

EVERGLADES CITY RESILIENT FLORIDA VULNERABILITY ASSESSMENT



Prepared By:
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INTRODUCTION

The City of Everglades City collaborated with CPH Consulting, LLC to complete a Vulnerability Assessment and Adaptation Plan funded through the Florida Department of Environmental Protection's Resilient Florida Program.

Recent hurricanes, severe storms, and tidal events have led to widespread flooding and storm surge, exposing weaknesses in infrastructure and community preparedness.

The **goals** for this project were as follows :

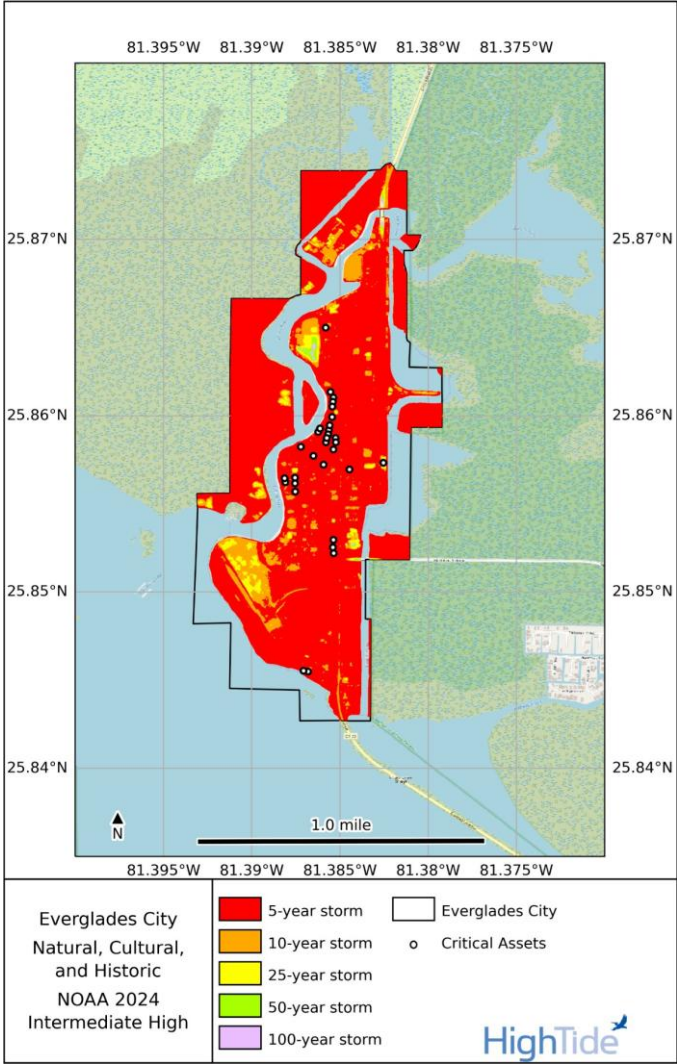
- Identify critical assets at risk from flooding and sea level rise
- Evaluate economic and social impacts of storm events
- Support infrastructure planning and resilience strategies
- Inform stakeholders and guide future adaptation efforts



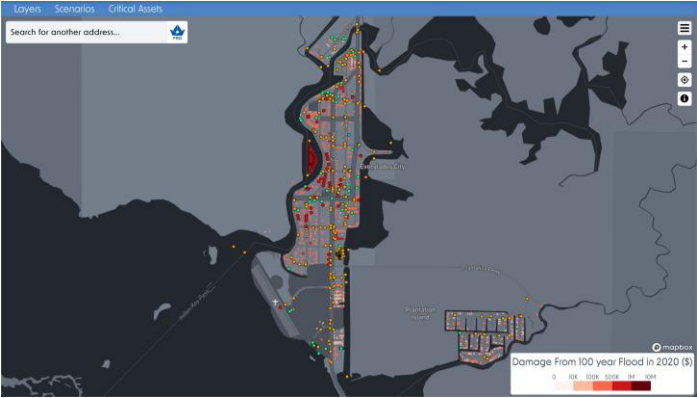
PROJECT STRATEGY

OVERVIEW OF VA RESULTS

- 160+ assets evaluated across infrastructure, facilities, and community services
- Data sources: NOAA, FEMA, USGS, City GIS, and the Florida Statewide Resilience Dataset
- Flood exposure mapped for 5-, 10-, 25-, 50-, and 100-year storm events through 2100.
- 102 flood maps developed using LIDAR elevation data and tidal projections
- High exposure along Copeland Avenue and major roadways
- Stormwater outfalls regularly backflow and fail during tides
- City Hall, wastewater and water treatment facilities are vulnerable to extreme events



Current Day/Baseline Storm Surge Depth (Ft.)					
Critical Asset	5-Year	10-Year	25-Year	50-Year	100-Year
Captains Table Ls	3.15	4.39	6.6	8.86	11.8
Ce Museum Of The Everglades	-	2.97	5.18	7.44	10.38
Copeland Water Treatment Plant Building	-	-	2.42	4.68	7.62
Copeland Water Treatment Plant Tank	-	2.65	4.86	7.12	10.06
Embarq Florida	2.39	3.63	5.84	8.1	11.04
Estuary 1 Ls	2.46	3.7	5.91	8.17	11.11
Estuary 2 Ls	2.67	3.91	6.12	8.38	11.32
Everglades City Electrical Substation	2.28	3.52	5.73	7.99	10.93
Everglades City WWTF	2.66	3.9	6.11	8.37	11.31
Everglades Isle 1 Ls	-	2.28	4.49	6.75	9.69
Everglades Isle 2 Ls	-	3.09	5.3	7.56	10.5
Everglades School Ls	-	2.49	4.7	6.96	9.9
Fire Hydrant 60-30	4.61	5.85	8.06	10.32	13.26
Fire Hydrant 60-31	4.1	5.34	7.55	9.81	12.75
Fire Hydrant 60-32	5.18	6.42	8.63	10.89	13.83



Overall Vulnerability

Socioeconomic Status

Below 150% Poverty

Unemployed

Housing Cost Burden

No High School Diploma

No Health Insurance

Household Characteristics

Aged 65 & Older

Aged 17 & Younger

Civilian with a Disability

Single-Parent Households

English Language Proficiency

Racial & Ethnic Minority Status

Hispanic or Latino (of any race)

Black or African American, Not Hispanic or Latino

Asian, Not Hispanic or Latino

American Indian or Alaska Native, Not Hispanic or Latino

Native Hawaiian or Pacific Islander, Not Hispanic or Latino

Two or More Races, Not Hispanic or Latino

Other Races, Not Hispanic or Latino

Housing Type & Transportation

Multi-Unit Structures

Mobile Homes

Crowding

No Vehicle

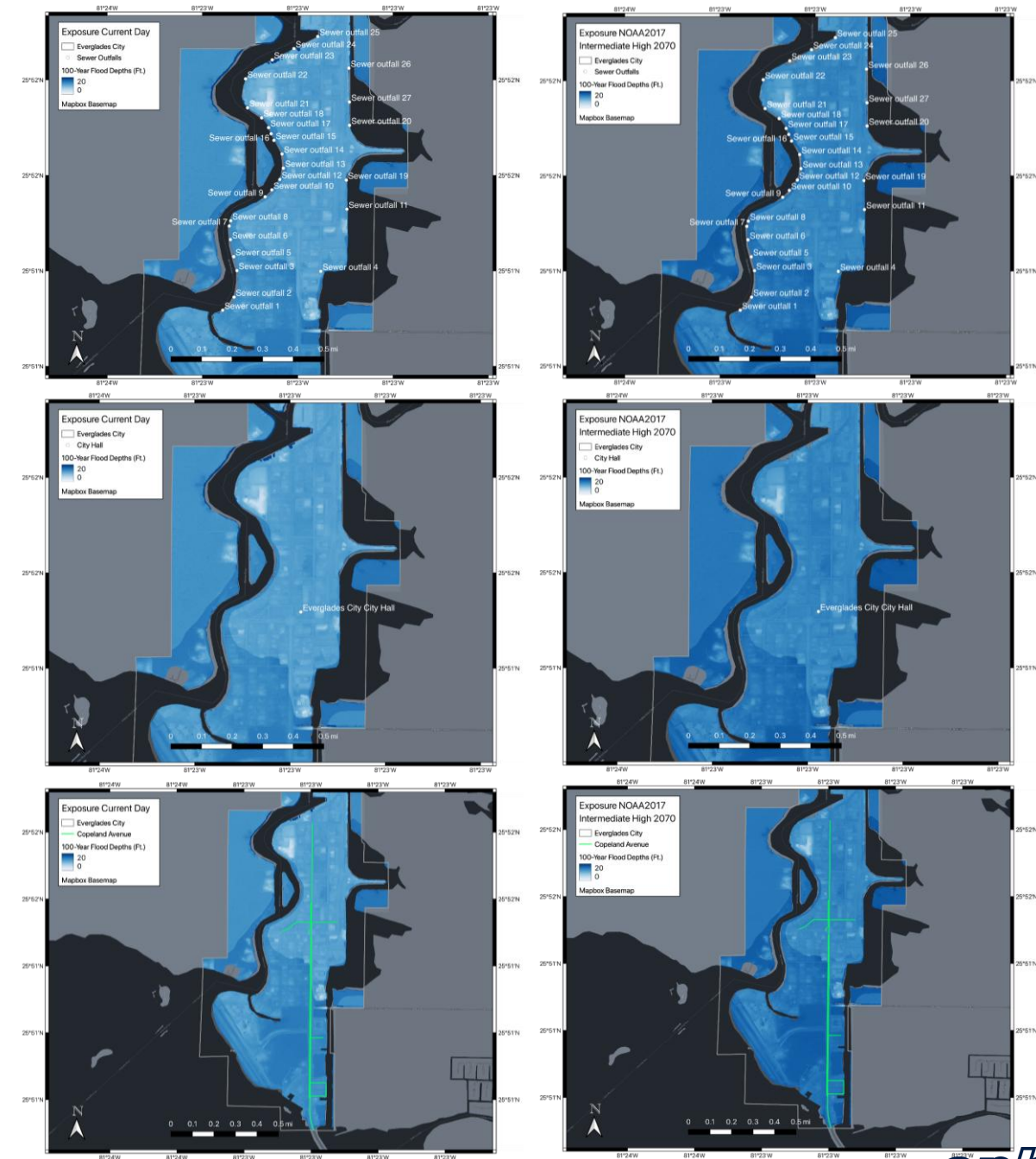
Group Quarters

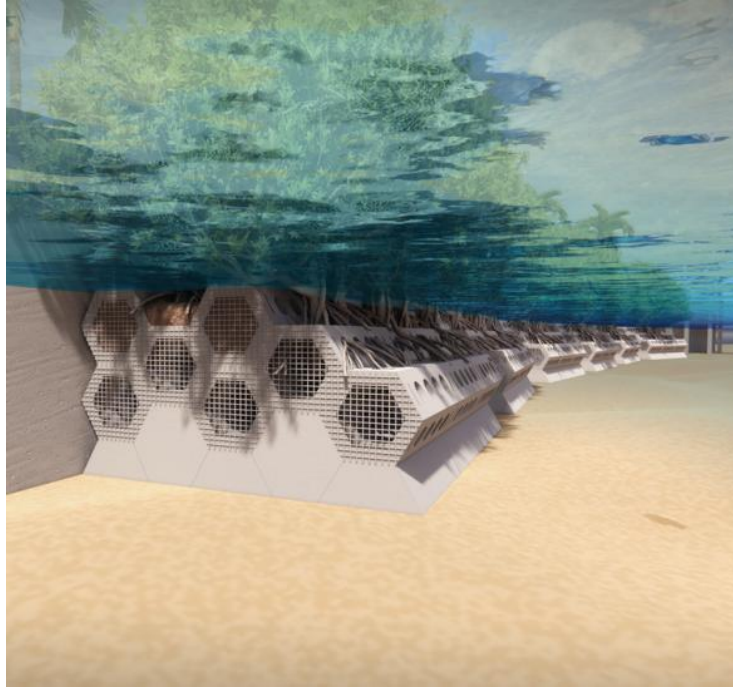
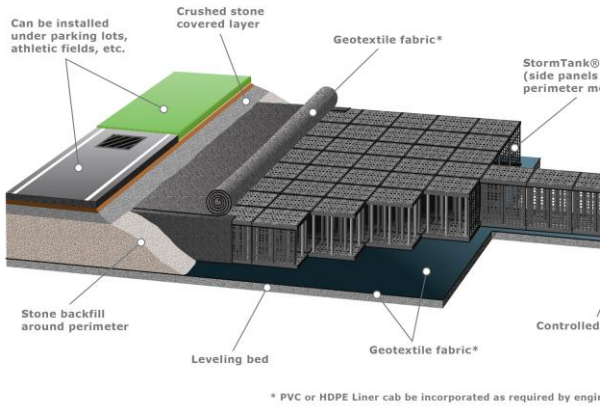
ECONOMIC RISKS & SOCIAL IMPACT

- \$125 million in potential flood damages projected by 2100 (100-year storm)
- By 2100, over 81% of the property tax base is at risk
- Up to 972 households at risk of displacement by 2050 under tidal flooding scenario
- Higher vulnerability among elderly, low-income, and seasonal populations

PRIORITY FOCUS AREAS

- Stormwater Outfalls: Undersized, prone to backflow and street flooding
- Water Treatment Plant: Exposed via low access elevations despite inland location
- Copeland & Collier Avenues: Essential roads and evacuation routes which flood under frequent storm events
- City Sewer Infrastructure prone to flooding and infiltration
- City Hall: Vulnerable to storm surge and compound flooding, not accessible during storm events due to water staging





ADAPTATION STRATEGIES

• Planning & Funding Strategies

- Integrate resilience into land use and comprehensive plan updates
- Identify high-risk assets for relocation or protection
- Prioritize capital improvements using flood modeling and asset sensitivity
- Pursue funding through FDEP, FEMA, and other resilience grant programs

• Recommended Infrastructure Improvements

- Install backflow prevention valves at existing outfalls
- Stormwater Master Plan - Upsize stormwater pipes and improve conveyance capacity
- Elevate seawalls and construct stormwater pump stations
- Explore living shorelines or hybrid tidal barrier solutions
- Elevate and floodproof critical infrastructure
- Harden or raise roads—especially evacuation routes
- Install underground retention systems beneath roadways

THANK YOU!

We welcome your input and look forward to working together toward a more resilient future!



For questions or follow-up:

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