



Exploring Climate Solutions Webinar Series

Brought to you by the Governor's Council on Climate Change (GC3)

Archive: <https://portal.ct.gov/DEEP/Climate-Change/GC3/Webinars>

Special series:

Equity and Environmental Justice in Climate Solutions



Mapping Vulnerable Populations

Esther Min, University of Washington

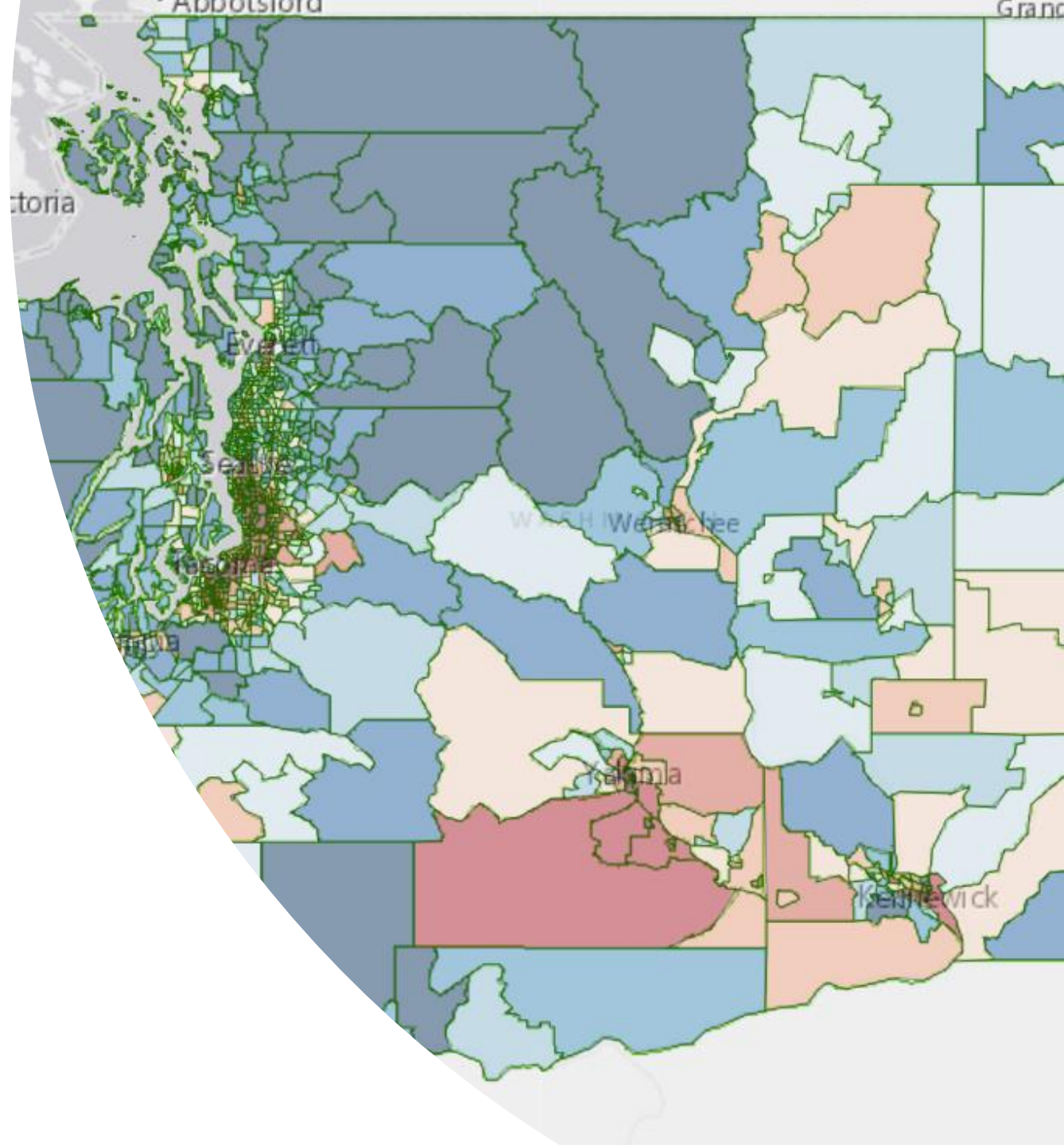
Laura Johnson, Washington State Department of Health

Millie Piazza, Washington State Department of Ecology

October 29, 2020

Outline

- Partners
- Process of creating the map
- Map and mapping platform
- Use of map



Partners

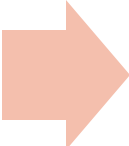


Goal of Partnership & Project

- Create a community-academic-government partnership
- Create a map that ranks relative environmental health disparities of communities in Washington State using a community-driven framework

Timeline

2016
Work group formed



2017
Align goals, expectations, &
timeline



2017
Listening sessions



2017-2018
Indicator selection

2019
Map release

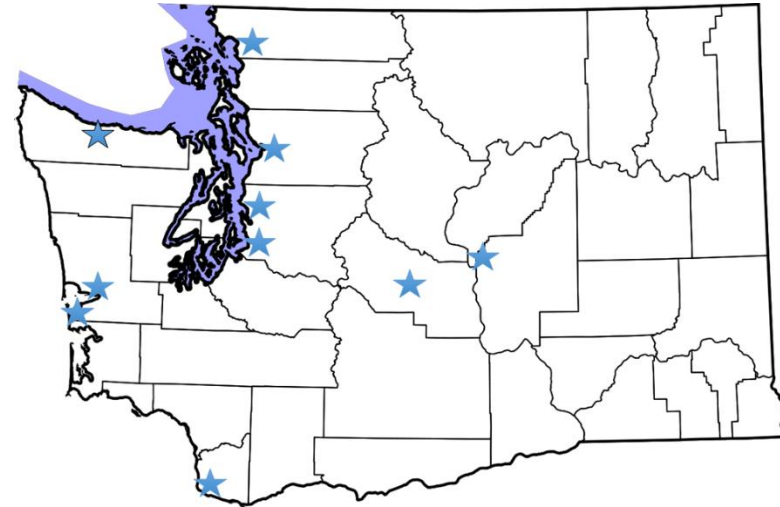


2018
Beta testing, stakeholder
engagement, &
communication planning



Community Voices

- Communities of color
- Households with lower incomes
- Immigrants and refugees
- Linguistically isolated groups



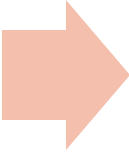
Listening Sessions

- Led by Front & Centered
- Multi-cultural/lingual conversations about pollution, climate change, sensitivity, and resilience.
 - What kinds of pollution, if any, are impacting your life or work and that of your family and community?
 - What factors best show if your community is healthy or doing well compared to other communities?



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2017-2018
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2019
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Indicator Selection Process

- Community listening sessions
- Literature review
- Data availability and reliability

Indicator Selection

Environmental exposures

Diesel emissions

Ozone

Particulate matter 2.5
(PM2.5)

Toxic releases from facilities

Traffic density

Environmental effects

Lead risk and exposure

Proximity to hazardous
waste generators and
facilities

Proximity to Superfund sites

Proximity to facilities with
highly toxic substances

Wastewater discharge

Sensitive populations

Cardiovascular disease

Low birth weight

Socioeconomic factors

Low educational attainment

Housing cost burden

Linguistic isolation

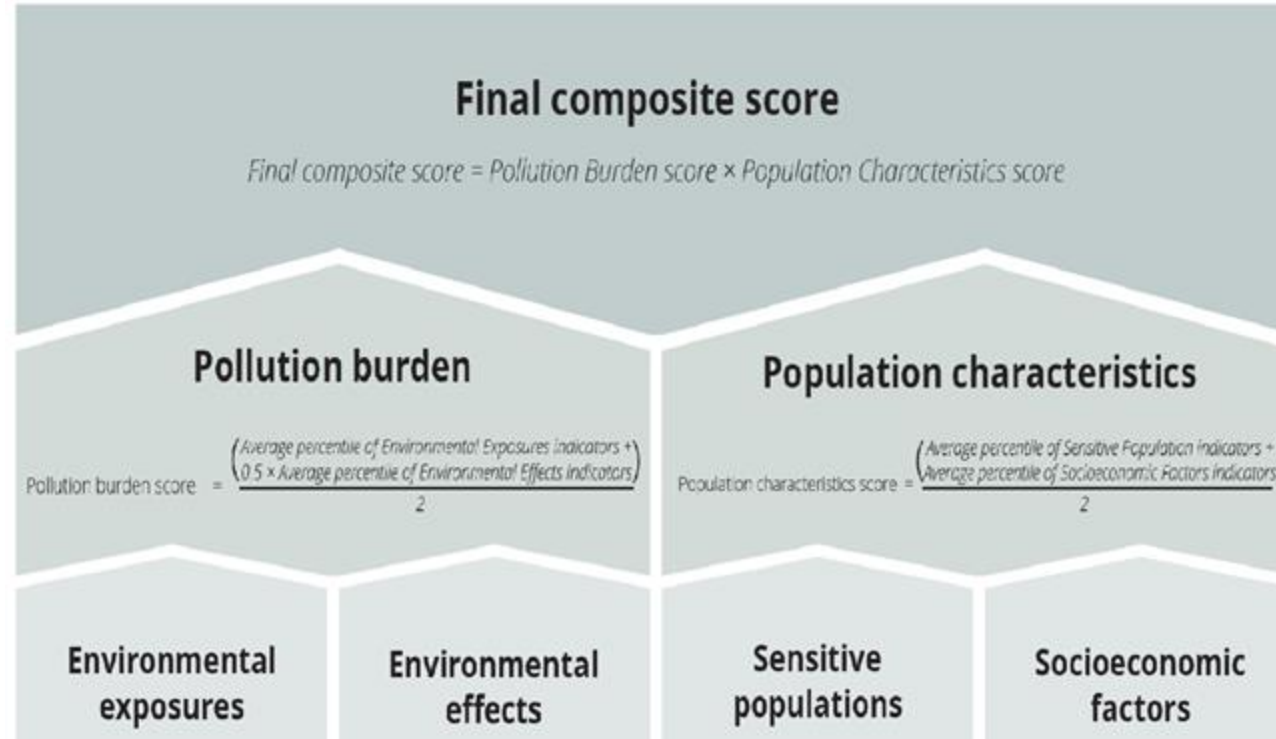
Poverty

Race (people of color)

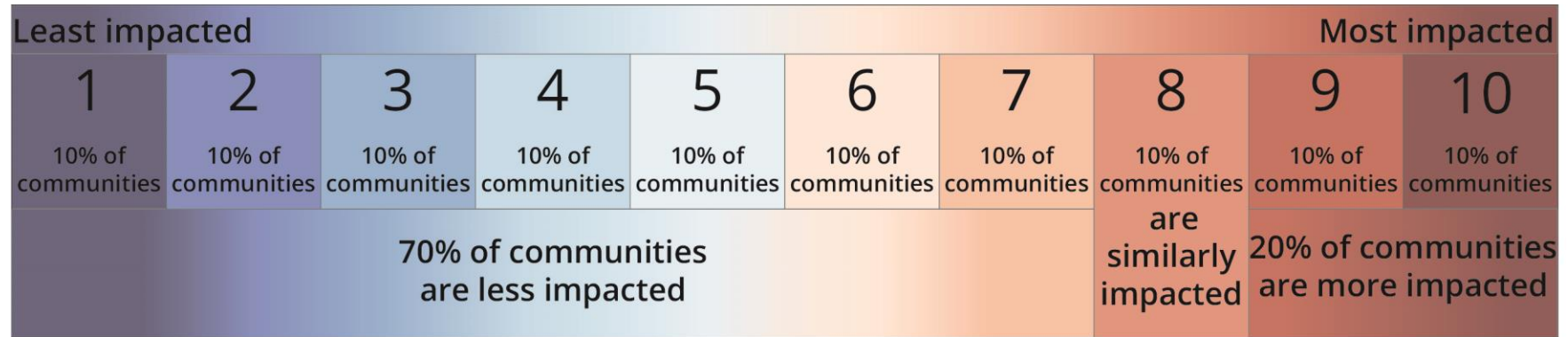
Transportation expense

Unemployment

Formula



Ranking



Washington Tracking Network

Washington Tracking Network (WTN)
Air Quality
Asthma
Biomonitoring
Birth Outcomes
Body Mass Index
Cancer
Carbon Monoxide

Washington Tracking Network (WTN)

Welcome to WTN, a Washington State Department of Health program focused on making public health data more accessible. WTN staff keep data in all tools up to date and develop additional data based on need and availability. Data are available for download and exploration using our four tools.

Data Dashboards >

Information by Location (IBL) v

[Information by Location \(IBL\)](#) compares communities (census tracts) in Washington across a variety of public health and environmental measures. The tool ranks the communities between 1 (lowest) and 10 (highest).

Watch a [how-to video](#) for IBL.

Explore [IBL](#) now.

www.doh.wa.gov/ibl

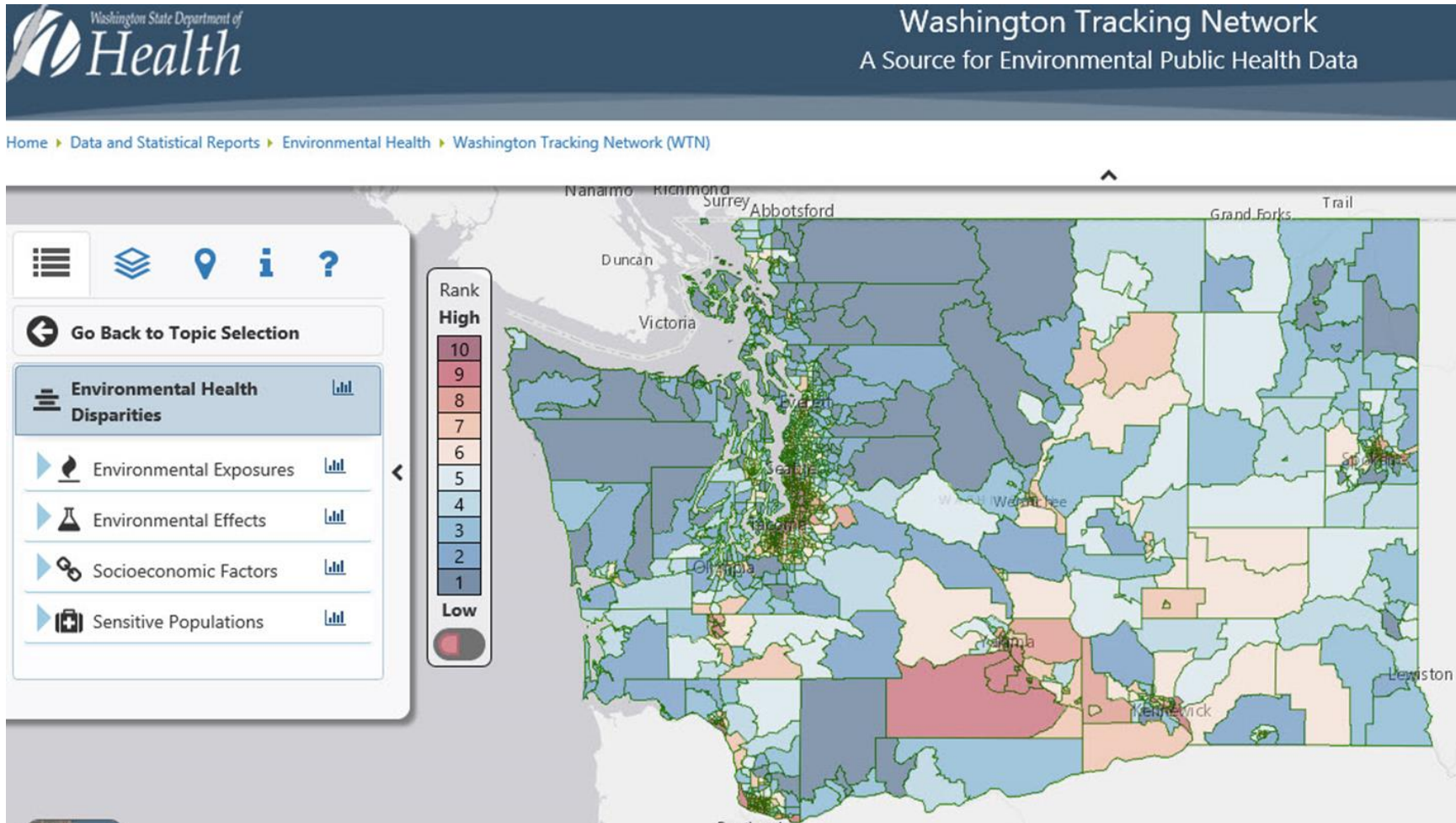
Information by Location

The screenshot displays the Washington State Department of Health's Washington Tracking Network (WTN) interface. At the top left is the logo for the Washington State Department of Health. At the top right, the text reads "Washington Tracking Network" and "A Source for Environmental Public Health Data". Below the header is a breadcrumb trail: "Home > Data and Statistical Reports > Environmental Health > Washington Tracking Network (WTN)".

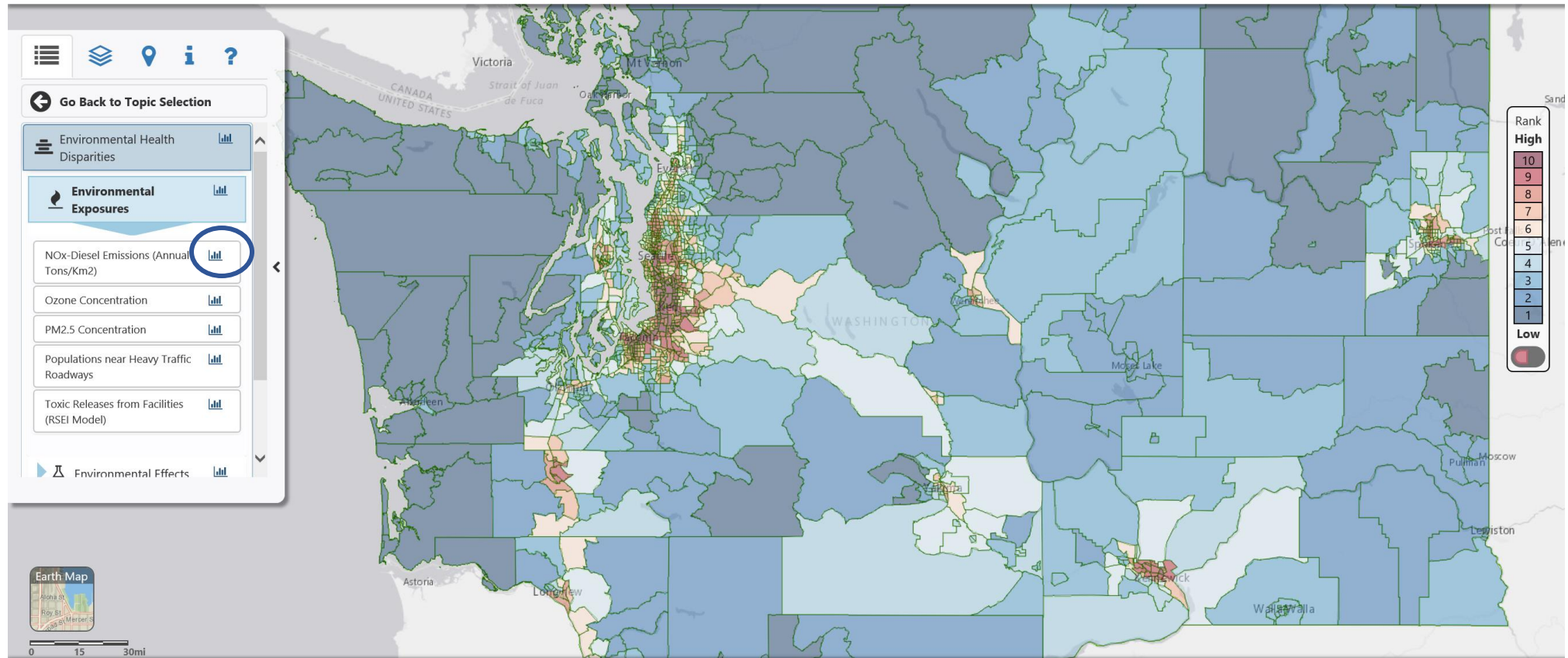
The main content area features a map of Washington state with various cities labeled, including Port Alberni, Nanaimo, Vancouver, Richmond, Surrey, Abbotsford, Grand Forks, Trail, Duncan, Victoria, Everett, Seattle, Tacoma, Olympia, WASH Wenatchee, Spokane, Yakima, Kennewick, Lewiston, and Portland. A sidebar menu is overlaid on the left side of the map, containing several options, each with a small bar chart icon to its right:

- Environmental Health Disparities (highlighted with a blue oval)
- Diesel Pollution and Disproportionate Impact
- Social Vulnerability to Hazards
- Lead Exposure Risk
- Health Disparities
- Planning for Health

Environmental health disparities map



Individual indicators



Indicator data

Notes
Table
Chart
Map

Selection Criteria

View two measures together ?

Measure 1

Keyword Search

Section

Environment

Topics

Air Quality

Sub Topic

Diesel Emissions

Measure

NOx-Diesel Emissions (Annual Tons/K...

Filters

Geography

Census Tract

Submit

Me

Diesel Emission Levels of NOx

Information and Resources About [Air Quality](#)

Derivation

The basis of the diesel NOx data is Washington State Inventory. All diesel emissions were mapped to the cells. Major point source emissions were directly allocated to census tracts. Non-point and mobile sources (e.g. non-point and mobile) were allocated to census tracts using the AIRPACT-5. These spatial surrogates allocate total emissions to census tracts using classification codes (SCCs). The combined gridded emissions are then weighted spatial interpolation.

The census tracts and boundaries used in this analysis feature layer map includes additional census tracts (including portions of the adjacent body of water in or near channels, ferry routes, and ports) that would not have been included in the standard census tract boundaries. Users may view and download the full dataset containing Diesel Emissions (Annual Tons/Km²) measure name used in this analysis come from the United States Census Bureau here: <https://www.census.gov/cgi-bin/geo/shapefiles>

The 2014 Comprehensive EI data will be posted at: <https://ecology.wa.gov/Air-Climate/Air-quality>

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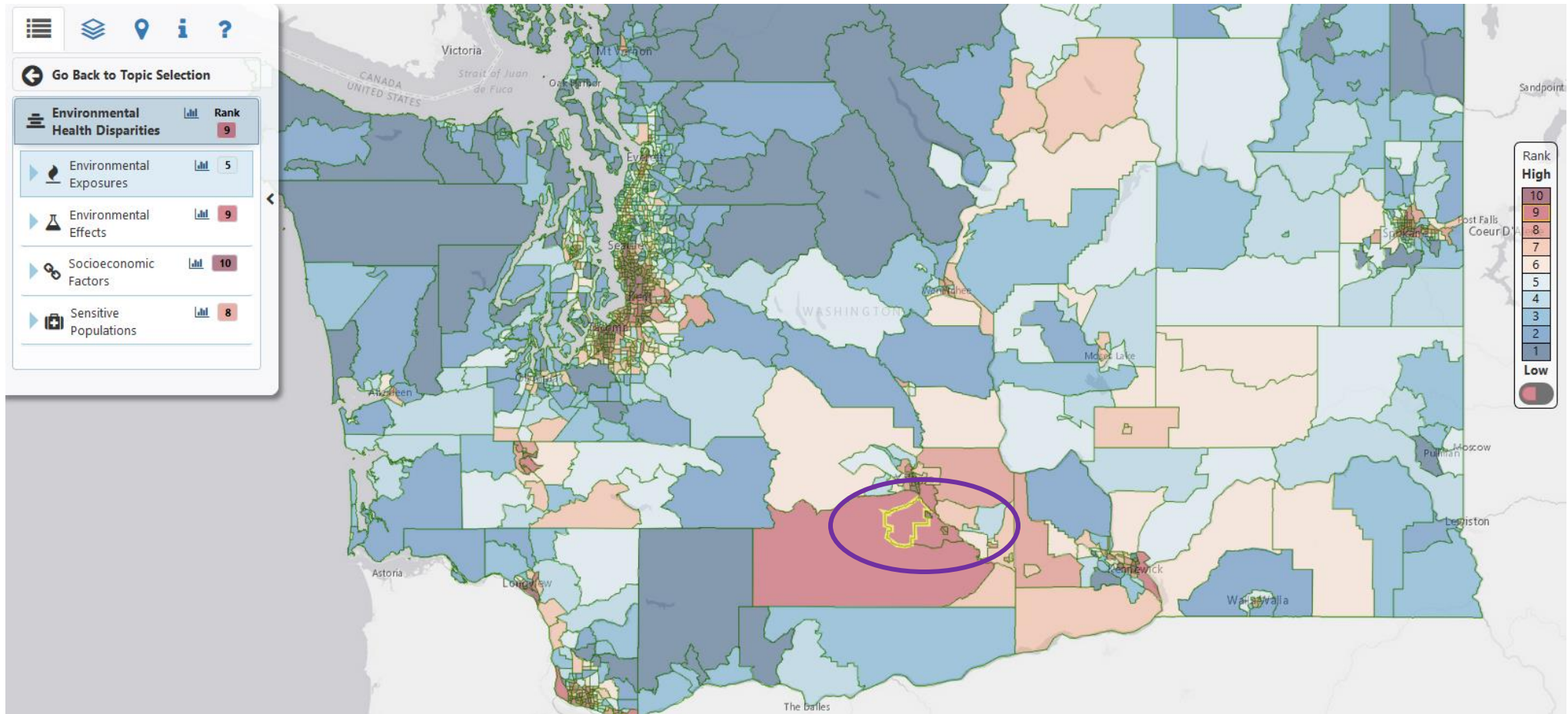
Me

Diesel Emission Levels of NOx (Ar

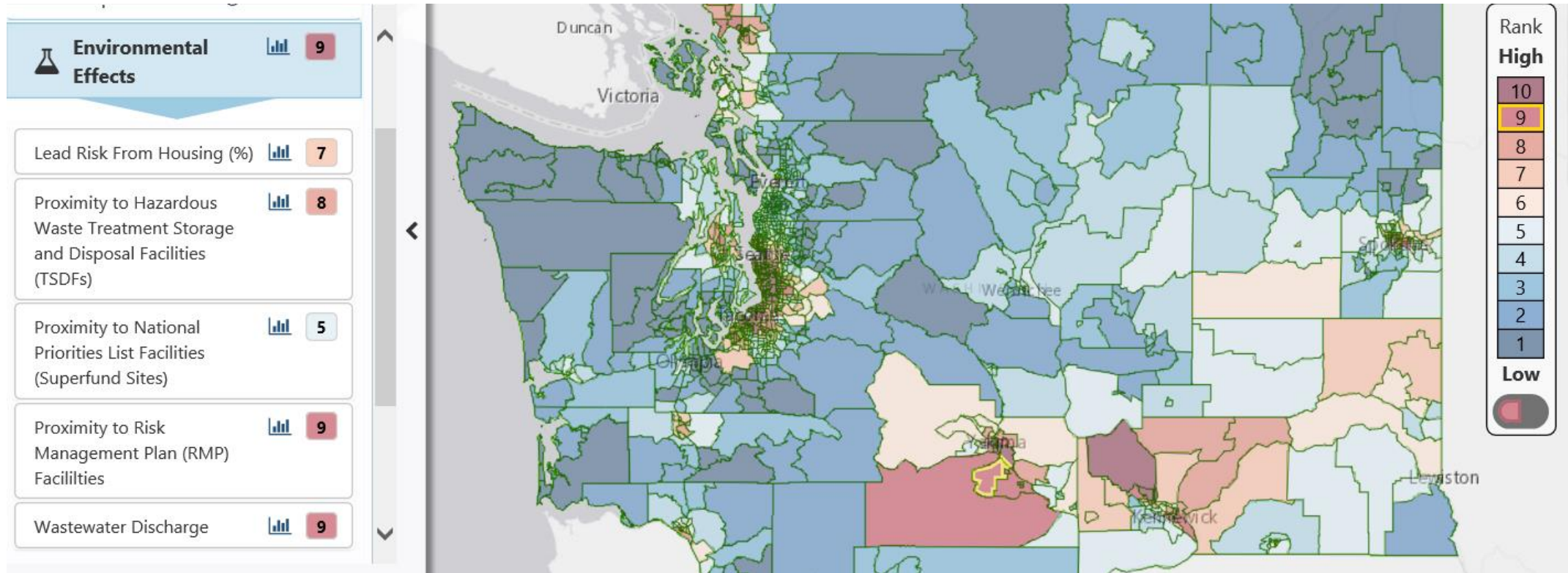
Geography: Census Tract, Year: 2014

County Name	Census Tract
n/a	State Total
Adams	53001950100
Adams	53001950200
Adams	53001950300
Adams	53001950400
Adams	53001950500
Asotin	53003960100
Asotin	53003960200
Asotin	53003960300
Asotin	53003960400
Asotin	53003960500
Asotin	53003960600

Community with cumulative impact



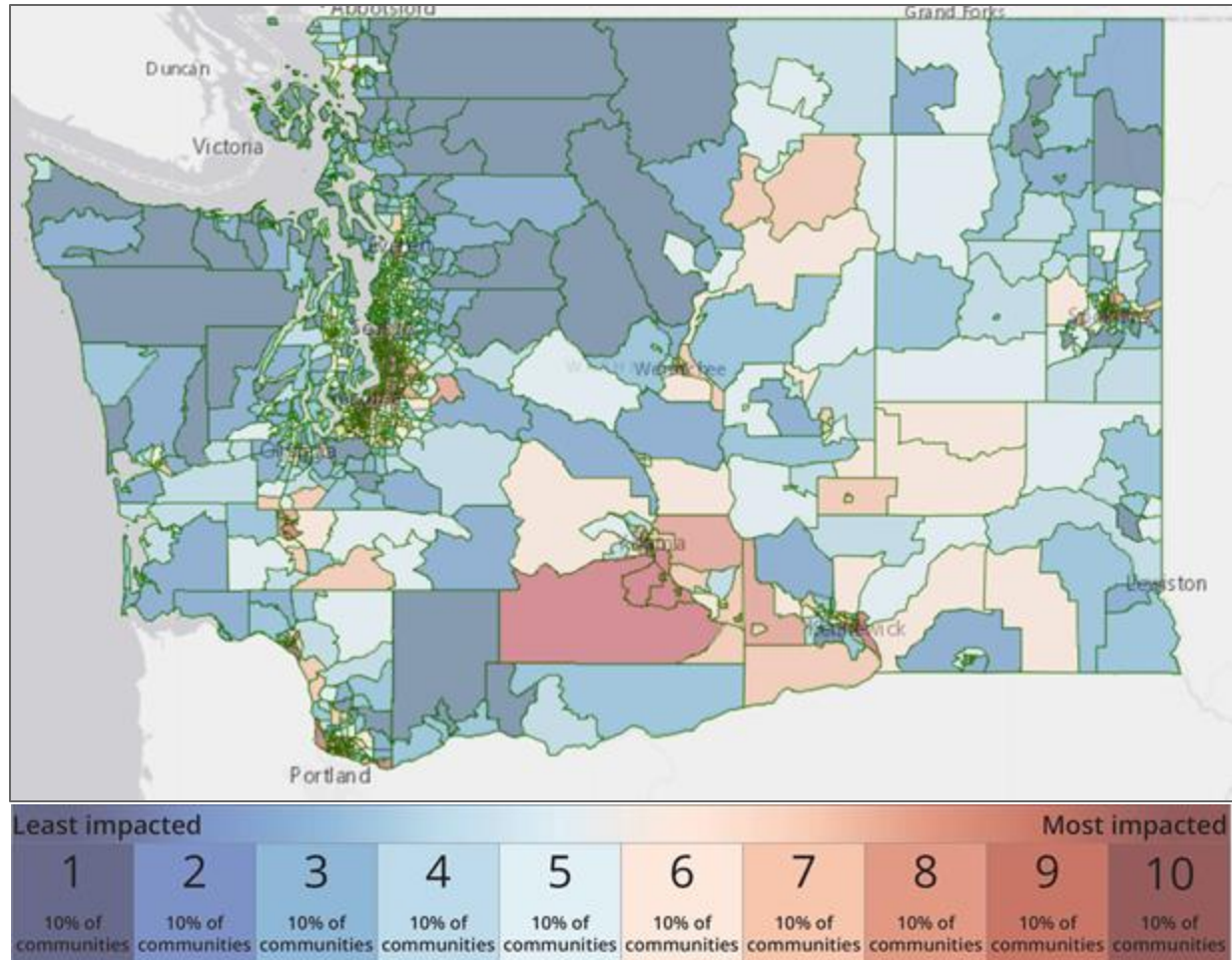
Community with cumulative impact



Other indicators being considered

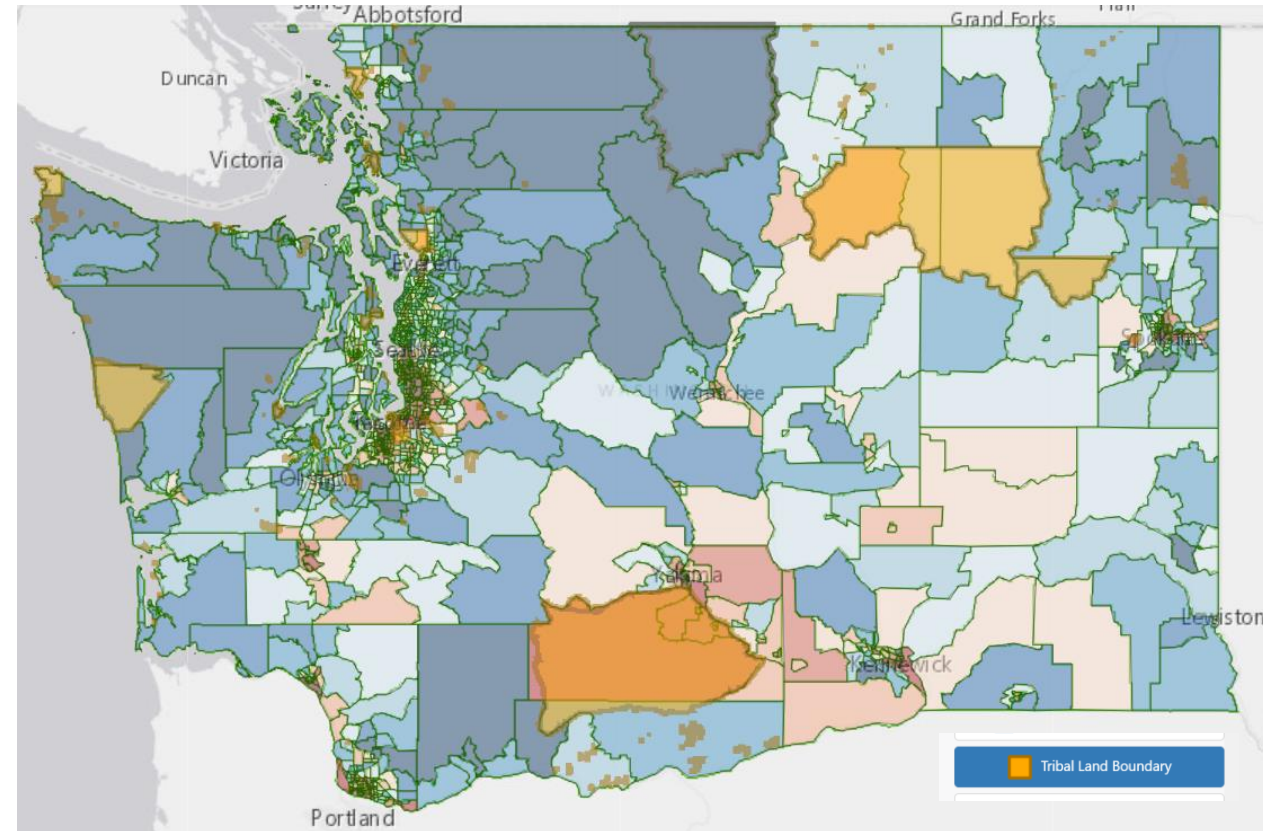
- Asthma
- Built environment indicators and tree canopy
- Climate change, health risk and vulnerability
- Drinking water contaminants
- Food access
- Marine water quality
- Noise pollution
- Occupational risk
- Pesticide exposure
- Proximity to state-specific cleanup sites
- Surface water quality
Biological vs chemical
- Wealth inequality

Washington Environmental Health Disparities Map



Clean Energy Transformation Act

- Develop cumulative impact analysis
- Designate communities highly impacted by fossil fuel pollution and climate change
- Inform power utilities' planning in the transition toward cleaner energy through Department of Commerce rule



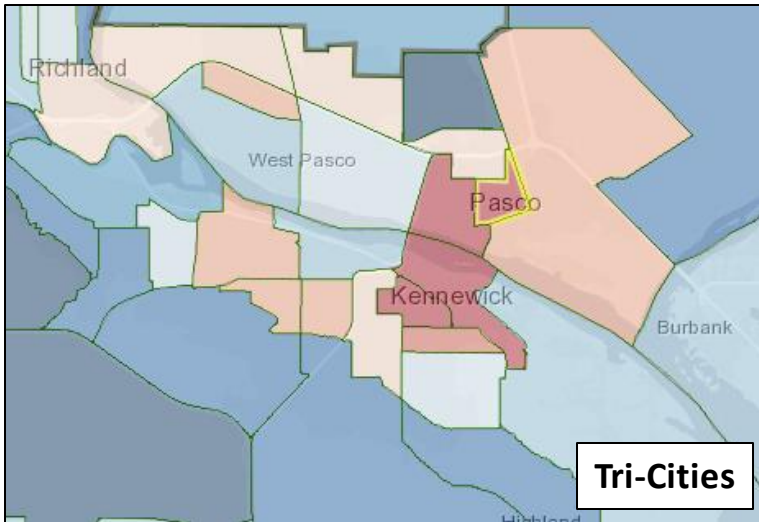
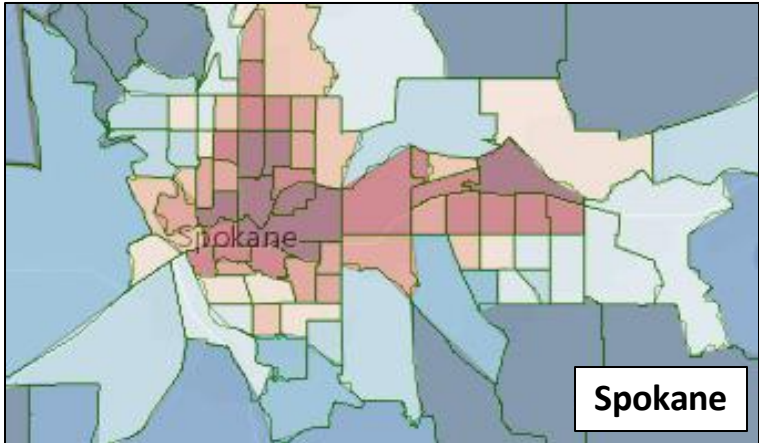
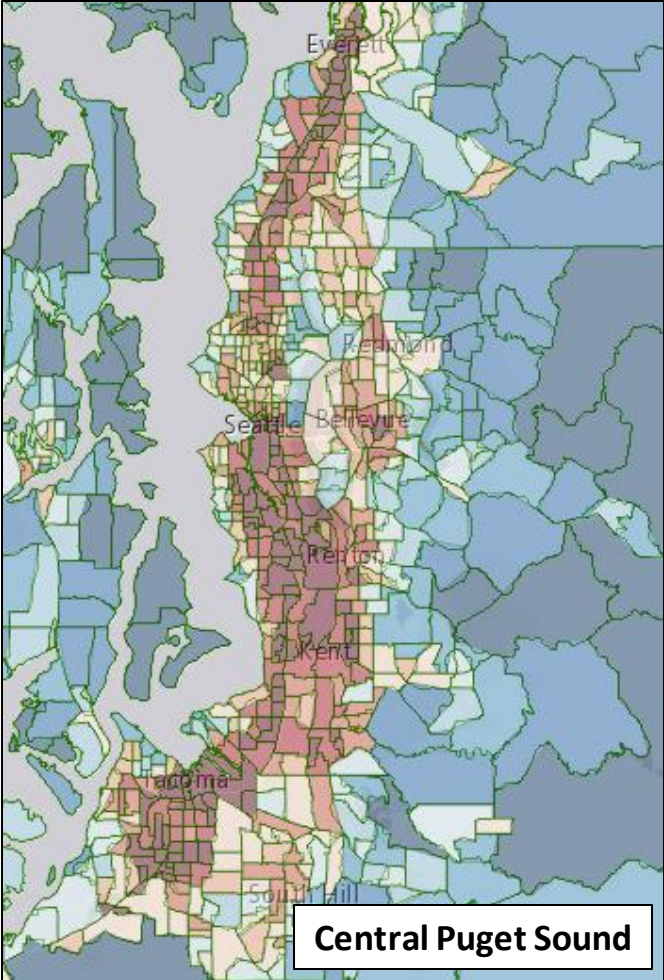
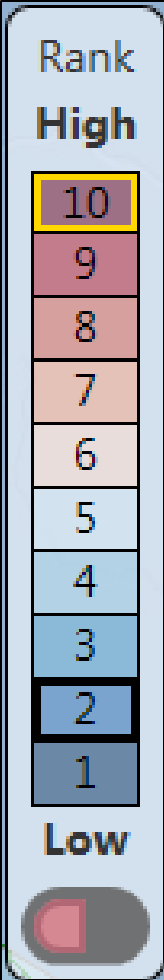
Volkswagen Enforcement Action Grants

- Washington will receive \$141 million from VW to settle violations of the state and federal Clean Air Acts
- Maximize air pollution reductions in communities affected by harmful diesel exhaust
- Focus on communities historically overburdened



Diesel Emissions & Disproportionately Impacted Communities

(Priority Areas: Rank 9 or 10)



Disproportionately Impacted Communities

Substantial Benefits:

- Funds Invested = 95%
- Number of Projects = 71%
- Units Replaced = 89%
- Lifetime NOx Reduced = 85%

Benefits for Disproportionately Impacted Communities					
Category	Number of Projects	Funds Invested	Units	Lifetime Tons NOx Reduced	Lifetime Tons CO2 Reduced
Disproportionately Impacted Communities	29	\$61,170,993	78	4,305	338,659
All Communities	41	\$64,323,792	88	5,084	449,552

Public Participation Grants

Public Participation Grants (PPG) provide funding to individuals and not-for-profit public interest organizations to increase public understanding and involvement in cleaning up contaminated sites and improving recycling and waste management. PPG can fund up to \$120,000 for a two-year project. Matching funds are not required.

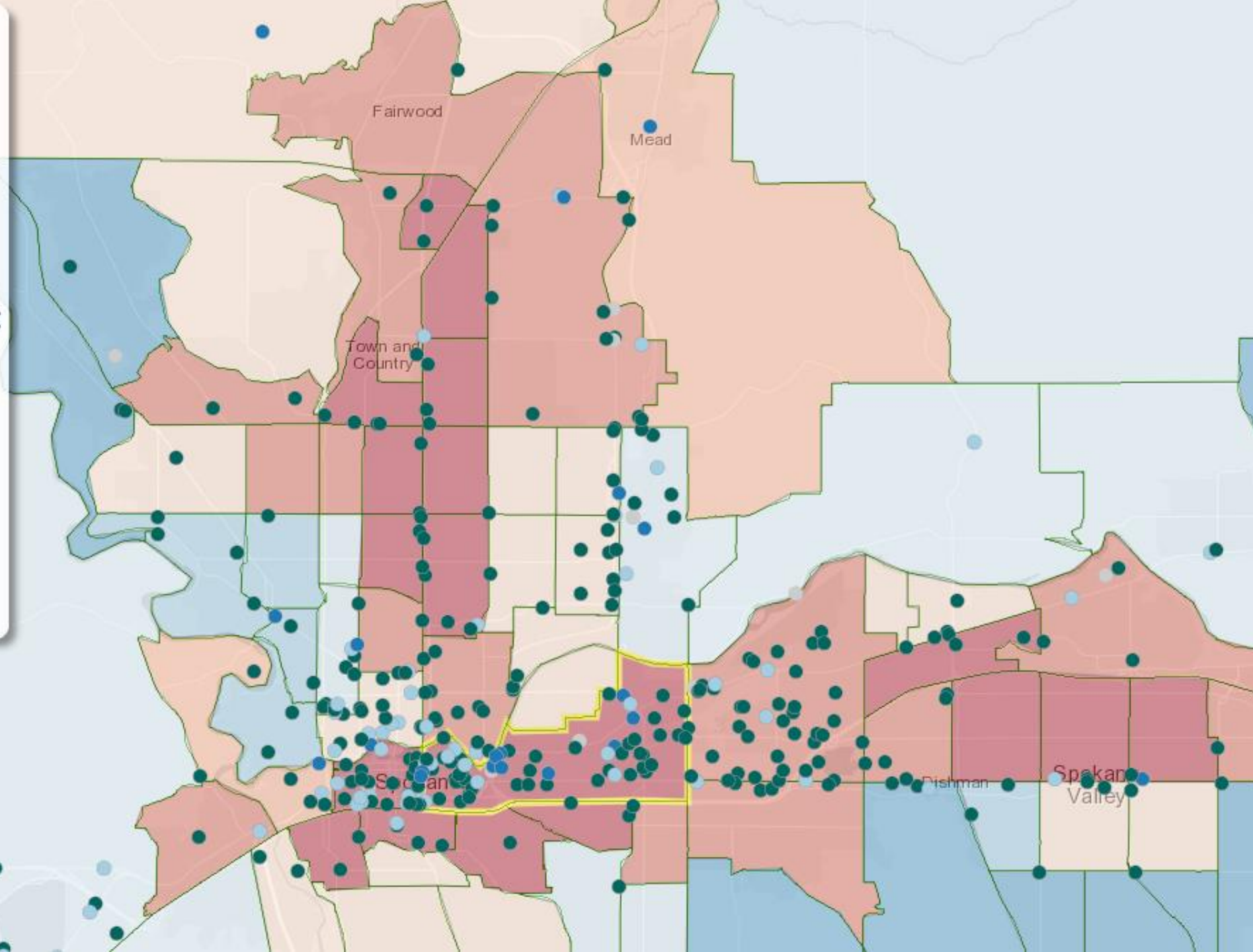
I want to...

- [➤ Apply for or manage a grant or loan](#)
- [➤ Get guidance for managing a grant or loan](#)
- [➤ View additional languages: Español | Tiếng Việt | 한국어 | 中文](#)

☰ ☰ 📍 ⓘ ?

← Go Back to Topic Selection

Environmental Health Disparities V 1.1	Rank
▶ Environmental Exposures	9
▶ Environmental Effects	9
▶ Socioeconomic Factors	9
▶ Sensitive Populations	10



Environmental Justice Task Force

Recommendations for Prioritizing EJ in Washington State Government

October 2020



RECOMMENDATION

That state agencies use the EHD data and map in agency activities...

- ➔ **Build** demographic & environmental context...
- ➔ **Conduct** EJ review & analysis routinely...
- ➔ **Center** EJ as the priority intended outcome in resource allocation...

Contact Information

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