

NYC Heat Mitigation & Adaptation Strategies

Roundtable on the Global Heat Resilience Service
July 31, 2023



Mayor's Office of Climate & Environmental Justice

The Mayor's Office of Climate & Environmental Justice (MOCEJ) is a team of architects, lawyers, data and climate scientists, engineers, policy advisors, geologists, and city planners leading the City's strategy to create a city where all New Yorkers can live, work, learn, and play in healthy, resilient, and sustainable neighborhoods — now and into the future.



Extreme Heat

"This is not our first heat wave and with *climate change accelerating*, it won't be our last."

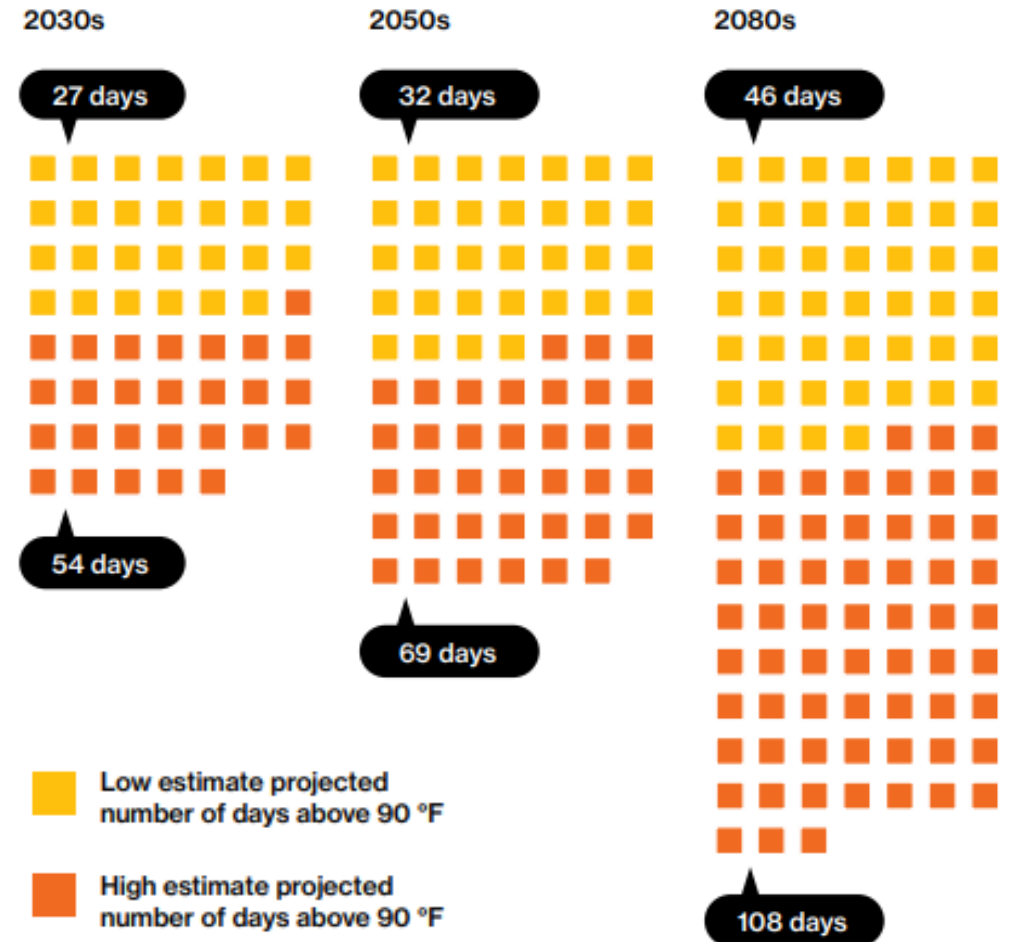
-Mayor Eric Adams
July 27, 2023

Extreme Heat

Heat exposure is deadly and preventable

- On average, each summer in NYC there are approximately **370 heat-related deaths**.
- Black and low-income New Yorkers are more likely to die from heat stress because of structural racism and disparities in housing access, health care, and energy security.
- Most heat-related deaths occur in homes with no AC or a non-working AC.
- In 2022, there were over 700 heat-related ER visits, the highest number since 2018.

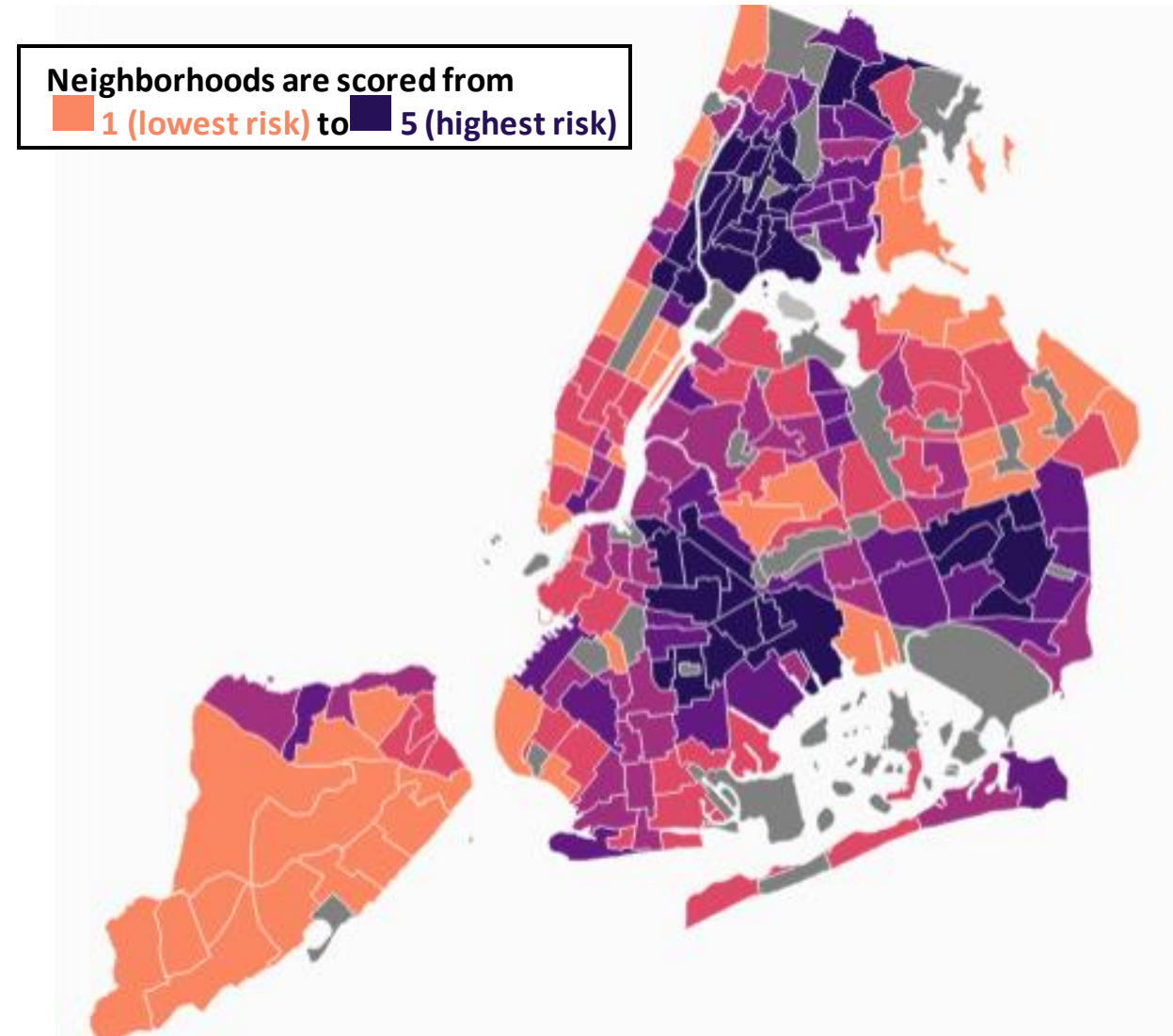
NYC PROJECTED DAYS PER YEAR ABOVE 90 °F



Extreme Heat: Role of Data

Heat Vulnerability Index

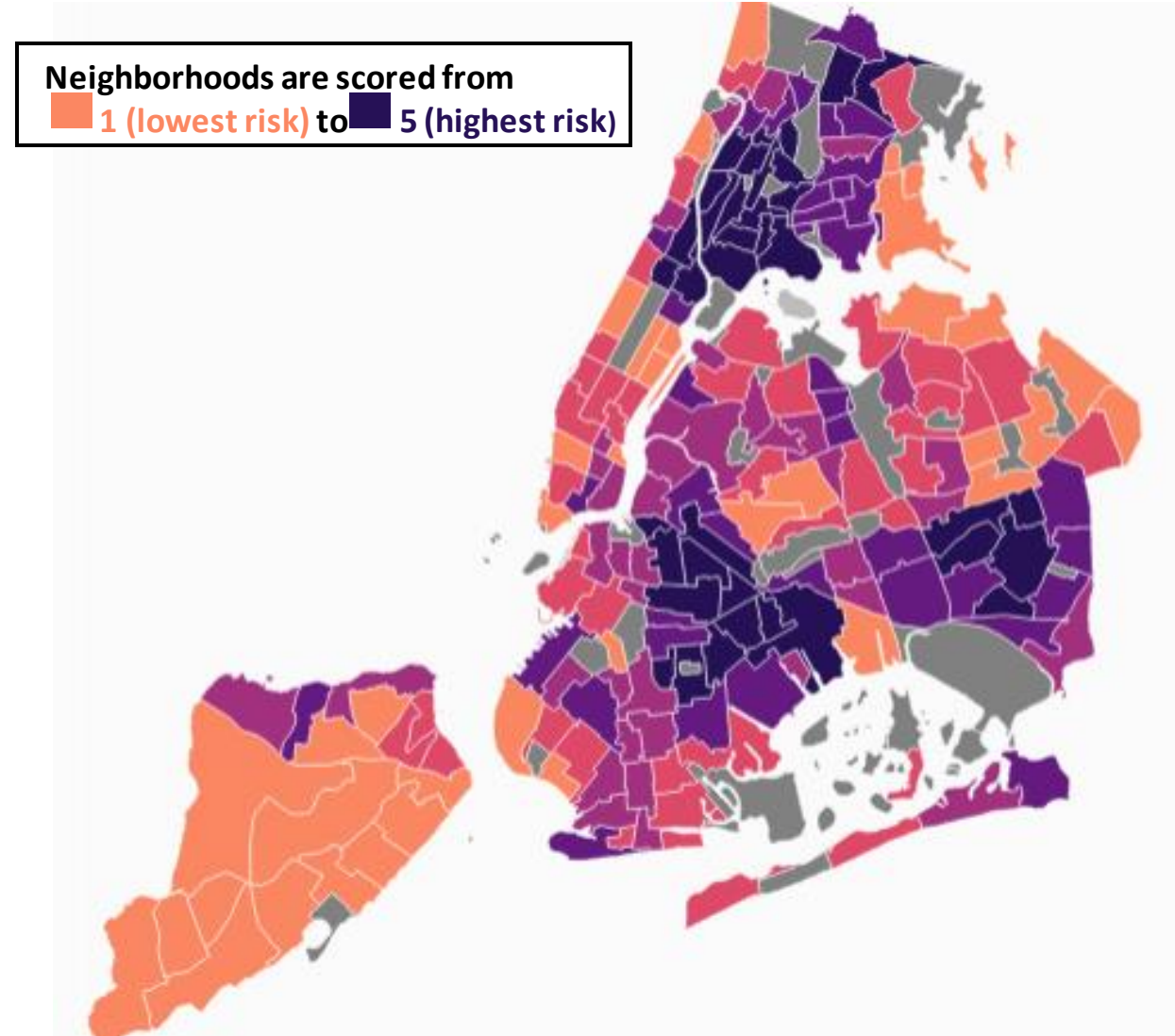
- Shows neighborhoods whose residents are more at risk for dying during and immediately following extreme heat
- Uses a statistical model to summarize the most important social and environmental factors that contribute to neighborhood heat risk
- Factors included in HVI: surface temperature, green space, access to home air conditioning, and the percentage of residents who are low-income or non-Latinx Black



Using HVI to Guide Investments

The HVI has been a critical tool guiding investments in green infrastructure, buildings, and programming

- Targeting tree planting in neighborhoods with the highest heat vulnerability
- Prioritizing cool roofs for affordable housing and community facilities
- Selection criteria for green roof tax abatement program
- Targeting heat safety and preparedness trainings/outreach in neighborhoods with highest heat vulnerability



Environmental Justice NYC (EJNYC)

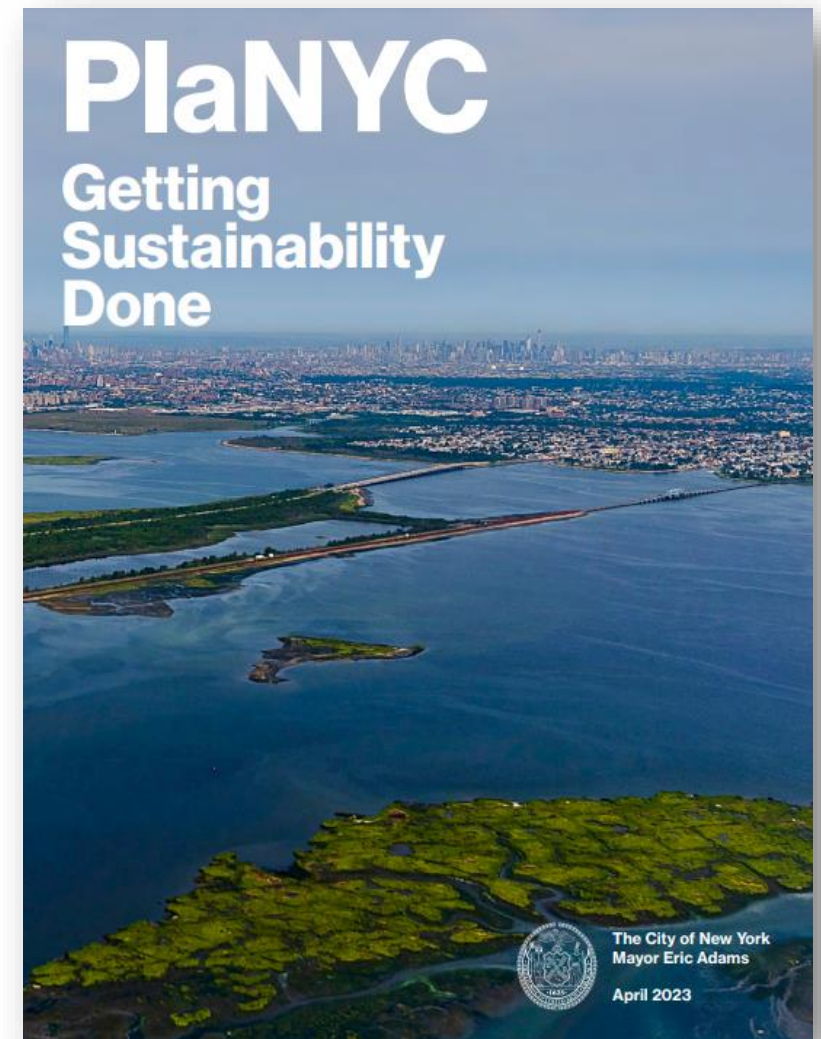
The EJNYC Report will be the City's first comprehensive study of environmental justice.

- A comprehensive report on environmental justice lays the foundation for a successful plan that addresses systemic and persistent environmental inequality.
- **The EJNYC Web-Portal** will be a public web-based portal and mapping tool based on the data and analysis from the EJNYC Report. This portal will host interactive maps, a data repository, and information on relevant City programs relating to environmental justice. It will be used by City agencies to inform their environmental decision-making, and will empower residents and organizers with the tools to continue advocating for the best outcomes for their communities.
- **The EJNYC Plan** is the culmination of all the EJNYC work. The plan will identify potential citywide and local initiatives for promoting environmental justice and outline a set of discrete recommendations for better embedding equity and environmental justice into the City's decision-making processes.

PlaNYC Strategic Climate Plan

Local law requires the City to submit a strategic climate plan to Council every four years, and the plan must:

- Address housing, open space, brownfields, transportation, air quality, water quality and infrastructure, energy, climate change, resiliency, and the built environment
- Include goals for each category, and a list of policies, programs, and actions
- Identify indicators to assess and track progress
- Incorporate public input, consider population projections, and recommendations from the sustainability advisory board
- Include annual progress reporting



PlaNYC Framework

**Protecting Us From
Climate Threats**



**Extreme Heat, Flooding,
Buildings, & Energy**

Improving Our Quality of Life



**Green Space, Waterways,
Transportation, & Food**

**Building the Green
Economic Engine**



**Green Jobs, Waste Reduction &
Circular Economy**

PlaNYC 2023: Getting Sustainability Done

Protecting Us From Climate Threats – Extreme Heat

1

Maximize access to indoor cooling

Develop a maximum summer indoor temperature policy to protect all New Yorkers from extreme indoor heat by 2030

Similar to required minimum winter temperatures, this initiative commits to developing a maximum summer temperature policy for NYC—one that also considers the percentage of household income spent on energy costs.

Shorter-term initiatives include requiring cooling in new construction, implementing NYCHA's Clean Heat for All, and advocating for reforms to the United States federally-funded, state-administered Home Energy Assistance Program (HEAP).

PlaNYC 2023: Getting Sustainability Done

Protecting Us From Climate Threats – Extreme Heat

2

Achieve a 30% tree canopy cover

Preserve and expand the City's tree canopy

There are 42,656 acres of tree canopy citywide on both public and private land, representing 22% of our land area.

We will target City parks and public right-of way, including along bike lanes and major pedestrian routes to subway stations and other key destinations.

We will leverage public-private partnerships to maximize tree replacement, planting, and preservation on private land.

We will:

- Ensure that all new buildings meet the City's street tree planting requirements
- Incentivize New Yorkers to steward green spaces
- Maximize tree preservation and planting opportunities

PlaNYC 2023: Getting Sustainability Done

Protecting Us From Climate Threats – Extreme Heat

3

Cool our built environment

Install 1 million square feet of cool roofs annually

We plan to invest in our built environment with cool roofs, corridors, and pavement that can lower outdoor temperatures by reflecting more sunlight and absorbing less heat. Cool roofs can reduce internal building temperatures by up to 30% and mitigate the urban heat island effect.

The NYC CoolRoofs workforce training program aims to coat 1 million square feet of rooftop surface per year with materials that have high solar reflectance. Coating has been applied to nearly 12 million square feet of rooftop surface since 2009.

PlaNYC 2023: Getting Sustainability Done

Protecting Us From Climate Threats – Extreme Heat

4

Invest in pools and swim safety programs in environmental justice communities

Mapping and investing in "pool deserts"

As our summers becoming longer and hotter, we plan to invest in environmental justice communities by offering more drowning-prevention and swim education and emphasizing access to pools for the most vulnerable New Yorkers.

We have been mapping "pool deserts" in our city and are working to build and repair public pools in areas that have the least access, to hire and retain lifeguards, and to provide year-round access to pools.

Social Resiliency + Extreme Heat

Be a Buddy NYC Model

- Links social service and community organizations, volunteers, and at-risk New Yorkers.
- Promotes climate preparedness and risk awareness.
- Enhances the response capacity and preparedness of local community-based organizations.
- Identifies relatively isolated people to make connections to existing City services.

Emergency Management Trainings

- NYC Emergency Management and the Department of Health conduct annual trainings on the health impacts of heat and how to stay safe during hot weather. The City offered grants to houses of worship to conduct their own heat trainings.
- The City also works with community members through volunteer programs like CERT (Community Emergency Response Team).

Social Resiliency + Extreme Heat

Resilience Hubs

- The City has a goal of building 10 resilience hubs by 2030.
- Resilience hubs are existing community spaces protected from climate-induced hazards such as flooding, extreme heat, and power outages.
- They are outfitted with resources such as solar and energy storage for backup power, reliable heating and cooling, charging stations, and medical refrigeration - to serve communities before, during, and after emergencies.
- They can also serve as accessible spaces for socializing, hosting community programming, and building social equity in historically marginalized communities.

Lessons Learned

Heat exposure is deadly but preventable.

Heat is an invisible threat and data tools like HVI help spatialize risk and prioritize investments.

Addressing heat risk requires a multi-layered approach:

- Developing a network of community spaces as resilience hubs that residents can rely on **before, during, and after** climate-related emergencies.
- Cooling down our buildings and public realm.
- Expanding clean energy programs and the adoption of energy efficient technologies like heat pumps.
- Government funding streams need to keep pace with the growing risk of extreme heat.



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