EXTREME HEAT +

AIR QUALITY

IN NYC

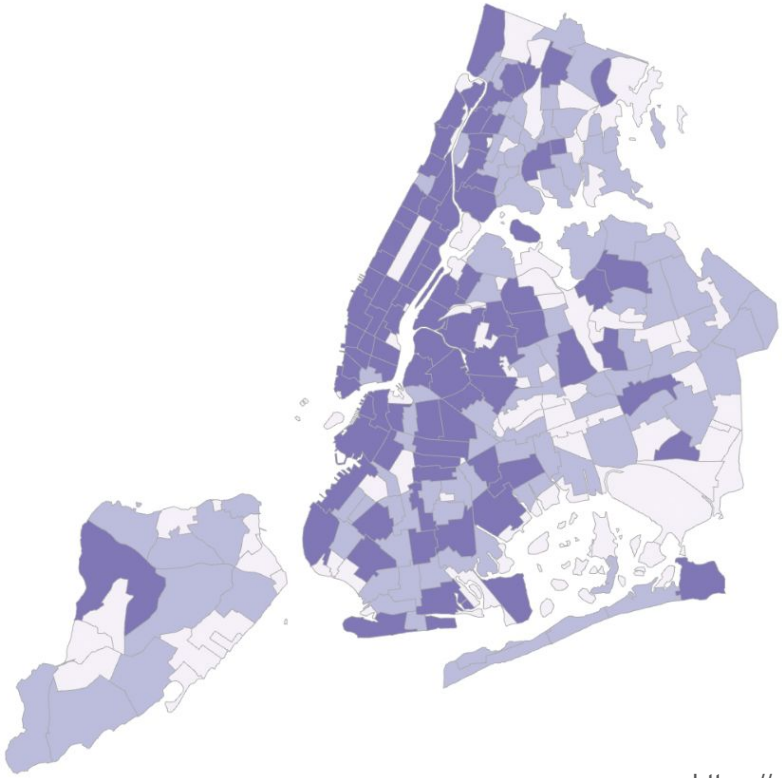
Created for NYC Faith Sector Climate Adaptation Working Group on 04.24.25

AIR QUALITY

- Greatest levels of pollution-attributable hospital emergency department visits are all EJ Neighborhoods
- Highest pollution-attributable emergency department visits are within a mile of a large stationary source polluting facility (e.g.power plant or manufacturing facility)
- Communities of color disproportionately exposed to emissions from heavy-duty diesel vehicles (location of arterial highways, commercial waste routes, delivery routes, and parking facilities)
- Most of the city's waste is processed and transferred in a handful of EJ Areas. Many of these same neighborhoods suffer from the highest rates of pollution-attributable health impacts, sometimes at over three times the citywide average rates.

What affects air quality in your neighborhood?

Building emissions 1 (Low) 2 (Medium) 3 (High)



Building emissions: xxx

Like vehicles, buildings burn fuel: their boilers run on oil or gas to produce heat and hot water. These boilers emit pollutants that affect your neighborhood's air quality.

Commercial cooking: xxx

Commercial cooking density - specifically, the density of restaurant permits to use charbroilers or open-fire grills without equipment to trap smoke and PM2.5 - is associated with higher levels of PM2.5 in the neighborhood.

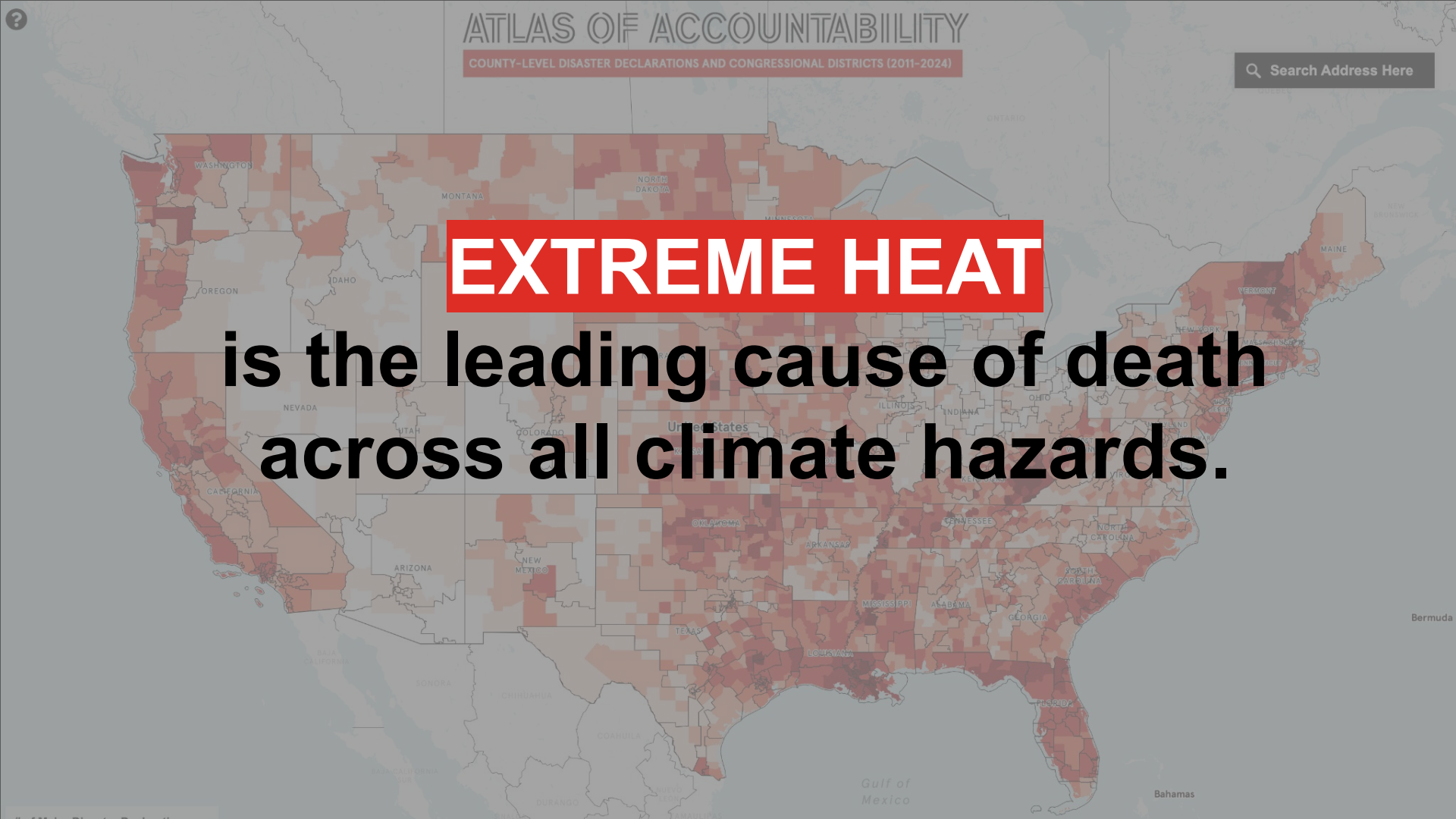
Industrial area: xxx

Manufacturing can emit pollutants, construction can kick up particulate matter, and increased truck traffic can produce more emissions.

Traffic density: xxx

Traffic produces "tailpipe emissions" like PM2.5, NOx and carbon monoxide (CO), and tire wear and braking release additional particulate matter into the air.

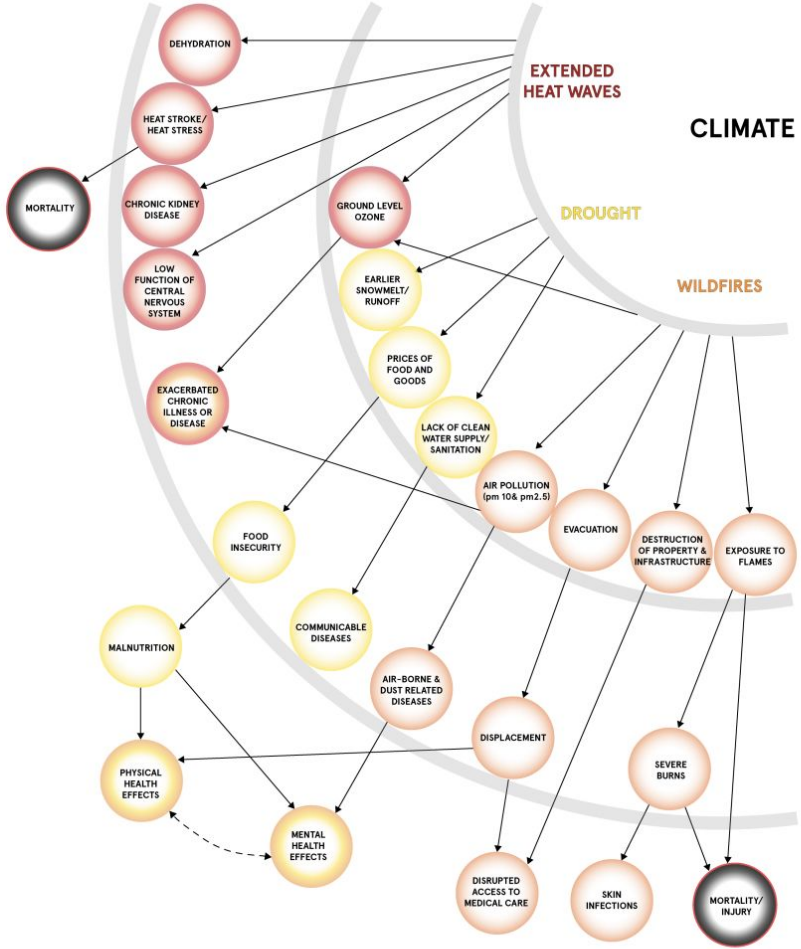
https://a816-dohbesp.nyc.gov/IndicatorPublic/data-features/neighborhood-air-quality/

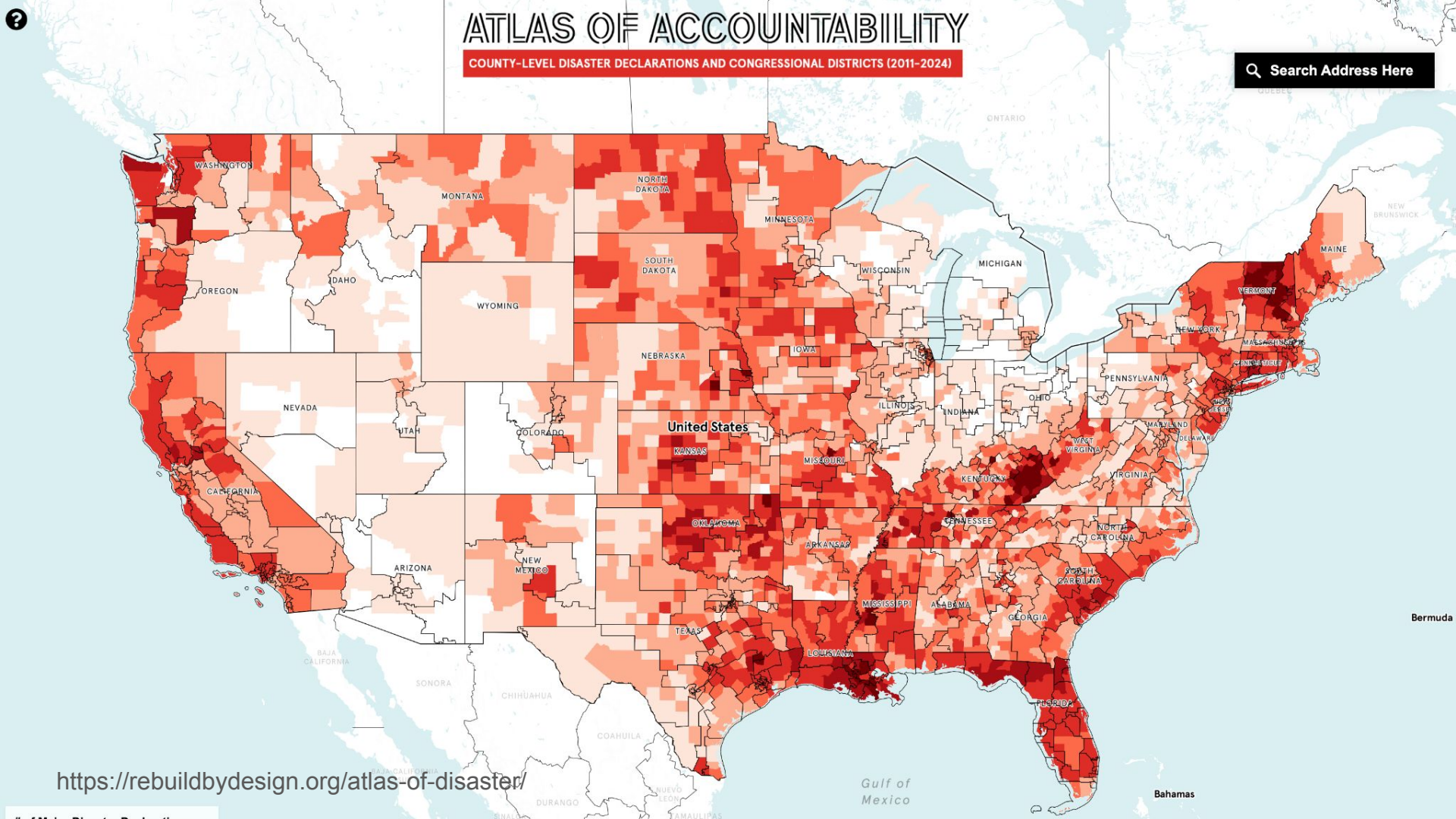

ATLAS OF ACCOUNTABILITY
COUNTY-LEVEL DISASTER DECLARATIONS AND CONGRESSIONAL DISTRICTS (2011–2024)
Search Address Here
EXTREME HEAT
is the leading cause of death
across all climate hazards.
WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
NORTH DAKOTA
UTAH
COLORADO
ARIZONA
NEW MEXICO
OKLAHOMA
TEXAS
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
ILLINOIS
INDIANA
OHIO
MAINE
VERMONT
Gulf of Mexico
Bahamas
Bermuda

EXTREME HEAT IMPACTS

HEALTH
→ Dehydration
→ Heat Stress/Stroke
→ Chronic Kidney Disease
→ Central Nervous System Dysfunction
→ Mental Distress
→ Exacerbate existing illness
→ Magnifies ozone level

ECONOMIC
→ Lost labor and wages
→ High utility bills
→ Healthcare costs





https://rebuildbydesign.org/atlas-of-disaster/

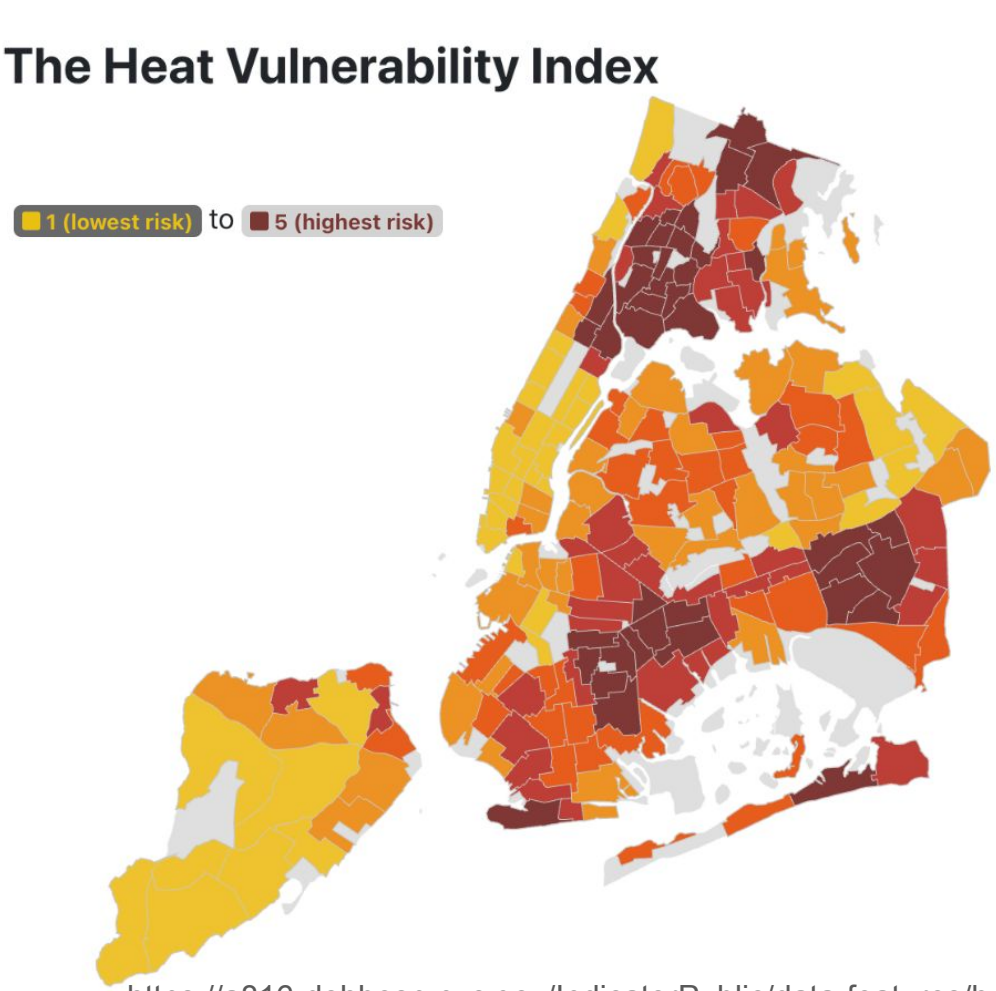
NYC HEAT VULNERABILITY INDEX

3.4 million people live in high heat vulnerability census tracts.

Each summer, an estimated **580 New Yorkers die prematurely** because of hot weather in New York City.

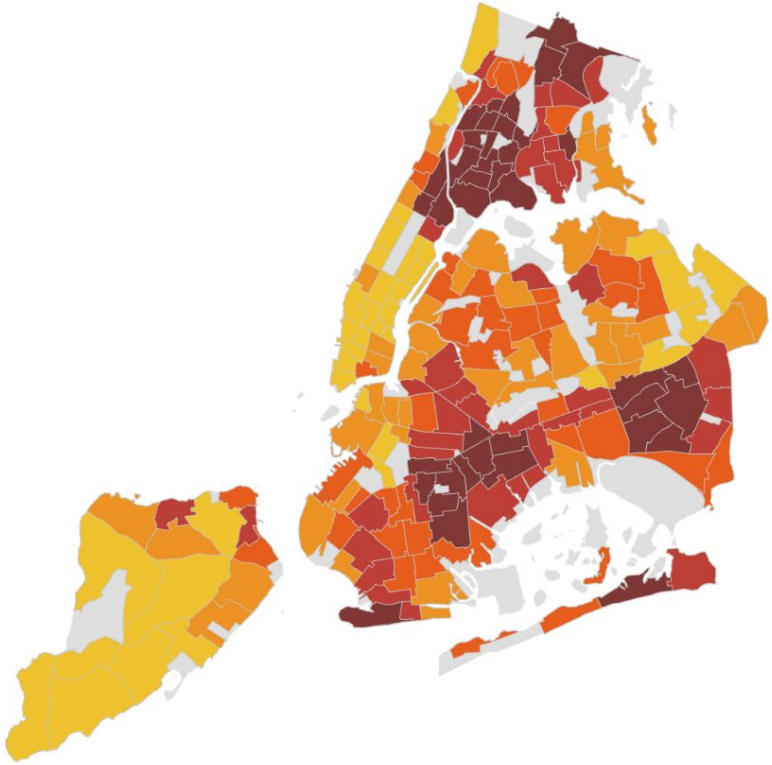
Source: NYC Mayor's Office

REBUILD BY DESIGN



https://a816-dohbesp.nyc.gov/IndicatorPublic/data-features/hvi/

The Heat Vulnerability Index



Enter a neighborhood to get data:

Clear

About Neighborhood Tabulation Areas.

☐ ---

ZIPs ---

Heat vulnerability: ---

The Heat Vulnerability Index (HVI) shows neighborhoods whose residents are more at risk for dying during and immediately following extreme heat.

It uses a statistical model to summarize the most important factors of neighborhood heat risk: surface temperature, green space, home air conditioning, and income.

Neighborhoods are scored from 1 (lowest risk) to 5 (highest risk).

Remember, a neighborhood with low vulnerability does not mean no risk. All neighborhoods have residents at risk for heat illness and death.

What factors affect heat vulnerability in your neighborhood?

Temperature

Daytime summer surface temperature is different from air temperature, and varies more by neighborhood: some neighborhoods are hotter than others. A higher surface temperature is associated with a higher risk of death from heat waves. **Median neighborhood: 87.0° F**

The daytime summer surface temperature in your neighborhood is **82.4° F**.
This is **Lower than most NYC neighborhoods**.

Air conditioning

Air conditioning is as necessary during extreme heat as heating is in winter. A neighborhood with a high percentage of households with air conditioners means that more of its residents can be protected from extreme heat. **Citywide: 91.0%**

97.3% of households in your neighborhood have AC.
This is **more than most NYC neighborhoods**.

Green space

Green space is tree, grass, or shrub cover. Green space helps cool a neighborhood, address the UHI, and create a resilient city. It also has a small association with heat mortality, weaker than other components in the index. **Median neighborhood: 25.0%**

3.9% of your neighborhood is green space.
This is **less than most NYC neighborhoods**.

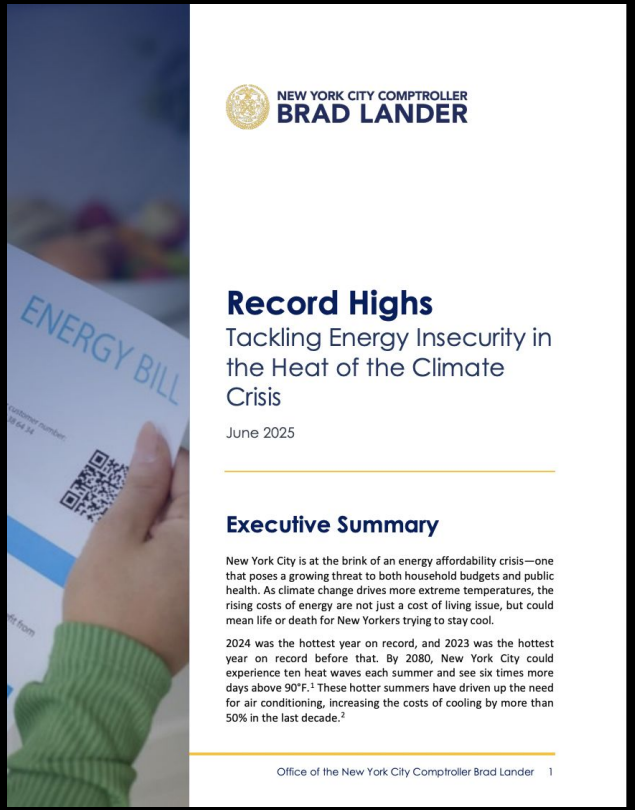
Median income

Low income is a social factor that places people at risk of death during heat waves for many reasons. One reason is that people with limited financial resources may be less likely to afford owning or using an air conditioner during heat waves. **Citywide: $67,046**

The median income in your neighborhood is **$153,141**.
This is **higher than most NYC neighborhoods**.

ENERGY INSECURITY & HEAT

- **30% of New Yorkers are energy insecure**, which means they are unable to meet their household's energy needs.
- **11%** of New Yorkers **do not have air conditioners** at home.
    - **Over 20%** of households in Morrisania/East Tremont and University Heights in the Bronx do not have air conditioners.
- One study found that **21% of renters** have an air conditioner but **do not use it due to costs**.
- **42% of the people** who died at home during extreme heat had air conditioners that were not working or in use, while **58% had no air conditioning at all**.



NYC Cool Options

Find address or place

Beat the Heat any time with NYC Cool Options

Indoor Cool Options: Indoor Cool Options | Outdoor Cool Options: Outdoor Cool Options | Accessible: | Pet friendly: | Business hours: Open now

Additional indoor locations will be added to the map during heat emergencies.

Please call ahead before visiting. Hours and policies vary by location.

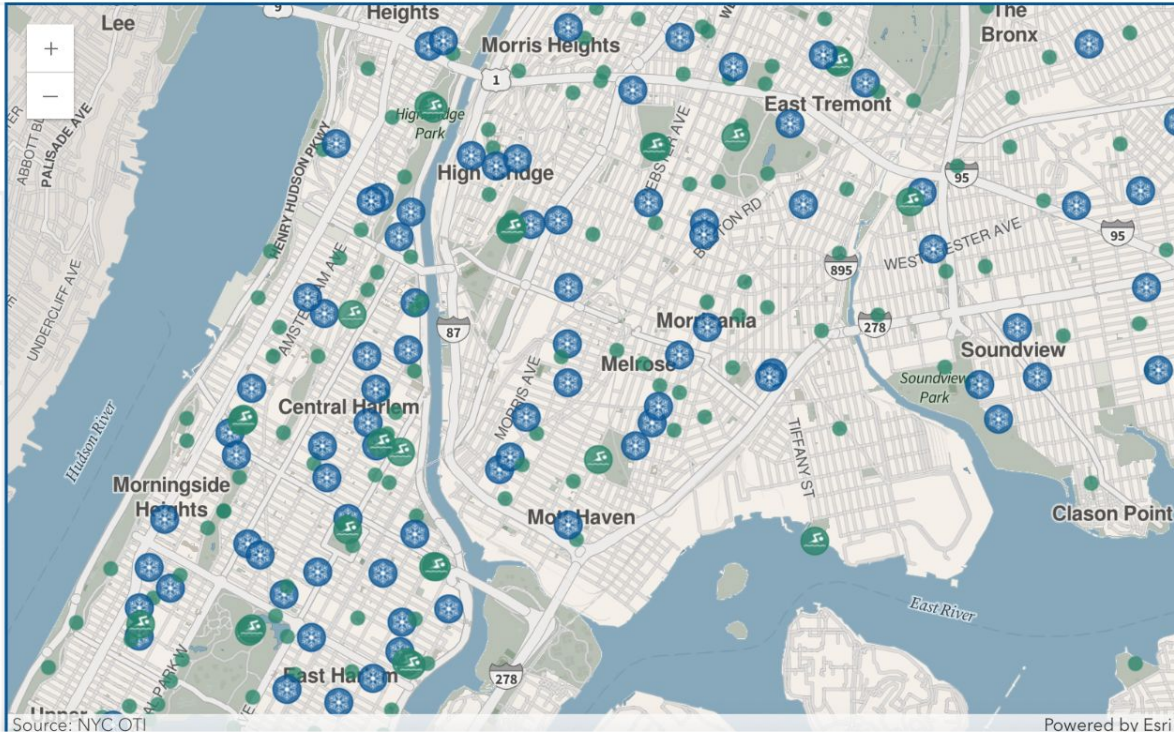
This icon indicates a site has a physically accessible pathway. Dismiss

This icon indicates a site is pet friendly (service animals are always permitted).

CCNS Northside OAC -OLDER ADULTS ONLY
Indoor - Cooling Center
179 NORTH 6 STREET
Closed • Opens 7:00 AM Thu • (718) 387-2316

Metropolitan Recreation Center
Outdoor - Pool

Jaime Campiz Playground

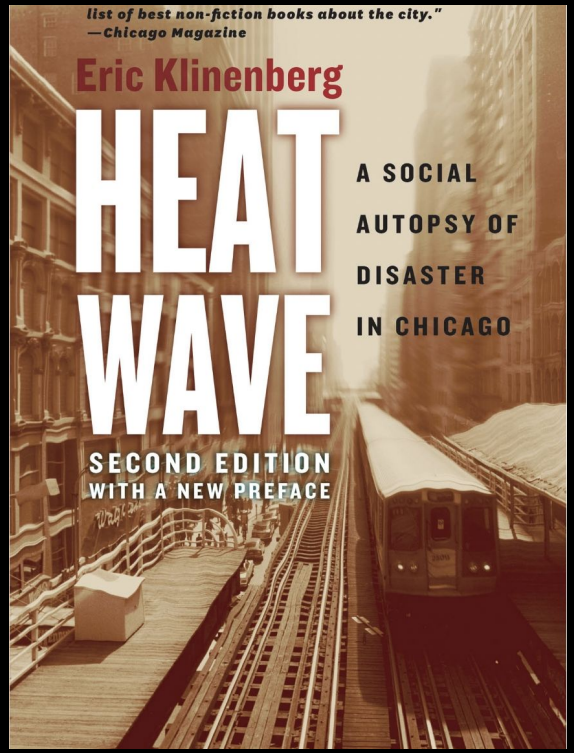


https://finder.nyc.gov/coolingcenters/

COOLING MEASURES

NEIGHBORS HELPING NEIGHBORS

Social infrastructure – the physical places and organizations that shape our capacity to build community, cohesion, and mutual support.



SHADING + ENERGY

Solar Forma Design, Milwaukee

BLUE/GREEN CORRIDORS

NATURE-BASED SOLUTIONS