



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”

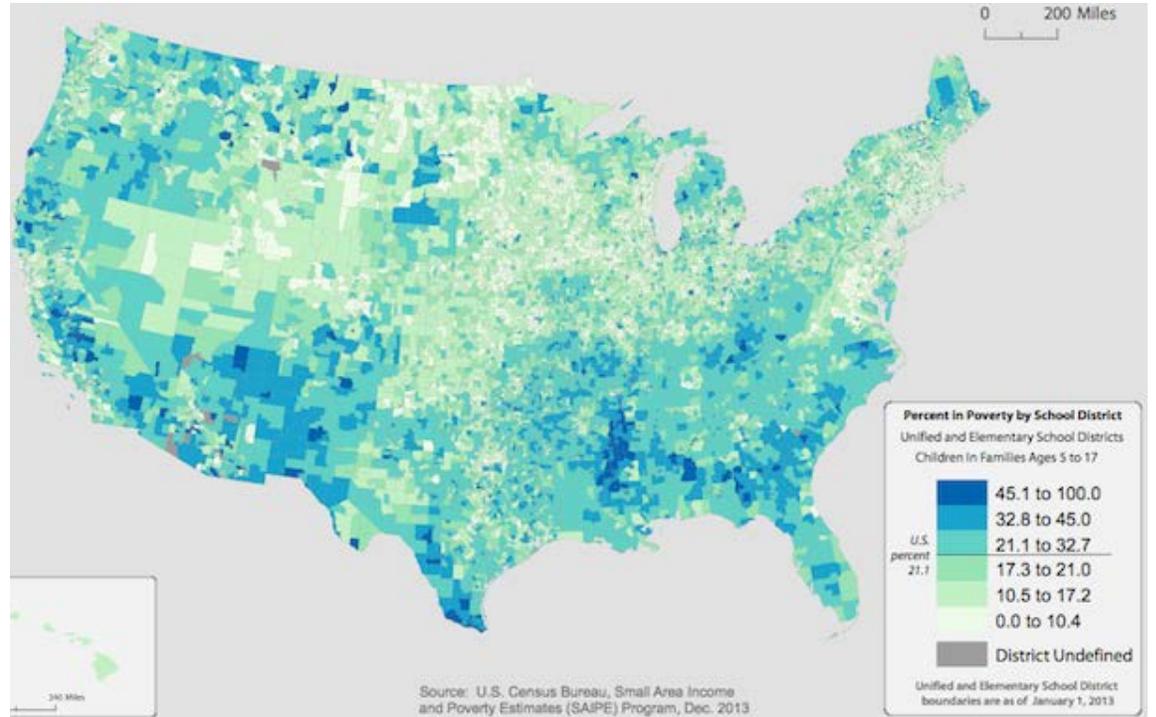
--Title VI Settlement Agreement

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



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.



CalEnviroScreen 3.0 Overall Results and Individual Indicator Maps

from OEHTA

Pollution Burden Population Characteristics Overall Results

Population Characteristics Asthma Cardiovascular Disease Low Birth Weight Education Housing Burden Linguistic Isolation Poverty Unemployment

Overall CalEnviroScreen scores are calculated from the scores for two groups of indicators: **Pollution Burden and Population Characteristics**.

This map shows the combined Population Characteristics scores, which is made up of indicators from the Sensitive Populations and Socioeconomic Factors components of the CalEnviroScreen model. Population Characteristics represent biological traits, health status, or community characteristics that can result in increased vulnerability to pollution.

To explore this map, zoom to a location or type an address in the search bar. Click on a census tract to learn more about the indicator data. The 8 Population Characteristics indicator maps can be viewed by clicking on the tabs across the top. Click on the Pollution Burden tab at the very top to access the 12 Pollution Burden indicator maps.

A [report](#) with detailed description of indicators and methodology and downloadable results are available at the [CalEnviroScreen 3.0 website](#).

CalEnviroScreen 3.0 Overall Results and Individual Indicator Maps

from OEHTA

Pollution Burden Population Characteristics Overall Results

Pollution Burden Ozone PM 2.5 Diesel PM Drinking Water Pesticides Toxic Releases Traffic Cleanups Groundwater Hazardous Waste

Overall CalEnviroScreen scores are calculated from the scores for two groups of indicators: **Pollution Burden and Population Characteristics**.

This map shows the combined Pollution Burden scores, which is made up of indicators from the Exposures and Environmental Effects components of the CalEnviroScreen model. Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution.

To explore this map, zoom to a location or type an address in the search bar. Click on a census tract to learn more about the indicator data.

Legend

CalEnviroScreen 3.0 Results (June 2018 Update)

- 91 - 100% (Highest Scores)
- 81 - 90%
- 71 - 80%
- 61 - 70%
- 51 - 60%
- 41 - 50%
- 31 - 40%
- 21 - 30%
- 11 - 20%
- 1 - 10% (Lowest Scores)

CalEnviroScreen 3.0 Results

High Pollution, Low Population



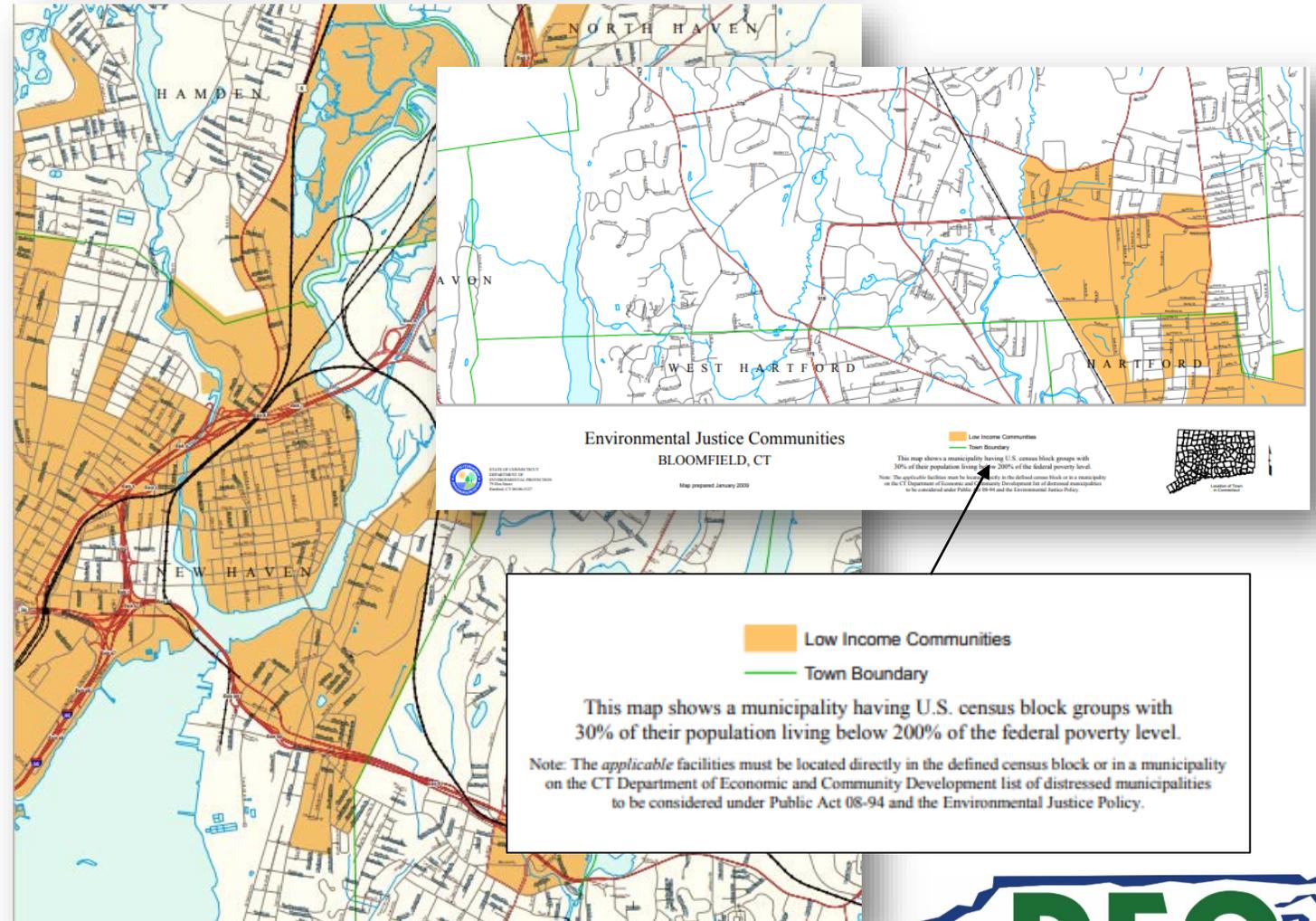
<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>

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

Illinois- “EJ Start”

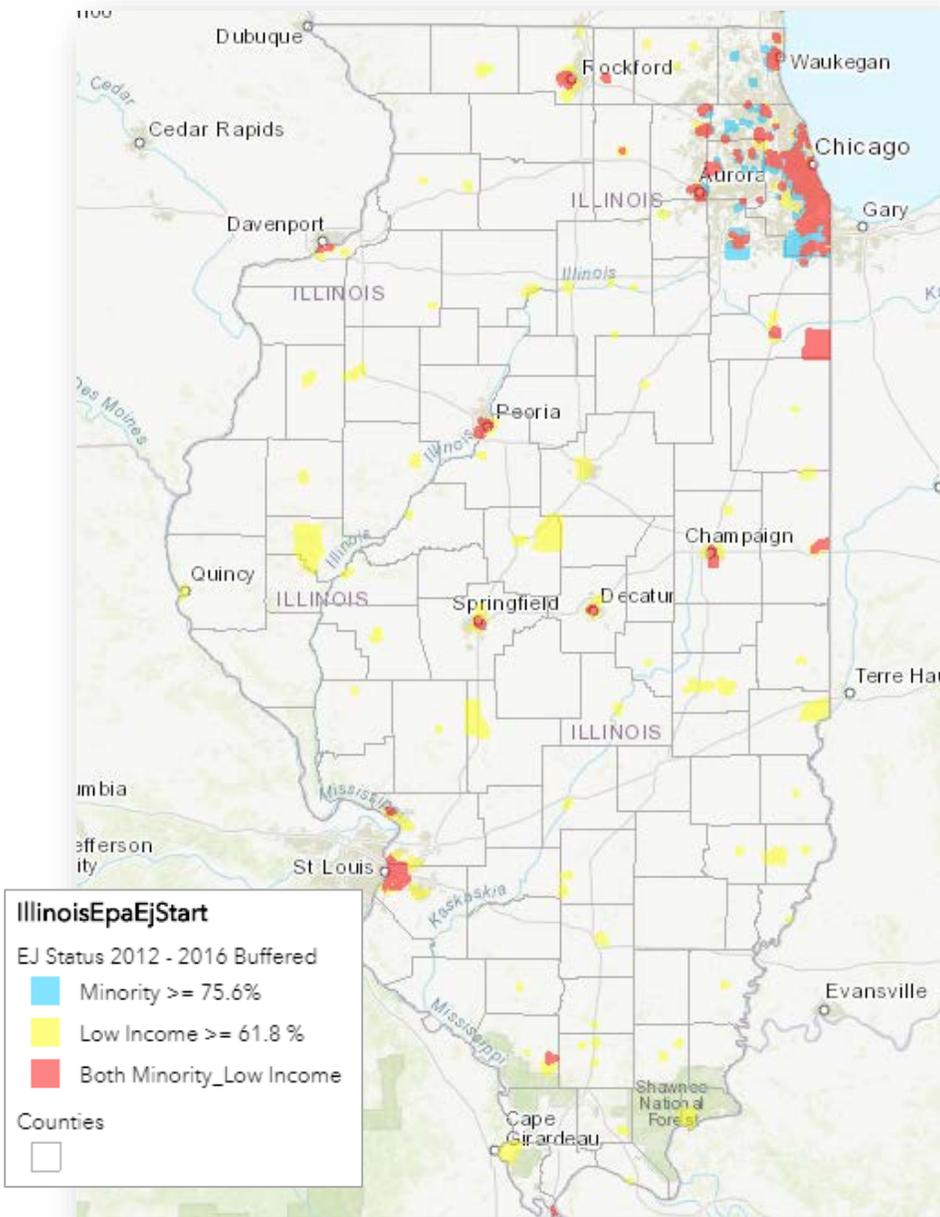
Purpose: Identifies designated EJ areas by low-income, minority, and both low-income and minority

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

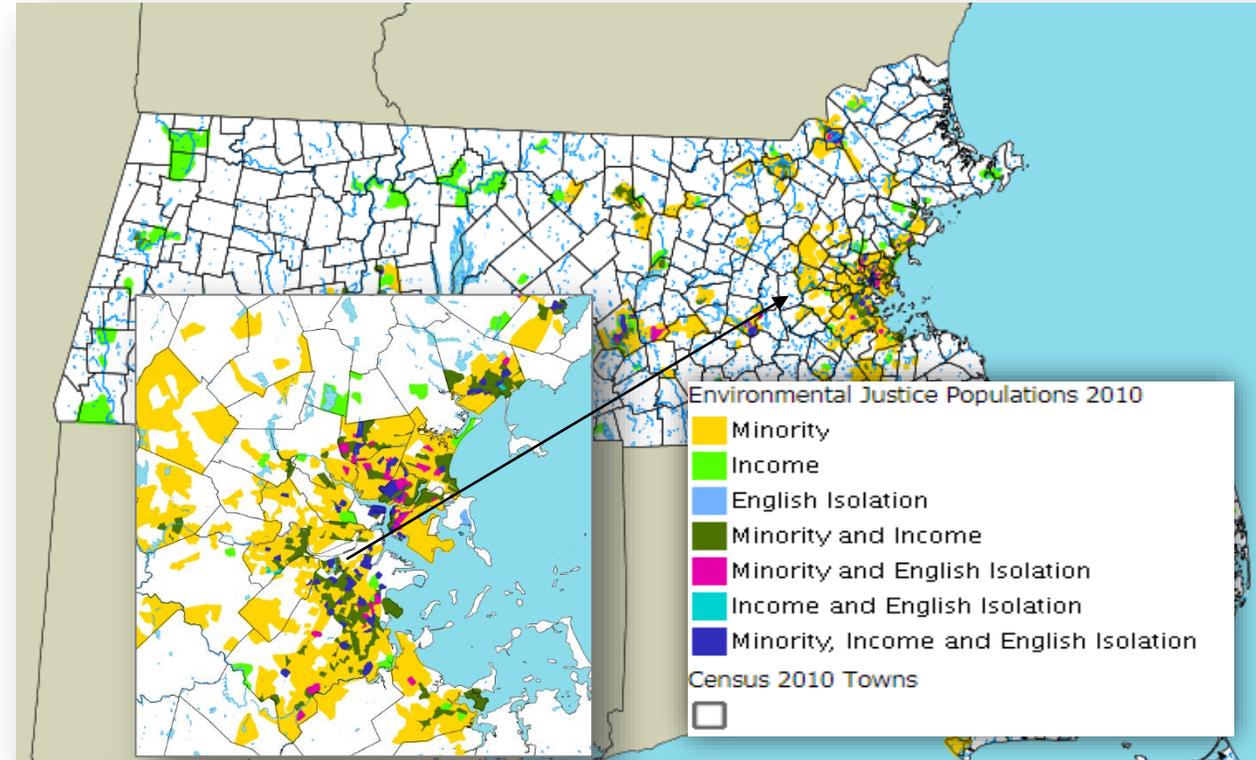
<https://www.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c>



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

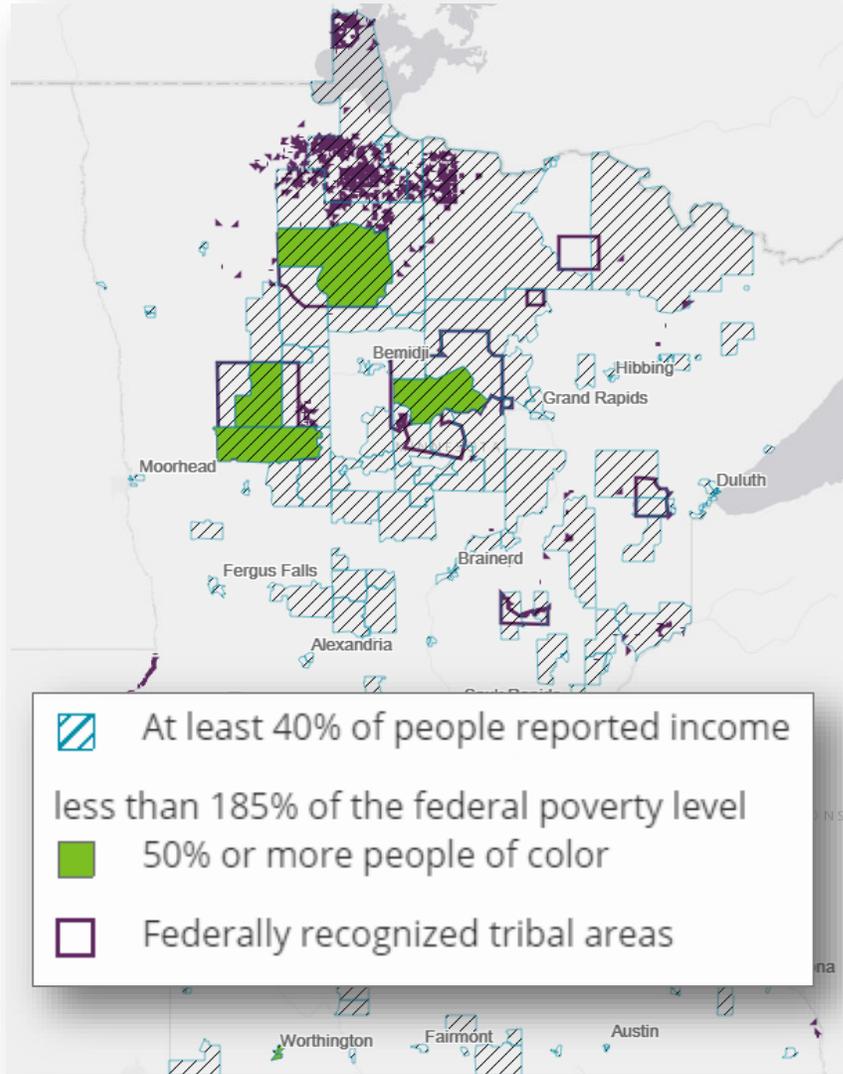


https://docs.digital.mass.gov/dataset/massgis-data-2010-us-census-environmental-justice-populations?_ga=2.136113713.1644684508.1535475426-1781668787.1535475426

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Minnesota- Understanding Environmental Justice in Minnesota



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"

Understanding environmental justice in Minnesota

Learn more at MPCA website



Environmental Justice - Overview of areas of concern

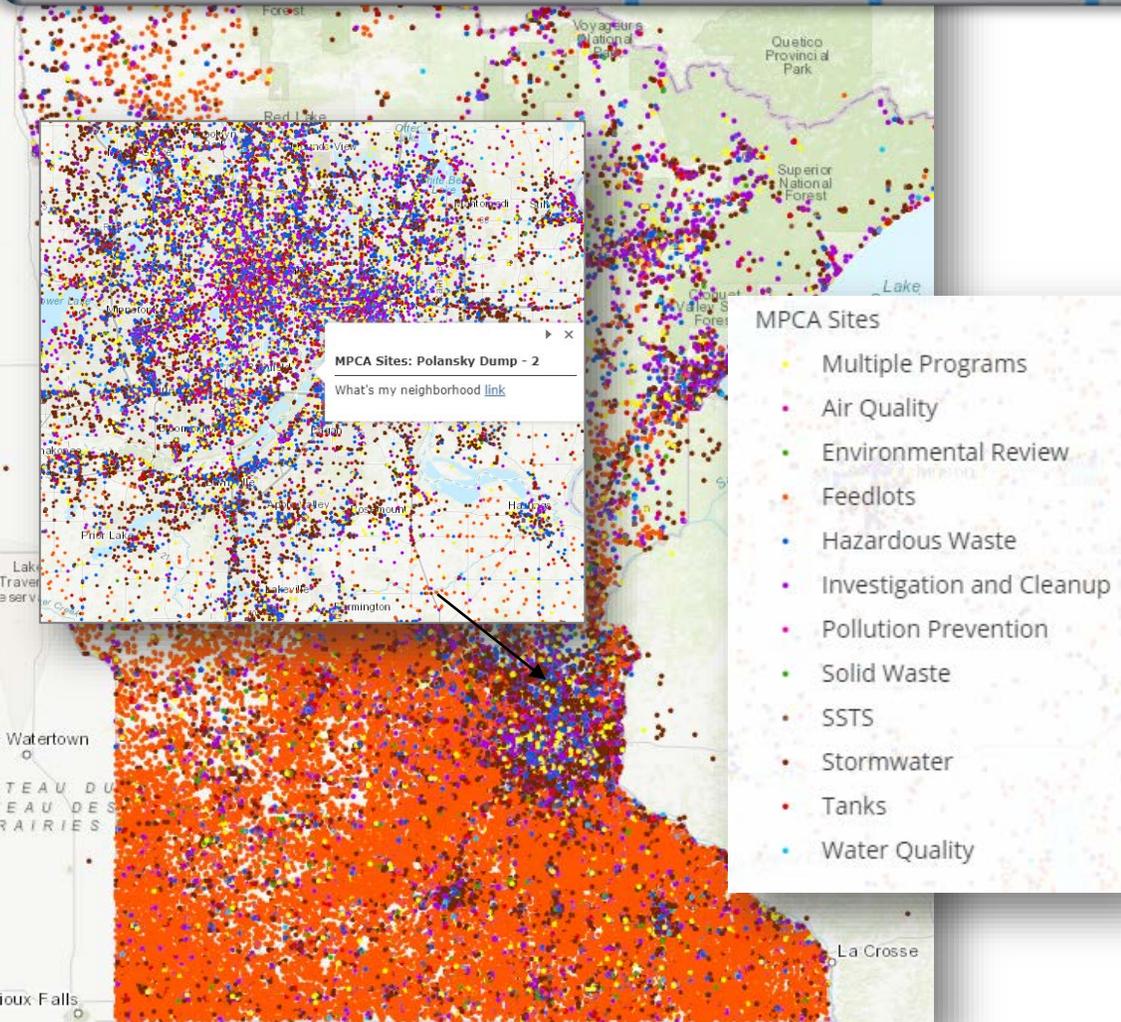
People in poverty

People of color

Tribal areas

Language

MPCA What's in my neighborhood sites



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



New Mexico- EJ Mapper

Examples of possible layer combinations

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/>

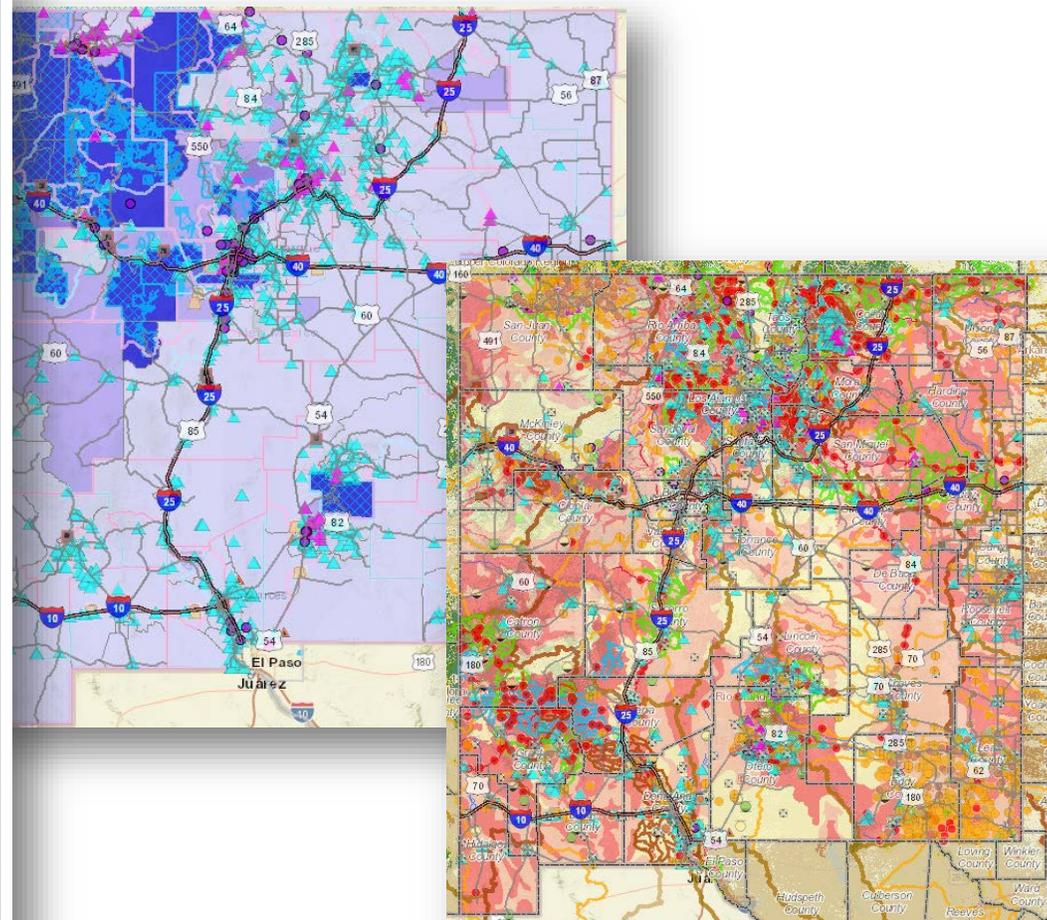
Data Layers:

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

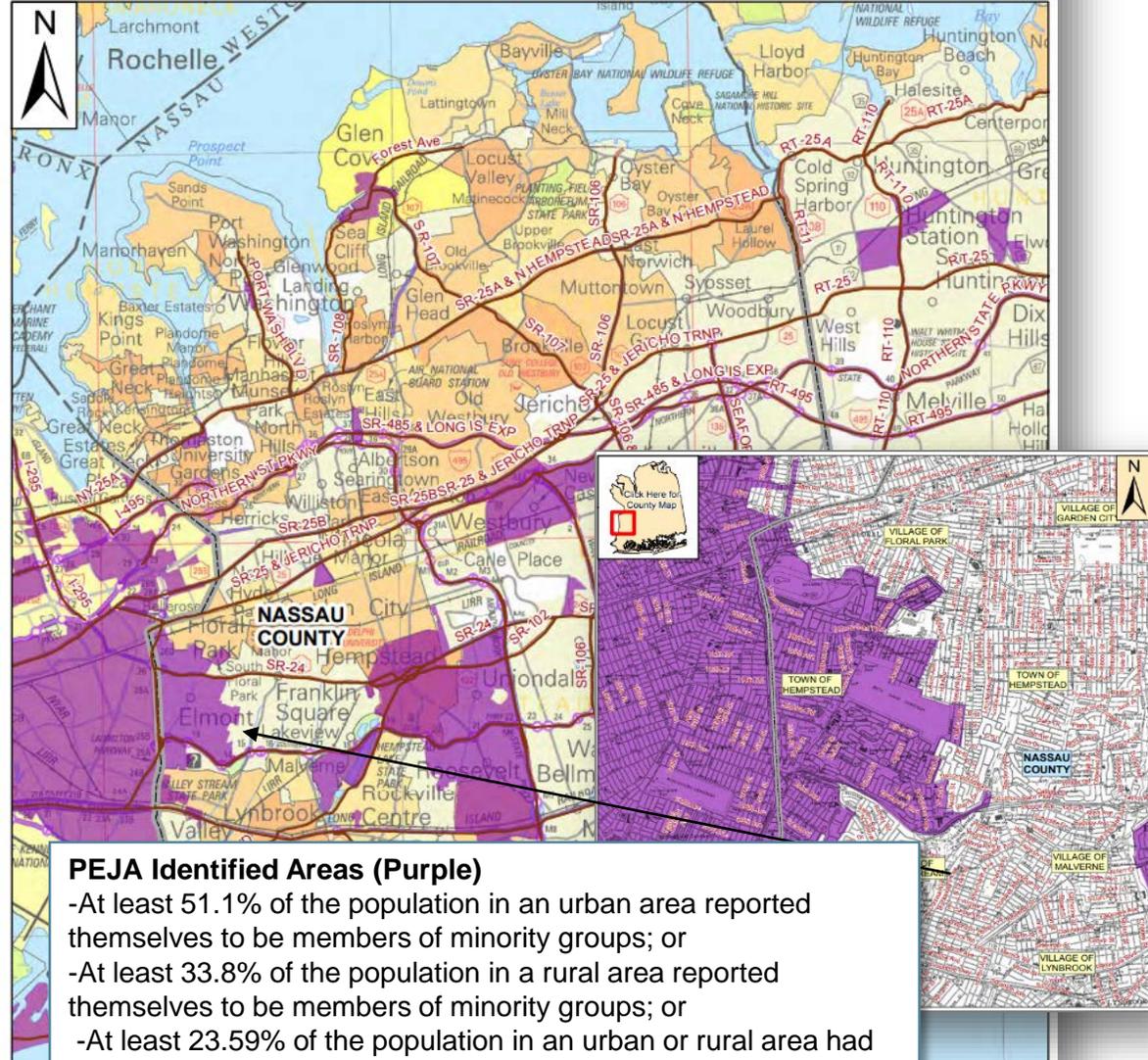
<https://gis.web.env.nm.gov/oem/?map=egis>

- ▶ Roads
- ▶ Counties
- ▶ Air Emissions
- ▶ Air Facilities
- ▶ Brownfields
- ▶ Ground Water Discharge Permits
- ▶ State Cleanup Program
- ▶ Voluntary Remediation Program
- ▶ Superfund Sites
- ▶ Drinking Water Sources
- ▶ Hazardous Waste Facilities
- ▶ Landfills
- ▶ Petroleum Storage Tanks
- ▶ Leaking Tank Sites
- ▶ NPDES Permits
- ▶ Water Quality Stations
- ▶ Nonpoint Source Program
- ▶ Impaired Waters
- ▶ Assessed Waters
- ▶ National Hydrography Dataset
- ▶ Watershed Boundary Dataset
- ▶ Aquifer Sensitivity
- ▶ National Land Cover Database
- ▶ USGS Stream Gages
- ▶ Legislative Boundaries
- ▶ Places
- ▶ Colonias
- ▶ Tribal Lands
- ▶ Mount Taylor
- ▶ Land Grants
- ▶ New Mexico Environment Department
- ▶ Demographics



Potential Environmental Justice Areas in Nassau County, New York

Click on any Potential EJ Area outlined in blue for a detailed map



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.

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New York- Potential Environmental Justice Areas

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>



Pennsylvania- eMap

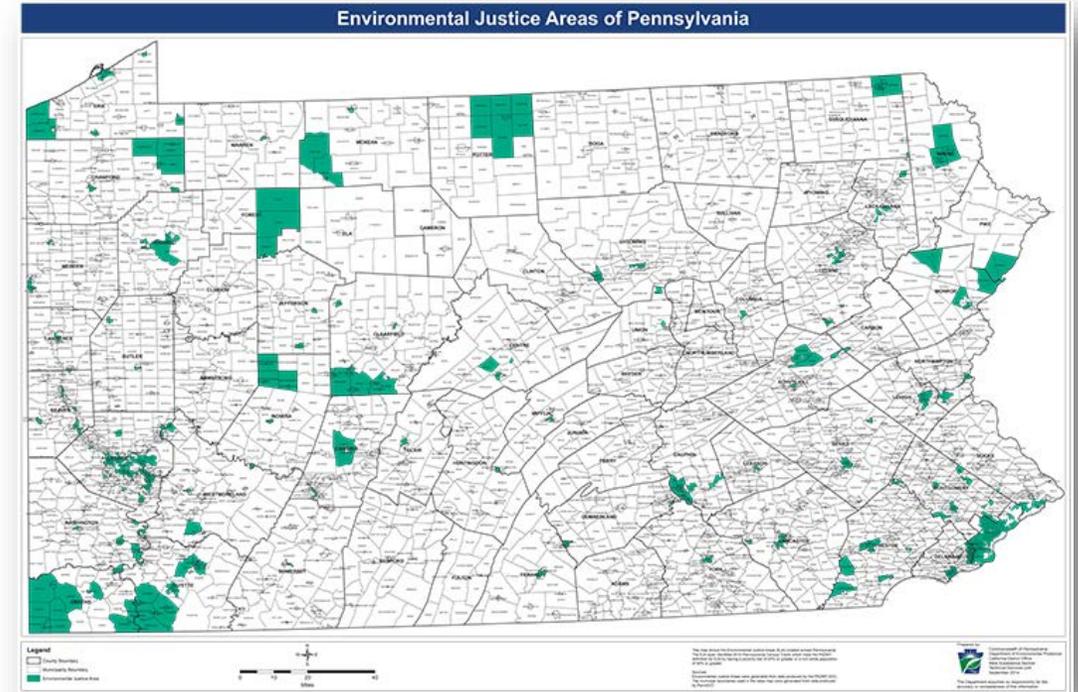
Purpose: A comprehensive map where the community can look at environmental layers, permitting layers, and EJ areas all in one mapping platform.

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.

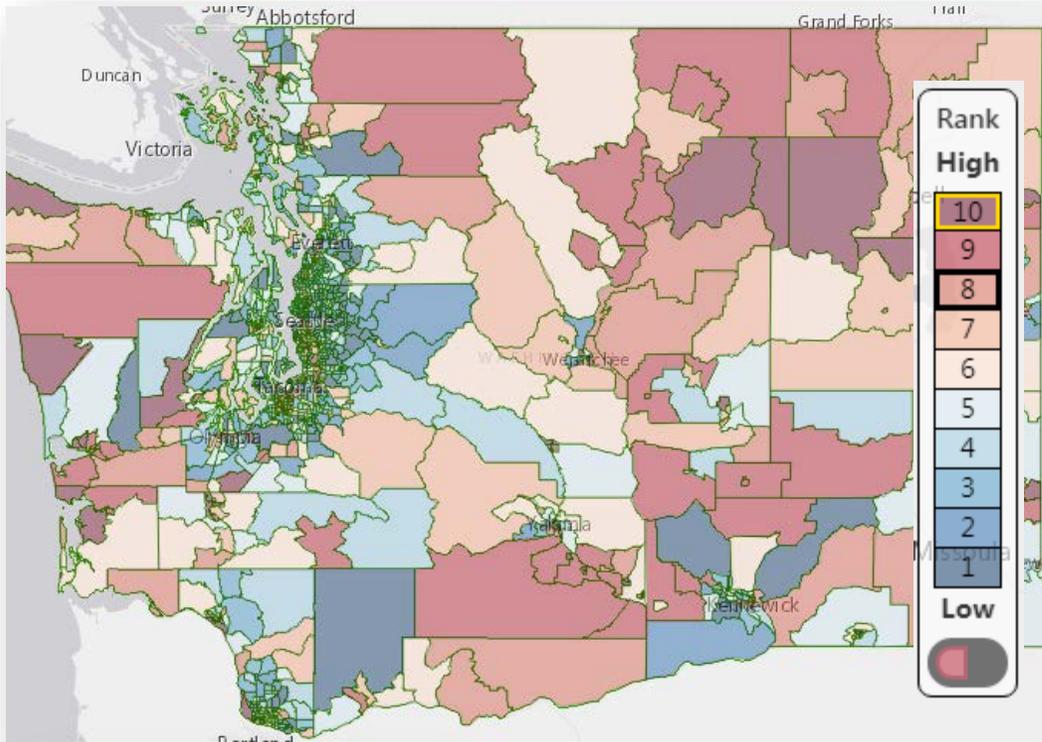


<https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-Environmental-Justice-Areas.aspx>

Department of Environmental Quality



Washington- Washington Tracking Network (WTN)



Population Living in Poverty (%) 10

<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.)

WTC Continued

Social Vulnerability to Hazards Rank **9**

Household Rank **7**

ACS:Limited English (LEP) (%) Rank **4**

Population 65+ Living Alone (%) Rank **7**

Population with a Disability (%) Rank **9**

Single Parent Household (%) Rank **8**

Planning for Health Rank **10**

Built Environment Rank **4**

Alcohol Outlet Density (per 10,000) Rank **9**

Limited Access to Healthy Food (Index) Rank **4**

Poor Land Use Mix (Index) Rank **4**

Economy Rank **10**

Population Living in Poverty (%) Rank **10**

Unaffordable Housing and Transportation (%) Rank **6**

Unemployed (%) Rank **10**

Education Rank **9**

Displays selected Census Tract's ranking for each category

Diesel Pollution and Disproportionate Impact Rank **3**

Health Disparities Rank **Na**

Lead Exposure Risk Rank **Na**

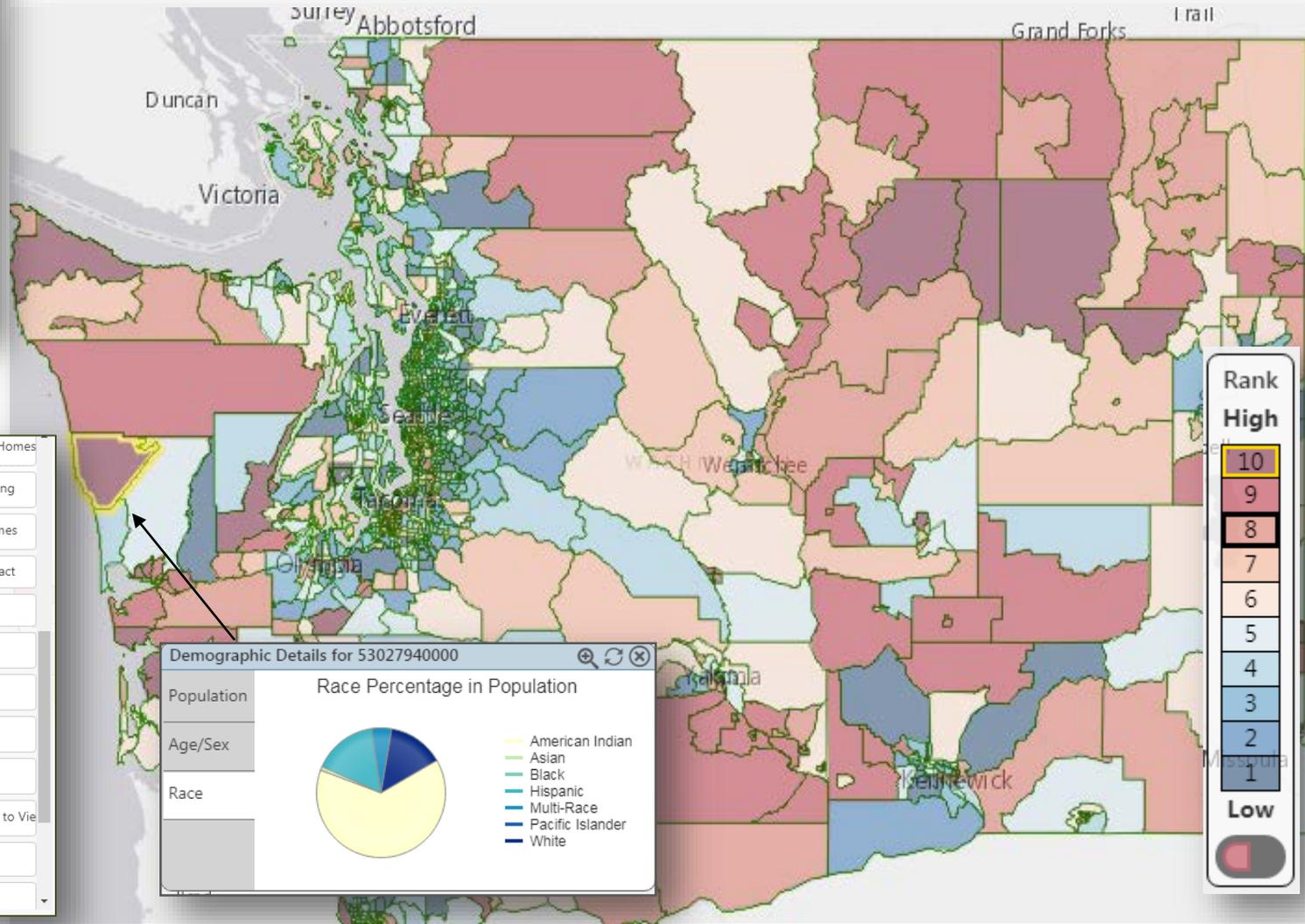
Social Vulnerability to Hazards Rank **9**

Map Features

- Real-time Wildfire Perimeters
- Real-time Wildfires
- Accountable Communities of Health
- County Boundaries
- Legislative Districts
- Rural/Urban Tiers2&4 CT
- Tribal Land Boundary
- Wildland Urban Interface
- Zip Codes
- 2015 Wildfire Burn Area
- 100-year Flood Zone
- Water Resource Inventory Areas

Additional Layers

- Care Facilities - Adult Family Homes
- Care Facilities - Assisted Living
- Care Facilities - Nursing Homes
- All Care Facilities - Census Tract
- All Care Facilities - County
- Clinics
- Farmworkers Housing
- Faults
- Hospitals
- K-12 Public Schools (Zoom in to View)
- Tsunamis
- Lava Flows



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/OjbiHq>

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>