



Local Mitigation Strategy and Vulnerability Assessment Public Outreach Meeting #2

February 20, 2025 – 6:30 – 7:30 PM

Hillsborough County, Florida



Hillsborough
County Florida



Agenda

1. Introduction to the Local Mitigation Strategy
2. Project Timeline
3. Review Document Sections
 1. Introduction
 2. Planning Process
 3. Capability Assessment
 4. Risk Assessment
 5. Mitigation Strategy
 6. Potential Funding Sources
 7. Plan Maintenance
 8. Appendices
4. Conclusion and Next Steps



1. Introduction to the Local Mitigation Strategy



Hillsborough
County Florida



What is the Hazard Mitigation?

*Actions taken to reduce or eliminate long-term risk
to people and property*

On average,

\$1 spent on
HAZARD MITIGATION

provides the
NATION
approximately

\$6 IN FUTURE
BENEFITS



What is the LMS?

Local Mitigation Strategy (LMS)

- Federal Requirement
- Identifies and measures the potential impact of a variety of hazards including:
 - o Natural Hazards (**Flood**, Extreme Heat, Severe Storm, Drought, Tropical Cyclone)
 - o Technological (Traffic incidents, levee failure, disease outbreak)
- Understands the capabilities of the government to mitigate, prepare for, respond, and adapt to the impacts of hazards.
- Proposes a plan for hazard mitigation that will keep Hillsborough County, Temple Terrace, and Plant City prepared and safe.

What are the LMS, the VA, and the AP?

Local Mitigation Strategy (LMS)

- Federal Requirement
- Identifies and measures the potential impact of a variety of hazards including:
 - o Natural Hazards (Flood, Extreme Heat, Severe Storm, Drought, Tropical Cyclone)
 - o Technological (Traffic incidents, levee failure, disease outbreak)
- Understands the capabilities of the government to mitigate, prepare for, respond, and adapt to the impacts of hazards.
- Proposes a plan for hazard mitigation that will keep Hillsborough County, City of Tampa, Temple Terrace, and Plant City prepared and safe.

Vulnerability Assessment (VA)

- State requirement
- Measures the potential impacts of **flooding** and **sea level rise**.
- Identifies structures, infrastructure, people, and natural resources that may be affected.

Adaptation Plan (AP)

- Assesses the community's adaptive capacities
- Prioritizes adaptation needs and identifies adaptation strategies
- Identifies adaptation action areas

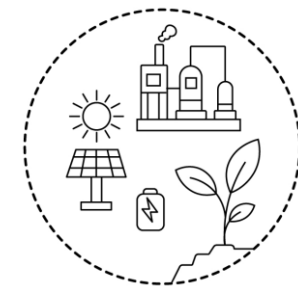
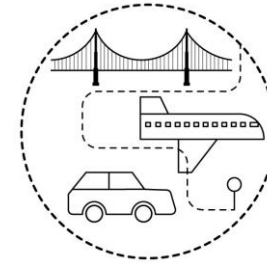
We are combining efforts to make sure the County is coordinated and well informed in its approach to improving the County's resilience to hazards.

Both of these workstreams require and are improved by YOUR FEEDBACK.

What is the Purpose of the LMS?

Intended Outcomes of Our Work

- Reduce risk to people, property, and the critical infrastructure.
- Increase public awareness and education about the plan and planning process.
- Maintain grant eligibility for participating jurisdictions.
- Update the plan in accordance with Community Rating System (CRS) requirements.
- Maintain compliance with state and federal legislative requirements for local hazard mitigation plans.
- Complete an update to the information within the plan to demonstrate progress and reflect current conditions.



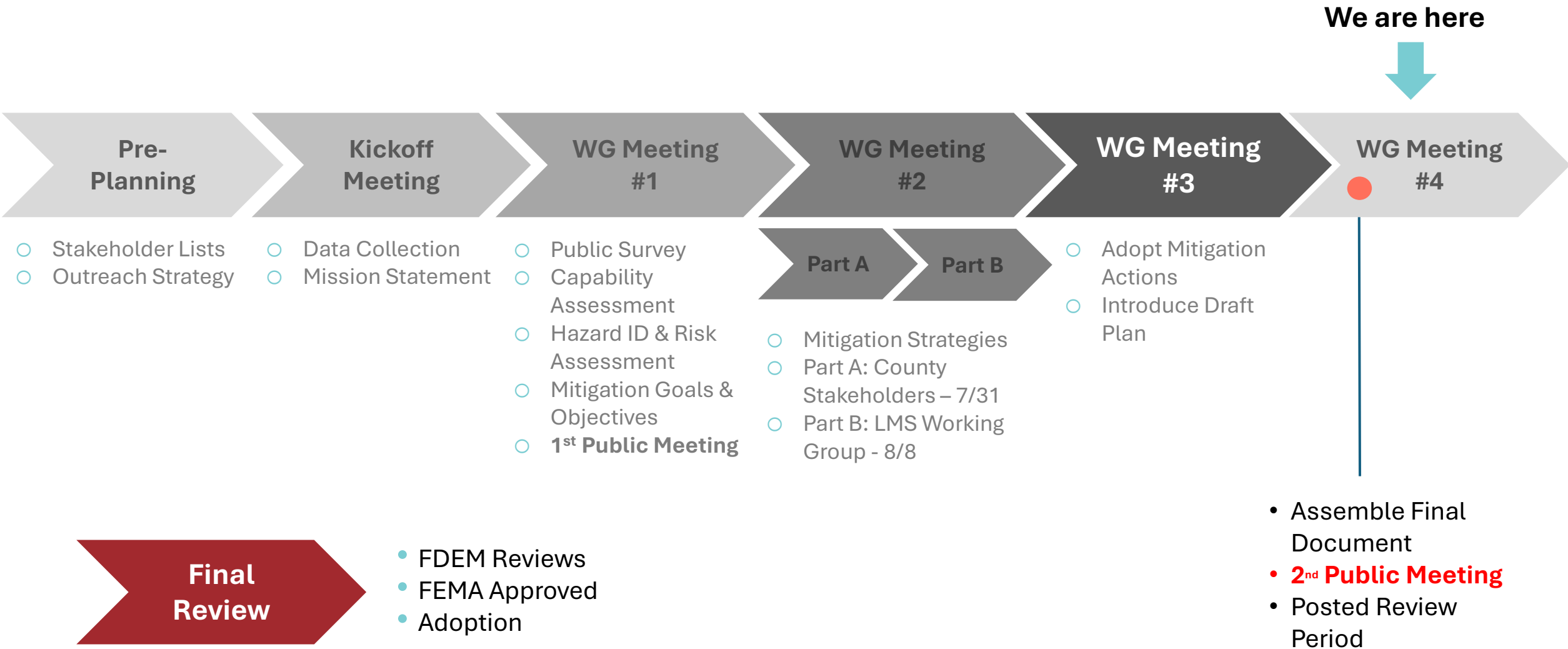
2. Project Timeline



Hillsborough
County Florida



Project Timeline



2. LMS Document Section Review



Hillsborough
County Florida



Section 1 - Introduction

- **Purpose** – Reviews the purpose and the stated goals of the updating process.
- **What is Hazard Mitigation** – Reviews the definition of Hazard Mitigation and discusses the benefits of deploying mitigation techniques.
- **Regulations** – Reviews regulations at federal, state and local levels that are applicable to the plan.
- **Assurances** – States that Hillsborough County will comply with all statutes and regulations.
- **County Profile** – Reviews Hillsborough County's natural features and topography, demographics, housing mix, business and industry, and future land use plans.
 - **UPDATED:** *Census figures, housing statistics, business statistics, and future land use policies.*

Section 2 - Planning Process

- **Step 1: Planning Organization**

- **UPDATED:** *LMS WG Member list and meeting documentation, as well as new public engagement plan.*

- **Step 2: Involving the Public**

- **UPDATED:** *This section has plenty of new details and findings from the engagement process.*

- **Step 3: Coordination**

- **Step 4: Assessing the Hazard**

- **Step 5: Assessing the Problem**

- **UPDATED:** *Historic data and mention of collaboration with USF Vulnerability Assessment work.*

- **Step 6: Goals and Directives**

- **Step 7: Possible Activities**

- **Step 8: An Action Plan**

- **UPDATED:** *Updated methodology for reviewing and prioritizing mitigation actions.*

- **Step 9: Adoption of the Strategy**

Survey Synthesis – Hazards of Concern

HC's Public Outreach Survey reached over 3,000 people, spanning residents of varying ages, occupations and socio-economic backgrounds.

Survey respondents expressed concern primarily for natural hazards over technological hazards:

Hurricane

- Psychological and physical toll of evacuation
- Loss of power
- Significant water damage to residences

Flooding

- New developments failed to account for proper water runoff
- Residents of South Tampa and other low-lying areas often experienced flooded streets

Technological Hazards

- **Electrical power and internet** outages
- **COVID-19 pandemic** caused economic hardships, educational disruptions, and health concerns
- **Traffic and congestion** issues, inadequate infrastructure planning
- **Water and sewage** concerns such as main breaks, sewage line issues, and health concerns
- **Cybersecurity** concerns such as identity thefts, data breaches, and scams

Extreme Heat

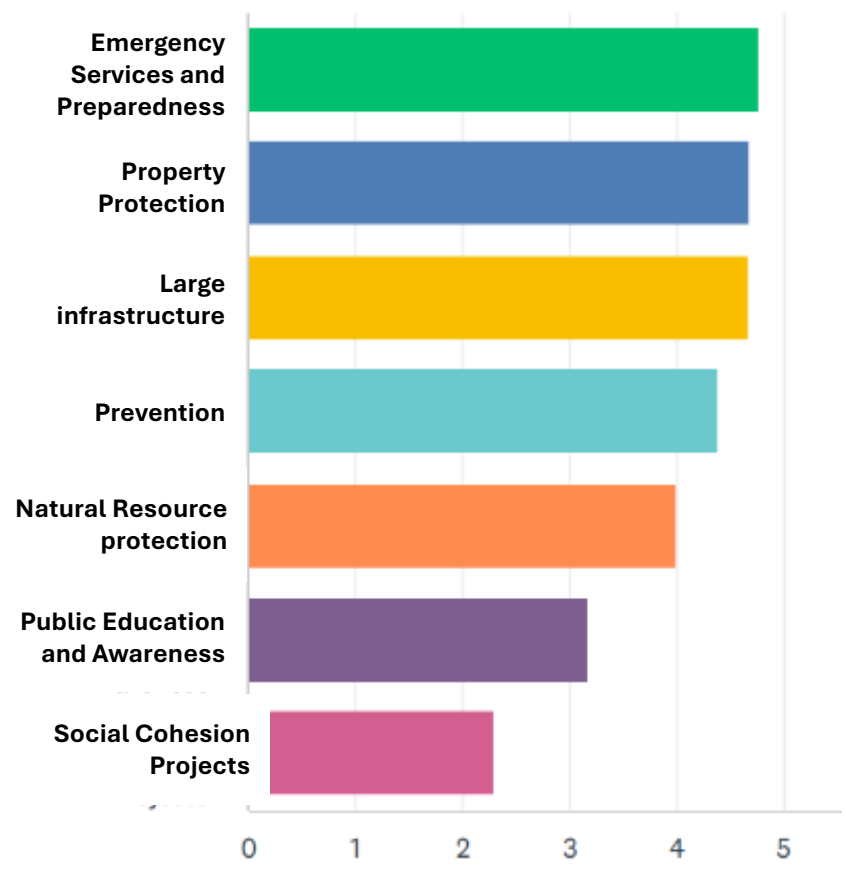
- Increased electricity costs and health
- Concerns about long-term sustainability of the region's water supply

Evacuation

- Shelter availability is a significant concern
- Need for better evacuation routes
- More efficient traffic management needed

Survey Synthesis – Activity Recommendations

Survey Q8: Many community activities can reduce the risk from natural hazards. Rank the following activity categories in order of what you consider most important (1) to least important (7).



Emergency Response

- Establish community cooling spaces to mitigate heat impacts during extreme weather events.
- Provide resources and support for homeless individuals during extreme weather events.
- Enhance traffic flow and create additional evacuation routes to ensure safe and efficient evacuation during emergencies.
- Invest in public transportation infrastructure to reduce reliance on personal vehicles and improve evacuation efficiency.

Infrastructure and Development

- Improve the electrical grid to prevent power outages.

Flood Mitigation

- Prevent building in flood zones and encourage relocation from these areas.
- Implement strict zoning regulations to prevent further development in high-risk areas.

Environmental Protection

- Preserve green spaces, tree canopies, and natural habitats.
- Reduce large-scale housing projects on agricultural lands.
- Trim and manage trees near power lines and properties to prevent damage during storms.
- Promote the planting of resilient tree species.
- Protect and restore wetlands, mangroves, and other natural buffers to absorb floodwater and reduce erosion.

Appendix A – Planning Process Documentation

- Attachments:

- **Group 1: Letter from the Chairman**
- **Group 2: Annual Compliance Form and Enclosures** - Includes a list of LMS Working Group Members and a spreadsheet that shows attendance.
- **Group 3: Public Engagement Planning** – Includes the Public Engagement Plan used during the LMS.
- **Group 4: Public Engagements** – Includes an overview schedule, which lists all engagement events, as well as the supporting materials (agenda, meeting notes, attendance, recordings). Attendees and their affiliations were included.
- **Group 5: Public Survey** – Documentation of the public outreach survey, including a blank survey, a spreadsheet of all responses, a generated report, and an overall summary of responses.
- **Group 6: Dam Owner Communications** – Documentation of correspondence with dam owners.
- **Group 7: Website** – Documentation of the associated website pages and functionality.

Section 3 – Capability Assessment

- **Planning and Regulatory Capability** – Detail of Hillsborough County's and their jurisdictions' planning and regulatory tools. Reviews policy documents that are actively used and influence the LMS. Also includes information on floodplain management and the Community Rating System (CRS).
 - **UPDATED:** *This section contains all new documents and reviews how older documents have been updated since the 2020 LMS. Also includes updated responses to the County and jurisdictional capabilities from the questionnaire.*
- **Administrative and Technical Capability** – Identifies available staff and technical resources at county and jurisdictional levels that can be used to support the completion of mitigation activities.
 - **UPDATED:** *This section includes updated responses to county and jurisdictional capabilities from the questionnaire.*
- **Fiscal Capability** – Identifies fiscal tools and resources that the County and jurisdictions can use to support completion of mitigation actions.
 - **UPDATED:** *This section includes updated responses to county and jurisdictional capabilities from the questionnaire.*
- **Political Capability** – Approximates political will to support completion of mitigation actions.
 - **UPDATED:** *This section includes updated responses to county and jurisdictional capabilities from the questionnaire.*
- **Federal, State, and Other Funding** – Briefly discusses challenges with funding support from disparate sources.

Appendix C – Additional Natural Hazard Planning Documents

Attachments:

- **Appendix C: Additional Natural Hazard Planning Documents** - Links to additional natural hazard planning documents related to the LMS that were either updated or completed during the 2020-2025 time period.
- **Capability Assessment Questionnaire Responses** – Responses from each jurisdiction to the Capability Assessment Questionnaire.

County/City - Capability Assessment Findings

Our team distributed a questionnaire to representatives from Hillsborough County, City of Tampa, Plant City, and Temple Terrace governments to understand what existing policies, programs, practices, and operational capabilities are currently in place that would support the County's ability to reduce future losses from hazards.

Findings

- **Planning and Regulatory Capabilities** (policies, programs, practices, and operations) have remained robust since 2020.
 - Many documents and codes have been published or updated since the 2020 LMS.
 - Opportunities for growth across all jurisdictions have been witnessed in Emergency Management Accreditation.
- **Administrative and Technical Capabilities** have remained robust with no significant changes since the 2020 LMS.
- **Fiscal Capabilities** have remained robust since 2020, with some capabilities being revisited (2023 Special District Tax Program).
- **Political Capabilities** (political support by local elected officials to adopt and fund mitigation actions) have remained unchanged since the 2020 LMS
 - Opportunity to grow support across all jurisdictions.

County/City – Guiding Documents

Our team reviewed documents published or updated since the 2020 LMS was released. Many of these documents referred to the 2020 LMS and centered around the key themes included in that strategy.

Focus Areas

Community Resilience and Preparedness



Enhancing the community's ability to withstand and recover from disasters through preparedness initiatives, public education, and resilient infrastructure.

- Regional collaboration
- Engaging frontline communities

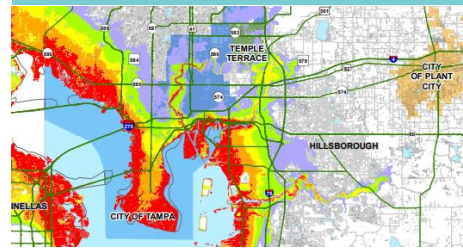
Flood Risk Management



Implementing strategies to manage flood risks, including floodplain management, stormwater management, and public information programs to reduce the impact of flooding.

- Reduce flood insurance costs
- Updated flood risk maps
- Install stormwater infrastructure projects

Emergency Response and Recovery



Improving the County's emergency management capabilities, including:

- Response procedures
- Resource management
- Inter-agency coordination
- Training programs
- Additional opportunities around wildfire

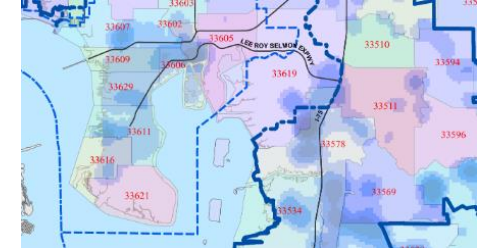
Enhancing and Protecting Ecosystems



Preserving and restoring natural ecosystems to enhance environmental resiliency, protect biodiversity, and provide natural buffers against climate impacts like flooding and extreme weather.

- Preserving wetlands
- Tree canopy
- Water quality
- Nature-based solutions to prevent erosion

Future Development



Integrating resilience measures into land use planning, housing, transportation and infrastructure to reduce vulnerability to hazards.

- Channeling growth towards areas projected to experience fewer climate hazards.

Section 4: Hazard ID and Risk Assessment (HIRA)

Hillsborough County's Natural, Technological and Human-Caused Hazards

Natural Hazards

- Flood
- Tropical Cyclone
- Extreme Heat
- Winter Storm and Freeze
- Drought
- Tornado
- Tsunami
- Erosion
- Severe Storm
- Suspect Soil
- Seismic Event
- Wildfire

Technological and Human-Caused Hazards

- Transportation Incidents
- Infrastructure Disruption
- HazMat Incidents
- Space Weather Incidents
- Dam/Levee Failure
- Agricultural Disruption
- Disease Outbreak and Biologic Incident
- Food and Waterborne Disease Outbreak
- Mass Migration
- Terrorism
- Civil Disturbance
- Cyber Terrorism

Section 4: Hazard ID and Risk Assessment (HIRA)



Hazard Ranking



Hazard Profiles



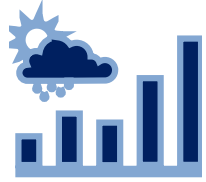
Climate Change Impacts



Hazard History (Locations, Extents, Occurrences)



Vulnerability, Exposure, and Loss Estimations



Probability of Future Events



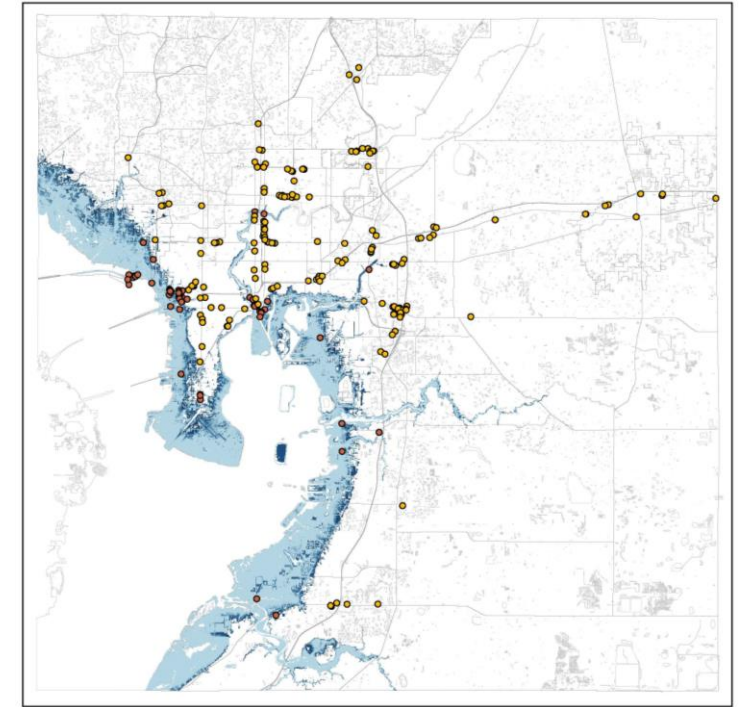
Potential Impacts



State HMP Integration

Section 4 – Risk Assessment

- **Introduction** – Reviews the hazards identified within the Risk Assessment, describes the outline for each hazard profile, reviews data sources used to conduct analysis and assessment, describes the scoring method used for the Priority Risk Index, and provides an overview of Hillsborough County's physical assets, including improved property and critical facilities.
 - **UPDATED:** *More recent data was used to conduct assessment, updated methods for Priority Risk Index, and updated list and map of physical assets.*
- **Natural Hazards** – Assesses risks on all natural hazards.
 - **UPDATED:** *Assessments conducted with most recent data available.*
 - **UPDATED:** *Climate change discussion enhanced in each section.*
 - **UPDATED:** *Social Vulnerability analysis completed in each section.*
 - **UPDATED:** *FEMA's National Risk Index used to enhance certain sections.*
- **Technological and Human-Caused Hazards** – Assesses risks on all technological and human-caused hazards.
 - **UPDATED:** *Assessments conducted with most recent data available.*
- **Future Land Use – (New Section)** Details anticipated future hazard impacts on the county in conjunction with anticipated land use changes to identify areas that will be at risk in the future.



Appendix B – Risk Assessment Tables

Attachments:

- **Appendix B: Risk Assessment Tables Cover Page** – Includes additional tables regarding historical occurrences of lightning, heavy rain, hail, and wind in Hillsborough County.
- **Critical Facilities and Community Lifelines** – Spreadsheet that details which critical facilities and community lifelines are impacted by which hazards.

Sample: Tropical Cyclone

Overall
Vulnerability

HIGH

What has changed since the last time?

- Updated Storm Surge Data from National Hurricane Center (NHC)
- Updated Hazus Loss Estimates
- Updated History
- Examined Social Vulnerability
- Used Justice40 Climate and Economic Justice Screening Tool

Probability Based on Historical Occurrences

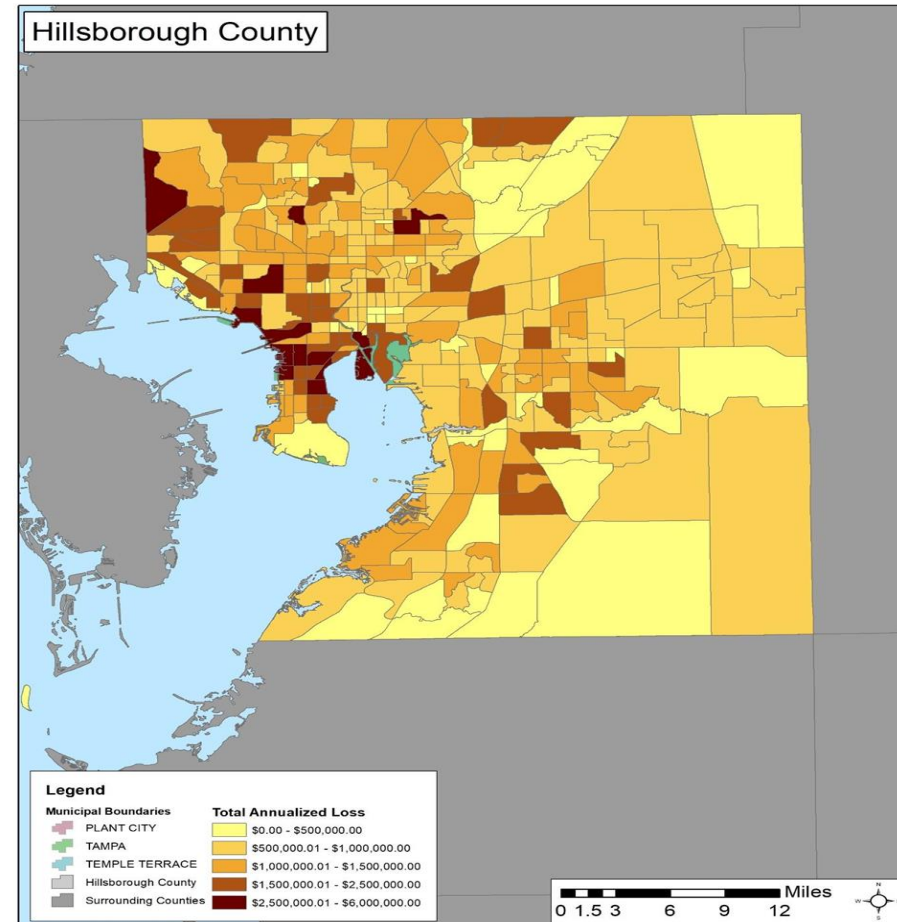
NCEI Storm Event (Hazard)	Average Tropical Cyclones per Year	Annualized Property Loss (2023 Dollars)	Annualized Crop Loss (2023 Dollars)
All Types of Tropical Cyclones	2.0	\$11,395,718	\$5,044,340

Annualized Loss/Exposure - Hazus

	Hurricane Event
Building Loss	\$218,145,000
Contents Loss	\$70,431,000
Inventory Loss	\$992,000
Relocation Loss	\$26,707,000
Capital Related Loss	\$4,330,000
Wage Loss	\$5,077,000
Rental Income Loss	\$11,839,000
TOTAL LOSS	\$337,522,000

Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Likely	Critical to Catastrophic	Large	> 24 Hrs.	< 1 Week	3.0

Total Annualized Loss by Census Tract due to Hurricane Wind - Hazus



Sample: Severe Storm

Overall Vulnerability

HIGH

What has changed since the last time?

- Updated History
- Incorporated National Risk Index (NRI) Findings
- Examined Social Vulnerability
- Used Justice40 Climate and Economic Justice Screening Tool

Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Highly Likely	Critical	Large	6 to 12 Hrs	< 1 Week	3.1

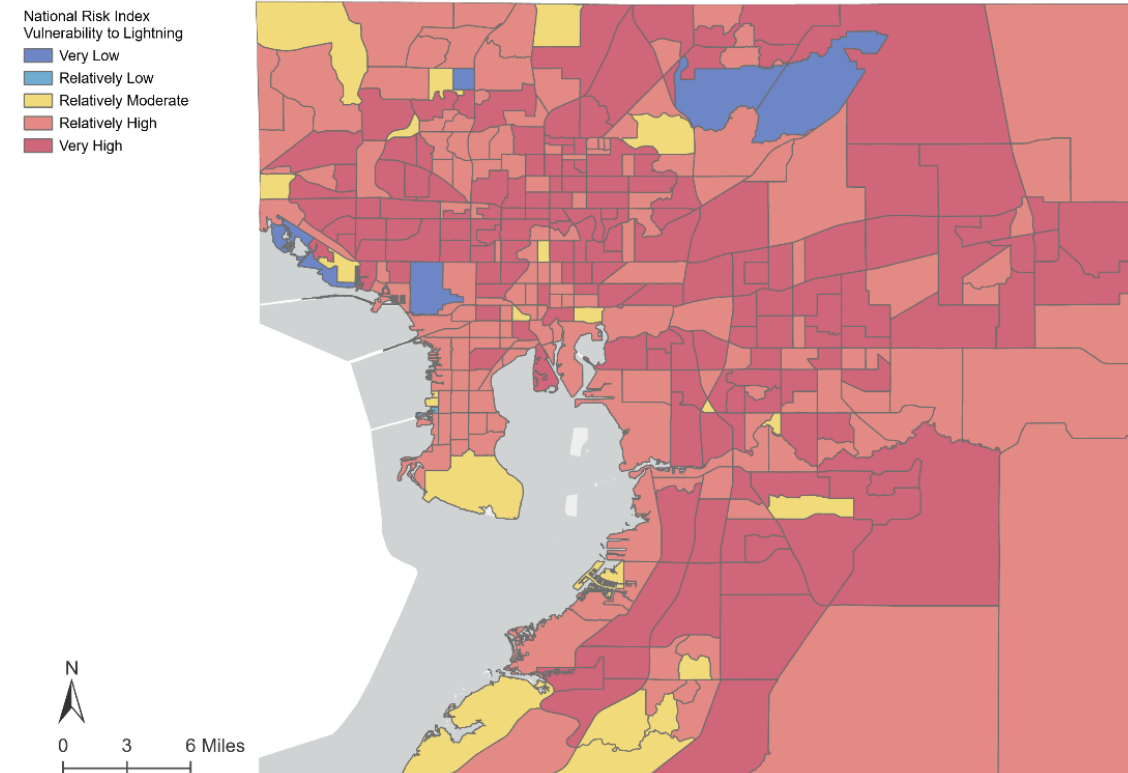
Probability Based on Historic Occurrences

NCEI Storm Event (Hazard)	Average Severe Storms / Year	Annualized Property Loss (2023 Dollars)	Annualized Crop Loss (2023 Dollars)
All Types of Severe Storm	23.3	\$806,265	\$29,873

Expected Annualized Losses - NRI

Jurisdiction	Expected Annual Loss (2023 Dollars)
Hillsborough County (Unincorporated)	\$7,714,398
Plant City	\$319,891
Tampa	\$2,747,422
Temple Terrace	\$267,600
Hillsborough County (Total Loss)	\$11,049,311

Vulnerability to Lightning by Census Tract - NRI



Sample: Extreme Heat

Overall
Vulnerability

Moderate

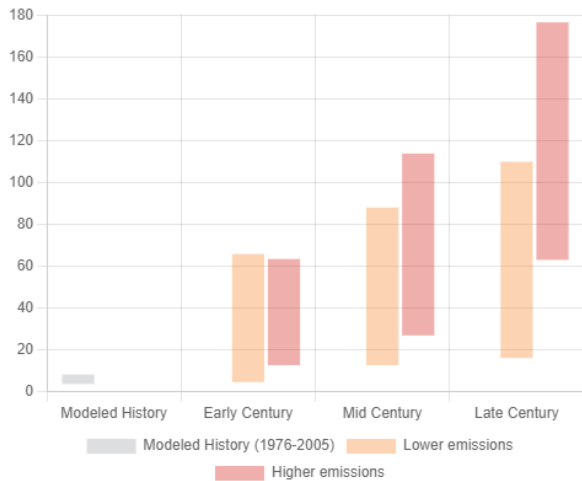
What has changed since the last time?

- Included analysis of National Integrated Heat Health Information System (NIHHIS) Heat Severity Index from the National Weather Service (NWS) to determine vulnerability
- Added Tree Canopy and Impervious Surface Analysis
- Updated History
- Update Climate Impacts

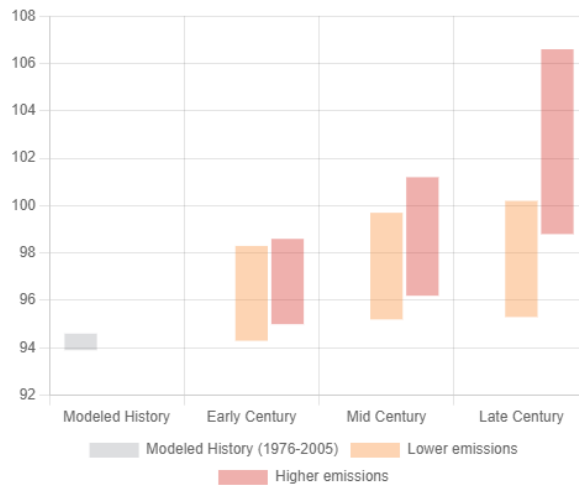
Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Likely	Minor	Large	> 24 Hrs.	> 1 Week	2.5

Climate Change Impacts - CMRA

Annual days with maximum temperature > 95°F



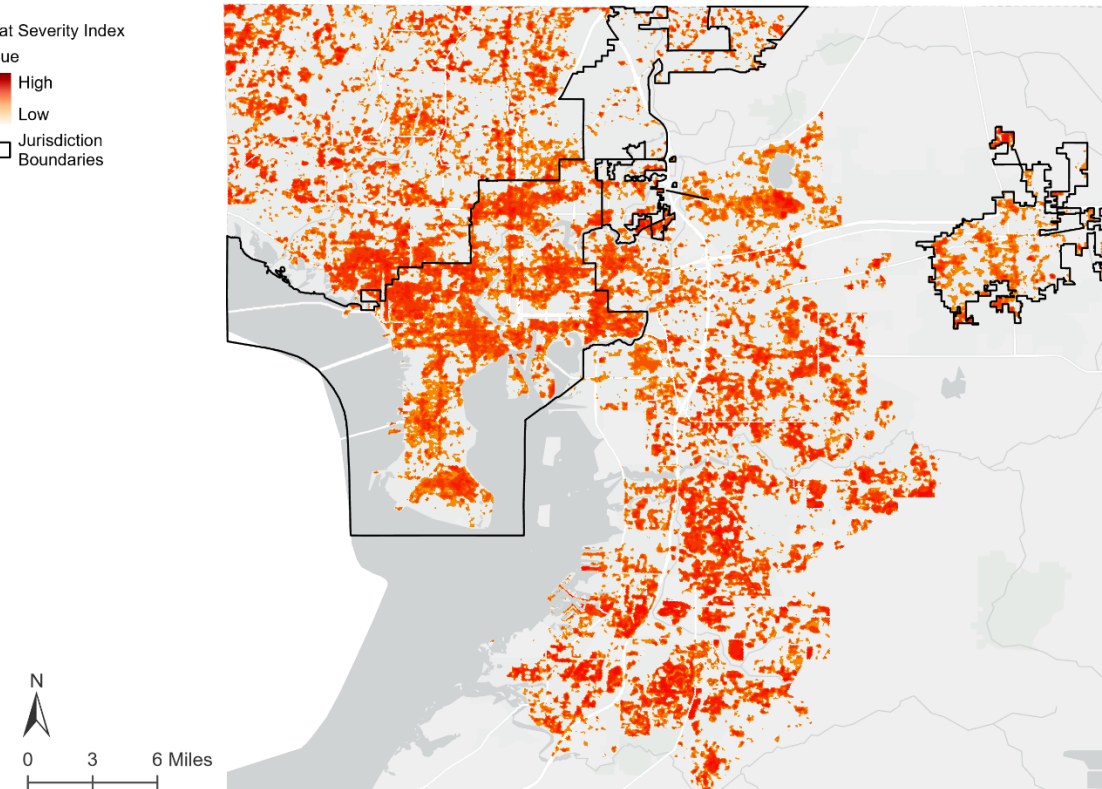
Annual highest maximum temperature averaged over a 5-day period



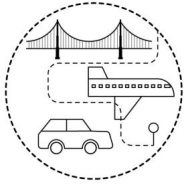
Source: Climate Mapping for Resilience and Adaptation

Heat Severity Index - NIHHIS

Heat Severity Index Value
■ High
■ Low
 □ Jurisdiction Boundaries



Critical Community Assets



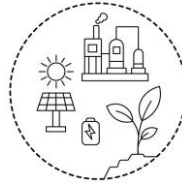
Transportation and Evacuation Routes

Airports and Heliports
Bridges and Overpasses
Bus Routes and Terminals
Evacuation Zones and Routes
Marinas, Ports and Navigable Waterways
Railroads
Roads and Highways



Natural, Cultural, and Historical Resources

Conservation Lands
Historical and Cultural Assets
Mangroves
Parks and Recreation
Surface Water Bodies
Wetlands



Critical Infrastructure

Agricultural Land
Commercial Properties
Distribution, Food Processing and Storage Centers
Communication Facilities
Energy Production and Supply Facilities
Gas Storage
Water Treatment Facilities
Industrial Properties
Manmade Water Reservoirs
Military Installations
Solid and Hazardous Waste Facilities
Disaster Debris Management Sites
Water Utility Conveyance Systems
Superfund and Brownfield Sites



Socio-Demographic

Vulnerable Ages
Transportation Access
Households with Limited English Proficiency
Low Income Households
Residents with a Physical Disability
Residents Without a High School Diploma
Single Parent Families Unemployed Residents
Veterans
Households Without Internet Access



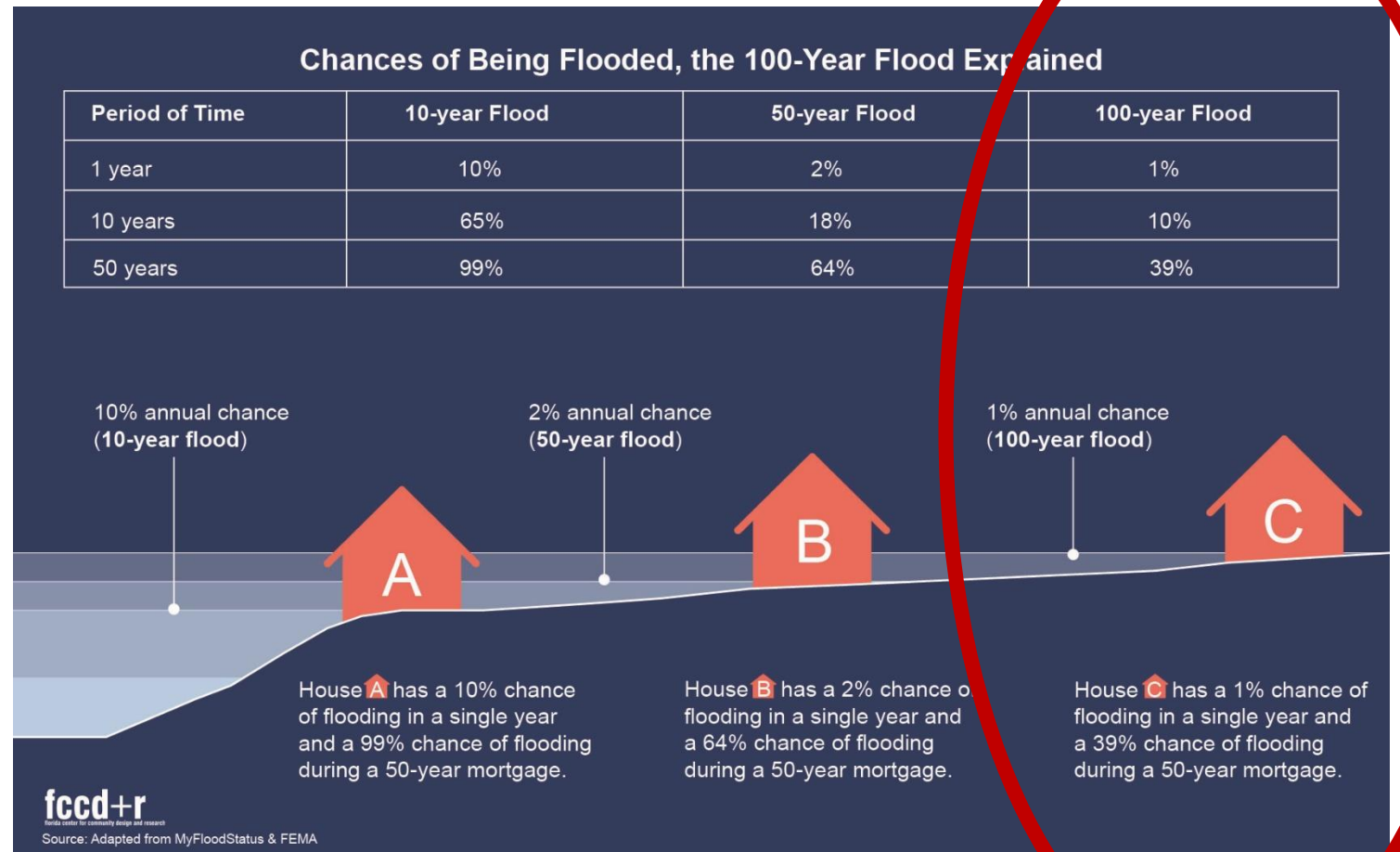
Critical Community and Emergency Facilities

Residential Properties
Assisted Housing
Colleges and Universities
Correctional Facilities
Emergency Medical Service Facilities
Emergency Shelters and Operation Center
Fire Stations
Health Care Facilities
Hospitals
Hotels and Motels
Law Enforcement Facilities
Local Government Facilities
Logistical Staging Areas
Risk Shelter Inventory
Schools
State Government Facilities
Buildings Year Built
Community Centers & Libraries

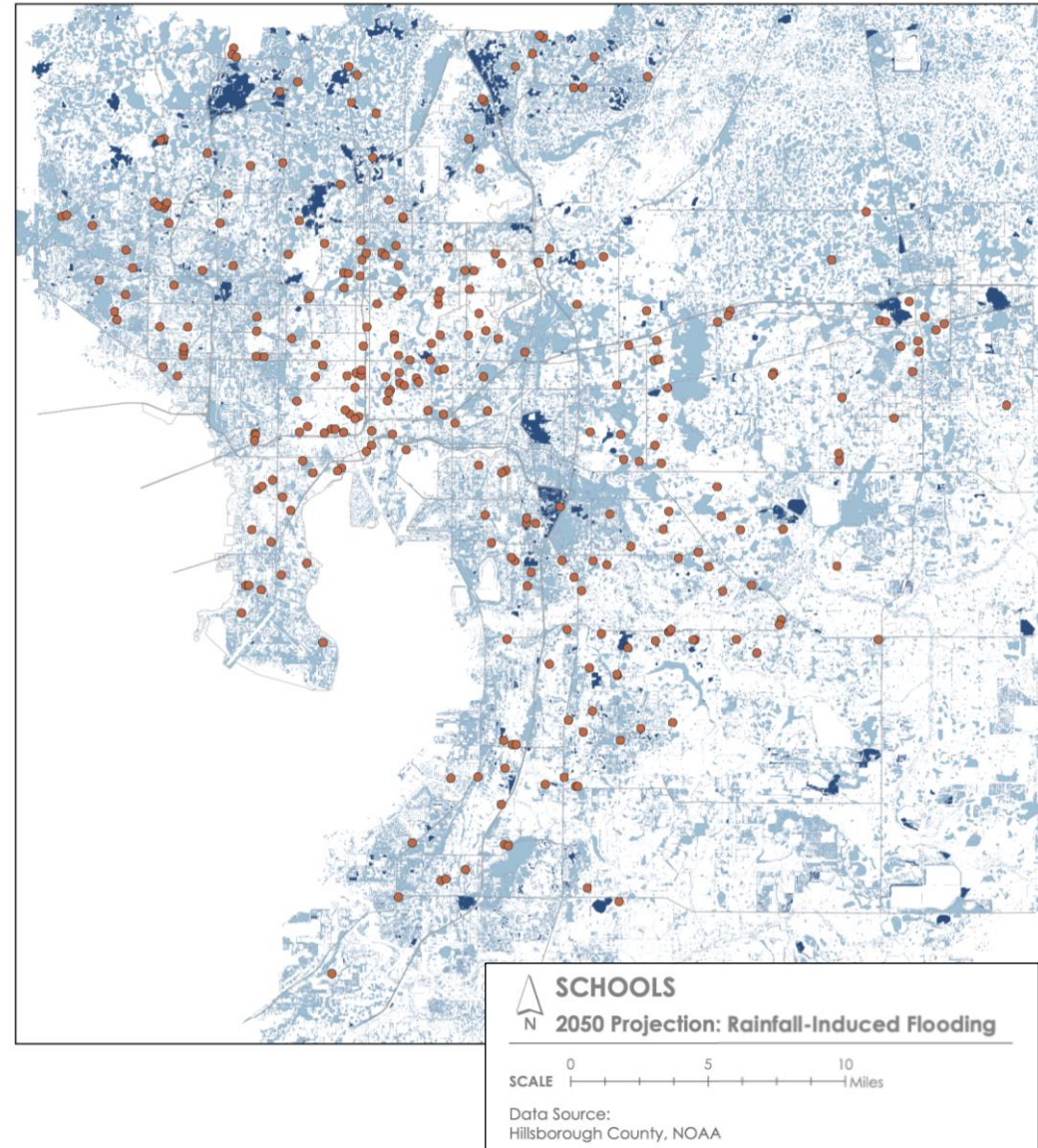
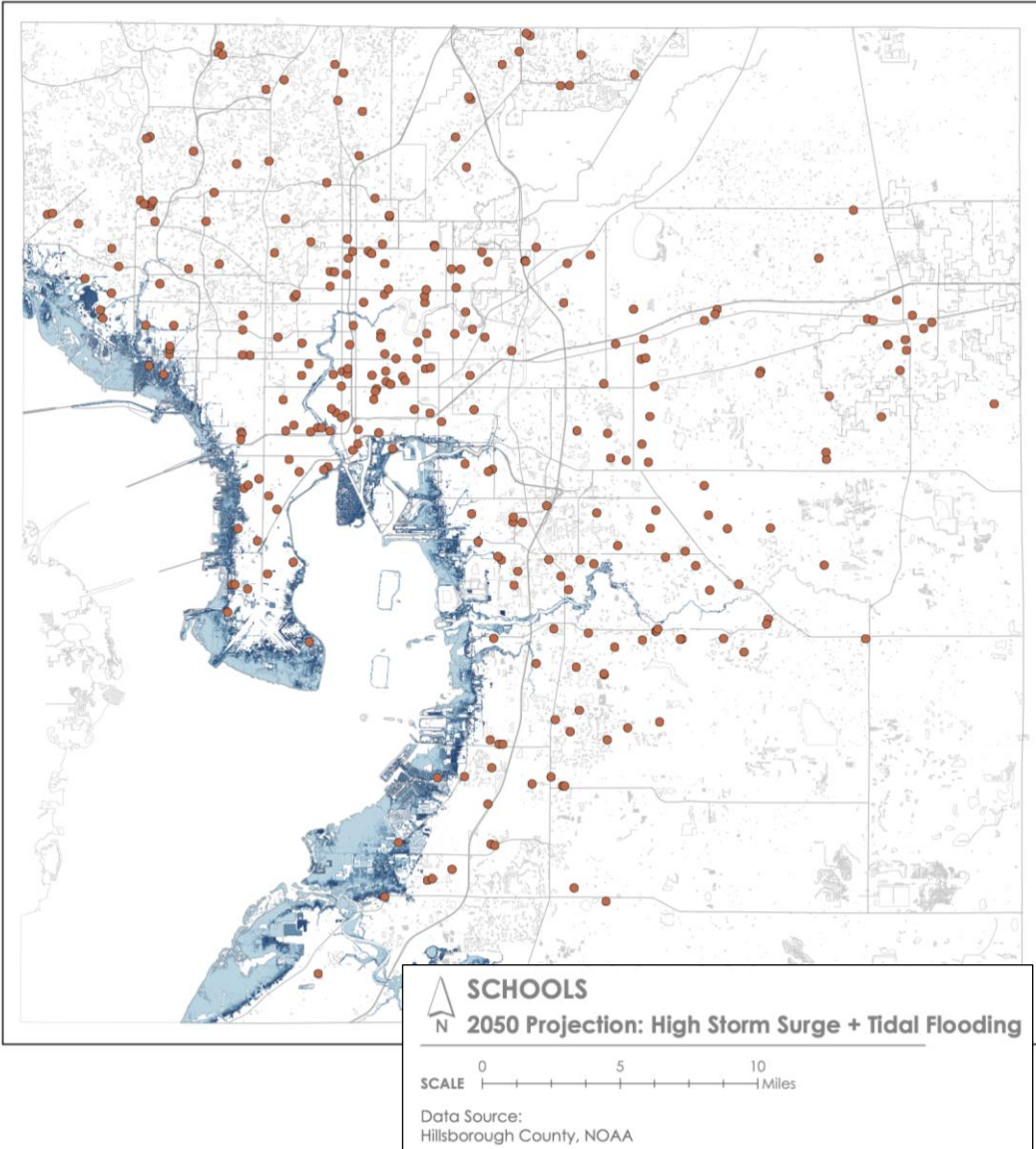
Critical Community Assets – and Flooding Risk

In 2024, the region saw the flood of a lifetime **(multiple times)** from both the coast and inland flooding.

We want to get this right.



Integration of Findings – Vulnerability Assessment



Section 5 – Mitigation Strategy

- **Mitigation Strategy Purpose** – To develop a comprehensive "blueprint" aimed at providing a unified and consistent course of action to eliminate or reduce the impact of disasters threatening Hillsborough County and its municipalities.
 - **UPDATED:** *Overview of how the 2025 LMS builds upon the work done in 2020.*
- **Goals and Objectives** – Provides overview of Goals and Objectives that were developed and approved by the LMS Working Group.
 - **UPDATED:** *Several new objectives were included since the 2020 LMS.*
- **Specific Mitigation Measures** – Describes the different types of mitigation measures that each Mitigation Action falls under: Prevention, Property Protection, Public Education and Awareness, Natural Resource Protection, Structural Projects, and Emergency Services.
- **Local Implementation** – Reviews how jurisdictions can coordinate to implement the plan, which other plans need to be integrated, and areas where greater attention is required to strengthen regulatory frameworks.
 - **UPDATED:** *Aligned with the updated Capability Assessment findings.*
- **Mitigation Strategies** – Introduces the methodology for compiling Mitigation Actions, as found in Appendix D.
 - **UPDATED:** *Includes most recent process's details.*
 - **UPDATED:** *Includes Climate Adaptation strategies.*

Appendix D – Mitigation Projects

- Attachments:

- **Appendix D: Mitigation Projects Cover Page** – Describes the process by which mitigation activities are added, sorted and/or removed from the overall project list, with reference to the previous 2020 LMS.
- **Hillsborough County LMS 2025 Project List** – Project list for the County and its jurisdictions that includes active and archived projects.

Appendix I – Mitigation Initiatives

- **Attachments:**

- **Appendix I: Mitigation Initiatives**

- **Section A: Current Mitigation Capabilities** – Describes the multitude of approaches to mitigate the effect of hazards that Hillsborough County and its jurisdictions already deploy.
- **Section B: Potential Strategies** – Describes the ways in which Hillsborough County additionally pursues the development and investigation of strategies that could further progress the County’s ability to mitigate hazards.
 - *UPDATED: Added strategies from the LMS WG Mitigation Workshop.*
- **Section C: Personal Measures - Mitigation Strategies for Individuals and County Residents** – Describes how Hillsborough County business owners, residents, and visitors can protect themselves from natural disasters.

Section 6 – Potential Funding Sources

- **Introduction** – Overview of how Hillsborough County's projects are typically funded.
- **Federal Funding** – Updated list of federal funding opportunities, their requirements, and deadlines.
- **State Funding** – Updated list of state funding opportunities, their requirements, and deadlines.
- **Local Funding** – Includes details of local funding sources.

Section 7 – Plan Maintenance

- **Overview** – Reviews the process by which the plan will be evaluated annually and monitored on an ongoing basis.
- **Five-Year Update** – Reaffirms that the LMS will be updated every 5 years.

Appendix G – Plan Maintenance

Attachments:

- **Appendix G: Plan Maintenance Cover Page** – Brief description of the cover page and governing documents.
- **Annual LMS Update Forms for FDEM** – Letter from the Chairman of the Board of County Commissioners, along with annual compliance form 27P-22.

Appendix E – FL Review Tool

- Attachments:

- **Appendix E: FL Review Tool Cover Page** – Brief description of the other attachments and lists dates in which the review took place and feedback was received.
- **2025 FL Review Tool** – Spreadsheet with reviewer comments, score, and suggested revisions.

Appendix F – Plan Adoption

- **Attachments:**

- **Appendix F: Plan Adoption Cover Page** – Brief description of the other attachments and dates on which the plan was adopted.
- **Potentially:** Summary of Major Revisions
- **Plan Summary** for Decision Makers

3. Conclusion and Next Steps

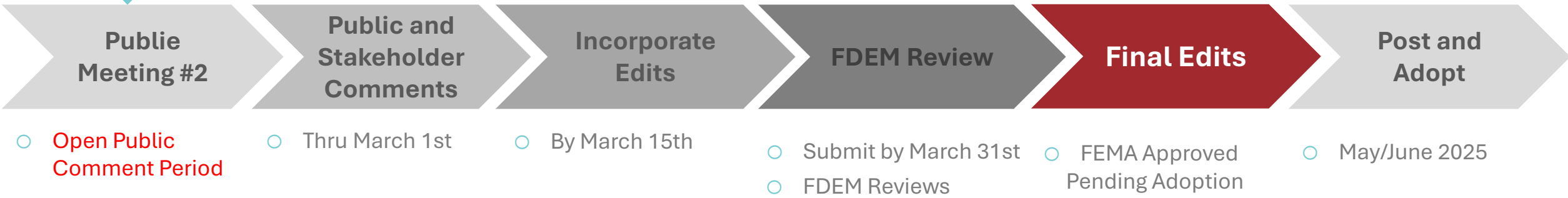


Hillsborough
County Florida



Next Steps

We are here



How Can You Help?

Visit our website to review the LMS and leave comments – we want to hear with you.

Share the website with your community members and on Social Media.

INSERT LINK OR QR CODE HERE

INSERT CONTACT INFO HERE