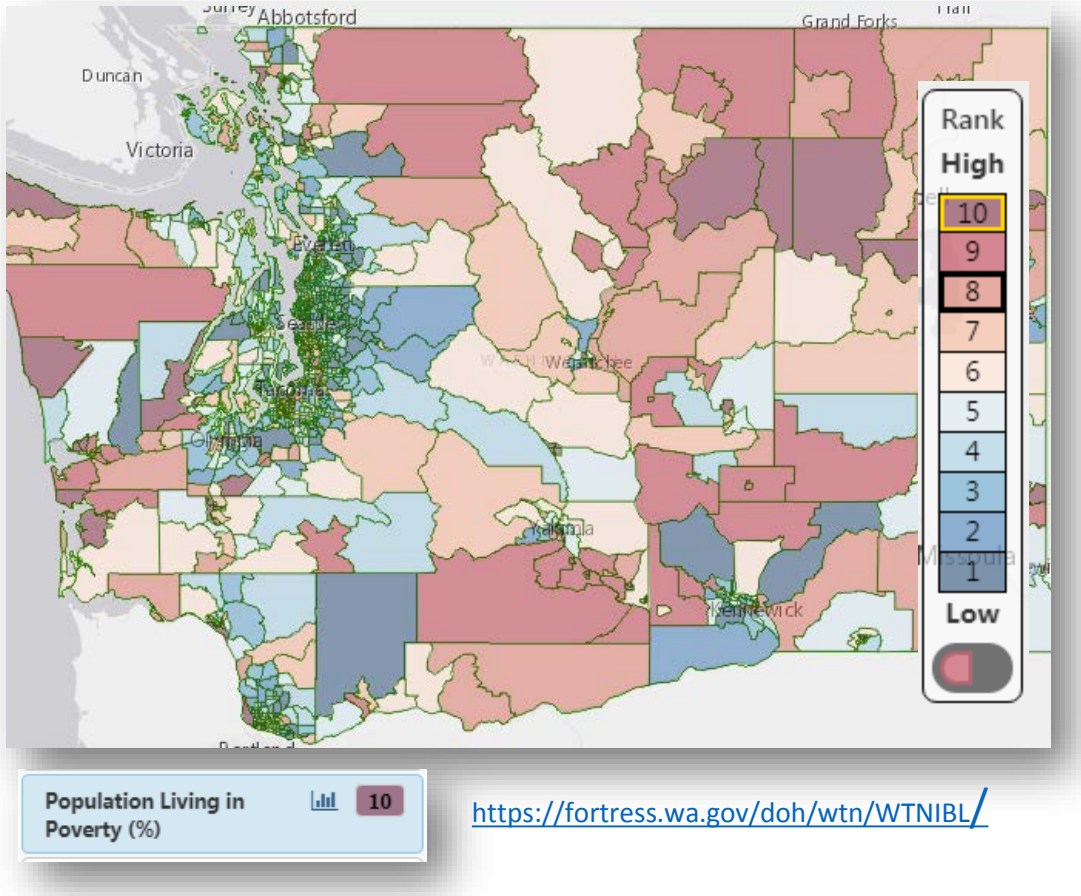
- Defines “Environmental Justice Area” as any census tract where 20% or more individuals live in poverty, and/or 30% or more of the population is minority.



https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-Environmental-Justice-Areas.aspx

Department of Environmental Quality

Washington- Washington Tracking Network (WTN)

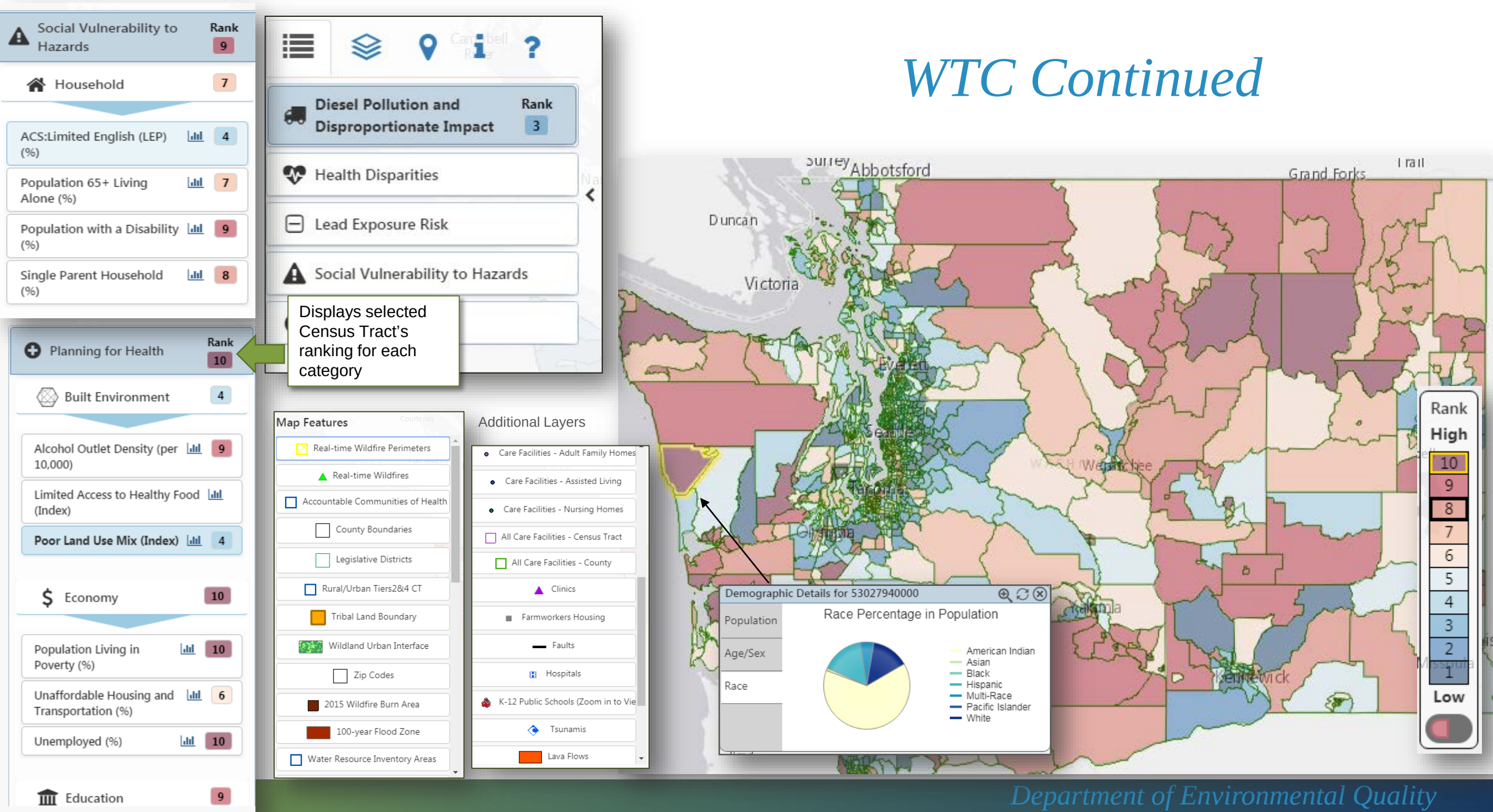


https://fortress.wa.gov/doh/wtn/WTNIBL/

- **Purpose**: Washington State Department of Ecology (ECY) is managing the diesel settlement from Volkswagen. This display was developed by WTN and ECY to aid in evaluating areas of high diesel emissions and the population in those areas.
- **Use**: Lets you explore and compare your community with those around you. It displays information for a variety of topics by presenting a community's rank between 1 (lowest) and 10 (highest).
  - Each number represents 10% of the communities. For example, if your community is ranked a 7 for health disparities, it means that 60% of the communities in Washington State have a lower level of health disparity and 30% have a greater level of disparity.
- **Data Layers**: Diesel Pollution and Disproportionate Impact, Health Disparities, Lead Exposure Risk, and Planning for Health (housing, food access, poverty, transportation access, LEP, disability, etc.)

Department of Environmental Quality

WTC Continued



Available Data Layers from NCDEQ

Open DEQ Arcmap Online Data

Description- general link to explore available data layers by subject and division
Link- http://data-ncdenr.opendata.arcgis.com/

NC State and Federal Tribal Lands

https://arcg.is/19OPO4

NC Sensitive Receptors

Description- Contains layers for churches, schools, nursing homes, hospitals, along with county and tribal boundaries
Link- https://arcg.is/0jbiHq

Drinking Water Assessment Shapefile

Description- features state coverage for the indicated source type and Susceptibility Rating
Link- https://deq.nc.gov/about/divisions/water-resources/drinking-water/drinking-water-protection-program/mapping-applications

NC Swap

Description- The viewer features a statewide database of over 37,000 potential sources of contamination that can influence local drinking water protection strategies
Link-
http://nc.maps.arcgis.com/apps/webappviewer/index.html?id=d93b2cf7732340399fb7df5b3ff5c287

Storm water Permitting Interactive Map

Description- Interactive web-based map to help the public determine whether development activities are subject to the post-construction stormwater permitting program or other stormwater permitting requirements.
Link-
https://ncdenr.maps.arcgis.com/apps/StoryMapBasic/index.html?appid=70e2781780834a4bb5d3ec95ddfc01a6

Flood Risk Information System

Description- The Flood Risk Information System (FRIS) contains digitally accessible flood hazard data, models, maps, risk assessments and reports that are database driven. This site also provides geospatial base map data, imagery, LiDAR data, along with hydraulic and hydrologic models that is available for download and use.
Link- http://www.ncfloodmaps.com/

Coastal Management Interactive Map

Description- Interactive multi layer map of coastal high-hazard areas with data such as flood zones and erosion patterns.
Link-
https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=f5e463a929ed430095e0a17ff803e156

Active Landfills

Link- https://deq.nc.gov/active-permitted-landfills-map

Active and Expired Stormwater Permits

https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=93b173a969fd4790bd49256df37360f4

Animal Feeding Operations

Description- All Confined Animal Feeding Operations (CAFOs) required by the Division of Water Resources (DWR) to obtain an Animal Operations Certificate of Coverage. It does not include all animal farms in the state, particularly dry poultry operations.
Link-
http://data.nconemap.com/geoportal/catalog/search/resource/details.page?uuid=%7B36B96C0E-48BD-4FB4-B4F6-7EF6F2AC1175%7D

Environmental Justice Mapping Tools
Summary
April 16, 2019

An important first step to integrating environmental justice in government agency decision-making is to identify the areas where people are most likely to be exposed to pollution or most vulnerable. For this reason, the California Environmental Protection Agency (CalEPA) and the US Environmental Protection Agency (USEPA) developed tools to ensure that programs, policies, and resources are appropriately inclusive and consider the needs of communities most burdened by pollution.

Training Resources

CalEPA developed CalEnviroScreen in 2013 to help identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. A set of training videos is available.

USEPA developed EJSCREEN in 2012 to identify areas with the highest pollution burdens and most vulnerable populations. A user guide and training videos are available.

State EJ Mapping Tools: Summary and Links (courtesy of North Carolina Department of Environmental Quality)

- N.C. DEQ Presentation on Nationwide Mapping Tools (Summary presentation of all state government tools)

State EJ Mapping Tools Links

- CalEnviroScreen (California)
- Environmental Justice Communities (Connecticut)
- EJ Start (Illinois)
- Environmental Justice Viewer (Massachusetts)
- Understanding Environmental Justice in Minnesota (Minnesota)
- EJ Mapper (New Mexico)
- Potential Environmental Justice Areas (New York)
- eMap (Pennsylvania)
- Washington Tracking Network (Washington)
- https://deq.nc.gov/outreach-education/environmental-justice/deq-north-carolina-community-mapping-tool#nationwide-mapping-tools (North Carolina)

Environmental Public Health Tracking Networks

The Centers for Disease Control and Prevention hosts the National Environmental Public Health Tracking Network, which brings together health data and environment data from national, state, and city sources and provides supporting information to make the data easier to understand. In addition to a national portal, 25 state and local governments operate their own portals.

Recent Developments

Washington Environmental Health Disparities Map

In January 2019, a partnership consisting of the University of Washington School of Public Health Department of Environmental & Occupational Health Sciences, Front and Centered, Washington Department of Health, Washington Department of Ecology, and the Puget Sound Clean Air Agency released the Washington Environmental Health Disparities Map. Available links and documents are the Environmental Health Disparities EJ Index (mapping tool), Environmental Health Disparities Map landing page and Report, and Fact sheet

Illinois Solar for All Program's EJ Screening Methodology

The 2016 Future Energy Jobs Act (FEJA) mandates that at least 25 percent of the Illinois Solar for All Program's incentives be allocated to projects located within environmental justice communities. The Solar for All Program aims to address existing disproportionate impacts, in part, by broadening and diversifying participation in the development of renewable energy. The Solar for All Program is developing a methodology to identify such communities using elements of the EJSCREEN and CalEnviroScreen tools, as well as a self-designation process.

Other Efforts

Experience has shown that progress on State environmental justice mapping efforts have resulted from a combination of community, academia, and government activities. States where significant activity is taking place in EJ mapping are: North Carolina, New Jersey, Michigan, Maryland and South Carolina.

Note: *Please make sure to let us know about important developments with respect to environmental justice in your state. We want to spread the news to your colleagues across the nation about all the significant and innovative activities taking place. Please contact Charles Lee at lee.charles@epa.gov.*