Groton Long Point Ad-hoc Resilience Committee (GLPRC)

GLP Vulnerability & Resilience Planning

GLPA Public Forum

July 8, 2023

GLPA Public Forum Agenda

9:30 - 9:45 Introduction to the GLPRC

- What is the GLPRC Ad Hoc committee…. Who are the committee members
- Project Overview & Reason for Action
- Process used for selecting GZA as the source to develop the GLP Vulnerability & Resilience plan
- Purpose of the public forums
- Introduce GZA

9:45 - 10:15 Introduction to GZA GeoEnvironmental & Coastal Ocean Analytics

- Intro to GZA (who are they, introduce team members)
- Experience in the local area
- Overview of the GLP project (expectations and timelines)
- Overview of GLP survey results from last fall
- Current project status (i.e. what has been done to date)
- Next Steps

10:15 - 10:35 GLPA Public Comments & Questions (open Mic approach)

- Address questions on the process, the timelines and the project objectives

10:35 - 11:00 Interactive Session (GZA and Public)

- Get feedback from attendees
  - Goal is not to get comments on individual homes but rather risk areas & areas of concern

What is the GLPRC ?

The GLPRC is an ad-hoc committee organized in the Fall of 2022 under the Planning Commission of the Groton Long Point Association (GLPA). Responsibilities of the GLPRC include:

1. Assess vulnerabilities and risks associated with climate change within the GLPA, from flooding and coastal storms (flooding, wave action, and wind damage);
2. Identify options for addressing vulnerable areas;
3. Prioritize risk mitigation based on cost of repair/replacement of area of vulnerability, cost of protection, and likelihood of damage;
4. Develop an action plan to implement selected options; and
5. Other activities as directed by the GLPA Board of Directors.

The GLPRC will make recommendations regarding mitigation and adaptation policies, as well as initiatives, to the GLPA Board of Directors for consideration and implementation by the GLPA.

Current members of the GLPRC are:

Jen Zick (Chair); Charles Primiano; Sam Acquaviva; Glenn Lussier; Stu Herlands; Kathleen Stevens; Karen Wolfskehl

Project Overview & Reason for Action

The GLP community is increasingly more vulnerable to the long term potential impacts of climate change including sea level rise, coastal flooding and catastrophic coastal weather events.

- 2023 CT DEEP Climate Resiliency Funding is available for project planning and permitting
- Application for the CT DEEP funds are due in Oct/Nov 2023 and **require a formal resiliency plan and project priorities.** As such…

- The GLPA Board, in cooperation with the Ad Hoc GLP Resilience Committee (GLPRC), has engaged **GZA GeoEnvironmental** with assistance from **Coastal Ocean Analytics** to conduct a vulnerability assessment and develop a climate resilience plan for the Association.
  - GZA is a reputable national firm with experience assisting many local communities with similar efforts.
  - GZA has been provided the results of the survey we conducted last fall for awareness of member sentiment and areas of concern.

The **Connecticut DEEP Climate Resilience Fund Program** is providing grants to help CT communities initiate planning and develop projects that will help communities become more resilient to the effects of climate change.

The Fund specifically is intended to support climate resilience planning at regional, municipal, and neighborhood-level scales, and to support resilience project scoping and development. Many neighboring communities have or will apply for this funding.

The DEEP Climate Resilience Fund has two tracks for applications:

Track 1: Planning. (Deadline Thursday 11/10/23)

Applicants can seek up to $250,000 to fund climate resilience planning that addresses the impacts of climate-related hazards, including how climate change increases weather-related risks.

Track 2: Project Development

Deadline Friday October 21, 2023 for early decision. **Final deadline** is Thursday December 1, 2023 note there may be a requirement for matching funds of at least 25% for projects

Applicants can seek funds to advance resilience project scoping and development that leads to federal funding for implementation. While there is no cap on the amount of funding that can be requested, DEEP expects to fund most project development grant application requests in a range of $300,000 to $700,000.

Example of Recent Funding (06-15-2023)

Connecticut is awarding $8.8 million in grants through its first round of the Department of Energy and Environmental Protection's Climate Resilience Fund, according to Gov. Ned Lamont.

The grants are intended to help 21 "innovative climate resilience" plans and projects across 17 of the state municipalities, and councils of governments.

The goal is for the state Department of Energy and Environmental Protection to provide "planning support to local governments, nonprofits, and others seeking to advance climate resilience projects," with the idea of then allowing recipients to seek "federal funding for construction and implementation phases," Lamont's office said in a statement.

	Amount	Description
Groundwork Bridgeport, Inc.	$249,816	Groundwork Bridgeport, a community-based organization in Bridgeport, will develop a neighborhood-level plan to reduce heat island impacts in the East Side neighborhood. The plan will identify cool corridors (travel routes) for reducing urban heat island effect and the team will also coordinate with the City of Bridgeport on street upgrades to support cooling.
City of Bridgeport	$250,000	The City of Bridgeport will conduct a comprehensive climate risk and vulnerability assessment, and develop a prioritized list of strategies, actions, and projects. The city will also identify funding opportunities, assess municipal level match funding, and identify implementation strategies.
Town of Bristol	$250,000	The Town of Bristol will develop a flood resilience plan for areas along and near the Pequabuck River and Coppermine Brook that assesses how to restore the floodway's function and identify potential opportunities for buying out flood-prone properties.
Town of Groton	$200,000	The Town of Groton will develop a town-wide climate resilience plan that looks at all hazards. The plan will accompany a town-funded climate mitigation plan.
City of Hartford	$243,500	The City of Hartford will develop a citywide flooding/climate resiliency assessment using existing data and create a prioritized list of resilience projects for future advancement.
Town of Manchester	$200,000	The Town of Manchester will develop a townwide flood resilience plan focusing on understanding how extreme precipitation events will affect the town and identifying recommendations for next steps to reduce risks.
City of Norwalk	$246,283	The City of Norwalk will develop a citywide flood resilience workplan to prioritize and execute resilience strategies, related land-use planning, and identify site-specific projects to mitigate climate impacts. The plan will also provide a framework of nature-based solutions that, if implemented will increase community resilience and improve water quality.
City of Stamford	$210,750	The City of Stamford will develop a neighborhood-level plan for the Downtown, West Side, and Waterside neighborhoods for addressing heat risk and resilience, including identify longer-term planning, policy, and regulatory strategies, and develop near-term actions to complement ongoing emergency preparedness and response efforts.

GLP Vulnerability & Resilience Planning

GLPA Public Forums

Saturday July 8: 9:30-11AM in Clark Hall
Provide project information and gather input from GLPA members

Saturday Aug 19: 9:30-11AM in Clark Hall
Present initial findings and gather feedback from GLPA members

Educate the community --> Gather Input & Feedback

GZA and COA Project Leadership Team

Samuel Bell, CFM – Day to Day Project Lead; Resiliency Planner, Climate Adaption, Funding Specialist

Wayne Cobleigh, CPSM– Public Outreach and Resilience Funding Lead

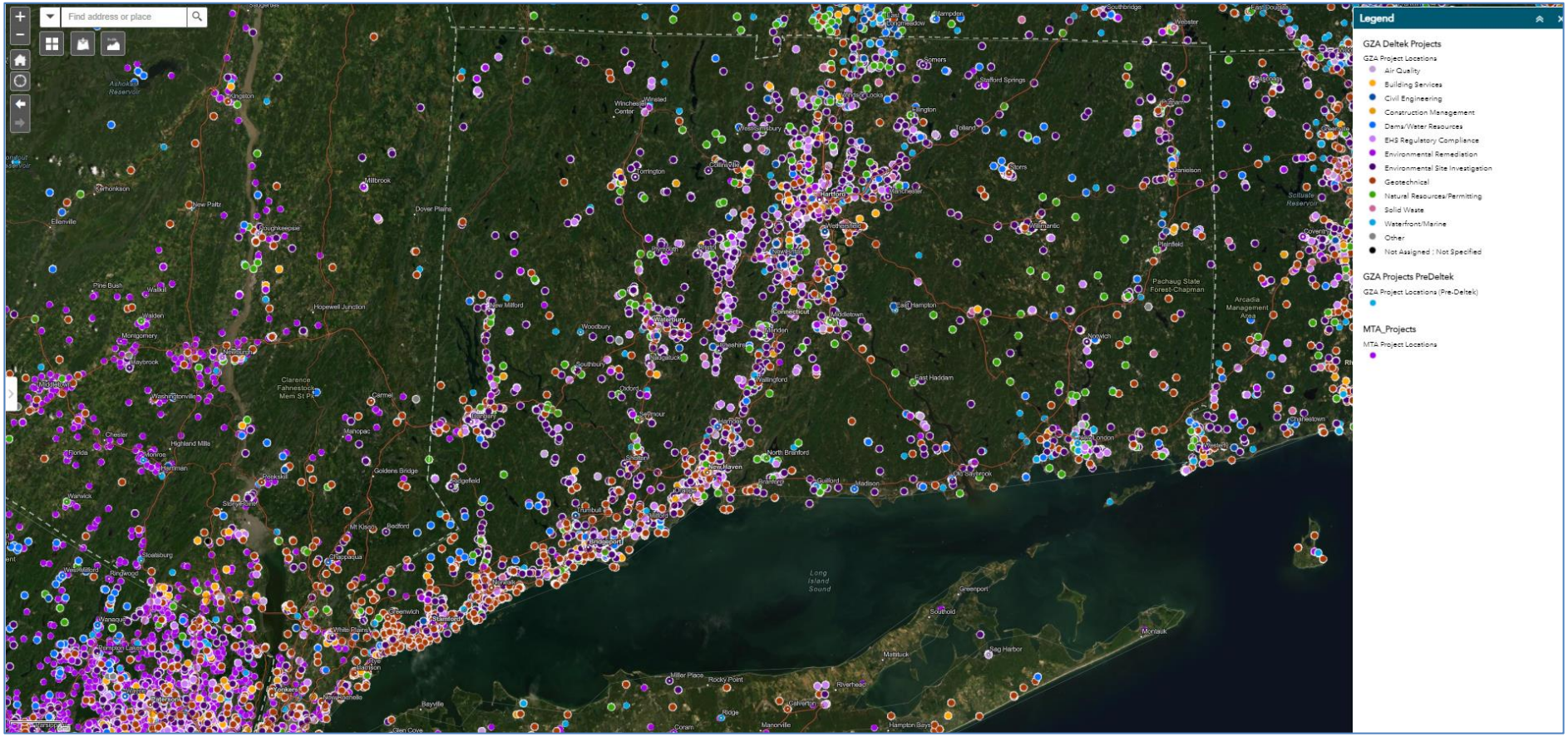
David M. Leone, PE, CFM – Principal in Charge; Flood Vulnerability Assessment Co-Lead

Jennifer O'Donnell, PhD– Principal Scientist; Flood Vulnerability Assessment Co-Lead

GZA Services: Natural Hazard and Climate Change

- **Planning:**
  - Natural Hazard Mitigation Plans
  - Coastal Resilience and Climate Adaptation Plans
  - Climate Adaptation Planning
  - Climate Change Mitigation Planning
- **Vulnerability Assessment and Resilience and Adaptation Design:**
  - Vulnerability Assessment/Loss Estimation
  - Benefit Cost Analysis (BCA)
  - Project Engineering and Design
- **Response and Recovery:**
  - Emergency Response Planning
  - Disaster Recovery Support
- **FEMA-Related Services**
  - LOMRs
  - Appeals
- **Property & Asset Adaptation**

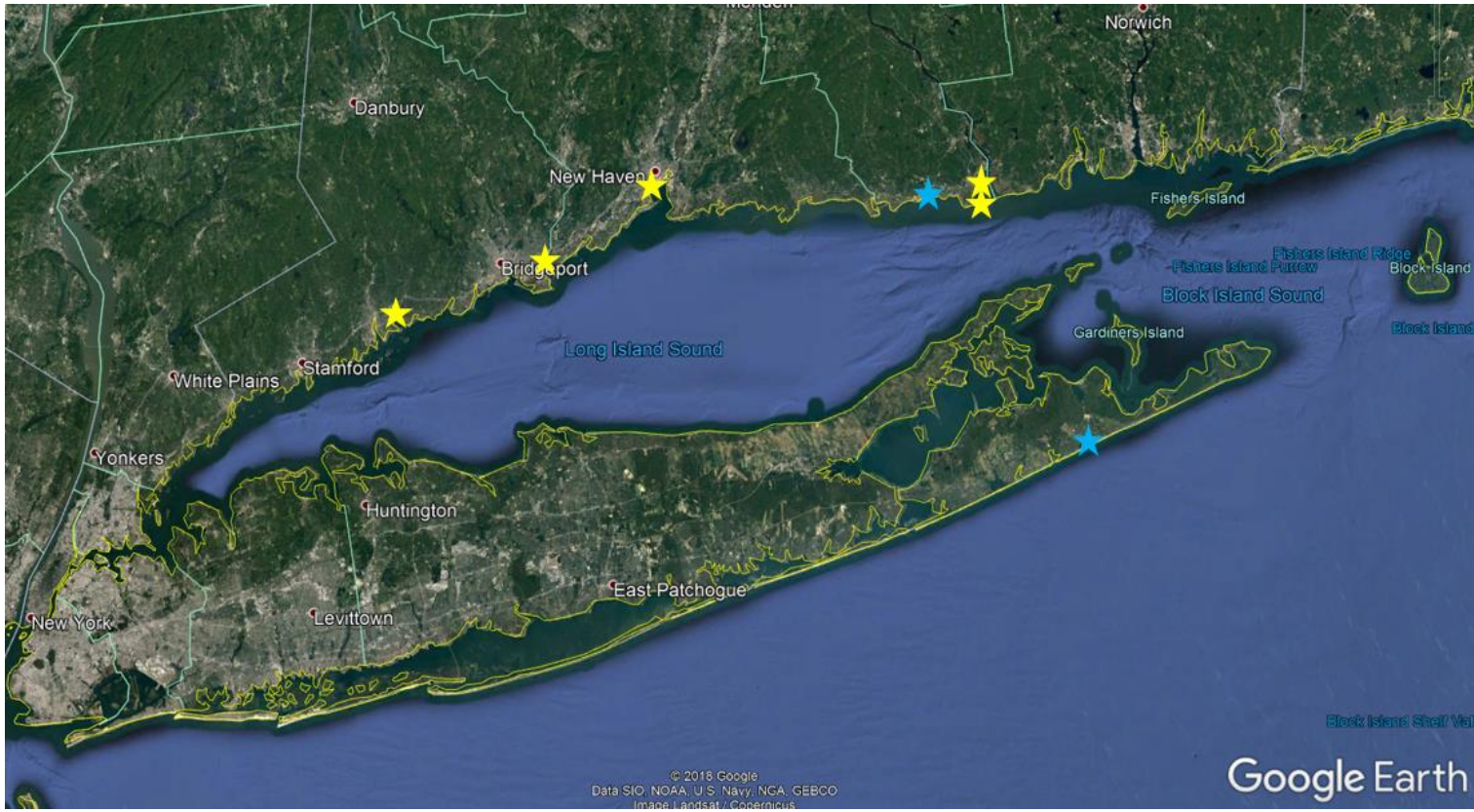
GZA Connecticut Project Experience



GZA Coastal Resilience Experience in Connecticut

GZA Connecticut Coastal Resilience Experience:

- Old Saybrook
- Fenwick
- Westbrook
- Stratford
- Westport
- Bridgeport
- New Haven
- Waterford
- Groton (Mystic)



Old Saybrook and Fenwick, CT

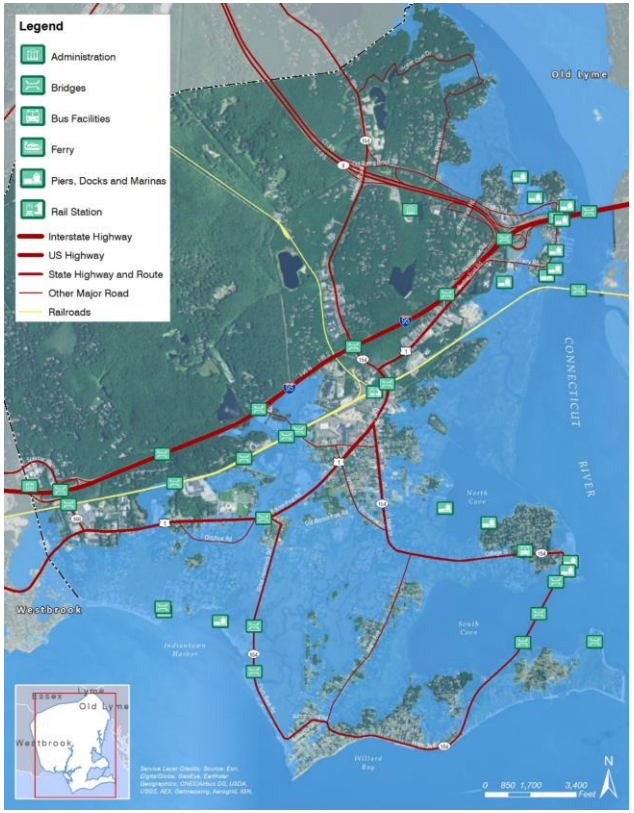
Features:

- Coastal Flood Evaluation
- Vulnerability Analysis
- Coastal Resilience Plan and Infrastructure Evaluation
- Engineering & Design
- Permitting

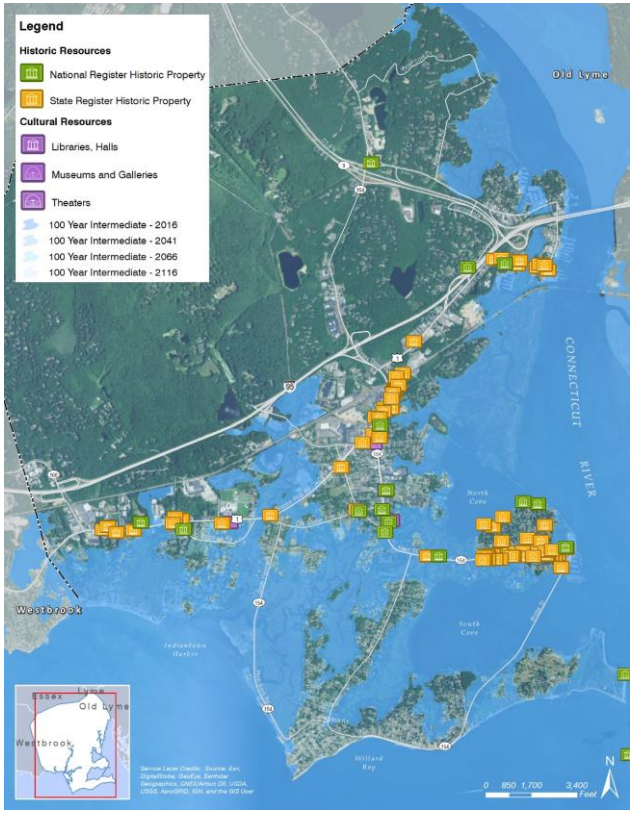
Phases:

Planning
Community Engagement
Site Selection
Conceptual Design
Funding
Final Design
Permitting & Construction

Transportation



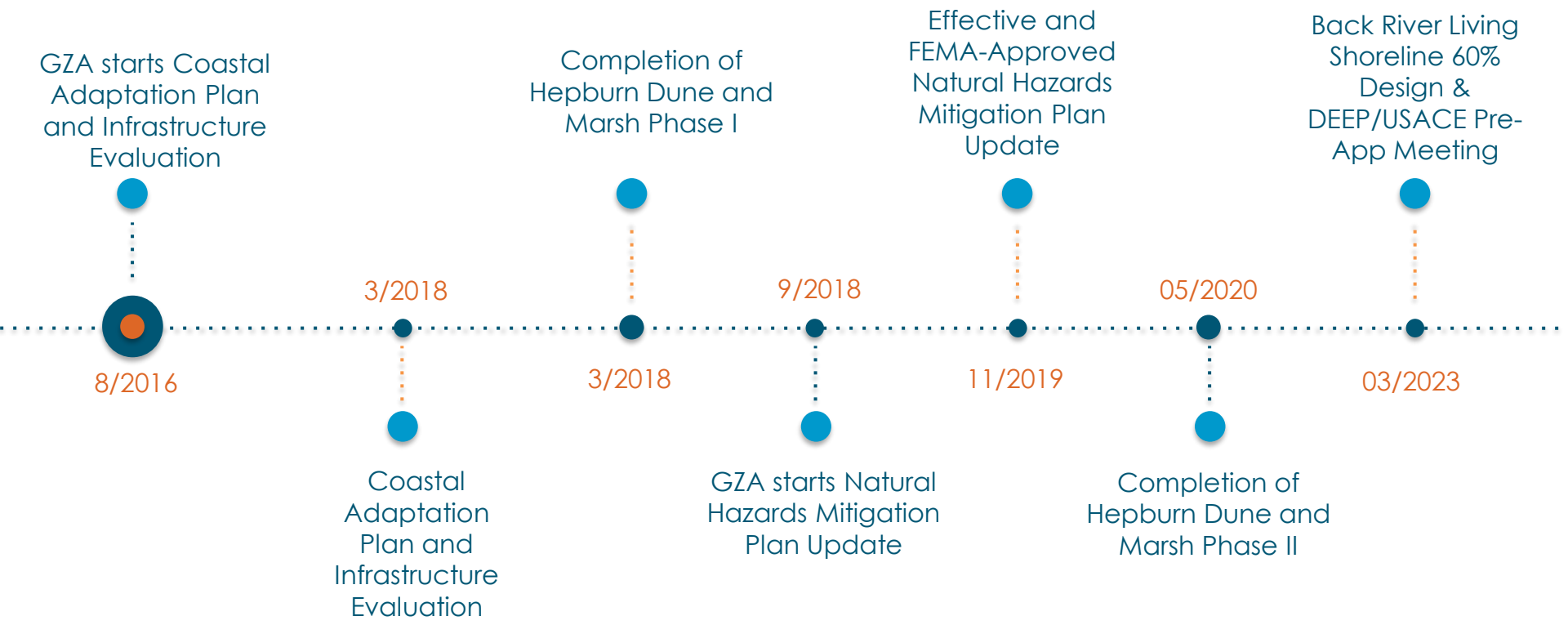
Historic Properties



Funding:

State Grant | Federal Grant | Municipal

GZA Resilience Plan Results
Continuity Timeline with Town of Old Saybrook & Fenwick



Project Approach

- Identify Goals and Objectives: **Listen**
- Esri ArcGIS based information management and sharing
- Outreach-focused using social media and in-person meetings
- Build on previous plans and studies
- Consistency with ongoing work and compliant with grant requirements
- Data driven and science-based approach to resilience planning
- **Solution-focused**: Practical resilience projects and prioritization
- Integrated resilience planning using policies, plans and regulations and physical projects

Groton Long Point Assets

- Buildings and Structures
- Essential Facilities
- Infrastructure
- Transportation Systems
- Historic Structures & Places
- Natural & Recreational Resources

Groton Long Point Assets

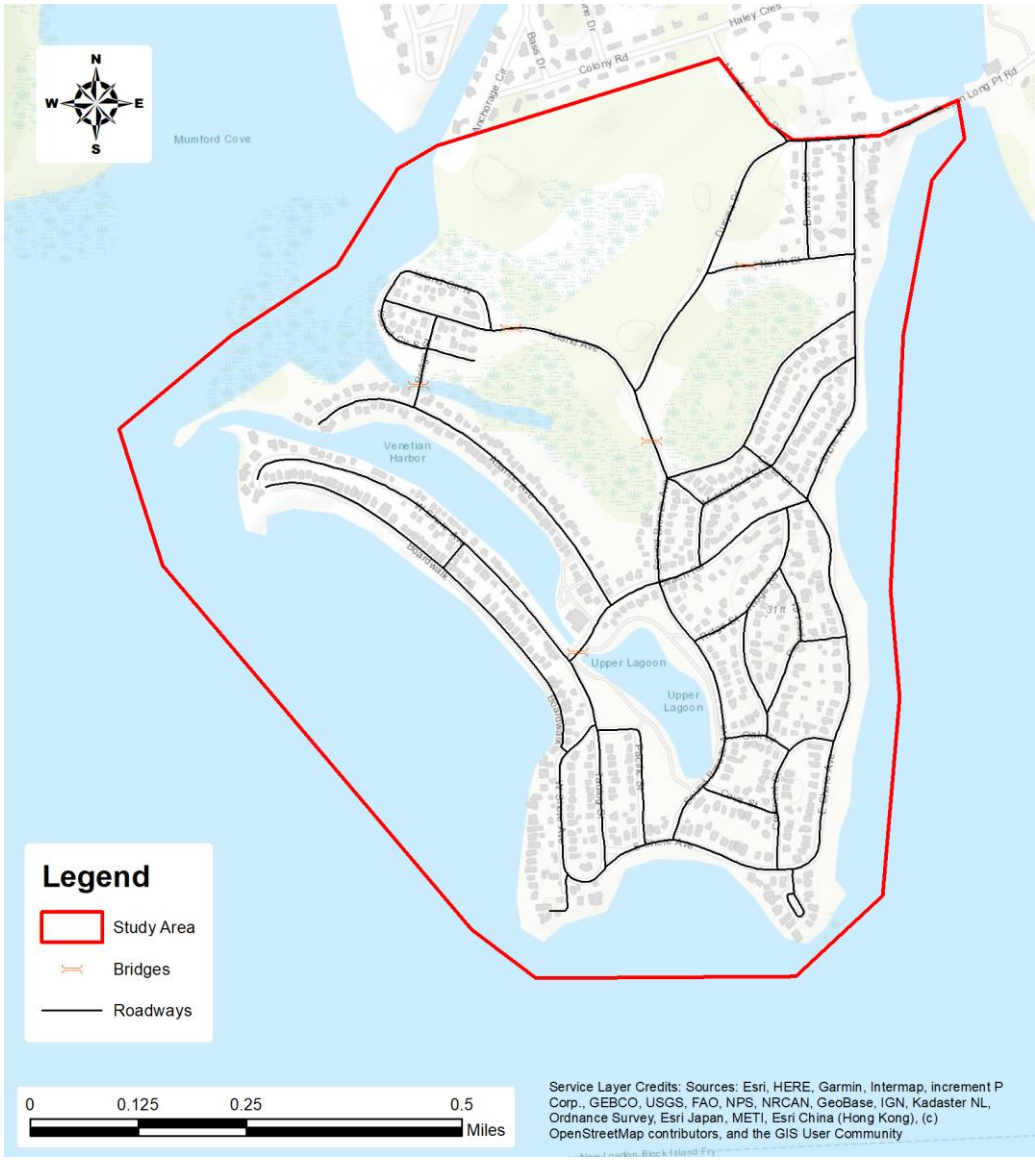
Buildings & Structures

- 830 Buildings

Groton Long Point Assets

Roadways and Bridges

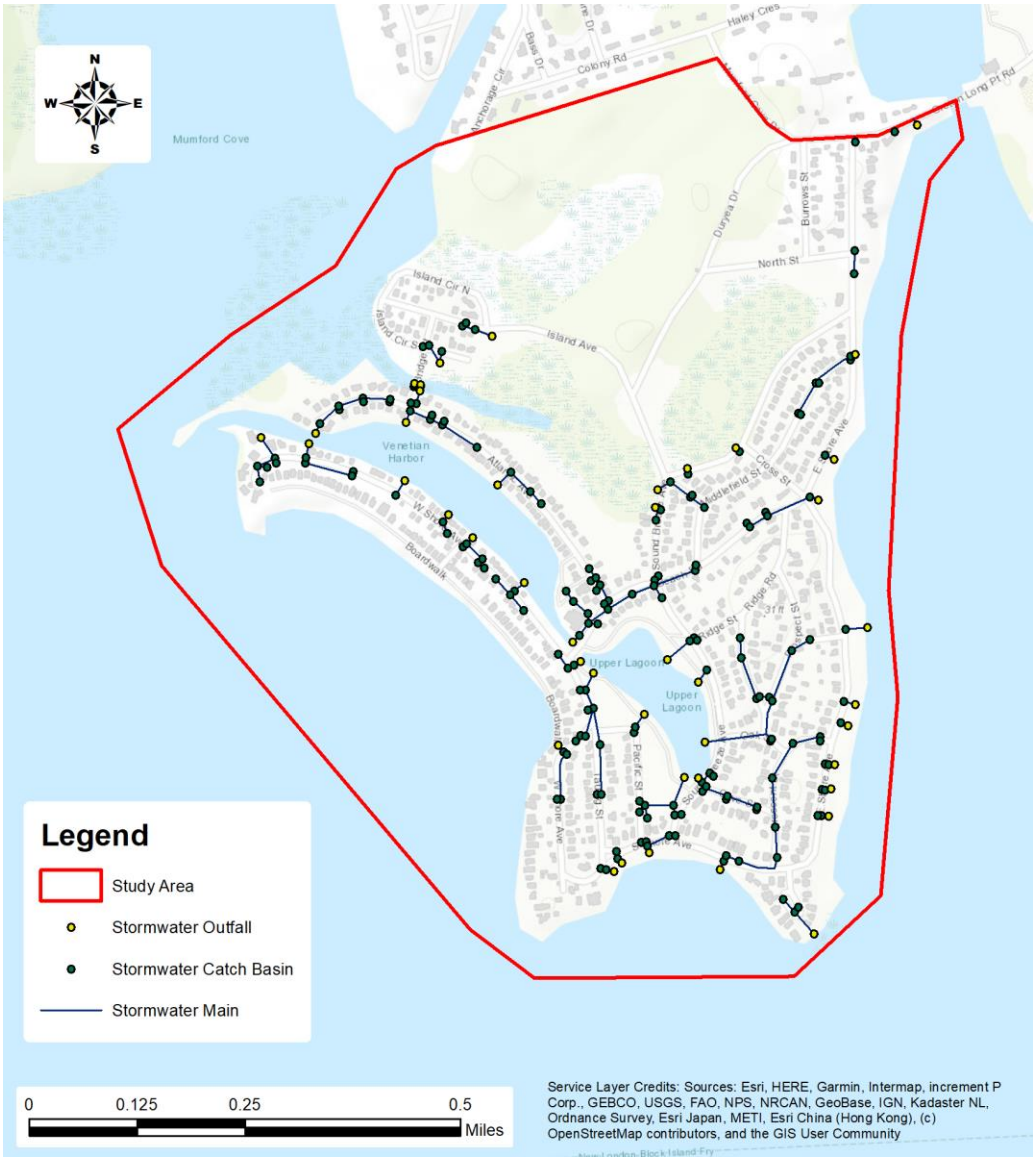
- 7.7 Miles of Roadways
- 5 Bridges



Groton Long Point Assets

Stormwater Infrastructure

- Outfalls
- Catch Basins
- Stormwater Main



Natural Hazards Overview

- Coastal flooding including storm surge and sea level rise
- Extreme precipitation, stormwater flooding, and riverine flooding
- Extreme Temperatures - Heat

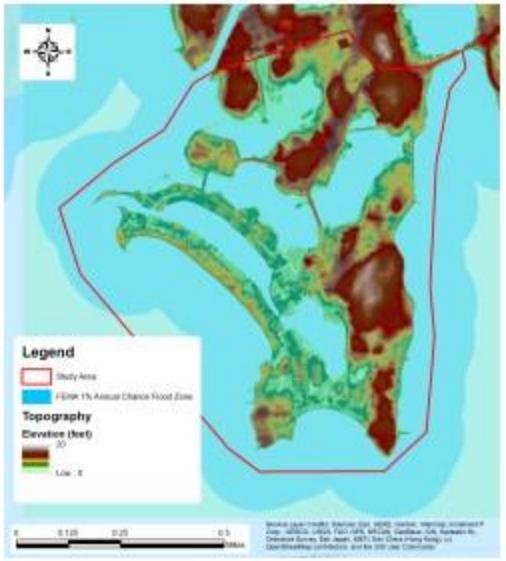
Hazard Characterization: Coastal Flooding

CIRCA 10% Annual Chance Flood Zone

CIRCA 2% Annual Chance Flood Zone

FEMA 1% Annual Chance Flood Zone

FEMA 1% Annual Chance Flood Zone & Topography



Footnote:

1. CIRCA is the Connecticut Institute for Resilience and Climate Adaptation, UCONN Avery Point Campus, Groton, CT
2. Over the course of a 30-year mortgage, this is the flood risk you may be exposed to:
   - The 50-year (2% Annual Probability) flood zone gives you a 45% chance of being flooded, and
   - The 100-year (1% Annual Probability) flood zone gives you a 26% chance of being flooded or about a 1 in 4 chance of experiencing flood damage during your 30-year mortgage.

Hazard Characterization: Intense Precipitation

CIRCA Precipitation Projections

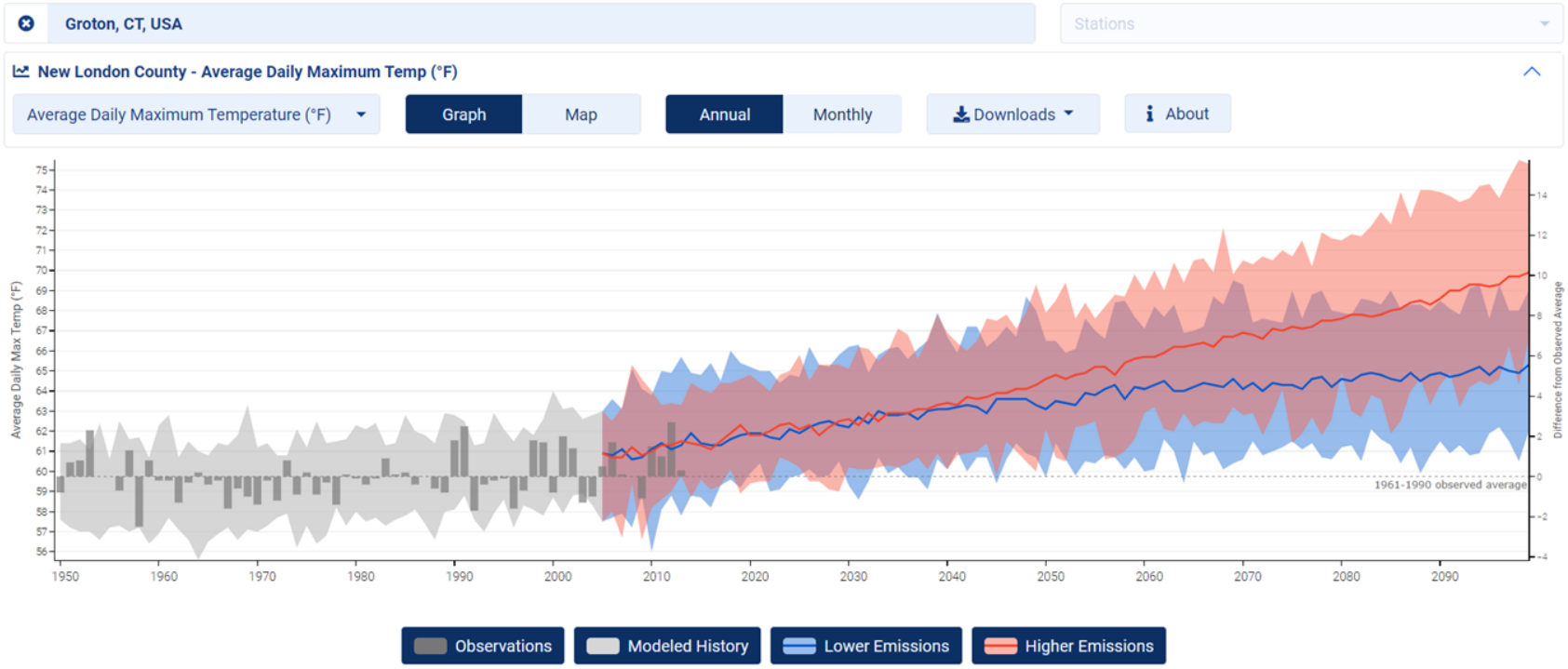
Event	1970-99 Reference	2040-69 Changes	2070-99 Changes
Mean	2.8±0.1	0.7±0.2 (27%)	0.6±0.2 (22%)
10-year	4.1±0.2	2.0±0.8 (49%)	1.3±0.8 (31%)
20-year	4.7±0.2	2.8±1.3 (59%)	1.7±1.2 (36%)
50-year	5.7±0.3	4.3±2.4 (76%)	2.4±2.2 (42%)
100-year	6.6±0.4	**5.9±3.7 (91%)**	3.1±3.2 (49%)

Hazard Characterization: Intense Precipitation

Future Projections for Annual Total Precipitation 2005 to 2100

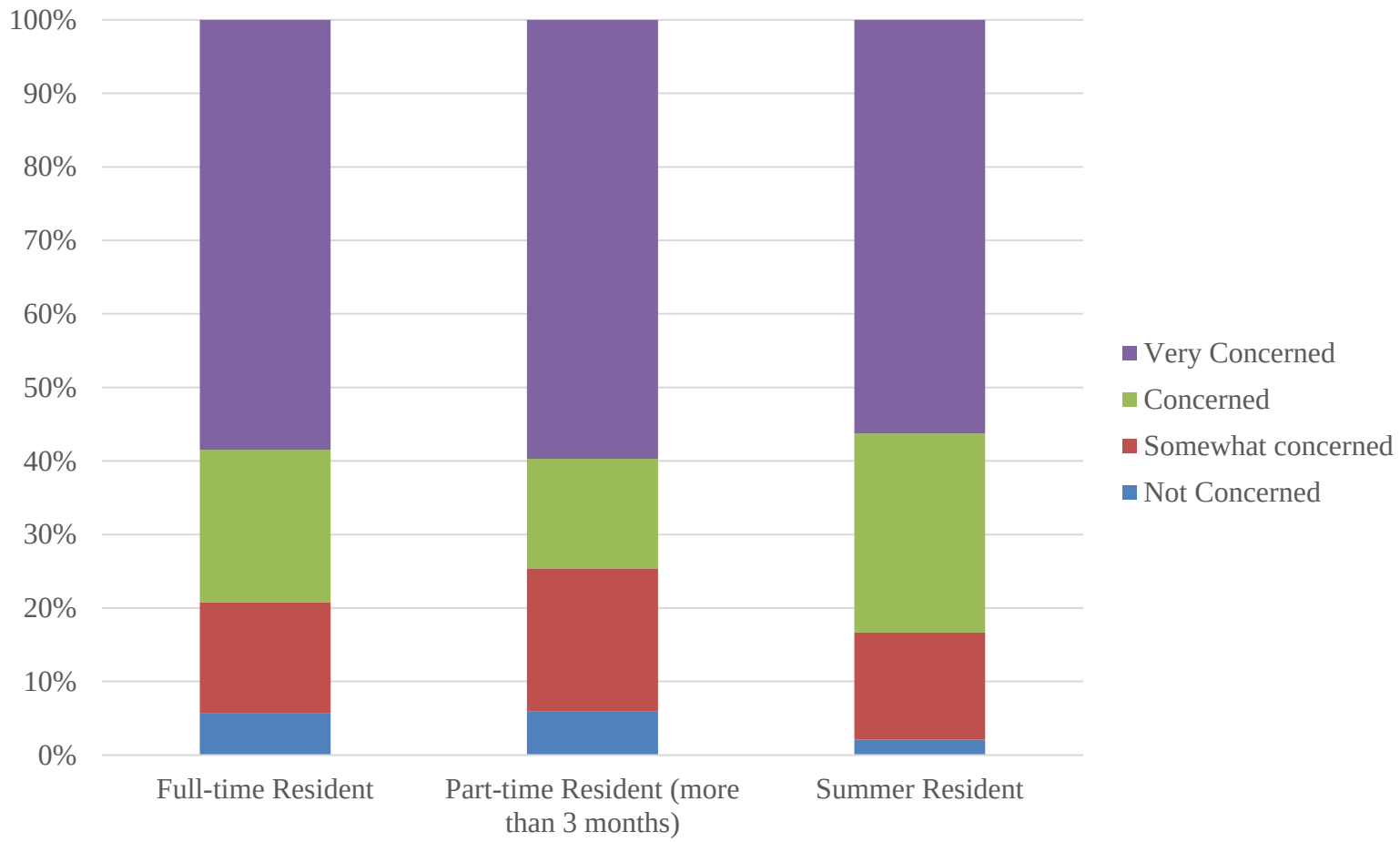
Hazard Characterization: Extreme Temperatures - Heat

Future Projections for Average Daily Max Temp 2005 to 2100



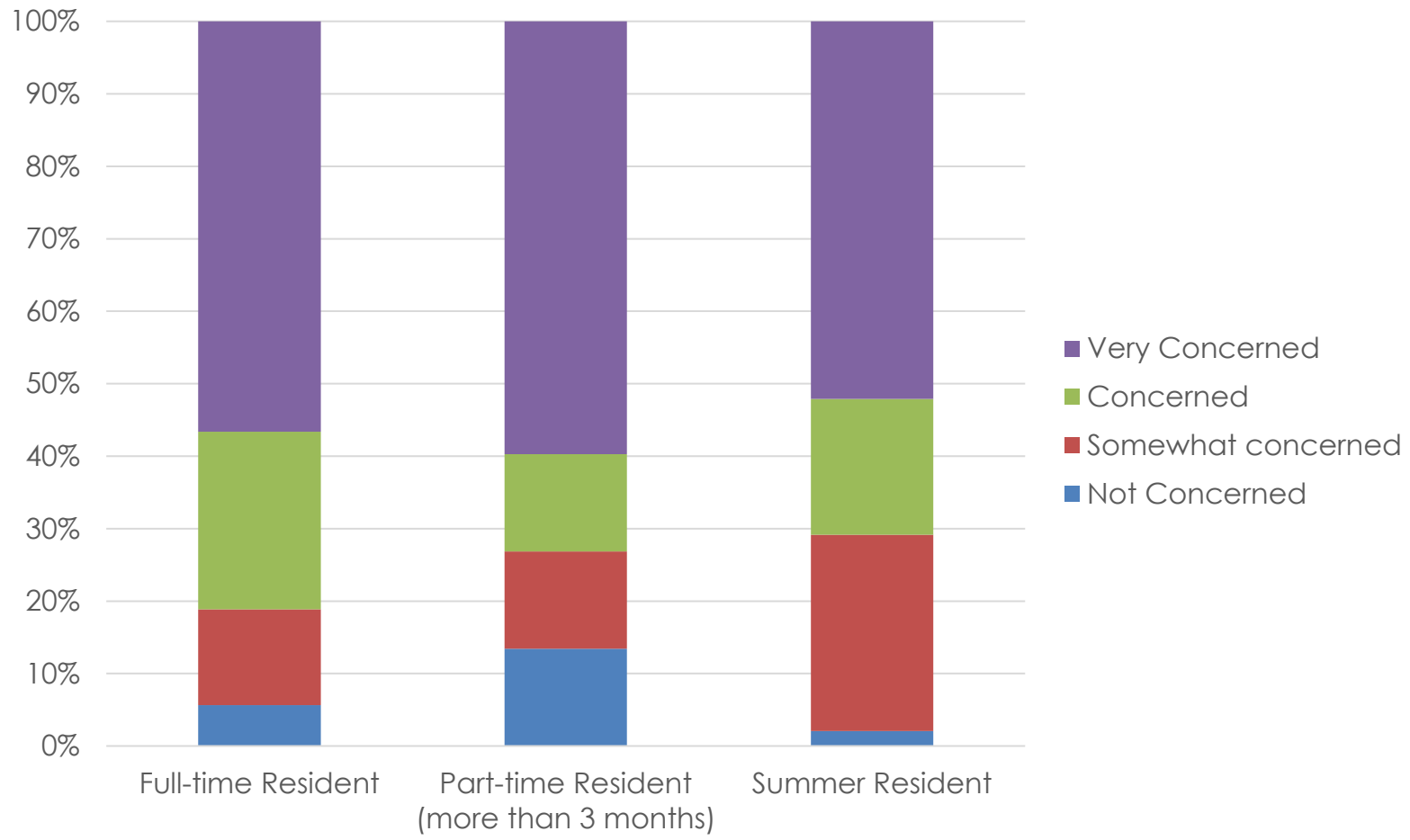
2022 Survey Results

How concerned are you about **coastal flooding**?



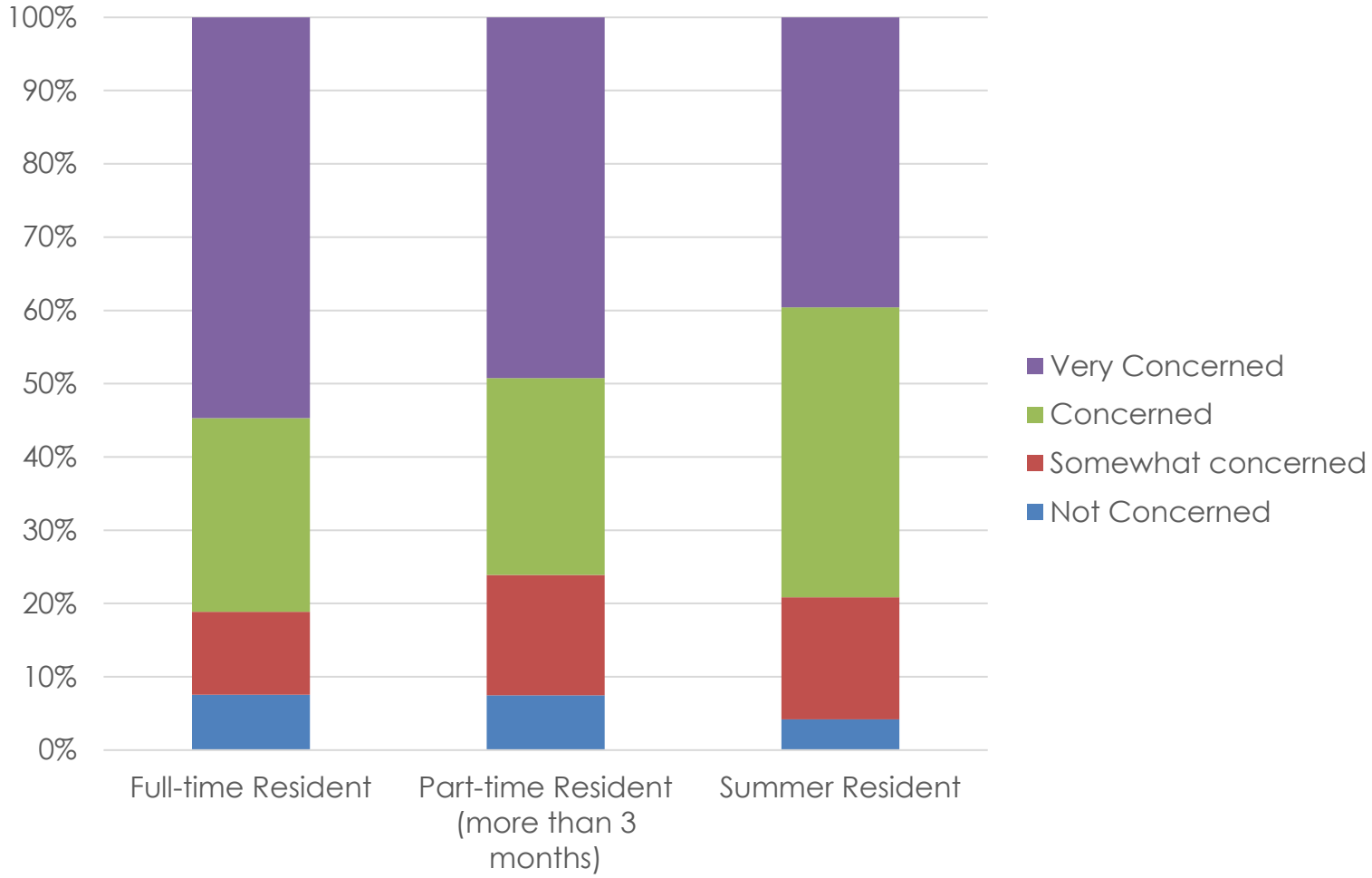
2022 Survey Results

How concerned are you about the **future impact sea levels**?



2022 Survey Results

How concerned are you about weather events such as **hurricanes**?



Next Steps

- Provide Draft Assets Inventory and Hazards Characterization Report Sections to GLPRC for review
- Perform Vulnerability Assessment
- Prepare Vulnerability Assessment Report Section
- Develop Adaptation Strategies & Actions Report Section
- Provide Vulnerability Assessment Report and Adaptation Strategies & Actions Sections to GLPRC for review

Community Comments & Questions

GLP Vulnerability & Resilience Planning

Interactive Session

Interactive Session

- **Discussion Station #1: Flooding**
- **Discussion Station #2: Heat**
- **Discussion Station #3: Resiliency Concerns**

Discussion Station #1: Flooding

How often have you observed flooding in Groton Long Point ?

- What caused the flooding? (Tides, coastal storms, rainfall, combination)
- Do you see the flooding as a problem?
- Do you remember any specific event being more significant than others?

Where in Groton Long Point have you observed flooding?

- Are there places in Groton Long Point where you have observed flooding repeatedly in the same locations?
  - If so, where in Groton Long Point did you observe repetitive flooding?
- Were the flooding events reasonably predicted?
  - If so, what sources provided you with reliable predictions? (e.g., local news, online websites such as NOAA's National Weather Service at www.weather.com, local radio)

To what extent has flooding affected your residence, business, or property? (Directly and indirectly)

Discussion Station #2: Heat

Have you noticed that summer months are warmer than in the past in Groton Long Point?

- If so, what summer months appear to be warmer?

Have you observed an increase in days over 90°F in recent years?

To what extent has Increasing temperatures (i.e., days over 90°F) affected your business or property? (Directly and indirectly)

Discussion Station #3: Resiliency

- **What ideas would you like to see this study explore to increase the resiliency of the area to climate change including increasing temperatures and flooding?**

- **With a predicted 1.7-feet rise in mean sea level expected by 2050, how would you increase the flooding resilience of:**
  - 1) Groton Long Point
  - 2) of your property?

- **With days over 90^{o}F expected to increase to 15 to 21 days by 2050, how would you increase the heat resilience of:**
  - 1) Groton Long Point
  - 2) of your property?