

How to use data from EPA EJSCREEN to describe how the community is disproportionately impacted by harms and risks

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FIND THE EVIDENCE OF THE ENVIRONMENTAL AND PUBLIC HEALTH HARMS AND RISKS existing in the specific geography related to your argument that the community is disproportionately harmed by heat.

For this example, we will continue to consider Allapattah as the geography and heat as the environmental harm or risk.

Determine the health conditions specifically associated with vulnerability to heat. Use both EPA and CDC searches, and use the information that best fits your argument for the community's need. You might search "chronic conditions heat vulnerability EPA" and repeat for "chronic conditions heat vulnerability CDC."

EPA and CDC connect environmental hazards to health:

- "Temperature extremes can worsen some chronic medical conditions, such as **heart and respiratory disease and diabetes**. At the same time, some medical conditions, such as **obesity and heart disease**, increase people's sensitivity to heat, putting them at greater risk of heat illnesses."

Source cited: EPA. Climate Change and the Health of People with Chronic Medical Conditions. (Accessed Mo.Day.Year)

<https://www.epa.gov/climateimpacts/climate-change-and-health-people-chronic-medical-conditions>

- "Outdoor air quality: **Warming temperatures** complicate efforts of many communities to attain and maintain **ground-level ozone** air quality standards."

Source cited: EPA. Climate Adaptation - Air Quality and Health. (Accessed Mo.Day.Yr)

<https://www.epa.gov/arc-x/climate-adaptation-air-quality-and-health>

- "If you have **asthma, bronchitis, or emphysema**, ozone can make your symptoms worse."

Source cited: CDC. Ozone and Your Health. (Accessed Mo. Day. Year)

<https://www.cdc.gov/air/ozone.html>

- "Exposure to diesel exhaust can lead to serious health conditions like **asthma and respiratory illnesses** and can worsen existing **heart and lung disease**, especially in children and the elderly. These conditions can result in increased numbers of emergency room visits, hospital admissions, absences from work and school, and premature deaths."

Source cited: EPA. Learn About Impacts of Diesel Exhaust and the Diesel Emissions Reduction Act (DERA). (Accessed Mo.Day.Year)

<https://www.epa.gov/dera/learn-about-impacts-diesel-exhaust-and-diesel-emissions-reduction-act-dera#:~:text=Human%20health%2C%20our%20environment%2C%20global,all%20affected%20by%20diesel%20emissions.&text=Human%20Health%20%2D%20Exposure%20to%20diesel,inn%20children%20and%20the%20elderly.>

Determine the Disproportionate Environmental Health Hazards related to heat in this chart that are in the 80th %-ile in the US or greater.

Diesel Particulate Matter is 0.669 ug/m³, which is in the 95th - 100th %-ile in the US

Traffic Proximity and Volume (daily traffic count/distance to road) is 400, which is in the 88th %-ile in the US.

Note that the pollution burden is also disproportionate from Superfund Proximity (95th %-ile in US), Hazardous Waste Proximity (82nd %-ile) and Underground Storage Tank Indicator (98th %-ile in US)

#	Category	Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
14	Environmental	Particulate Matter (PM 2.5 in ug/m ³)	7.49	7.52	50	8.08	32
15	Environmental	Ozone (ppb)	55.9	59.4	13	61.6	12
16	Environmental	Diesel PM (ug/m ³)	0.669	0.293	98	0.261	95-100th
17	Environmental	Air Toxics Cancer Risk (risk per MM)	27	27	0	28	<50th
18	Environmental	Air Toxics Respiratory Hazard Index	0.32	0.32	11	0.31	<50th
19	Environmental	Toxic Releases to Air	2600	1900	85	4600	77
20	Environmental	Traffic Proximity and Volume (daily traffic count/distance to road)	420	160	92	210	88
21	Environmental	Lead Paint Indicator (% pre-1960s housing)	0.4	0.14	87	0.3	66
22	Environmental	Superfund Proximity (site count/km distance)	0.53	0.13	96	0.13	95
23	Environmental	RMP Proximity (facility count/km distance)	0.44	0.31	81	0.43	74
24	Environmental	Hazardous Waste Proximity (facility count/km distance)	3.3	0.52	97	1.9	82
25	Environmental	Underground Storage Tank Indicator	33	7	96	3.9	98
26	Environmental	Wastewater Discharge Indicators (toxicity-weighted concentration/m distance)	0.00027	0.52	44	22	38

There are many EJ Indexes and Supplemental Indexes that are in the 80th %-ile or greater. If you are going to use any of the indexes, you must explain that the demographics and the environmental measurements combine to make the index.

#	Category	Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
36	Supplemental Index	Supplemental Index for Particulate Matter 2.5			91		78
37	Supplemental Index	Supplemental Index for Ozone			38		40
38	Supplemental Index	Supplemental Index for Diesel Particulate Matter			99		99
39	Supplemental Index	Supplemental Index for Air Toxics Cancer Risk			89		83
40	Supplemental Index	Supplemental Index for Air Toxics Respiratory HI			81		89
41	Supplemental Index	Supplemental Index for Toxic Releases to Air			98		98
42	Supplemental Index	Supplemental Index for Traffic Proximity			97		97
43	Supplemental Index	Supplemental Index for Lead Paint			98		95
44	Supplemental Index	Supplemental Index for Superfund Proximity			99		99
45	Supplemental Index	Supplemental Index for RMP Facility Proximity			97		96
46	Supplemental Index	Supplemental Index for Hazardous Waste Proximity			99		98
47	Supplemental Index	Supplemental Index for Underground Storage Tanks			98		99
48	Supplemental Index	Supplemental Index for Wastewater Discharge			89		83

The text to enter into the application is, therefore:

The Supplemental Demographic index averages % Low income, % Unemployed, % Limited English Speaking, % Less than High School Education and Low Life Expectancy. This supplemental demographic index is then combined with a single environmental indicator, to display areas with the highest intersection between these socioeconomic factors and the environmental indicator.

Because 61% of the population is low income (89th %-ile in US), 8% is unemployed (72nd %-ile in US), 49% is Limited English Speaking (98th %-ile in the US), 36% is Less than HS Education (94th %-ile), there is intersectionality between the socioeconomic factors and environmental indicators that indicates disproportionate impact on the community of Allapattah. The indexes related to respiratory hazards are disproportionately high. Eight of the Supplemental Indexes are in the 95th %-ile in the US or greater. These include: Diesel Particulate Matter and Superfund Proximity (99th %-ile in US), Toxic Releases to Air and Hazardous Waste Proximity (98th %-ile in US), Traffic Proximity (97th %-ile in the US), RMP Facility Proximity (96th %-ile in the US), and Lead Paint (95th %-ile in US). Supplemental Index for Air Toxics Cancer Risk and the Supplemental Index for Wastewater Discharge are in the 83rd %-ile in the nation, and the Supplemental Index for Wastewater Discharge is in the 83rd %-ile in the nation.

The cumulative burden of environmental harms is disproportionately high in Allapattah.

Source Cited: Allapattah project geography created using the EPA EJSCREEN Drawing Tool (Accessed Mo.Day.Year) <https://ejscreen.epa.gov/mapper/>