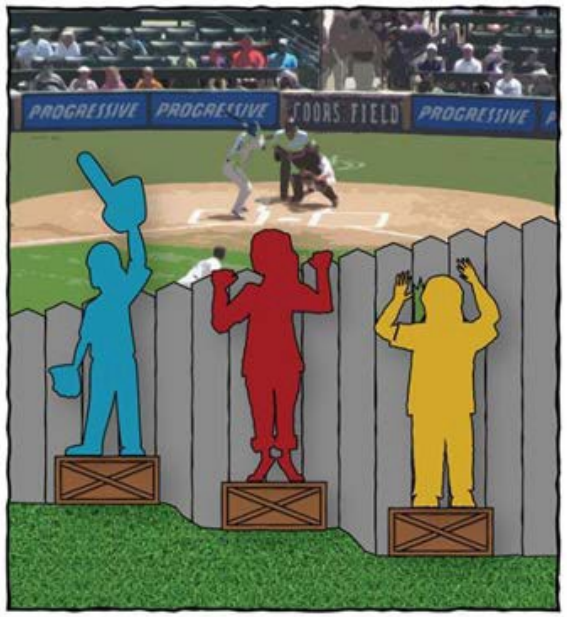
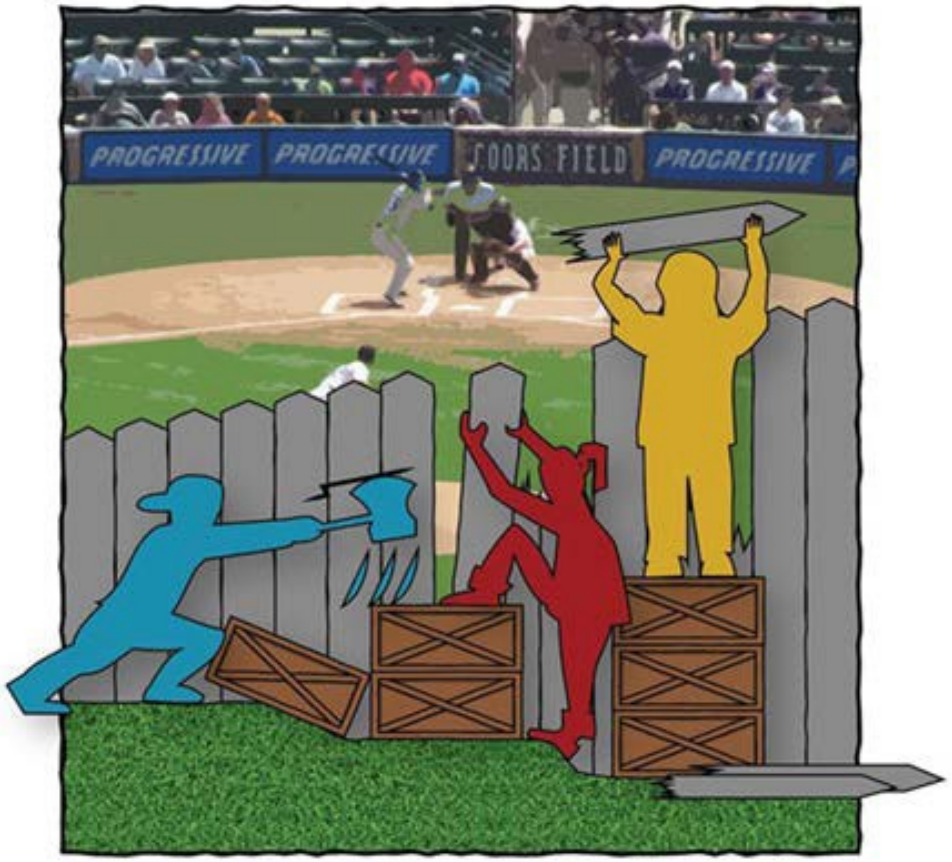


EQUALITY

EQUITY



JUSTICE

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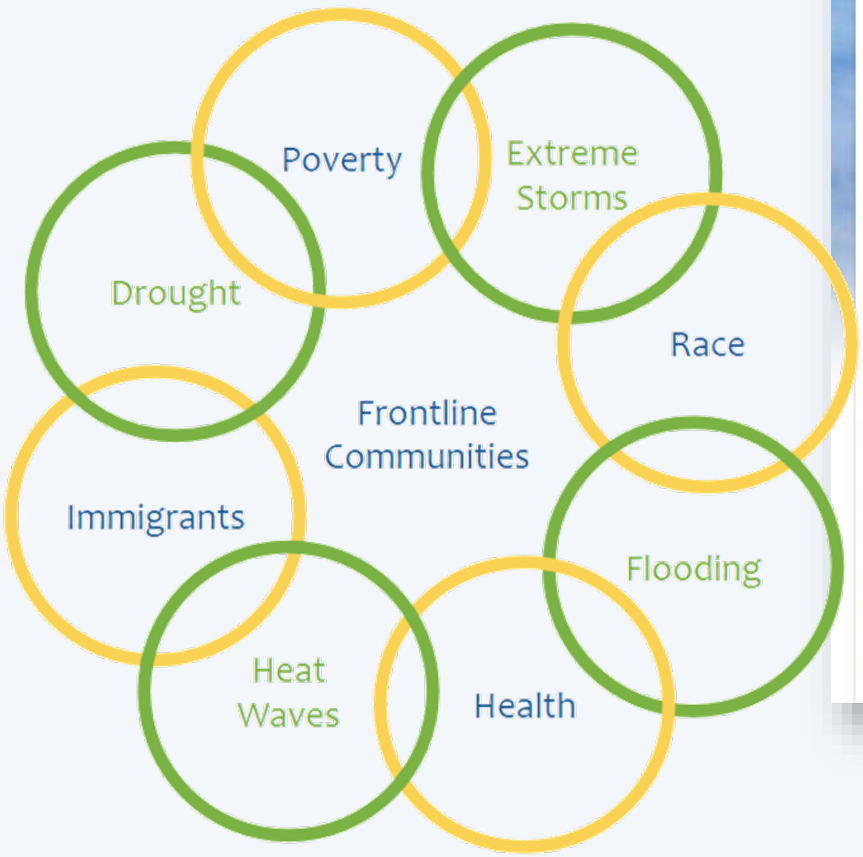
GCC's Equitable Adaptation Legal Policy Toolkit



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EQUITABLE ADAPTATION LEGAL & POLICY TOOLKIT

Many local governments and community-based practitioners are incorporating principles of equity into their climate adaptation planning and implementation. This toolkit highlights best and emerging practice examples of how cities are addressing disproportionate socioeconomic risk to climate impacts and engaging overburdened communities. This toolkit will further explore how cities are moving beyond equitable adaptation planning and implementing policies that address both social equity and climate resilience. The toolkit is intended to aid local governments and community-based organizations nationwide that are centering equity in their adaptation initiatives. In comparing promising practices and case studies across cities, the toolkit draws lessons from different approaches and provides frameworks to help practitioners craft similar legal and policy options for their own jurisdictions in ways that will help them advance equitable responses to the impacts of climate change.

Introduction

Statement of the Problem: Implementing Equitable Adaptation

Public engagement session for RhodeMap RI. (Credit: Rhode Island Statewide Planning Program)

Two of the biggest challenges facing the United States are the social inequalities that put the health and well being of marginalized populations at risk and climate change. The effects of climate change —including rising temperatures in urban areas, more polluted air, and the increasing frequency and intensity of extreme storms — will disproportionately affect overburdened and low-income people and communities who are already facing significant economic and social challenges. A community's success or failure in preparing for the impacts of climate change will be measured by how it is able to address the needs of those on the frontlines of impacts and those already suffering from a range of challenges including lack of economic opportunity, racism, and pollution. Currently, many climate change adaptation plans and policies do not consider the specific needs of frontline communities and resilience does not take a holistic view of the challenges that communities face in implementing solutions that provide multiple benefits to people, the environment, and the economy. The following section

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Printer-Friendly Toolkit

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What's in the Equitable Adaptation Toolkit?

I. Introduction to the Problem:
Implementing Equitable Climate Adaptation

II. Procedural Equity:
Tools for Planning, Engagement and Governance

III. Equitable Adaptation Solutions:
Tools for Implementing Equitable Adaptation

IV. Financing & Funding Tools:
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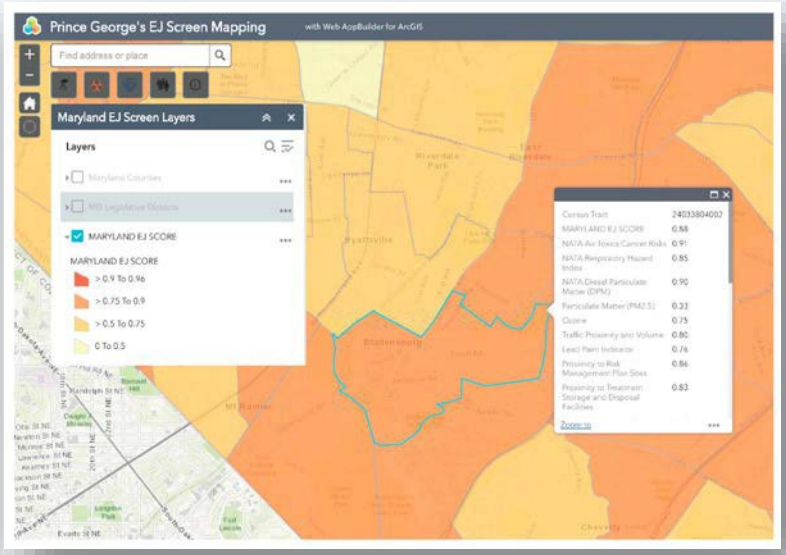
Procedural Equity Chapters

Community Engagement & Social Cohesion

Governance & Budgeting



Data, Metrics & Monitoring

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Data, Metrics & Monitoring Ch

EQUITABLE ADAPTATION LEGAL & POLICY TOOLKIT

Data, Metrics & Monitoring Tools

Introduction

Best practices in equity-centered adaptation planning processes include data-driven decisionmaking with direct community participation. However, data-driven approaches can have both positive and negative impacts. On the positive side, data, tools, and metrics about geographic, social, economic, and environmental characteristics of a region can identify areas vulnerable to climate-related weather events and disasters, and pinpoint communities most in need of support to respond to those events. These tools can be very valuable in helping policymakers develop and prioritize planning initiatives and direct resources to protect and prepare those residents most likely to experience increased incidences of flooding, storm surges, and extended periods of extreme temperatures.

On the other negative side, planning processes that rely exclusively or too heavily on data and technical experts may reinforce patterns of social exclusion because of top-down, mainstreamed processes that are inaccessible to traditionally marginalized populations.[1] To avoid the problem of reinforcing disparities, therefore, policymakers should pair the benefits of data-guided decisionmaking with substantive community engagement at each stage of the adaptation planning process.

The data needed to inform equitable adaptation strategies include measurable indicators about the demographic and geographic characteristics of the area and the stories of communities living in that area. Some of the important data is quantitative, such as the numbers of residents of a certain race, age, gender, and income level.[2] However, to capture the unique characteristics, perspectives, and knowledge of the community, those numbers need to be combined with qualitative data, or information typically collected through surveys, focus groups, and in-person interviews.[3]

Community water testing workshop in Detroit (Source: We the People of Detroit)

It is important to include the community in the

Tools

Quantitative Data

Quantitative data typically includes census data that detail the unique demographic information including population, household, and transportation relevant to a particular geographical area. In the adaptation-planning context, quantitative data can also assist policymakers with capturing the historic frequency of weather events and patterns affecting specific geographic areas and the social and economic characteristics of the populations that live within those areas.

Learn more

Collecting and Applying Qualitative Data

Quantitative data can omit valuable information about the feasibility and effectiveness of policy options in neighborhoods. Policymakers may achieve a more comprehensive assessment of community needs by placing an equal emphasis on the findings from both quantitative and qualitative data. The most common methods for collecting qualitative data include first-hand interviews, focus groups or recorded observations, and document analysis. Project participants can also collect qualitative data to develop a more nuanced profile of a community.

Learn more

Participatory Data Collection and Technology Access

The ability to manage climate risk requires data and knowledge to inform both communities and policymakers. Unfortunately, many of the residents most likely to be impacted by climate-related hazards are also most likely lacking digital access. Ensuring equitable digital access can bridge a gap between low-income, immigrant, and senior residents and policymakers while connecting residents to economic opportunity.

Learn more

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Case Study Ex

Social Vulnerability Index (SoVI)

The Social Vulnerability Index (SoVI), developed by the Hazards and Vulnerability Research Institute at the University of South Carolina, is a publicly available tool for assessing social vulnerability. County-level socioeconomic and demographic data collected from 2006 to 2010 were used to construct the index of social vulnerability to environmental hazards for the United States.

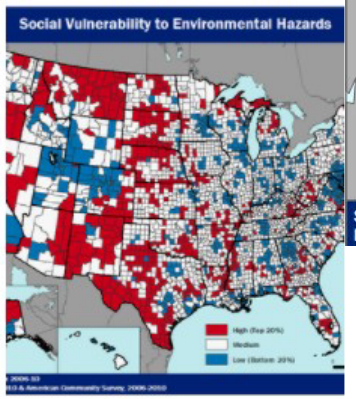
SoVI graphically illustrates the geographic variation in social vulnerability at a county level. It shows where there is uneven capacity for preparedness and response, and where resources might be used most effectively to reduce the vulnerability. SoVI also is useful as an indicator in determining the differential recovery potential from natural disasters.

Potential Use

Identify the relative differences in social vulnerability to hazards among counties.

The index synthesizes 30 socioeconomic variables, which the research literature suggests contribute to reduction in a community's ability to prepare for, respond to, and recover from hazards. The data variables are used to represent the population characteristics that affect social vulnerability. For instance, the number of people older than 65 and the number of people under 5 years old were used to represent the socially vulnerable population due to age.

Population characteristics taken into account that affect vulnerability include: Socioeconomic status, Gender, Race and ethnicity, Age, Employment loss, Rural or Urban residency, Residential property (value, quality, density), Renters, Occupation, Family structure, Education, Medical Services, Social dependence, and Special-needs.



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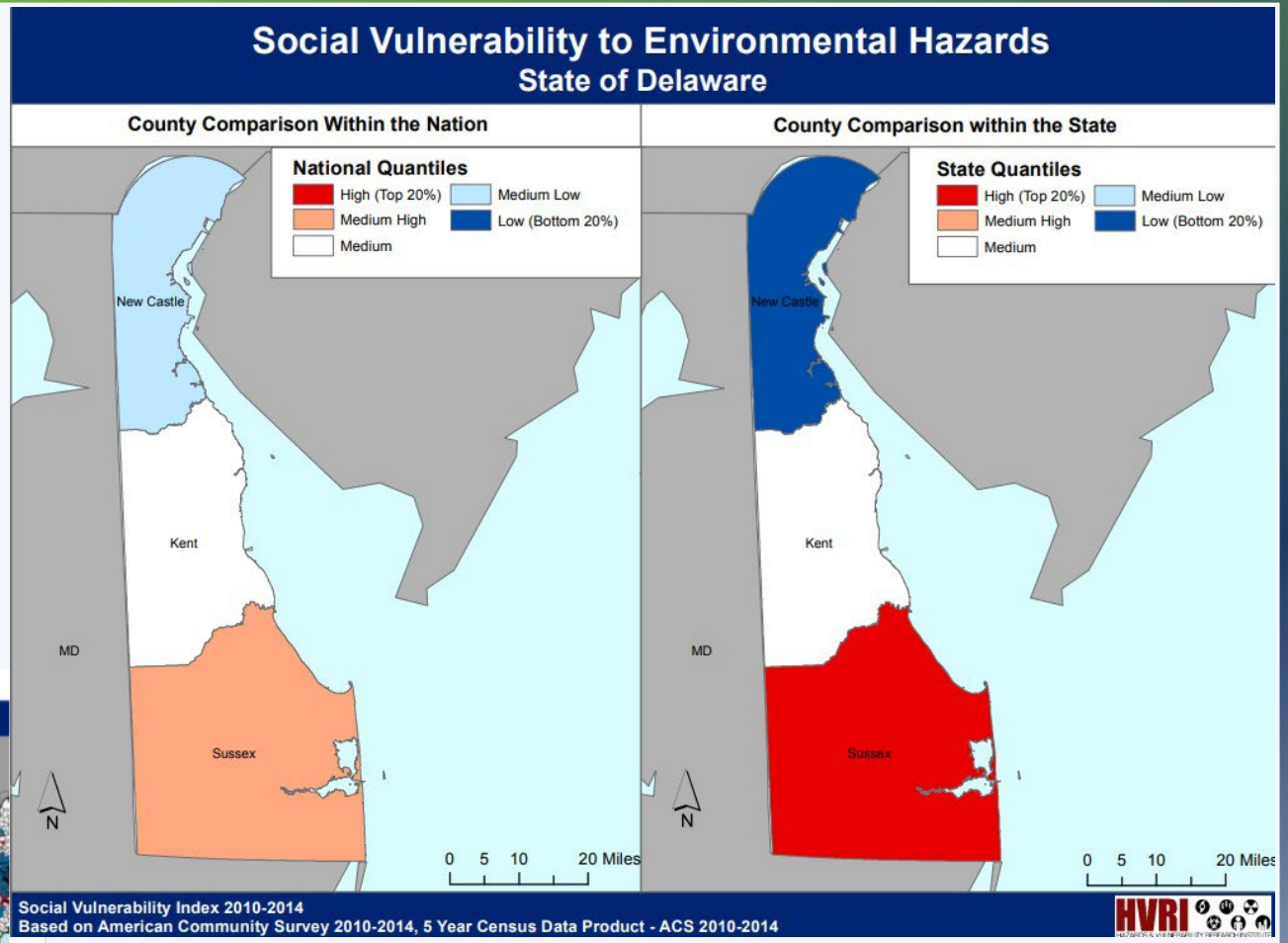
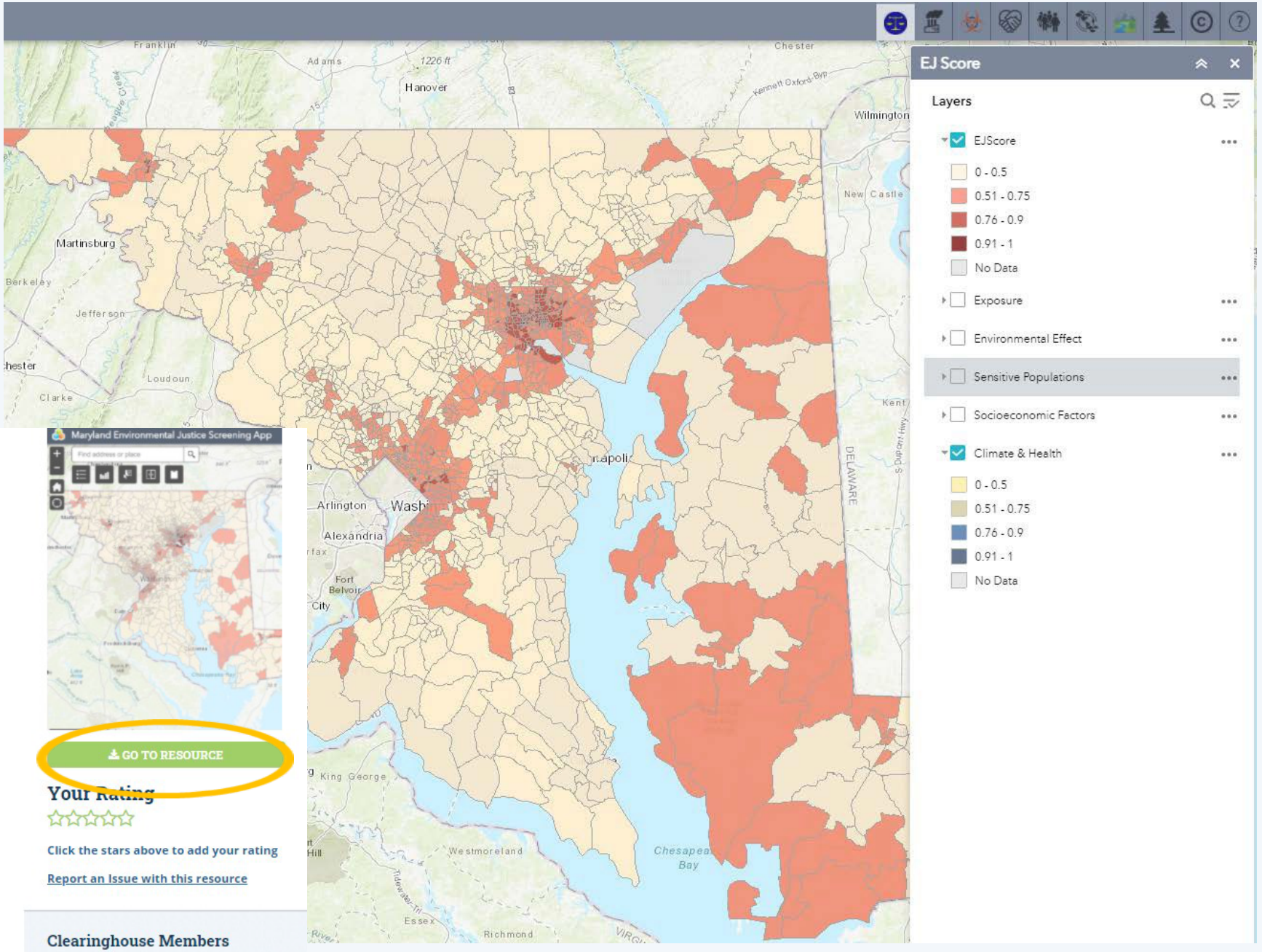


Case Study Ex



Maryland Environmental Justice Screen Tool (MD EJSCREEN)

The Maryland Environmental Justice Screen Tool (MD EJSCREEN) assesses environmental justice risks among census tracts in the state of Maryland. Developed by the Community Engagement, Environmental Justice, and Health Laboratory at the University of Maryland School of Public Health, this tool combines the average pollution burden of a community with the average population demographic characteristics to produce an Environmental Justice (EJ) score.[1] Stakeholders advocacy resulted in the inclusion of six indicators of EJ risk specific to Maryland: asthma, emergency room discharges, percent non-White, proximity to treatment, storage and disposal facilities, myocardial infarction discharges, low birth weight infants, and particulate matter. Through this tool, Maryland residents can be better informed of disparities in EJ risk among different communities and their associated health impacts.

Low-income communities of color are more likely to face environmental stressors such as exposure to pollution and proximity to hazardous waste sites. Screening tools that analyze environmental justice risks could allow residents to assess and visualize the distribution of risk factors within different communities and their corresponding effects on health. Funded by the Town Creek Foundation and the Maryland Department of Natural Resources, MD EJSCREEN builds off of two previous tools used to assess environmental justice risks: the U.S. Environmental Protection Agency's EJSCREEN tool and California's CalEnviroScreen tool. Researchers created MD EJSCREEN in order to better reflect health concerns specific to Maryland. In order to reflect the concerns of Maryland community members, this tool was developed using feedback from stakeholders such as Prince George's County Environmental Action Council (EAC) members, Port Towns residents, and the statewide Commission on Environmental Justice and Sustainable Communities.

The MD EJSCREEN uses Geographic Information System (GIS) and Public Participatory GIS mapping tools to calculate MD EJ scores for each census tract, which indicates the level of exposure to environmental justice risks. The Environmental Exposure and Environmental

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EQUITABLE ADAPTATION LEGAL & POLICY TOOLKIT [EDIT]

Community-Driven Engagement Processes

Introduction

Many climate change adaptation plans and related policies do not currently consider the specific needs of frontline communities. Approaches to resilience have not traditionally taken a holistic view of the social, economic, and cumulative environmental challenges that communities face. As a result, governments often overlook the needs of the marginalized and underrepresented communities when planning and implementing climate adaptation solutions even though these communities are the most vulnerable to climate impacts. In recent years, an increasing number of governments have recognized the value of community engagement but unfortunately, when governments and decision makers do engage communities, it is typically at the end of the decisionmaking process. Rather than investing in robust and authentic community engagement at the earliest stages of project design and planning, decisionmakers often engage in community consultation as an afterthought by simply "checking the box" once the planning process is substantially completed. When decision makers engage in such cursory

Jerome Ave Community Workshop, Bronx, NYC. Credit: NYC Department of Housing Preservation & Development

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Procedural Equity Principles and Action Items

There are a number of procedural equity principles that influence decisionmaking and include discrete tasks that should be implemented to ensure that community engagement mechanisms are included in adaptation planning processes.

Principle #1: Center Equity	Local governments can center equity when beginning planning processes and implementing resilience initiatives.
Principle #2: Support Empowered Communities	By including the insights and first-hand knowledge of community members, policymakers can incorporate community insights in decisionmaking about project objectives and outcomes while building capacity and knowledge about climate impacts and potential adaptation solutions.
Principle #3: Engage Effectively	When local governments hold effective engagement convenings and processes to collect input from all valued experts, including community members, the project is more likely to achieve desired outcomes and communities are more likely to benefit from the outcomes.
Principle #4: Be Accountable and Transparent	Be accountable and transparent about promises and outcomes of engagement.
Principle #5: Build Social Cohesion	Design engagement processes with a goal of building a socially cohesive society that is one that works toward the well-being of all members, promotes trust and belonging, and provides opportunities for upward social mobility.

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environmental co-benefits (e.g., reducing air pollution and urban heat islands).

Related Resources

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LA Green Zones Program: Groundtruthing

The Los Angeles County, California, Department of Regional Planning (DRP) developed the Green Zones Program in 2015, to attain equitable development for the next 20 years, and to help update the Los Angeles County General Plan. Centering on environmental justice and community engagement, the program aimed to ensure that residents of all income levels can enjoy the development of the County under the changing climate and severe heat. The Green Zones Program Framework contained four elements: land use policy, community engagement, environmental justice screening map, and prevention and mitigation. "Groundtruthing" was the main procedural tool utilized by the program to collect and study the potential environmental hazards information in the communities. It emphasized the importance of collaboration with community members and community-based organizations. Groundtruthing was not a one-time event, but a continuing effort between the government and the local communities.

View Resource

Citizen Science: Mapping Urban Heat Islands in Richmond, Virginia

The urban heat island mapping project in Richmond, Virginia is a collaborative project that brings community members together to collect temperature variation data in order to design community-scale adaptation plans. Richmond is a highly populated city that has encountered increased urban heat island effect in recent years. While current technology such as satellites can provide city-scale urban heat data, a more detailed, block-by-block examination of temperature variation in each community has to be studied to understand which communities are most vulnerable to the extreme heat. "Citizen-scientists" were gathered to help measure temperatures in their own city, and related human activities or land use. The citizen-scientists included students from the University of Richmond and Virginia Commonwealth University, the Virginia Academy of Science, the City of Richmond's Sustainability Office, and Groundwork RVA - a nonprofit focused on empowering local young people in the communities.

View Resource

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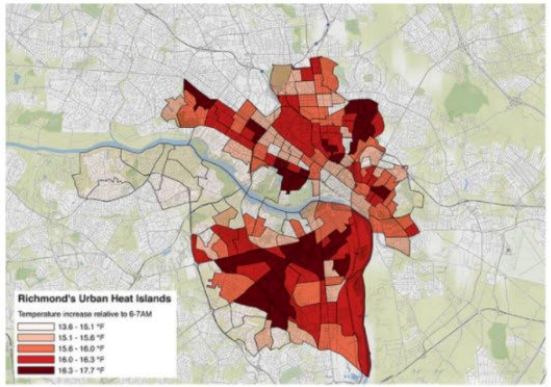
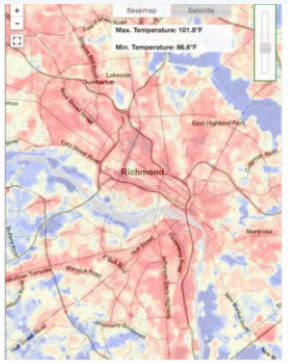
The project began with community engagement to record temperatures across the city. Instead of using expensive and complicated hi-tech tools, simple hand-made devices were utilized by citizen-scientists to measure the air temperature, while marking time and location. During the first major heatwave, the citizen-scientists divided into 15 teams to survey planned routes by car or bikes equipped with devices for data collection. The data was then input into an open-source software package created by scientists at Portland State University, which incorporated the federal National Land Cover Database and U.S. Census Bureau's American Community Survey data. Through this process, the researchers are able to connect types of land use with local air temperatures, and further, identify the warmest communities with most impermeable surfaces and less tree canopy. The research group also found that these warmest communities are mostly low-income families that are most vulnerable to the heatwave and most frequently call for heat-related emergency help.



The map displays the urban heat vulnerability by census block group in Richmond.



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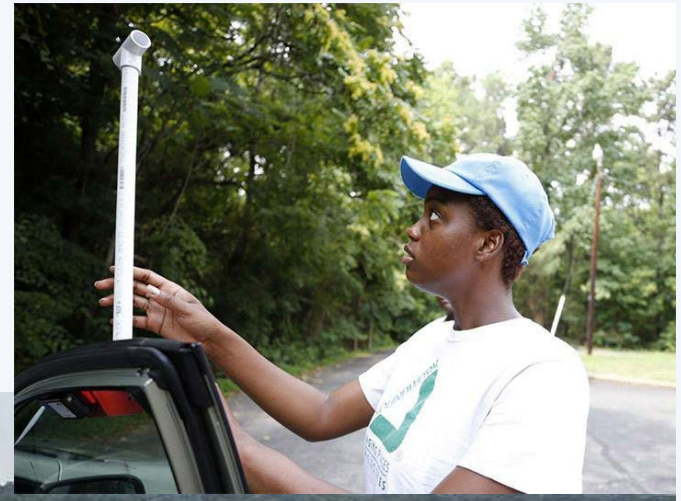


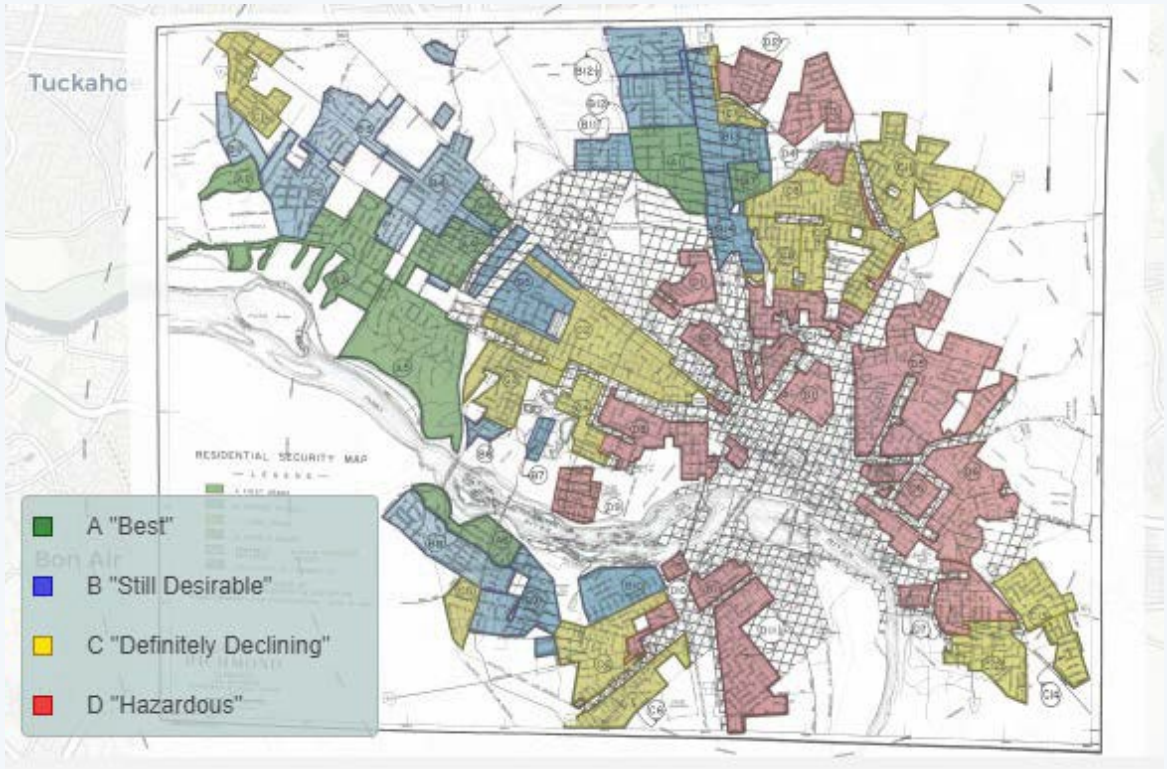
Image: Where Do We Need Shade? Mapping Urban Heat Islands in Richmond, Virginia

FLIR thermal imaging camera to document change over time

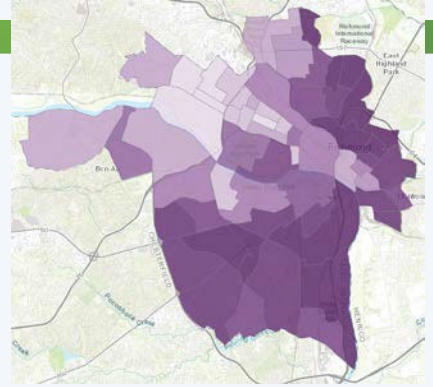
City of Richmond RVAgreen 2050

THE MAPPING INEQUALITY PROJECT

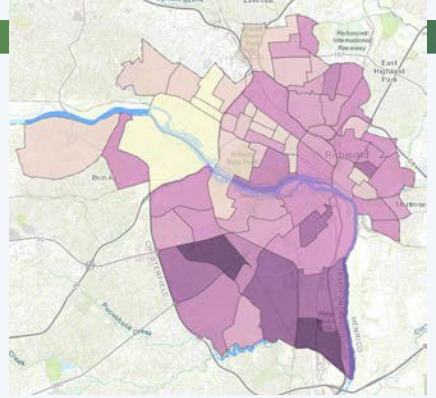
by University of Richmond's Digital Scholarship Lab, Virginia Tech, the University of Maryland and Johns Hopkins University.



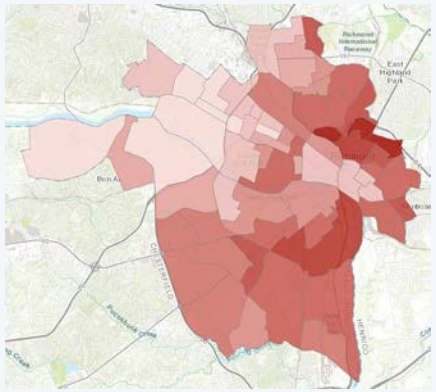
"Residential Security Map" (1937)



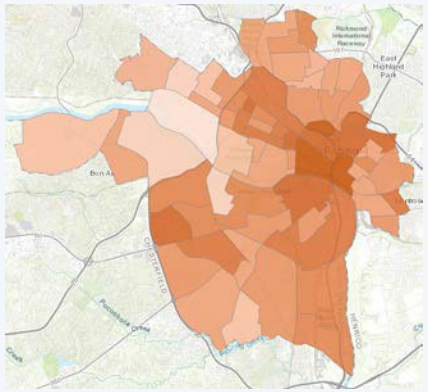
% "Minorities" (all persons except "White - Not Hispanic or Latino")



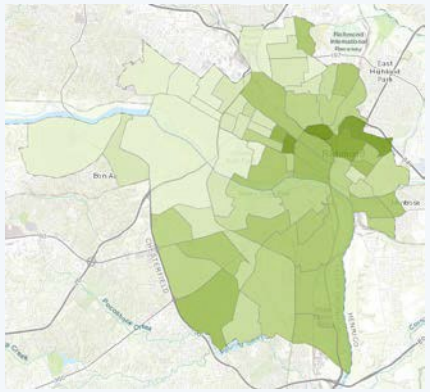
% Uninsured



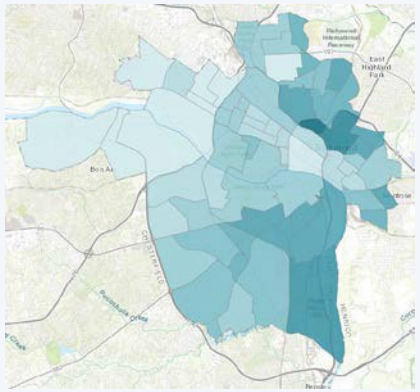
% Adults with Asthma



% Housing Units Occupied by Renters



% Below Poverty Level



% Housing Units w/o Central A/C

Equitable Adaptation Solutions Chapters

Economic Resilience

Resilient Water

Natural Resilience
& Green Space Access

Resilient Energy &
Utility Industry
Measures

Resilient Affordable
Housing,
Anti-Displacement &
Gentrification

Disaster Preparedness,
Response & Recovery

Public Health

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Breaking down the subj. solutions chapters:

Chapter

Equitable Disaster Preparedness, Response & Recovery

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- LA SAFE
- Minot, North Dakota Affordable, Resilient "Buy-in" Program
- Directing Funding to Receiving Communities: Lumberton, NC
- USDN Guide to Developing Resilience Hubs
- Miami, FL Resolution on Climate Gentrification
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- The Texas Title Project
- Three Years After Hurricane Sandy
- Our Power Puerto Rico
- Princeville, NC Heritage-based practice
- San Diego: Annex Q Evacuation
- Miami Catalyst Disaster Savings Account
- HUD CDBG-DR

Case Study:

Baltimore, MD 2018 Disaster Preparedness & Planning Project (DP3)

Spotlight on Equity

The 2018 DP3 places a stronger emphasis on community engagement and equity than previous hazard mitigation plans. The Equity and Outreach Sub-Committee encouraged the consideration of an equity framework for DP3. The sub-committee intentionally formed a sample representative of Baltimore's demographic composition, with a focus on residents most vulnerable to natural hazards.

Groups engaged for input included: Senior centers, Family and early life organizations, Community organizations, Faith-based organizations and churches, Organizations supporting homeless populations, and the Housing Authority of Baltimore City (Public Housing).

The DP3 offers several specific strategies to increase social equity in Baltimore, such as to:

- Prioritize retrofitting and increasing the resiliency of Public Housing units in the designated Flood Area and other high-risk areas
- Prior to a hazard event, identify lead contacts serving vulnerable populations and coordinate actions to maximize safety and information sharing
- Given increasing premiums, identify programs and grants that assist citizens in purchasing flood insurance and making flood proofing changes

Storm surge potential with Sea Level Rise for Category 1 (blue), Category 2 (green), Category 3 (yellow), and Category 4 (red) hurricanes in the Baltimore Inner Harbor. *Source: USACE Storm Surge Modeling*

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Thank you!

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