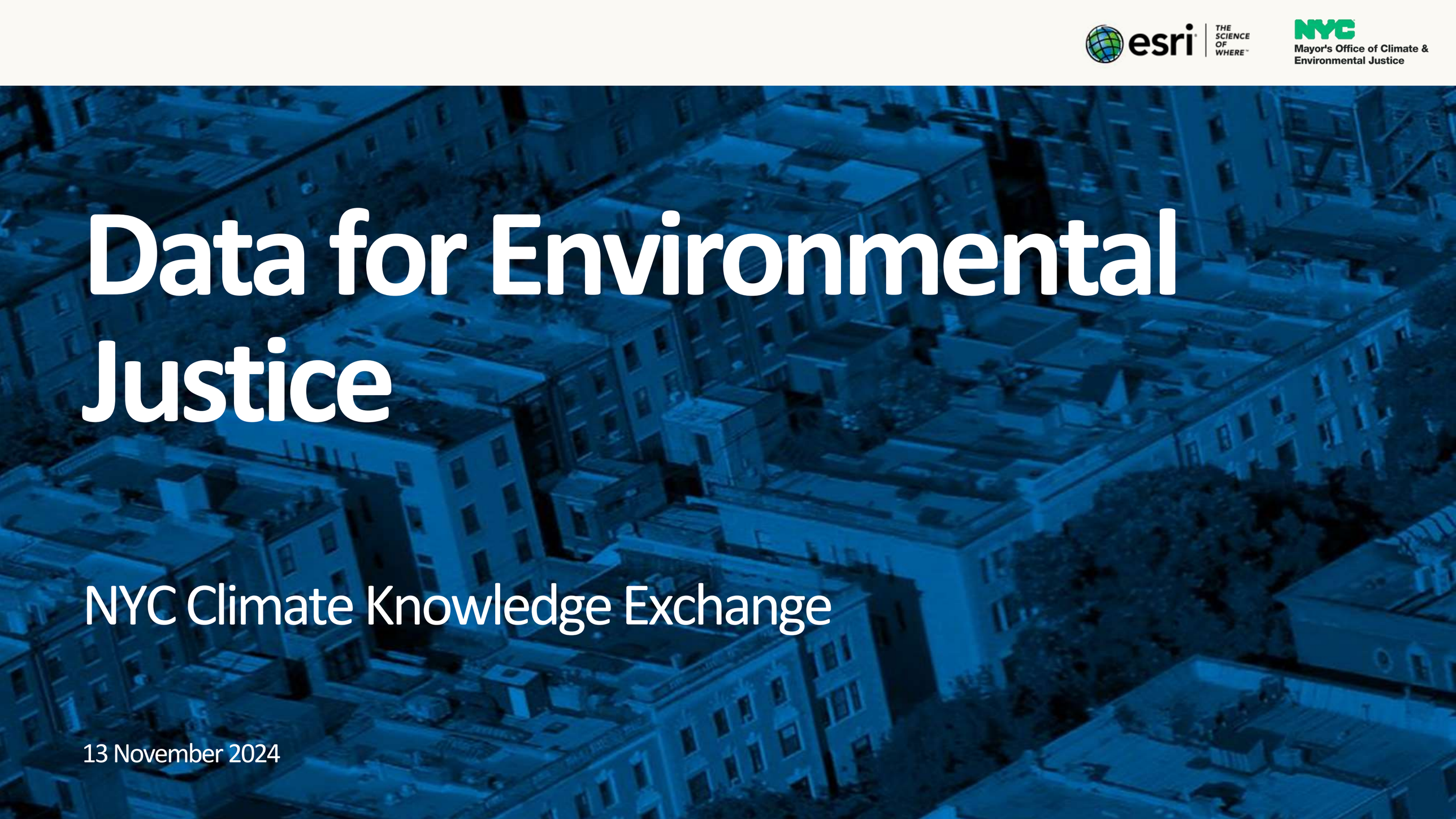


Data for Environmental Justice

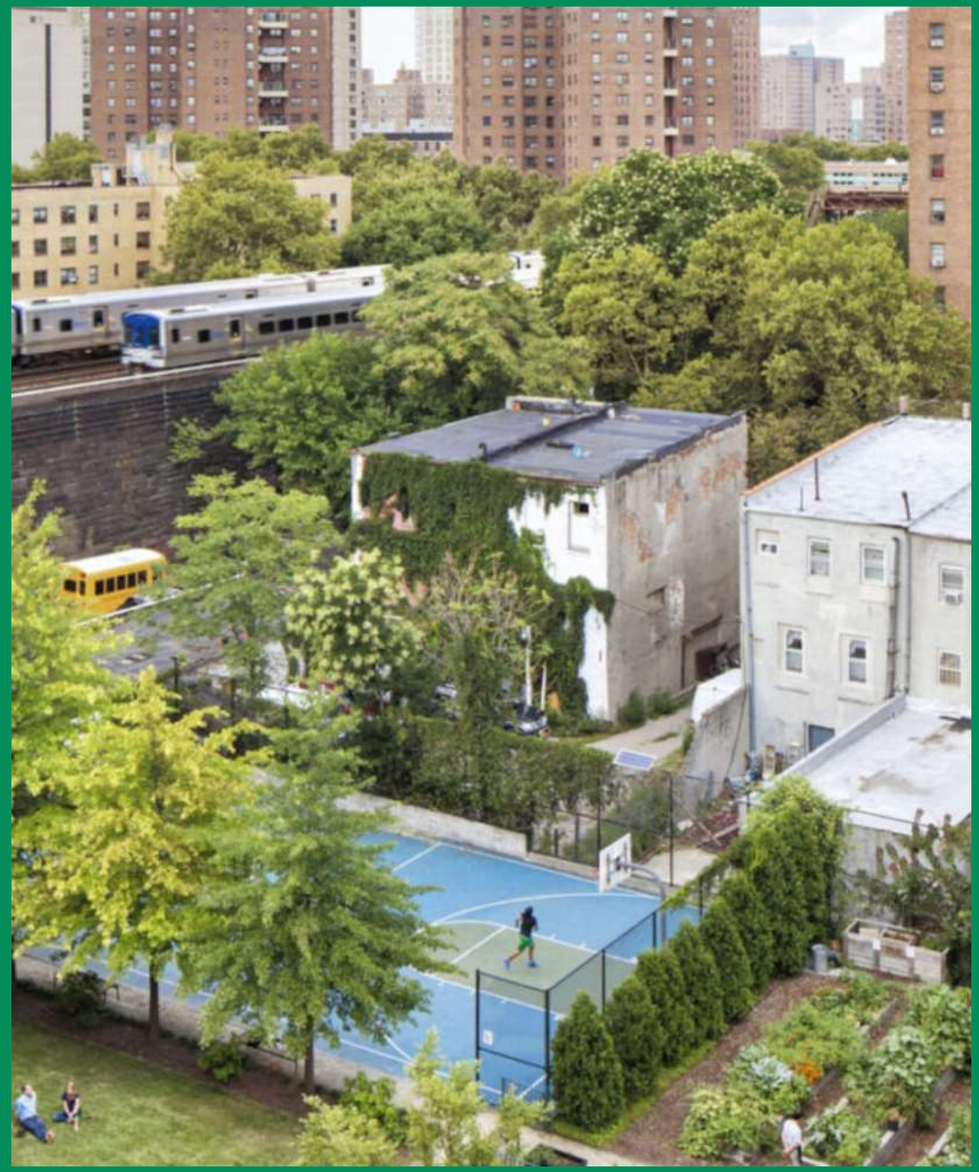
NYC Climate Knowledge Exchange

13 November 2024

NYC
Mayor's Office of Climate & Environmental Justice

Agenda

Climate Knowledge Exchange: Data for Environmental Justice



01 | EJNYC Overview

02 | GIS Equity Strategies

03 | Mapping Tool Demo

04 | Audience Participation

05 | Q&A

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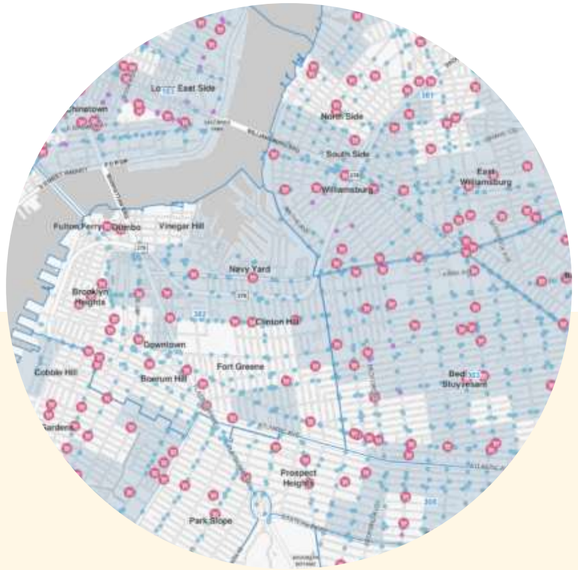
The Environmental Justice NYC (EJNYC) Initiative

In 2017, the City of New York passed Local Laws 60 & 64 requiring the City to assess environmental equity issues and develop a plan to incorporate environmental justice (EJ) considerations into the fabric of City decision-making. **This legislation focuses on three core deliverables:**

EJNYC Report



EJNYC Mapping Tool

EJNYC Plan

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EJNYC Report

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EJNYC Report: Process & Goals

The EJNYC Report's development process:

1. MOCEJ and the EJ Advisory Board held public meetings and solicited thousands of public comments to inform the public scope for the report.
2. MOCEJ worked with the EJ Advisory Board and the Interagency Working Group to develop the EJNYC Report using a mixed methods approach that included quantitative and spatial analysis of various EJ indicators, literature reviews, focus groups, interviews, and targeted public surveys.

Goal 1

To study the environmental burdens affecting low-income communities and communities of color, as well as disparities in environmental benefits.

Distributional Equity:
Programs and policies resulting in the fair distribution of benefits and burdens across all segments of a community, prioritizing those with the greatest need.

Goal 2

To study the extent to which City processes meaningfully involve and take direction from New Yorkers, particularly those in EJ communities.

Procedural Equity:
Inclusive, accessible, and authentic engagement and representation in processes to develop or implement programs and policies.

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EJ Areas & Disadvantaged Communities

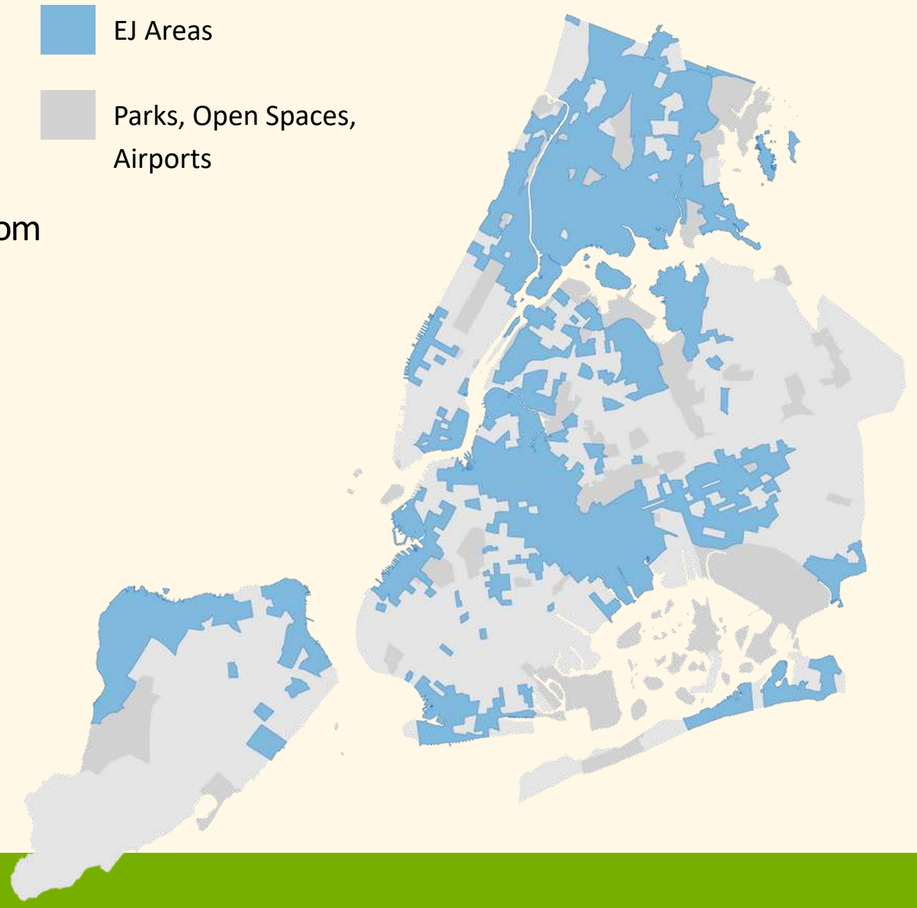
DAC Overview

The EJNYC report identifies EJ areas using the **NY State's DAC Criteria**, which:

- Uses 45 indicators representing environmental burdens or climate change risks, or population characteristics and health vulnerabilities.
- Developed by the NY State Climate Justice Working Group to ensure frontline communities benefit from the implementation of the NY State's Climate Act

DAC Criteria Constraints

- Regional Ranking:
  - Ensures greater state-wide distribution, excludes hundreds of NYC tracts
- Inappropriate Indicators
  - Not all indicators make sense for NYC's unique urban context (e.g., housing vacancy rates)
- Missing Criteria
  - Critical local data has not been incorporated (e.g., pluvial flooding)



45% of NYC's census tracts are EJ Areas

49% of NYC's population live in EJ Areas

59% of NY State's DACs are in New York City

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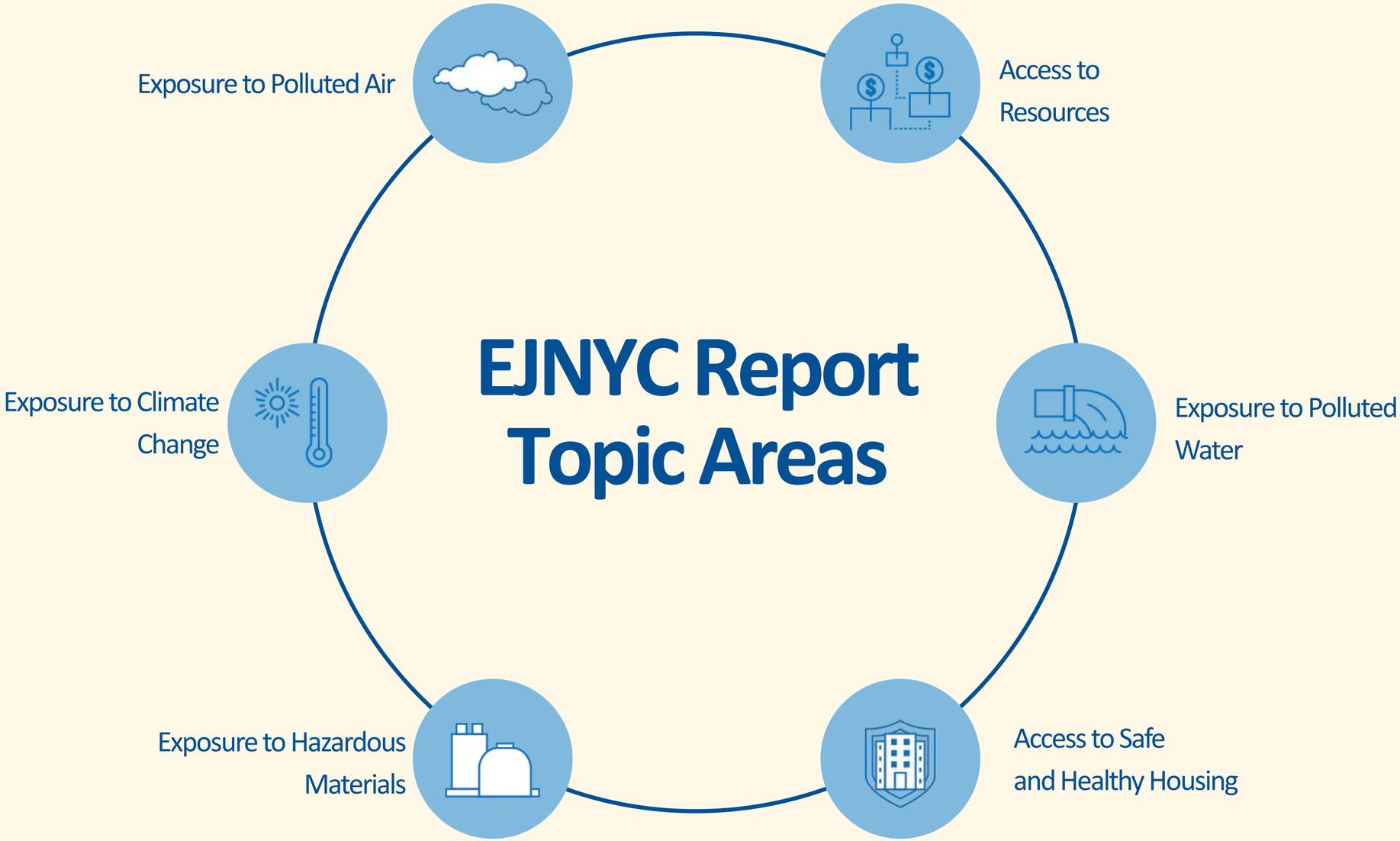
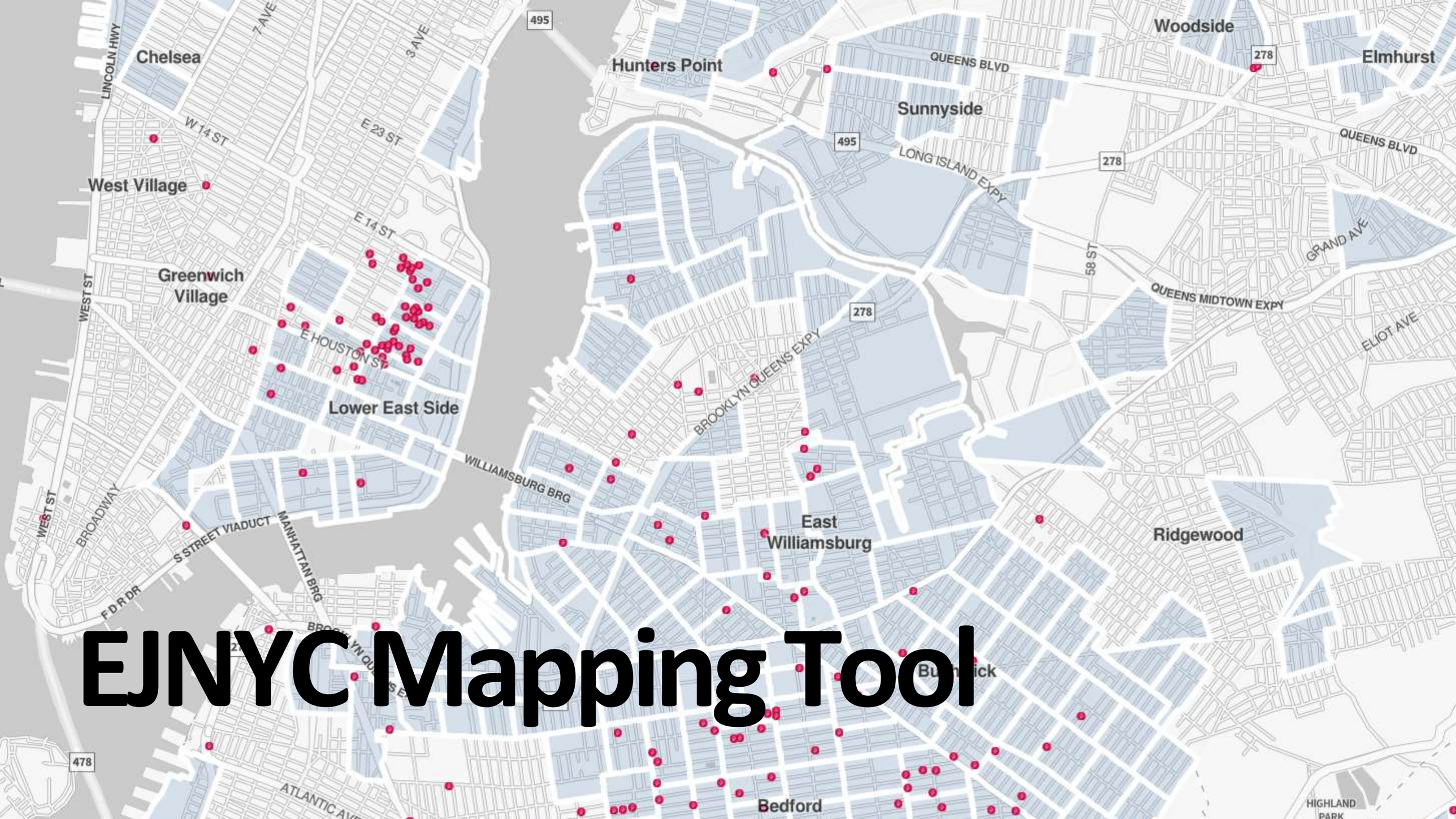
EJNYC Report Topic Areas





EJNYC Mapping Tool

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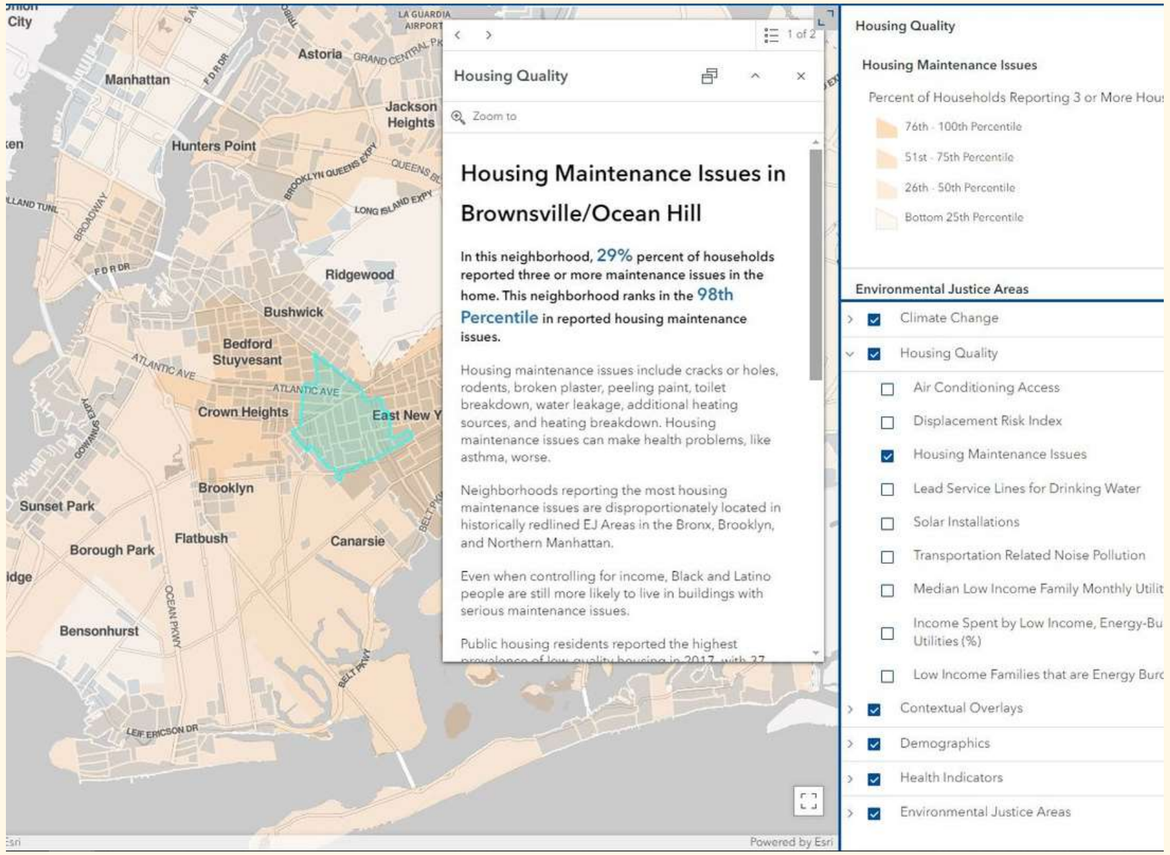
EJNYC Mapping Tool



What's In It?

115 data layers relevant to understanding EJ concerns. Data sets were sourced from city, state, federal, non-profit, and private sources and processed into a suitable format for GIS.

- Pop-up content with interpretive information embedded within all layers
- All data sets can be downloaded directly from the tool

Includes new maps displaying data previously unavailable to the public:

- Flood Vulnerability Index
- Energy Cost Burden
- Peaker Power Plants
- Last-Mile Facilities
- Chemically-Intensive Small Businesses

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EJNYC Plan

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EJNYC Plan

The EJNYC Plan will identify potential citywide initiatives for promoting EJ and provide recommendations for city agencies represented on the interagency working group.

City-Wide Initiatives

Methods to:

- Promote **environmental justice**
- Encourage **greater public engagement** in decision-making that raises EJ concerns
- Promote **transparency and consistency** in the City's approach to EJ
- Promote **equitable distribution** and access to environmental benefits
- Improve **research and data collection** relating to human health and the environment

Agency-Specific Recommendations

Changes to programs, policies, activities or processes that will promote EJ, including:

- **Capital projects** that address EJ concerns or provide environmental improvements to EJ Areas
- **Enforcement actions** that can be strengthened or expanded to address EJ concerns
- **Promote public participation and transparency** in agency decision-making

Origins of Spatial Analysis

John Snow’s Map of the Cholera Outbreak of 1854

A replica of the pump commemorating the outbreak and John Snow's investigation of it.

Four Technology Tenets

GIS for Environmental Justice & Equity

Step 1: Understand Your Community

Step 2: Create a Location Strategy

Step 4: Measure Your Impact

Step 3: Operationalize Your Plan

Initiate Your Equity Strategy

Utilize Esri Tools for Your Strategy

STEP 1

Understand Your Community

ArcGIS StoryMaps

Esri Maps for Public Policy

ArcGIS Living Atlas

ArcGIS Business Analyst

STEP 2

Use a Location Strategy

ArcGIS Spatial Analyst

ArcGIS Solutions

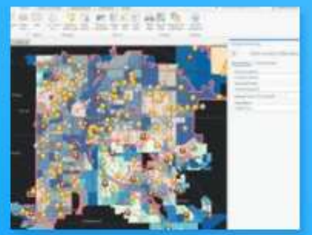
ArcGIS Online

STEP 3

Operationalize Your Work

ArcGIS Pro

ArcGIS Community Analyst



Social Equity Analysis Solution

STEP 4

Measure Impact

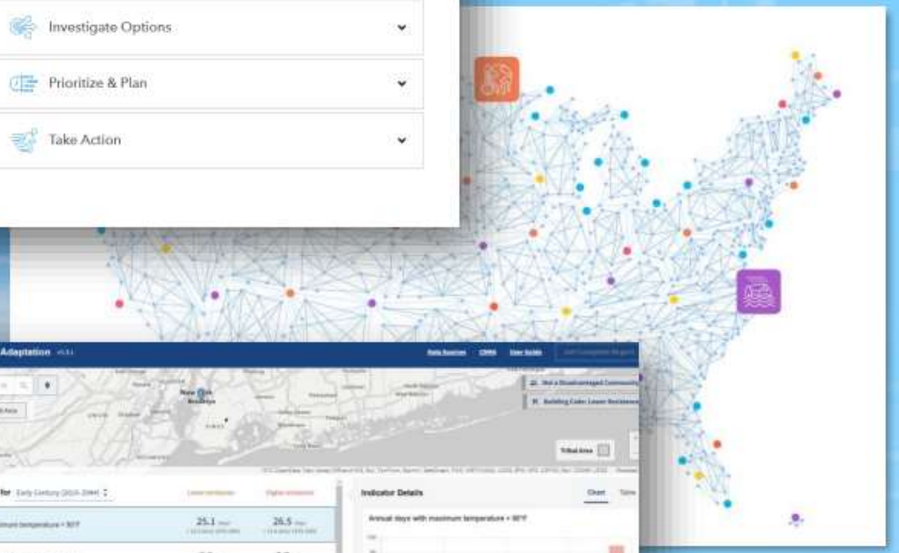
Police Transparency Solution

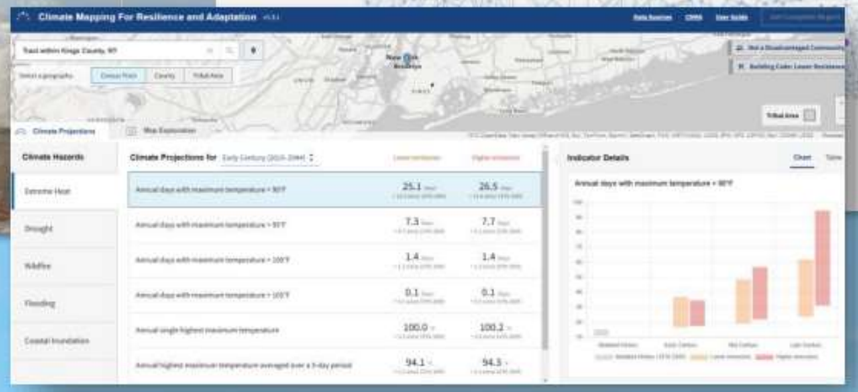
ArcGIS Field Maps

ArcGIS Hub

Building Climate Resilient Communities

Utilize Esri Tools to Take Action





Vulnerability Assessments
Calculating risk and vulnerability

Resiliency Planning
Prioritizing projects & initiatives

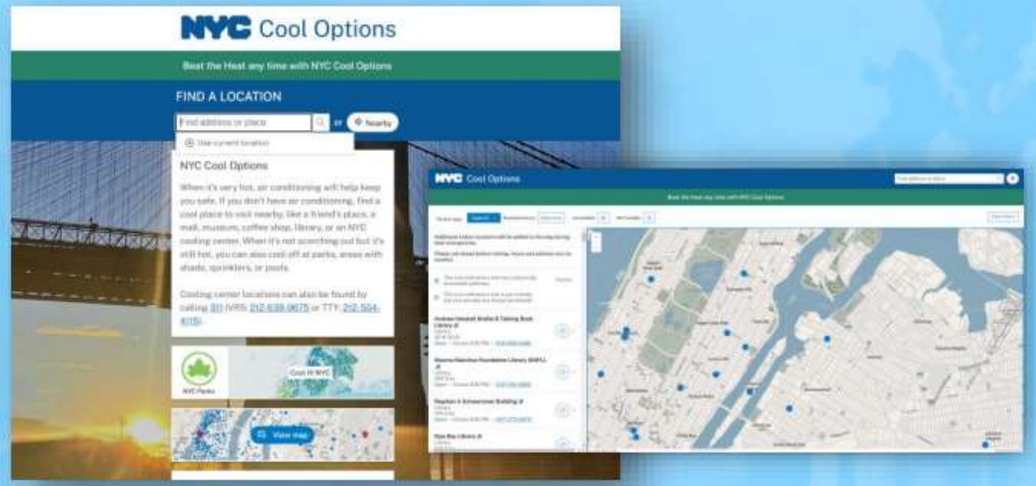
Climate Policy
Informing data driven climate policies

Emergency Response
Deploying and connecting resources to impacted communities

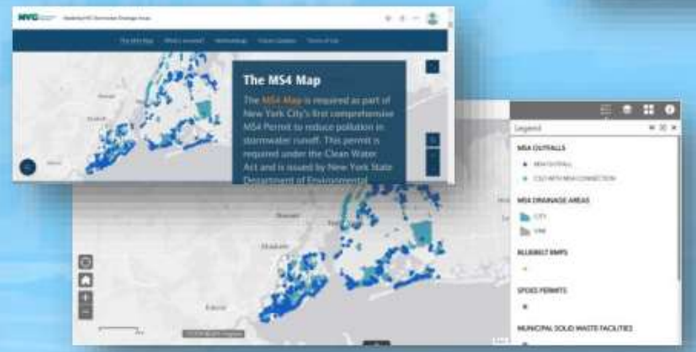
Climate Mapping Applications in NYC

NYCHA Decarbonization

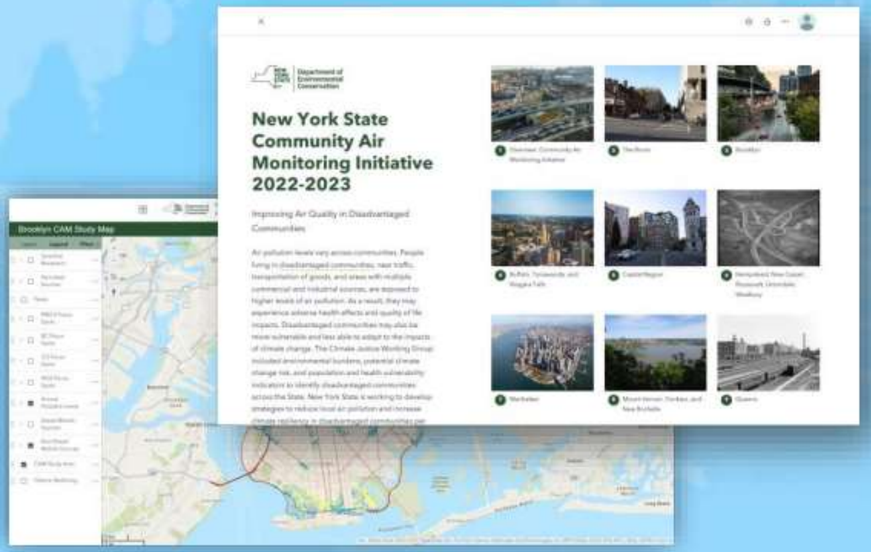
Finding Cooling Centers in NYC



Modeling NYC Storm Drainage Areas



NYS Community Air Monitoring Initiative



MOUA Urban Agriculture Explorer HUB

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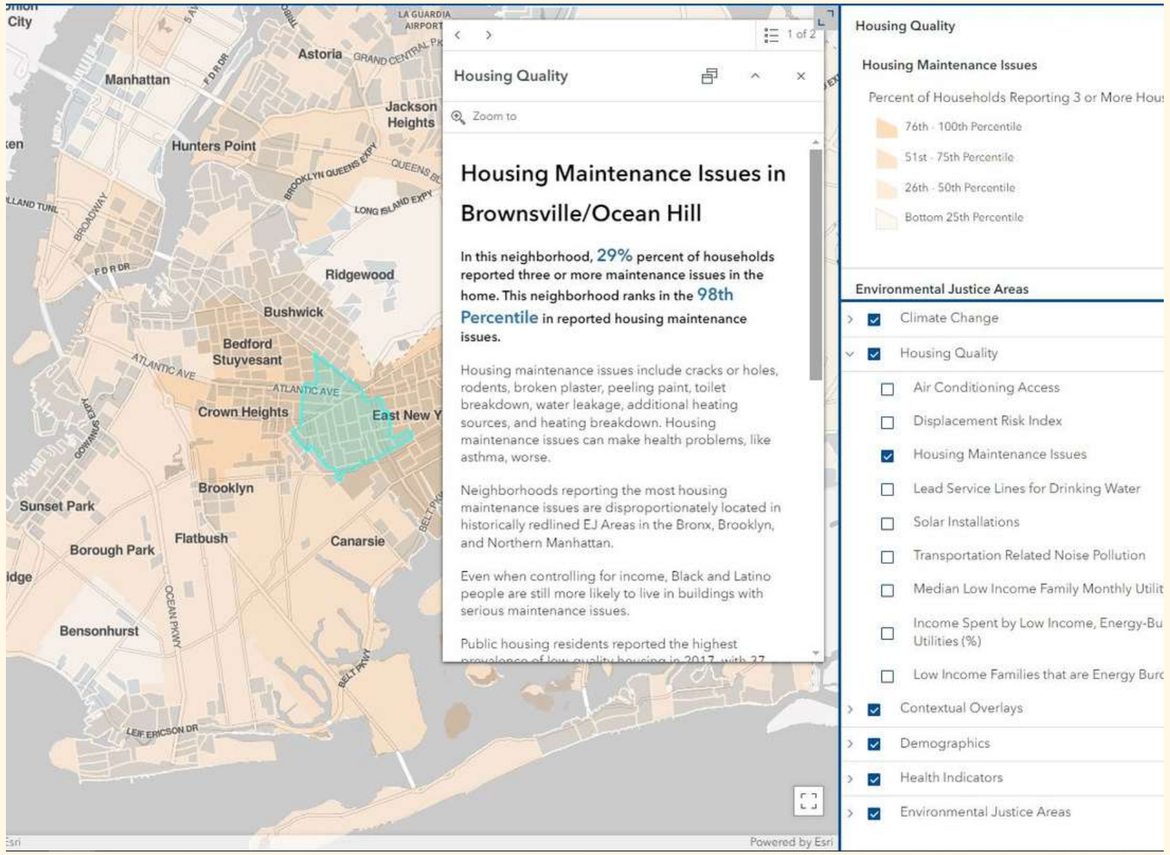
EJNYC Mapping Demo



Who can use it?

Communities

Community members can use the EJNYC Mapping Tool to learn about local environmental stressors, and other related information.

Advocacy Organizations

Non-profits and community-based organizations can leverage data from the EJNYC Mapping Tool to advocate for healthier environments.

Government

City agencies and mayoral offices can use the EJNYC Mapping Tool to inform engagement, planning, and decision-making.

Researchers

Researchers studying EJ can use the EJNYC Mapping Tool to easily identify and download datasets for further analysis.

Access the Mapping Tool Here

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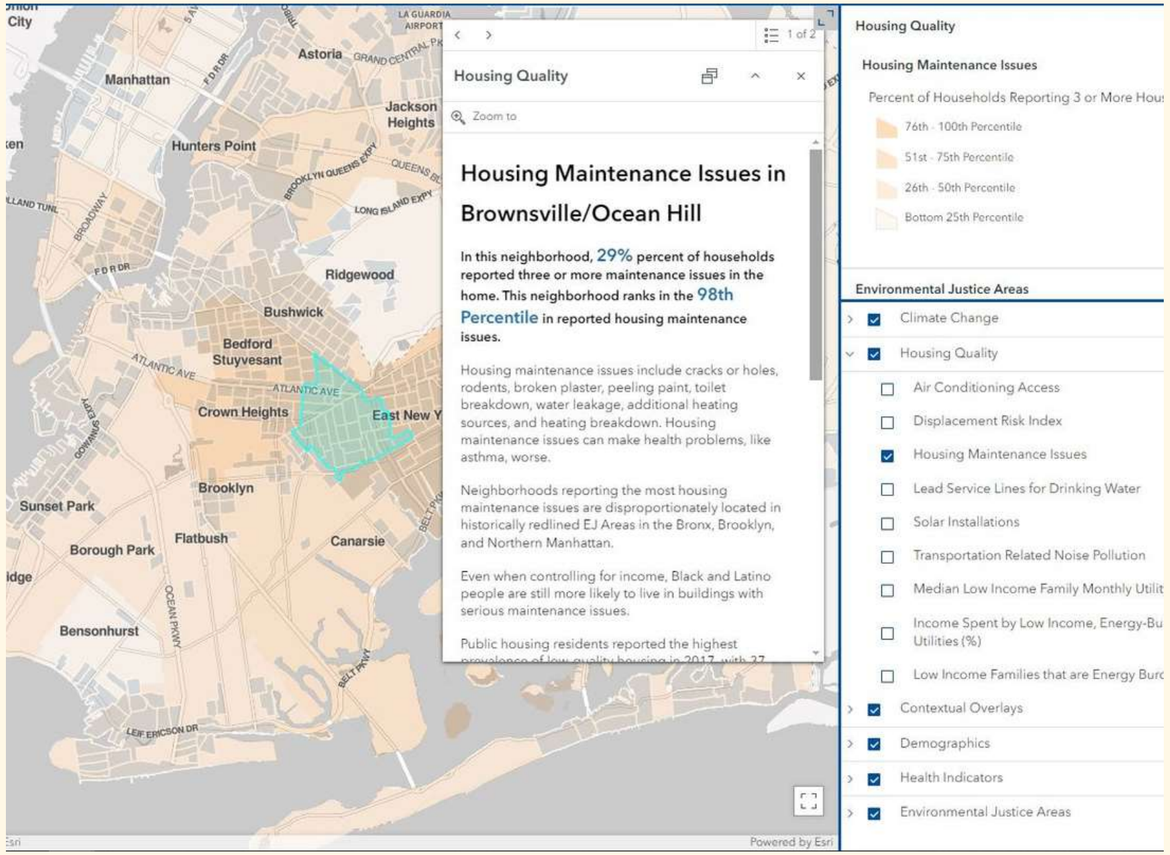
Audience Participation



Prompts for Different Audiences:

Communities

Explore different data layers within your neighborhood or a neighborhood you work in. What's something new that you learned?

Advocacy Organizations

You're developing an advocacy campaign related to health equity and energy costs, what data layers can help you build your case?

Government

Identify a few areas in the city where a resilience hub, cooling center, or other resilience project could be most impactful. Tell us why using the tool.

Researchers

Identify two or more data layers that, when layered on top of one another, reveal a pattern you think is worth researching.

Access the Mapping Tool Here

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Thank You!