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The National Security Climate Adaptation Nexus

Tuesday, April 02, 2024

About EESI



Non-partisan Educational Resources for Policymakers

A bipartisan Congressional caucus founded EESI in 1984 to provide non-partisan information on environmental, energy, and climate policies



Direct Assistance for Equitable and Inclusive Financing Program

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



Commitment to Diversity, Equity, Inclusion, and Justice

We recognize that systemic barriers impede fair environmental, energy, and climate policies and limit the full participation of Black, Indigenous, people of color, and legacy and frontline communities in decision-making



Sustainable Solutions

Our mission is to advance science-based solutions for climate change, energy, and environmental challenges in order to achieve our vision of a sustainable, resilient, and equitable world.

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Climate Change Solutions



Bi-weekly newsletter with everything policymakers and concerned citizens need to know, including a legislation and hearings tracker

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Tuesday, April 02, 2024

Environmental & Energy Study Institute

The National Security – Climate Adaptation Nexus: *Mission Assurance Through Community Resilience*

April 2, 2024

Susanne M. Torriente
Global Principal, City Resilience
Jacobs



Mission Assurance Through Community Resilience Topics

1. The Why?
2. Vulnerability & risk examples
3. Adaptation approach
4. Partners
 - Florida Defense Alliance (FDA)
 - Office of Local Defense Community Cooperation (OLDCC) Military Installation Resilience Reviews (MIRRs)
5. MIRR objectives
6. How to determine risk?
7. Adaptation tools
8. Final thoughts

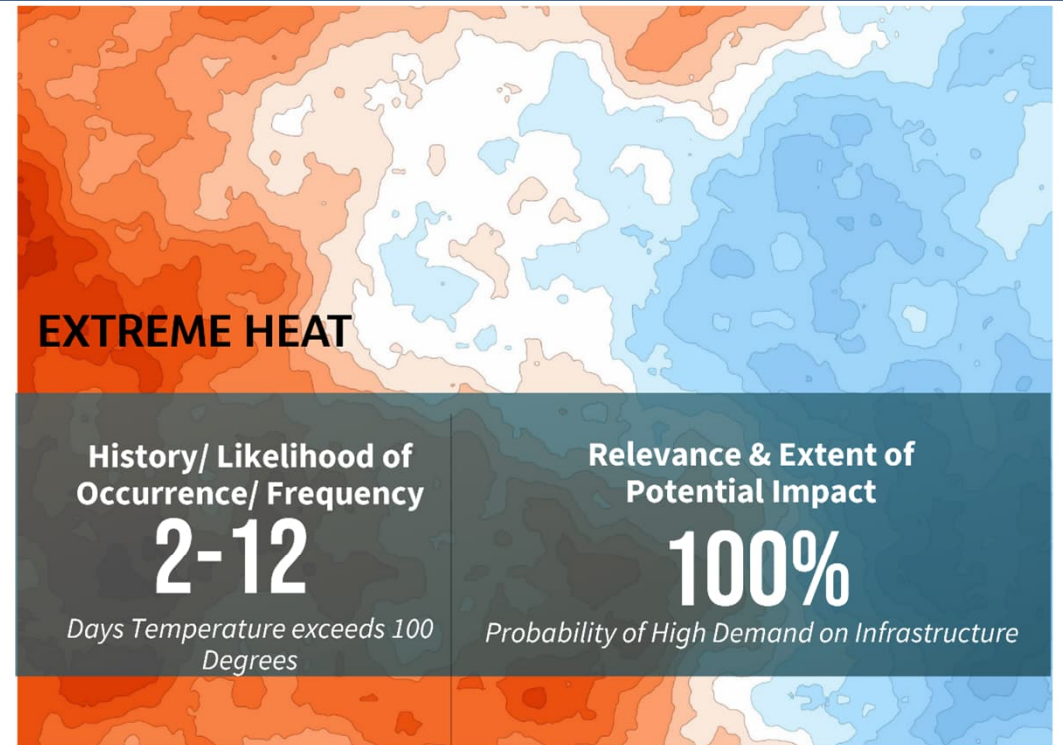


WHY? South Florida vulnerability assessment highlights



Installations and communities are reliant on infrastructure systems that are supplied and maintained by county, city, and private third-party providers

Infrastructure systems continue to expand as the capacity increases, creating both the need for continued maintenance of existing and new assets, and the replacement of components prior to the end of their life cycle.



Climate change is projected to increase the number of days above 95°F by 20 to 30 days over the next 50 years.

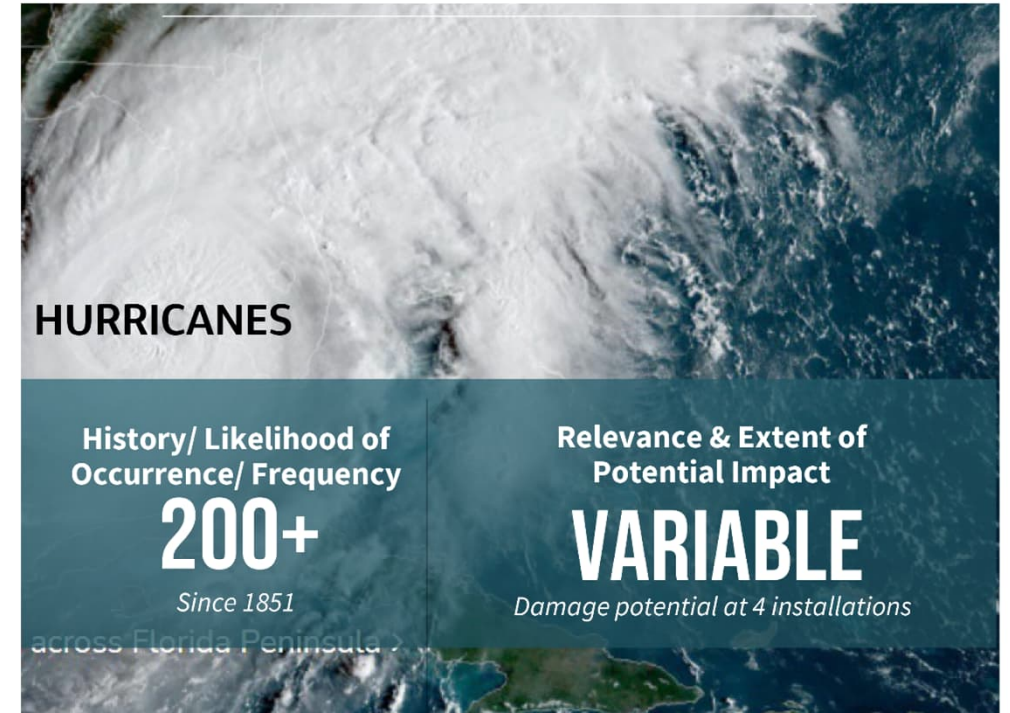
Extreme heat can cause health risks and fatalities for personnel exercising and working outdoors. Extreme heat above 120 °F may cause damage to roads or power cables and degrade military equipment, operations and training. Extreme heat can lead to higher energy demands which increases potential for power brownouts or disruption.

WHY? South Florida vulnerability assessment highlights



The housing crisis in America is worsening exponentially in South Florida

Lack of affordable housing was listed as a top priority for installations, counties, and cities in South Florida. Exacerbated by rising cost of living, staff are being priced out of the area, creating unmanageable commutes or moving away completely.



A hurricane is a tropical cyclone with sustained winds exceeding 74 mph. Hurricane season extends from June 1 to November 30 annually.

Cat 1: Generally results in coastal flooding and tree damage.
 Cat 2: Winds may result in roof damage.
 Cat 3: Winds may cause damage to small buildings and may cause inland flooding.
 Cat 4: Can result in wall and roof failures in housing, major beach erosions and inland flooding.
 Cat 5: Can result in complete roof and small building failures, flooding of structures along the coast.

WHY? South Florida vulnerability assessment highlights



Development applications, even within natural areas providing valuable flood management, are expected to continue to South Florida.


Land management is the balance of maintaining and conserving natural infrastructure and compatible use development. Near installations, buffer zones should be established to prevent encroachment and security concerns at the perimeter. Once natural areas are developed, flood management and habitat is lost.



Lightning can result in injuries to personnel, fires, and damage to power infrastructure, equipment and vessels.

In 2019, Florida had 228 lightning events per square mile. Monroe County experiences 12 to 28 lightning strikes per square mile per year and has a 26% annual probability of lightning strikes that cause damage.

WHY? South Florida vulnerability assessment highlights




SEA LEVEL RISE, TIDAL FLOODING AND COMPOUND FLOODING

History/ Likelihood of Occurrence/ Frequency	Relevance & Extent of Potential Impact
<9 <i>Days per season</i>	NUISANCE <i>Flooding potential for 3 out of 4 Installations</i>

Sea level rise leads to compound flooding when rainfall, tidal flooding and surge flooding occur simultaneously.

Tidal flooding occurs today in coastal areas with elevations lower than 1.6 feet NAVD. Sea level rise also contributes to groundwater rise, seepage through the ground surface, degrading transportation assets and reducing capacity of stormwater systems. Sea level rise will eventually overtop and inundate coastal infrastructure if adaptation does not occur. Sea level rise also causes saltwater intrusion of inland freshwater/ potable water supplies.



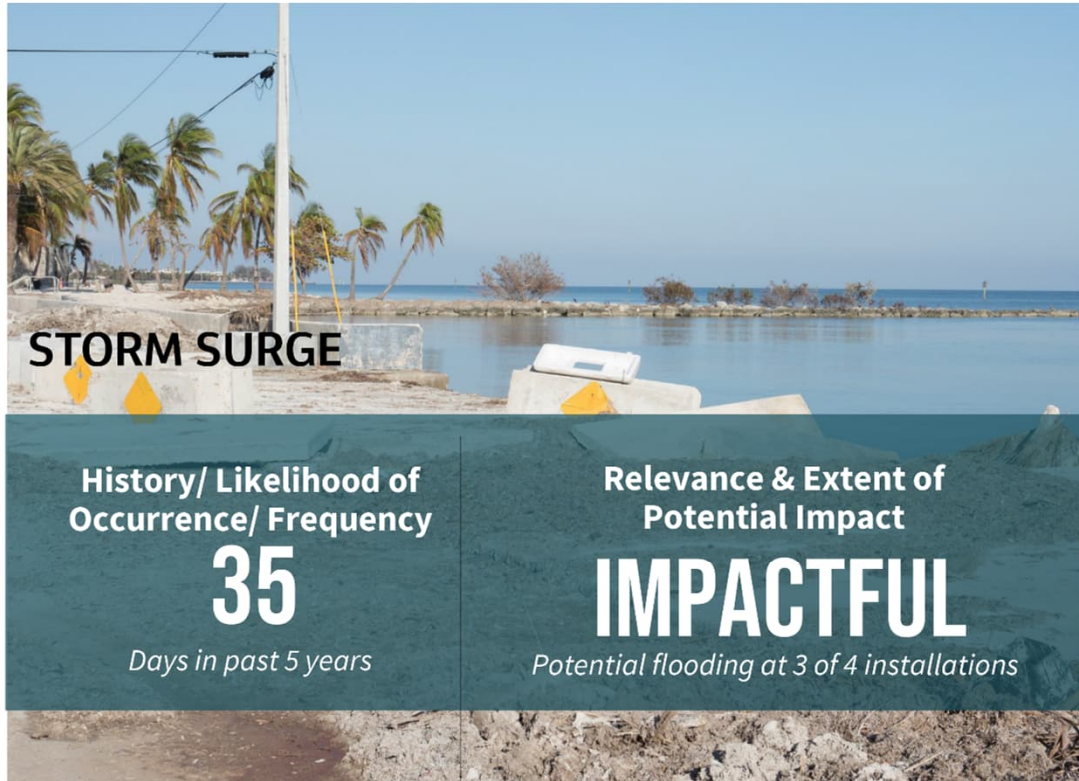
SEVERE THUNDERSTORMS & FUTURE PRECIPITATION

History/ Likelihood of Occurrence/ Frequency	Relevance & Extent of Potential Impact
40+ <i>Days per year</i>	IMPACTFUL <i>Flooding potential at 4 installations</i>

With climate change, severe thunderstorms are projected to increase in rainfall intensity and volume

SFOMF and NASKW are entirely within the 100-year floodplain. The areas surrounding SOUTHCOM and HARB are partially within the 100-year floodplain. Poses risk to drainage systems and roads

WHY? South Florida vulnerability assessment highlights



As hurricane magnitude increases, surge depths can reach over 9 feet in the project area.

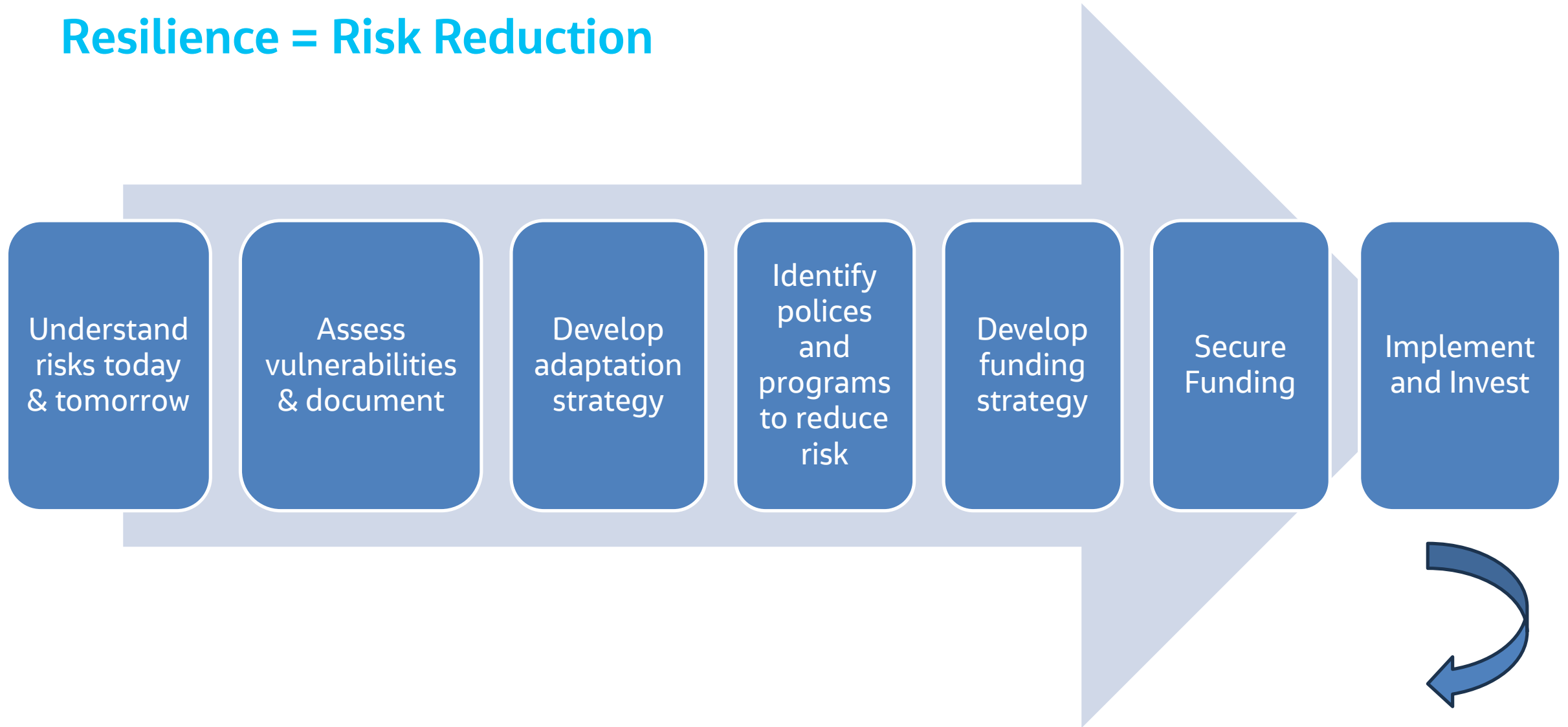
Storm surge can propagate inland through canals and cause inland flooding. According to the National Hurricane Center storm surge is produced by water being pushed toward the shore by the force of winds moving cyclonically around the storm. It is often the greatest threat to life and property from a hurricane event.



Future wind speeds are anticipated to increase by 2-11%.

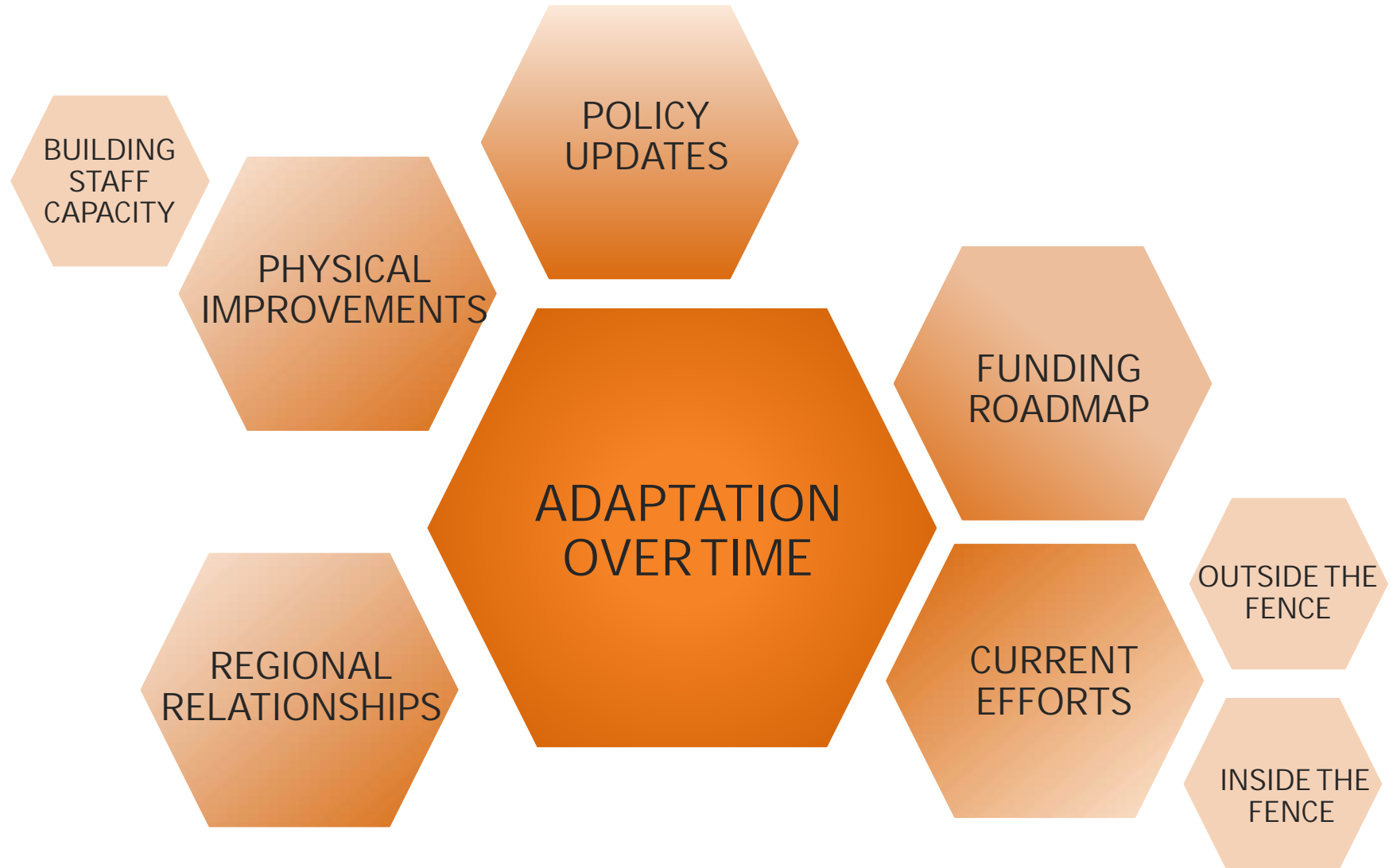
The high wind speeds and transport of debris turned projectiles within tornadoes causes property damage and loss of life. Strong winds can cause damage to trees, vehicles, and roofs. Most damage from thunderstorms results from straight-line winds which can gust at 100 miles per hour and damage as much infrastructure as a tornado.

Resilience = Risk Reduction

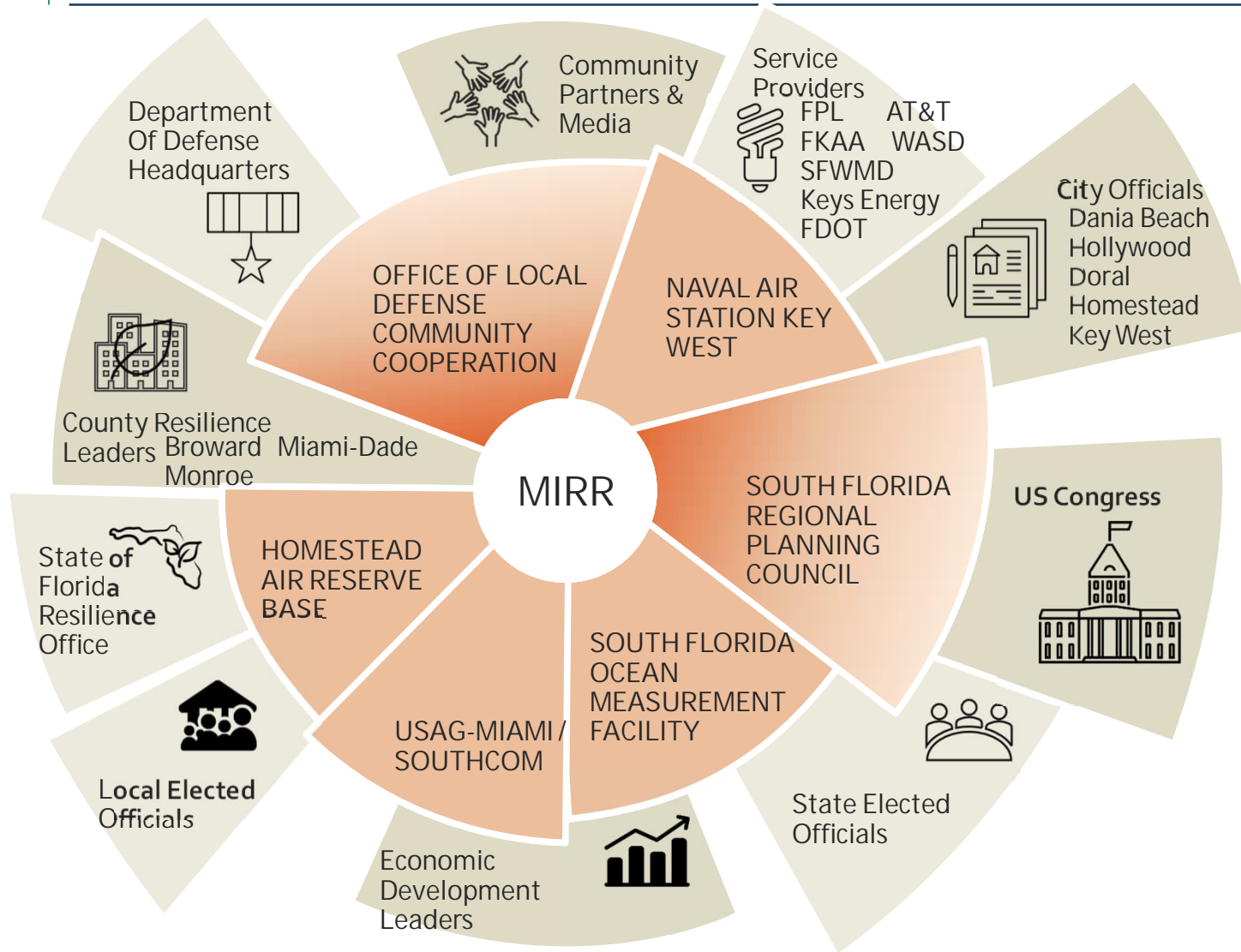


ADAPTATION: LAYERED APPROACH TO RESILIENCE

Multiple avenues are targeted to find complementary interventions that, when bundled together, can provide adaptation to vulnerabilities over time.



ADAPTATION: LEVERAGING LOCAL EFFORTS



Identify & Align Projects to Optimize Funding

- ❖ Capital Improvement Plans
- ❖ Comprehensive Development Master Plans
- ❖ Long Range Transportation Plans
- ❖ Local Mitigation Strategies
- ❖ Adaptation Studies
- ❖ Resilience Strategies & Plans

PARTNERS: OLDCC and FDA

The Florida Defense Alliance is a grassroots consortium of representatives of defense-related organizations including government, defense industry, economic development organizations and other interested parties who come together in order to protect, promote and enhance the military value of Florida's installations and missions.



U.S. Department of Defense Office of Local Defense Community Cooperation

The U.S. Department of Defense Office of Local Defense Community Cooperation assists states and local governments to maximize support of the military mission. It provides technical and financial assistance to states, territories and communities that are invested in the defense mission.

Office of Local Defense Community Cooperation assistance supports the readiness and resilience of both defense installations and defense communities, a priority for the country's [National Defense Strategy](#).

Military Installation Resilience Review Planning



Support Mission Assurance. Protect and preserve military readiness and defense capabilities through funded interventions.

Promote Resilience Communities. Improve the health, safety, and general welfare of those living and working at or near the installations through implementable, maintainable interventions.

Foster Regional Cooperation. Increase public awareness of the military missions through closer communications and interventions that are integrated with ongoing community resilience planning.

STEP 1: MIRR-DEFINED UNIFIED RESILIENCE ASSESSMENT METHODOLOGY



STEP 2: DATA COLLECTION AND VULNERABILITY ASSESSMENT



STEP 3: PLANNING GUIDELINES



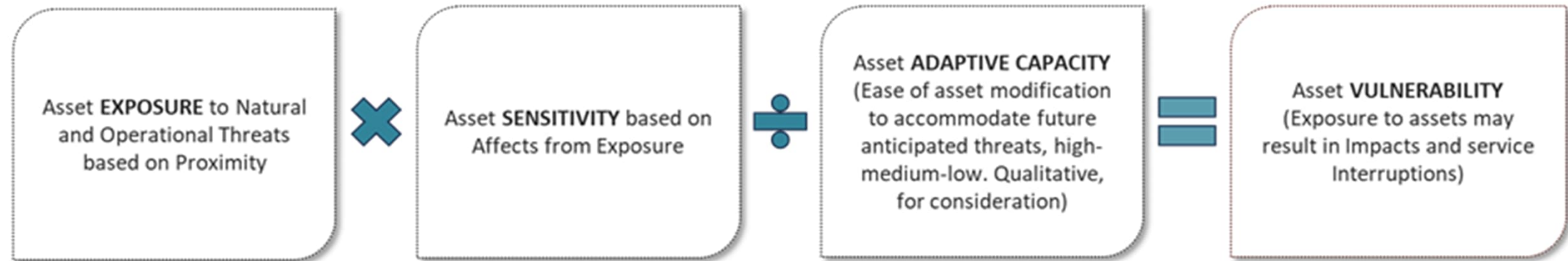
STEP 4: ADAPTATION STRATEGIES & PROJECT DEFINITION



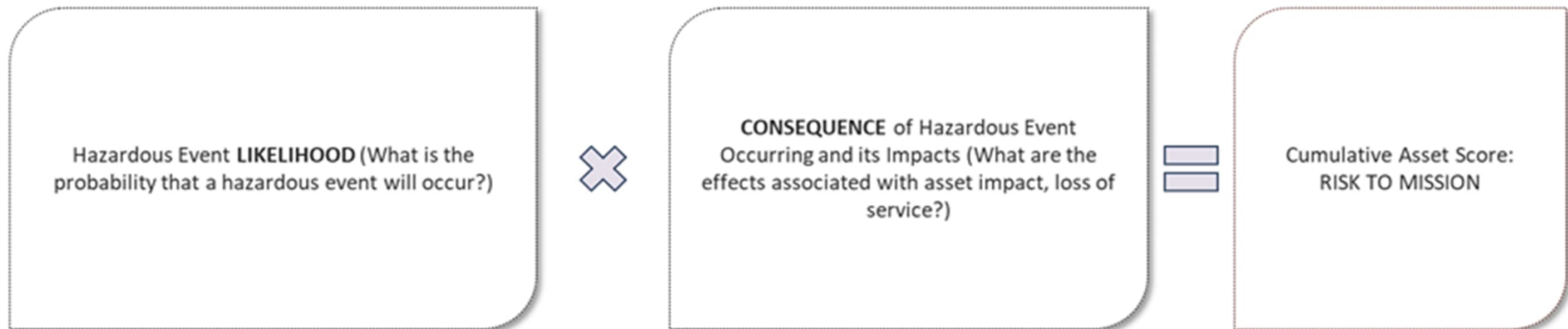
STEP 5: PROJECT TIMELINE & FUNDING OPTIONS

MISSION ASSURANCE THROUGH COMMUNITY RESILIENCE

DETERMINING VULNERABILITY & RISK



Once vulnerable assets are identified, a risk score is calculated for those vulnerable assets.



HOW WE BUILT IT: Emerald Coast, FL



Asset **EXPOSURE** to Natural and Operational Threats based on Proximity

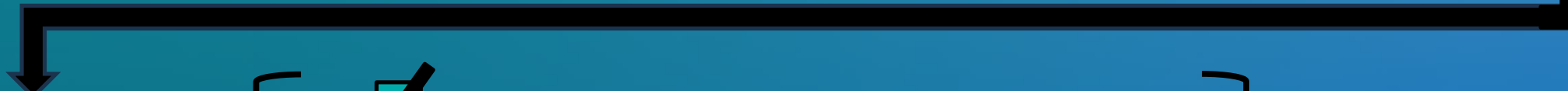


Asset **SENSITIVITY** based on Effects from Exposure



Asset **VULNERABILITY**
(Exposure to assets may result in Impacts and service Interruptions)

Once vulnerable assets are identified, a risk score is calculated for high-vulnerability assets.



High
Vulnerability
Asset



LIKELIHOOD of Hazard Occurring



CONSEQUENCE of Hazard Event Occurring

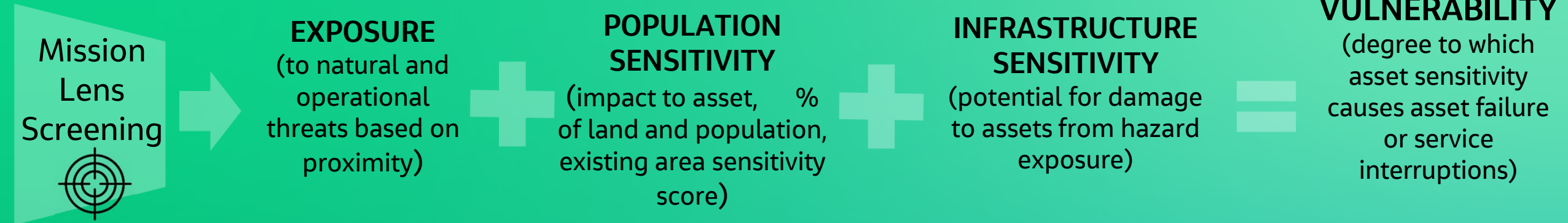


IMPACT ON MISSION



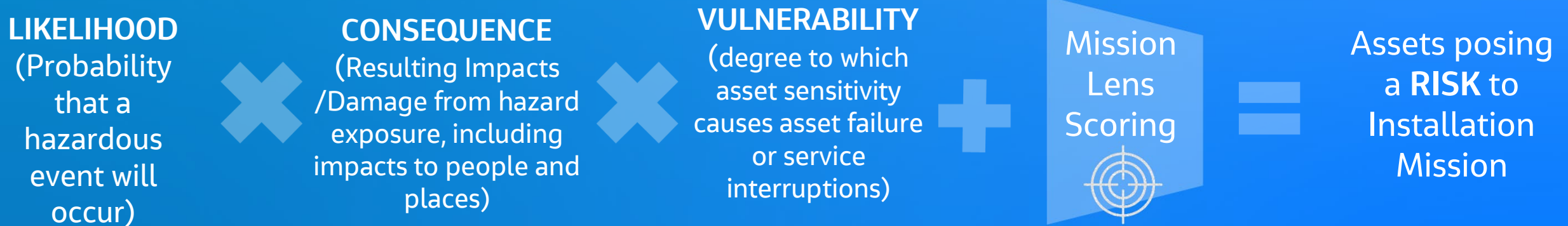
Cumulative Asset
Score: RISK TO
MISSION

HOW WE BUILT IT: East Central Florida

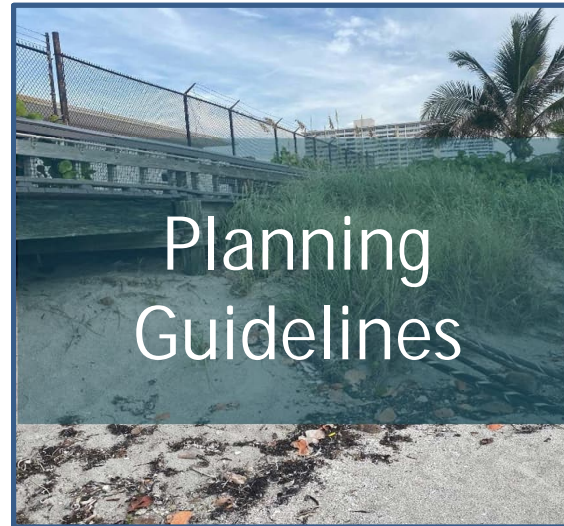
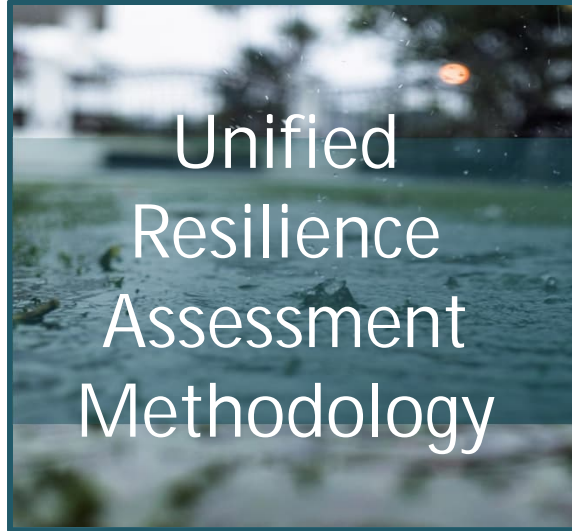


Adaptive capacity of assets is also considered qualitatively during evaluation process.

Once vulnerabilities are identified, a risk score is calculated for all critical assets.



ADAPTATION TOOLS



FINAL THOUGHTS

1. Climate change is a national security threat.
2. Climate vulnerabilities do not stay within geographic and/or political borders; therefore, working beyond borders is key.
3. Planning for future conditions and investing in a system's adaptive capacity reduces risk to military installations and the communities they call home.
4. The OLDCC MIRR program is an excellent vehicle to bring together community and military planners to assess risk and vulnerability and prepare adaptation strategies for investing in resilience. The program should be expanded beyond the Department of Defense to include other federal agencies, like DHS.
5. DoD should allow individual installations to follow local building and design codes when these have been strengthened to address local future climate conditions.

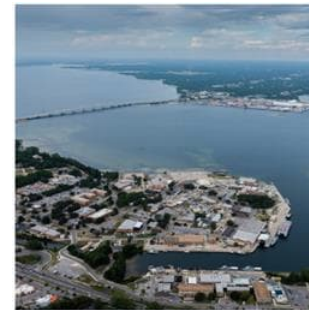
Thank you!

Susanne M. Torriente
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CLIMATE CHANGE & NATIONAL SECURITY VIRGINIA PERSPECTIVE



Photo: Skip Stiles

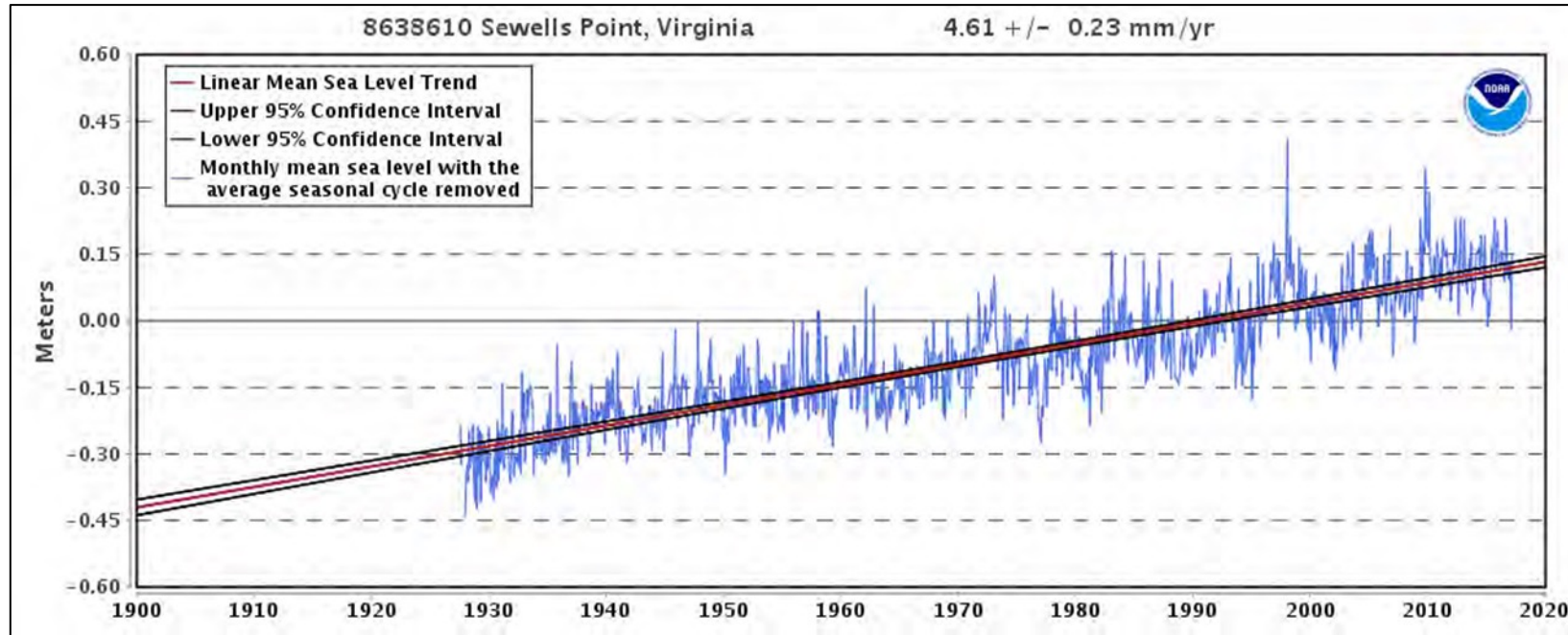
WETLANDS WATCH



We work where land, communities, and water meet to conserve nature in a changing climate

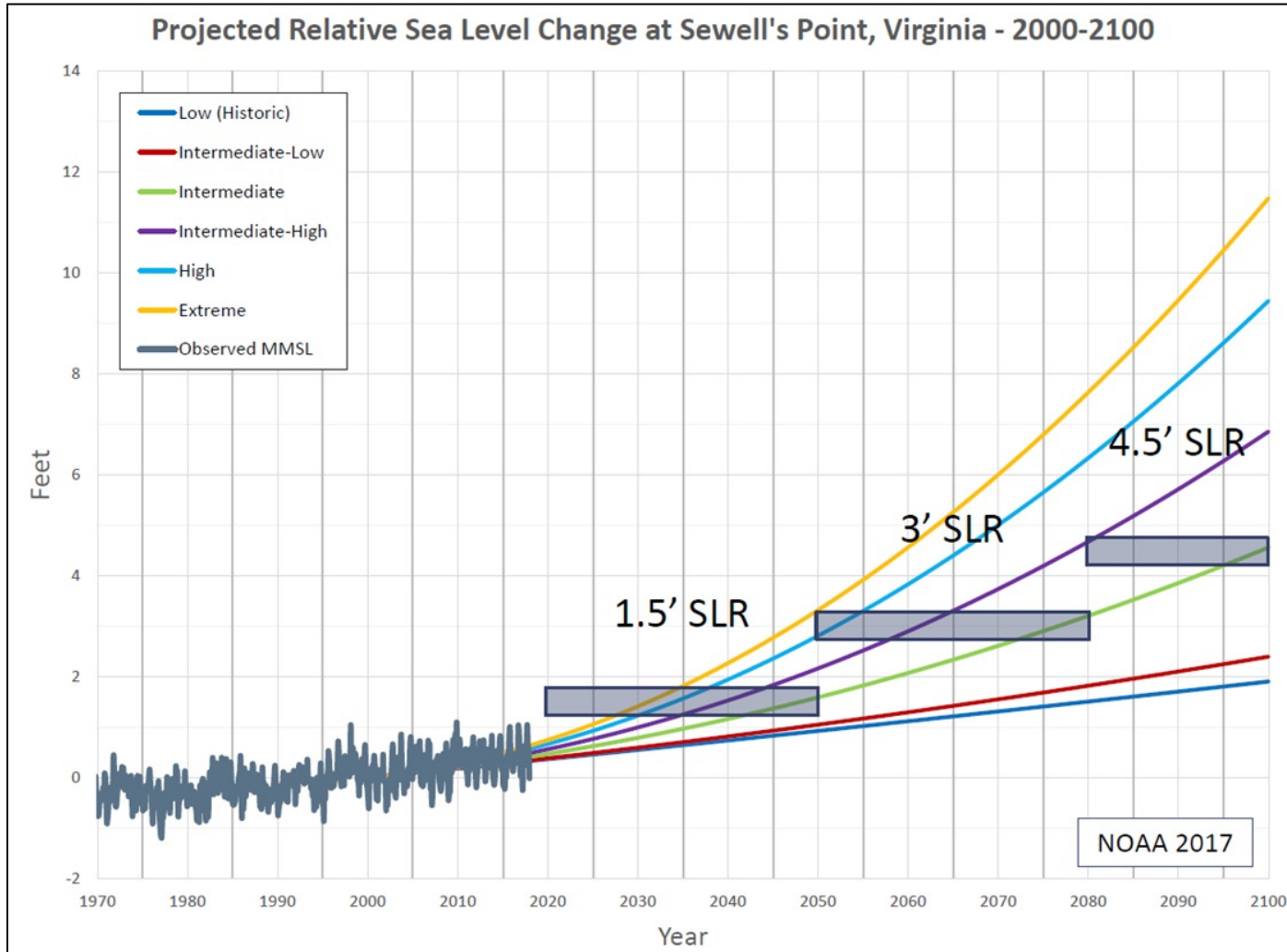


HISTORICAL SEA LEVEL RISE: NORFOLK VA

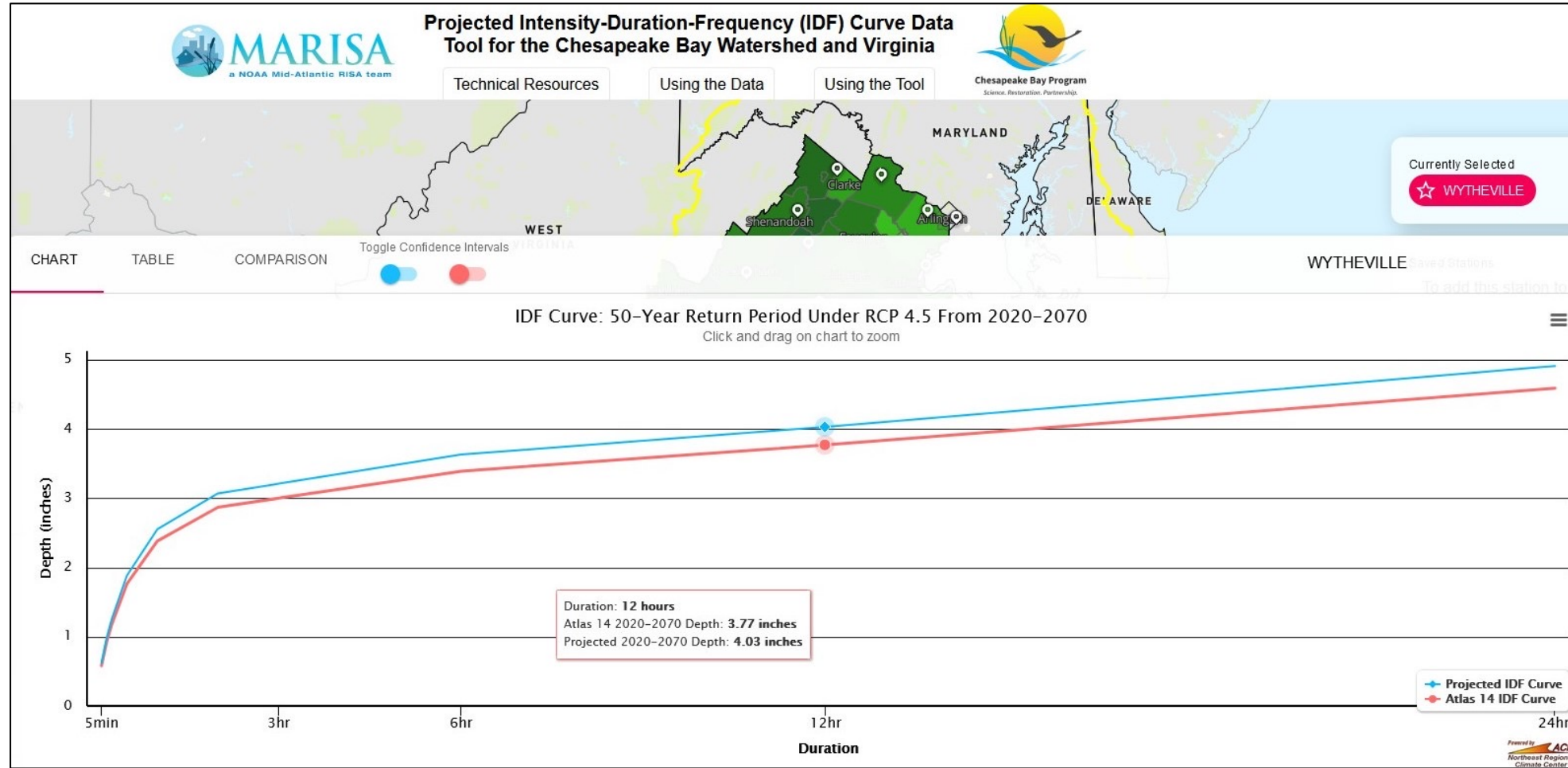


Mean sea level trend = 4.42 millimeters/year
1.45 feet/century = highest rate of relative SLR on Atlantic Coast

FUTURE SEA LEVEL RISE: NORFOLK VA



RAINFALL INCREASING: ~18% SINCE 2006



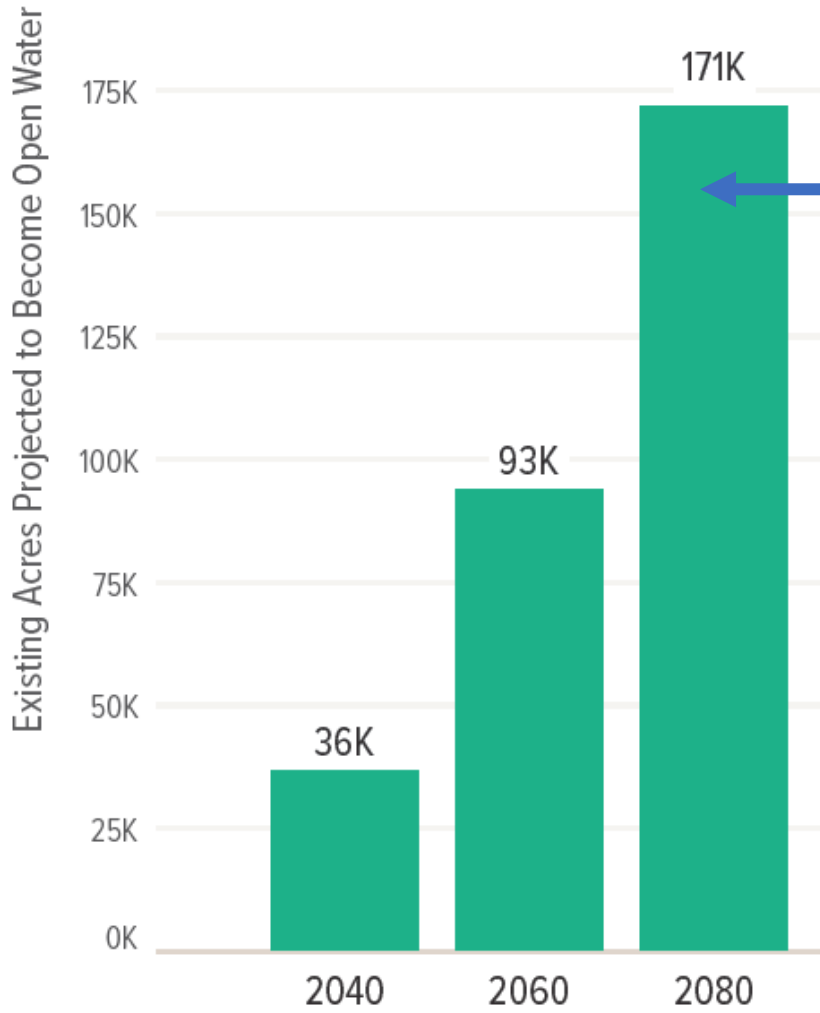
Source: MARISA

PROJECTED IMPACTS



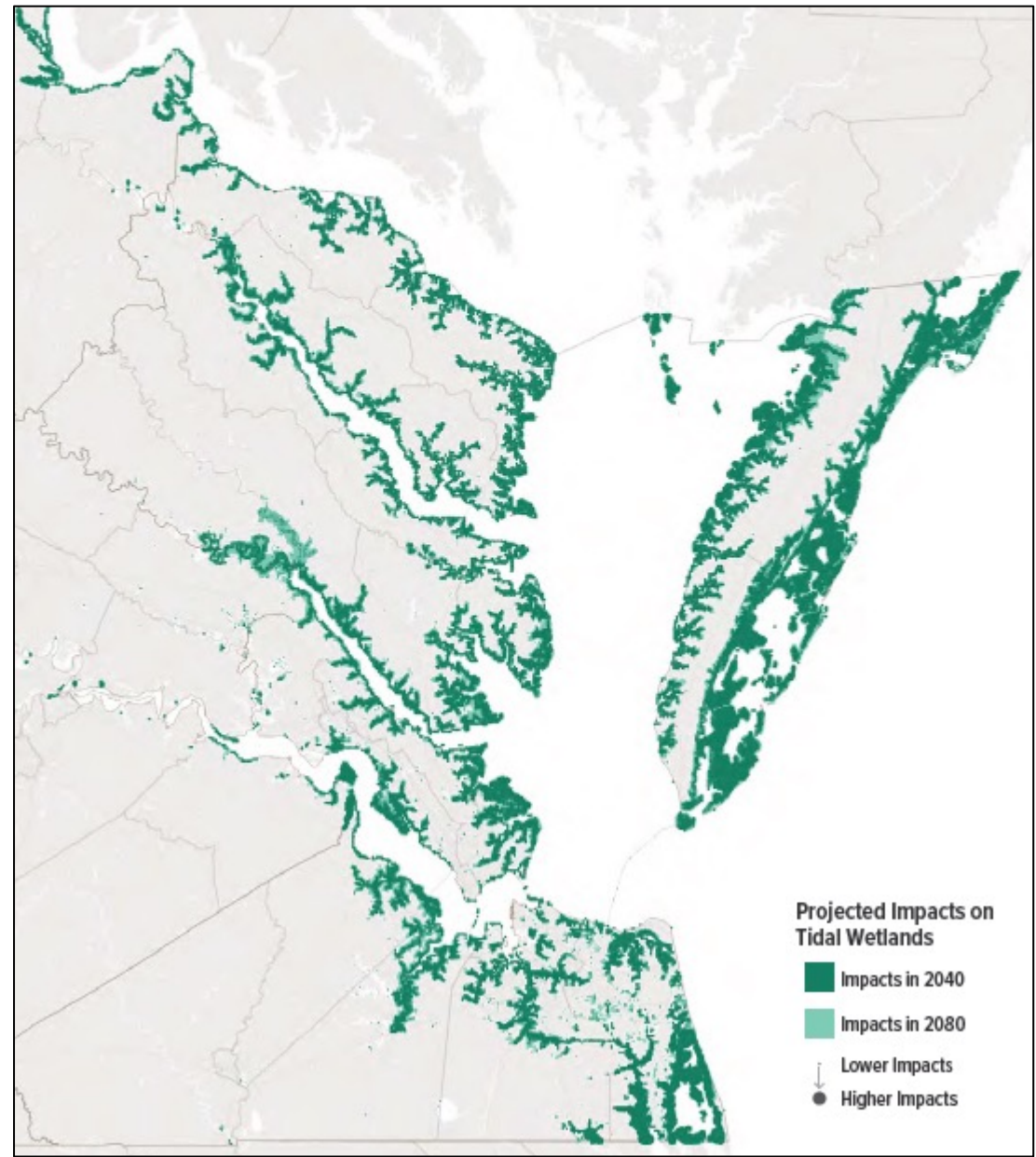
Tidal Wetland Habitat Loss

Relative to habitat in 2020



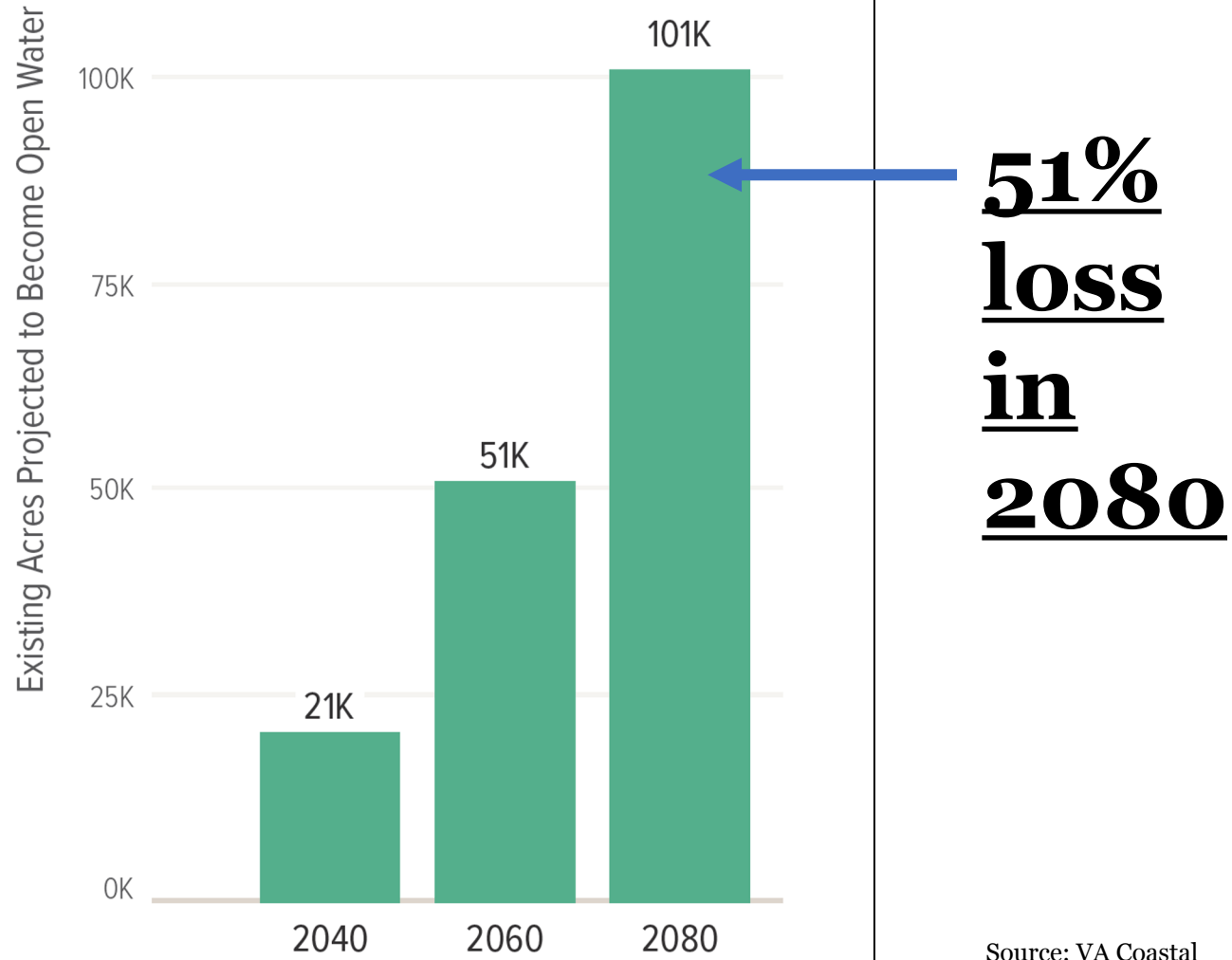
89%
loss
in
2080

Source: VA Coastal Resilience Master Plan

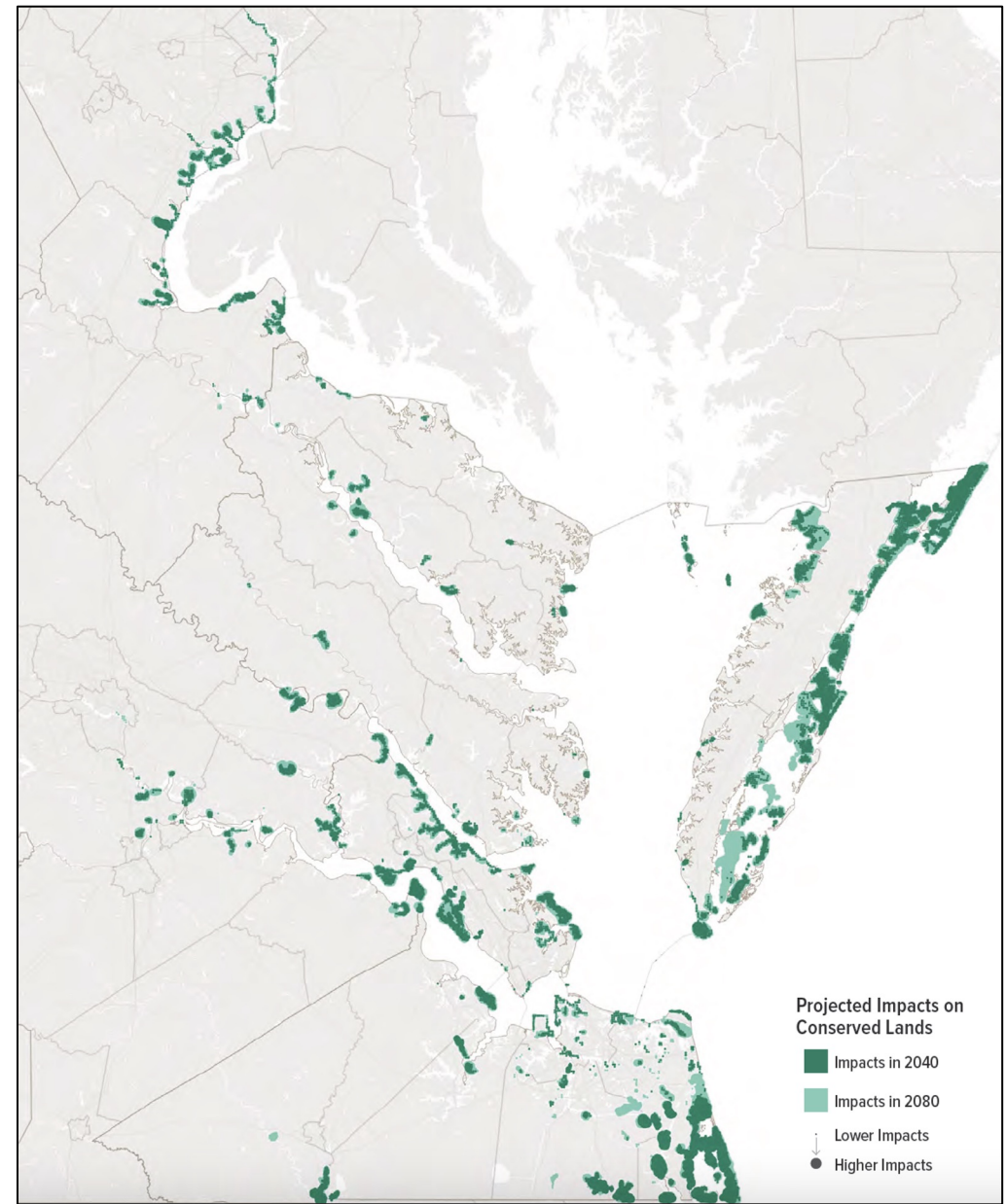


Upland Habitat Loss

Relative to habitat in 2020



Source: VA Coastal Resilience Master Plan



PROJECTED IMPACTS: 2080



Photo: Mary-Carson Stiff

- Number of buildings exposed to an extreme coastal flood: 140,000 → 340,000 (150% increase)
- Residents exposed to major flooding: Nearly 1 Million
- Annualized flood damages: increase by from \$0.4 B → \$5.1 B (1,300% increase)

Source: VA Coastal
Resilience Master Plan

PROJECTED IMPACTS: 2080



Miles of roadways exposed to chronic coastal flooding will increase from 500 miles to nearly 2,800 miles → **460% increase**

Source: VA Coastal Resilience Master Plan

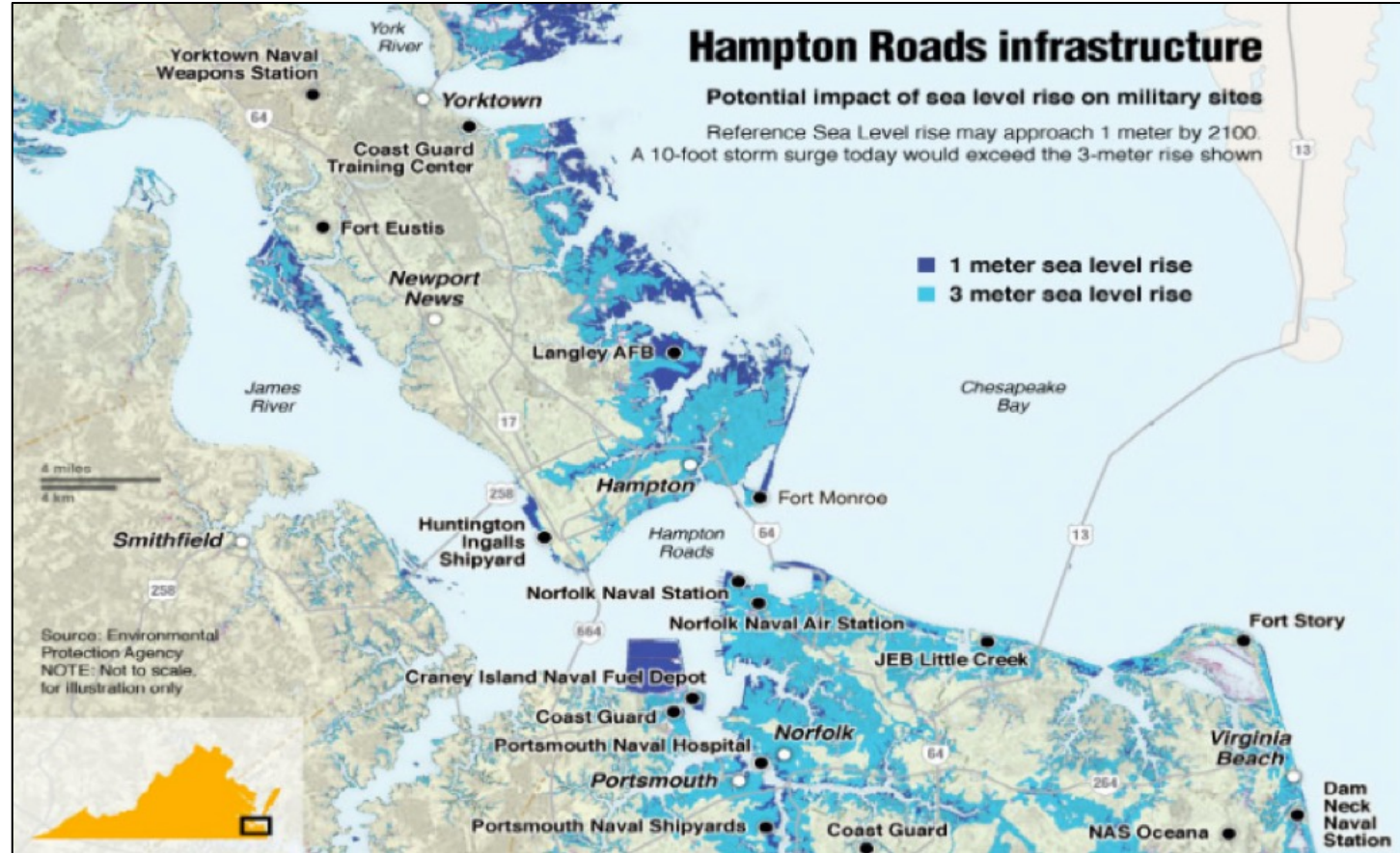
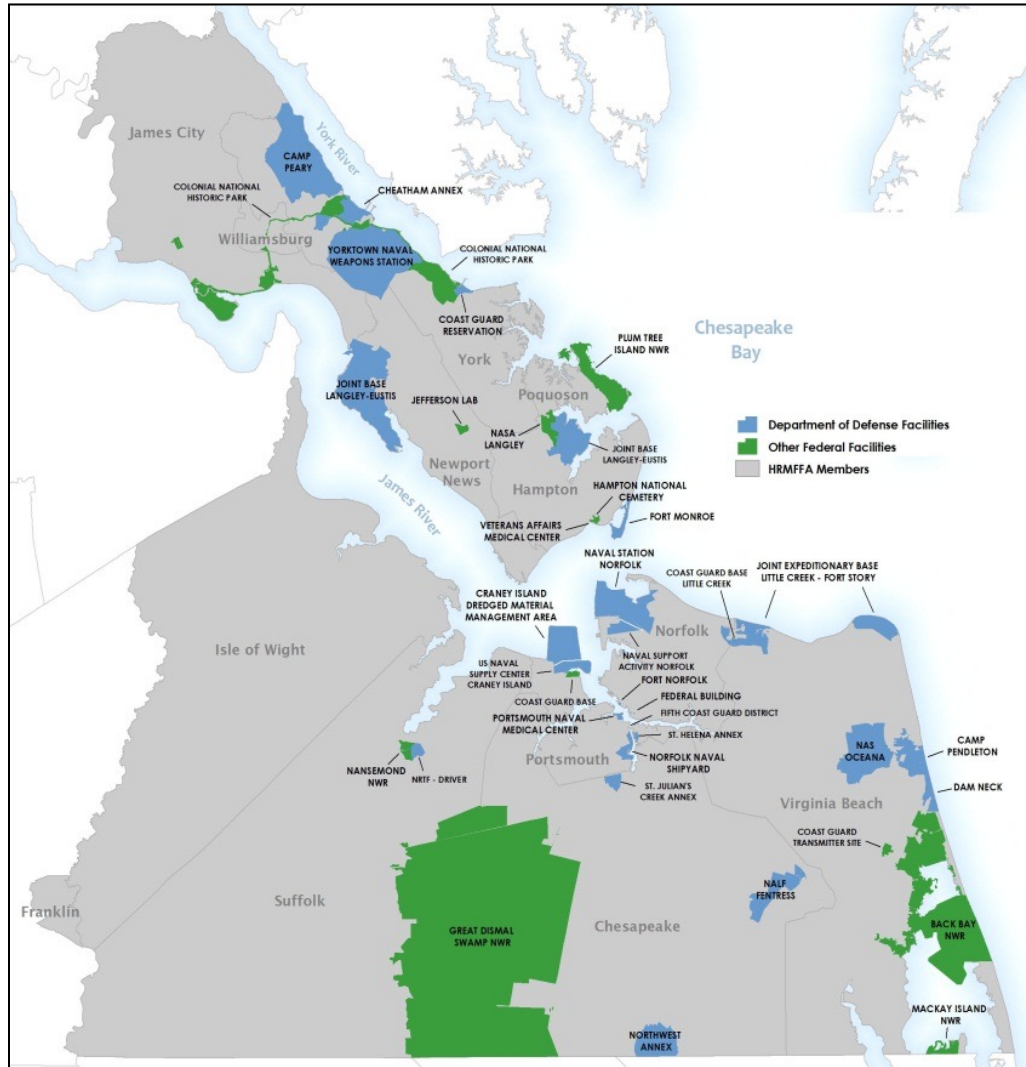
NATIONAL SECURITY IMPACTS

Rank	State	Defense Spending (billions)
1	Virginia	\$62.7
2	Texas	\$58.0
3	California	\$56.2
4	Florida	\$30.2
5	New York	\$28.1
6	Maryland	\$26.4
7	Connecticut	\$22.3
8	Pennsylvania	\$17.9
9	Massachusetts	\$15.2
10	Arizona	\$15.0

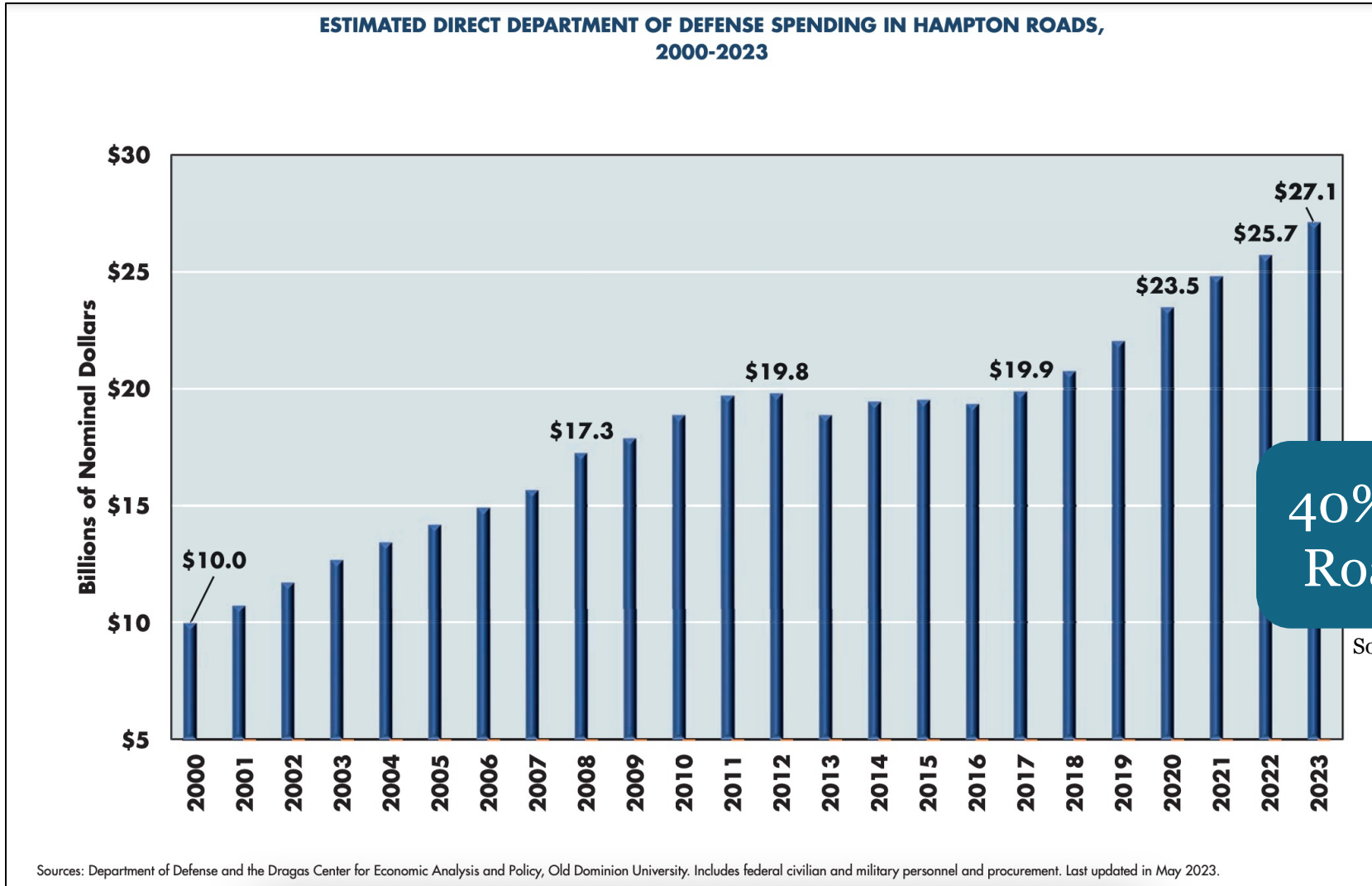
10% of VA's GDP!

Source: DOD, 2022 spending

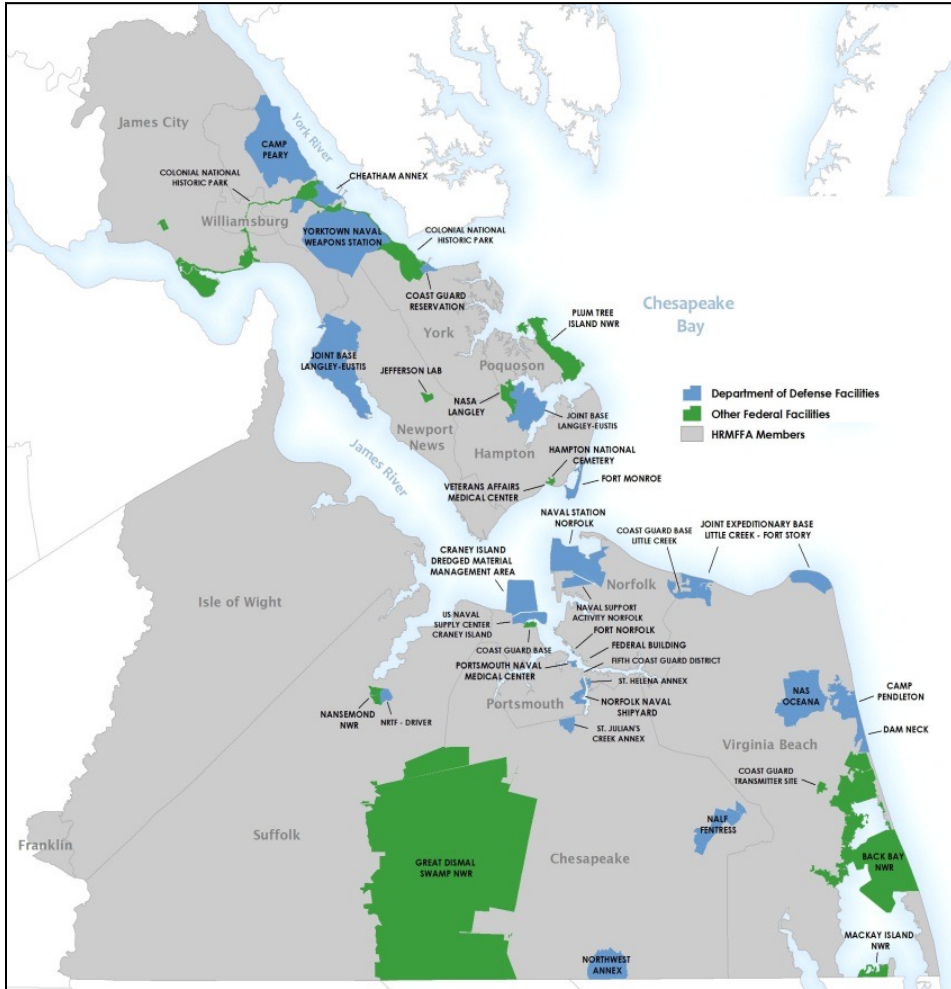
HAMPTON ROADS: 16+ BASES



INCREASING DOD SPENDING



WHAT HAPPENS OFF BASE?



- Every military branch represented
- 2nd most active-duty personnel in country (100,000+)
- Over 40,000 civilian personnel

Bases rely on off base utilities

*How do people get on and off base?
Where do people live? Go to school?*

Source: Repi.mil

TRANSPORTATION SYSTEM IMPACTS



AVAILABLE / SAFE HOUSING IMPACTS



Photo: Sahar Coston-Hardy, ASLA

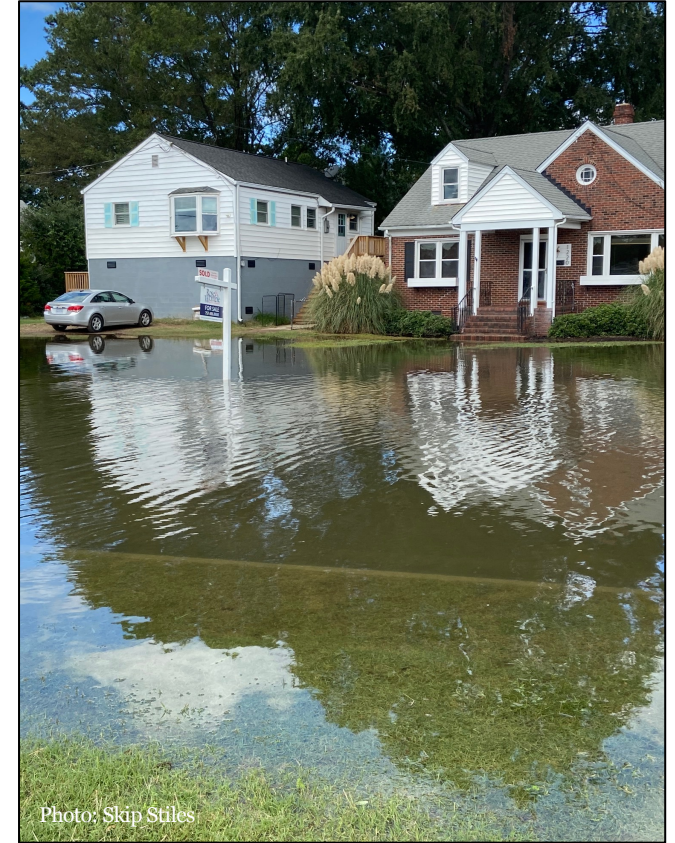


Photo: Skip Stiles

EDUCATION SYSTEM IMPACTS



Source: The Virginian-Pilot

WHAT ARE WE DOING ABOUT IT? (STATE)

Assess the risk

- Coastal Resilience Master Plan (2021)

Plan for the risk

- Standard state-wide sea level rise planning scenario (NOAA intermediate high curve)

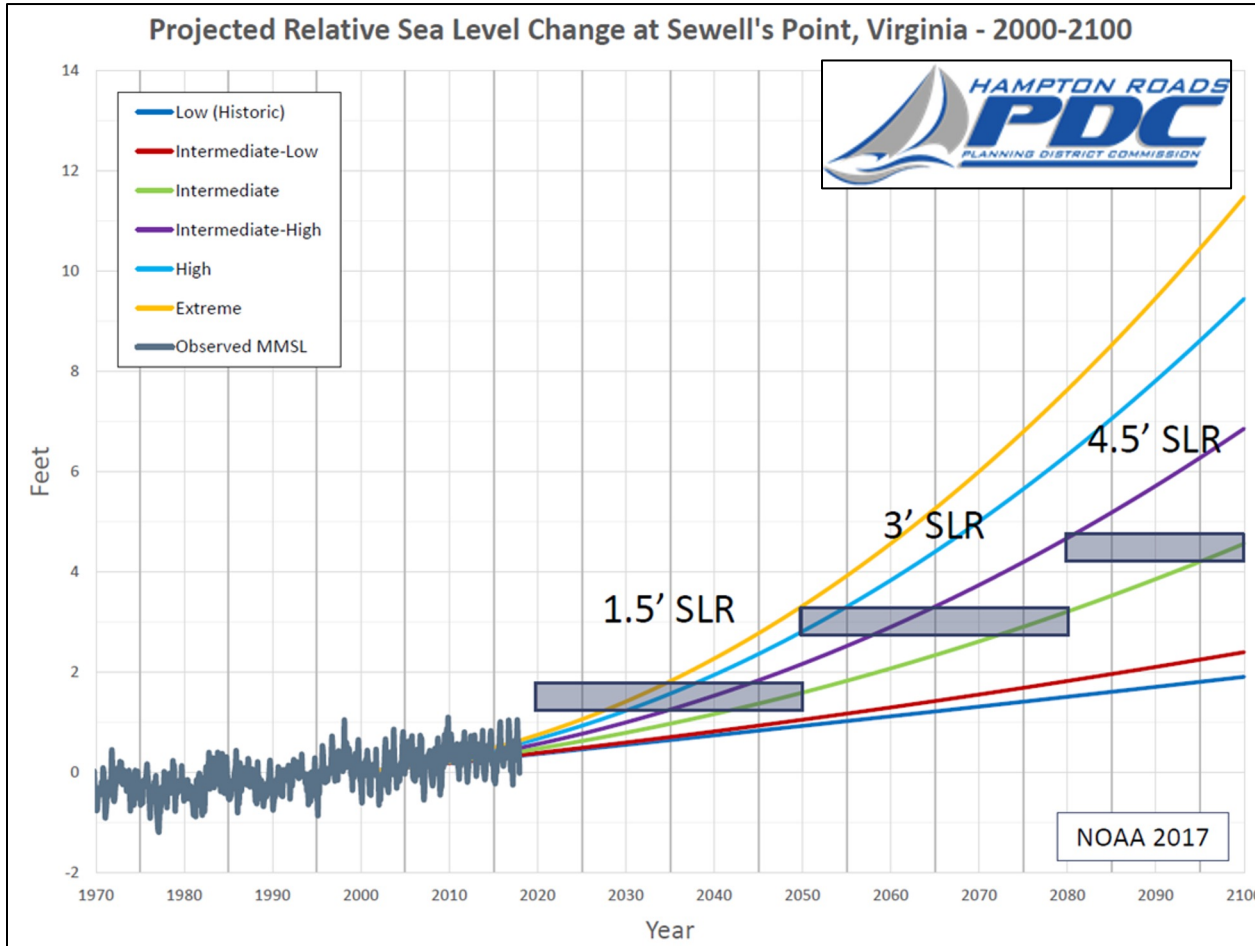
Protect against the impacts

- Freeboard requirements for state buildings in both flood and sea level rise inundation zones
- Climate change engineering design standards for roads and bridges
- Sea level rise included in shoreline & septic regulations

Reduce AND pay for the impacts

- Regional Greenhouse Gas Initiative (RGGI): 45% of each auction into new Community Flood Preparedness Fund → \$150M in local government pre-disaster grants → 6:1 benefit

WHAT ARE WE DOING ABOUT IT? (REGION)



FIGHT THE FLOOD
MIDDLE PENINSULA

WHAT ARE WE DOING ABOUT IT? (LOCAL)

Assess the risk

- NOAA's Atlas 14 data too old, VA Beach paid for new study → 20% increase rainfall

Plan for the risk

- All Hampton Roads comprehensive plans must include strategies for sea level rise adaptation → plan updates currently underway
- Long term planning (Norfolk Vision 2100)
- Locality resilience planning underway to get state funding

Protect against the impacts

- “Higher standards” in land use, zoning, and regulation (ex: freeboard requirements)
- Home elevations, buyouts, special district zoning, restrictive development

Pay for the impacts

- VA Beach passed \$567M resilience bond for sea level rise adaptation projects

MILITARY + LOCAL PARTNERSHIPS

Joint Land Use Studies

Portsmouth-Chesapeake (2021)

Norfolk-VA Beach (2019)

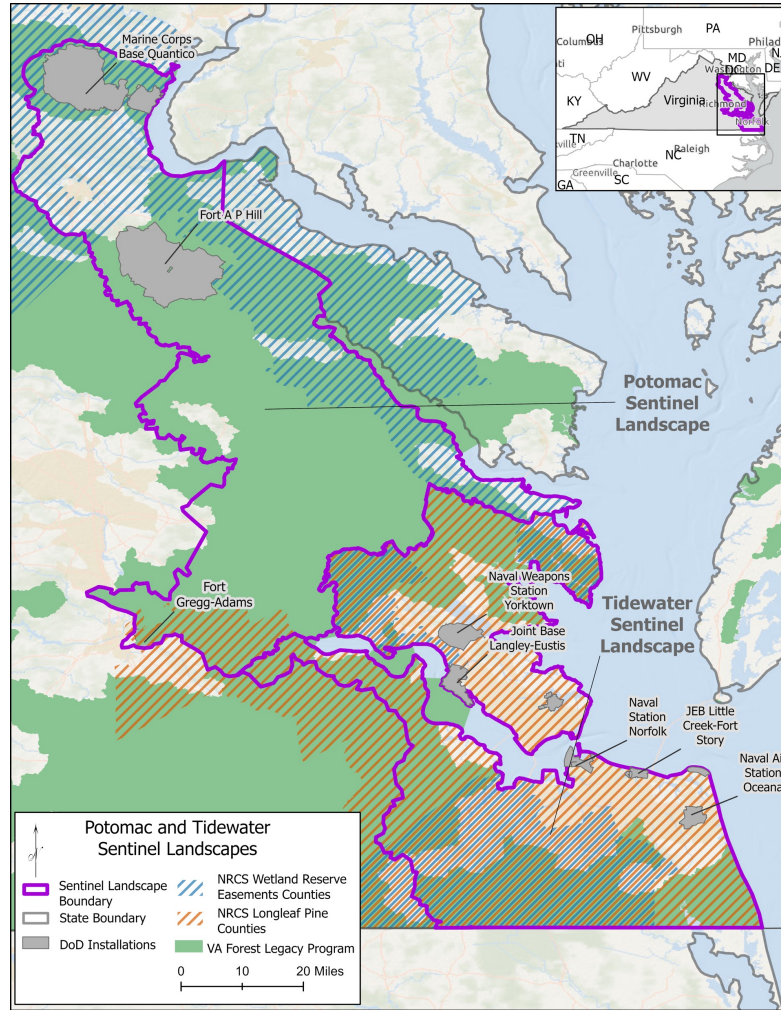
Hampton-Langley Air Force Base (2018)

Fort Eustis (NN, JCC, YC) (2018)

Accomack (2015)



SENTINEL LANDSCAPES - VA SECURITY CORRIDOR



SAFEGUARDING NATIONAL SECURITY

Localities are on the front lines and weary – they need support

- Support state planning efforts and adaptation standards
- Coordinate off base planning AND investments
- Align federal standards with local/regional standards, if higher
- Help localities and community groups access money – simplify grants

THANK YOU



Photo: Mary-Carson Stiff



I-DIEM
Institute for Diversity and Inclusion
in Emergency Management

THE NATIONAL SECURITY – CLIMATE ADAPTATION NEXUS
ENVIRONMENTAL AND ENERGY STUDY INSTITUTE (EESI)
CONGRESSIONAL BRIEFING
TUESDAY, APRIL 2, 2024

ANTOINE B. RICHARDS

I-DIEM OVERVIEW

- I-DIEM is a global 501(c)(3), non-profit organization
- Established out of a defined need, validated by scientific research.
- Over 200 cumulative years of emergency management and resilience building experience.
- Minority-owned, women-led organization.
- **One of the only organizations uniquely dedicated to resilience building resilience in historically marginalized communities through evidence-based strategies.**



WHY WE EXIST?

BUILD RESILIENCE

Less resilient communities have decreased ability to adapt resulting in decreases to national security.

PROMOTE INTEGRATION OF SOCIAL EQUITY

Without inclusive, equitable approaches to emergency preparedness and climate adaptation, climate change will continue to exacerbate pre-existing vulnerabilities and increase national security concerns.

EDUCATE AND TRAIN

Decreased education, awareness, and training of the disproportionate impacts of climate and climate adaptation on vulnerable communities will increase risks nationally and globally.

DECREASED RESILIENCE = DECREASED NATIONAL SECURITY

Without climate adaptation strategies we will see the following impacts on national security:

- Resource Scarcity
- Increased Natural Disasters & Inequitable Outcomes
- Vulnerability of Critical Infrastructure
- Geopolitical Instability
- Environmental Justice Issues

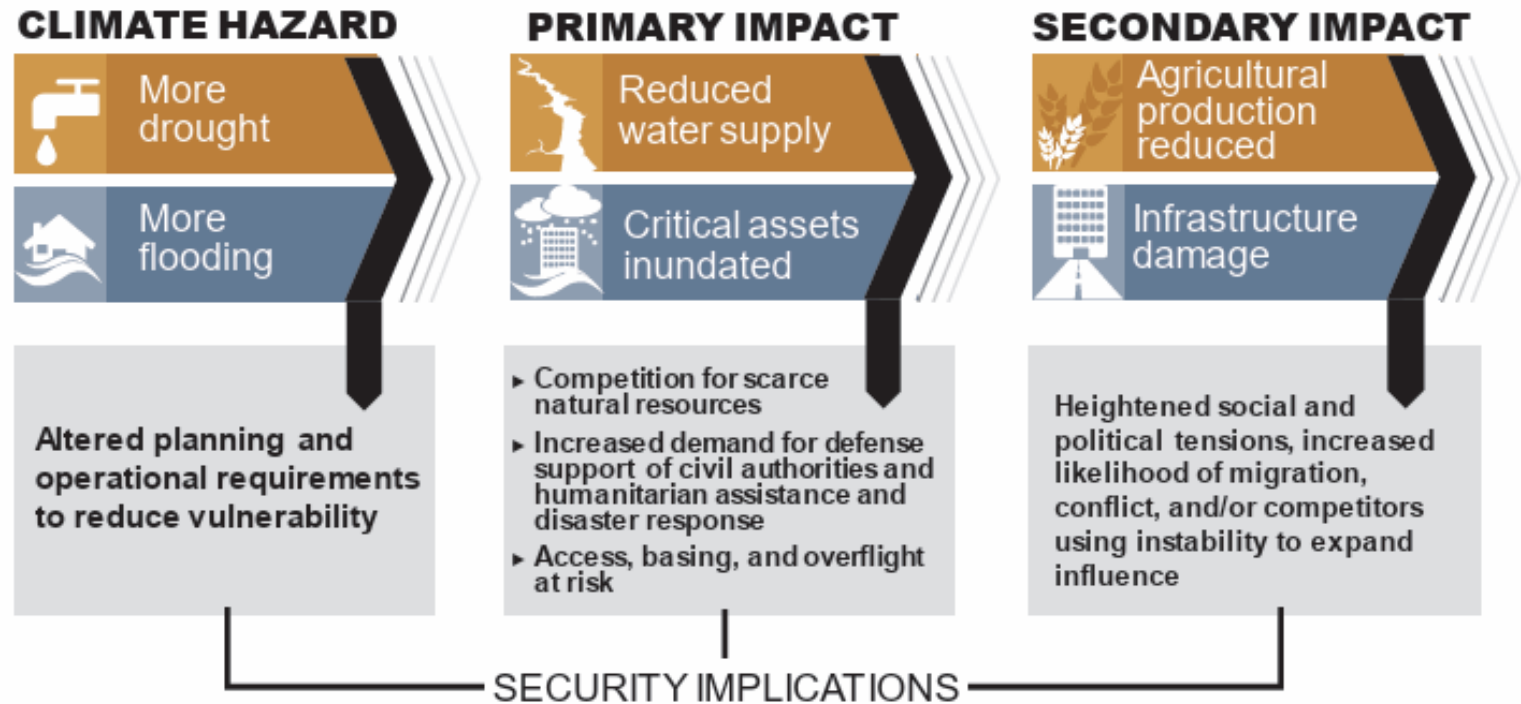



Figure 1. Examples of connections between climate hazards, primary and secondary climate impacts, and security implications.

Department of Defense (DOD)(2021). Department of defense climate risk analysis. <https://media.defense.gov/2021/Oct/21/2002877353/-1/-1/0/DOD-CLIMATE-RISK-ANALYSIS-FINAL.PDF>

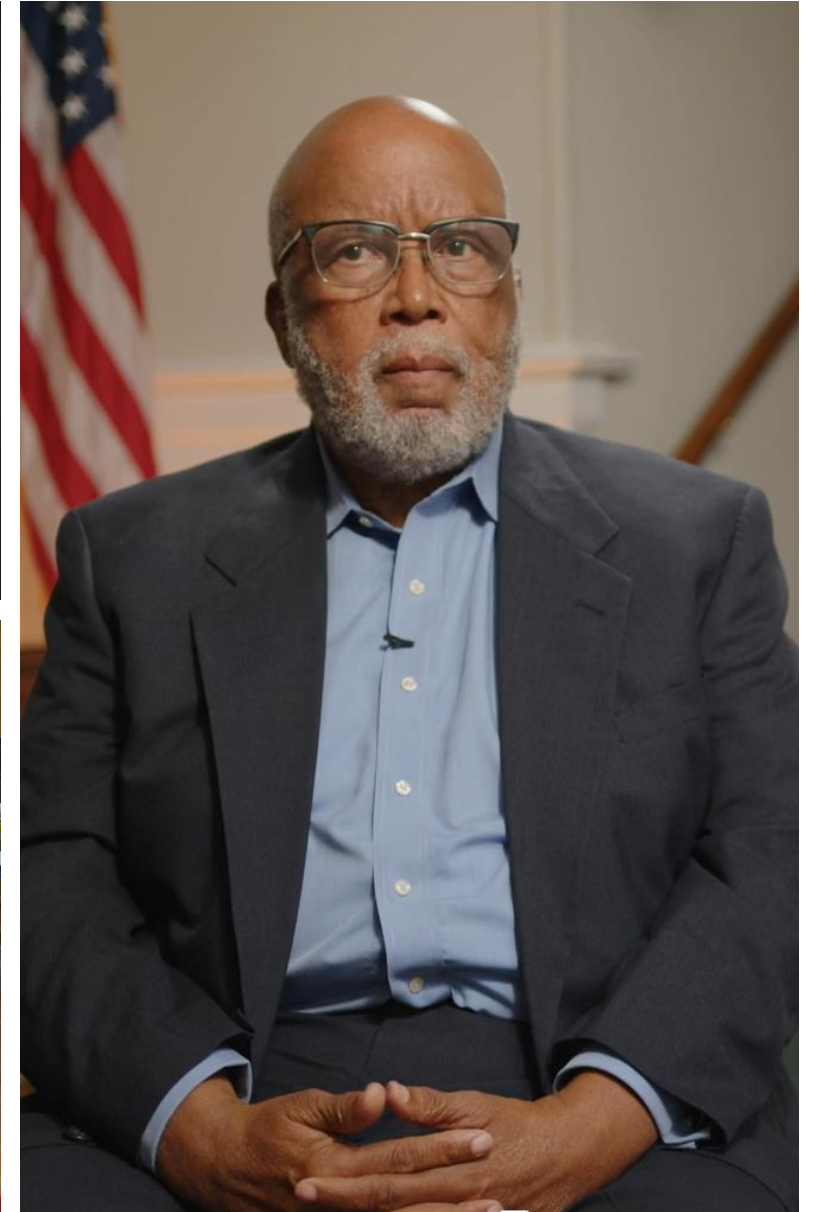
ADDRESSING CLIMATE AND VULNERABILITY FOR IMPROVED RESILIENCE & SECURITY



<h2>Resource Scarcity</h2>	<ul style="list-style-type: none"> • Bridging Resources for Underserved and Indigenous Populations in Landfall Disasters (BUILD) • Community Crafted Resilience Solutions (CCRS©)
<h2>Increased Natural Disaster</h2>	<ul style="list-style-type: none"> • Equity Response Team Deployments (Community-Based Strategies for Improved Preparedness, Response and Recovery) • Climate Education, Awareness, and Training Campaigns
<h2>Vulnerability on Critical Infrastructure</h2>	<ul style="list-style-type: none"> • Successful Acquisition of BRIC Funding for Quitman County, MS • National and Global Mitigation and Adaptation Project Development
<h2>Geopolitical Instability</h2>	<ul style="list-style-type: none"> • Improved local, state, tribal, and federal coordination for mitigation funding and resilience building activities • Draft, review, recommendations and analysis of federal policies
<h2>Environmental Justice Issues</h2>	<ul style="list-style-type: none"> • Amplification of environmental justice issues from community voices • Award Winning MUTED: Climate Marginalization in America documentary

OPPORTUNITIES FOR INCREASED COORDINATION OF ADAPTATION

- I-DIEM Community Crafted Resilience Solutions (CCRS) are strategies and measures designed and implemented by local communities to address the challenges posed by climate change and other disasters. These solutions are developed in a bottom-up approach, with active involvement and ownership from the community members themselves.



I-DIEM BARRIERS TO EFFECTIVE CLIMATE AND NATIONAL SECURITY PRIORITIES



Lack of Awareness

Climate change is not perceived as immediate concern by funders and donors.



Competing Priorities

Funding may have diverse interests and priorities leading to limited resources i.e. mitigation vs adaptation.



Complexity of Issue

Climate change is complex requiring interdisciplinary approaches and long-term solutions over immediate impact.



Political and Economic Factors

Political and economic factors impact funding availability including changes in policy and economic downturn.



Inadequate Policy Support

Limited government support or policies hamper efforts for adequate change.



Geographical Disparities

Climate adaptation may be unevenly distributed across certain regions creating barriers to funding and projects for low-income or developing communities.



Need for Long-Term Commitment

Addressing climate change requires sustained, long-term investments in research, advocacy and solutions.



DISINVESTMENT IN CLIMATE ADAPTATION & VULNERABILITY

- Despite increased annual federal climate change funding:
 - 89% funding allocated to Depts. of Commerce, Defense, Energy, Agriculture, NASA, and National Science Foundation
 - **I-DIEM only worked with NSF (Research) but no other Department or Agency.**
 - 18/533 (3%) primarily addressed climate change
 - Less than 5% of climate financing is allocated to adaptation
 - **Funding priorities target multiple areas (science, technology, international assistance, water, energy, etc.) but minimally address poverty, inequality, inequity.**
 - The US has made least progress towards committing its fair share to climate finance.
 - **I-DIEM Africa**
 - **I-DIEM Caribe**

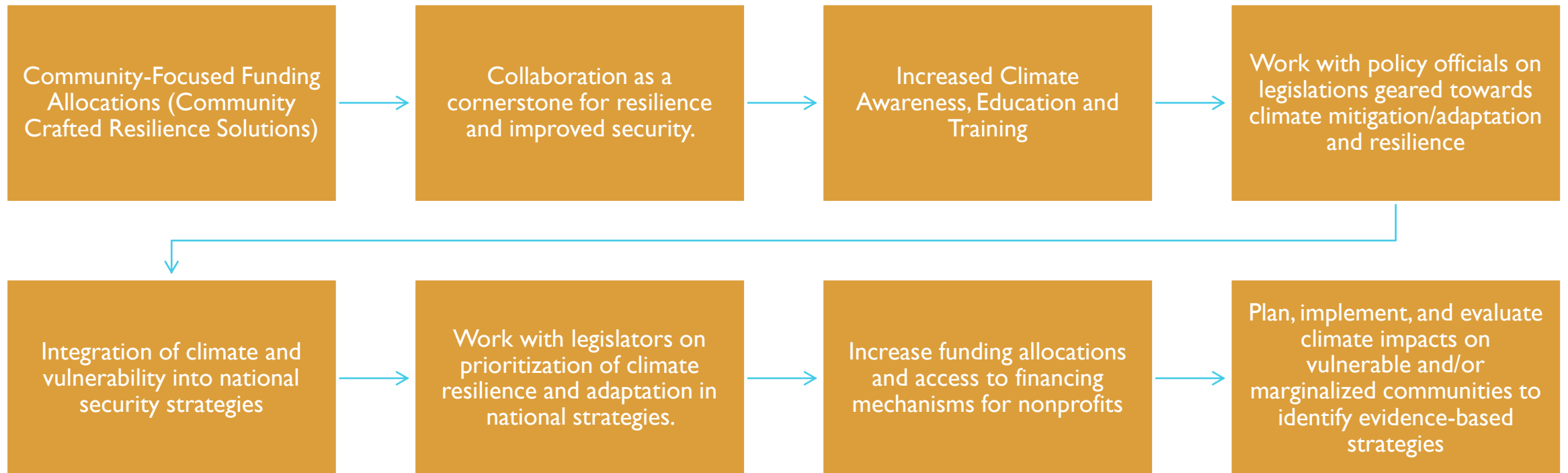
Hook, L. & Kao, J.S. (2021). COP26: Where does all the climate financing go? *Financial Times*. <https://www.ft.com/content/d9e832b7-525b-470b-89db-6275853315dd>

U.S. Government Accountability Office (GAO) (2018). Climate change: analysis of reported federal funding. <https://www.gao.gov/assets/d18223.pdf>

United Nations Development Programme (UNDP) (2021). Climate change adaptation priorities help address everyday risks. <https://www.undp.org/blog/climate-change-adaptation-priorities-help-address-everyday-risks>.

House Committee on Budget (2022). President Biden's budget tackles the climate crisis and other long-standing environmental challenges. <https://democrats-budget.house.gov/resources/reports/president-biden-s-budget-tackles-climate-crisis-and-other-long-standing>.

I-DIEM'S PATH FORWARD



THANK YOU!

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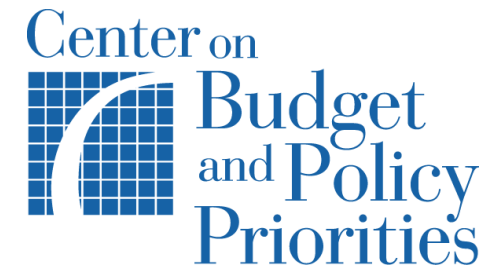


The Need for Federal Leadership on Climate Change Adaptation

Aligning and coordinating across scales of
government to increase security and
prosperity

Rachel Jacobson

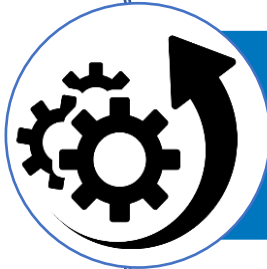
April 4, 2024



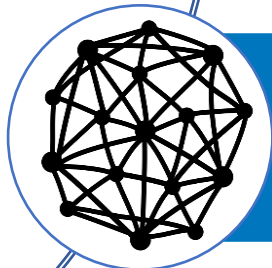
Building on Previous Themes



Center the people who are impacted the most.



Reform policy at multiple scales simultaneously and in coordination with one another.



Think in systems to avoid harm and maximize benefits for all.

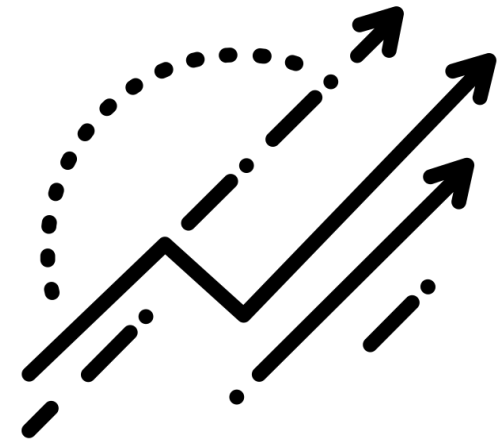
Progress Update: 2021 vs 2024



Fund the actions we know we need



Reform existing policies to avoid maladaptation



Transform: accept emerging realities and envision our future

IRA & IJA Fund Critical Adaptation Programs.

Inflation Reduction Act

- EPA: National greenbank, Environmental and climate justice block grants
- DOT: Neighborhood access and equity grants
- DOE: Incentives to establish building codes
- HUD: resilience upgrades to affordable housing
- NOAA: Funding for coastal resilience, drought, and land conservation
- USDA: Rural electric cooperative loans
- BIA: Tribal and Native Hawaiian adaptation and resilience programs

Infrastructure Investment & Jobs Act

- EPA: water, stormwater, wastewater, green infrastructure
- DOT: PROTECT program, active transportation, healthy streets, at-risk coastal infrastructure
- DOE: grid resilience, weatherization, codes, renewables co-benefits
- NOAA: coastal flooding, habitat restoration and community resilience, fire, climate data, NIDIS
- Army Corps: coastal storms, inland flood risk, transportation infrastructure flood mitigation, water infrastructure upgrades
- DOI: western water, community relocation, adaptation, resilience, and relocation for tribes
- FEMA: flood insurance, pre-disaster mitigation

Getting federal dollars where they're needed requires public investment at all scales + private investment.

States' roles in the flow of federal climate dollars:

New Mexico lawmakers approve bill to match federal funds for infrastructure

by: [Curtis Segarra](#)
Posted: Feb 14, 2024 / 10:29 AM MST
Updated: Feb 14, 2024 / 10:29 AM MST



Image representing money in Ne

SHARE



SANTA FE, N.M. (KRQE) – Federal programs regularly offer millions in funding for projects around the country, but sometimes those offerings require a local match. Now, lawmakers have approved legislation to help New Mexico communities put up those matching funds.

- Accepting federal funds.
- Getting grants for which they're directly eligible.
- Creating an enabling policy environment for federally funded projects.
- Technical assistance to increase local and tribal capacity.
- Equitable distribution of formula and block grant funding.

The federal government is making progress on using future climate information & avoiding maladaptation.

Climate and Economic Justice Screening Tool

Explore the map | Methodology & data | About | Contact

Explore the map

Share data sources with CEQ

Census tracts that are overburdened and underserved are highlighted as being disadvantaged on the map. Federally Recognized Tribes, including Alaska Native Villages, are also considered disadvantaged communities.

Zooming in and selecting shows information about each census tract.

Get the data

Download the data with documentation and shapefile from the [downloads](#) page.

How to use the map:

Zoom in +, search, or locate yourself and select to see information about any census tract.

Things to know:

The tool uses census tracts. Census tracts are a small unit of geography. They

Justice40 Initiative creates infrastructure to monitor who benefits from federal programs

Timeline for the Development and Deployment of Updated Authoritative Precipitation Frequency Estimates Nationwide

Historical and future intensity-duration-frequency estimates (IDFs)

1900 1920 1940 1960 1980 2000 2020 2040 2060 2080 2100

trends factors 1-day 2-year

- 2022/2023**
 - Feb. - Aug 2022** - Published methodology and briefed stakeholders.
 - Sept. 2022** - Distributed Public Notification Statement (PNS) and collect public feedback.
 - Jan. 2023** - Hosted technical workshop with federal partners.
 - Apr. 2023** - Award contracts and grants and initiate product development.
- 2024**
 - Development** - Evolve framework. Create Quality Controlled National Precipitation Database. Evaluate Climate Model Projections.
 - Pilot** - Deliver Atlas 15 Vol. 1 and Vol. 2 pilot over Montana.
 - Collect and adjudicate feedback on preliminary estimates and Web dissemination strategies.
- 2025**
 - CONUS** - Distribute preliminary CONUS estimates for Atlas 15 Vol. 1 and Vol. 2 (lower 48 states).
 - Initiate 60-day peer review for Atlas 15 Vol. 1 and Vol. 2.
 - Collect feedback and adjudicate comments on product.
- 2026**
 - CONUS** - Complete Atlas 15 Vol. 1 and Vol. 2 and deliver estimates, documentation and supplementary products to stakeholders.
 - oCONUS** - Initiate peer review for oCONUS (e.g. Hawaii, Alaska, Puerto Rico, U.S. Virgin Islands, Guam).
 - Collect feedback and adjudicate comments on product.
- 2027**
 - oCONUS** - Complete Atlas 15 Vol. 1 and Vol. 2 and deliver estimates, documentation and supplementary products to stakeholders.

The **FLOODS Act** signed into law in December 2022 and known as [Public Law No. 117-316](#), authorizes NOAA to establish a program, to be known as the NOAA Precipitation Frequency Atlas of the United States. This program would compile, estimate, analyze, and communicate the frequency of precipitation in the United States and update these precipitation frequency estimates no less than once every 10 years.

For additional information, please contact OWP at hdsc.questions@noaa.gov.

IIJA and the Floods Act are enabling precipitation data updates

Policy reforms are needed at multiple scales to make critical infrastructure climate-secure.

Reforms and coordination needed for climate-secure energy systems:



A crew works to restore power in Pecan Mott, TX on Feb 17 2021. Photo: Jonathan Cutrer (Flickr).

- Policies, priorities, and practices of utility asset owners
- State utility regulations
- Local land use regulations
- State and federal regulations for siting and permitting
- Climate preparedness and disaster recovery funding

Progress on transformation?

Moving from awareness to action



Newtok, 2012. Photo: Alaska Division of Community and Regional Affairs.

Voluntary Community-Driven Relocation Program

- Prioritizes most impacted communities
- Funding from IIJA & IRA
- Coordination across BIA, Denali Commission, & FEMA
- Outcome of cross-agency task force on community-based relocation

“Relocation has been in talks as far as I can remember, and it’s happening before our eyes. Climate change has impacted the people of Newtok. It’s a new beginning for our people.”

- Calvin Tom, Mertarvik Tribal Administrator.

Addressing climate change and housing simultaneously requires strong coordination and brings many benefits.

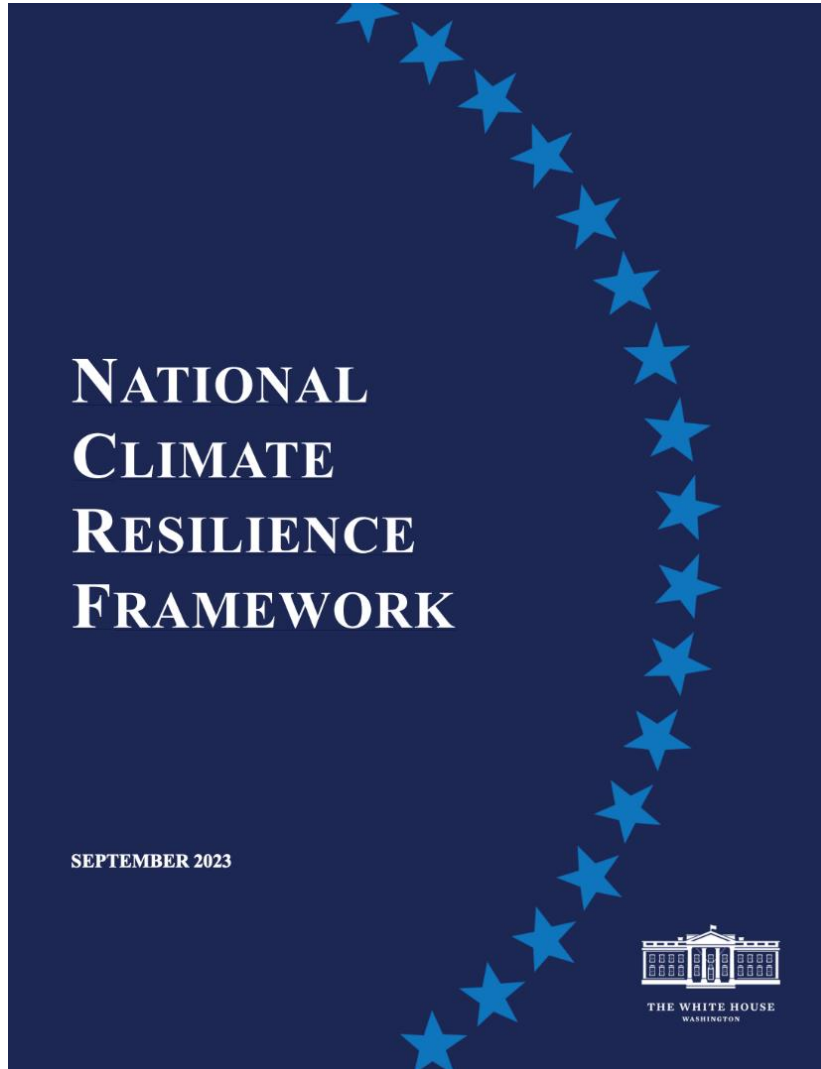
Federal agencies with roles to play in climate-secure housing:

- HUD
- FEMA
- EPA
- DOE
- NOAA
- HHS



Phoenix homeless encampment during a 2023 heat wave.
Photo: Mark Henle/The Republic.

A framework is a helpful start but we need a durable plan.



Key Strength: Holistic approach that addresses both acute and chronic impacts and actions needed in all sectors of society

Key Weakness: Does not address root causes of disproportionate impacts and inequitable access to resources

Governance and Leadership Mechanisms to Activate Alignment & Coordination

Mechanism	Existing	Needed
Leadership	Individual champions in specific offices	Federal government-wide Chief Resilience Officer
Priorities	White house resilience framework & agency adaptation plans	Whole-of-government adaptation strategy & implementation plan
Federal coordination	Ad hoc interagency working groups	Durable & intentional interagency working groups
Multi-scale & cross-sector coordination	Ad hoc and issue-specific task forces	Sustained cross-sector leaders council

Centering community vision brings security and prosperity.



Healthy Ontario vision board that informed the city's Transformative Climate Communities work.
Photo: City of Ontario, CA.

Rachel Jacobson

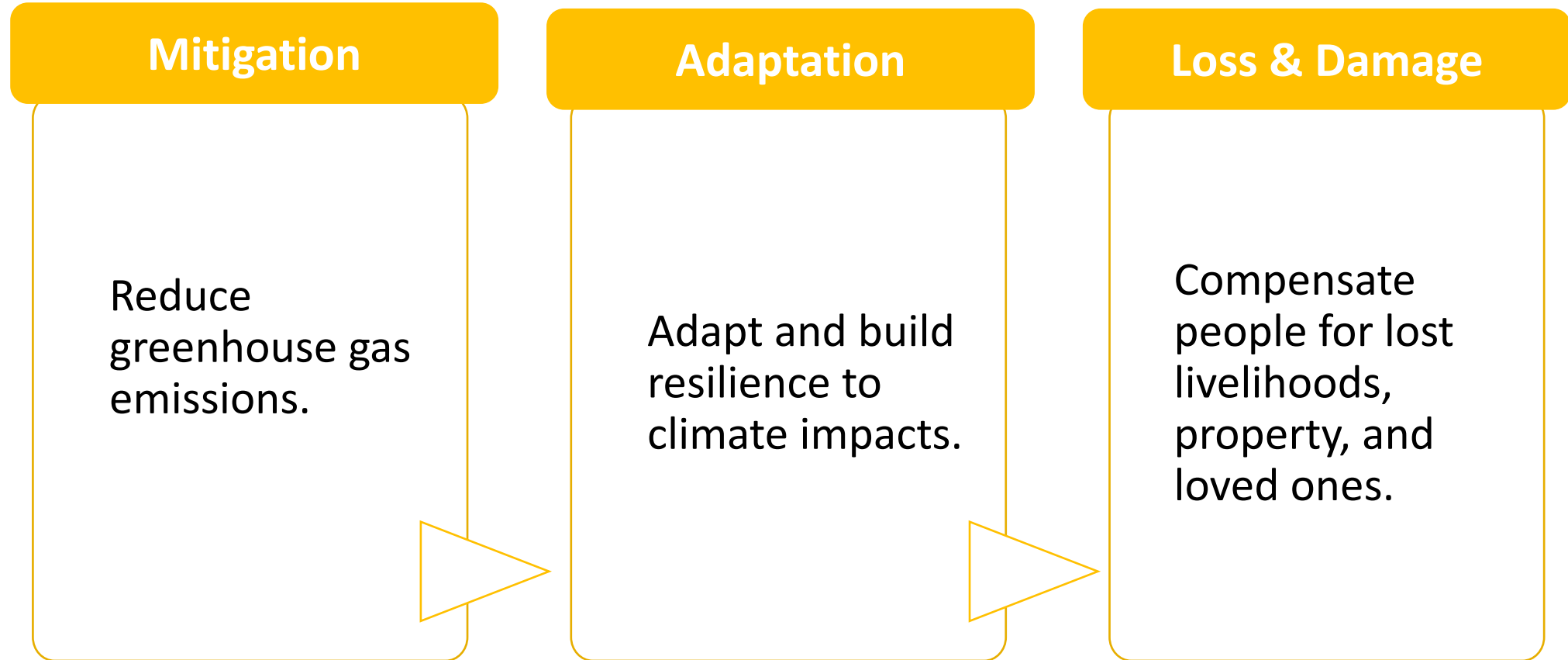
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Three Pillars of Climate Action



How to Adapt

Increase Adaptive Capacity

Make sure people have the knowledge, money, and power they need to adapt.



Workers compile a project map prior to the Southwest Adaptation Forum.
Photo: Melanie Lenart

Reduce Exposure

Move people and things out of harms way



Mill Creek Park transformed the floodplain in downtown Stamford, CT to green space and buildings are constructed elsewhere.
Photo: Sahar Coston-Hardy OLIN

Reduce Sensitivity

Changes things so impacts are less damaging.



Urban tree canopy in Detroit helps protect residents from extreme heat.
Photo: University of Michigan.