Understanding How Climate Change and Environmental Justice Intersect in Communities

Thursday morning 11:15 a.m. – 12:30 p.m.

Climate change is the greatest existential threat of our time and will require a new era of physical and social infrastructure and investment to mitigate and adapt to its effects. Locally and globally, more frequent and severe weather events, chronic and disaster-induced flooding, rising sea levels, and higher temperatures are increasingly disrupting people's livelihoods, health, housing, communities, and quality of life. These events disproportionately impact people of color, immigrants, women, and people with low incomes. The need to mitigate and adapt to climate change and environmental pressures presents an opportunity to redress past patterns of exclusion and disinvestment in many communities of color and those with low income.

NNIP partners have a critical role to play in addressing climate change and promoting environmental justice in their communities. Because of their extensive data expertise and deep connections with stakeholders across domains, NNIP partners can help assess climate risk and resilience and collaborate with community groups, government, and philanthropy on solutions.

The purpose of this session build understanding how climate change and environmental justice intersect with current areas of focus and inspire NNIP partners to support local action on these important equity issues.

[Sara McTarnaghan](#) from the Urban Institute will moderate the session and share an overview of severe climate phenomena that are increasingly affecting our cities, such as air quality, heat, and flooding, and how they intersect with key topic areas such as housing, health, and youth, especially from an equity perspective (10 minutes).

[Anne Junod](#), also from Urban, will spend 15 minutes discussing the role and use of data in climate change and environmental justice, including newly available data sources and opportunities that exist to leverage existing data.

Noah Urban from Data Driven Detroit (D3) will spend ten minutes describing how D3 has strategically incorporated into their ongoing housing projects new and existing data to create climate adaptability indicators.

We will spend about 10 minutes on audience questions and full group discussion, before shifting to a small individual worksheet activity and small group discussions.

Individual Activity & Small Group Discussion: (25 minutes)

- Individual Activity (5 mins):
    1. How might my work (e.g. in housing, health, or youth) intersect with climate change concerns and environmental justice?
    2. How has our work already delved into this intersection?
    3. What do we think we can do more of in the future? What additional capacity, resources or partnerships would we need?
- Small Group Discussion (20 mins):
    1. What are the similar challenges or opportunities our group has in thinking about our work and the intersection of climate change and environmental justice?
    2. What data or lens mentioned in the full group discussion seems particularly attractive?
    3. What existing or new partnerships would need to be invested in locally to increase focus in climate change and environmental justice in each of our cities?

Resources:

Tools

[California Environmental Screener](#)

A tool to identify California communities that are disproportionately burdened by environmental contaminants. Indicators are reported at the census tract level and include both health and socioeconomic indicators and environmental and exposure indicators.

[Climate and Economic Justice Screening Tool](#)

A tool to identify disadvantaged communities that are marginalized, underserved, and overburdened by pollution. The tool includes socioeconomic, environmental, and climate data to identify disadvantaged communities to inform the Justice40 initiative by the Biden administration (to provide 40 percent of the overall benefits of certain Federal investments in seven key areas to disadvantaged communities).

[First Street Flood Risk Data](#)

First Street has the most comprehensive current and future flood risk data for the United States. There is public access data available at the zip code, county, and congressional district level, as well as paid access data at the property level with statistical analysis.

[Low-Income Energy Affordability Data Tool](#)

A tool that maps the energy burden for low- and moderate-income households across the US.

[Power Plants and Neighboring Communities](#)

EPA tool to map the location of power plants and demographic information for people living within three miles of the plant. The tool includes six demographics (Low-income population, People of color, Population with less than high school education, Linguistically isolated population, Population under age 5, and Population over age 64) and a demographic index.

[ProPublica: The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S.](#)

Analysis and data by ProPublica of five years of modelled EPA data that maps the excess cancer risk from industrial sources across the nation.

[Opportunity Atlas](#)

Interactive map detailing a suite of children's outcomes in adulthood based on which census tract they grew up in. Developed by Opportunity Insights out of Harvard University.

[Sea Level Rise Map Viewer](#)

The Sea Level Rise Map Viewer was created by the National Oceanic and Atmospheric Administration (NOAA) to visualize community impacts from flooding and sea level rise. The mapper includes data related to water depth, connectivity, flood frequency, socio-economic vulnerability, wetland loss and migration, and mapping confidence. This could be useful for incorporating sea level rise impacts on any projects in coastal areas.

[US EPA EJ Screen](#)

A tool by the EPA that combines environmental and demographic indicators at the block group level. The tool can be used to determine the disproportionate overlap of environmental and demographic indicators at the block group level; however, the tool does not include risk assessment or determine the existence of environmental justice concerns for a location.

Datasets

[EPA Outdoor Air Quality Data](#)

This tool compiles daily air quality data from sensors for key pollutants and can display data from specific sensors, or all monitors in a city, county or state.

[US Census Bureau COVID-19 Site](#)

Range of demographic and economic datasets hosted by the Census Bureau on factors relating to COVID-19 including: COVID-19 surveys, occupation data, and community resilience estimates.

[USGS Water Quality Data](#)

Current and historical data on the chemical, physical, and biological properties of water samples across the nation hosted by the US Geological Survey

Effective Carbon Rates

Data on carbon pricing, including fuel excise taxes, carbon taxes and tradable emission permit prices for 44 OECD and G20 countries hosted by the Organization for Economic Co-operation and Development.

Socioeconomic Physical Housing Eviction Risk Dataset

2021 dataset that integrates multiple publicly available datasets including socioeconomic variables, climate risk scores, evictions, and housing variables at the census tract level over the United States. Data is available by request to the study's authors.

Expected Annual Loss from Natural Hazards

Expected Annual Loss (EAL) represents the average economic loss in dollars resulting from natural hazards each year. It is calculated for each hazard type and quantifies loss for relevant consequence types: buildings, people, and agriculture.

2017 AirToxScreen

Released in March of 2022, and includes emissions, ambient concentrations, and exposure estimates for 180 of the 188 Clean Air act toxins.

U.S. Department of Transportation Traffic Data

State and county annual traffic data compiled by DOT and used in the EJSCREEN Tool

Proximity to Hazardous Waste Facilities

Count of hazardous waste facilities (Treatment, Storage, and Disposal Facilities and Large Quantity Generators) within 5 kilometers (or nearest beyond 5 kilometers), each divided by distance in kilometers. Treatment, Storage, and Disposal Facilities (TSDF) data from 2020 calculated from EPA's RCRA database

Articles and Reports

Urban Institute Climate, Disasters, and Environment Research and Urban Wire Blogs

In 2019, Urban created a webpage for our climate, disaster and environment work and Urban Wire blogs related to the topic. Major reports include Institutionalizing Urban Resilience, Next50 Catalyst Brief: Institutionalizing Urban Resilience, Equity in Federal Climate Resilience Investments, and State Flood Resilience and Adaptation Planning: Challenges and Opportunities.

IPCC 6th Assessment Report

The Intergovernmental Panel on Climate Change (IPCC) is a body of the United Nations responsible for acknowledging and researching the impacts of human induced climate change. The Panel conducts a systemic review of published literature on the natural, economic, social, and political impacts and risks of the issue and compiles the results into a comprehensive report. The 6th report is being released in stages and will be fully complete in 2022.

Fourth National Climate Assessment

Since 1990, the U.S. Global Change Research Group (USGCRG) has been mandated to produce a report on analyze past and future global changes on the "natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity." The most recent report was released in 2018 and is the most comprehensive document on the impacts of climate change in the United States.

How Climate Migration will Reshape America

Interactive report exploring how climate migration will impact the United States.

Climate Explainers

Set of explainers from the MIT Climate Portal and compilation of short articles on a range of topics relating to climate change, including climate-resilience infrastructure, cities and climate change, and urban heat islands.

Climate Impact Lab

The Climate Impact Lab includes a team of economists, climate scientists, and data engineers focused on quantifying the impacts of climate change. The Climate Impact Lab created the first empirically derived estimate for the social cost of carbon to incorporate into cost-benefit analyses for policymakers, investments, and planning. Research from the Lab spans a range of topics including agriculture, labor, energy, and conflict.

Mental Health and Our Changing Climate

Report produced by the American Psychological Association and EcoAmerica on the impacts of climate change on mental health in America and guidance for action and advocacy.

Lancet Countdown on Health and Climate Change, policy brief for the United States

The fifth annual Policy Brief on health and climate change is supported by a diverse group of health experts from over 70 institutions, organizations, and centers who assert that climate change is first and foremost a health crisis. Uses indicator data for the United States (U.S.)

from the 2021 global Lancet Countdown report and recent scientific studies to expose inequitable health risks of climate change and highlights opportunities to improve health.

3rd National Risk Assessment – Infrastructure on the Brink

Report by First Street that highlights the cities and counties across the country whose "residential properties, roads, commercial properties, critical infrastructure, and social infrastructure face operational flood risk, and how that risk will likely change over the next 30 years with a changing environment.