

Emerging Governance Structures for Climate Resilience

June 2, 2023

Nutter, McClennen & Fish LLP, Boston

and

Streaming on Zoom



**Sustainable
Solutions Lab**

WELCOME

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Forum Organizer

*Executive Director
RPS Ocean Science*

FORUM CO-CHAIRS

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Partner

Foley Hoag LLP

Deanna Moran

Vice President for Healthy & Resilient Communities

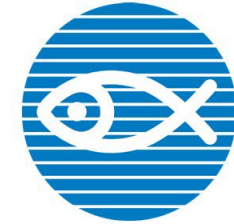
Conservation Law Foundation

EBC Environmental Business
Council of New England

UMass Boston **B** Sustainable Solutions Lab

AECOM

Weston & SampsonSM



**New England
Aquarium**



RPS MAKING
COMPLEX
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Nitsch Engineering

**WOODS HOLE
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A CLS COMPANY

**CDM75th
Smith**

Tt TETRA TECH



Barr Foundation

**Union of
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Science for a healthy planet and safer world



clf
conservation law foundation



**BOSTON
HARBOR
NOW**



MASS ECAN
Massachusetts Ecosystem
Climate Adaptation Network

BSLA
Boston Society of
Landscape Architects

CLEAN WATER ACTION | CLEAN WATER FUND

BSA BOSTON SOCIETY
OF ARCHITECTS/AIA

Mass Audubon
Protecting the Nature of Massachusetts

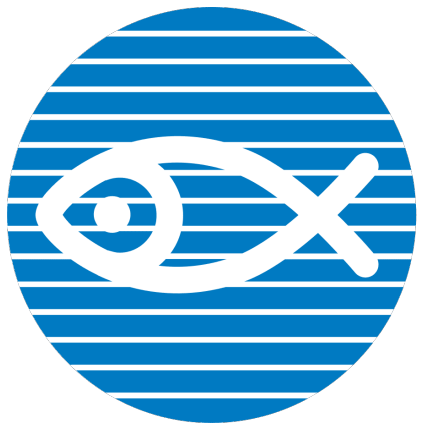
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Julie Eaton Ernst

*Resiliency Team Leader
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**New England
Aquarium**

Luz Arregoces

*Director of Community Relations
New England Aquarium*

WELCOME FROM HOST

Brent McDonald

Of Counsel

Nutter, McClennen & Fish LLP

PROGRAM INTRODUCTION

Deanna Moran

Forum Co-Chair

*Vice President for Healthy & Resilient Communities
Conservation Law Foundation*

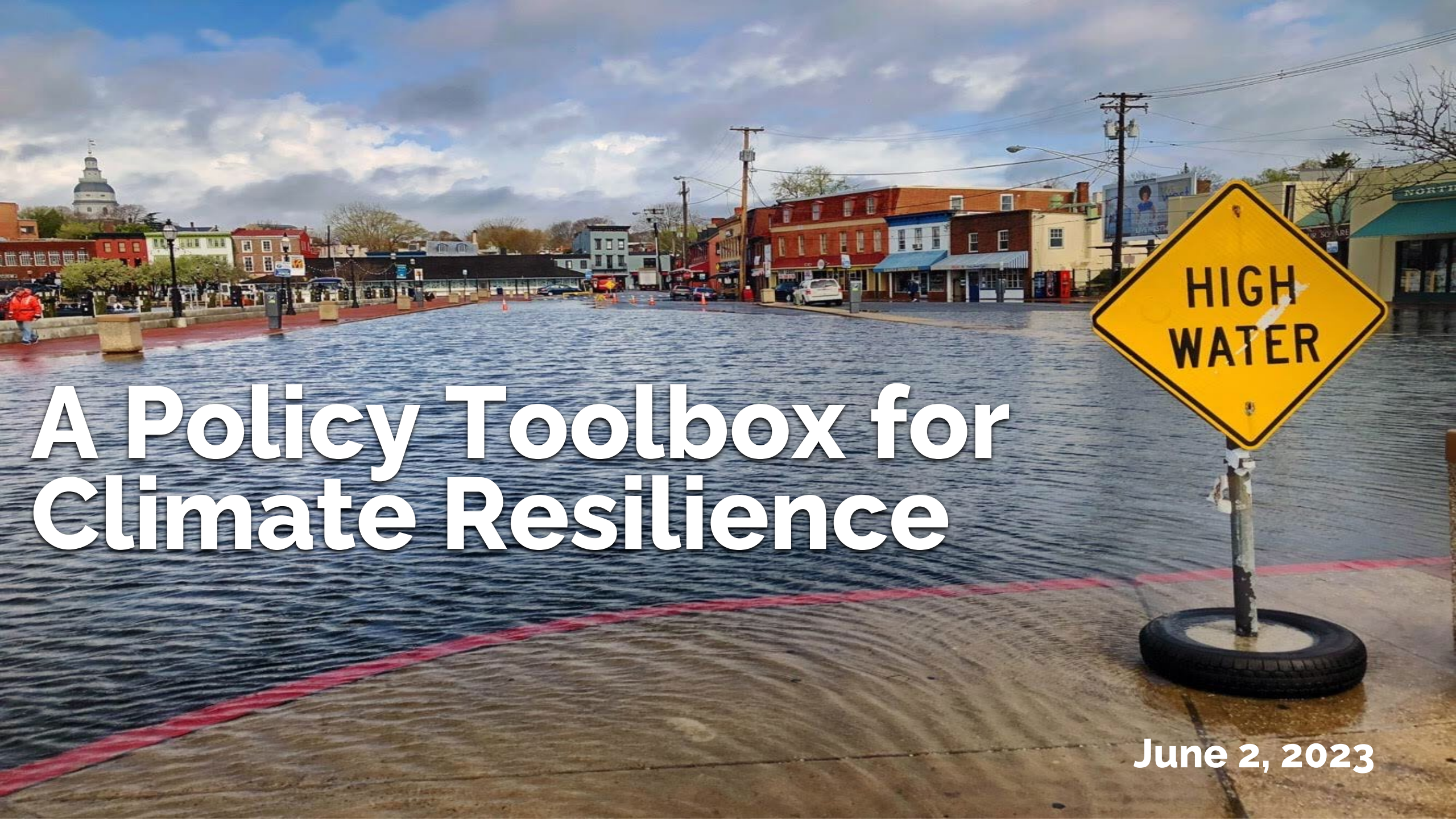
Keynote Presentation

A Policy Toolbox for Climate Resilience

Senator Sarah Elfreth

Maryland

District 30, Anne Arundel County



A Policy Toolbox for Climate Resilience

June 2, 2023

A changing climate requires a new set of policy tools

**Establishing
Resilience
Authorities**

**Setting
ambitious
policy goals**

**Implementing
strategic
policy tools**

**Mitigating &
responding to
climate
change
impacts**

Maryland's Inflection Point

3,100 miles of tidal shoreline

- From 2000 to 2020, precipitation in Maryland increased by 2.63 inches per decade
- The Northeast Atlantic region saw 100 to 150 percent more flood days in 2020 than in 2000
- Projected sea level in the Chesapeake Bay will rise up to 2.1 feet by 2050 in a 2013 report

**Elevation
(meters)**

0 2 5

Shore Protection Almost Certain

Shore Protection Likely

Shore Protection Unlikely

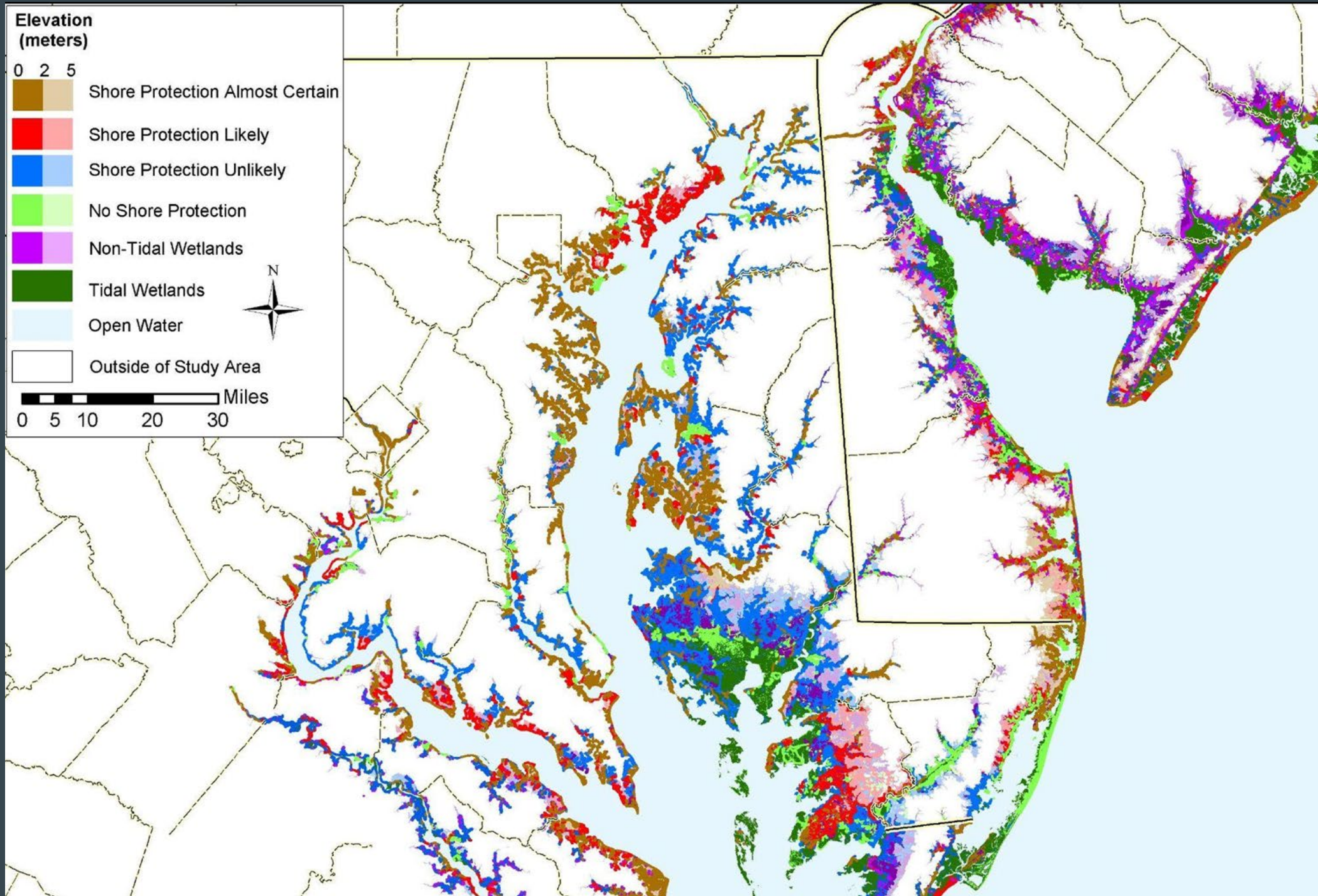
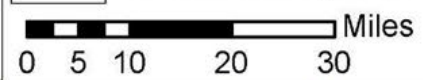
No Shore Protection

Non-Tidal Wetlands

Tidal Wetlands

Open Water

Outside of Study Area



Annapolis sees
50 to 60 days
of nuisance or sunny day
flooding annually.



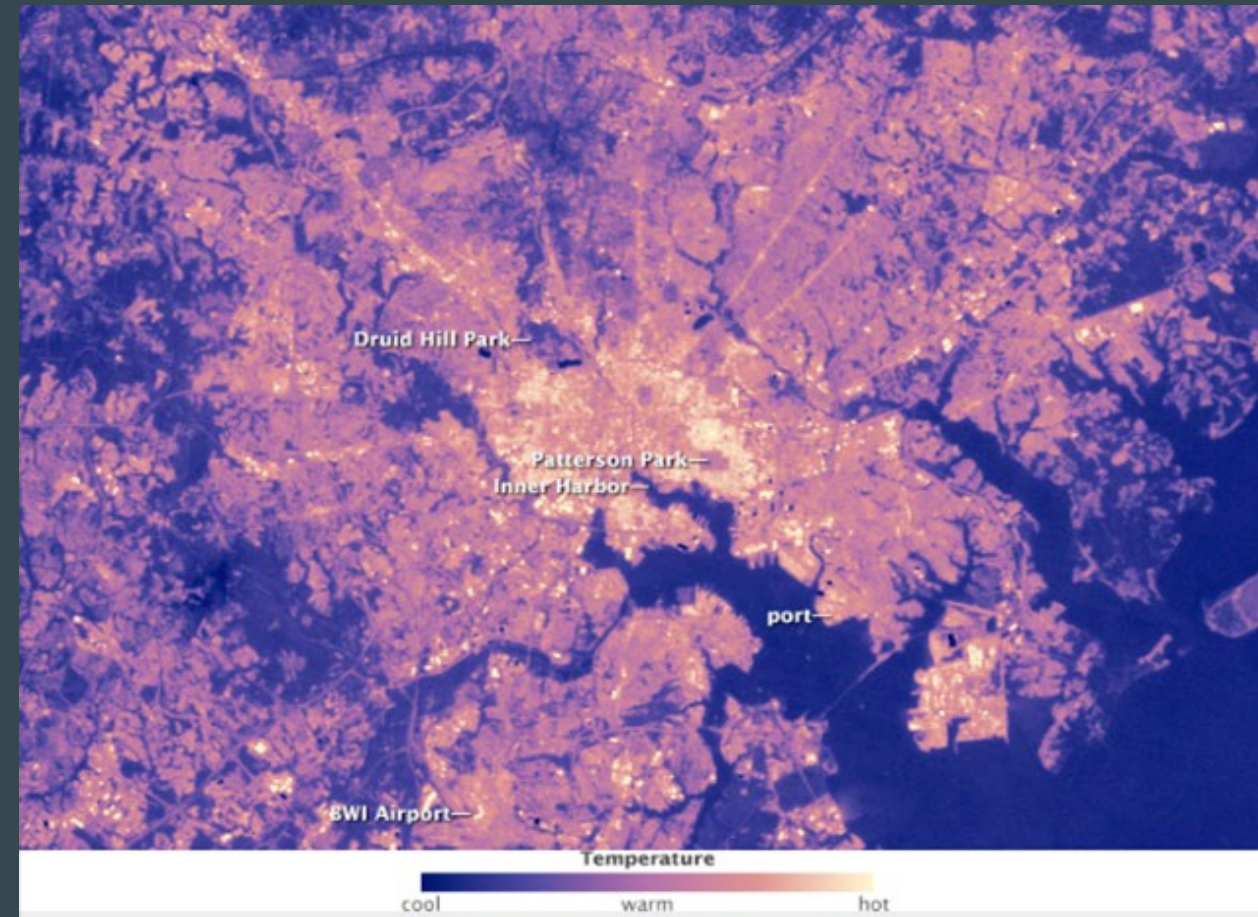
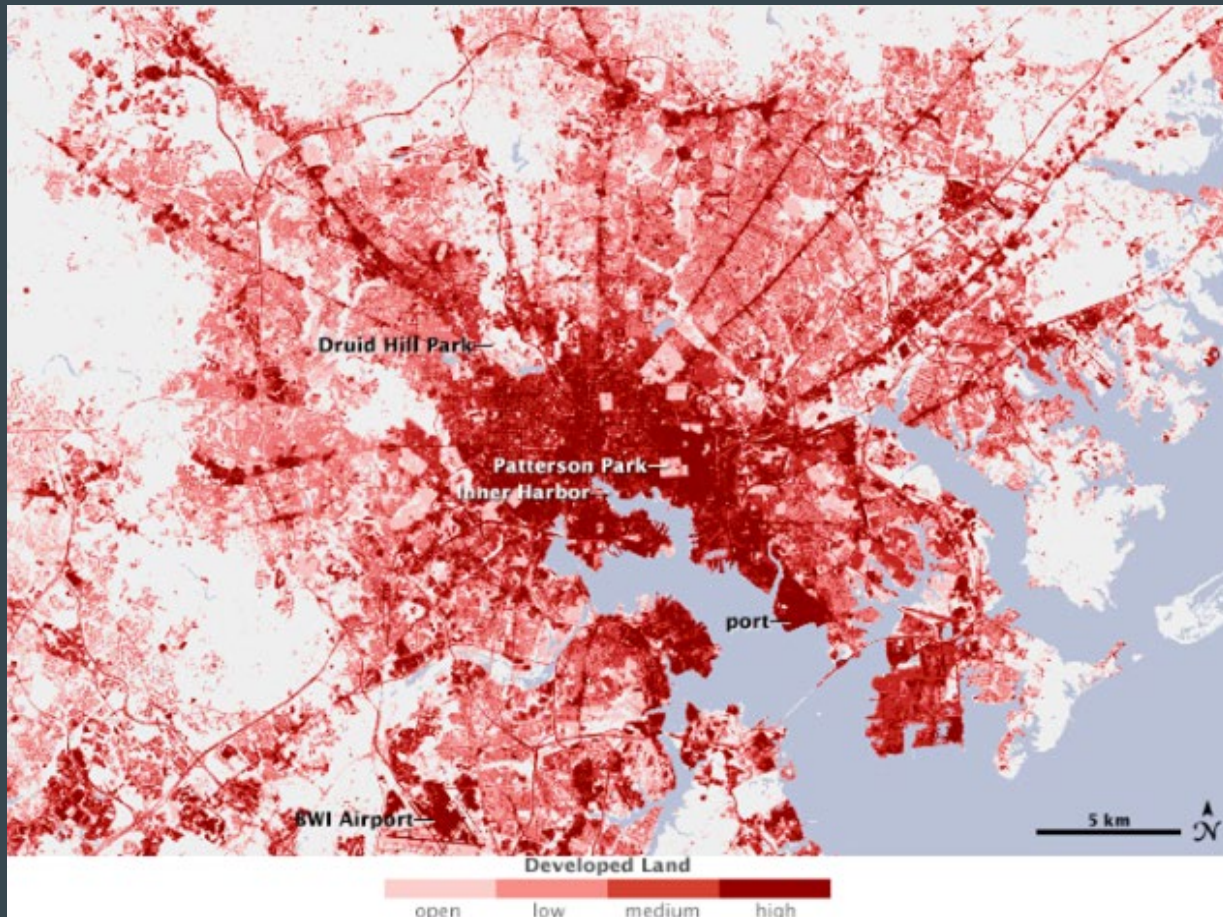


Ellicott City saw
**two 1,000 year
floods in two years**

due to flash flooding and over-
development, resulting in
three lives lost and tens of
millions in damages.



Baltimore City sees temperatures **10 degrees warmer** than surrounding suburbs.



Half of **Dorchester County** is expected to be **underwater by 2050** and saltwater intrusion is already threatening wells and formerly prime agricultural land.



Maryland's advantages

→ **Smart mapping**

Partnership between MD
Department of Natural
Resources & NOAA

→ **Experts at the ready**

University of Maryland Center
for Environmental Science &
University of Maryland Center
for Environmental Finance

Maryland's disadvantages

→ **No centralized strategy or coordination**

→ **No mechanism to build the complex infrastructure needed to combat climate change**



The spark:

Annapolis City Dock project is a

\$45 million plan

to preserve maritime history by raising the dock by 7 to 8 feet and building more public green space.



The question:

How do we pay for the major infrastructure required to save and build more resilient communities?

Senate Bill 457: Local Governments - Resilience Authorities - Authorization

Goals of the legislation:

- Enables counties & municipalities, individually or jointly, to form “Resilience Authorities”
- Authorizes RAs to issue bonds to serve as the vehicle to fund critical infrastructure
- Allows localities to direct general fund revenue to RAs

Preamble

WHEREAS, The impacts from climate change are happening now in communities across the State of Maryland; and

WHEREAS, These impacts include rising temperatures, major rain and storm events, sea level rise, and changes in precipitation patterns; and

WHEREAS, Those things that Maryland communities depend upon and value – natural resources and ecosystems, energy, transportation, agriculture, cultural and historic resources, human health, and economic growth – are experiencing, and will continue to experience, the effects of climate changes; and

WHEREAS, Communities in coastal states account for nearly half of the nation’s population and economic activity, and that cumulative damage to property in those areas could reach \$3.5 trillion by 2060; and

WHEREAS, Local governments will bear much of the responsibility and cost required to mitigate the impacts of climate change through infrastructure investment; and

WHEREAS, Resilience financing authorities can work in partnership with local governments to accelerate infrastructure financing, reduce the cost of implementation, and mitigate and manage the risks of climate change; now, therefore,

Senate Bill 457: Local Governments - Resilience Authorities - Authorization

Definitions & limitations

- Funds “resilience infrastructure projects” to include flood barriers, green spaces, building elevation, and stormwater infrastructure that address the effects of climate change
- Defines eligible projects as those that address sea level rise, nuisance flooding, increased rainfall, erosion, and temperature rise

(B) A RESILIENCE AUTHORITY ~~MAY HAS~~ AND MAY EXERCISE ALL POWERS NECESSARY OR CONVENIENT TO UNDERTAKE, FINANCE, MANAGE, ACQUIRE, OWN, CONVEY, OR SUPPORT RESILIENCE INFRASTRUCTURE PROJECTS, INCLUDING THE POWER TO:

(1) ACQUIRE BY PURCHASE, LEASE, OR OTHER LEGAL MEANS, BUT NOT BY EMINENT DOMAIN, PROPERTY FOR RESILIENCE INFRASTRUCTURE;

(2) ESTABLISH, CONSTRUCT, ALTER, IMPROVE, EQUIP, REPAIR, MAINTAIN, OPERATE, AND REGULATE RESILIENCE INFRASTRUCTURE OWNED BY THE INCORPORATING LOCAL GOVERNMENT OR THE RESILIENCE AUTHORITY;

(3) RECEIVE MONEY FROM ITS INCORPORATING LOCAL GOVERNMENT, THE STATE, OTHER GOVERNMENTAL UNITS, OR ~~NONPROFIT~~ PRIVATE ORGANIZATIONS;

(4) CHARGE AND COLLECT FEES FOR ITS SERVICES;

(5) SUBJECT TO THE APPROVAL OF THE LOCAL GOVERNING BODY, CHARGE AND COLLECT FEES TO BACK ITS BOND ISSUANCES;

(6) HAVE EMPLOYEES AND CONSULTANTS AS IT CONSIDERS NECESSARY;

(7) USE THE SERVICES OF OTHER GOVERNMENTAL UNITS; AND

Senate Bill 457: Local Governments - Resilience Authorities - Authorization

Definitions & limitations

- Local governments have flexibility in defining size of and terms of the board of RAs
- Requires annual reporting to relevant committees of the General Assembly
- RAs CAN NOT raise taxes (this remains the sole discretion of the local governing body)
- RAs CAN NOT exercise eminent domain to expropriate private property for public use

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(7) USE THE SERVICES OF OTHER GOVERNMENTAL UNITS; AND

Advantages of a Resilience Authority

- Exist outside of local government procurement process, resulting in greater efficiency & speed of project completion
- Any debt service incurred by the RA does not accrue to the local government's debt ceiling policy, thereby limiting the number of projects underway at any given time
- As a non-profit, the RA is eligible to apply for certain grant funding for which local governments either aren't eligible or are not considered competitive
- RAs can make decisions outside of the political process, thereby has greater flexibility to:
 - ◆ Address priority projects
 - ◆ Address non-local government (e.g. private or P3) projects
- RAs provide greater flexibility to embrace innovative solutions, including:
 - ◆ Water Quality Revolving Loan Fund
 - ◆ Pay for Performance model contracts
 - ◆ Combination funding from multiple sources
- Scalable to address larger projects as local governments grow & projects become more complex

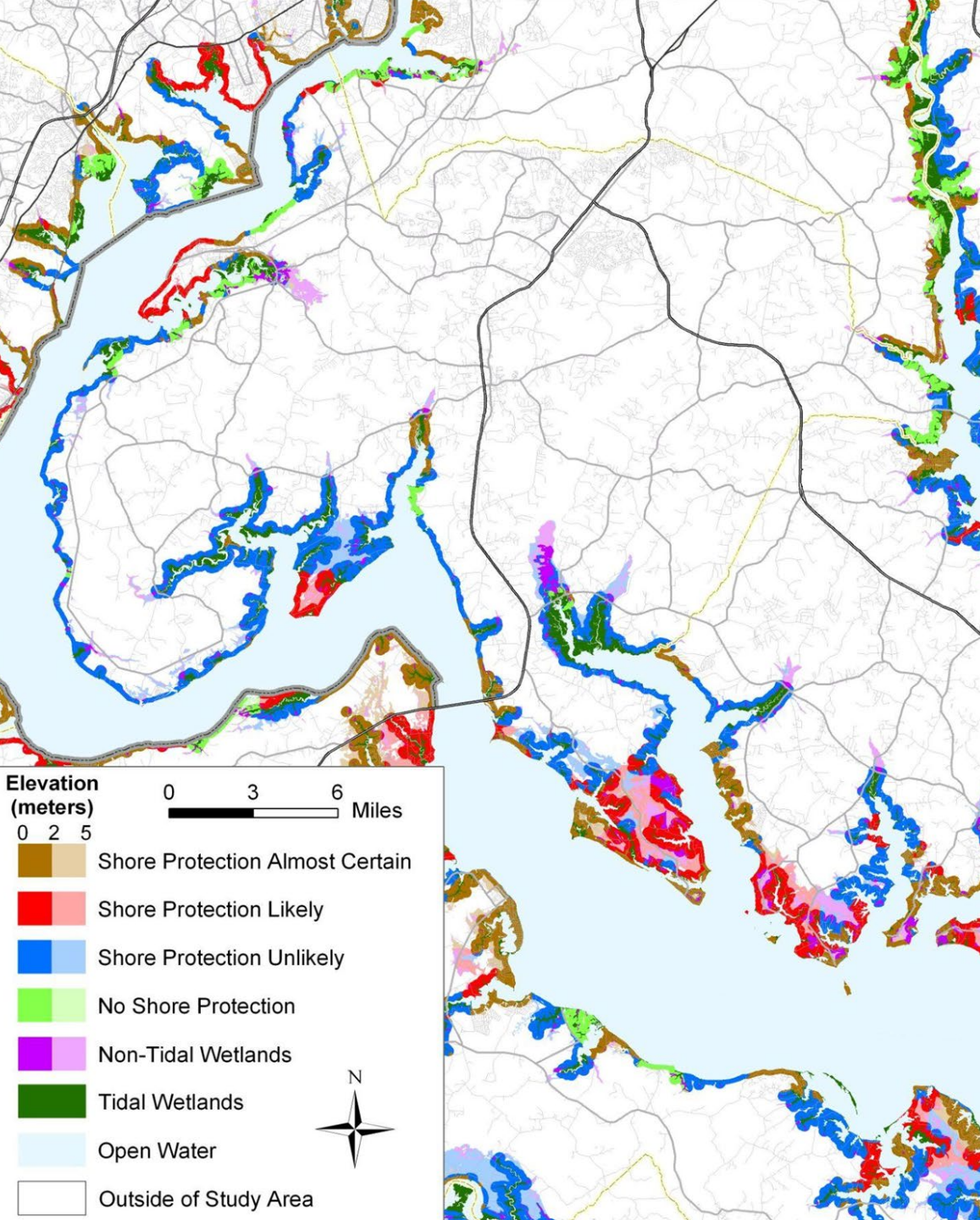


Resilience Authorities in Action: Annapolis

- Status: RA formed, board appointed, Executive Director hired
- Identified portfolio of 17 projects for coastal rehabilitation (harnessing nature for risk reduction) from private landowners, the state and county to support implementation.

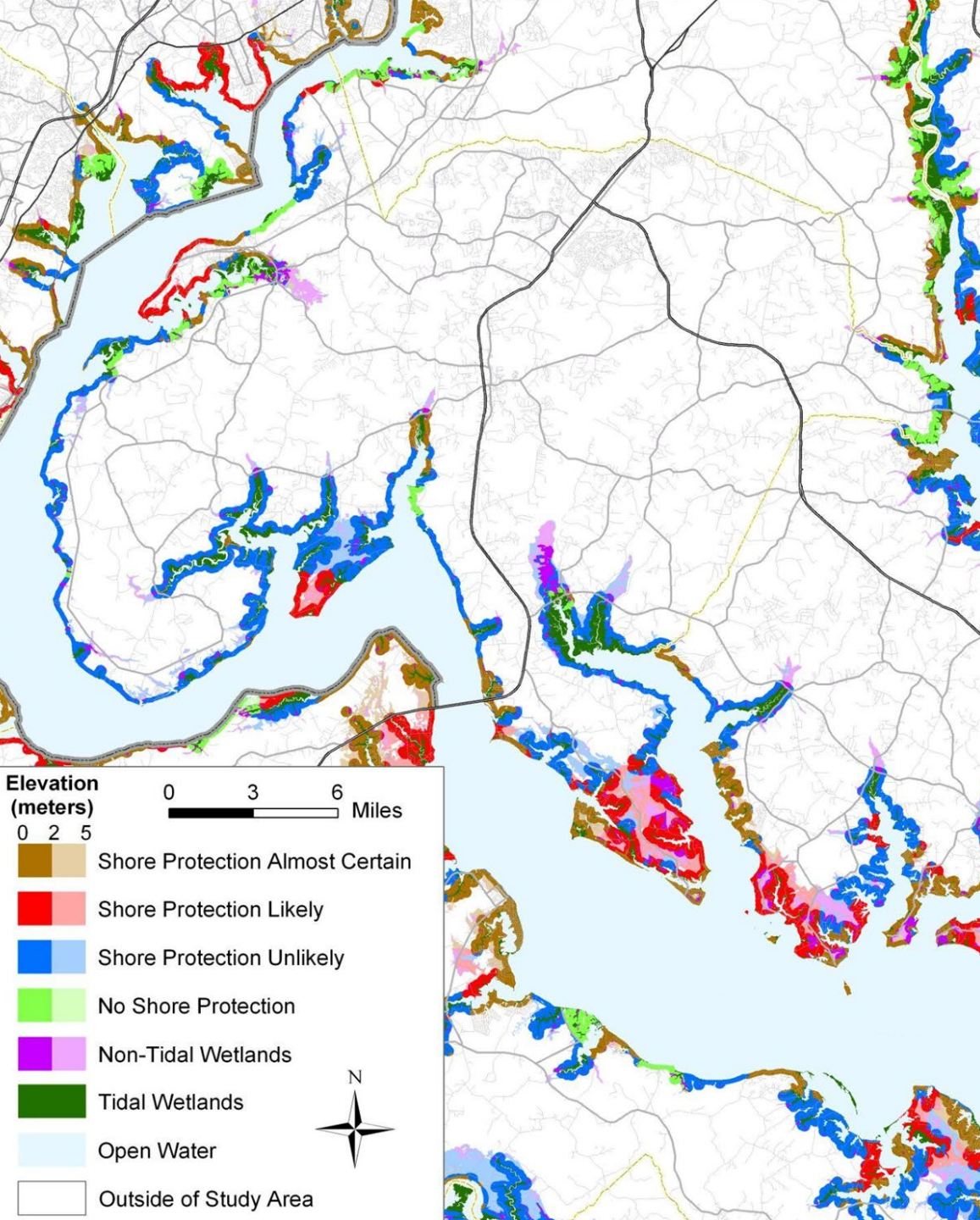
RAs in Action: Charles County

- DNR Grants Gateway funded a study of Zekiah Watershed Urban Flooding, and CCRA is now working with DNR to submit a proposal that will turn this climate challenge into an opportunity to remedy stormwater flooding holistically and incorporating green infrastructure that has the co-benefits of creating green space and trees that also provide air quality, water quality, and cooling benefits
- Five Million Trees partnership: CCRA Partnered with Casey Trees and Waldorf New Hope Community Outreach Services



RAs in Action: Charles County

- CCRA is joining DNR's application for NOAA's Coastal Zone Management grant with a project on the the first waterfront public access site with a beach in Charles County. This area presents the challenge of flooding and is in a Coast Smart Climate Ready Action Boundary, with high tide and storm flooding hazards and is characterized by EJ-Climate Sensitive Populations and is an area of high concern re Climate and Health.
- Creating a Community Based Climate Resilience Hub in Waldorf through a partnership with New Hope Community Outreach Services and potentially the new "Year of Service" program through the State's new Department of Service and Civic Innovation.





Other tools for Climate Resilience

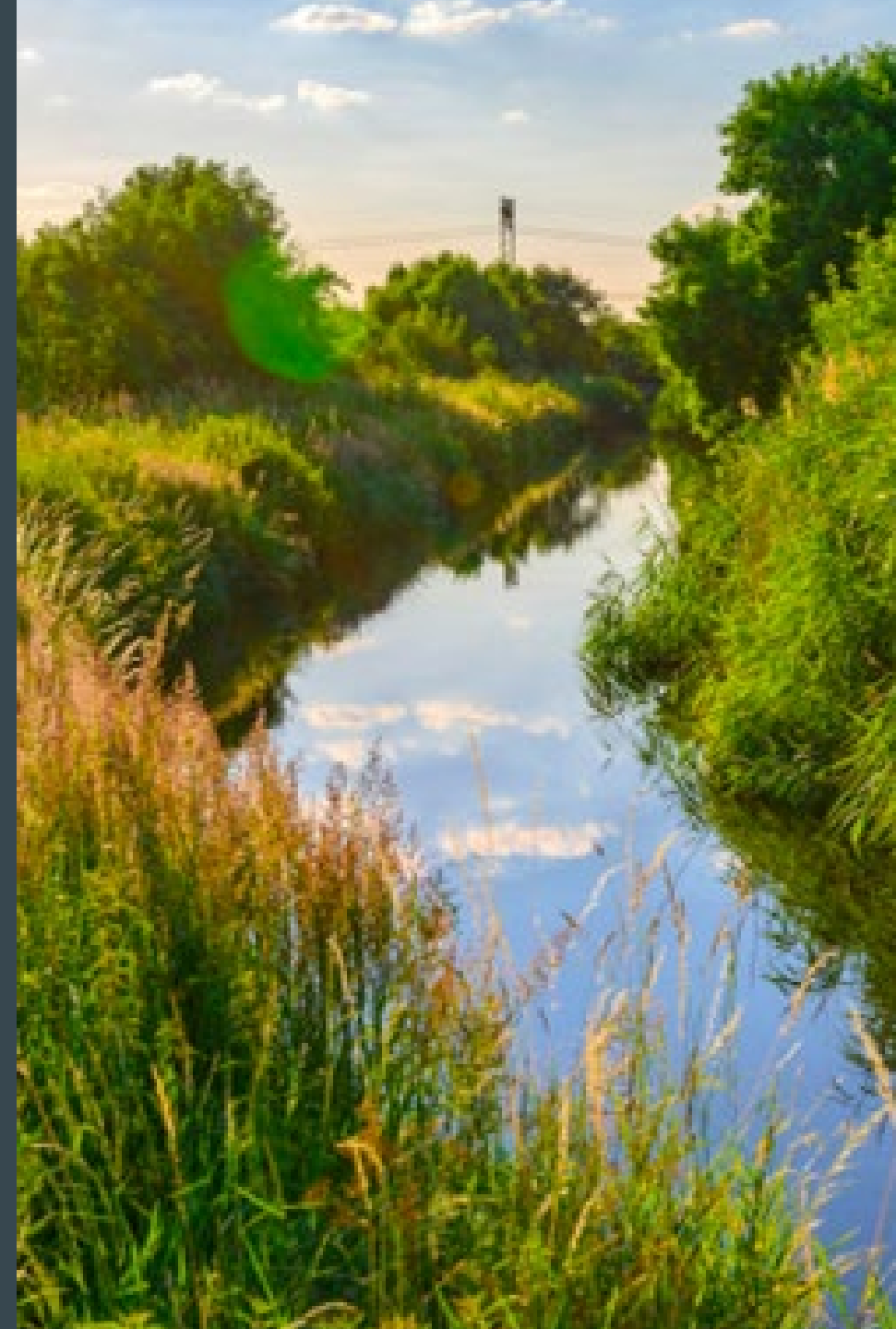


Ambitious policy goals

- **Clean Energy Jobs Act (2019)**
Goal: Achieve 50% renewable energy by 2030, 100% thereafter
- **Climate Solutions Now Act (2022)**
Goal: Reduce greenhouse gas emissions by 60% by 2031
- **Maryland the Beautiful Act (2023)**
Goal: Preserve 30% of the State's lands by 2030 and 40% by 2040

Strategic policy tools

- **State Retirement & Pension System – Investment Climate Risk – Fiduciary Duties (2022)**
Ensures SRPS consider climate change as a financial factor when making investment decisions
- **Equitable & balanced clean energy policy**
Community solar, incentives to develop solar for low- and moderate-income neighbors, innovative tax policy
- **Great Maryland Outdoors Act (2022)**
Record investment in State Parks, including a \$5 million set-aside for blue & green infrastructure
- **Forest Conservation Act (2023)**
Critical update to forest preservation law, prioritizing riparian buffers, multifamily housing, & contiguous forest
- **Buy Clean Maryland Act (2023)**
Prioritizes clean concrete in State procurement





Mitigating & responding to climate change impacts

- **Updating of science in law (2020)**
Requires immediate & consistent updates to rainfall data used in stormwater & construction standards
- **Chief Resilience Officer (2022)**
Establishes a “resilience czar” to oversee and coordinate statewide strategy
- **State Disaster Recovery Fund (2023)**
Establishes a \$10 million fund for the state to assist local governments in instances of microstorms & disasters

Senator Sarah Elfreth

e. Sarah@SarahElfreth.com

f. @SarahforSenate

i. @SenatorSarahE

t. @SenatorSarah

Questions

United for Climate: Local Government Collaboration on Resilience

Suzanne Smith

Executive Director

Sonoma County

Regional Climate Protection Authority



UMass
Boston



Sustainable
Solutions Lab

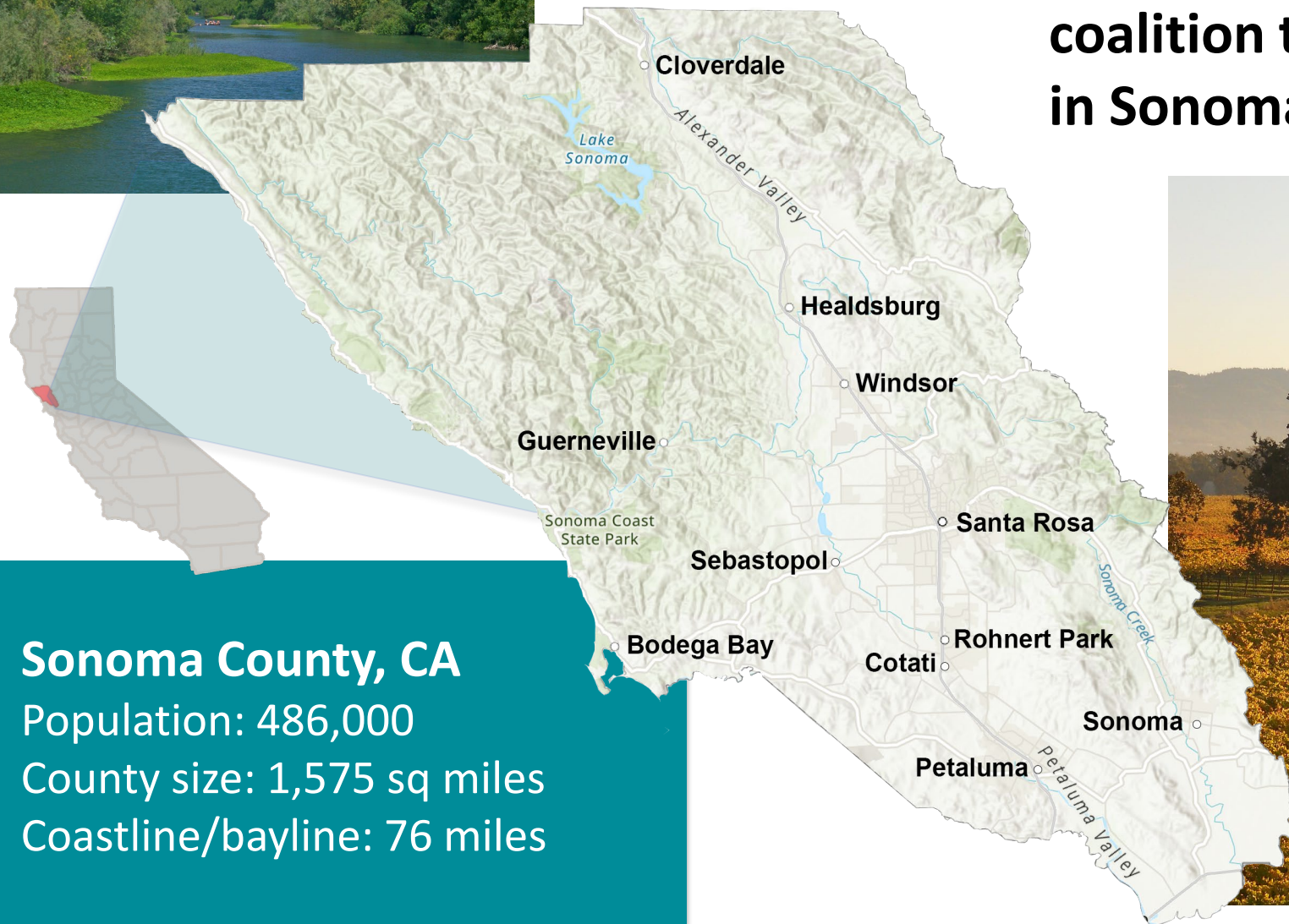
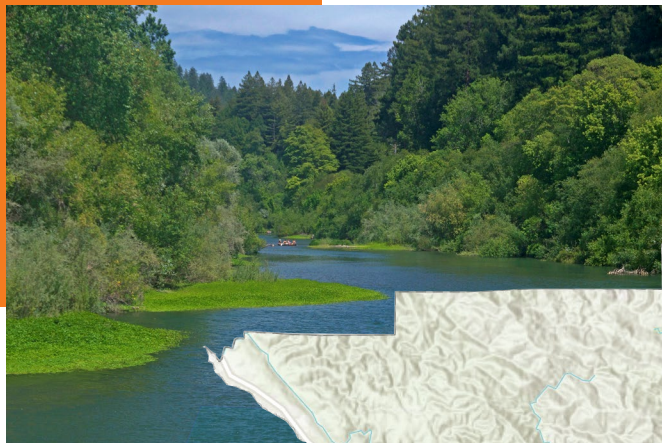
CLIMATE
ADAPTATION
FORUM



United for Climate: Local Government Collaboration on Resilience

Suzanne Smith, Executive Director
Sonoma County Regional Climate Protection Authority
presenting at
Emerging Governance Structures for Climate Resilience
Climate Adaptation Forum
Boston, MA
June 2, 2023

Mission: RCPA leads a local government coalition to mobilize climate action in Sonoma County



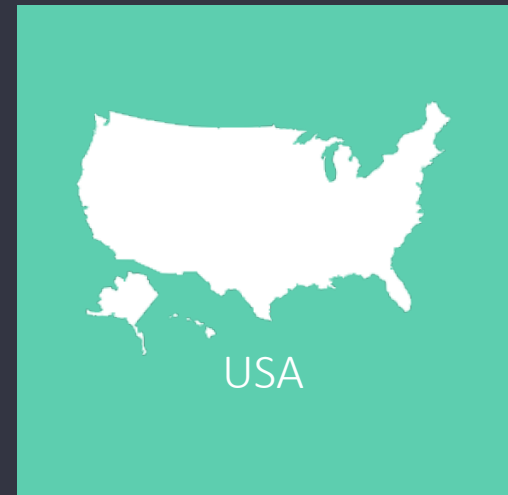
Sonoma County, CA

Population: 486,000

County size: 1,575 sq miles

Coastline/bayline: 76 miles





RCPA Accomplishments

RCPA Created

SHIFT Sonoma

Sonoma Climate
Mobilization
Strategy

Carbon
Neutral
By 2030

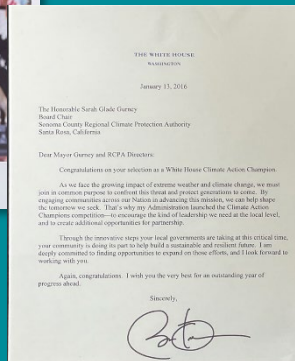


Climate Action 2020
and Beyond

Climate Emergency
Resolutions

Climate Protection
Initiative

Recognized as a
White House
Climate Action
Champion in 2014



**SONOMA CLIMATE
MOBILIZATION**
RESILIENT · EQUITABLE · TRANSFORMATIVE



**SONOMA CLIMATE
MOBILIZATION**
RESILIENT · EQUITABLE · TRANSFORMATIVE

Initiative	Strategy
Transportation	<ul style="list-style-type: none">• Drive Less Sonoma County Campaign• EV Access for All Partnership• Sonoma County Vehicle Miles Traveled Mitigation Bank
Buildings	<ul style="list-style-type: none">• All-Electric Buildings Campaign• Carbon-Free Electricity
Land and Water	<ul style="list-style-type: none">• Protect Existing Carbon Stocks• Increase Carbon Stocks• Scale Up Infrastructure for Sequestration
Environmental Justice and Community Engagement	

Climate Resilience District (CRD)

Authorizes local agencies to form a special district to deal with climate adaptation and mitigation.

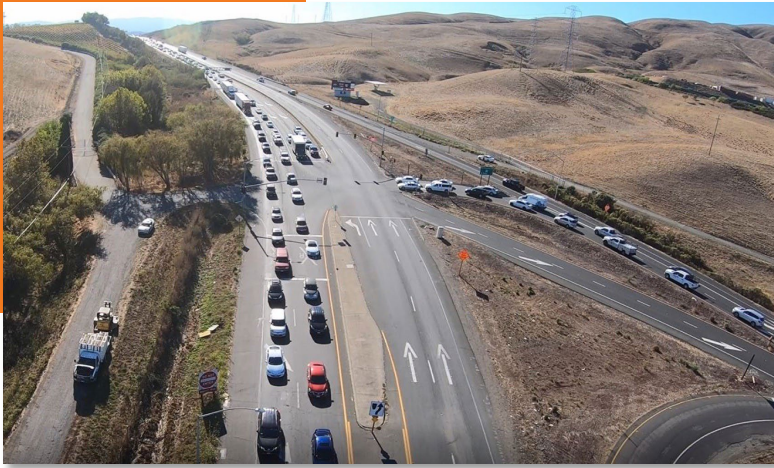
- Parcel tax
- Sales tax
- Tax increment financing
- Benefit assessments
- Service charges
- Gifts, fees, and grants from public and private entities
- Ability to issue revenue and GO bonds
- No eminent domain authority



Climate Protection Initiative (CPI)

Establish stable, reliable local funds to address climate change

- Ad Hoc Committee was created by RCPA Board in 2021 and community-based Steering Committee in 2022
- Explore options for a possible climate revenue measure in 2024
- Three focus areas derived from our Climate Mobilization Strategy:
 - Transportation
 - Buildings
 - Land and Water
- Polling
- Community engagement
- Expenditure plan development



Congestion/Backup



San Pablo Baylands



Project Example: State Route 37

Project Elements:

- Governance
- Infrastructure
- Baylands preservation and restoration
- Public access



Sea Level Rise/Flooding Impacts



Catastrophic Wildfires

Project Elements:

- Messaging and communication
- Assisting govt. collaboration
- Planning/permitting coordination
- Partner with NGOs and others for grants and resilience planning



**Project Example:
Disaster Recovery**



Extensive Flooding



Renewal Enterprise District (RED)

County of Sonoma | City of Santa Rosa

Project Example: Renewal Enterprise District / Housing Fund



Resilient Housing Construction

**Wildfire recovery – rebuild / build
new housing with priority on:**

- Infill/transit oriented
- Affordable/workforce
- Climate smart

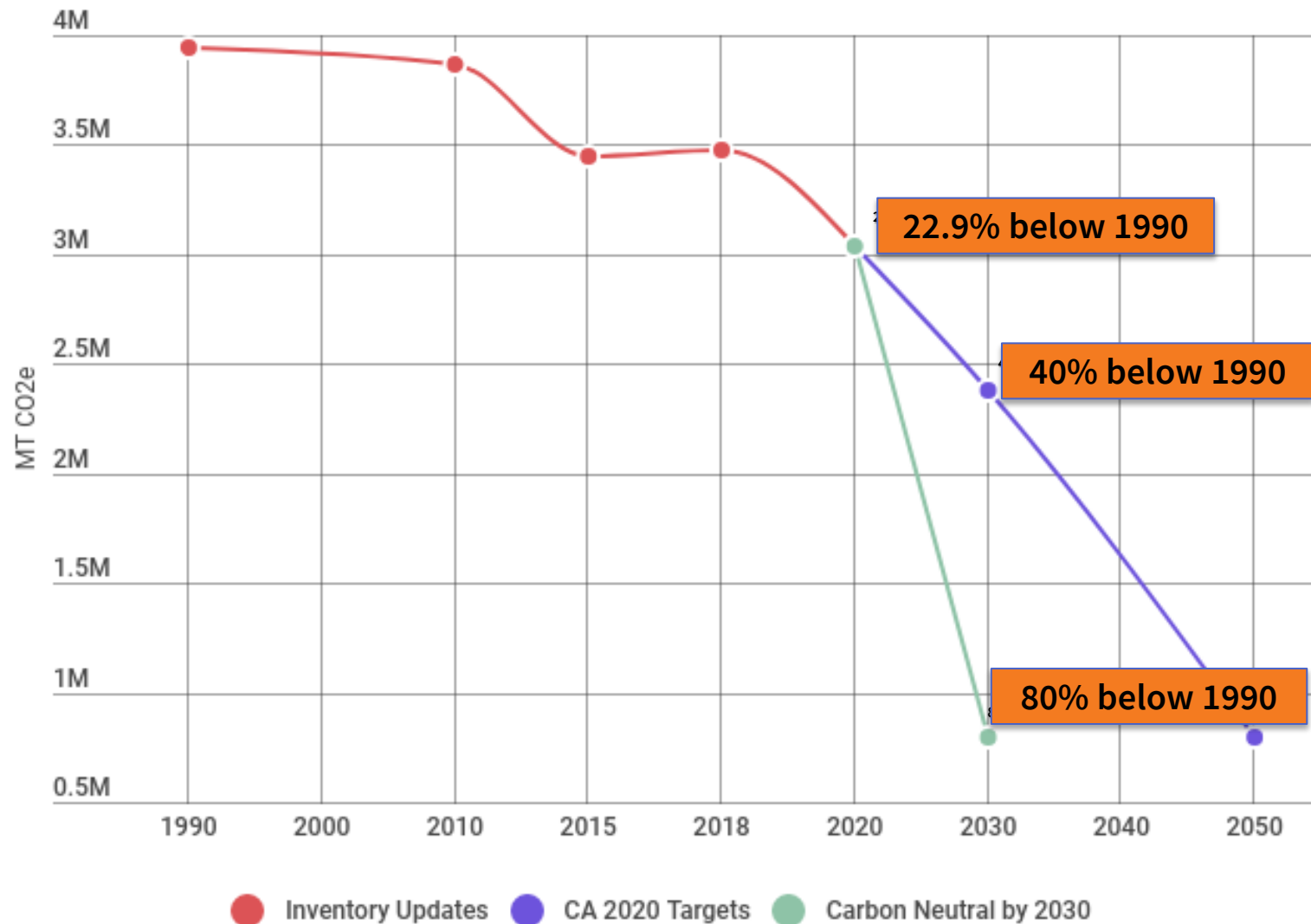


Energy Efficiency/Electrification

THANK YOU!



RCPA's 2030 Climate Goals



Decreasing Flood Risk with Regional Collaborations

Mark Rupp

*Adaptation Program Director
Georgetown Climate Center*

Decreasing Flood Risk with Regional Collaborations

Climate Adaptation Forum

June 2, 2023

Dubuque County. Photo credit: John Wiley

GEORGETOWN
CLIMATE CENTER



Georgetown Climate Center: What We Do

**Policy
Development**



**Convening &
Staffing Climate
Initiatives**



**Opportunities
for Students**



**Serve as a
Resource to States
and Communities**



www.adaptationclearinghouse.org

The screenshot shows the homepage of the Adaptation Clearinghouse. At the top, there is a navigation bar with the logo and a search bar. Below the navigation bar, there are several sections: a main welcome message, a sidebar with a search bar and featured sectors, and a main content area with a featured resource. The featured resource is titled "Greasing Resilience at Home: A Regional Vision" and includes a small image and a description. The sidebar lists several featured sectors: COASTAL, ECOSYSTEMS, ENERGY, PUBLIC HEALTH, TRANSPORTATION, and WATER. There are also buttons for "SEARCH" and "ADDITIONAL SECTORS".

Adaptation Clearinghouse
POWERED BY THE GROWNTOWN PLANNING CENTER AND USFCA/UCF/USF

WELCOME TO THE ADAPTATION CLEARINGHOUSE
An online database and networking site that serves policymakers and others who are working to help communities adapt to climate change.

Put the Power of the Adaptation Clearinghouse to Work for You

- Customize the Adaptation Clearinghouse to meet your needs.
- Receive updates about new resources that match your interests.
- Connect with other professionals.

Featured Sectors

- COASTAL
- ECOSYSTEMS
- ENERGY
- PUBLIC HEALTH
- TRANSPORTATION
- WATER

Featured Resources

Greasing Resilience at Home: A Regional Vision
June 16, 2022

Greasing Resilience at Home: A Regional Vision is an innovative legal, planning, and policy resource to promote community resilience through floating and nature-based solutions in places where flooding, extreme weather events, and other factors are driving population changes and transitions. It was developed by Capital Region Planning Commission and Georgetown Climate Center, in collaboration with policymakers, community members, and other stakeholders in Region 9 of the Louisiana Water-based Initiative located in southern Louisiana.

Related Organizations: Georgetown Climate Center, Capital Region Planning Commission

Authors or Affiliated Users: Chris Spalding, Rachelle Sanderson, Barbara Clark, Mark Bennett, Katherine McCortick, Jennifer Li

Resource Category: Solutions

SEARCH

ADDITIONAL SECTORS

State and Local Adaptation Plans

States and communities around the country have begun to prepare for the climate changes that are already underway. This planning process typically results in a document called an adaptation plan.

Below is a map that highlights the status of state adaptation efforts. Click on a state to view a summary of its progress to date and to access its full profile page. State profile pages include a detailed breakdown of each state's adaptation work and links to local adaptation plans and resources. Please move the map to view Alaska and Hawaii.

The map shows the United States with various states highlighted in different colors to indicate the status of their adaptation plans. A legend at the bottom of the map identifies the colors: dark blue for "State-Led Adaptation Plan Finalized", light blue for "Other State Planning Efforts underway", and grey for "Local and Regional Plans". A "Select a State" dropdown menu is visible in the top right corner, with "Oregon" selected and a "Go" button next to it. The map includes standard Google Maps controls like zoom in/out and a search bar.

Select a State

Oregon Go

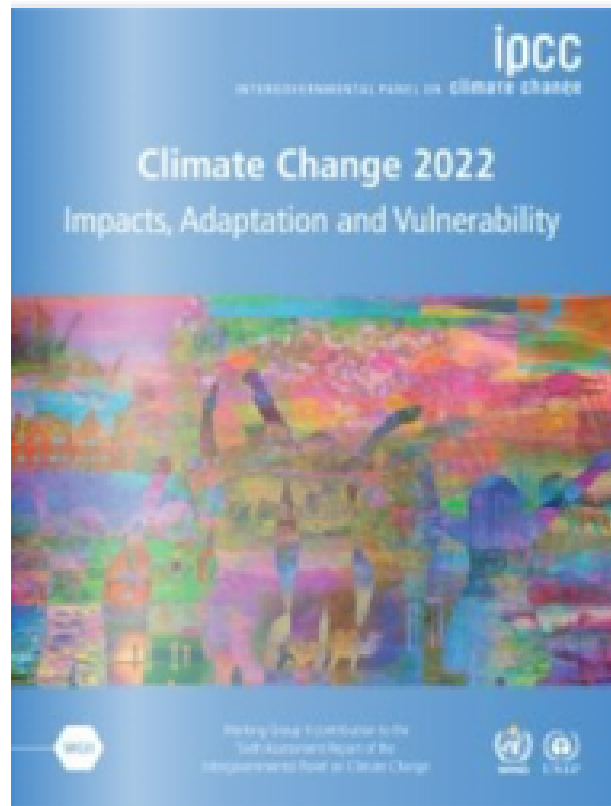
Map **Satellite**

United States

Legend:

- State-Led Adaptation Plan Finalized
- Other State Planning Efforts underway
- Local and Regional Plans

Intergovernmental Panel on Climate Change



Transformational adaptation. *Continuing and expanding current adaptation efforts can reduce some climate risks. But even with emission reductions sufficient to meet the Paris Agreement goals, transformational adaptation will be necessary.*

Equity and Justice. *Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity and justice.*

Governance. *Actors at many scales and in many sectors, including individuals and households, communities, governments at all levels, private sector businesses, non-governmental organizations and religious groups and social movements.*

Dubuque County
Watersheds, Iowa



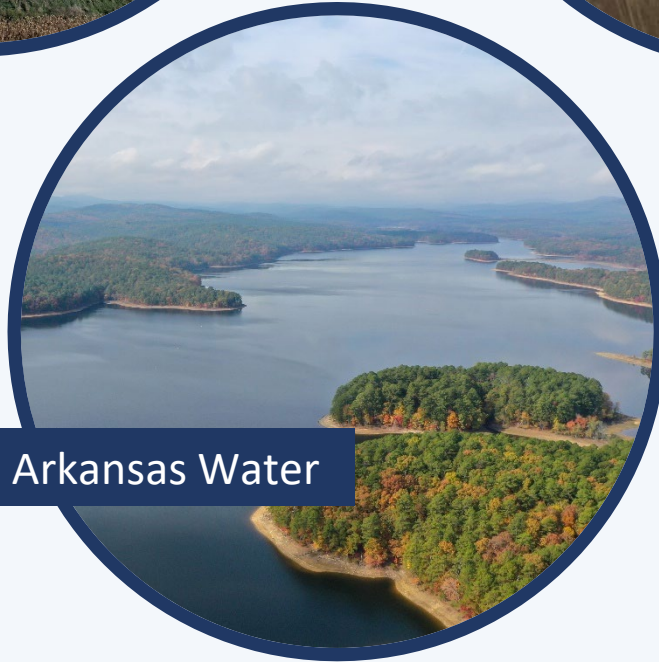
Atchison County, Missouri



Dodge County, Nebraska



Central Arkansas Water



Marengo River Watershed
Partnership, Wisconsin



An aerial photograph of a farm in Dubuque County, Iowa. The farm features several large, light-colored metal buildings, including a main barn and several smaller structures. There are also several large, cylindrical metal silos. The farm is surrounded by fields of corn and other crops, with some areas appearing to be in a conservation state. A dirt road runs through the farm, and a white van is visible on it. In the background, there are rolling hills and a clear sky.

Dubuque County Watersheds, Iowa

Conservation Practices on Farms

Intergovernmental Agreement: Municipal + County + Soil & Water Conservation District

Leverages state enabling legislation authorizing creation of Watershed Management Authorities.

Showcases how water quality and flood risk reduction goals can be achieved together.

Demonstrates the value of “starting small” to build momentum, identify champions, and strengthen buy-in.



Atchison County, Missouri

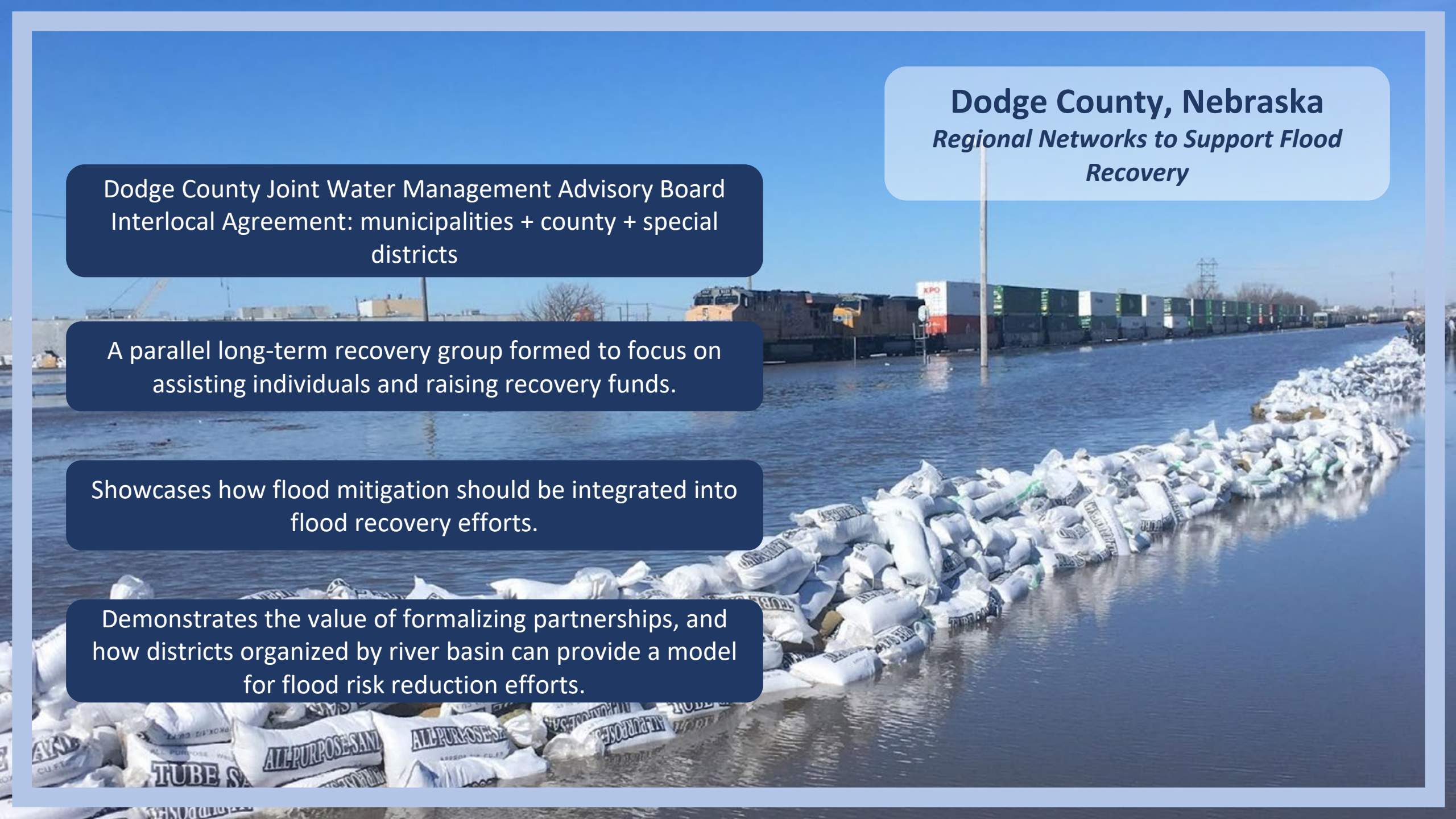
Levee Setback Project

Levee District + State Agencies + USACE + NRCS + The Nature Conservancy + Regional Council

Project required complex coordination to align funding sources, bring landowners on board, and complete real estate transactions.

Showcases how nature-based solutions can provide multiple co-benefits locally and regionally.

Demonstrates the value of a third-party convener for complex multi-jurisdictional partnerships.

A photograph showing a flooded area with a train in the background and a sandbag barrier in the foreground. The water is dark blue and reflects the sky. The sandbags are white and stacked in a long line. The train is black and yellow, with a red and white boxcar. The sky is clear blue.

Dodge County, Nebraska

Regional Networks to Support Flood Recovery

Dodge County Joint Water Management Advisory Board
Interlocal Agreement: municipalities + county + special
districts

A parallel long-term recovery group formed to focus on
assisting individuals and raising recovery funds.

Showcases how flood mitigation should be integrated into
flood recovery efforts.

Demonstrates the value of formalizing partnerships, and
how districts organized by river basin can provide a model
for flood risk reduction efforts.



Central Arkansas Water

Green Bond for Source Watershed Protection

Central Arkansas Water + technical assistance providers + third-party verification

Leveraged existing community support for watershed protection fee to expand acquisition efforts by issuing green bond.

Showcases the many co-benefits of watershed protection efforts.

Demonstrates the value of utilities for advancing regional-scale projects.



Marengo River Watershed Partnership, Wisconsin

Watershed Action Planning & Implementation

Local governments + conservation districts + Tribal government + Federal agencies + State government + TA providers

A diverse partnership emerged to create a watershed action plan to address dual flooding and water quality challenges.

Showcases how short-term wins can build momentum and keep partners engaged.

Demonstrates the value of translating technical data into terms that resonate with community members.

Recommendations for Local Government



Build a diverse coalition.

Invest time and start small.

Partner with existing regional groups.

Focus outreach on why people should care.

Consider local funding options.

Recommendations for State and Federal Government



Enable and empower regional authorities.



Design programs that foster regional collaborations.



Increase investments in planning and projects that reduce risk before a disaster occurs.



Federal cross-agency collaborations should support regional projects.

**Download the report at
headwaterseconomics.org**



Contact us

mark.rupp@georgetown.edu
kris@headwaterseconomics.org

Connect with us on social media

[@Climate_Center](#)
[@headecon](#)

Photo credit: Bryan Rugar

GEORGETOWN
CLIMATE CENTER

HEADWATERS
ECONOMICS

WELCOME BACK

Kathleen M. Brill

Forum Co-Chair

Partner

Foley Hoag LLP

Climate Adaption in Connecticut: Using the Law to Empower Local Action

Louanne Cooley

Legal Research Fellow

*Connecticut Institute for Resilience and Climate
Adaptation*

Climate Adaption in Connecticut: Using the Law to Empower Local Action

Louanne Cooley

Legal Fellow, Connecticut Institute
for Resilience and Climate Adaptation



Imagine you are a town official in Connecticut

What are you worried about, in terms of Climate Change?

State law/ regulation

Flooding

Transportation

Green house gas mitigation

Federal law/regulation

Excessive Heat

Legal authority

Housing

Politics

Air quality

Environmental degradation

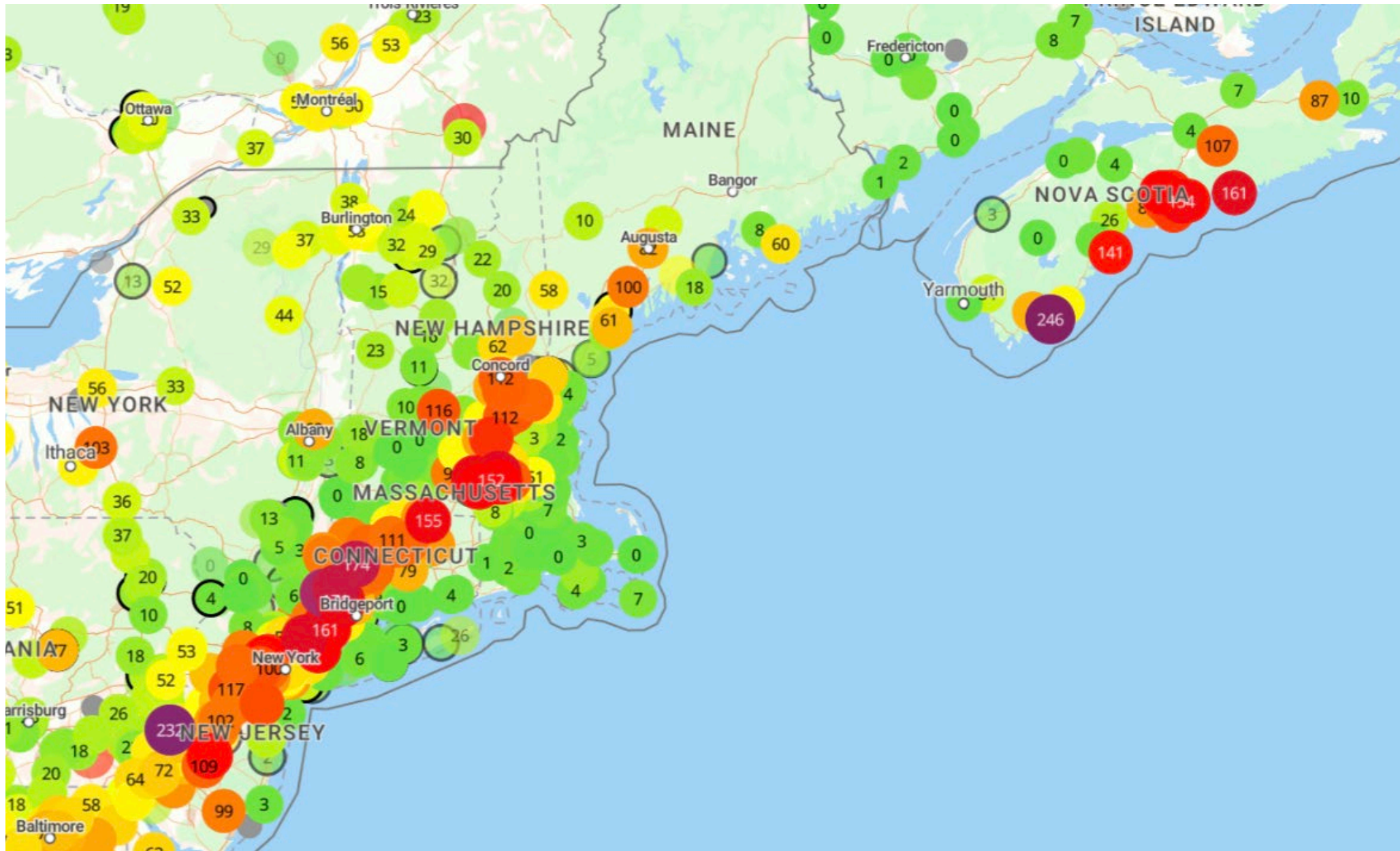
Finance

Energy infrastructure

Justice and equity

Emergency management





How does the state prioritize problems?

How is climate resilience funded?

Where can towns get help?

How does the state prioritize problems?

Who has a seat at the table?



Action should be approached in a way that is

just,

equitable,

interdisciplinary

Executive Orders

Legislation

Agency Regulatory Authority

EO 15-50 (2015) State Agencies Fostering Resilience Council

EO 16-53 (2016) Building code standards for extreme weather

EO 19-3 (2019) Governor's Council on Climate Change, adaptation planning

EO 21-3 (2021) Strengthens Green House Gas Reductions goals across state agencies; creates Connecticut Community Climate Resilience Program

PA 18-82 climate change planning, sea level rise standards

PA 21-115 climate adaptation; Stormwater Authorities, Flood Boards

PA 21-29 zoning reform including training requirements

PA 21-43 just transition to climate-protective energy production and community investment

PA 22-25 mitigation for transportation sector

DEEP- Office of Climate Planning

Municipal Climate Resilient Grants

OPM- Climate Policy Development Coordinator

DOT- incorporating climate resiliency into planning

PURA- Equitable Modern Grid, including energy storage

EO 19-3 (2019) Governor's Council on Climate Change, adaptation planning

GC3

**PA 21-115 Climate Adaptation
Stormwater Authorities, expanded Flood Boards**

EO 21-3 (2021)

Municipal Climate Resilient Grants

DEEP OCP (2022-23)
Resilience planning
Resilience Project Development

CIRCA (2021-22)
Stormwater
Resilience project pipeline

CIRCA Factsheets

The factsheets are provided by the UCONN Connecticut Institute for Resilience and Climate Adaptation. They cover topics such as stormwater runoff, municipal stormwater authority, costs of stormwater management, and flood prevention strategies. The factsheets are available in both English and Spanish.

How is climate resilience funded?




PA 19-77 An Act Authorizing Municipal Climate Change and Coastal Resiliency Reserve Funds

PA 21-115 An Act Concerning Climate Change Adaptation

- Allows Stormwater Authorities to set fees for service;
- Expanded finance options for Flood Prevention, Climate Resilience and Erosion Control Boards;
- Expanded projects CT Green Bank can finance




UConn Connecticut Institute for Resilience and Climate Adaptation



(photo courtesy of Ken Engelman)

Branford's Coastal Resiliency Reserve Fund - Planting Seeds for the Future



Information for a More Resilient Connecticut

"Start where you are. Use what you have. Do what you can."
- Arthur Ashe

With over 20 miles of coastline on Long Island Sound, Branford is a coastal community on the front lines facing the challenges of sea-level rise and climate change in Connecticut. As recent storms in the past decade have revealed the extent of vulnerabilities across Connecticut's coast, Branford has taken proactive steps to put plans in place with an eye to the future. In 2016 a Coastal Resilience Plan was developed to identify location specific and town-wide options for adaptation. An update to Branford's Plan of Conservation and Development in 2019 considered the impact of sea-level rise to the town's vision for the future and had this to say: "The scope of the issues associated with sea level rise is so extensive and expensive that it will be difficult, if not impossible, for the Town of Branford or any other governmental organization to address them all." Branford's Director of Finance James Finch likes to use the above quote by Arthur Ashe to frame the town's approach to figuring out what to do next without giving in to doom and despair. What if the town created a fund dedicated to addressing resilience challenges and managed the assets similar to a pension plan? The idea is to invest what they have now, take a long term strategy, and grow the reserve fund with the goal of matching a future funding source to "the long-term liabilities" associated with

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Where can towns get help?



State Agencies

Councils of Government (CoGs)

Greenbank

Non-governmental and Community Based Organizations

University resources



CIRCA: using multidisciplinary teams to solve challenging problems

Science

Tools

Policy

Communication

PLANNING TOOLS



Innovative planning that incorporates technical knowledge & leads to policy development & project implementation.

TECHNICAL TOOLS



Developing map viewers, storymaps, datasets, & guidance documents to inform planning & decision-making.

FIELD RESEARCH



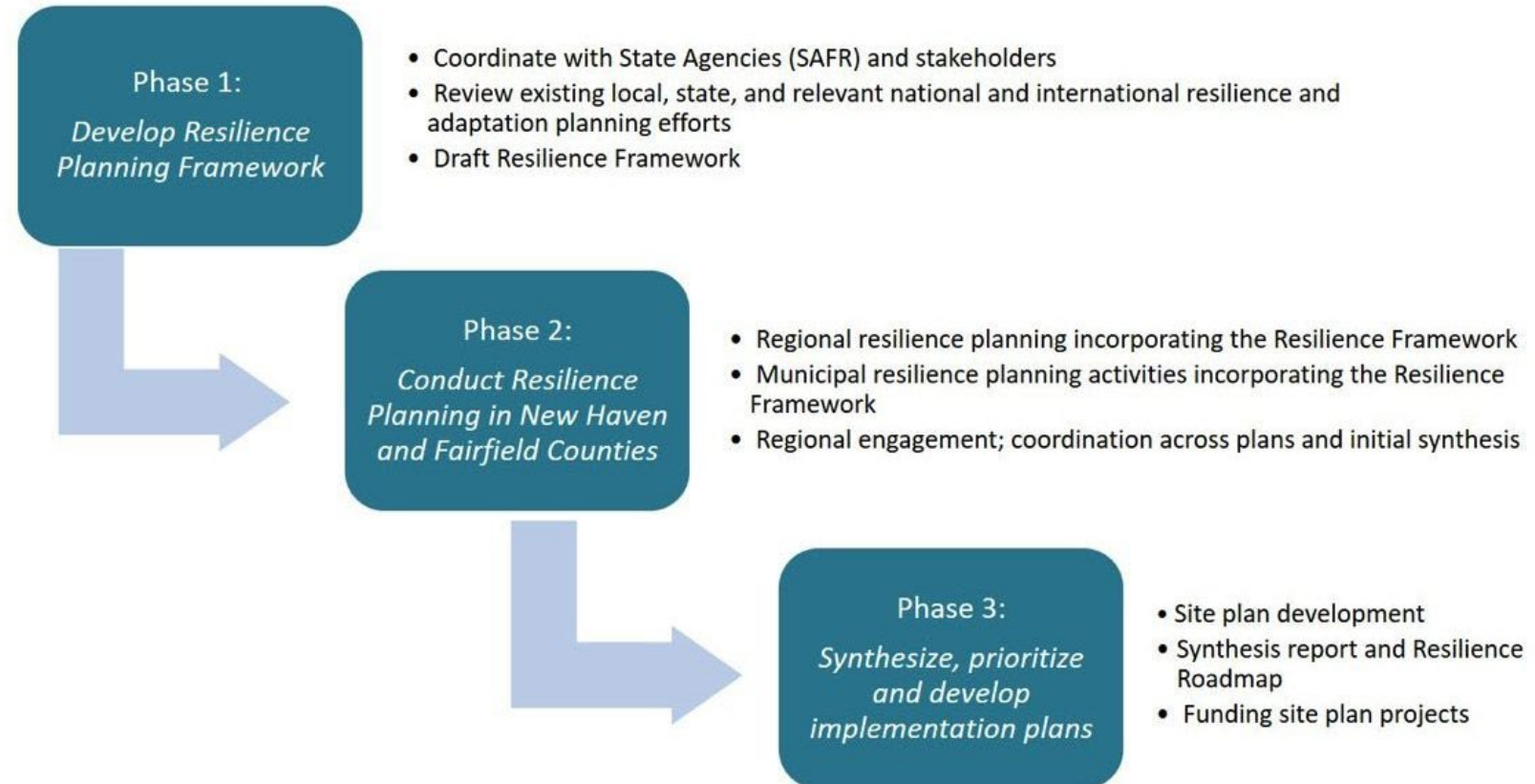
Deploying instruments, analyzing data, & developing models to better understand site conditions & demonstration projects.

ENGAGEMENT

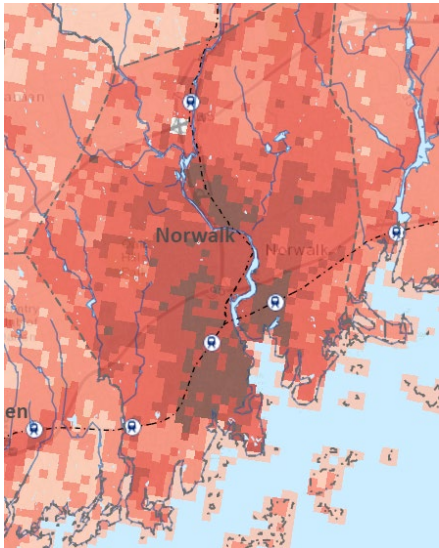


Working with stakeholders to build capacity & partnerships through events, outreach, & tool development.

Resilient Connecticut



Scientific Data & Analysis



Norwalk Heat Sensors

Legal Authority Analysis

Short term:

- Public health and safety response
- Environmental justice framework

Long term:

- Building codes
- Zoning codes
- Plan of Conservation and Development
- Design Standards

Policy Recommendation

- Use zoning authority to regulate where cooling centers can be located in neighborhoods in need.
- Enact design standards regulating vegetation, shading, reflective materials.
- Use building code to mandate insulation standards

Engagement

- Webinar with research scientist and public health official
- News articles
- Panel discussion
- Inclusion of mitigation to heat in Resilient Zoning toolkit

CIRCA products:

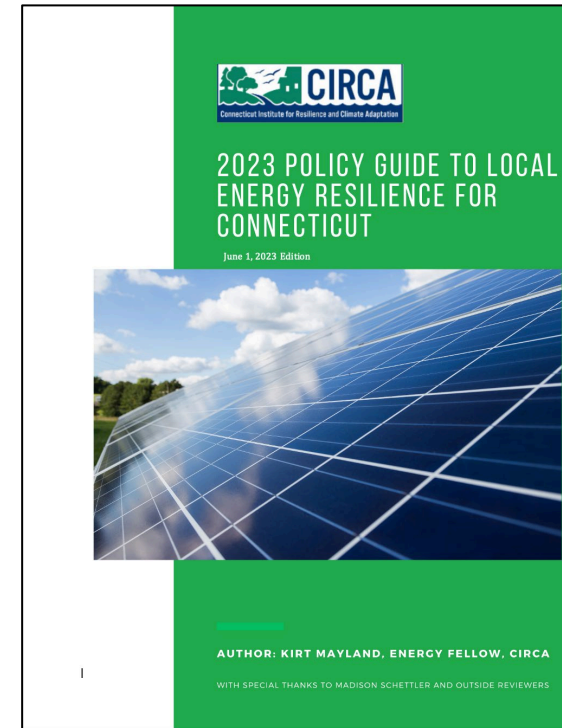
Factsheets and White Papers

Policy Resource Guides

Climate Vulnerability Mapping Tools

Environmental Justice Mapping Tools

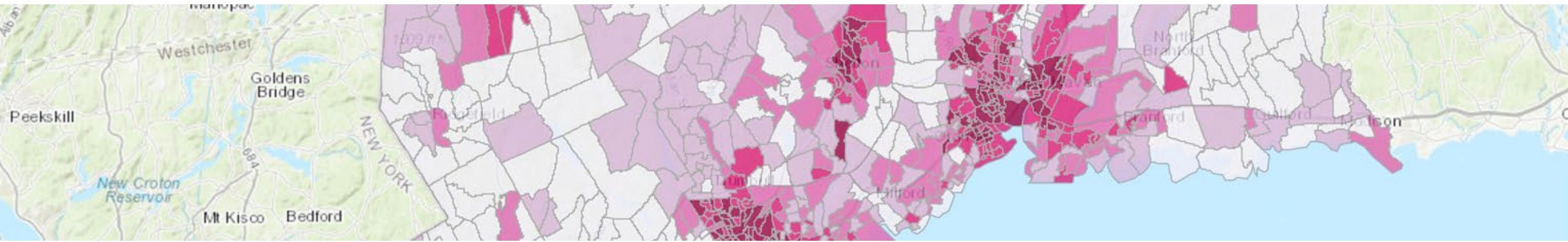
Resilience Training for Land Use Officials



Newest CIRCA product

Guide for municipalizes to energy related incentives in the Inflation Reduction Act

Social Vulnerability index mapping



Thank You !

Louanne Cooley

Louanne.cooley@uconn.edu

Legal Fellow, Connecticut Institute
for Resilience and Climate Adaptation



UCONN
UNIVERSITY OF CONNECTICUT

Resilience, Affordability and Equity - The Future of Urban Renewal in Boston

Devin Quirk

*Deputy Chief for Development and Transformation
Boston Planning & Development Agency*

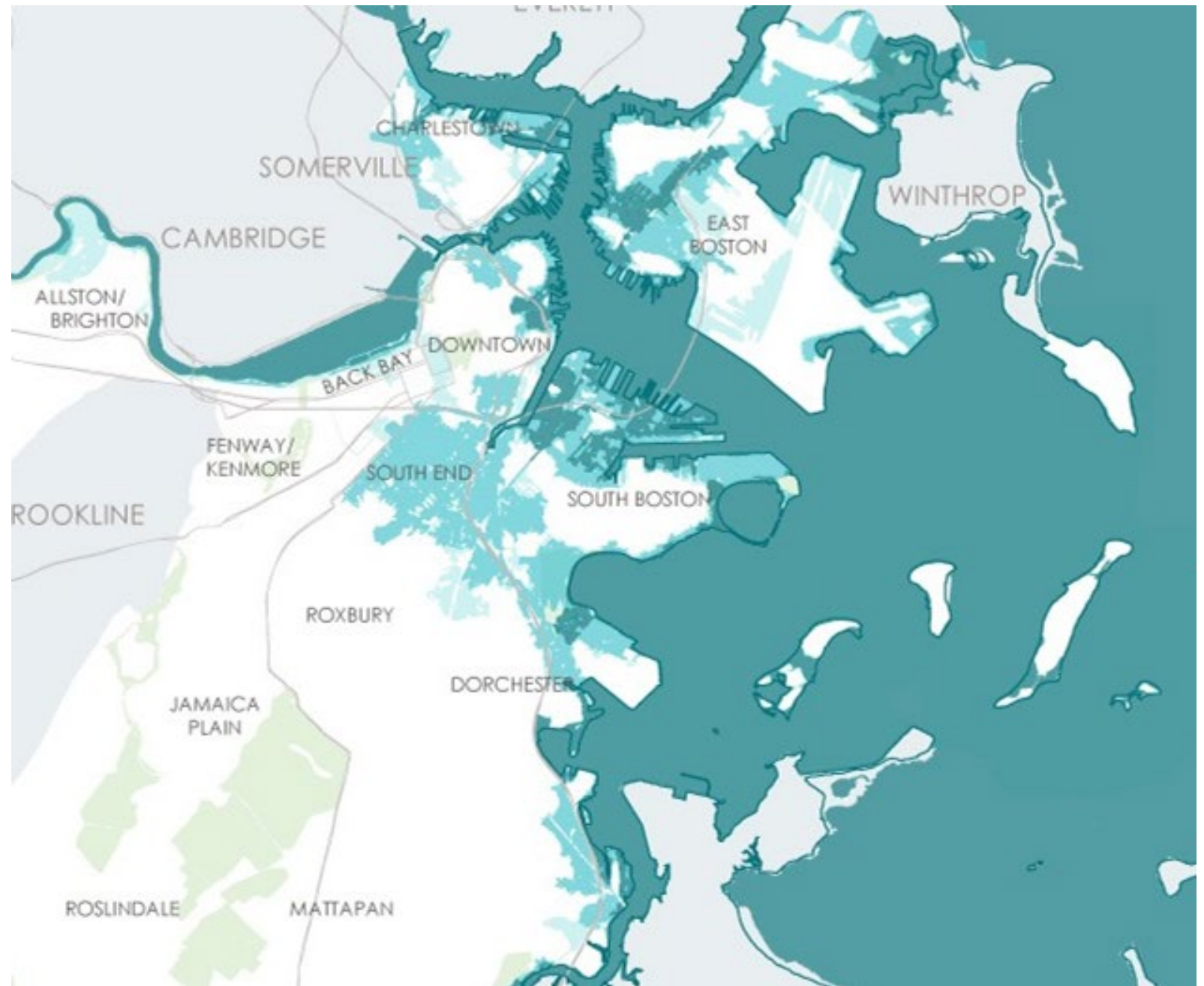


Resilience, Affordability and Equity - The Future of Urban Renewal in Boston

06/02/2023

2070 Sea Level Threat

Up to 18% of Boston's land will be exposed to flooding by 2070 in a 1% storm.



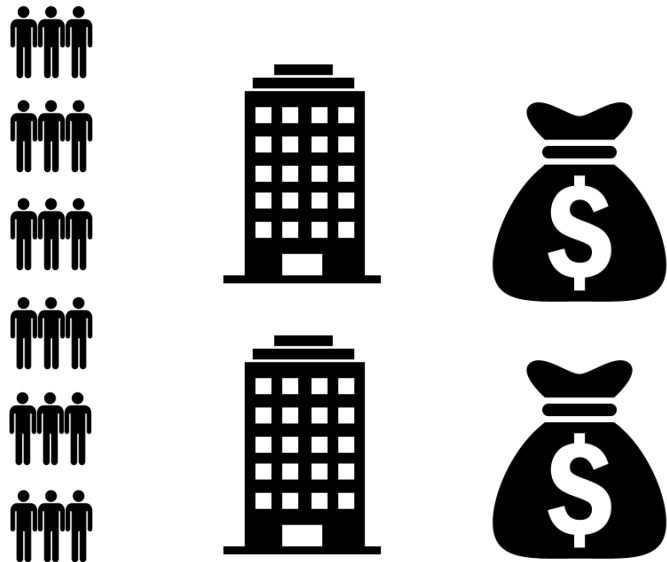
WHAT'S AT STAKE?

People and Buildings Exposed to a 1% Flood Risk

Boston is the world's 8th most vulnerable city to financial loss from sea level rise, and 4th in the US.

18,000
PEOPLE

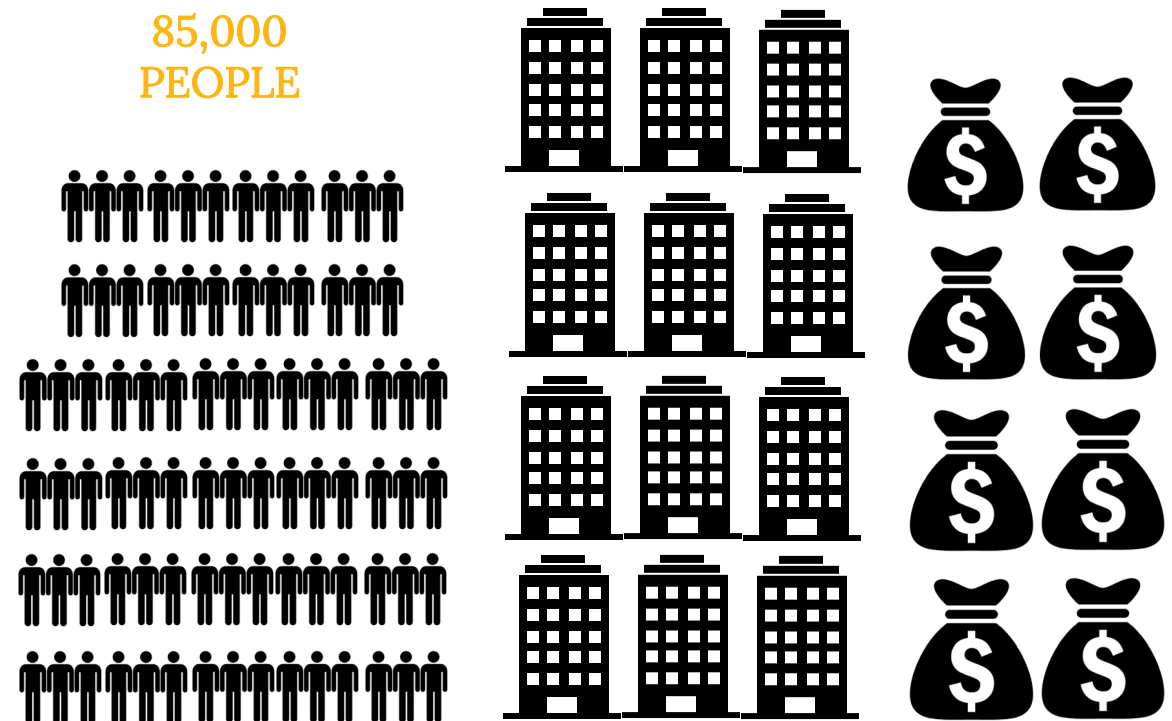
2,000 BUILDINGS
(Worth \$20B)



2030+

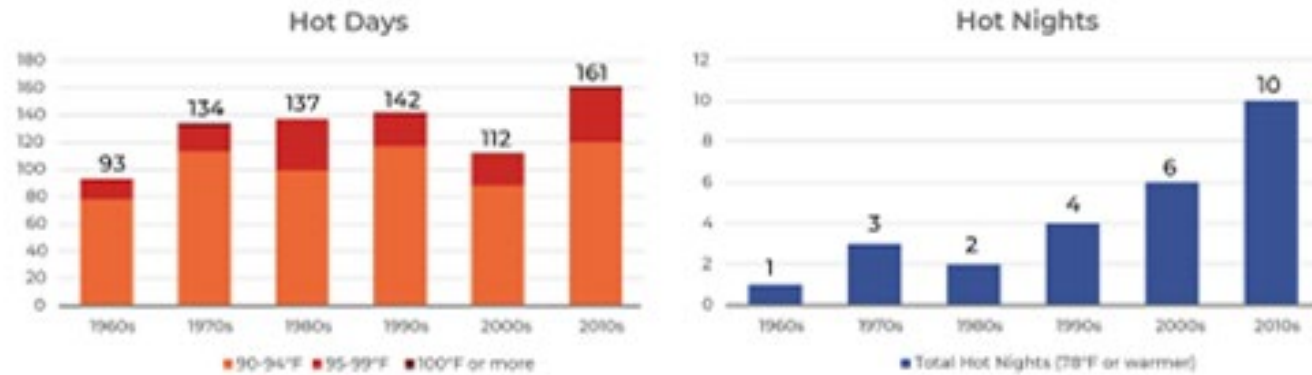
85,000
PEOPLE

12,000 BUILDINGS
(Worth \$85B)

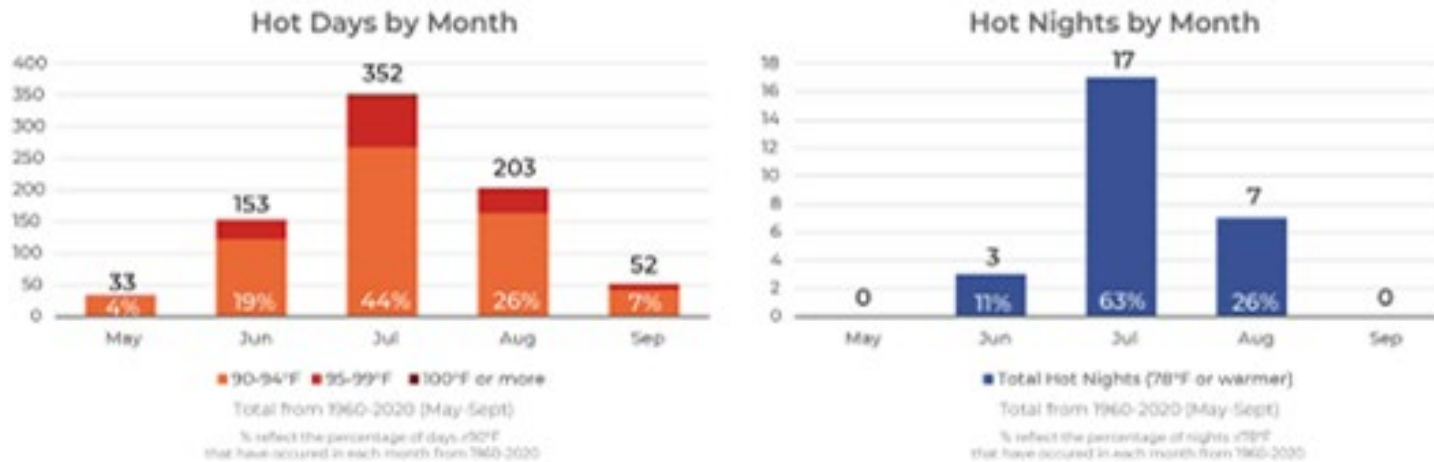


2070+

In the last decade, Boston experienced more hot days and nights than any decade in the previous 50 years.



Historically, days above 90°F have mainly occurred between May and September.



Source: NOAA National Centers for Environmental Information; data pulled for 1960-2020 Logan International Airport weather station average maximum and minimum temperatures based on May to September data

Heat Indexes

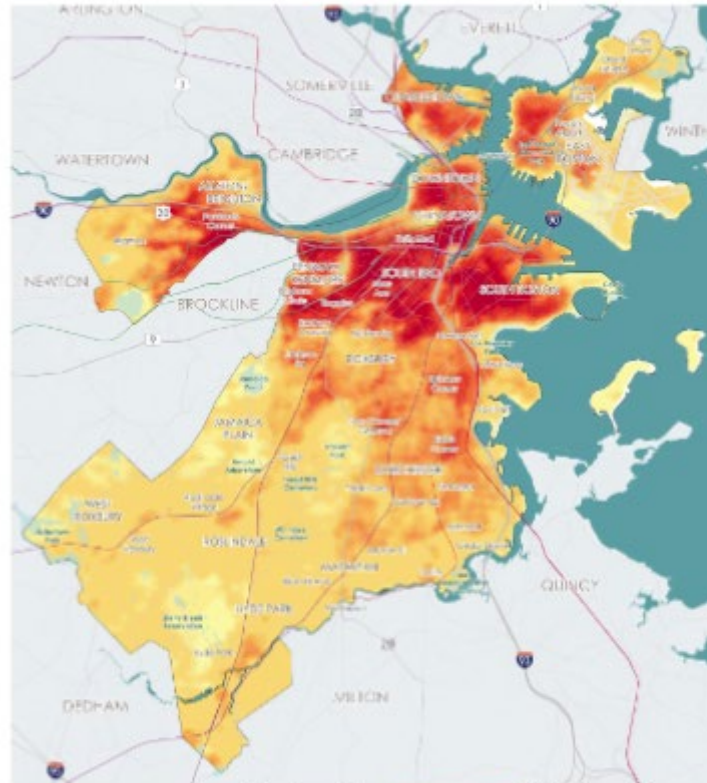
Key Indices:

1. Daytime Air Temp
2. Nighttime Air Temp
3. Urban Heat Island
4. Heat Duration

Neighborhoods Impacted *EJ communities top the list*

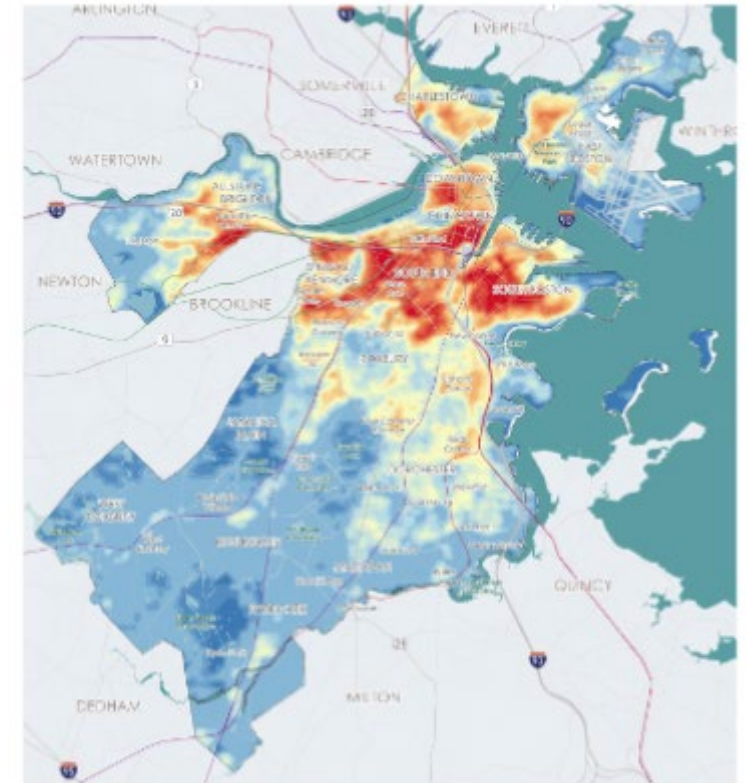
1. Chinatown
2. Roxbury
3. Mattapan
4. Allston /Brighton
5. East Boston
6. Dorchester

Extreme heat already affects all of Boston.



HEAT EVENT HOURS: Less than 25 hrs  More than 37 hrs

Some places are hot for longer.



HEAT EVENT HOURS: Less than 25 hrs  More than 37 hrs

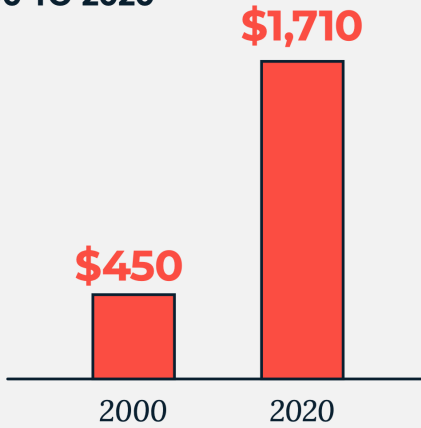
THE NEED FOR CHANGE COULD NOT BE MORE URGENT.



Mayor Wu standing in flood waters in flood waters on Morrissey Blvd. during a high tide.

In addition to the threats from climate change, Boston also has significant social equity challenges in the affordability of housing and racial disparities in wealth

NOMINAL MEDIAN RENTS INCREASED ALMOST FOURFOLD FROM 2000 TO 2020



BOSTON HAS THE 6TH-HIGHEST INCOME INEQUALITY OF CITIES NATIONALLY

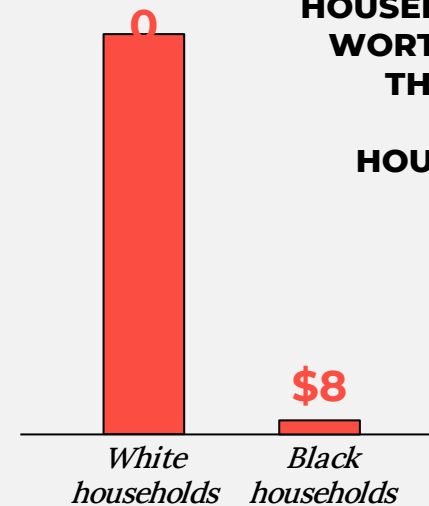


BLACK AND HISPANIC RENTERS IN METRO BOSTON ARE

28%

MORE LIKELY THAN WHITE RENTERS TO BE SEVERELY COST BURDENED

\$240,000



NONWHITE HOUSEHOLD NET WORTH IS LESS THAN 5% OF WHITE HOUSEHOLDS

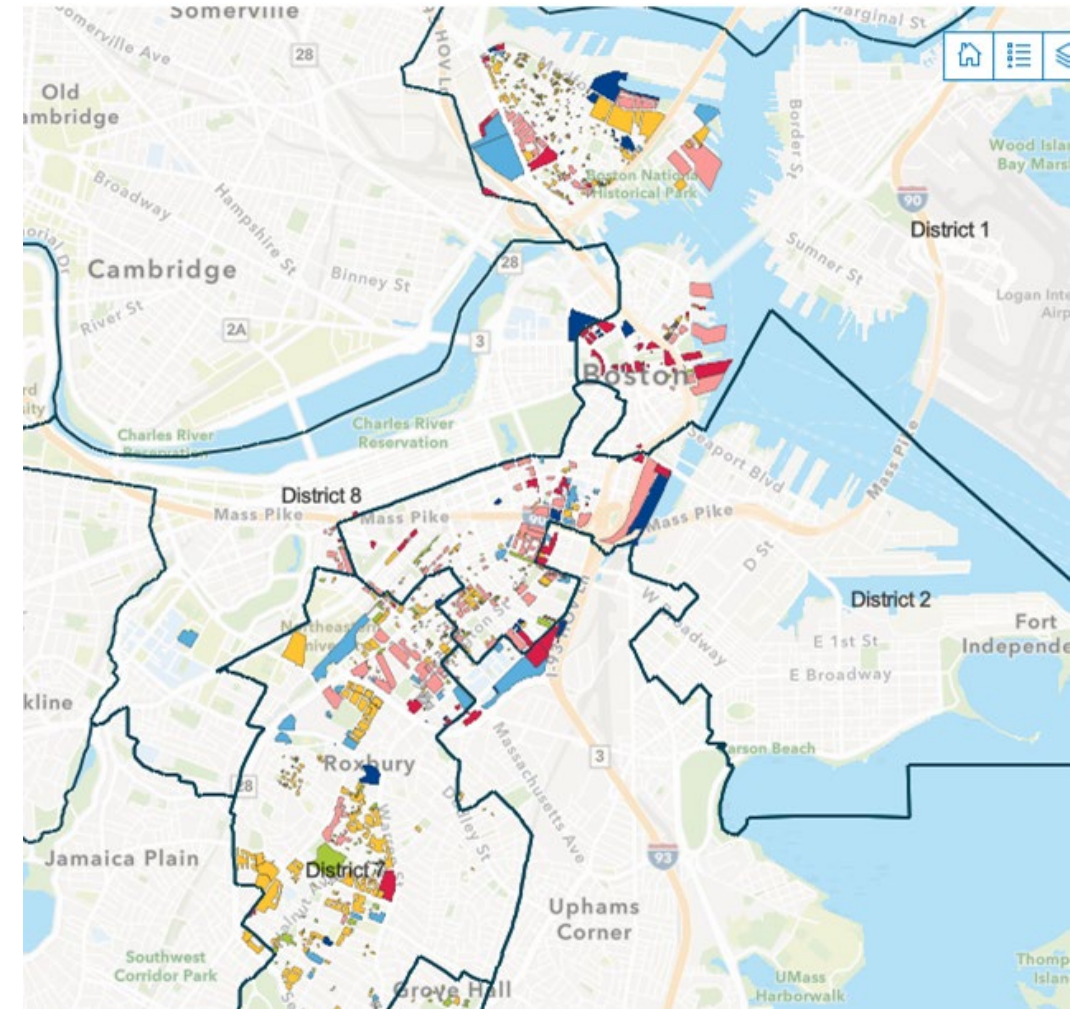


Boston's Planning and Development Legal Authorities are firmly rooted in the past

- *In the 1950's, with the rise of cars and disinvestment in urban centers, Boston leaders championed **urban renewal programs** to redevelop struggling areas across the City, but these tools were ultimately used in a manner that unjustly displaced thousands from their homes.*
- *Boston's Urban Renewal Plan areas are **expiring in early 2025**. While there is no need to extend policies tied to such a negative social justice legacy, this expiration also presents and opportunity.*

There are 2 Major Challenges in Ending Urban Renewal

1. Urban Renewal tools allows the BPDA to enforce agreements valued by community members
 - There are 832 Land Disposition Agreements (covenants) across the city
 - They protect **11K Units of Income Restricted Affordable Housing,**
 - **1,734 units of senior housing.**
 - **1.8M square feet of open space,** 48% of which is potentially developable.
 - 56 community and/or institutional-focussed land use designations
2. Urban Renewal provides tools the City may want for future community development efforts
 - The BPDA can acquire and dispose of land for purposes that City of Boston cannot – such as the purchase of property with the purpose of creating affordable housing.
 - The BPDA can enter into tax agreements and provided zoning tools to accelerate the construction of important



Properties with Urban Renewal LDAs

Creating a new BPDA charter to meet today's need

1957: Blight, Decadence, Substandard Housing



“Massachusetts General Laws Chapter 121A and Massachusetts Regulations 760 CMR 25.00 authorize the creation of single-purpose, project-specific, private Urban Renewal Corporations for undertaking residential, commercial, civic, recreational, historic or industrial projects in areas which are considered to be decadent, substandard or blighted open space.”

2023: Resiliency, Affordability, Equity



“In this moment of urgent challenge and opportunity, Boston’s growth must reflect the possibilities for our brightest future—from affordable housing and racial equity, to climate resilience and healthy, connected communities.”

- Mayor Michelle Wu

“An Act to Improve and Modernize Planning and Community Development”

The Act Officially Sunsets Urban Renewal

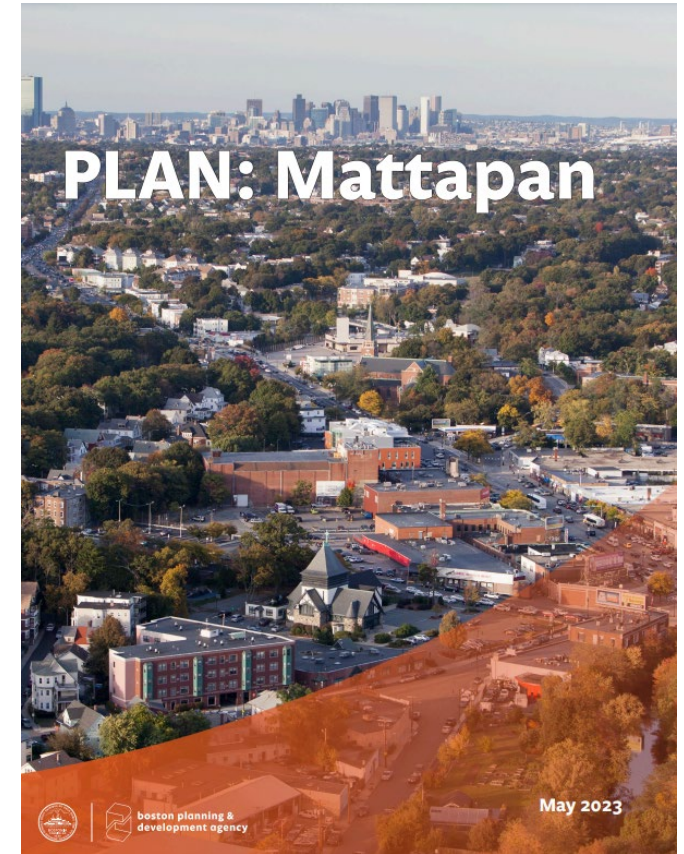
- The **BPDA will be prohibited from taking further actions related to blight, decadence, or substandard housing**, thereby ending this chapter in Boston’s history

The termination of Urban Renewal is done in a way that appropriately addresses the downside risks associated with the ending urban renewal:

- **BPDA retains its ability to enforce restrictions** that protect community assets, including all existing Land Disposition Agreements without need for further extension
- The Act directs the agency to take real estate actions associated with key planning principles:
 - (1) **resiliency**, including climate change mitigation and adaptation;
 - (2) **affordability**, including the creation and retention of affordable housing and support for local businesses; and
 - (3) **community development**, including expanding access to economic opportunity, enhancing public social services, and improving the built environment consistent with the objectives of the act

Through the Act, the BPDA can deploy powerful community development tools in service of this new mission

- The Act preserves the BPDA's **Chapter 30B real estate exemption** including the ability to do demonstration projects tied to Resilience, Affordability and Community Development purposes.
 - BPDA may engage in direct negotiations with property owners for real estate acquisitions and dispositions tied to this mission
 - Enhances the BPDA's ability to create Public Private Partnerships
- Creates the ability to **negotiated property tax agreements (Ch. 121a and 121b)** for projects that align for the new mission - rather than tying these tools to blight findings.
- The Act also authorizes the agency to **act as a public economic development agency** tied to our new charter in order to **fund worthy projects, clear title issues, and to issue bonds.**



BPDA's recently approved PLAN Mattapan identify community needs for public-private partnerships for economic development

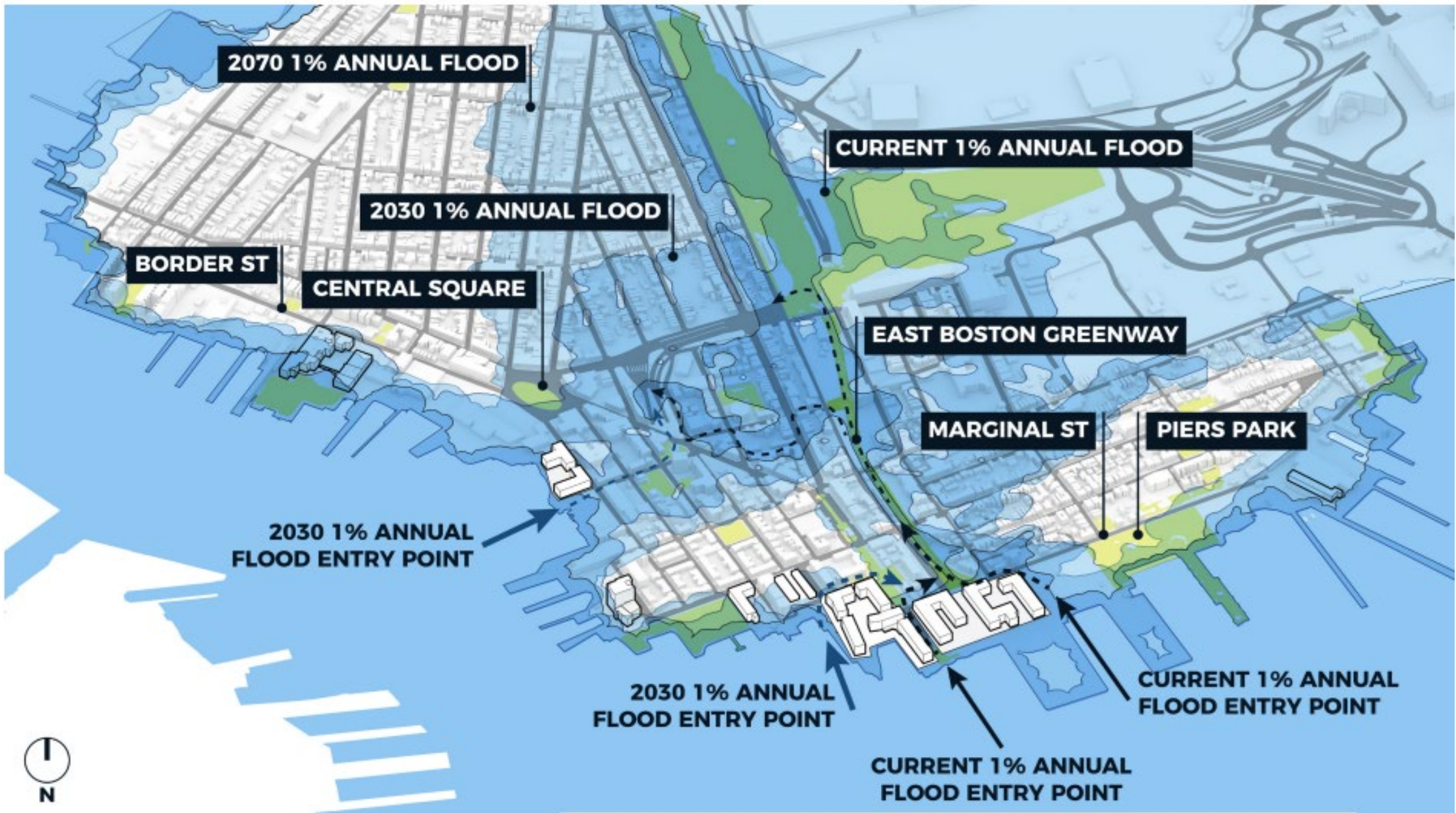
Because Urban Renewal is so closely tied to mission of the BPDA, the Act also establishes a new future for the BPDA:

- The legislation **modernizes the charter of the BPDA**:
 - Establishes a new Agency mission focused on affordability, equity and resilience
 - Consolidates the BRA/EDIC into a single organization
- While the center of planning activities will move to the City over time, **the BPDA board will remain the entity overseeing development**, but is envisioned to eventually be staffed and managed much more like other boards and commissions across the city and the Commonwealth
 - The agency will continue to be governed by a **board of five members** - 4 of which appointed by the Mayor and confirmed by the City Council
 - The Planning Board functions of Boston remain consistent with today's structure with the BPDA Board continue to approve development decisions through the **Article 80 process** and the Zoning Commission adopting changes to the zoning code.

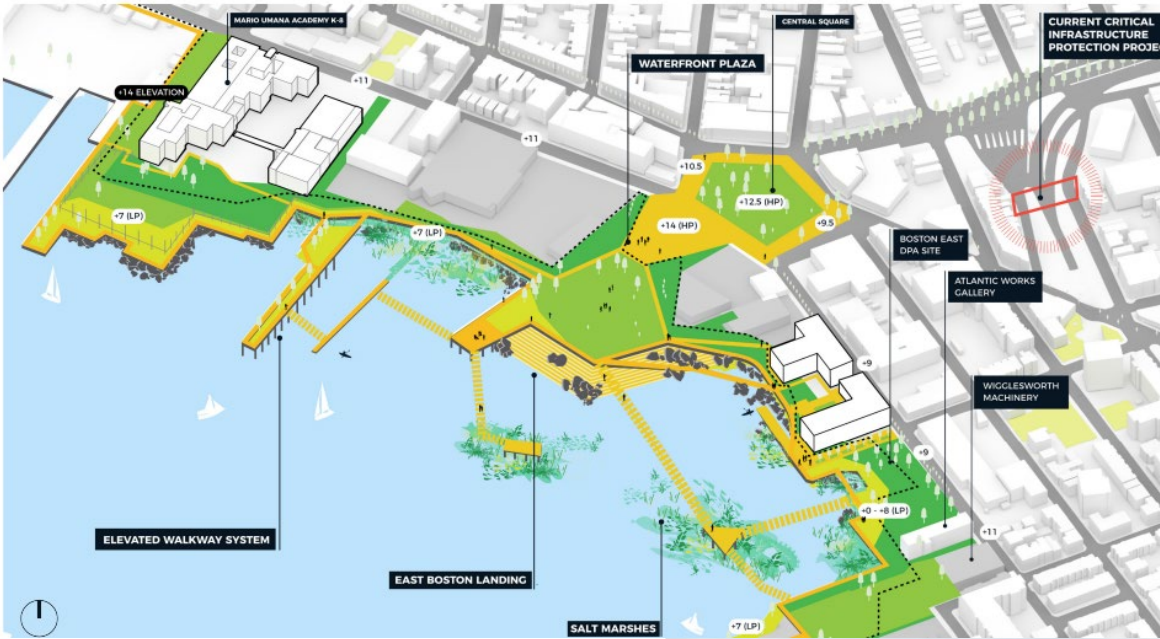


**boston planning &
development agency**

An example of putting the concept into action - East Boston



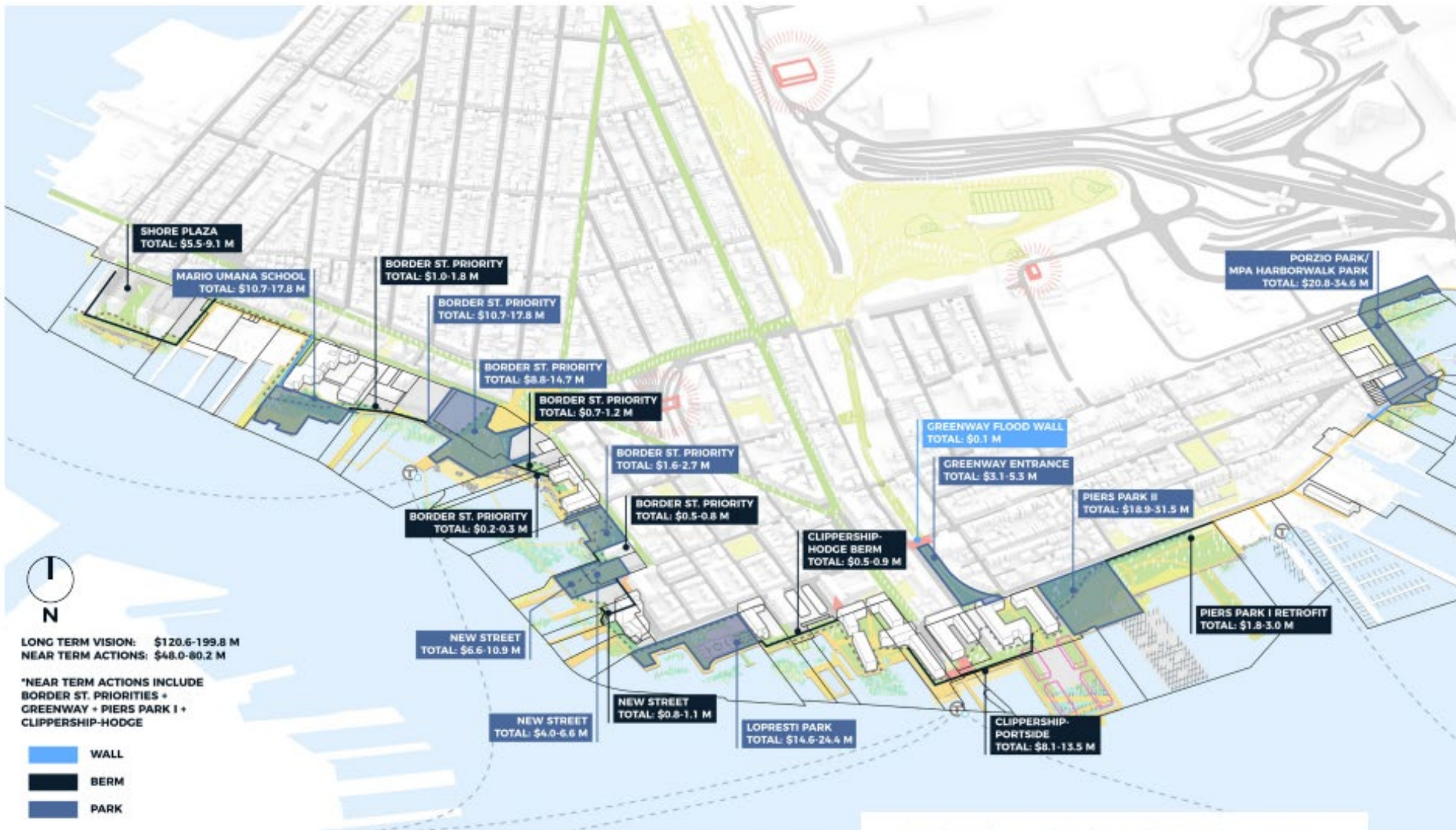
The gradations of blue in the map show how the 1% annual chance flood extent changes as sea levels rise. The colors do not indicate depth of flooding. The arrows show the flood entry points and pathways with current sea levels, 9 inches of sea level rise (2030s), and 36 inches of sea level rise (2070s).



The Climate Ready Boston Team has identified strong conceptual plans for closing flood pathways



East Boston's long-term climate resilient waterfront includes new waterfront parks and plazas connected to other existing assets such as Central Park and Border Street's retail center.



Estimated costs for coastal resilience solutions in the East Boston study area. Both costs and phasing plans are estimates and recommendations only, and should not be used for detailed planning.

The Act provides the City with the tools necessary to negotiate with the dozens of private property owners that own pieces of the flood incursion pathway in East Boston.

Acquisition is just a starting point, inward of flood walls we could also deploy tools to:

- Create affordable housing
- Support arts or small businesses uses
- Develop property through public private partnerships
- Clear title issues
- Assist financing through favorable property tax rates



“In this moment of need, we have an opportunity and an obligation to change how we plan for Boston’s future. We’re charting a new course for growth, with people as our compass.”

– Mayor Michelle Wu

January 25, 2023
State of the City Speech

MODERATED DISCUSSION

Panel Moderator:

Joan Fitzgerald, Professor of Public Policy and Urban Affairs
Northeastern University

Panelists:

- **Louanne Cooley**, Connecticut Institute for Resilience and Climate Adaptation
- **Senator Sarah Elfreth**, Maryland
- **Devin Quirk**, Boston Planning & Development Agency
- **Mark Rupp**, Georgetown Climate Center
- **Suzanne Smith**, Sonoma County Regional Climate Protection Authority

CLOSING REMARKS

Gabriela Boscio Santos

Forum Organizer

Associate Director

Sustainable Solutions Lab

University of Massachusetts Boston