Urban Land Institute

ULI Coastal Forum:
Preparing Communities for Federal Resilience Funding

DECEMBER 7, 2021

Welcoming Remarks

Jack Smith
Partner, Nelson Mullins
Chair, ULI Coastal Forum

ULI Coastal Forum

- The mission of the Coastal Forum is to convene, collect, and share best practices and emerging market trends in coastal real estate development and community resilience, focusing on strategies to protect and strengthen communities at risk due to sea level rise, storms, and other climate hazards through innovative infrastructure and real estate projects within coastal areas.

- The Coastal Forum seeks to

  - Offer a forum to share best practices for coastal development, resilience, and planning
  - Provide a targeted group to share and provide private sector input into new tools and resources
  - Provide an opportunity for leadership and expertise development in coastal development and resilience

Urban Land Institute

Introduction: What's the Threat?

Doug Marcy
Coastal Hazards Specialist
NOAA Office for Coastal Management

Rives Taylor
Firmwide Design Resilience Co-Leader, Principal
Gensler

NOAA Efforts to Support Coastal Community Resilience:
What We're Doing, and Where We're Headed

Doug Marcy
NOAA Office for Coastal Management
December 7, 2021

America's Coasts

40% of the population, **10%** of the land mass

$7.9 trillion in goods and services annually

54.6 million employed

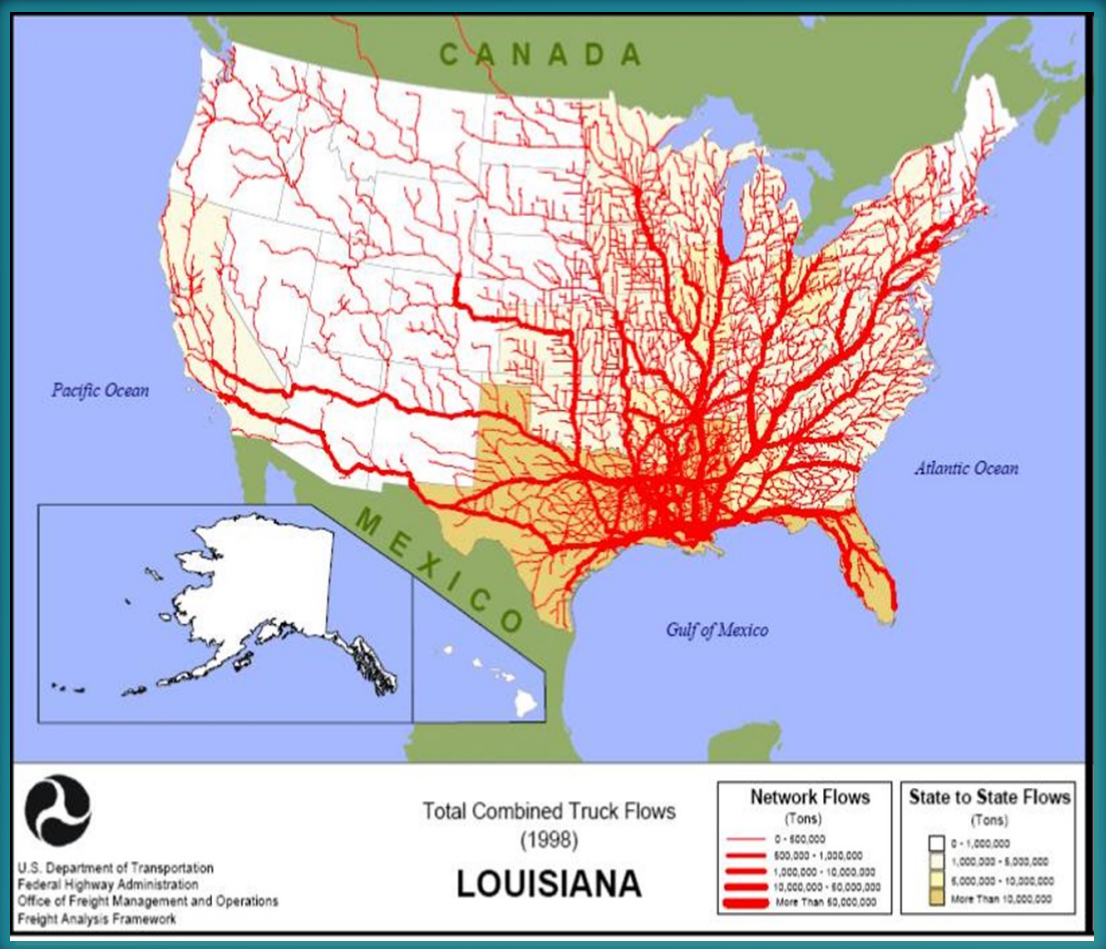
$3.2 trillion in wages annually

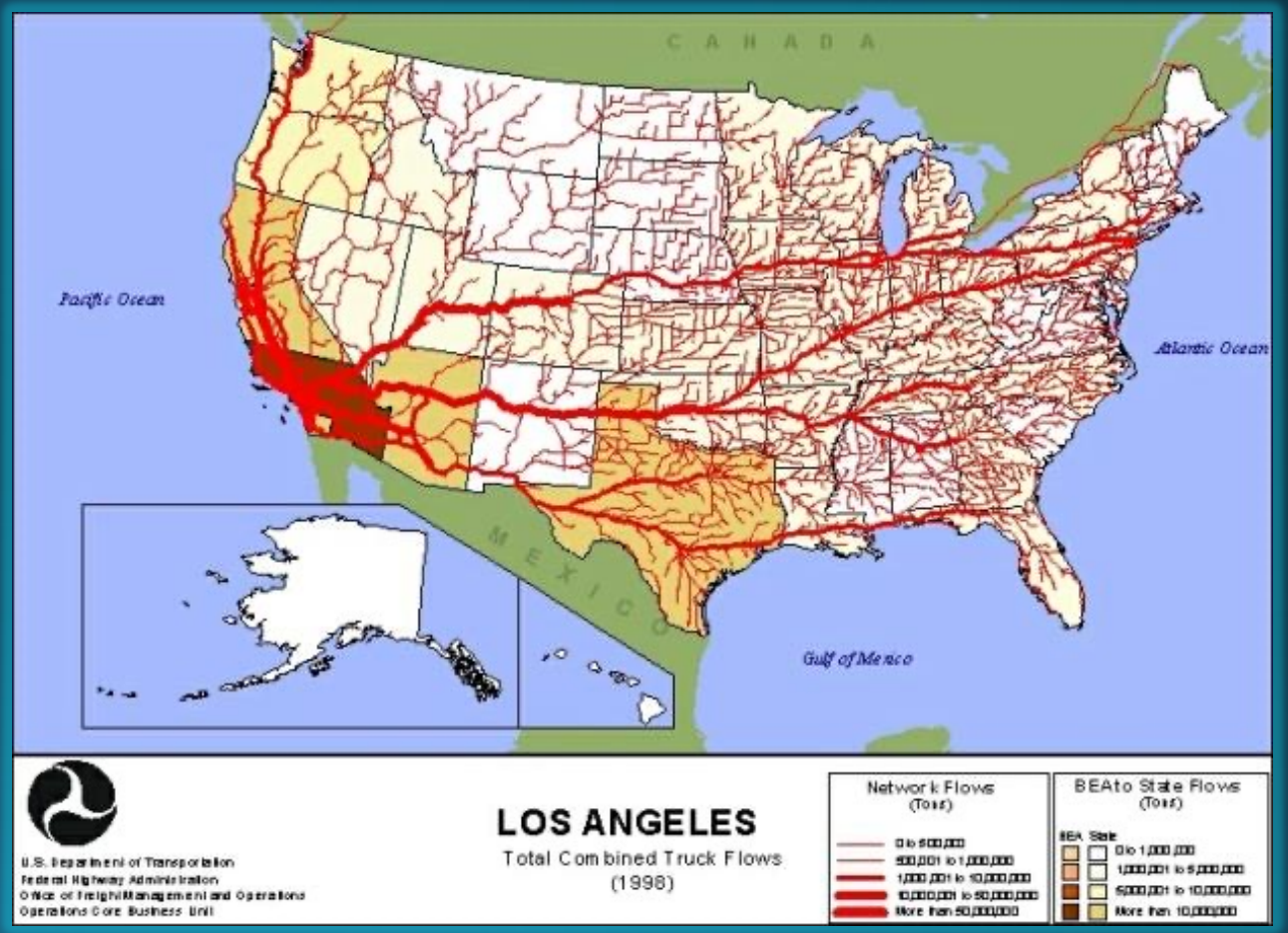
Source: Bureau of Labor Statistics and Bureau of Economic Analysis

PORTS

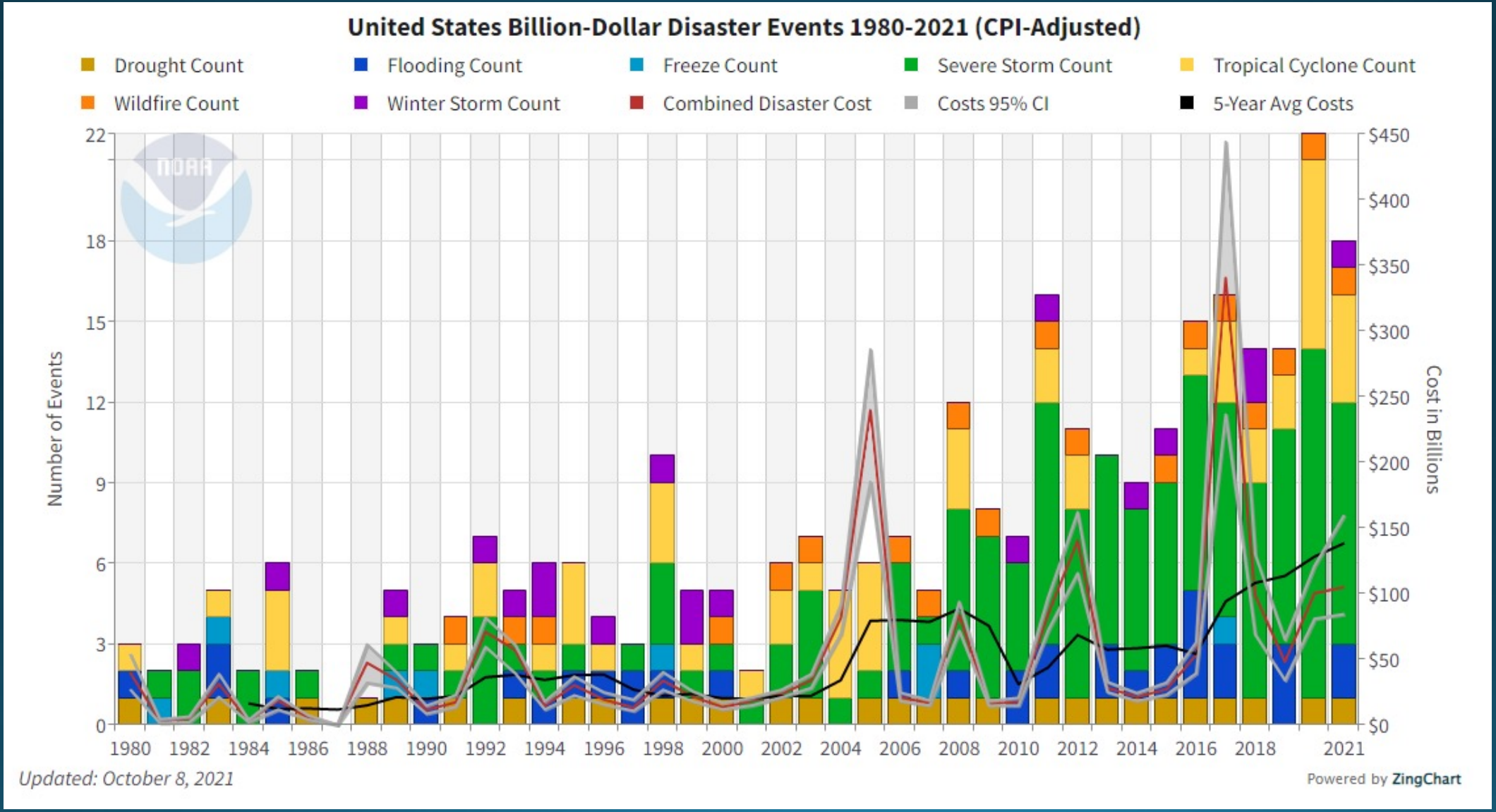
Imports: $1.5 trillion | Jobs: +13 million

Coastal Nation – Even in the Heartland





More Frequent and More Expensive



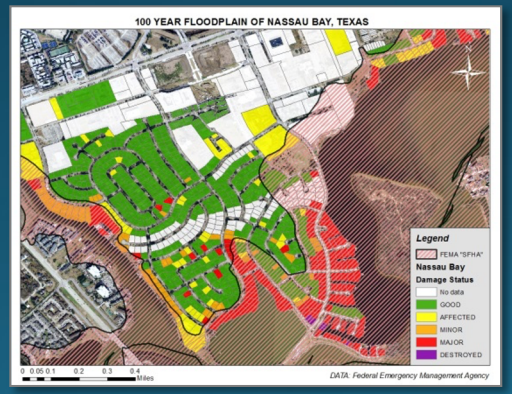
Resilience

"*the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events*"

National Academy of Sciences, 2012

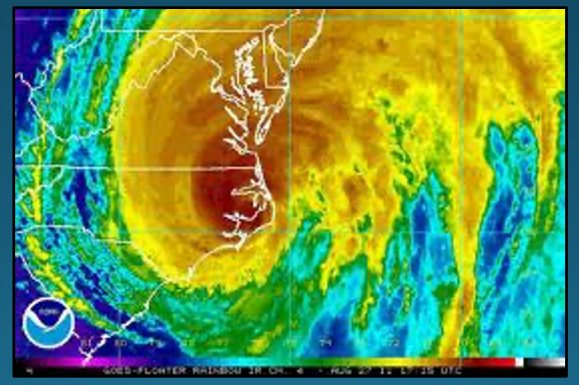
Overcoming Barriers

- Risk communication training
- Data and tools for decision makers
- Building capacity for informed action and leadership
- Convening and leveraging partnerships

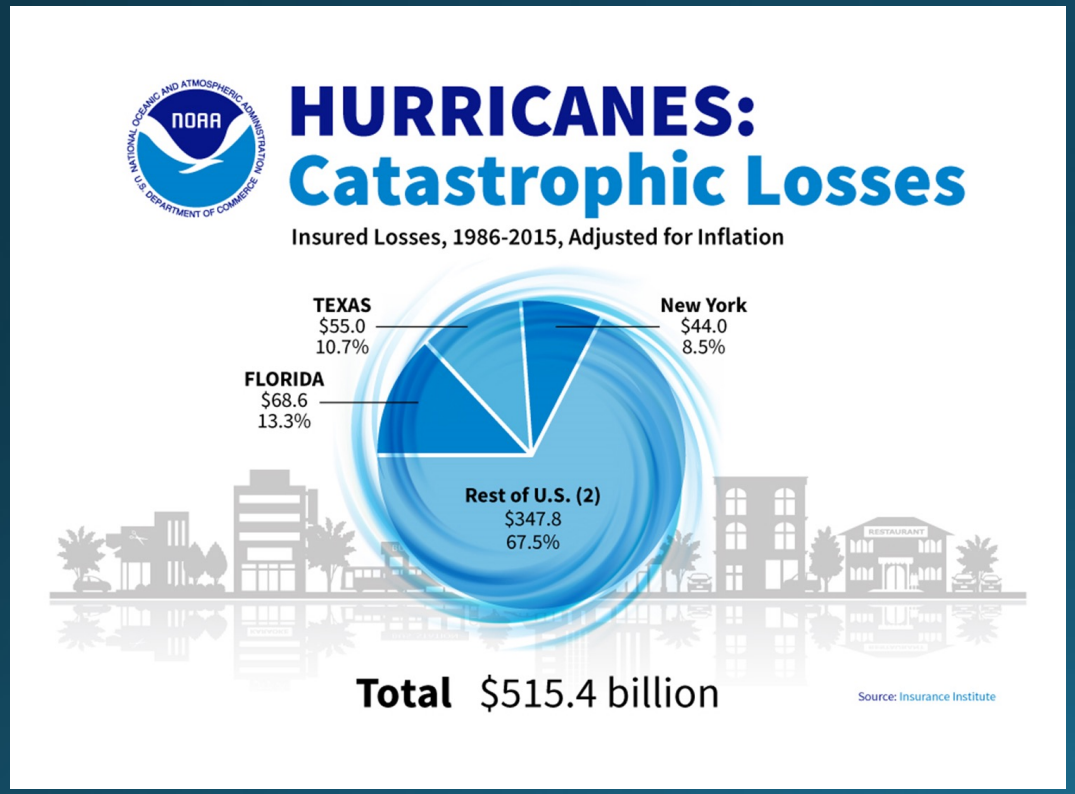


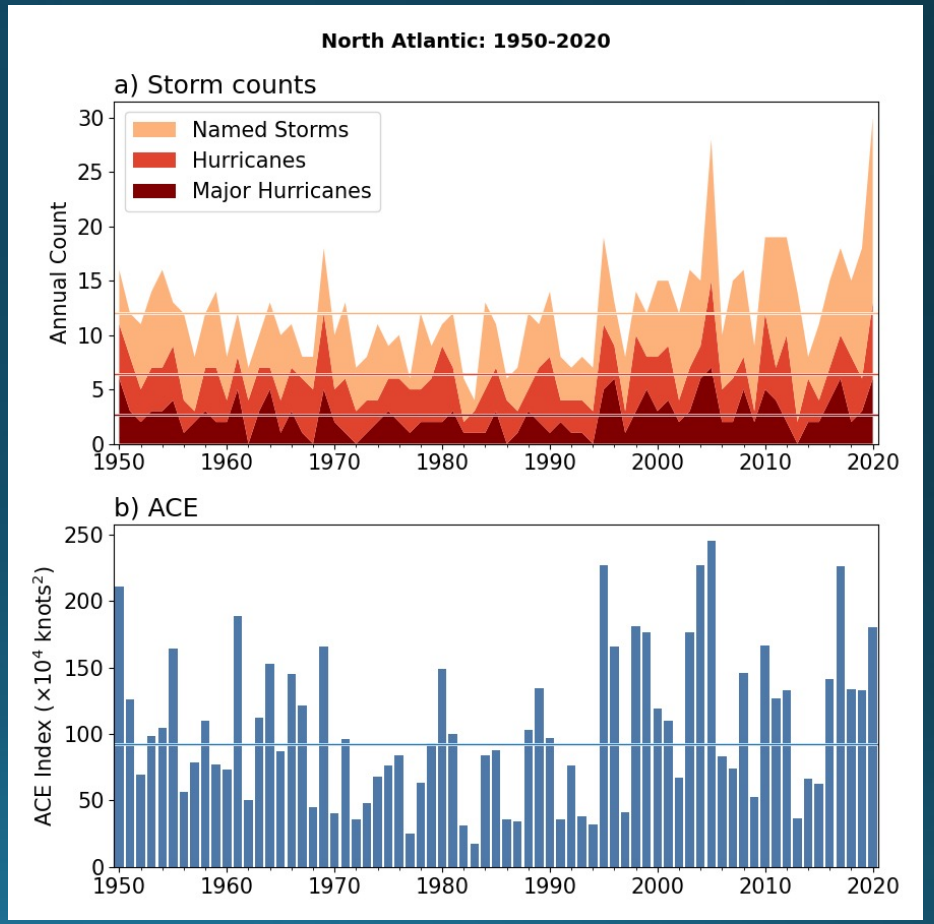
Key Issue: Coastal Inundation

- Storm Surge
- Sea Level Rise
- High Tide Flooding
- Coastal Stormwater Impacts

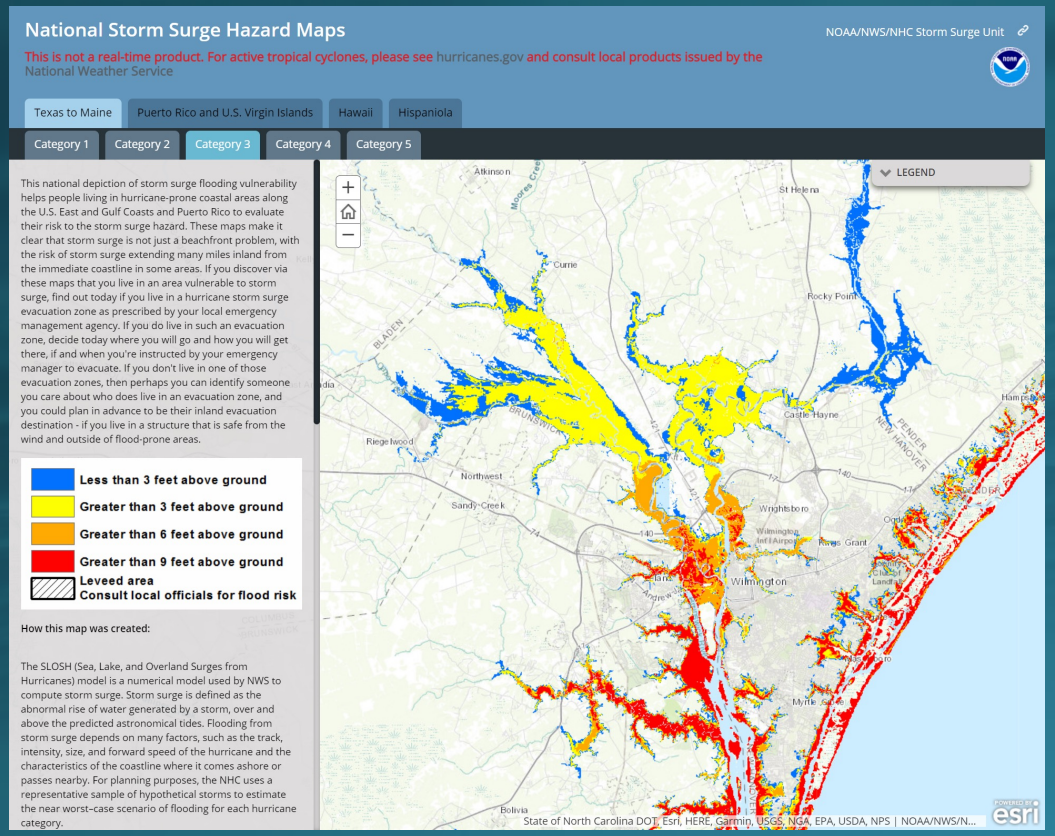


Hurricane Activity

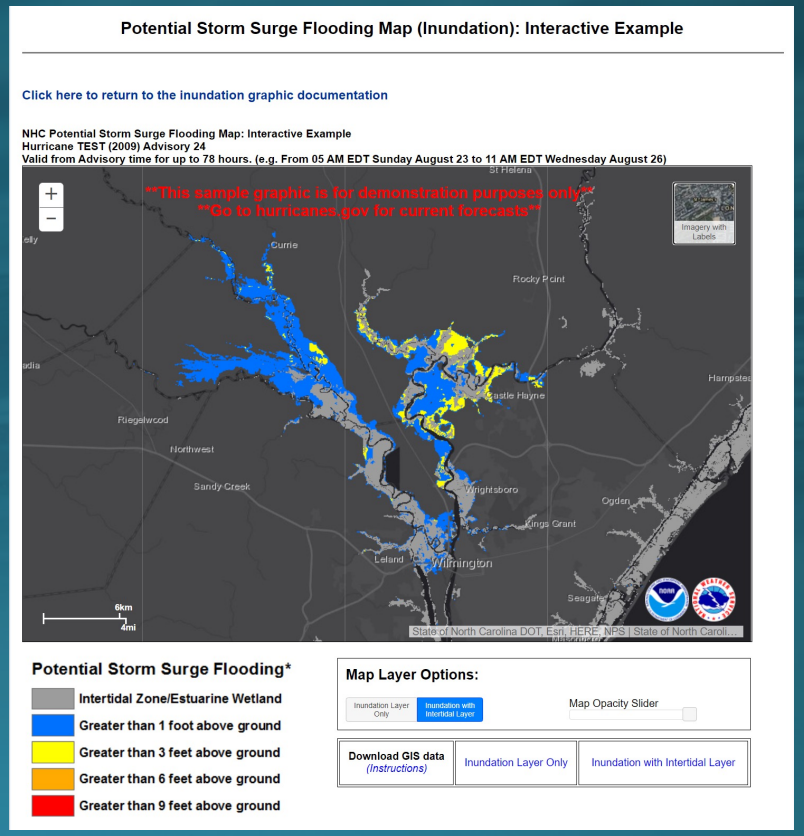




Storm Surge Products

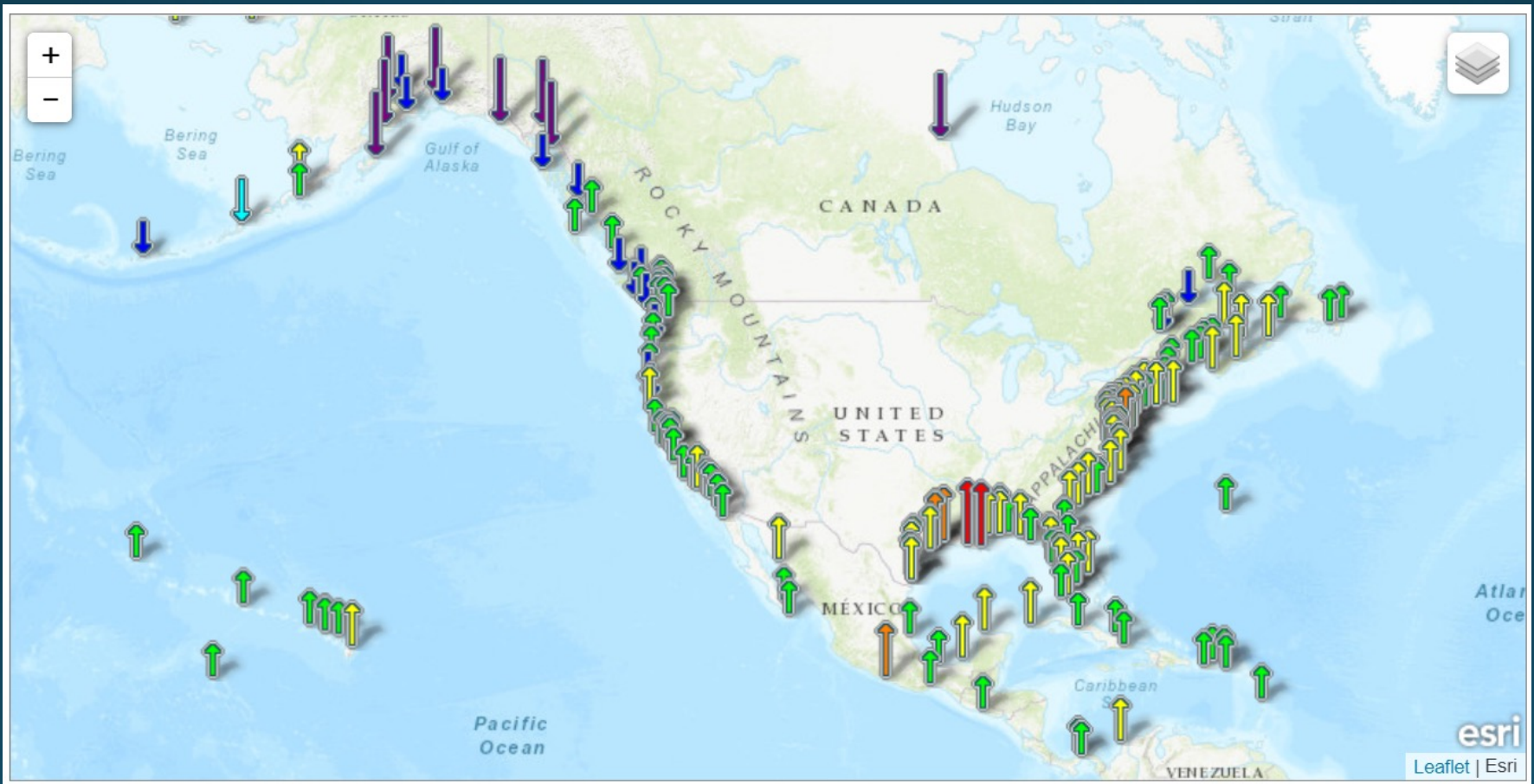


National Storm Surge Hazard Maps



Potential Storm Surge Flooding Map

Sea Level Trends



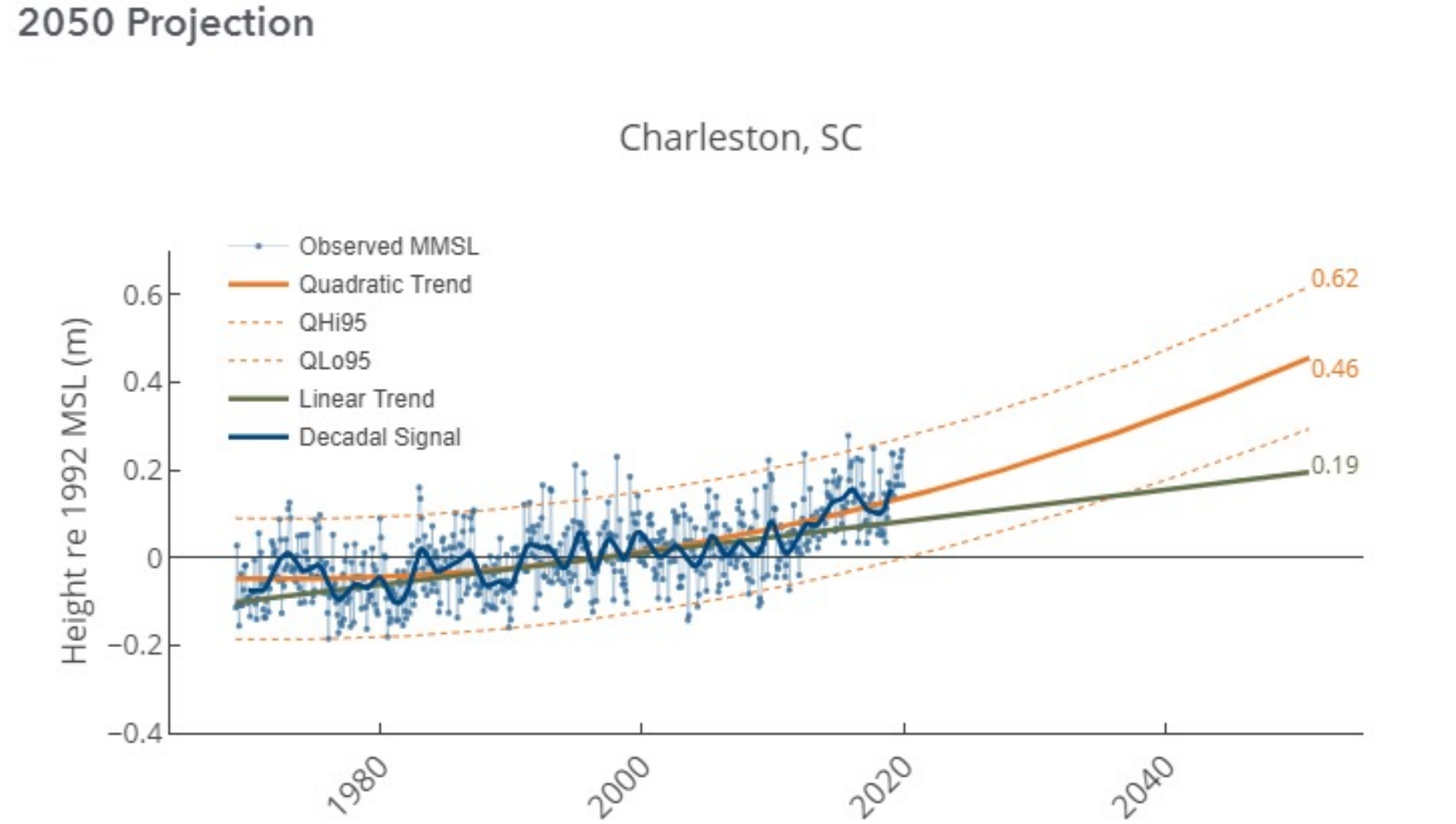
The map above illustrates relative sea level trends , with arrows representing the direction and magnitude of change. Click on an arrow to access additional information about that station.

Relative Sea Level Trends

mm/yr (feet/century)

Above 9 (Above 3)	6 to 9 (2 to 3)	3 to 6 (1 to 2)	>0 to 3 (0 to 1)	-3 to 0 (-1 to 0)	-6 to -3 (-2 to -1)	-9 to -6 (-3 to -2)	Below -9 (Below -3)

SLR Acceleration



From: VIMS SLR Report Card

Future Sea Level Rise

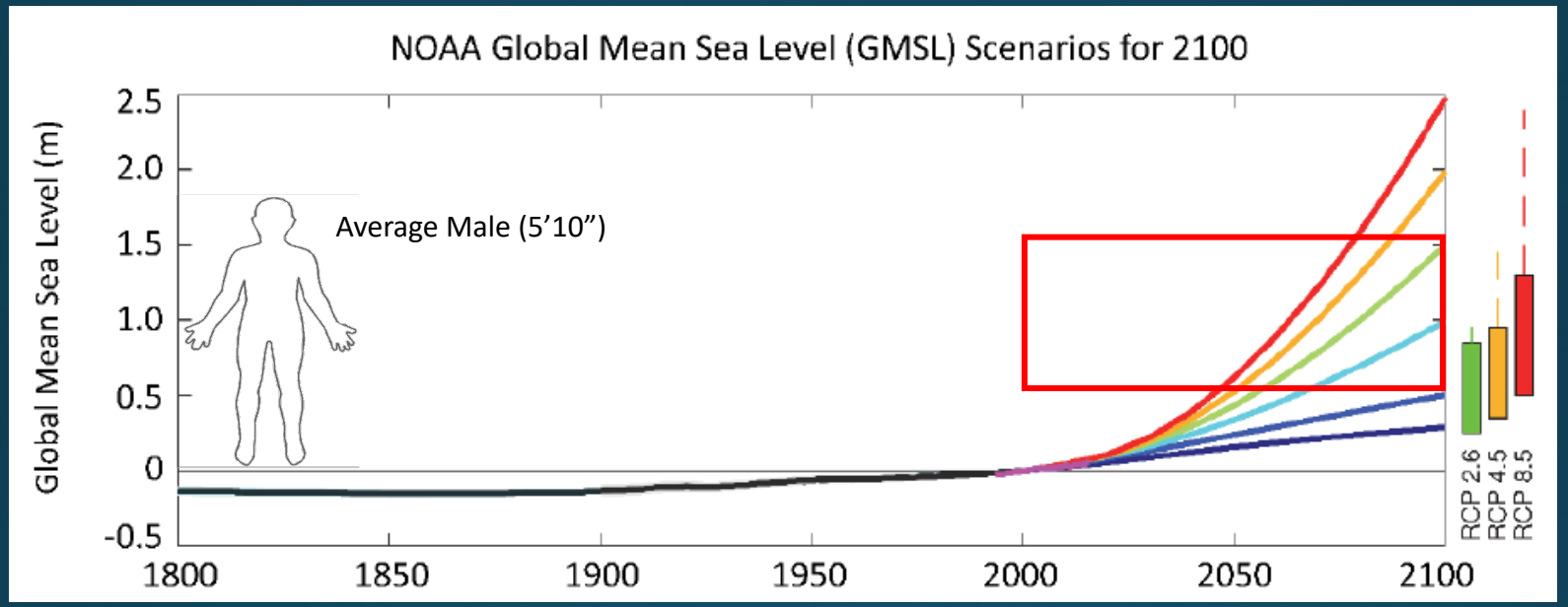


Table 4. Probability of exceeding GMSL (median value) scenarios in 2100 based upon Kopp et al. (2014).

GMSL rise Scenario	RCP2.6	RCP4.5	RCP8.5
Low (0.3 m)	94%	98%	100%
Intermediate-Low (0.5 m)	49%	73%	96%
Intermediate (1.0 m)	2%	3%	17%
Intermediate-High (1.5 m)	0.4%	0.5%	1.3%
High (2.0 m)	0.1%	0.1%	0.3%
Extreme (2.5 m)	0.05%	0.05%	0.1%

NOS Tech Report 83, (Sweet et al, 2017)

What Scenario To Use?

Higher risk tolerance:

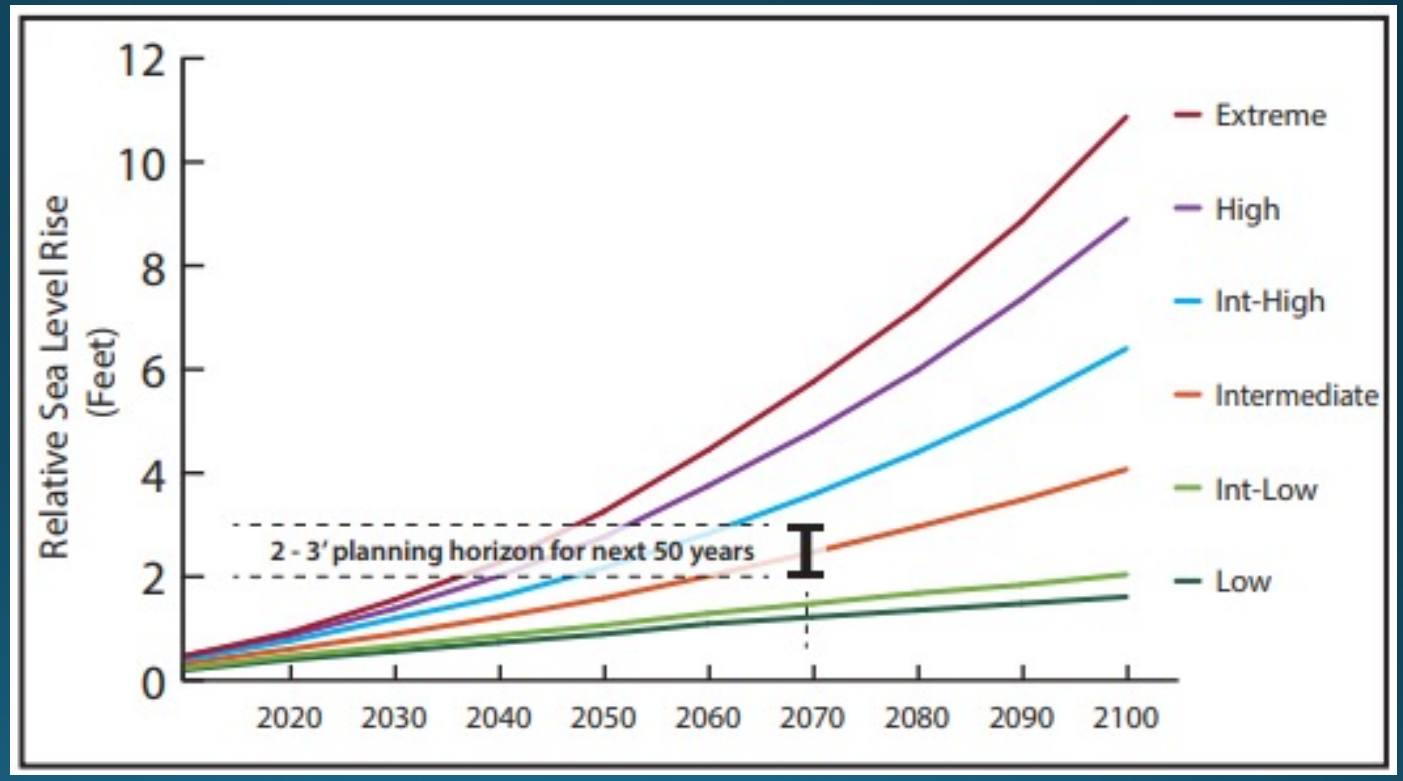
- Greater flexibility to accommodate flooding
- Lower consequence
- Ability to change in near term

Lower risk tolerance:

- Little flexibility to accommodate flooding
- Higher consequence
- Inability to change in near term

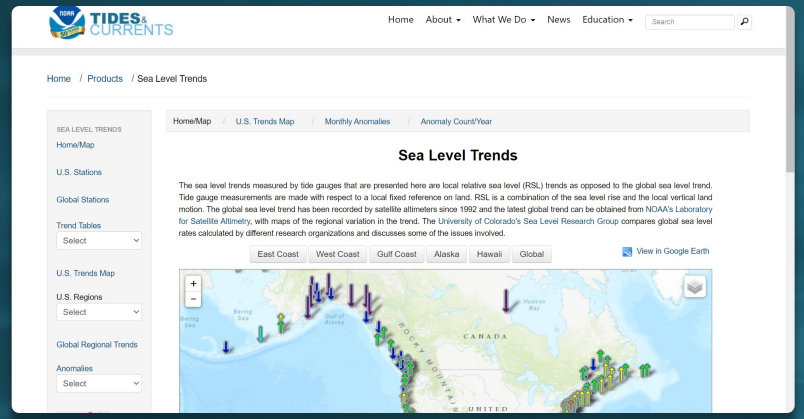
Selecting a SLR Scenario (example)

- A 2.0 foot increase will be used for short-term, less vulnerable investment, such as a parking lot.
- A 3.0 foot increase will be used for more critical longer term investments, such as emergency routes and public buildings.

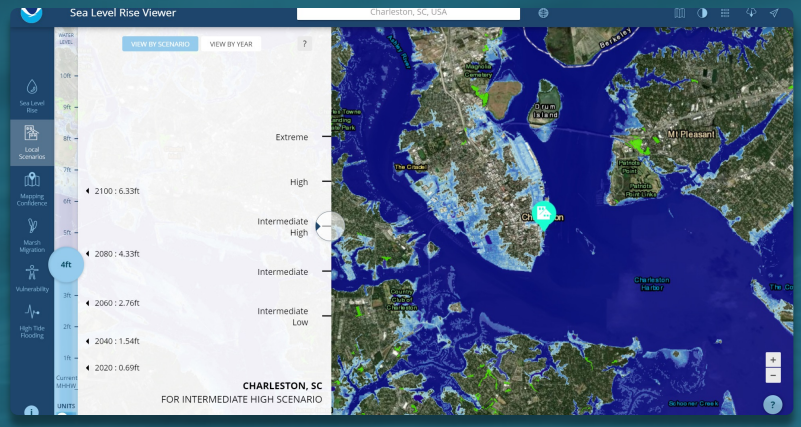


From City of Charleston Sea Level Rise Strategy Document Draft Revision

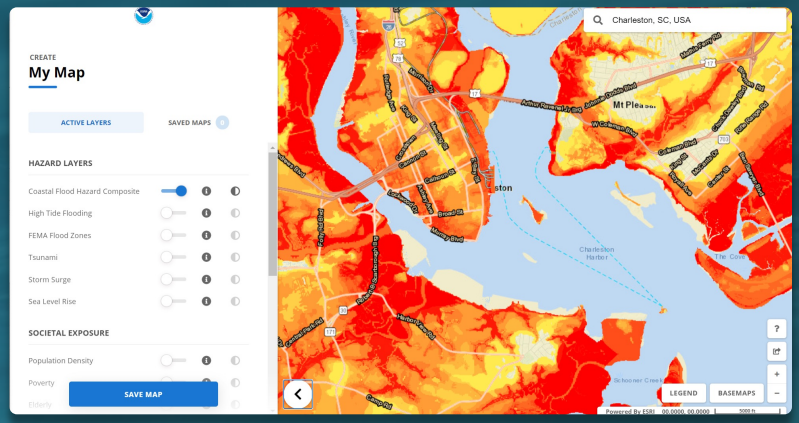
Sea Level Rise Products



Sea Level Trends



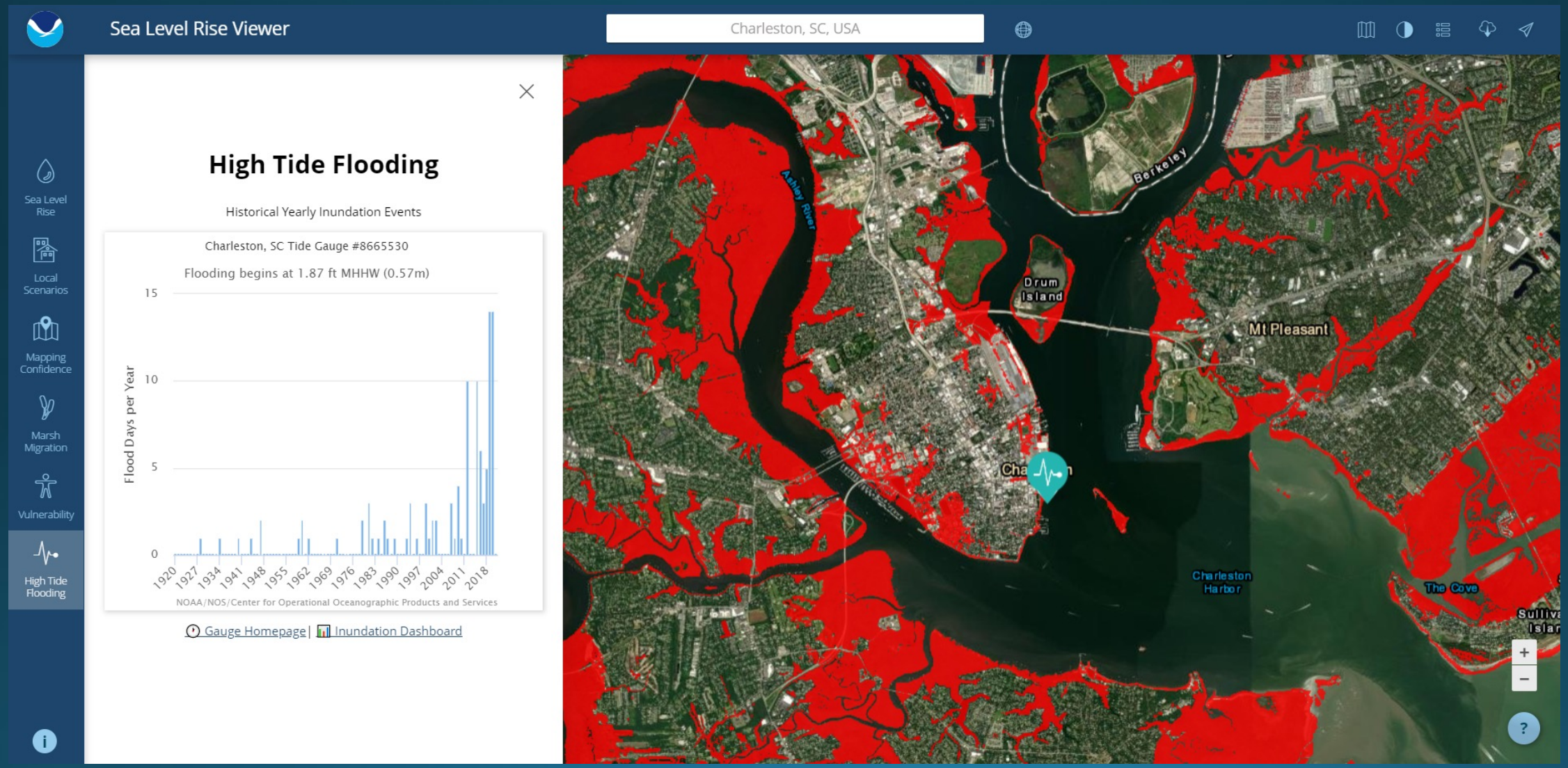
Sea Level Rise Viewer



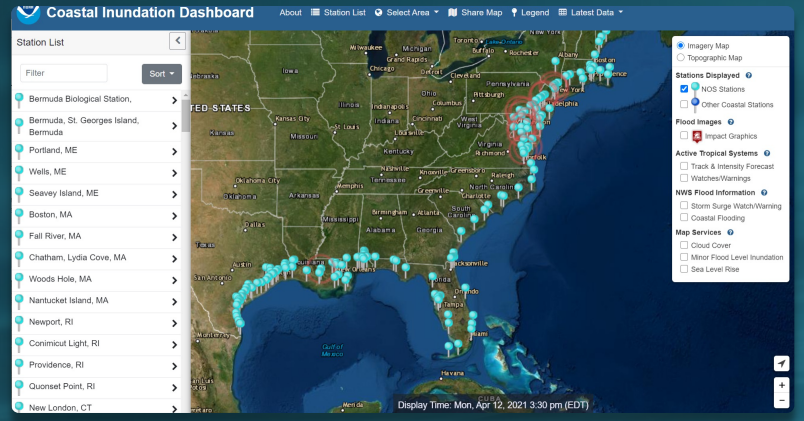
Coastal Flood Exposure Mapper

Today's Flood is Tomorrow's High Tide

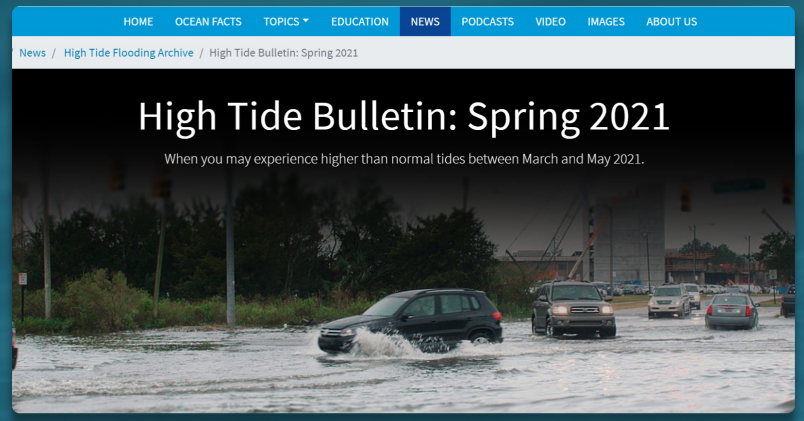
Increase in High Tide Flooding Events



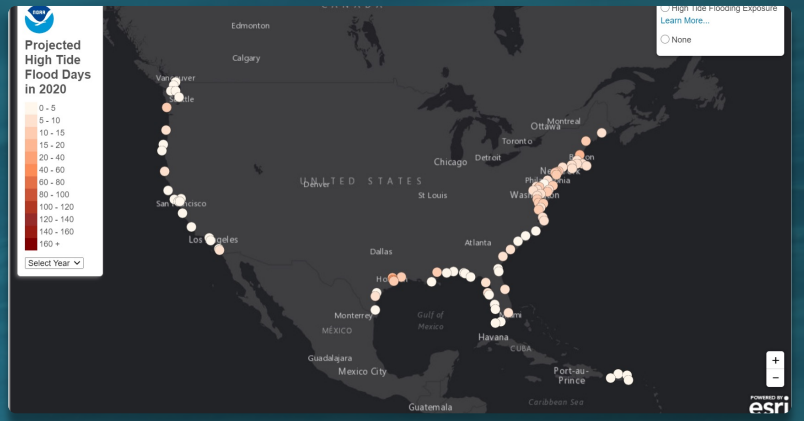
High Tide Flooding Products



Coastal Inundation Dashboard

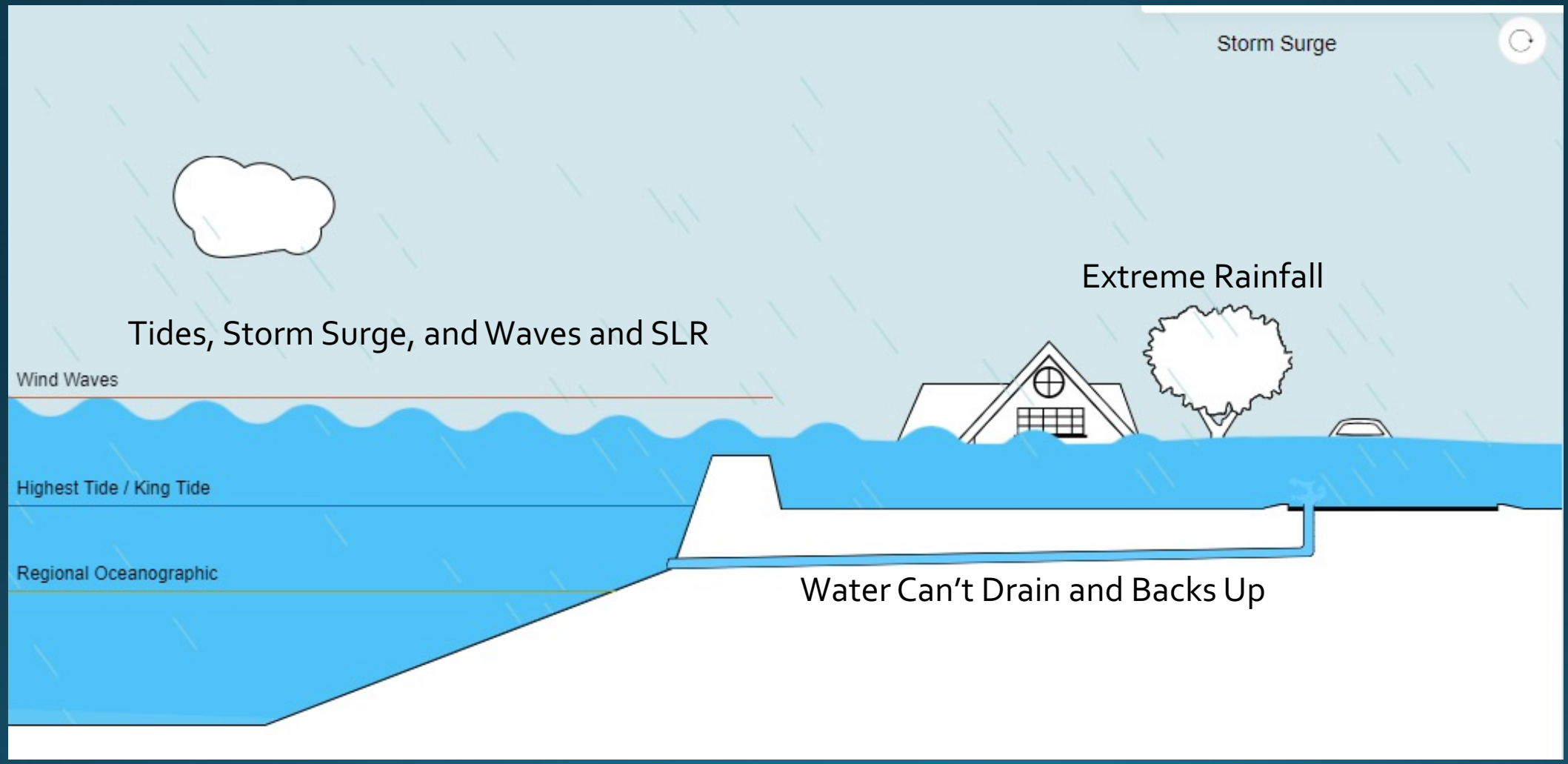


Seasonal High Tide Bulletin

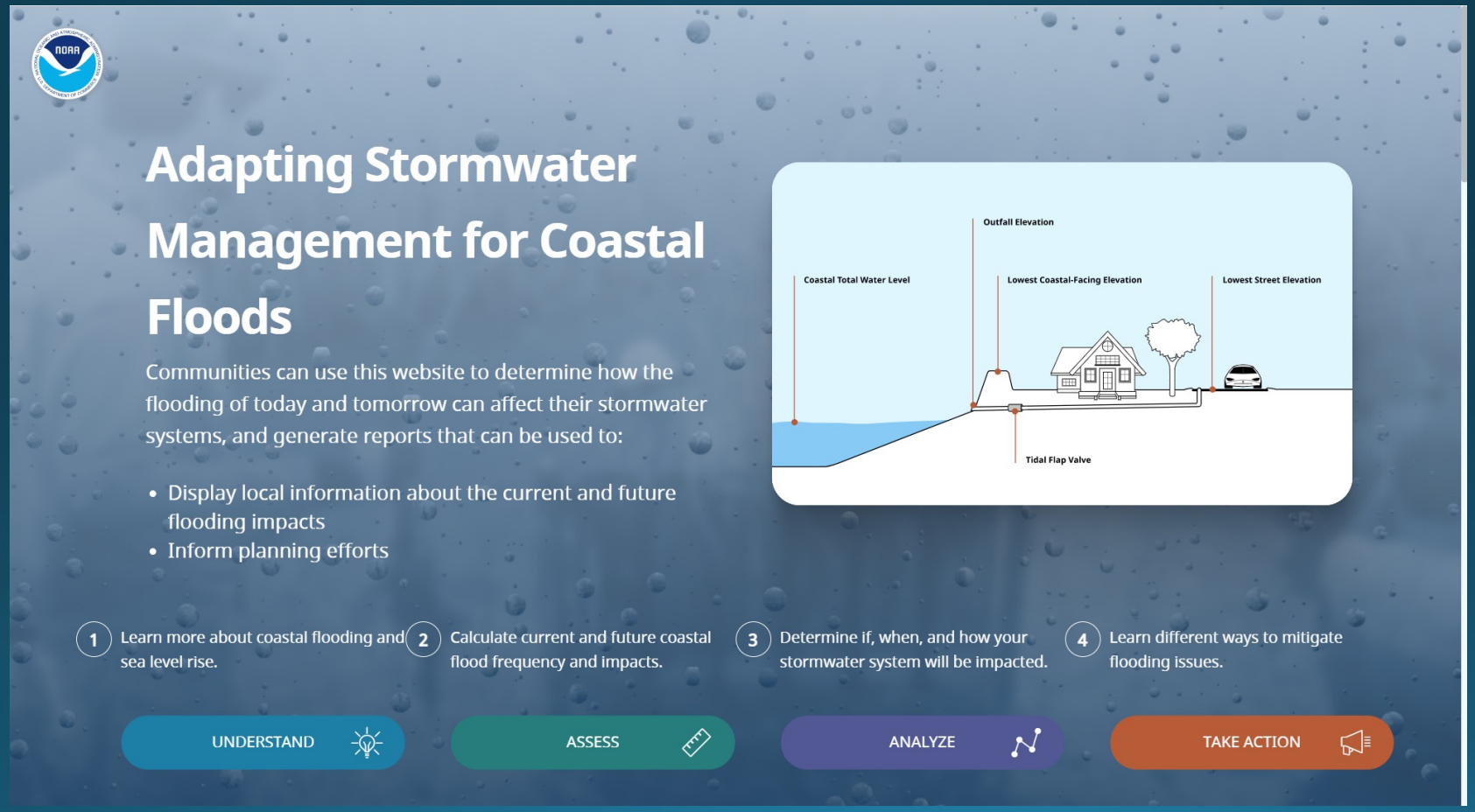


State of High Tide Flooding

Compound Flooding (Fresh and Salt Water)



Adapting Stormwater Management for Coastal Floods



Digital Coast: Coastal Inundation Resources

https://coast.noaa.gov/digitalcoast/topics/coastal-inundation.html

Coastal Inundation

Our nation's coasts are increasingly at risk from rising seas, changing water levels in the Great Lakes, and more frequent and intense storms. These changes are forcing communities to plan for and adapt to coastal flooding using time scales associated with both weather (hourly, daily, and weekly) and climate (seasonally, annually, by decade, and beyond).

Communities can benefit from the resources provided below as they work to increase community resilience.

Get Started

Access the most current information about climate change, its impacts, and future flooding.

Access Key Data

Use these data to develop a comprehensive understanding of your community's water levels.

Visualize the Information

"Seeing" potential flooding impacts is an important step in understanding risks and vulnerabilities and where communities can improve their resilience.

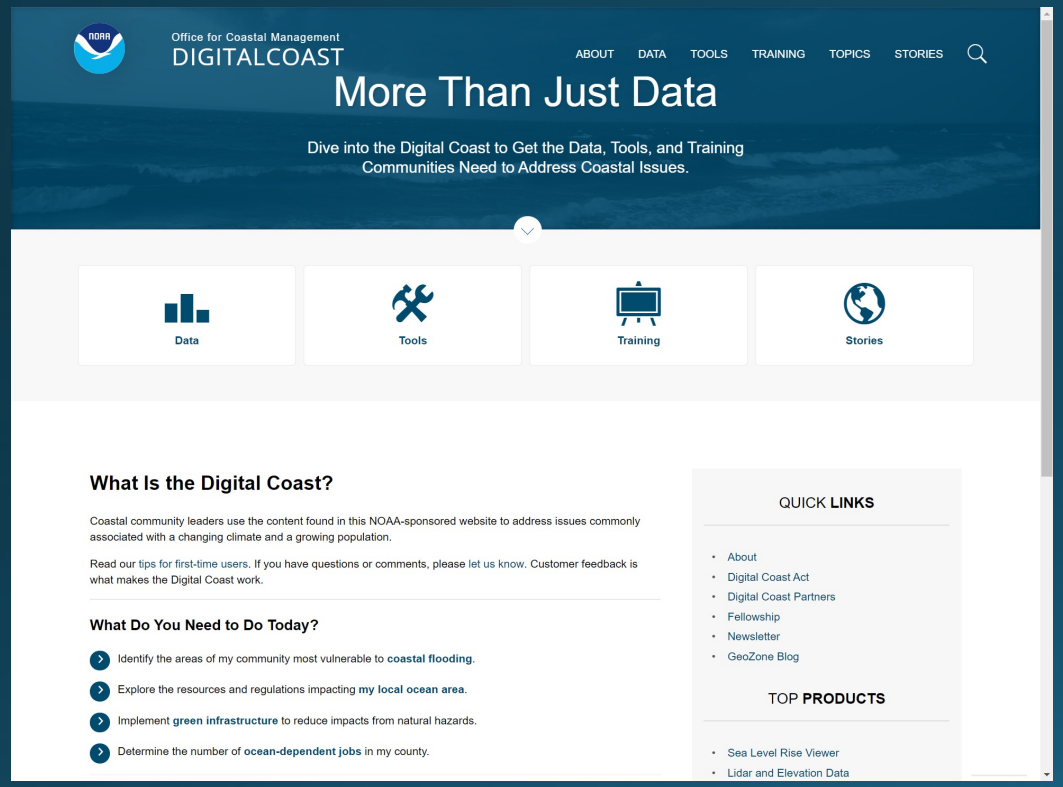
Communicate the Issue

Increase your skills when it comes to communicating with your stakeholders.

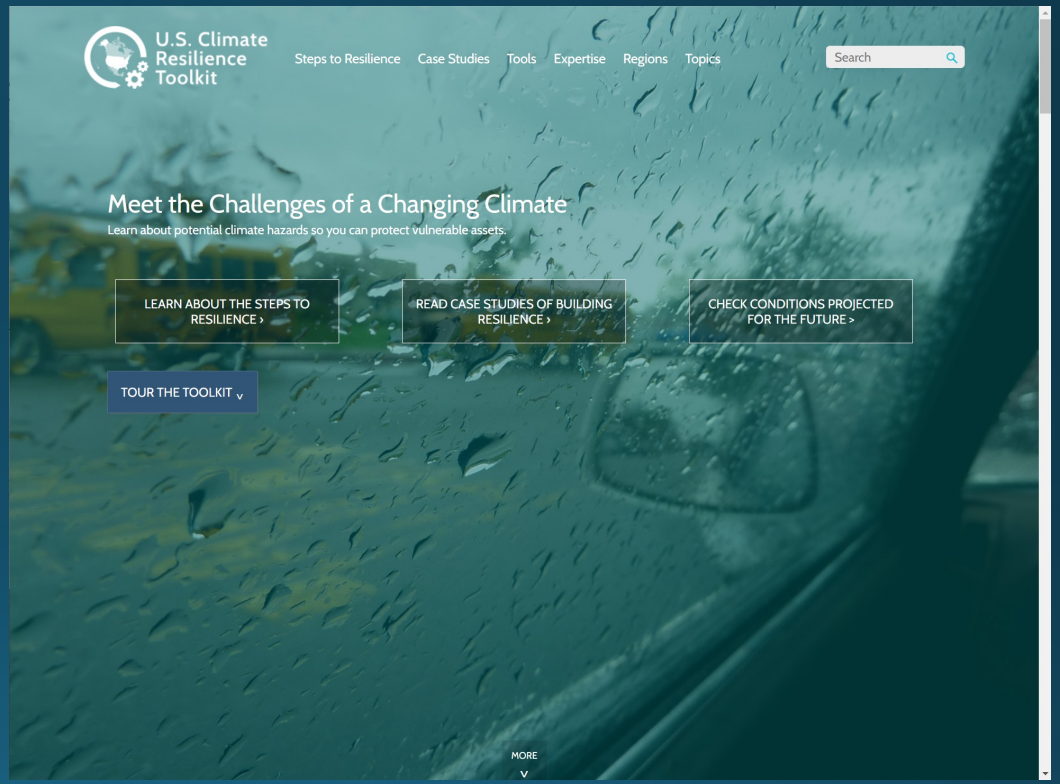
Take Action

Find resources to help fund research and other resilience implementation plans.

Capacity Building Platforms



Digital Coast



Climate Resilience Toolkit

Integrated, Equitable Information

DISCOVER DOWNLOAD MAP ANALYZE LEARN SHARE

DATA INFORMATION ACTION

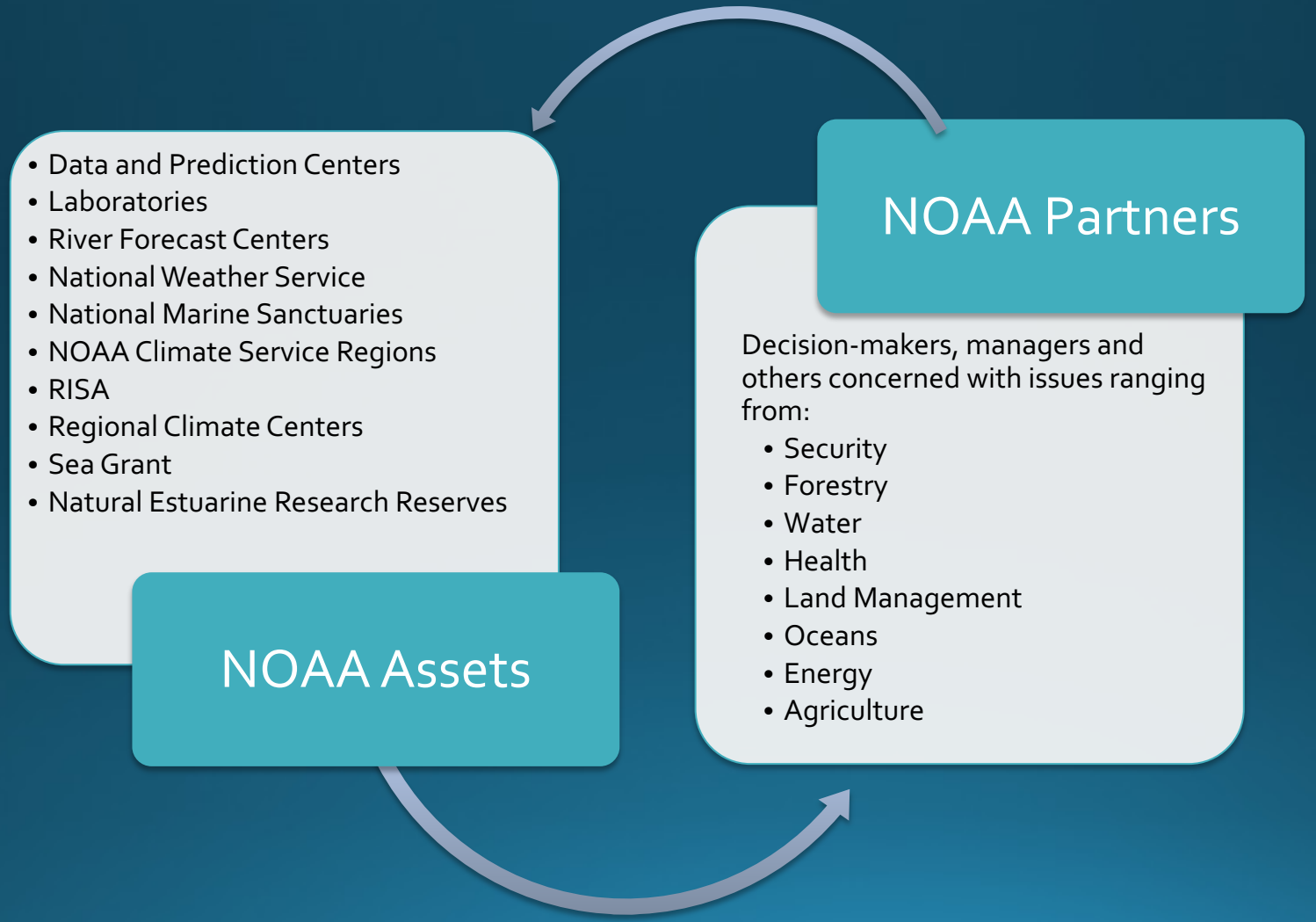
Funding Resilient Coastal Communities

- 2015-16 Regional Coastal Resilience Grants
  - $9 million with $5 million in matching support funding 12 projects
- 2017 Coastal Resilience Grants
  - Integrated program with NOAA Fisheries
  - $13.8 million with $8.3 million in matching support funding 19 projects
- National Coastal Resilience Fund
  - Partnership between NOAA, NFWF, Shell Oil, TransRe, EPA, and AT&T
  - $90 million since 2018 to fund restoration or enhancement activities across 17,800 acres

Key Themes

- Incorporating climate change data into proactive community plans
- Nature-based solutions to control flooding
- Restoration and strengthening of natural infrastructure to protect coastal communities and enhance fish and wildlife habitat

NOAA Works with Partners



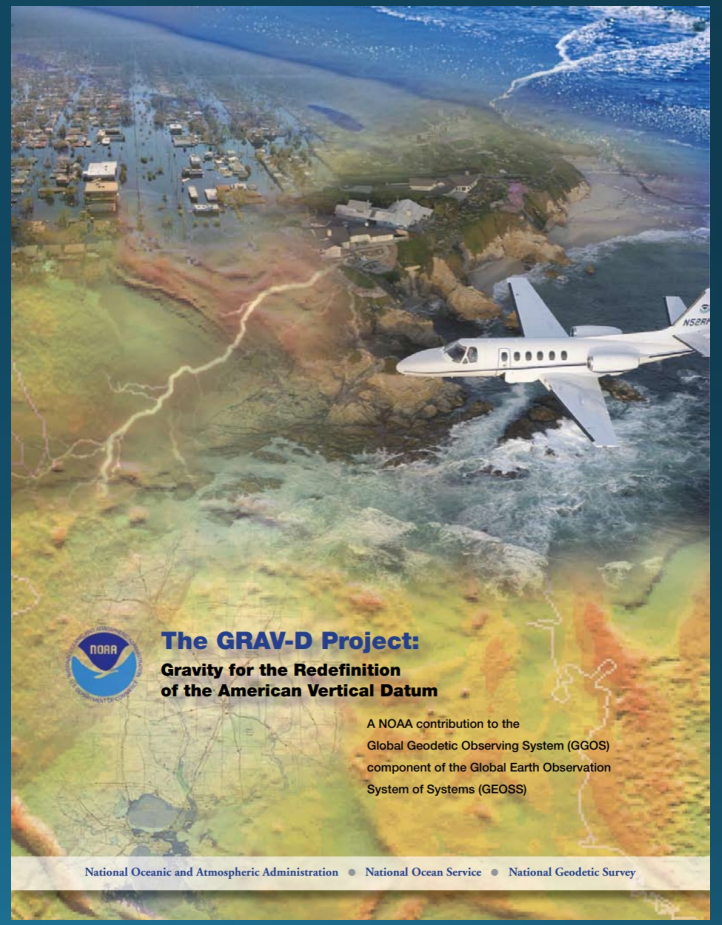
Partnership Example: Digital Coast

- NOAA Office for Coastal Management
- American Planning Association
- Association of State Floodplain Managers
- Coastal States Organization
- National Association of Counties
- National Estuarine Research Reserve Association
- National States Geographic Information Council
- The Nature Conservancy
- Urban Land Institute

What's on the Horizon

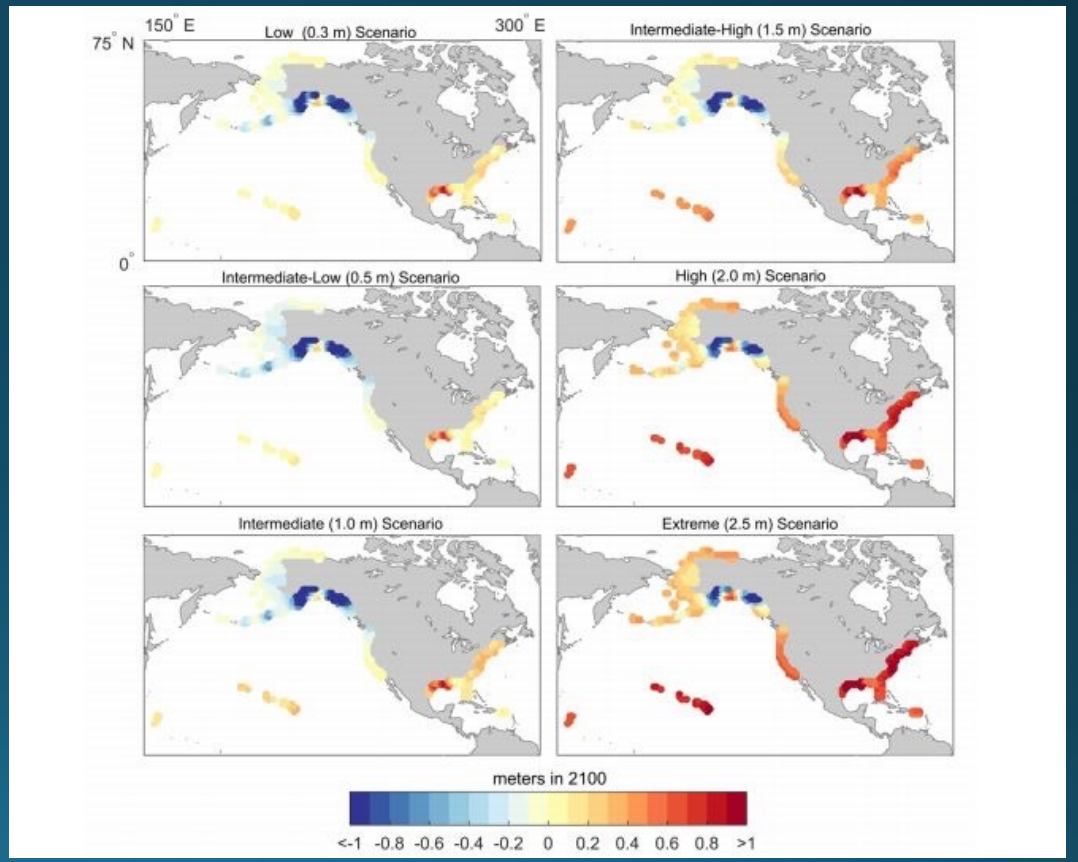
A New Reference Framework

- Updates to the NSRS
  - GRAV-D
  - NATRF2022
- Update to the National Tidal Datum Epoch (NTDE)
  - Tidal datums will change
  - Impacts site surveying



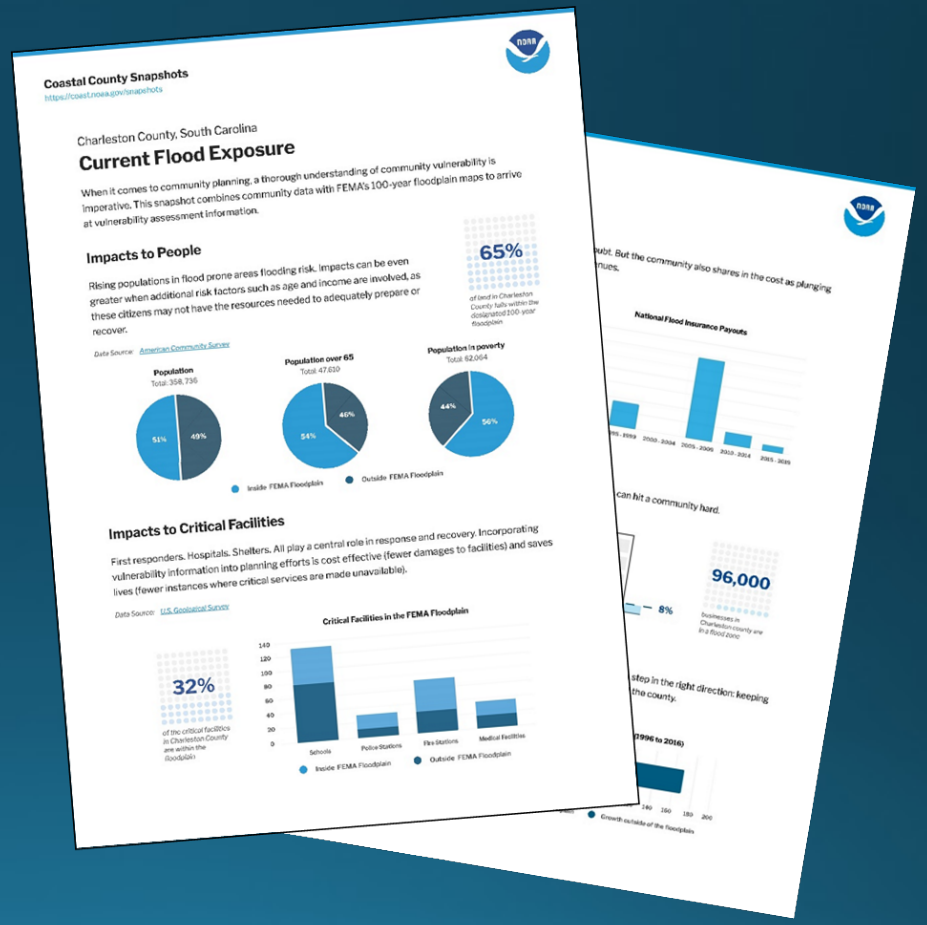
The Next National Climate Assessment

- Pending interagency report on updated SLR rates/trends expected in early 2022.
  - New Projections
  - Extrapolated trends (1970-2050)
  - Extreme Water Levels
- NCA5 expected release in Fall/Winter 2023



New Products and Services

- Desire to increase data collection along U.S. coast
- Working towards a National Coastal Data Information System
- Produce new information products and services, targeted to end-user needs



A Focus on Service Delivery

The benefit of enhanced service delivery for NOAA is a more efficient and effective agency that is better able to fulfill its mission by:

- Prioritizing investments in its product lines (e.g., science (observations and data), services (technical assistance, engagement, training), and stewardship (resource management, place-based);
- Leveraging the capabilities/roles of NOAA and our partners to help meet the needs of our users;
- Developing new, and refining existing, products and services that are informed by user needs; and
- Transmitting and translating information for decision-makers across multiple sectors.

For More Information

Please Contact:

Doug Marcy
NOAA Office for Coastal Management
doug.marcy@noaa.gov

Introduction: What's the Threat?

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Coastal Hazards Specialist
NOAA Office for Coastal Management

Rives Taylor
Firmwide Design Resilience Co-Leader, Principal
Gensler

Panel 1 – Community Needs and Barriers

Allen Kratz (Moderator)
Principal
Resilience Works LLC

Josh Sawislak
Distinguished Senior Fellow
Global Resilience Institute at Northeastern University

Jonathan Altenberg
Executive Director
Great Lakes and St. Lawrence Cities Initiative

Julie Wormser
Deputy Director of Programs
Mystic River Watershed Association

James (Jim) Finch
Director of Finance
Town of Branford, CT

Infrastructure Investment and Job Act

1. What are local implications and opportunities?
2. How can coastal communities prepare for funding and competitive grants?
3. What community needs and barriers must be overcome to leverage federally supported resilience projects?

ULI Coastal Forum: Preparing Communities for Federal Resilience Funding

Josh Sawislak, Global Resilience Institute at Northeastern University

Jonathan Altenberg, Great Lakes-St. Lawrence Cities Initiative, U.S. and Canada

Julie Wormser, Resilient Mystic Collaborative, Greater Boston, Massachusetts

Jim Finch, Town of Branford, Connecticut

Allen Kratz, Resilience Works, Maine-New Jersey

Climate Resilience

Infrastructure Investment and Jobs Act

Opportunities for Federal Funding

EPA DOT Energy Department

ULI Coastal Forum: Preparing Communities for Federal Resilience Funding

Environmental Protection Agency grants:

- **to government entities for "increasing the resilience of publicly owned treatment works to a natural hazard" (§50205)**
- **up to $75,000 for nonprofits to hire "circuit riders" to provide assistance to owners and operators of small & medium publicly owned wastewater works (§50206)**

ULI Coastal Forum: Preparing Communities for Federal Resilience Funding

Department of Transportation:

- **community resilience and evacuation route grants (§11405)**
- **grants for "strengthening, stabilizing, hardening, elevating, relocating, or otherwise enhancing resilience of coastal highways (§11405)**
- **"Healthy Streets" grants to deploy cool pavements & porous pavement & to expand tree cover (§11406)**

continued….

ULI Coastal Forum: Preparing Communities for Federal Resilience Funding

Department of Transportation:

- **resilience improvement grants, e.g., "increasing marsh health and total area adjacent to a highway right-of-way to promote additional flood storage" (§11405)**
- **grants for Installation of electric vehicle charging infrastructure and vehicle-to-grid infrastructure via block grants to states (§11109)**
- **grants for “acquisition or leasing of low- or no-emission buses” (§30018)**

ULI Coastal Forum: Preparing Communities for Federal Resilience Funding

Energy Department will provide:

- **grants to states to establish – capitalize – a revolving loan fund for loans & grants for commercial & residential energy audits (§40502)**
- **grants to states to train individuals to conduct energy audits or surveys of commercial and residential buildings (§40503)**
- **federal share of career skills training programs for an industry-related certification to install energy-efficient buildings technologies (§40513)**

Infrastructure Investment and Job Act

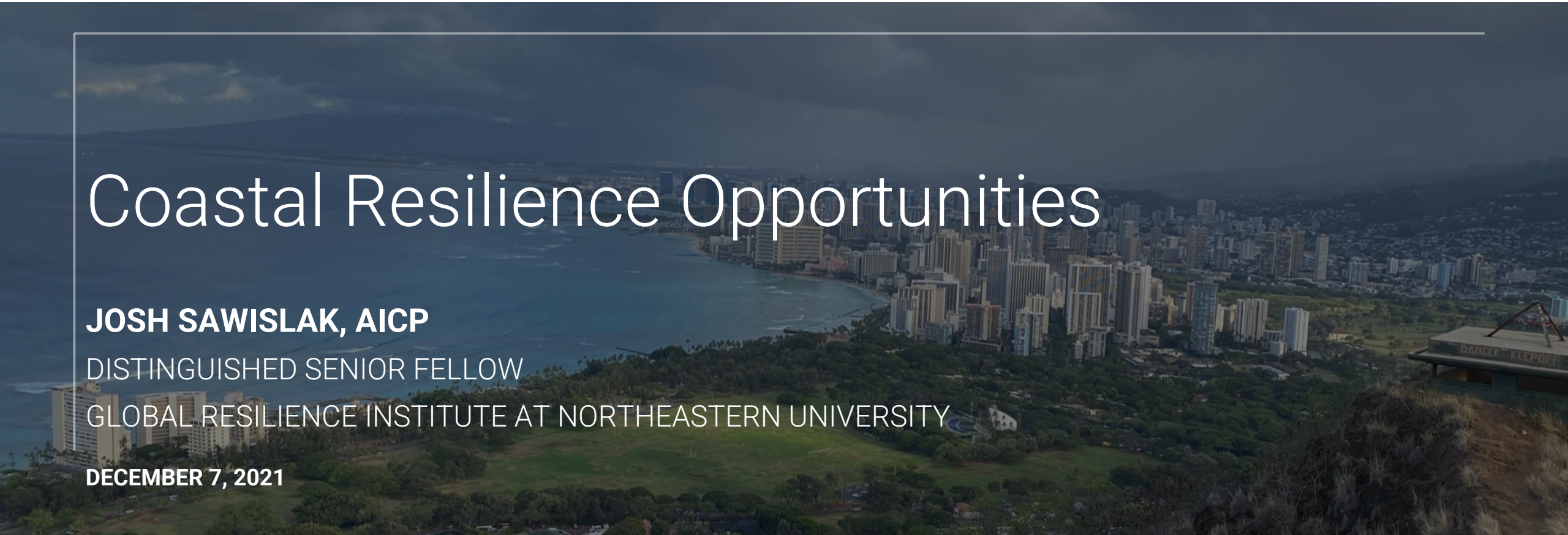
1. What are local implications and opportunities?
2. How can coastal communities prepare for funding and competitive grants?
3. What community needs and barriers must be overcome to leverage federally supported resilience projects?

How to Optimize Opportunities

1. **Assess community gaps and needs**
2. **Review the text of the law**

congress.gov: Most-Viewed Bills-Infrastructure Investment & Jobs Act

3. **Talk with state program managers and fund administrators about how to participate in new programs, gain more funding**



Coastal Resilience Opportunities

JOSH SAWISLAK, AICP

DISTINGUISHED SENIOR FELLOW

GLOBAL RESILIENCE INSTITUTE AT NORTHEASTERN UNIVERSITY

DECEMBER 7, 2021

Coastal Communities

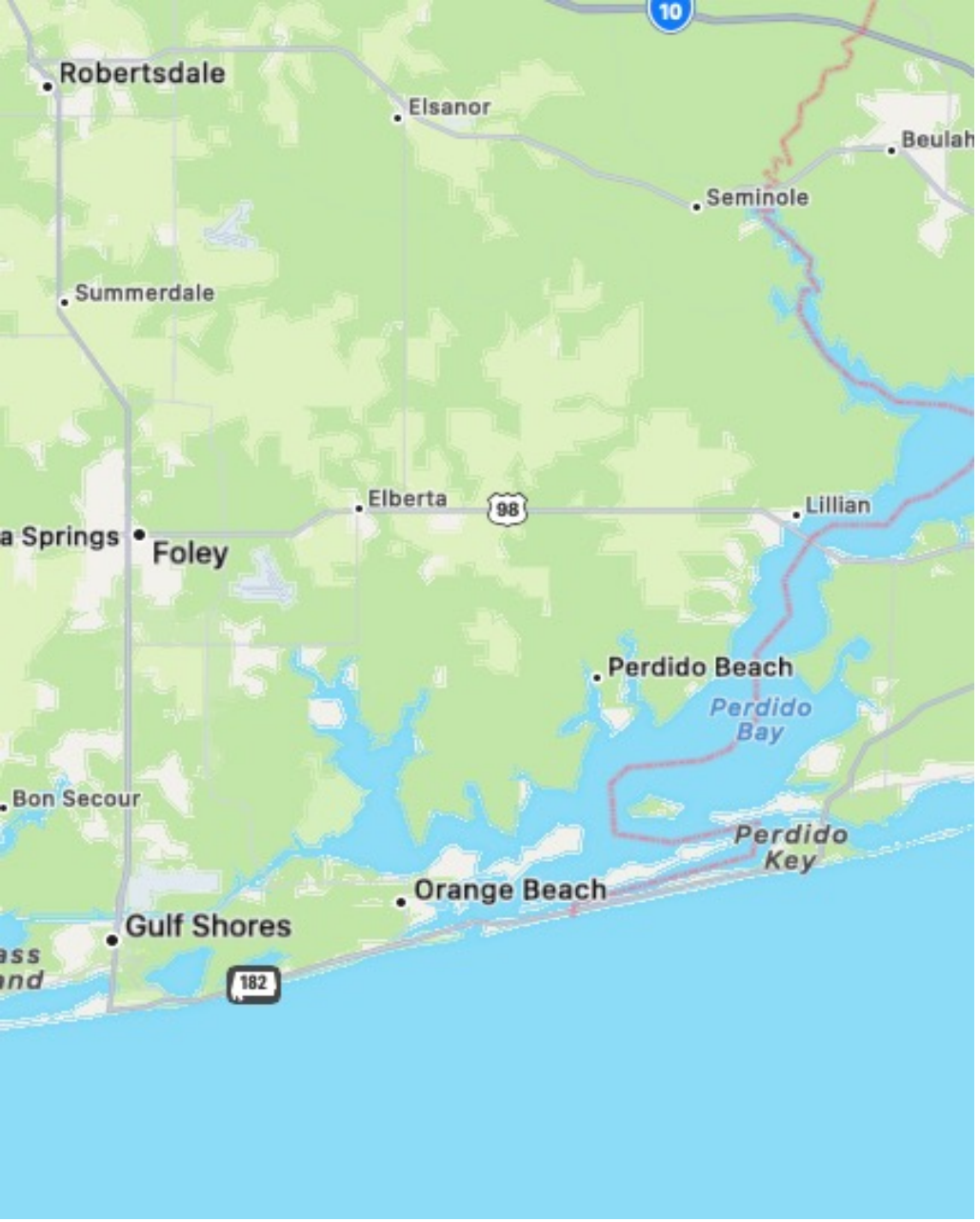
Comprehensive Risk Understanding is Critical

- Few places understand living with water more than Venice
- The city is regularly flooded by high tides (*acqua alta*)
- The have nearly completed a **30-year, $6B+** flood gate project (MOSE) to protect the city
- Even IF it works for the extreme tides, MOSE will <u>not</u> solve the *sea level rise* problem

Coastal Challenges

Value at Risk

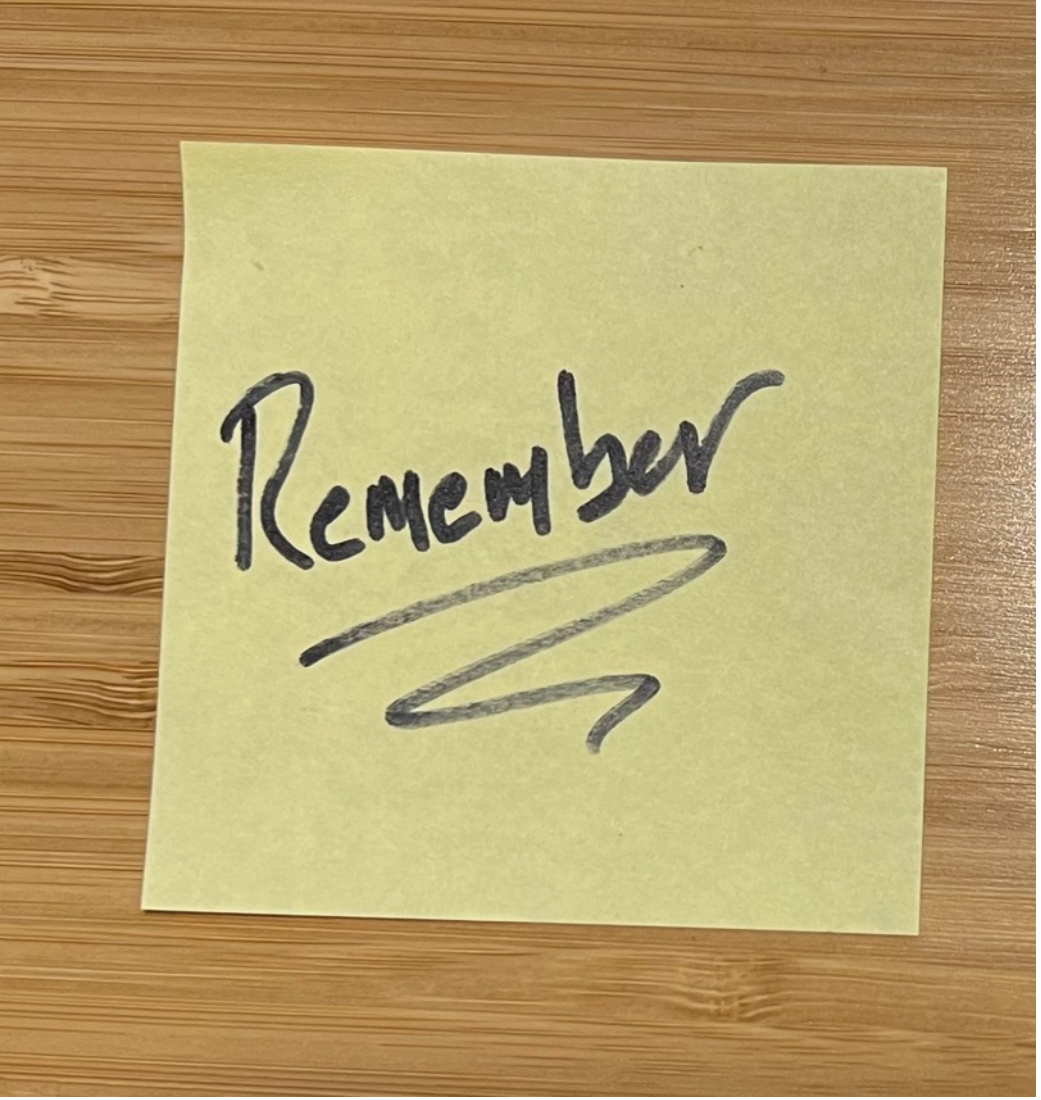
- The four counties of South FL are home to more than **six million people** and have a combined real estate value of nearly **$1 Trillion**
- More than half of that value lies within *two meters* (6 feet) of the current high tide line
- The real estate market has begun to price this risk, *but it is still underpriced*
- Both the *public* and *private* sectors share this risk
- Local governance is an important driver in managing this risk
- More details in a *June 2020 report by CUES at Florida Atlantic University*



Coastal Challenges

Institutional Capacity Constraints

- Perdido Beach, Alabama has 550 residents
- It faces many of the same issues as larger communities, but without the resources to proactively address them
- Smaller communities need help in planning and executing resilience projects
- Some federal programs have technical assistance and there are NGOs and associations with useful resources



Things to Remember

- Comprehensive risk understanding is critical
- Different federal programs can often work together – even if the agencies don't know how to do this
  - Ask for help: federal funding is complicated and has lots of rules
  - Local, state, regional, and NGO partners can provide technical support
- Engage the community and the private sector early

Online Resources

- *American Flood Coalition* Flood Funding Finder
- *American Flood Coalition* Adaptation for All Guide
- *C2ES* Guide to Public-Private Collaboration on City Climate Resilience Planning
- *C2ES* The Resilience Factor: A Competitive Edge for Climate-Ready Cities
- *C2ES* Investing in Resilience
- *FAU-CUES* Protecting South Florida Report
- *Georgetown Climate Center* Adaptation Clearinghouse
- *US Climate Alliance* Governor's Resilience Playbook

Great Lakes and St. Lawrence Cities Initiative:

Priorities and Actions for Coastal Climate Resilience

December 2021

GREAT LAKES AND ST. LAWRENCE
CITIES INITIATIVE

L'ALLIANCE DES VILLES
DES GRANDS LACS ET DU SAINT-LAURENT

About the Cities Initiative

- Binational coalition of over 135 U.S. and Canadian mayors working to advance the protection and restoration of the Great Lakes and St. Lawrence River

- Current focus on COVID relief, water equity, water infrastructure funding, and coastal resilience

Urban Land Institute

GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE
L'ALLIANCE DES VILLES DES GRANDS LACS ET DU SAINT-LAURENT

Understanding the Problem

Caledonia, WI | Source: The Journal Times

Mackinac Island, MI | Source: Crain's Detroit Business

- **Variability –** Water levels in the Great Lakes-St. Lawrence River basin are naturally variable with cyclical highs and lows.
- **Severity –** Climate change is exacerbating these fluctuations with recent years reaching record high water levels.
- **Damage –** High water levels, paired with severe storm events and wave action, are leading to greater erosion and flooding events.
- **Threat –** Erosion and flooding threaten public and private properties, critical infrastructure, shoreline habitat, and recreation / tourism potential.

Preliminary Survey Findings

Anticipated future expenditures over **the next 5 years** for coastal impacts

(Underrepresentation of actual need)

U.S. Responses: **$1.95B USD**

CAN Responses: **$0.26B USD**

Total: $2.21B USD

Preliminary Survey Findings

Many Communities are lacking progress related to:

- Monitoring the effectiveness of their efforts
- Developing climate action plans

Communities are split in their efforts to:

- Complete vulnerability assessments
- Enact policy updates
- Utilize public education in their practices

Many communities are already taking action to:

- Complete comprehensive planning updates
- Collect data to inform their decision-making
- Update zoning codes and ordinances
- Implement coastal resilience projects / practices

Preliminary Survey Findings

- 61% of communities are **highly concerned about coastal issues**
- 67% have seen an **increasing level of interest** in addressing coastal issues
- **Current concerns** are primarily focused on responding to:
  - Shoreline / bluff erosion
  - Flooding / high water levels
  - Infrastructure damage
  - Storm frequency / severity
- Communities noted **support from state and federal agencies** as very important to their efforts to respond to coastal issues

Summary of Coastal Needs

Coordinated planning and comprehensive solutions

Broad engagement and strategic education

Operational tools and complete data

Supportive and accessible funding

- Nature based solutions
- Long-term planning
- Regional planning and coordination
- Intergovernmental collaboration

Urban Land Institute

GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE
L'ALLIANCE DES VILLES DES GRANDS LACS ET DU SAINT-LAURENT

Summary of Coastal Needs

Coordinated planning and comprehensive solutions

Broad engagement and strategic education

Operational tools and complete data

Supportive and accessible funding

- Nature based education
- Connection to coastal resources
- Private engagement
- Great Lakes Awareness

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GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE
L'ALLIANCE DES VILLES DES GRANDS LACS ET DU SAINT-LAURENT

Summary of Coastal Needs

- Coordinated planning and comprehensive solutions
- Broad engagement and strategic education
- Operational tools and complete data
- Supportive and accessible funding

- Data accessibility
- Data gaps
- Decision support tools
- Best practices for resilience
- Informed decision-making

Summary of Coastal Needs

- Coordinated planning and comprehensive solutions
- Broad engagement and strategic education
- Operational tools and complete data
- Supportive and accessible funding

- **Recommendations**
- **Continued Meetings**
  - Nature based solutions
  - Coastal planning and zoning
  - Private property impacts, solutions, and support

GLSLCI Coastal Resilience Program

- **Vision:** Great Lakes coastal communities that can withstand the forces of climate change through nature-based solutions so that they remain ecologically, economically, and socially vibrant.
- **Mission:** To convene municipalities, researchers, and field practitioners to research, identify, and implement effective, nature-based strategies for advancing coastal resilience across the Great Lakes and St. Lawrence River basin.
- **Priorities:**
  - Projects / Implementation
  - Research
  - Policy / Strategy
  - Advocacy
  - Education / Engagement

Coastal Resilience Program Priorities

RESEARCH

- Coastal Resilience Needs Assessment Survey
- Resource evaluation
- Forecasting future coastal conditions / impacts

STRATEGY

- Mayors Advisory Council on Coastal Resilience

ADVOCACY / POLICY

- U.S. and Canadian priorities for funding and support available to local municipalities

EDUCATION / ENGAGEMENT

- Lake Michigan Coastal Resilience Initiative
- Climate Literacy
- Presentations

IMPLEMENTATION

- Regional work groups focused on project development
- Resources and support for planning and decision-making

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Filling the Decision Support Gap

- **Program Goal:** To influence the way communities make decisions aimed at adapting to coastal impacts from climate change with an emphasis on nature-based planning for coastal climate resilience.
- **Proposed Solution:** Equip communities, through strategic programming, capacity building and decision support resources, to plan and implement sustainable solutions to climate change impacts in shoreline areas in coordination with neighboring municipalities.
- **What makes us different?**
  - **Geographic Scale –** Focusing on basin-wide coastal resilience
  - **Time Scale –** Utilizing cutting edge climate and hydrologic models to forecast future coastal conditions
  - **Application –** Ensuring that today's decisions prepare municipalities for tomorrow's challenges
  - **Context –** Pairing science with unique community contexts for locally-relevant outputs
  - **Reach –** Leveraging Cities Initiative platform to reach municipalities and relevant partners
- **Program Benefits:**
  - **User-Friendly –** Developing tools in collaboration with end users to ensure user-friendly outcomes
  - **Capacity –** Expanding support for communities with limited resources and capacity
  - **Coordination –** Encouraging and enhancing planning on a sub-regional scale
  - **Relationships –** Leveraging existing relationships to boost program reach and tool adoption

Next Steps

- Will be working with ~60 cities through regional coastal work groups in Great Lakes states
- Received initial support for proposed work from 18 mayors on Cities Initiative Board of Directors
- Form City Work Groups
  - Review and prioritize key resilience projects across their coastlines and determine their interdependencies
  - Identify key projects
  - Obtain grant funding

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GREAT LAKES AND ST. LAWRENCE CITIES INITIATIVE
L'ALLIANCE DES VILLES DES GRANDS LACS ET DU SAINT-LAURENT

Partnering Across Boundaries:

Climate Resilience in Greater Boston's Mystic Watershed

Julie Wormser, Deputy Director
Mystic River Watershed Association

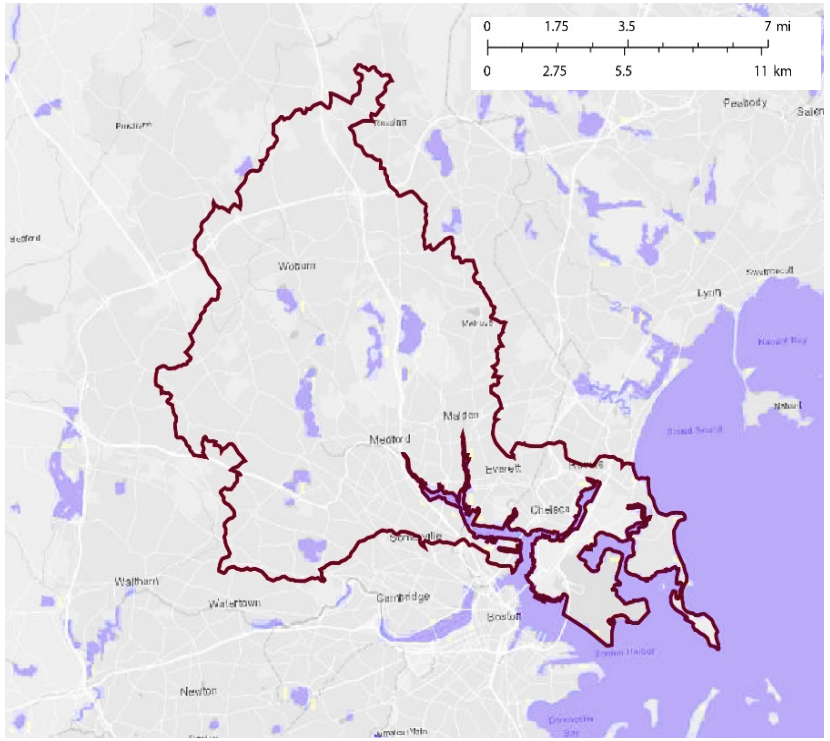
Credit: Caleb Dresser

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

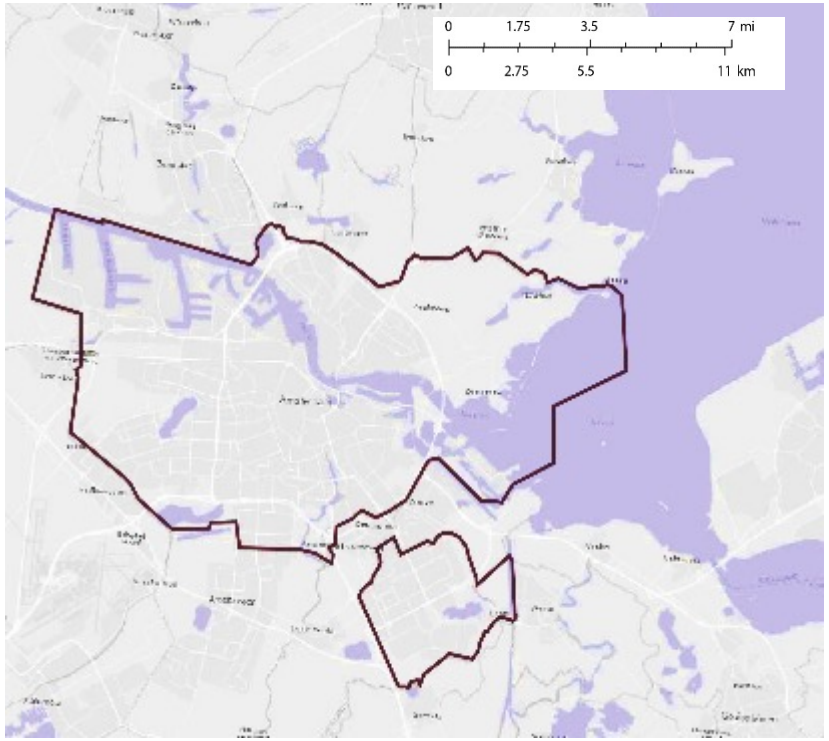
We have a major governance challenge.

Mystic River Watershed



- 76 square miles
- 600,000+ people
- 21 municipalities

Amsterdam



- 85 square miles
- 800,000+ people
- 1 municipality

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Resilient Mystic Collaborative

- Voluntary partnership of 20 cities and towns
- Founded in 2018
- 98% of watershed
- Secured $5 million in regional climate funding

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Theory of Change

Credit: David Mussina

- We work together on regional projects that no single city or town can accomplish alone.
- We are data-driven.
- We are action-oriented.
- We are pragmatic and optimistic.
- We are mutually supportive.
- Our structure lets us succeed and learn.

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Working Groups

Social Resilience

Coastal Resilience

Statewide Advocacy

Flood Resilience

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Developing shovel-worthy regional projects

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

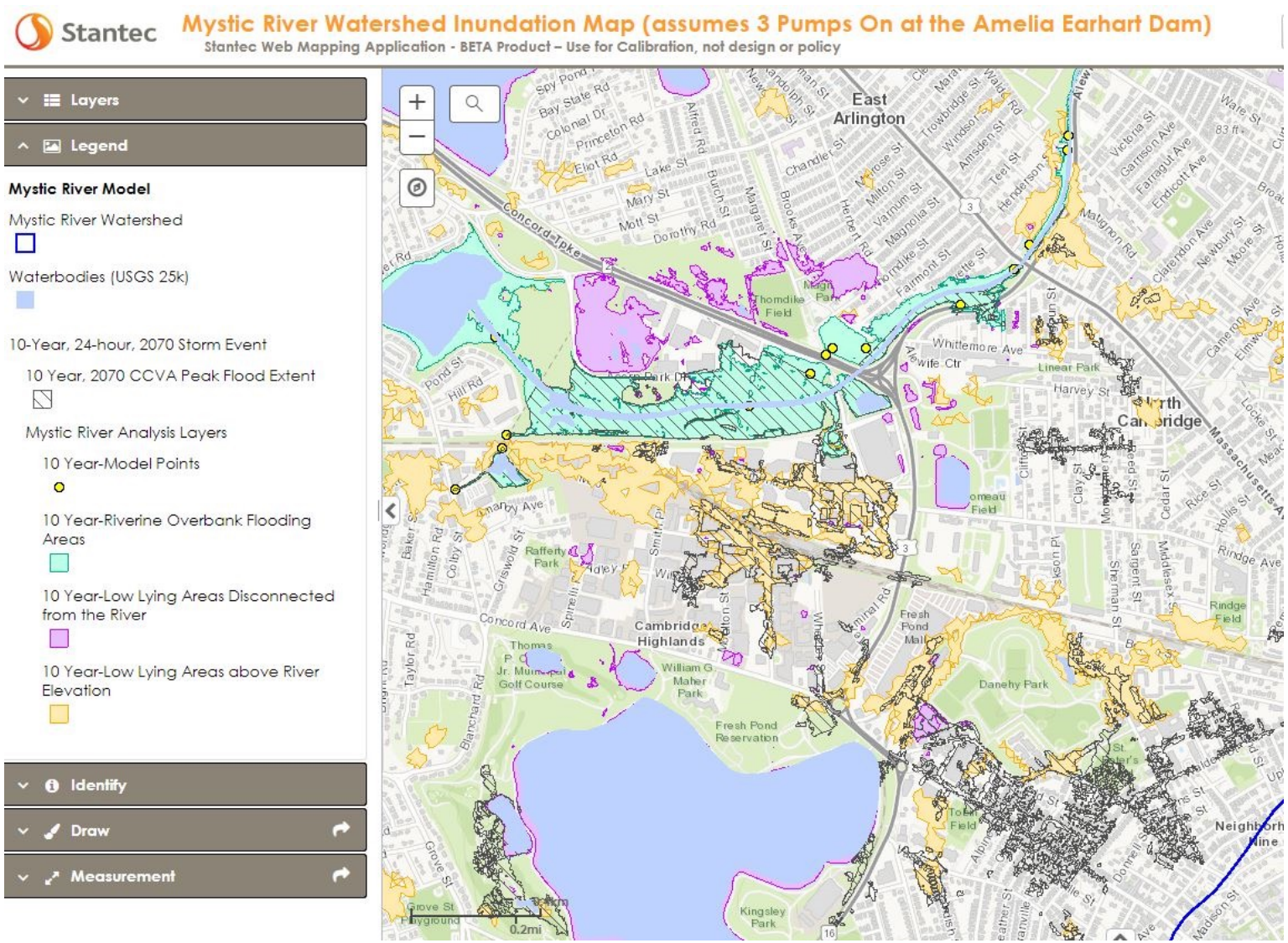
Goal:

Absorb more water upstream to decrease downstream flooding.

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

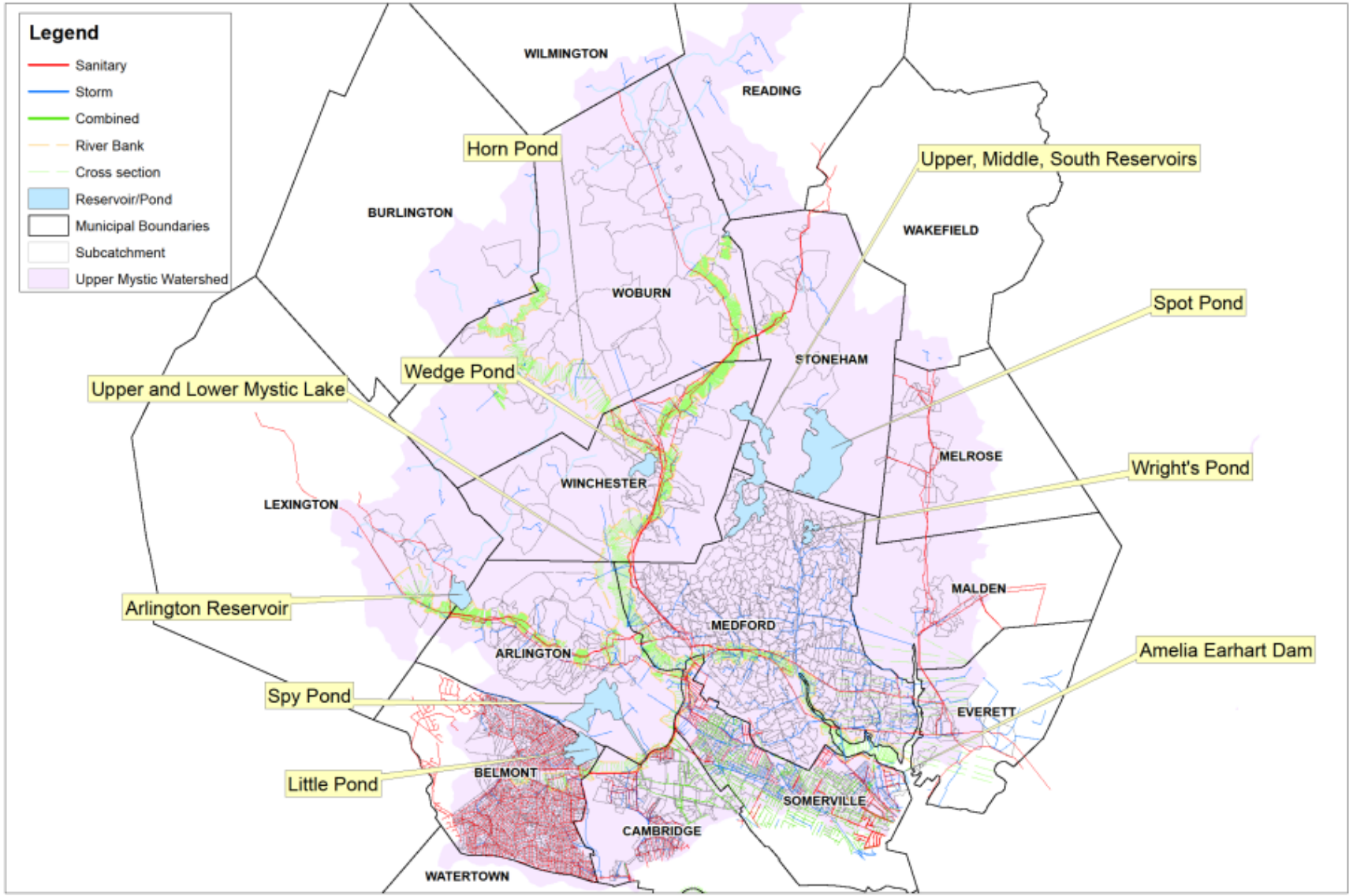
Cambridge developed hydrologic model using predicted 2070 rainfall intensity



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

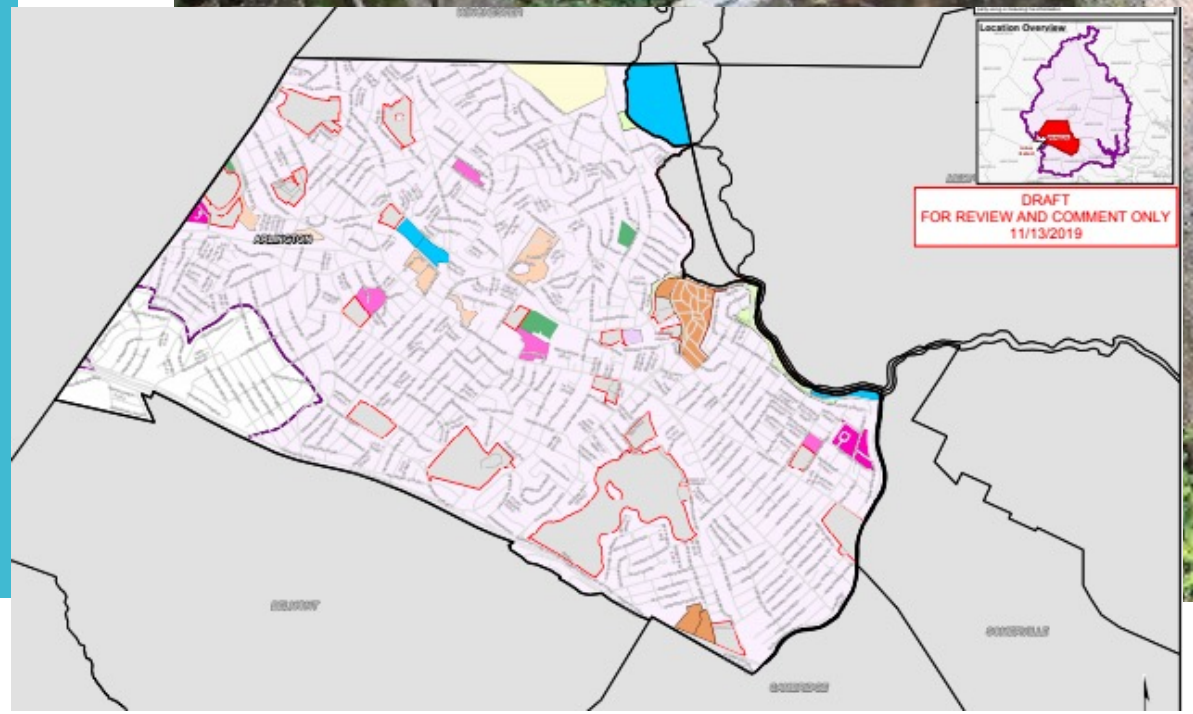
Incorporated stormwater infrastructure across 17 communities



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Together we identified 465 candidate locations, winnowed to 18, first three are funded for 75% design.

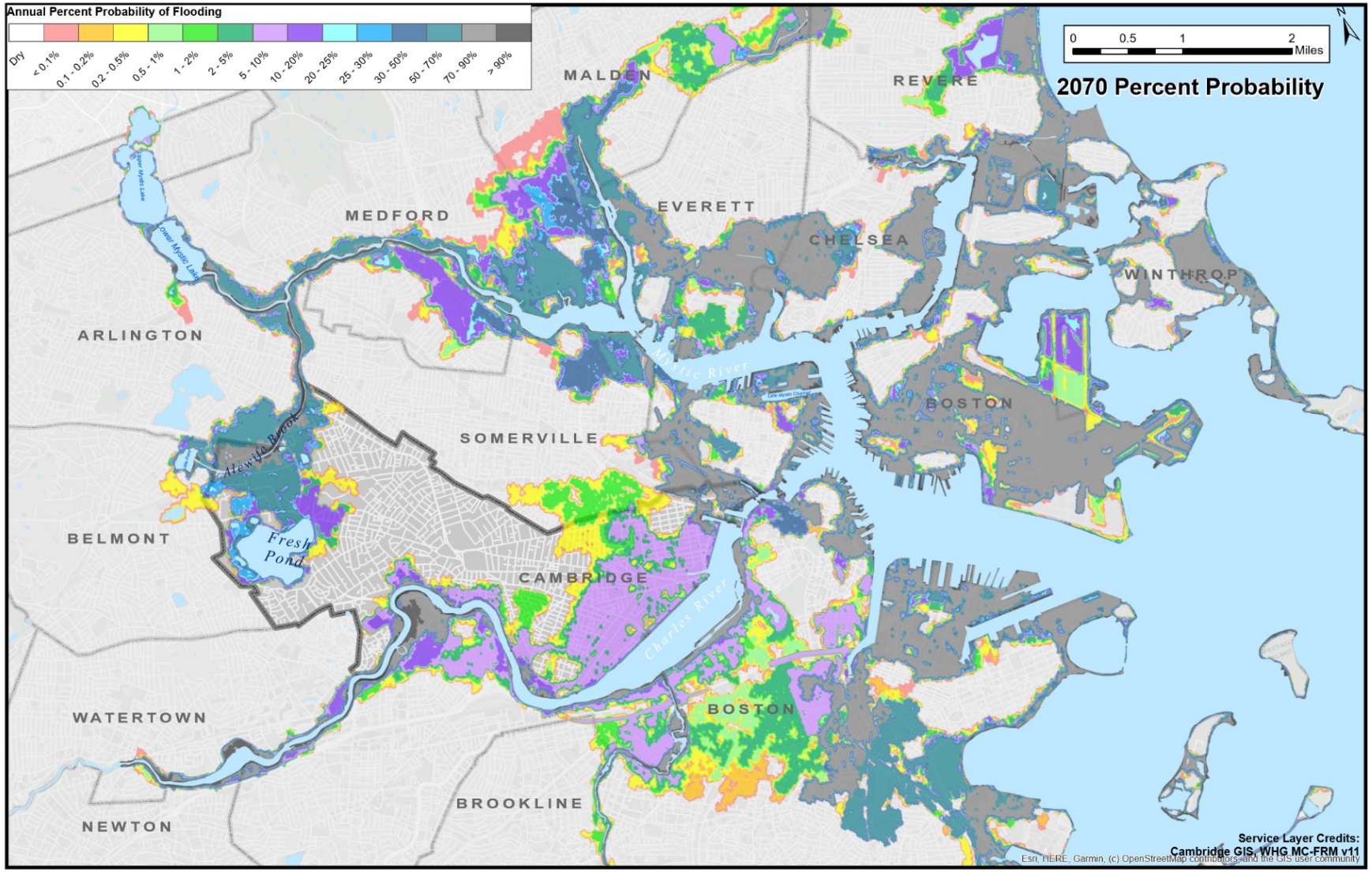


RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Goal:

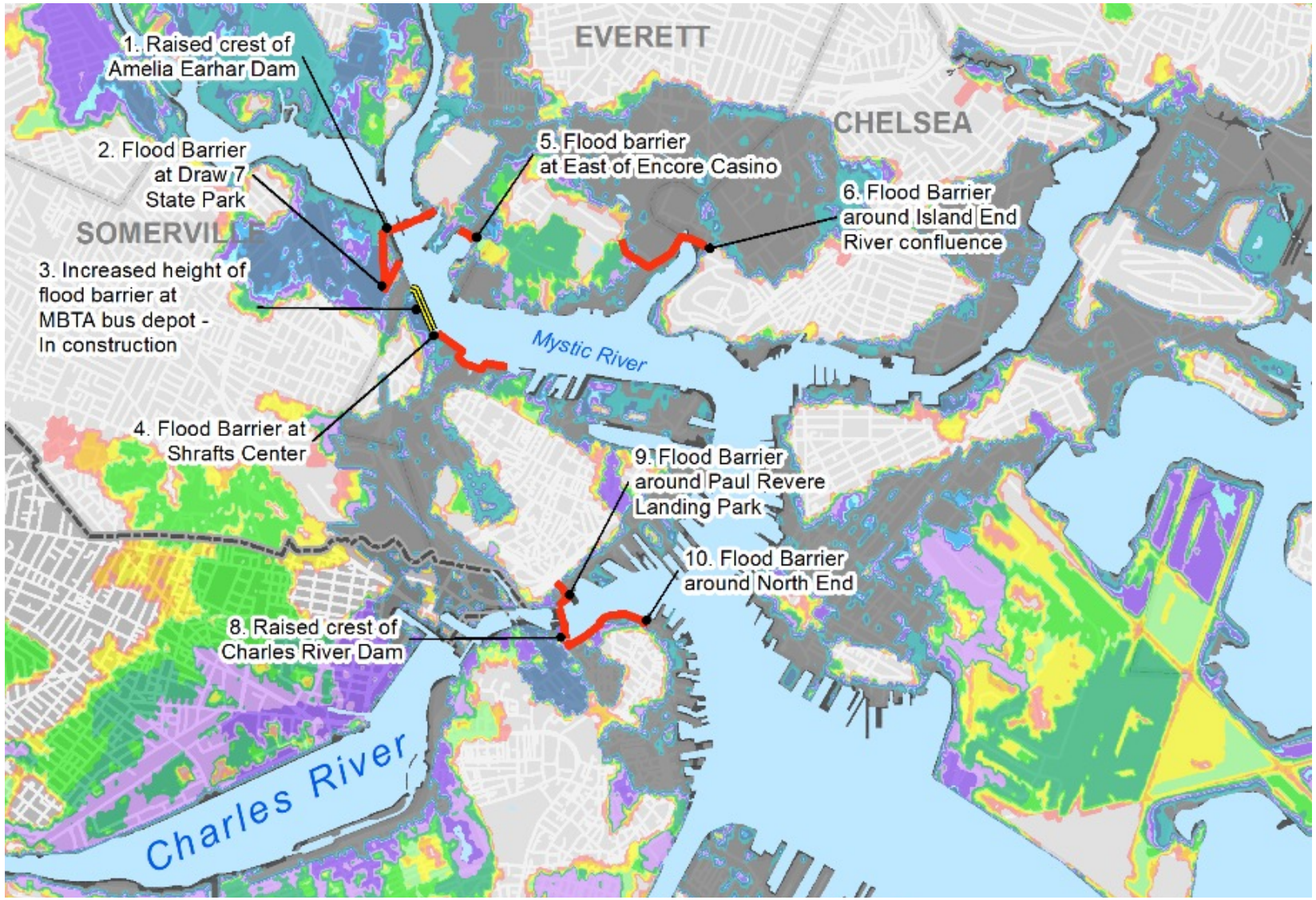
Maintain current coastal flood protection for 2070 conditions



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

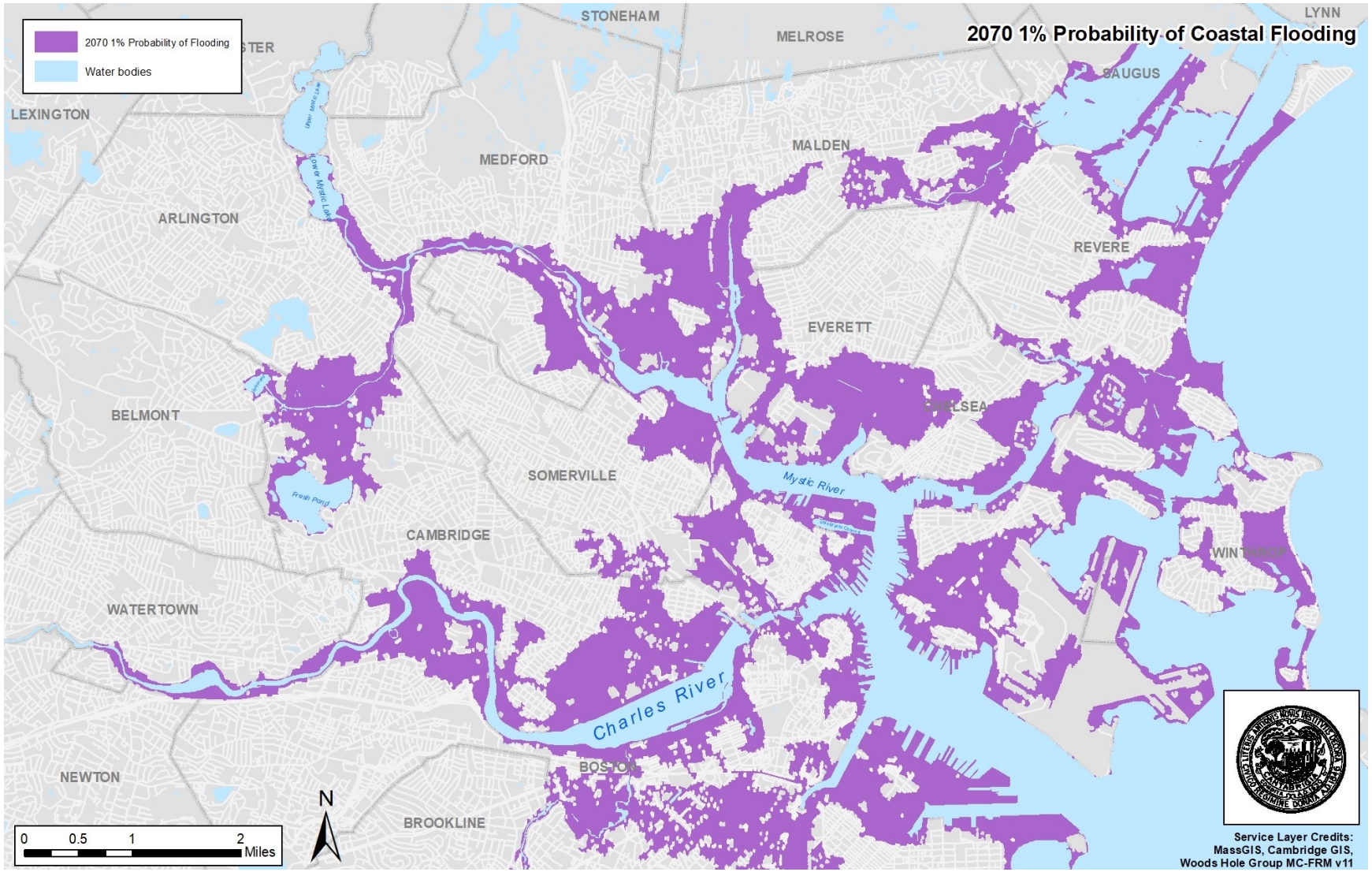
Identified ten coastal flood pathways



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

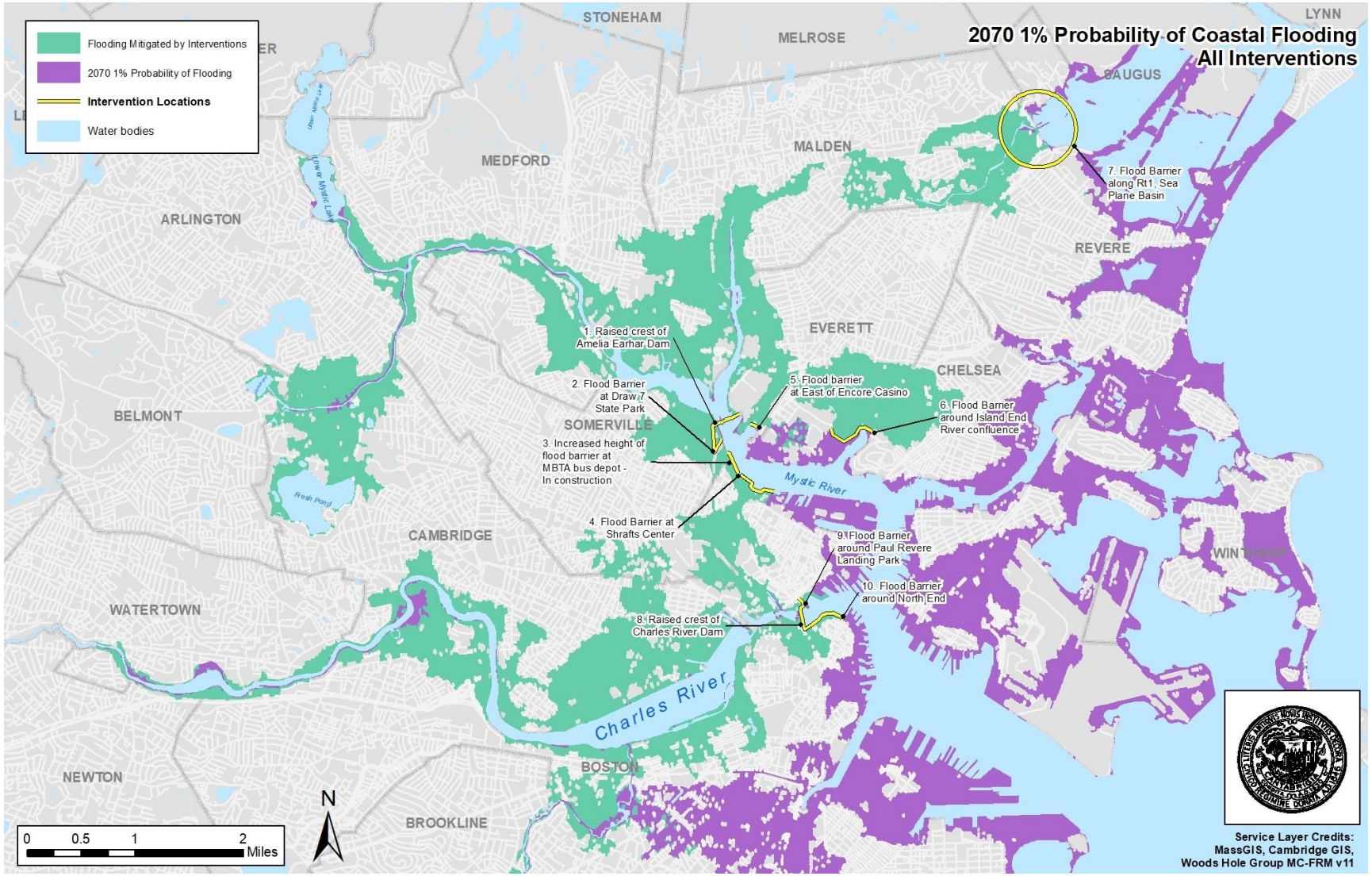
Area flooded by a 1% 2070 storm without intervention



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Effect of blocking ten flood pathways



RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

Next steps:

- Agree on short list of shovel-worthy regional projects for 2022 funding
- Agree on second list of priorities to further develop for 2023 funding
- Work with community members, elected officials to secure support, optimize public benefits

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

What makes us successful

- **Capacity** to help municipalities communicate across boundaries
- **Professional facilitation** so meetings are worth busy people's time
- High-quality **watershed-scale data** to help us identify/prioritize risks
- **Public grants**/financing programs that make it worth the work to develop these projects

RESILIENT MYSTIC COLLABORATIVE

Mystic River WATERSHED ASSOCIATION

http://resilient.mysticriver.org

RESILIENT MYSTIC COLLABORATIVE

julie.wormser@mysticriver.org

Mystic River WATERSHED ASSOCIATION

Planting Seeds:

Branford's Coastal Resiliency Fund and the Establishment of Public Act 19-77

James P. Finch
Finance Director
Town of Branford, CT

Outline:

1. *Background on Branford, CT and it's Coastal Challenges*
2. *Creating a Coastal Resiliency Fund (CRF)/ Remedying Previous Legislative Limitations*
3. *Benefits of PA 19-77*
4. *Next Step: House Bill (HB) 6441*
5. *The Potential of PA 19-77, HB 6441 (proposed), and Conveyance Fees to Fund Resiliency Projects*
6. *Leveraging Coastal Resiliency Sources and Uses*
7. *Key Take Away/ Underlying Philosophy*
8. *Additional Resources*

Why Branford, CT?

- Branford is a coastal community with approximately 20 miles of coastline.
- Branford's most recent Conservation and Development Plan presented a bleak assessment of the challenges the town would face as a result of continuing sea level rise and more frequent flooding events as a result of a changing climate.
- In June 2016, the Town of Branford developed a Coastal Resilience Plan which included a menu of town-wide and location specific options that were available to adapt to changing conditions and prepare for future events.
- The available/existing funding options at the time appeared insufficient in light of future threats.

"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 Plan of Conservation and Development

Are We Depressed Yet?

“Start where you are.

Use what you have.

Do what you can.”

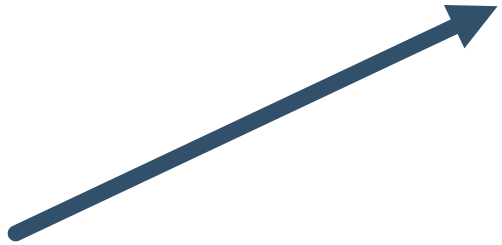
-Arthur Ashe

Question?

- What if towns and cities could establish a fund and invest the assets, similar to a pension plan, to provide an additional funding source to combat their future liabilities associated with climate change?

Despair Meets Hope:

Branford's History of Funding Liabilities (Pension, Other Post Employment Benefits,(OPEB), Employee Pensions, Self-Insurance)



Board of Finance and Representative Town Meeting (RTM) create a $1 Million CRF Fund from Fund Balance.

Challenges Ahead: More to Do

- 1) State law does not allow municipalities to create funds (other than pensions and other post-employment benefit trusts) that allow the investment flexibility to adequately match the long-term liabilities associated with climate change.
- 2) Connecticut is a Dillon's Law State which essentially means that a local government may only engage in activity if it is specifically allowed by the state government.

A legislative Remedy is needed! --> Public Act No. 19-77 is proposed.

- Public Act No. 19-77: "An Act Authorizing Municipal Climate Change and Coastal Resiliency Reserve Funds" is Passed following unanimous approval in the State Senate!
- The Bill is signed into law by Governor Lamont on July 1, 2019

Benefits of Public Act (PA) 19-77:

- PA 19-77 reflects the belief that climate change represents a long-term liability, and the prudent approach, therefore, is to begin the process of funding and investing today to address this liability. In short, it puts Connecticut's municipalities on the right side of compound interest while providing a clear and dedicated pathway for communities contemplating climate change initiatives.

- The legislation creates a fifth option (in addition to grants, municipal bonds, pay as you go, and low return sinking funds) by granting municipalities the authority to establish a fund and invest up to 50% of the fund's assets in equities to match the growing liabilities associated with climate change. A study by the Vanguard Group analyzed returns of various asset classes from 1926-2017 revealed that a 50% stock and 50% bond allocation resulted in an 8.4% average annual return.

- Benefits municipalities when issuing bonds as the rating agencies will view the establishment of climate change and coastal resiliency funds favorably when applying their environmental, social, and governance (ESG) criteria.

PA 19-77, Real Estate Conveyance Revenue, & Leveraging Federal Resiliency Funds:

What is Bill HB 6441?

- Bill HB 6441 would create a non-property tax funding stream and allow the dollars from conveyance taxes to pay debt service costs (or "borrowing costs") required to fund and implement resiliency projects. This would provide municipalities with a source of matching funds for federal grants. Thus, reducing the overall burden on municipalities by leveraging federal grants.

- Real Estate Conveyance Tax- "Conveyance tax is a tax imposed on the transfer of real property at the state, county, or municipal level. This tax is generally calculated as a percentage of the sale price." (Investopedia)

Key Elements of HB 6441(Proposed):

Sources of Funds:

- Local option conveyance tax on real property. (paid by the buyer)
- The tax would be up to 0.5% on the amount above $150,000 for property valued below $800,000;
- Up to 1% on the value between $800,000 and $2.5 million;
- Up to 1.5% on the value above $2.5 million

Uses of Funds:

- The funds would be held in a separate account and could be used for the following:
- The purchase, preservation, or stewardship of open space or other interests in land, including but not limited to, water resources, forest land, and farmland;
- Funding of Climate Change and Coastal Resiliency Reserve Fund , created by the municipality, or for other municipal climate resilience, mitigation or adaptation strategies;
- Matching of investments from state programs funded pursuant to section 4-66aa of the general statutes (community investment account)
- Funding of environmental projects; including but not limited to, urban forestry and tree planting; and
- Repayment of municipal bonds issued for any of the purposes described above.

Building a Model: Analyzing the Benefits

How much money could the conveyance fee generate in Branford?

- I performed an analysis using 12 months of qualified real estate sales and applied the "bend points" in the proposed legislation. This effort estimated that Branford would generate approximately $500,000 in additional revenue.

How would you incorporate these fees into your model to fund a large project(s)?

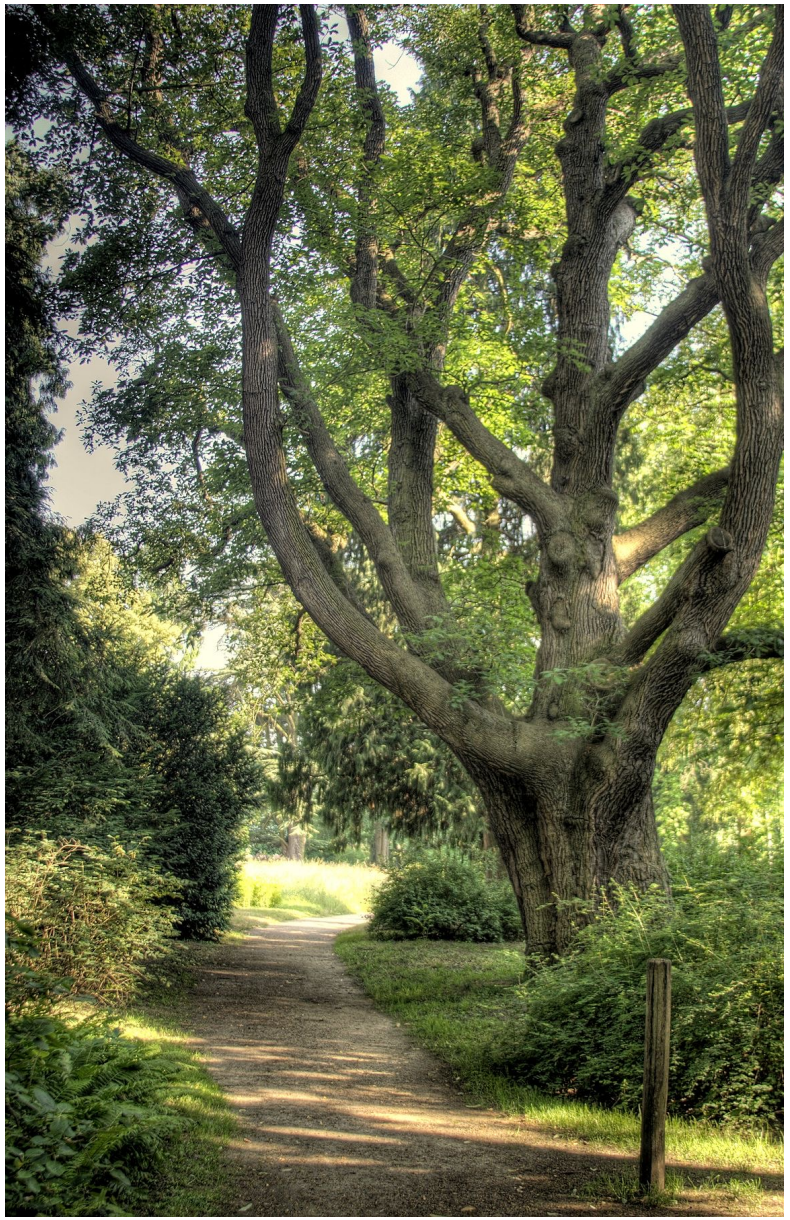
- The approach I took was to assemble new and existing funding sources coupled with HB 6441 conveyance fees to fund a hypothetical project(s) with the following assumptions;
- Branford identifies a series of projects (Protection, Accommodation, and Retreat) at a cost of $17 million and disburses these funds over a nine-year period.
- Branford's project(s) is eligible for a 75% grant or 25% local share through FEMA, however I assumed a 65% grant and 35% local share to account for ineligible costs. The FEMA grant is shown as a negative outflow.
- The local share is funded with taxable bonds since this alleviates many of the restrictions associated with issuing tax exempt debt. The rate on the bonds is 2.25%.
- Branford will continue to fund its Climate Change and Coastal Resiliency Fund at $306,000 per year. We anticipate going into the summer of FY 2022 with $1.9 million in the fund and the fund will earn an average return of 4.5% per year.
- The town will generate $400,000 (a discount to the $500,000 to reflect more traditional real estate markets) in real estate conveyance fees (increasing by 1% per year) and debt service costs will be paid out of the Climate Change and Coastal Resiliency Fund.

Leveraging Coastal Resiliency Sources & Uses:

Assumptions												
FEMA Eligible Project		17,000,000										
FEMA Funding (65%)		(11,050,000)										
Net		5,950,000										
Town Issues Bonds (Taxable)		2.25%	AAA S&P									
Conveyance Revenue Increase		1%										
Investment Return		4.50%										
							65%					
	Beginning	GF Contributions	HB 6441	Bond		Project	FEMA	Debt				Ending
Year	Balance	Additions	Additions	Proceeds	Total Inflows	Costs	Grant Offset	Payments	Total Outflows	Net	Interest	Balance
2022	1,612,000	306,000	400,000	5,950,000	6,656,000	10,000,000	(6,500,000)	66,938	3,566,938	3,089,062	142,044	4,843,106
2022	4,843,106	306,000	404,000		710,000	775,000	(503,750)	430,500	701,750	8,250	218,125	5,069,481
2023	5,069,481	306,000	408,040		714,040	775,000	(503,750)	423,750	695,000	19,040	228,555	5,317,076
2024	5,317,076	306,000	412,120		718,120	850,000	(552,500)	417,000	714,500	3,620	239,350	5,560,047
2025	5,560,047	306,000	416,242		722,242	850,000	(552,500)	410,250	707,750	14,492	250,528	5,825,066
2026	5,825,066	306,000	420,404		726,404	900,000	(585,000)	403,500	718,500	7,904	262,306	6,095,276
2027	6,095,276	306,000	424,608		730,608	900,000	(585,000)	396,750	711,750	18,858	274,712	6,388,846
2028	6,388,846	306,000	428,854		734,854	950,000	(617,500)	390,000	722,500	12,354	287,776	6,688,976
2029	6,688,976	306,000	433,143		739,143	1,000,000	(650,000)	383,250	733,250	5,893	301,137	6,996,005
2030	6,996,005	306,000	437,474		743,474	-	-	376,500	376,500	366,974	323,077	7,686,057
2031	7,686,057	306,000	441,849		747,849	-	-	369,750	369,750	378,099	354,380	8,418,535
2032	8,418,535	306,000	446,267		752,267	-	-	363,000	363,000	389,267	387,593	9,195,395
2033	9,195,395	306,000	450,730		756,730	-	-	356,250	356,250	400,480	422,804	10,018,679
2034	10,018,679	306,000	455,237		761,237	-	-	349,500	349,500	411,737	460,105	10,890,521
2035	10,890,521	306,000	459,790		765,790	-	-	342,750	342,750	423,040	499,592	11,813,152
2036	11,813,152	306,000	464,388		770,388	-	-	336,000	336,000	434,388	541,366	12,788,905
2037	12,788,905	306,000	469,031		775,031			329,250	329,250	445,781	585,531	13,820,218
2038	13,820,218	306,000	473,722		779,722			322,500	322,500	457,222	632,197	14,909,637
2039	14,909,637	306,000	478,459		784,459			315,750	315,750	468,709	681,480	16,059,825
2040	16,059,825	306,000	483,244		789,244			309,000	309,000	480,244	733,498	17,273,567
2041	17,273,567	306,000	488,076		794,076			252,813	252,813	541,263	789,489	18,604,319
2042	18,604,319	306,000	492,957		798,957				-	798,957	855,171	20,258,446
Totals		6,732,000	9,788,634	5,950,000	22,470,634	17,000,000	(11,050,000)	7,345,001	13,295,001			

Key Take Away:

- "The model provides a hypothetical example of how the Town of Branford could attempt a large project without any additional tax levy requirements other than the $306,000 per year the town currently funds. Additionally, by making continued contributions into the Climate Change and Coastal Resiliency Fund the town will be able to tap these earnings to meet the future liabilities associated with climate change and leverage federal funds".



A society grows great when its older citizens plant trees under whose shade they know they will never sit in"

-Ancient Greek Proverb

"The creation of a thousand forests is in one acorn. Today's mighty oak is just yesterday's nut that held its ground. The best time to plant a tree is twenty years ago, the second-best time is now. "

-Chinese Proverb

ADDITIONAL RESOURCES:

- Branford, Connecticut, sets up fund to pay for costs of climate change – Yale Climate Connections, November 13, 2019
- https://yaleclimateconnections.org/2019/11/branford-connecticut-sets-up-fund-to-pay-for-costs-of-climate-change/
- "Viewing climate change as a long term liability through the Branford, CT Coastal Resiliency Fund" – The Climate Adaptation Knowledge Exchange, March 9 2020.
- https://www.cakex.org/case-studies/viewing-climate-change-long-term-liability-through-branford-ct-coastal-resiliency-fund
- The Connecticut Institute for Resilience and Climate Adaptation (UCONN) publishes "Branford's Coastal Resiliency Reserve Fund – Planting Seeds for the Future"
- https://resilientconnecticut.uconn.edu/wp-content/uploads/sites/2761/2021/05/CIRCA-branford-4page-spread-FINAL.pdf
- https://www.zip06.com/news/20190719/born-in-branford-cts-new-state-coastal-resiliency-reserve-fund-law

Panel 1 – Community Needs and Barriers

Allen Kratz (Moderator)
Principal
Resilience Works LLC

Josh Sawislak
Distinguished Senior Fellow
Global Resilience Institute at Northeastern University

Jonathan Altenberg
Executive Director
Great Lakes and St. Lawrence Cities Initiative

Julie Wormser
Deputy Director of Programs
Mystic River Watershed Association

James (Jim) Finch
Director of Finance
Town of Branford, CT

Panel 2 – Federal Opportunities for Coastal Resilience

Maria Honeycutt (Moderator)
Assistant Director for Resilience
Science & Technology
White House Office of Science
and Technology Policy

Kevin Bush
Deputy Assistant Secretary For Grant Programs
Department of Housing and Urban Development

Dale Morris
Chief Resilience Officer
City of Charleston, South Carolina

Steven Bingler
Founder & CEO
Concordia

Dan Bresette
Executive Director
Environmental and Energy Study Institute

ULI Coastal Forum 2021

Kevin Bush, Deputy Assistant Secretary for Grant Programs
Office of Community Planning and Development
Department of Housing and Urban Development

Community Development Block Grants

- **Disaster Recovery (DR)** grants are the nation's largest climate adaptation program targeting LMI populations

- **Mitigation (MIT)** grants invest in adaptation and resilience planning, assisting vulnerable communities to mitigate climate impacts before disasters strike

CPD Programs that Support Resilience

Pictured above: Port of Gulfport

- $561,000,000 in CDBG-DR in response to 2005 Hurricane Katrina
- Restoration and hardening allowed the port to continue to operate during Hurricane Ida

Pictured below: Galveston, TX

- $3,000,000 in CDBG-DR in response to Hurricane Ike (2008)
- New affordable housing development with green space, designed to manage the flow of floodwaters from future storms

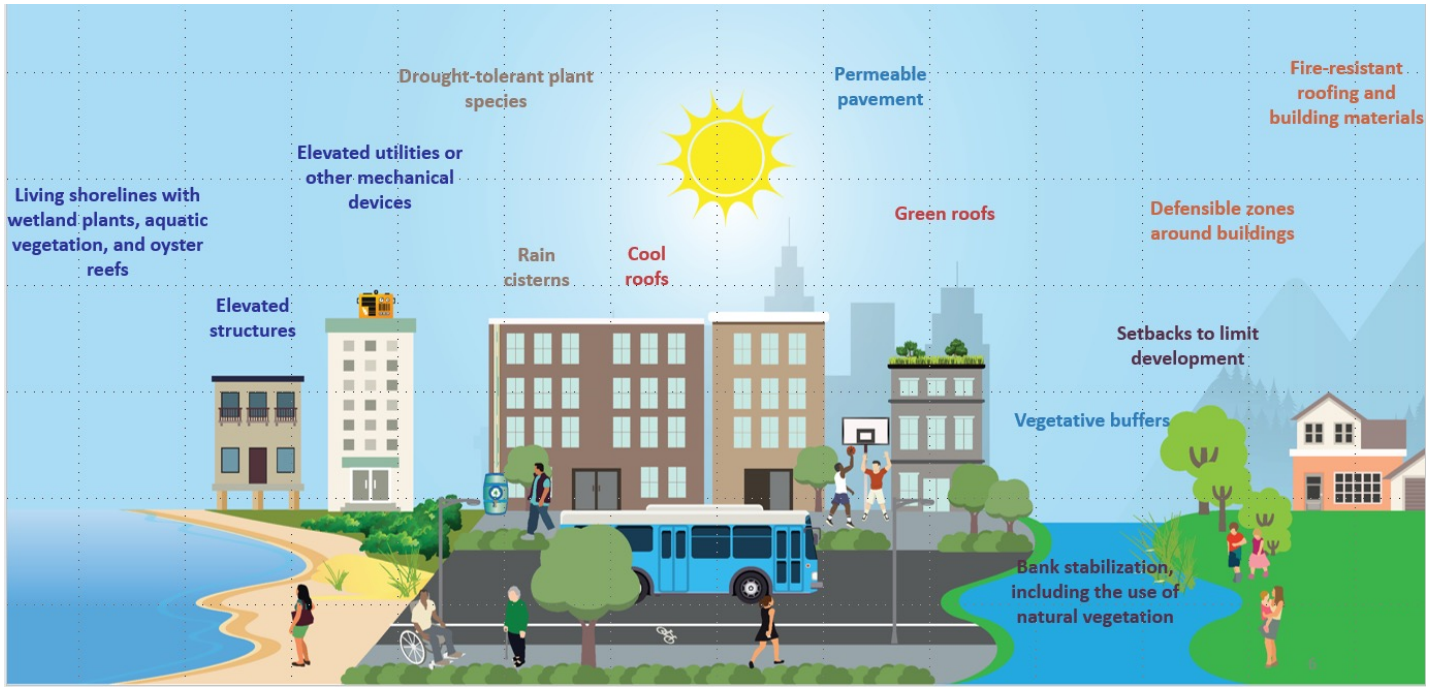
Community Development Block Grants

- **Annual program** provides flexible block grants by formula to state and local governments for community and economic development activities that primarily benefit low- and moderate-income populations

- **Section 108 Loan Guarantee Program** enables larger resilient projects by leveraging annual CDBG grants 5:1

CPD Programs that Support Resilience

Community Resilience Toolkit



Resources

Thank you!

ULI Coastal Forum

Charleston faces all water hazards: surge, tidal, riverine, stormwater, groundwater, compound and sea-level rise

WATER BENCHMARKS

CHARLESTON CITY PLAN
EXECUTIVE SUMMARY
LAND & WATER ANALYSIS

2/3 OF CHARLESTON

INSIDE THE URBAN GROWTH BOUNDARY IS IN THE FEMA 100 YEAR FLOODPLAIN

10.2 INCHES OF RAIN

OVER 24 HOURS EVERY 100 YEARS

17 FEET STORM SURGE

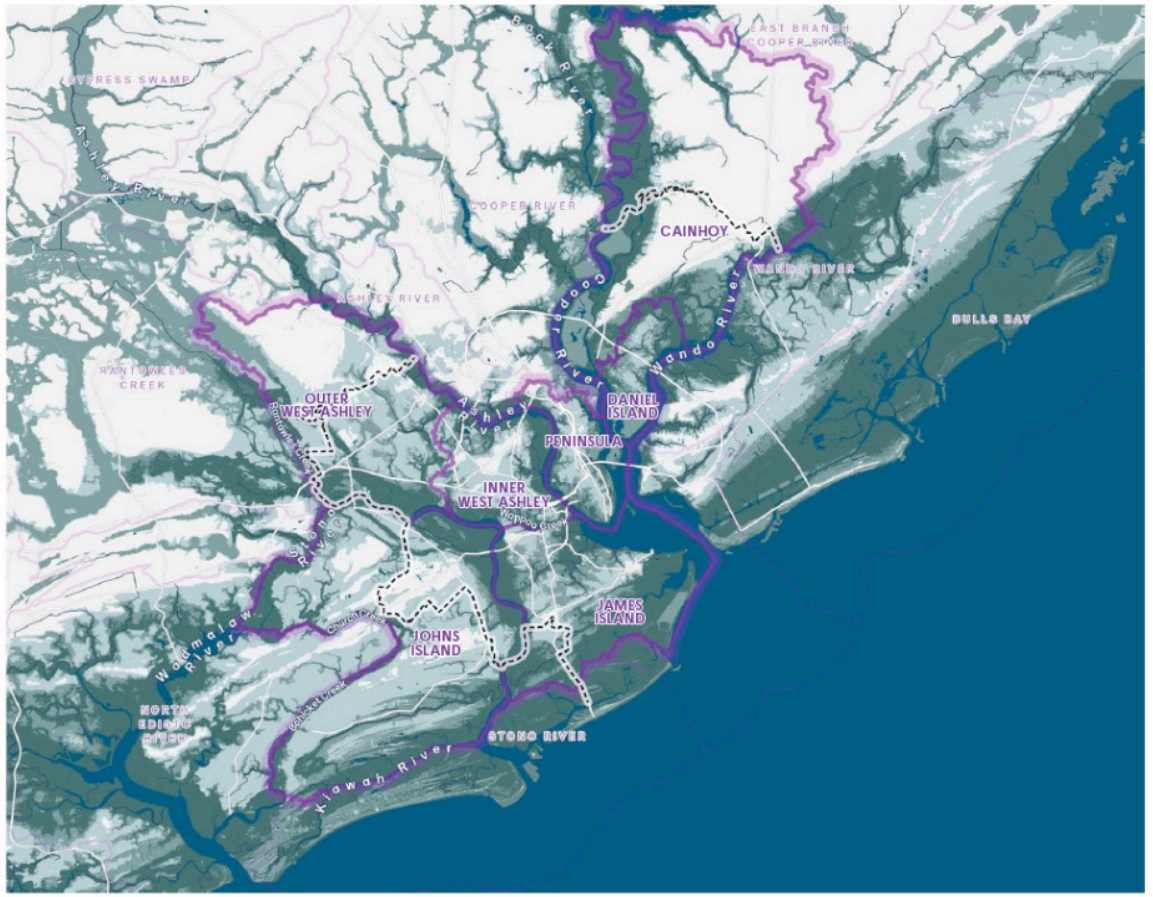
NOAA MAXIMUM POSSIBLE CATEGORY 3 STORM SURGE

3 FT OF SEA LEVEL RISE

BY 2080

7 WATERSHED AREAS

PENINSULA, INNER WEST ASHLEY, OUTER WEST ASHLEY, JAMES ISLAND, JOHNS



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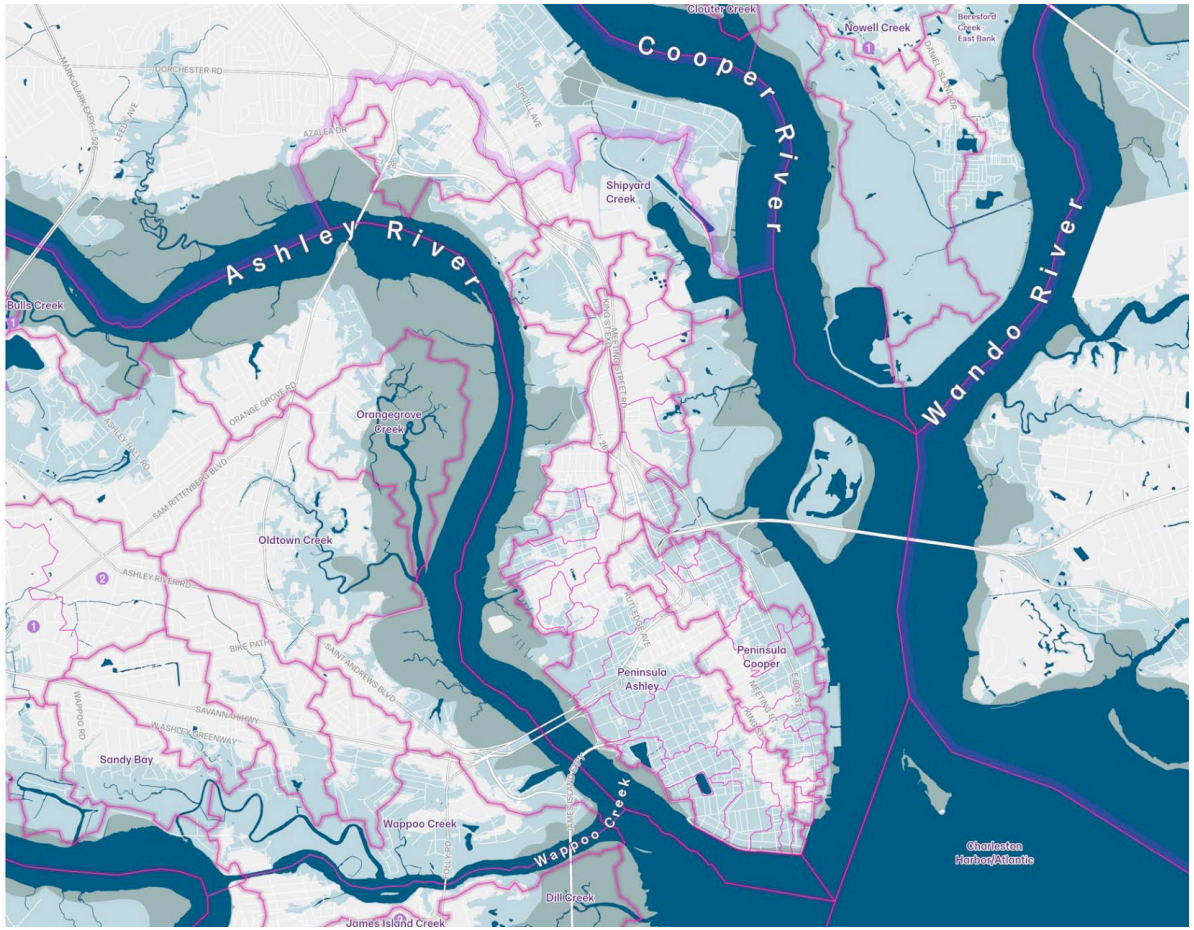
Peninsula has multiple water hazards: surge, tidal, riverine, stormwater, groundwater, compound and sea-level rise



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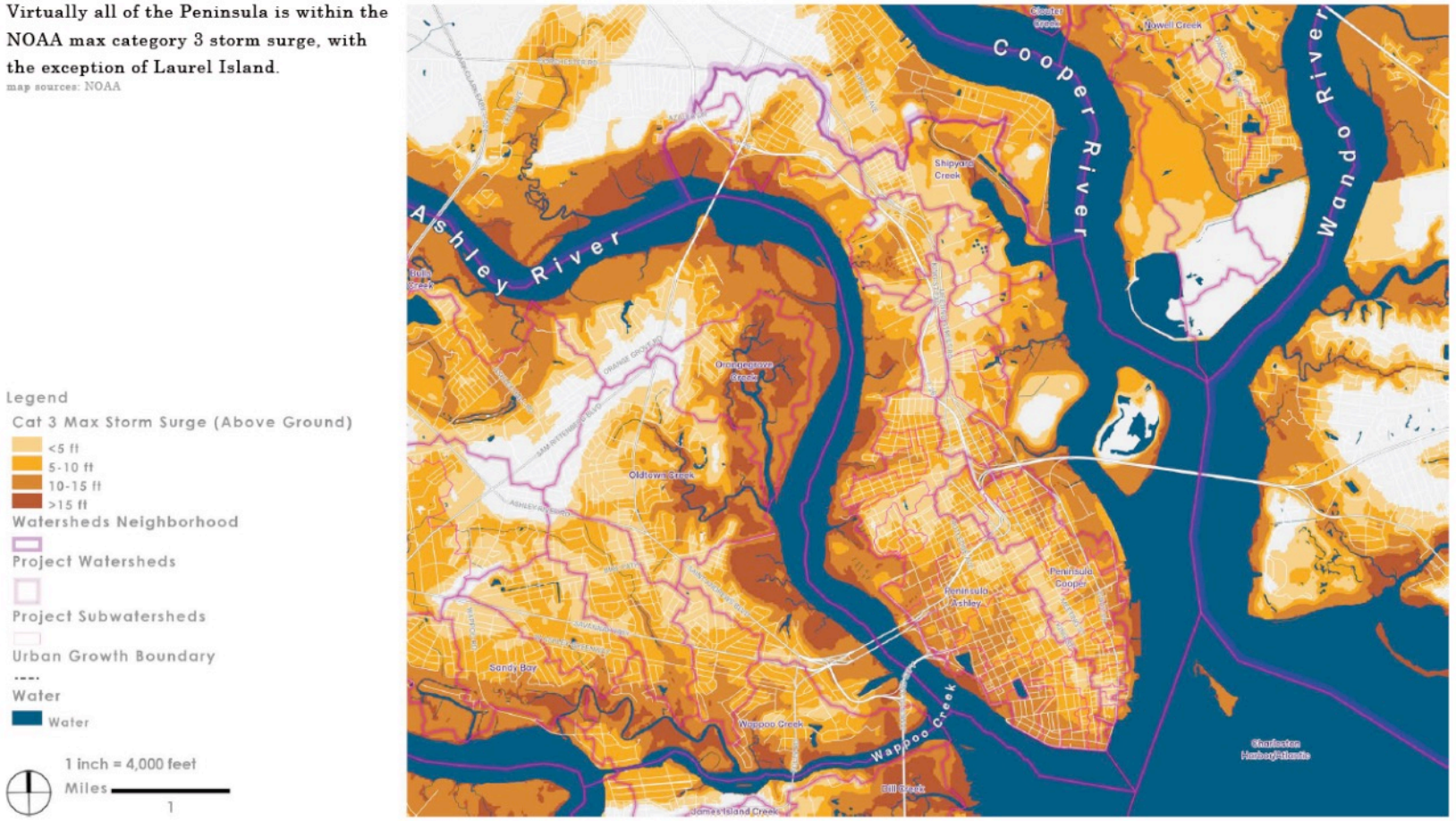
NOAA Category 3 Storm Surge

Virtually all of the Peninsula is within the NOAA max category 3 storm surge, with the exception of Laurel Island.

map sources: NOAA



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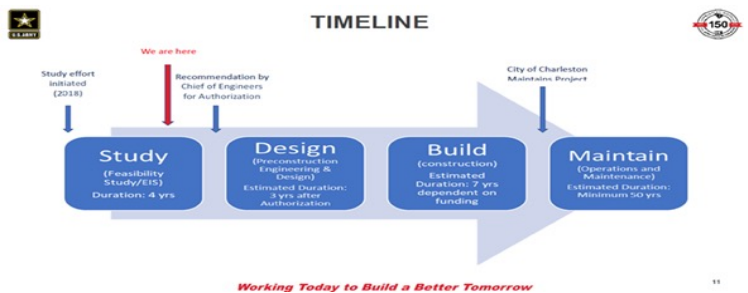
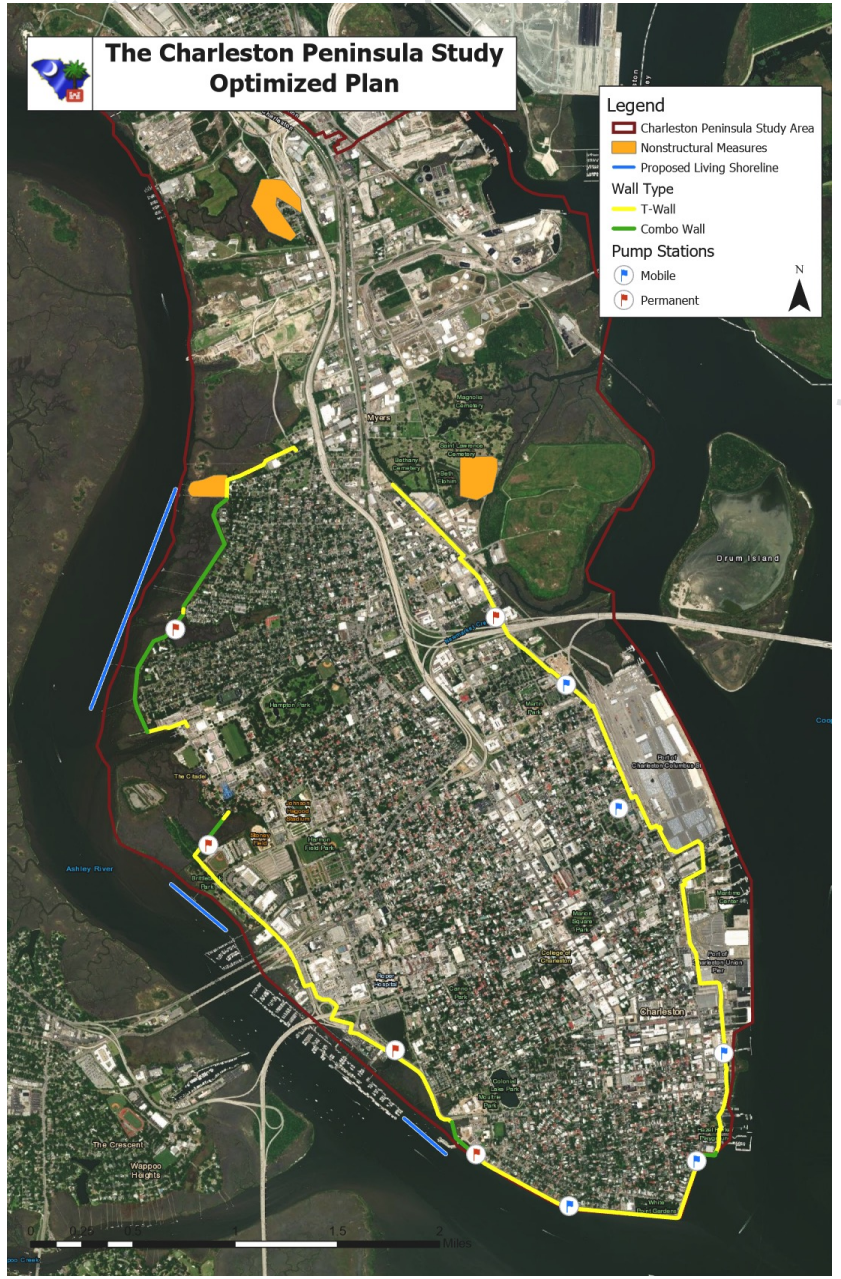
USACE Coastal Storm Risk Management Feasibility Study;
storm surge mitigation.

- Explicit additions to provide multiple stormwater, tidal or groundwater management benefits, which also yield social and environmental benefits, are excluded, by policy.
- Multi-benefit infrastructure is not optimized / pursued.
- Living shorelines were added. Questions remain on how they are counted in project.
- Project has a 10.2-1 benefit-cost ratio!
- City is thankful for federal USACE effort, but we know more could be done.





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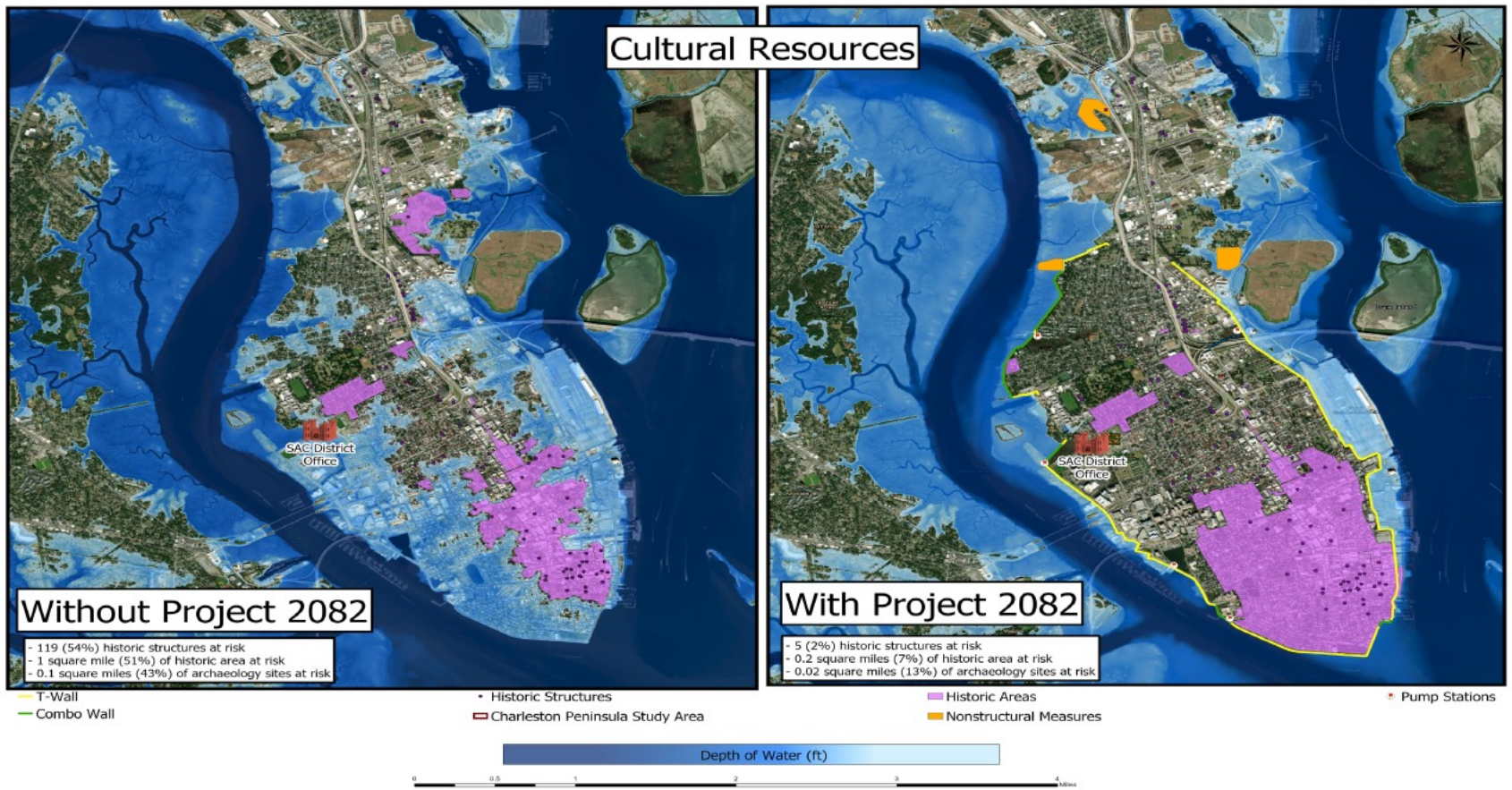
HISTORICAL IMPACTS WITHOUT PROJECT



SACS Top-Line Priorities

Table 7-1: Regional Priorities for Design and Construction Efforts

Rank	State	Recommendation	Description	Next Step	B/C Ratio	Source of B/C Ratio
1	South Carolina	Charleston Peninsula, South Carolina Coastal Flood Risk Management Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the USACE Charleston Peninsula, South Carolina Coastal Flood Risk Management Feasibility Study, which is addressing the risk of damages from storms on the Charleston Peninsula. As of August 2021, the proposed alternative includes a seawall, natural and nature-based features, and nonstructural floodproofing, with an estimated B/C ratio of 10.2 to 1.	construction authority	10.2	Draft Feasibility Report 2021 (as of Sept 28)
2	South Carolina	Folly Beach Shore Protection Project, South Carolina; GI	CSRM for Folly Beach - A 50-year extension to the authorization is proposed, and the current project is being restudied to determine ways to improve it from a holistic view of its performance. Findings as of June 2021 are that the Folly Beach Shore Protection Project can be improved by adding a dune feature to the beach placement template.	construction authority	9.5	Draft Feasibility Report 2021 (as of Sept 28)
3	Florida	Miami-Dade Back Bay CSRM Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the USACE Miami-Dade Back Bay CSRM feasibility study to manage coastal storm risk.	construction authority	7.6	Final Report (2021)
4	Florida	Miami-Dade (beaches) CSRM Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the USACE Miami-Dade County CSRM feasibility study.	construction authority	6.4 (Main Segment)	Draft Report
5	Puerto Rico	San Juan Back Bay CSRM Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the San Juan Metro (Back Bay) CSRM feasibility study to manage coastal storm risk.	construction authority	4.8	Draft Report
6	Florida	St. Lucie County, Florida Shore Protection Project	Initial construction of the St. Lucie County Shore Protection Project (Fort Pierce Beach). This area is a critically eroded beach.	funding	2.25	Last Approved Report
7	Florida	Pinellas County CSRM Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the USACE Pinellas County CSRM Feasibility Study.	construction authority	2.05	Draft Report
8	Florida	Florida Keys CSRM Feasibility Study Recommended Plan (pending)	The SACS supports recommendations (pending) of the USACE Florida Keys CSRM Feasibility Study.	construction authority	1.8	Draft Report (Feb 2021)
9	Florida	Construction of Recommended Plan from Okaloosa County Study.	The SACS supports recommendations (pending) of the Okaloosa County, Florida CSRM Study to reduce coastal storm risk and damage throughout coastal and back bay areas in Okaloosa County. The measures consist of berm and dune nourishment along the shoreline of Okaloosa County in two areas; approximately 17,000 feet in the Okaloosa Island reach and 16,000 feet in the West Destin reach of the study area.	construction authority	1.7	Draft Report

ULI Coastal Forum

Two Federal Policy Challenges: for Charleston now, and other Coastal Communities in future

- USACE CSRM studies are, under interpretation of federal policy, intended to reduce only storm surge risks. Other water risks – tidal, stormwater, groundwater, riverine, which exist in Charleston – cannot be included as part of CSRM study.
- Infrastructure investment cannot be optimized to manage the multiple and often compound flood risks that urbanized coastal communities confront. Federal investment is tus suboptimal (in an era of scarce resources). Nor can the social benefits of multi-benefit risk reduction infrastructure be counted.
- Natural and nature-based features (NNBFs), (which don't perform well against storm surge, but are robust tools for tidal, stormwater and sea-level rise adaptation) are not embraced within USACE and other federal agency Benefit-Cost Analysis (BCA) procedures. Impoverished BCA rules mean that NNBFs are de-prioritized in many federal flood risk projects. NNBFs are not properly valued or monetized in federal projects. Coastal communities need all tools – grey and green infrastructure – in their adaptation toolbox.

PLANNING FOR RISK

through

RESILIENCE & RESETTLEMENT

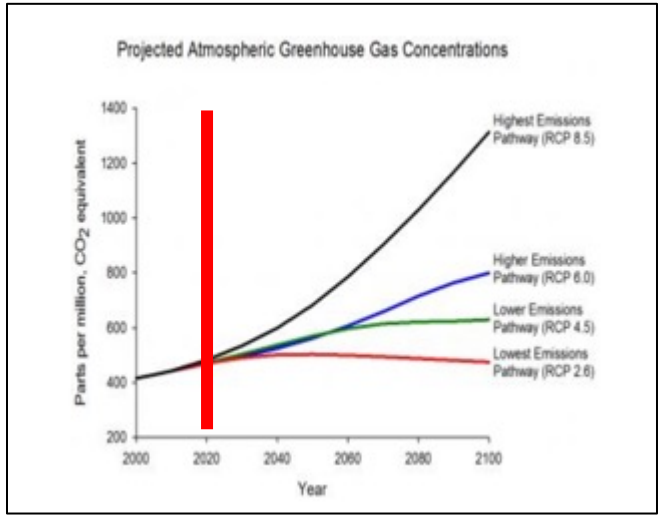
DECEMBER 7, 2021

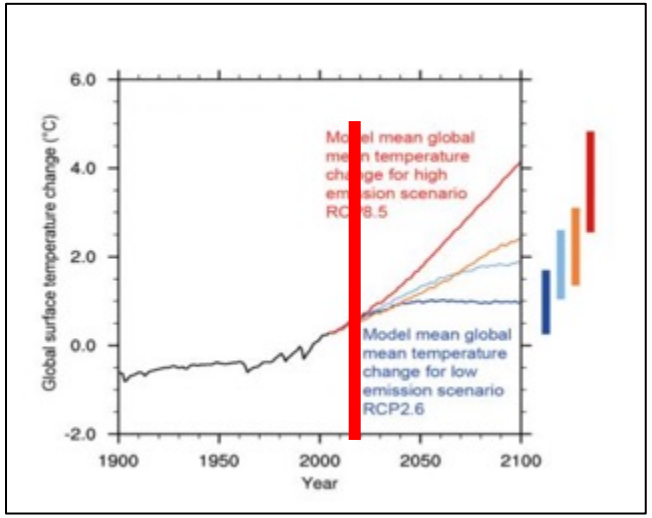
STEVEN BINGLER

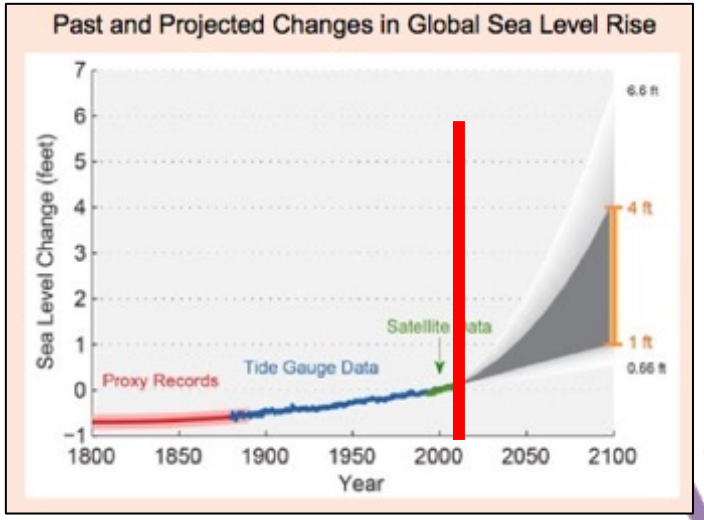
concordia

community centered planning and design

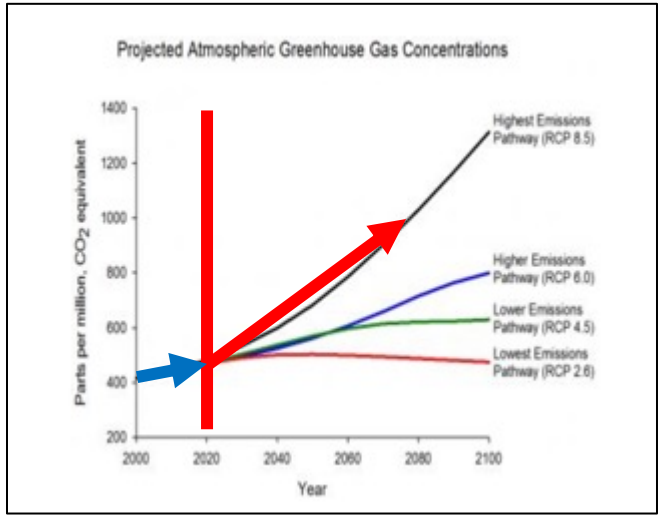
THE CHALLENGE

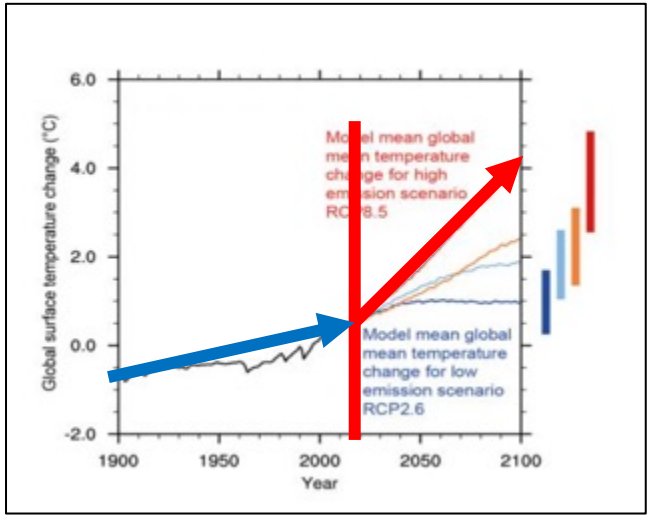


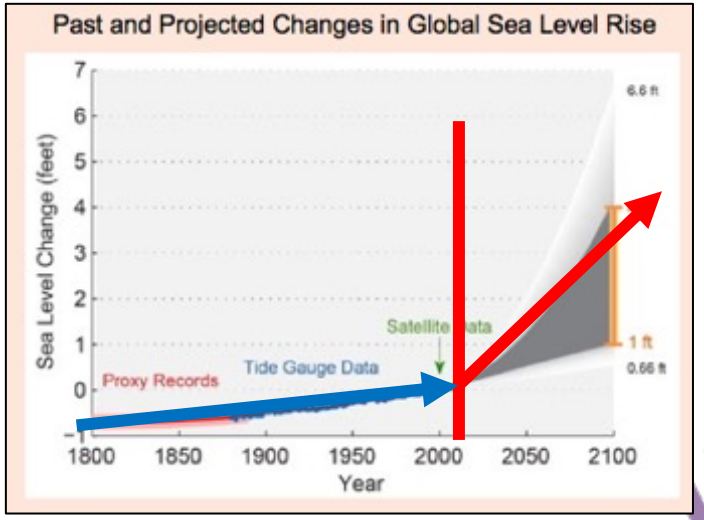




THE CHALLENGE







PLANNING IS ALWAYS A GOOD IDEA

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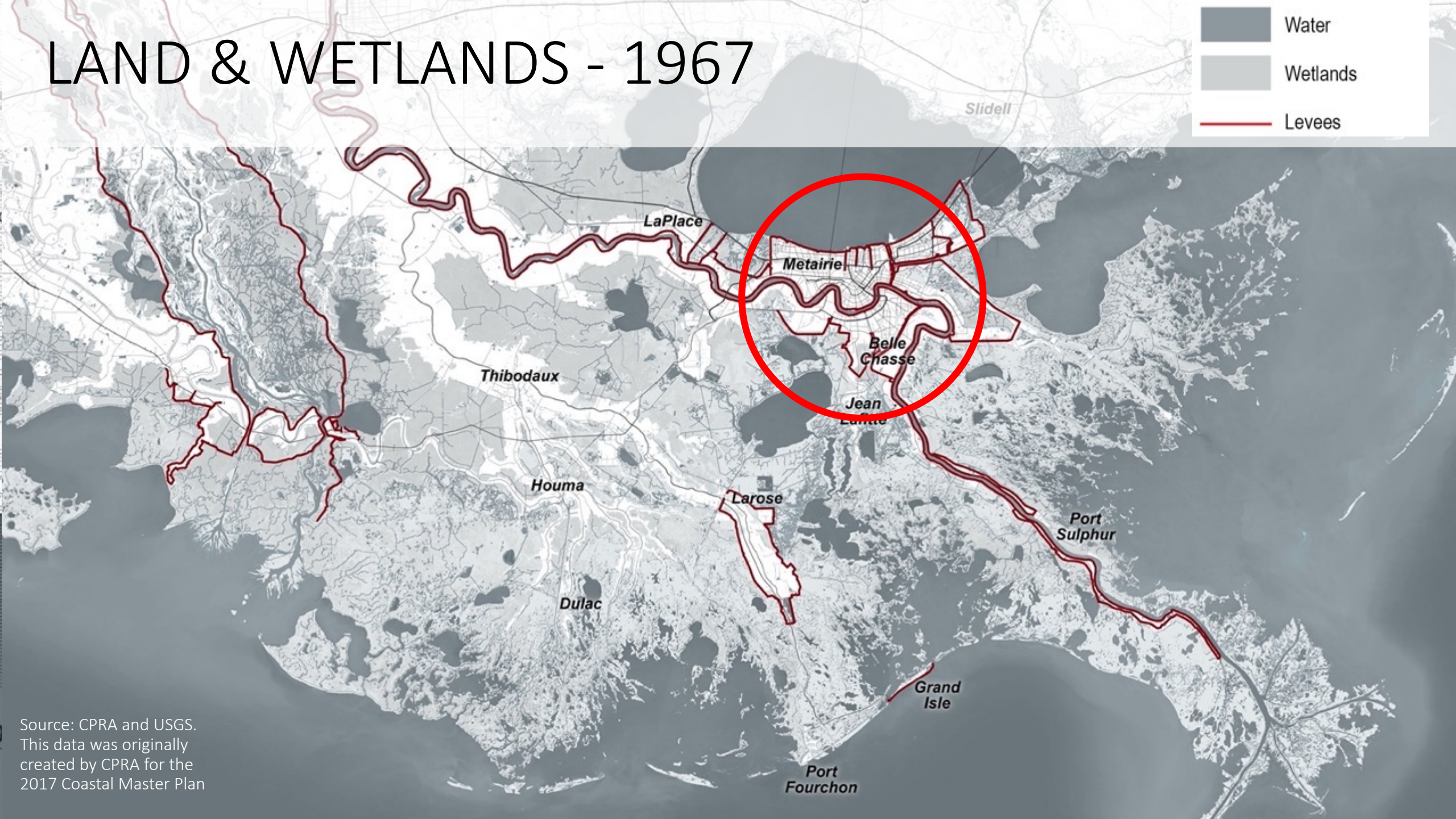
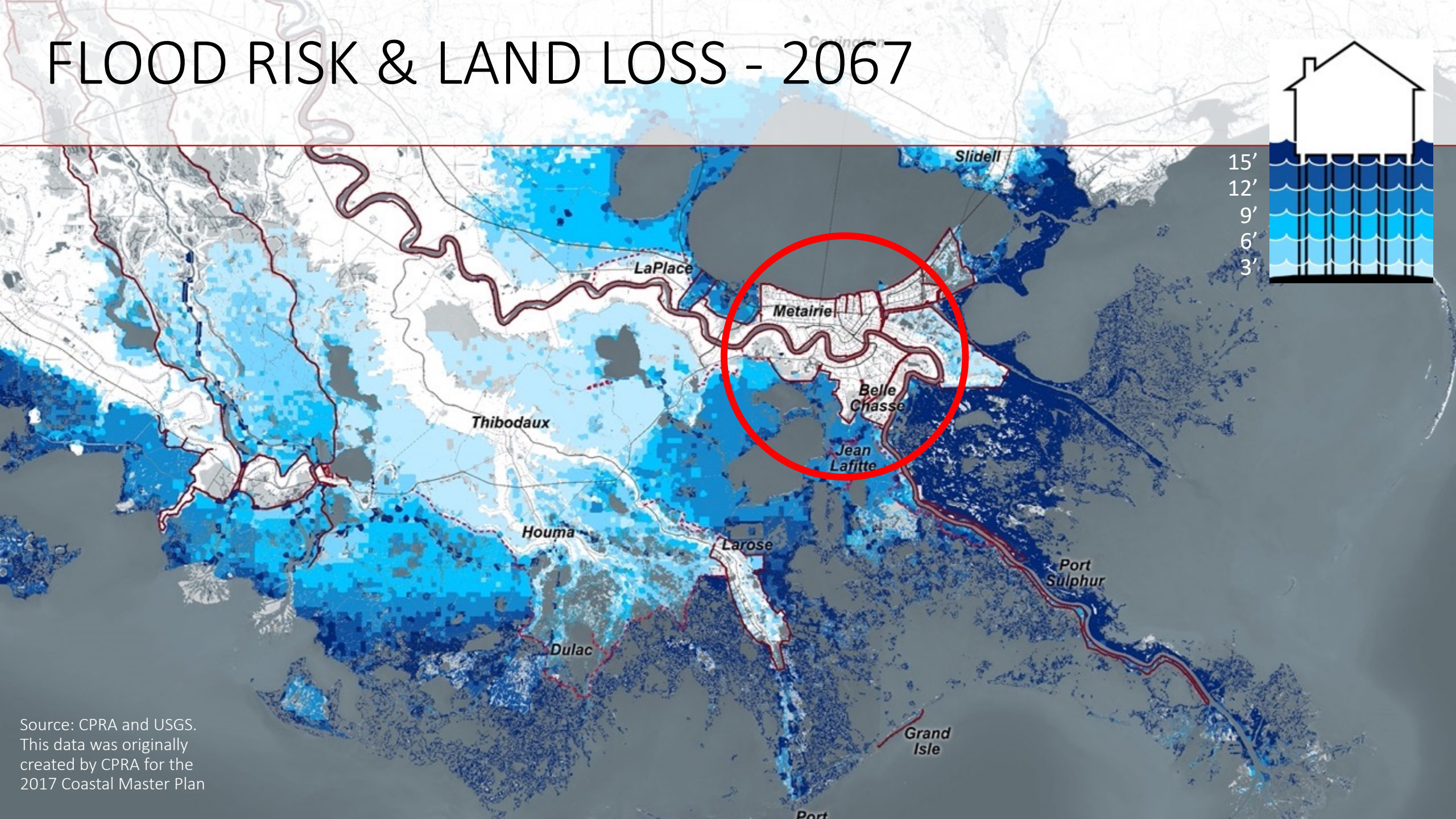
HURRICANE KATRINA • NEW ORLEANS • 2005

LAND & WETLANDS - 1967



Source: CPRA and USGS. This data was originally created by CPRA for the 2017 Coastal Master Plan

FLOOD RISK & LAND LOSS - 2067



Source: CPRA and USGS. This data was originally created by CPRA for the 2017 Coastal Master Plan

LASAFE

Louisiana's Strategic Adaptations *for* Future Environments

RISK MANAGEMENT THROUGH: **RESILIENCE**

PLANNING IS A GOOD IDEA

LASAFE
Louisiana's Strategic Adaptations for Future Environments

- 71 meetings
- 2,800 participants
- 3 languages

Over 73% of participants agreed or strongly agreed with the visions at each risk level.

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RISK MANAGEMENT THROUGH: **RESILIENCE**

Selected Project Portfolio

Safe Haven Blue-Green Campus & Trails

Airline & Main Complete Streets

Dubourg Canal Park

Harbor of Refuge

Mental Health & [illegible] Abuse

Gr[illegible]ilience District [illegible]kstart

Louisiana Wetland Education Center

Buyouts for Permanent Resident Households Outside Morganza

Lake Boudreaux Living Mitigation

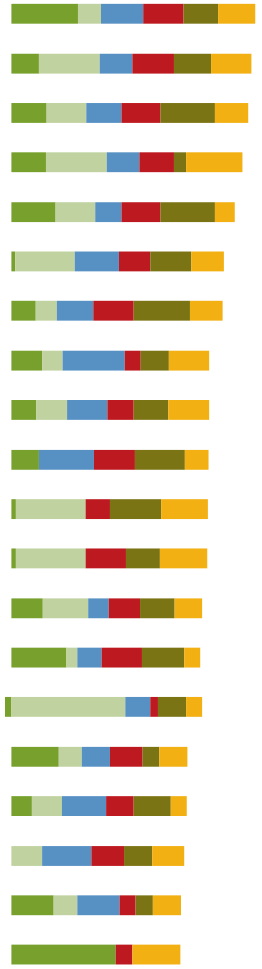
Emerging Industry Business Incubator

Resilient Housing Prototype

$93 MILLION

Most popular strategies from Meeting 3

- Public Boat Docks
- Cross-Parish Stormwater Management
- Coastal Restoration and Job Training
- Improve Drainage System
- Job Training Programs
- Increased Affordable Housing Options
- Drainage Requirements for New Developments
- Cultural Camps & After School Programs
- Culvert & Ditch Maintenance
- Commuter & Regional Rail
- Complete Streets
- Community Gardens & Planting Programs
- Incentivize Essential Service Providers
- Medium Density Housing
- Improve Public Transit Across Parish Lines
- Create a full-time drain Maintenance Department
- Restore Abandoned Property to Natural Condition
- Expand Boat Harbors



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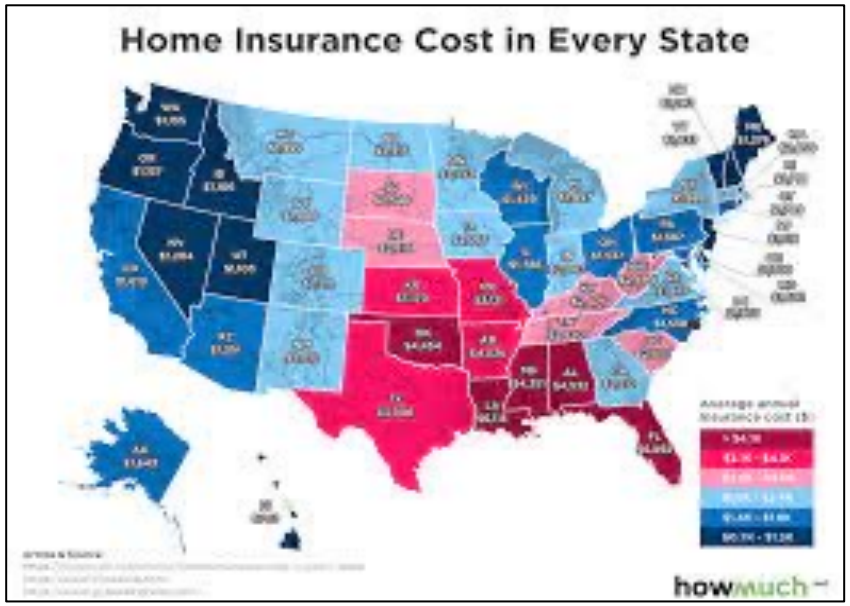
RISK MANAGEMENT THROUGH: **RESILIENCE**



RISK MANAGEMENT THROUGH: **RESETTLEMENT**

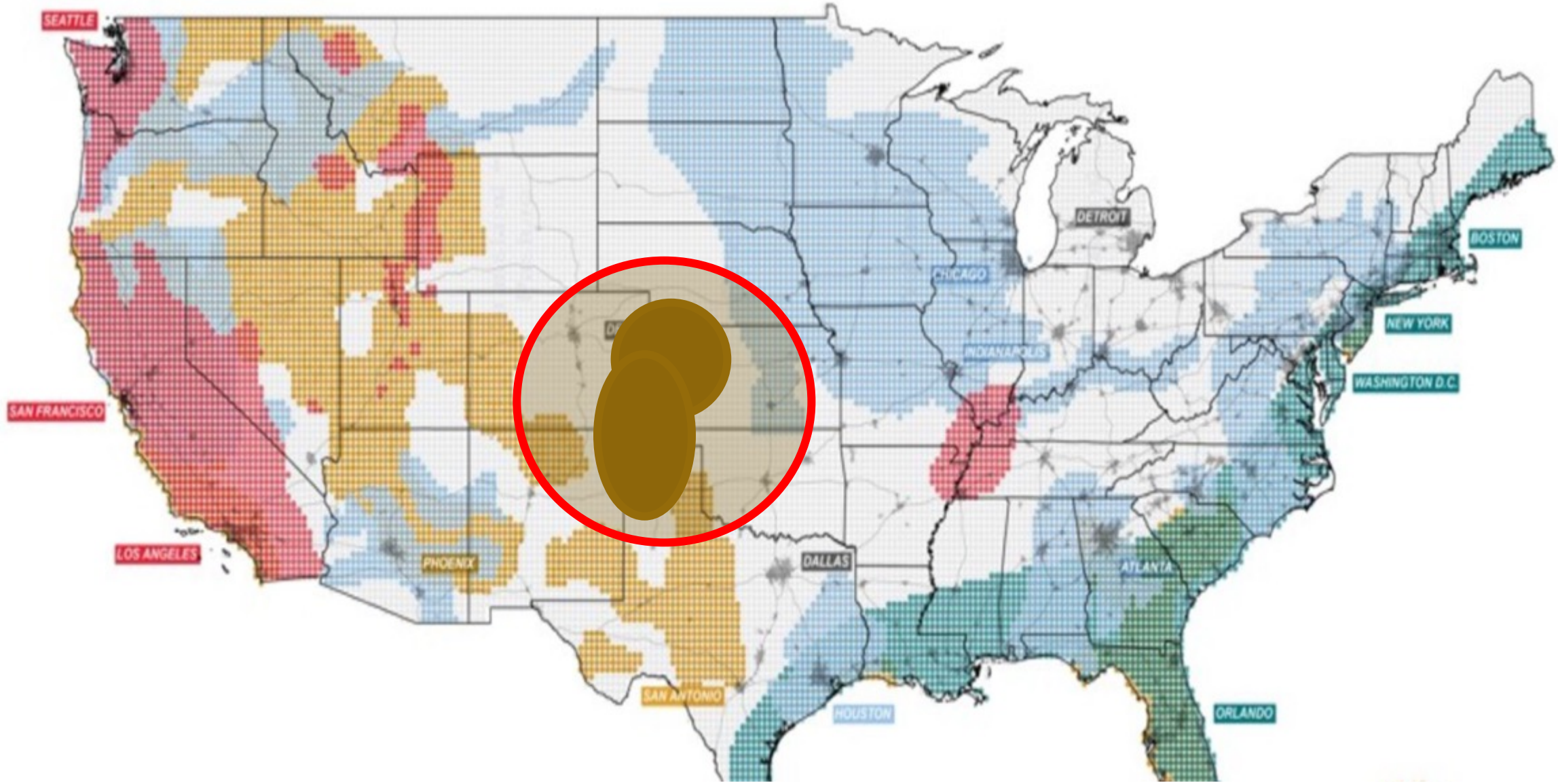
POPULATION SHIFTS 2000-2010

Source: U.S. Census

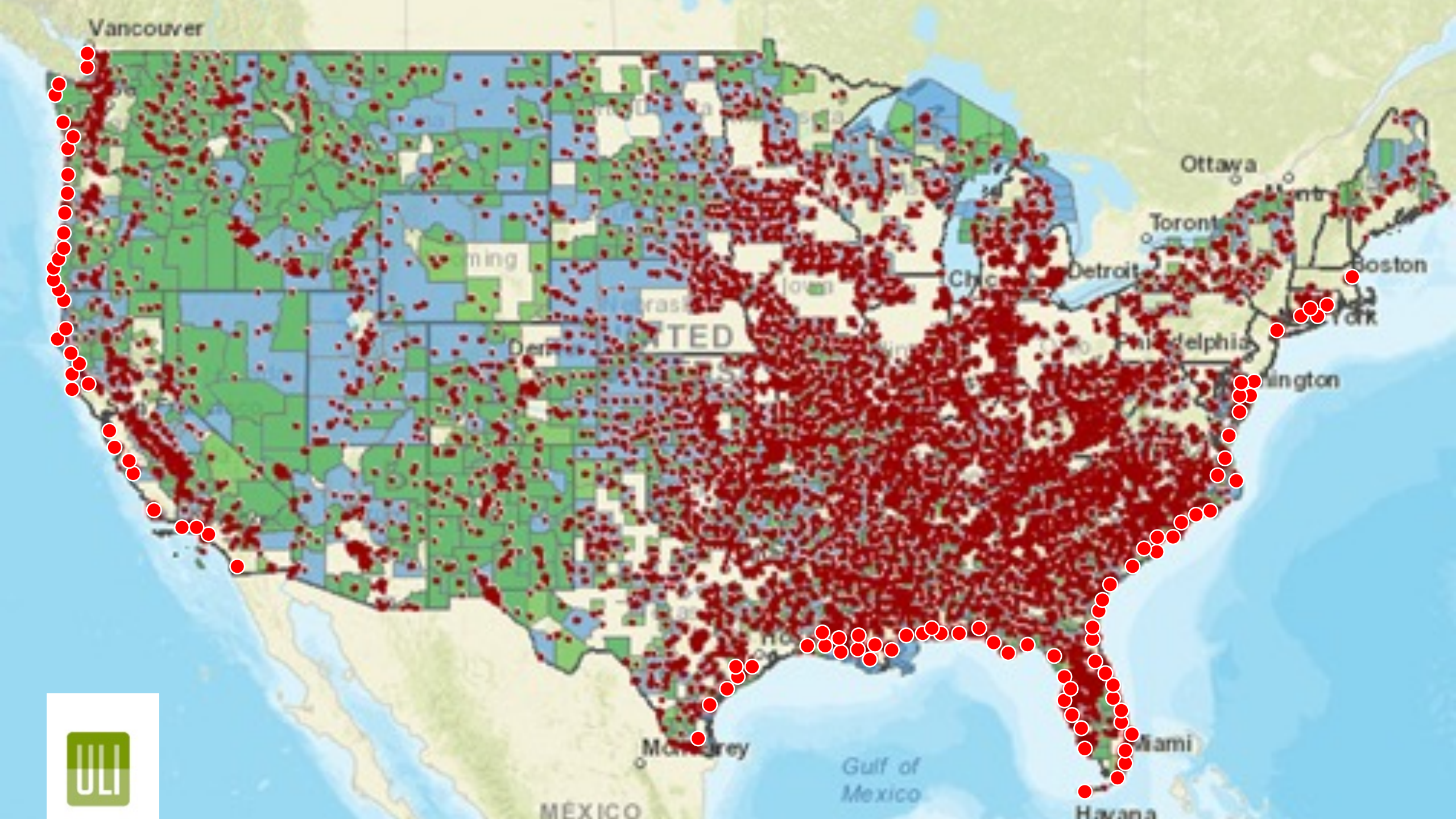
1930’s DUST BOWL MIGRATION

- Killed around 7,000 people
- Left 2 million homeless
- Wheat production fell by 36%
- Maize production plummeted by 48%.

RISK MANAGEMENT THROUGH: **RESETTLEMENT**



RISK MANAGEMENT THROUGH: **RESETTLEMENT**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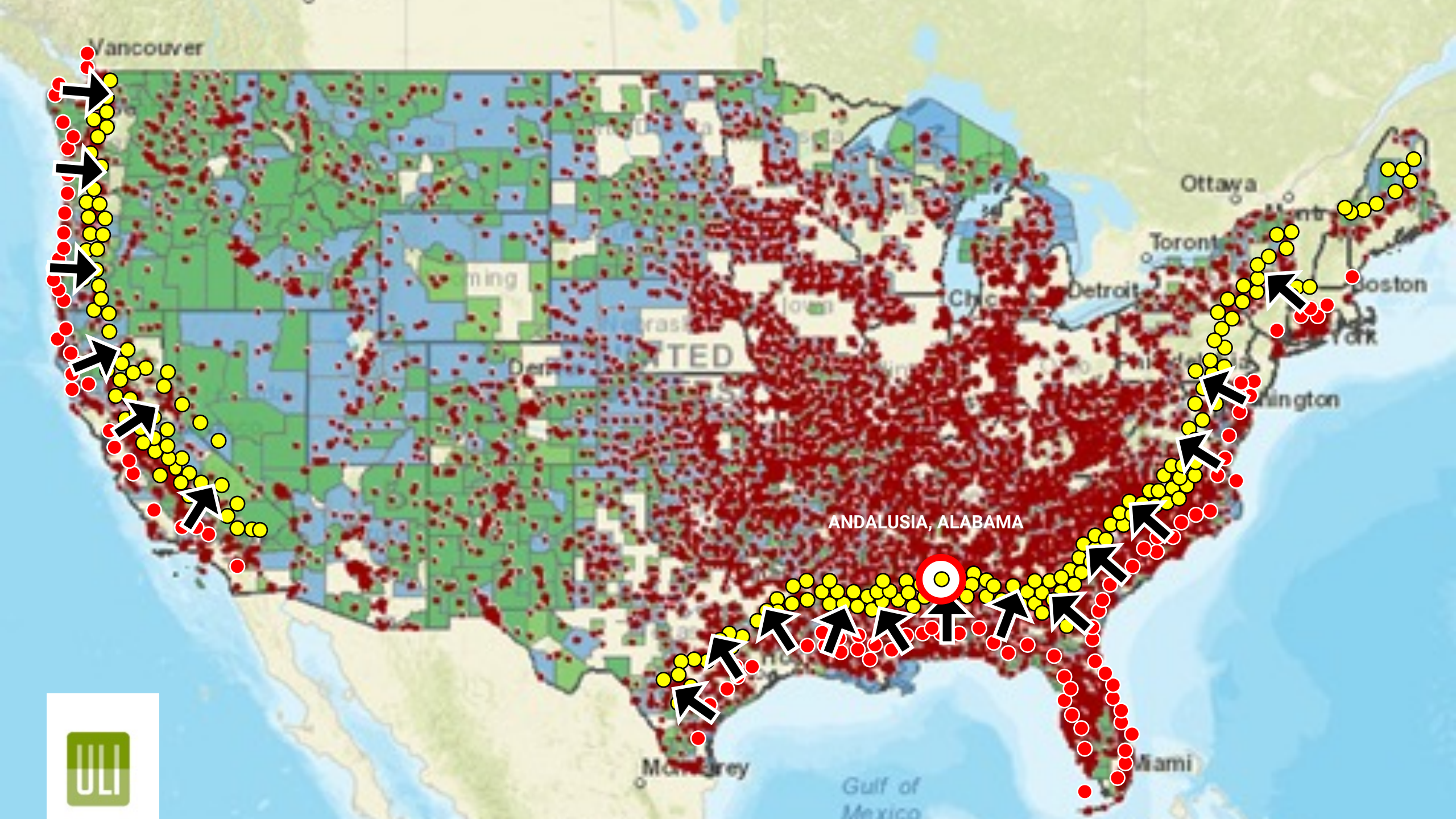
Detroit
Boston
Philadelphia
Miami
Gulf of Mexico
MÉXICO
Havana


Vancouver
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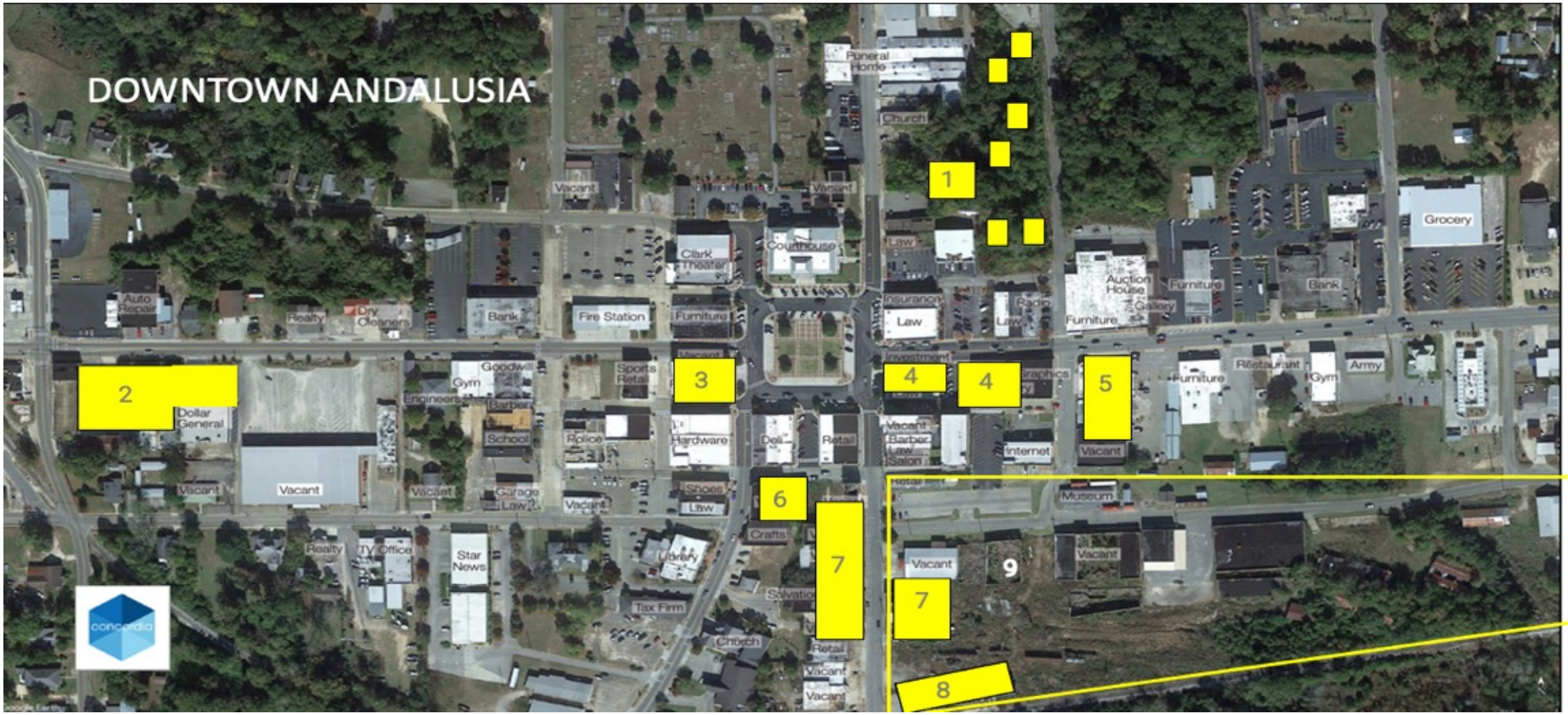
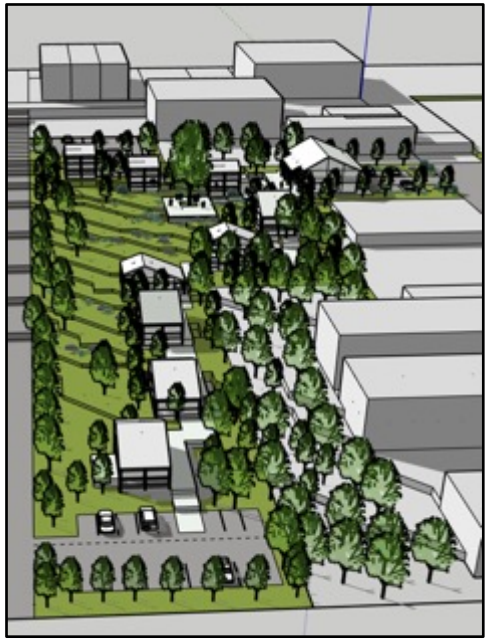
Boston
ANDALUSIA, ALABAMA
Miami
Gulf of Mexico



RISK MANAGEMENT THROUGH: **RESETTLEMENT**

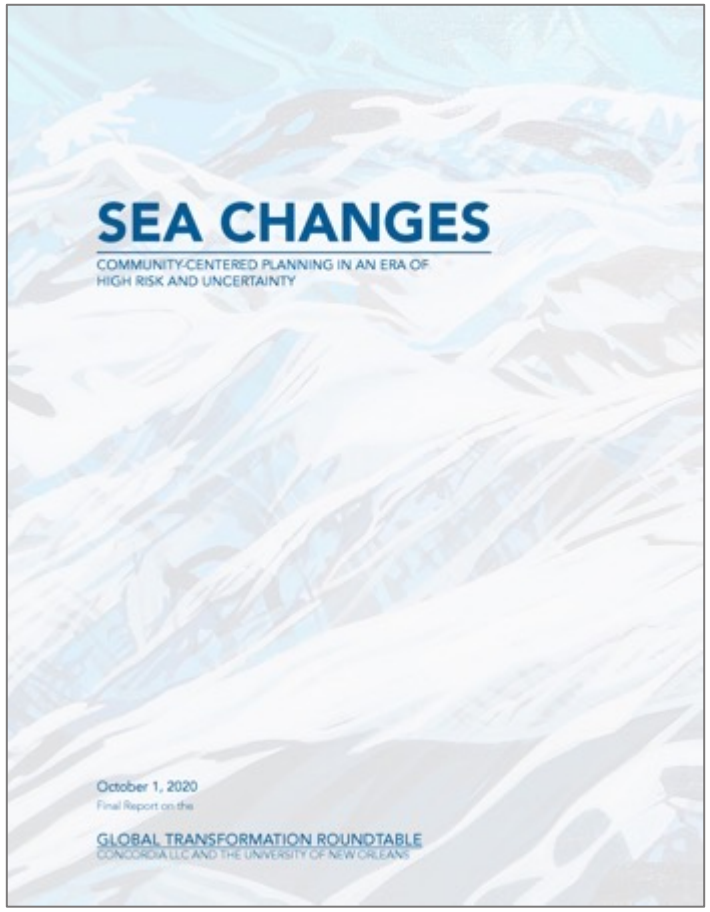
ANDALUSIA PROJECTS



RISK MANAGEMENT THROUGH: RESETTLEMENT

RISK MANAGEMENT THROUGH: **RESETTLEMENT**

RISK MANAGEMENT THROUGH: **RESETTLEMENT**



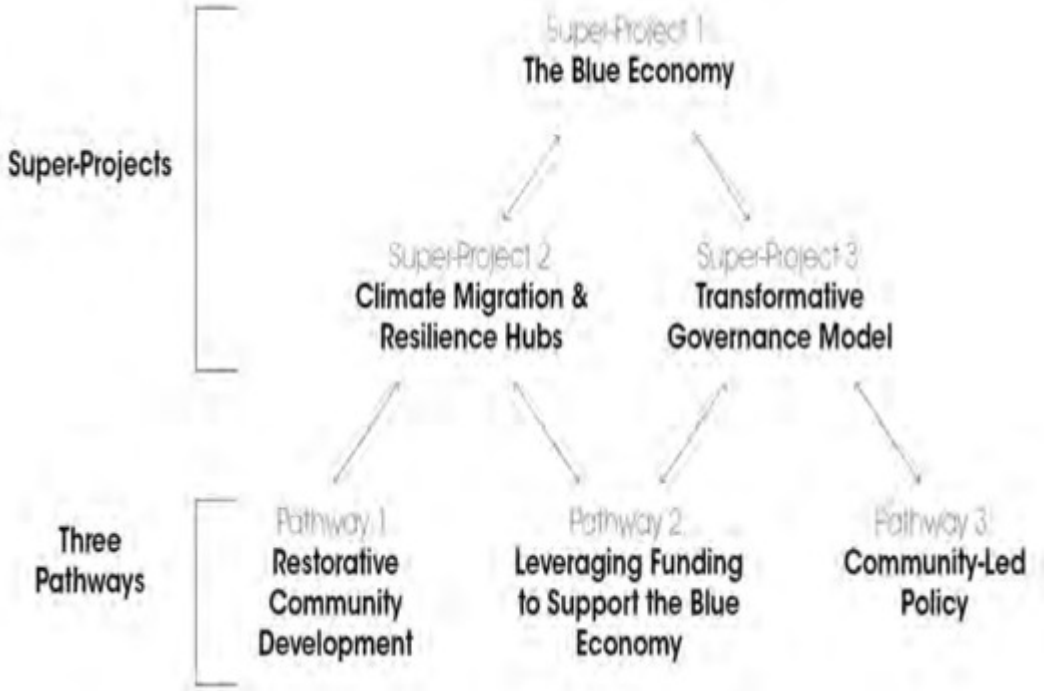
PLANNING FOR CLIMATE RISK

GLOBAL TRANSFORMATION ROUNDTABLE

Global Transformation Roundtable

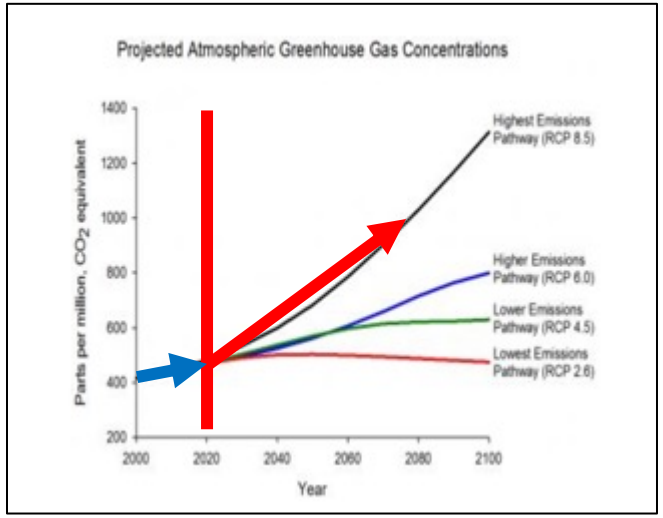
Global Transformation Roundtable

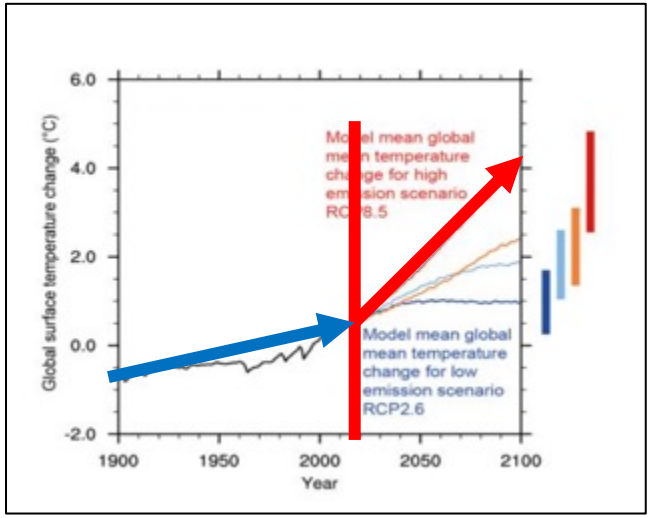
- Promote the highest principles of **honesty and integrity** in all planning for transformational change.
- Establish and maintain **equity and agency** for all people in determining future pathways forward.
- Develop and apply proven **scientific and evidence-based** data in the creation of all future development decisions and scenarios.
- Make immediate **systemic and sustainable investments** that maximize the impact of our limited and precious public resources.
- **Engage and educate** whole communities in the need for systemic and transformational solutions.

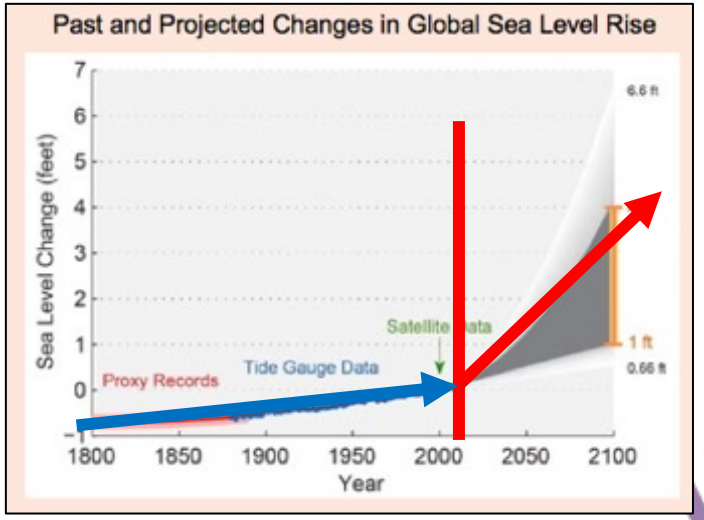


BELLAGIO PRINCIPLES

THE CHALLENGE







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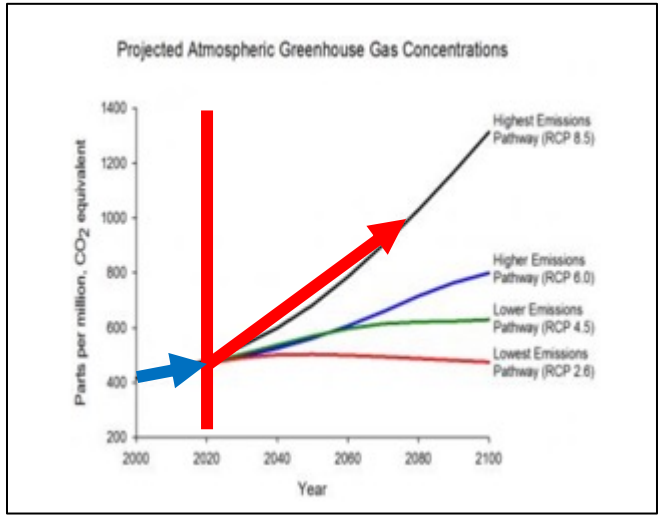
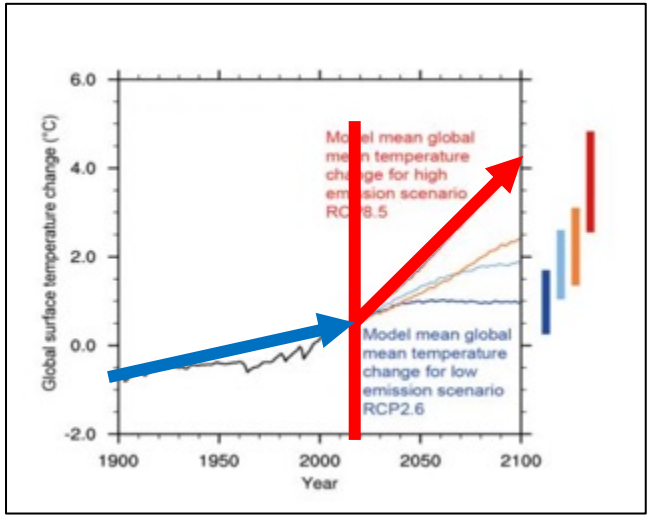
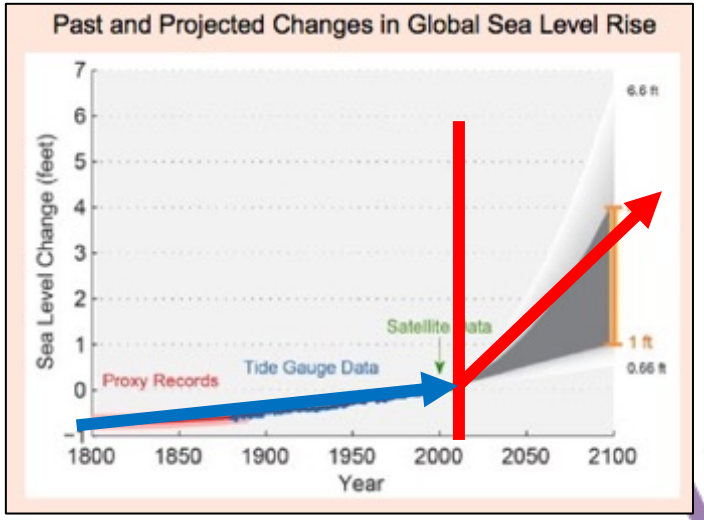
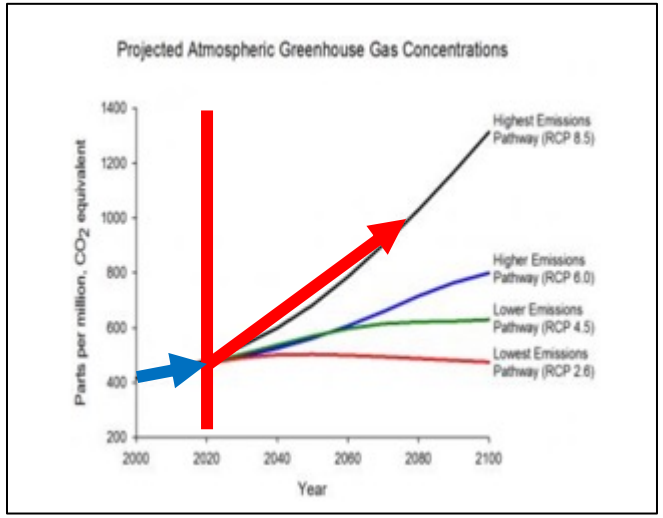


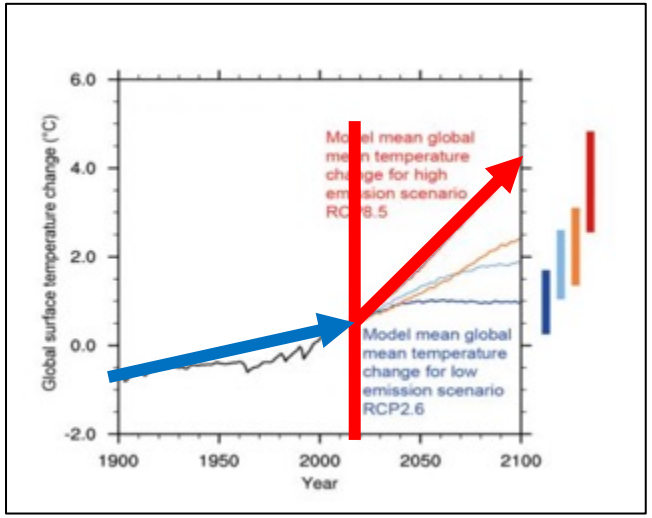


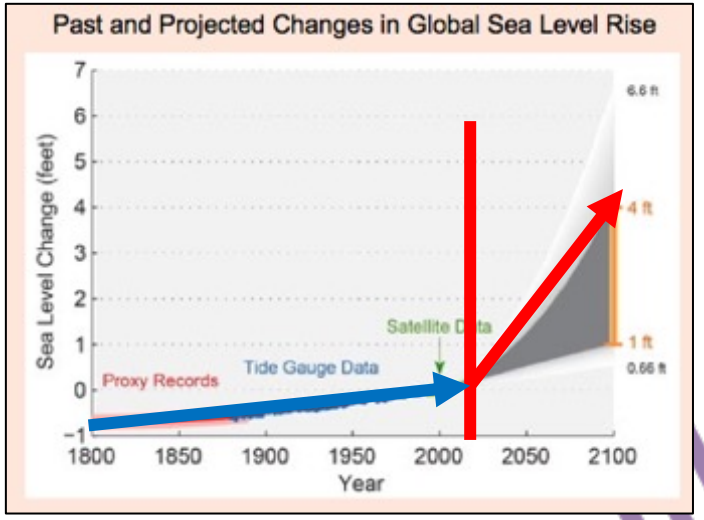


PLANNING IS ALWAYS A GOOD IDEA :

THE CHALLENGE







PLANNING IS ALWAYS A GOOD IDEA: ESPECIALLY WHEN YOU DO IT AHEAD OF TIME

THE TIME IS

NOW

EESI
Environmental and Energy Study Institute

A Resilient Future for Coastal Communities

Federal Policy Recommendations from Solutions in Practice

ULI Coastal Forum 2021
Federal Initiatives that Support Coastal Resilience

Tuesday, December 7, 2021

Coastal Resilience Briefing Series

EESI Environmental and Energy Study Institute

Coastal Resilience in Alaska

Coastal Resilience in the Great Lakes Region

Improving Coastal Resilience in the Northeast

Resilience along the West Coast

Financing Climate Mitigation and Resilience: Lessons from Hawaii

Coastal Resilience in the Southeast

Community-Centered Resilience: Lessons from Louisiana

Nature-based Resilience for Gulf Coast Communities

Puerto Rico the U.S. Virgin Islands Miniseries

- *Federal Support and Local Action*
- *Resilient Housing and Communities*
- *Sustainable, Democratic Energy and Public Health*

Climate Adaptation Data Week

- *Localizing Sea Level Rise Projections for Decision-Makers*
- *Assessing National Park Asset Flood Risk: Retreat, Adapt, Fortify?*
- *Cultural Heritage and Climate Change*
- *Bridging the Gap Between Science and Decision-Making*
- *Weather and Social Data to Inform Participatory Planning Initiatives*

Coastal Resilience "Capstone" Report

EESI Environmental and Energy Study Institute

Download the report at: www.eesi.org/rfcc

Six Guiding Principles

30 Policy Recommendations (with Case Studies) Across Six Themes

- *Community at the Forefront*
- *Land Use and Development*
- *Cultural Heritage*
- *Climate Adaptation and Resilience Data*
- *Disaster Preparedness*
- *Financing Adaptation and Resilience*

How Can Federal Agencies Help Communities Access Resources?

EESI
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1.2

FEDERAL AGENCIES SHOULD PROVIDE FUNDING WITHIN ADAPTATION AND RESILIENCE GRANT OPPORTUNITIES FOR LOCAL LEADER TRAINING

1.3

FEDERAL FUNDING FOR ADAPTATION AND RESILIENCE SHOULD BE DESIGNED SO THAT COMMUNITIES HAVE MORE DECISION-MAKING AUTHORITY IN PROJECT IMPLEMENTATION

Courtesy: LA SAFE

How Can Federal Agencies Help Communities Access Resources?

EESI
Environmental and Energy Study Institute

3.3

CULTURAL HERITAGE CONSIDERATIONS SHOULD BE INTEGRATED INTO FEDERAL REQUESTS FOR PROPOSALS FOR CLIMATE ADAPTATION AND RESILIENCE WORK

4.2

FEDERAL AGENCIES SHOULD COMMUNICATE CLIMATE DATA IN A FORMAT THAT IS ACCESSIBLE TO NON-EXPERTS, AND PROVIDE AVENUES FOR STATE, LOCAL, AND TRIBAL ENTITIES TO ACCESS TECHNICAL SUPPORT TO INTERPRET AND APPLY THIS DATA TO DECISION-MAKING

Courtesy: Island Institute

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Thank you.

Daniel Bresette
Executive Director
dbresette@eesi.org

Anna McGinn
Policy Manager
amcginn@eesi.org

www.eesi.org

Panel 2 – Federal Opportunities for Coastal Resilience

Maria Honeycutt (Moderator)
Assistant Director for Resilience
Science & Technology
White House Office of Science
and Technology Policy

Kevin Bush
Deputy Assistant Secretary For Grant Programs
Department of Housing and Urban Development

Dale Morris
Chief Resilience Officer
City of Charleston, South Carolina

Steven Bingler
Founder & CEO
Concordia

Dan Bresette
Executive Director
Environmental and Energy Study Institute

Closing Thoughts

Jack Smith
Partner, Nelson Mullins
Chair, ULI Coastal Forum

THANK YOU!

Learn more about the Coastal Forum:
https://americas.uli.org/councils/forums/coastal-forum/

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