

Comprehensive Plan Amendment Coastal Management Element

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Outline

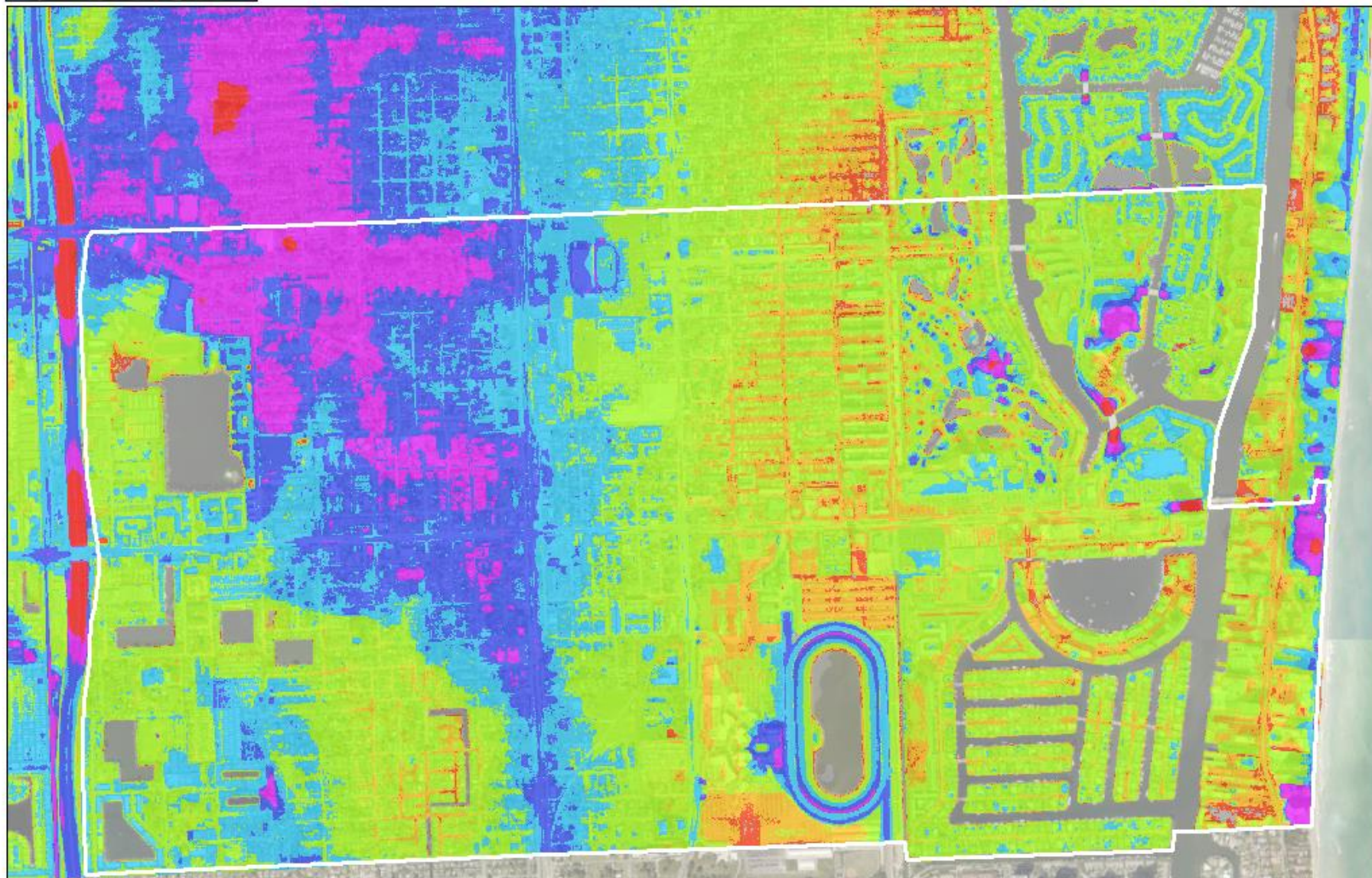
- LiDAR Visualization
- Mean Higher High Water Visualization
- Updated SLOSH Basin
- King Tide Flooding
- Coastal High Hazard Area Definition & Updated Map
- Projected Storm Surge Flooding with Sea-Level Rise
- Peril of Flood Requirements
- Suggested Policy changes within the Coastal Management Element

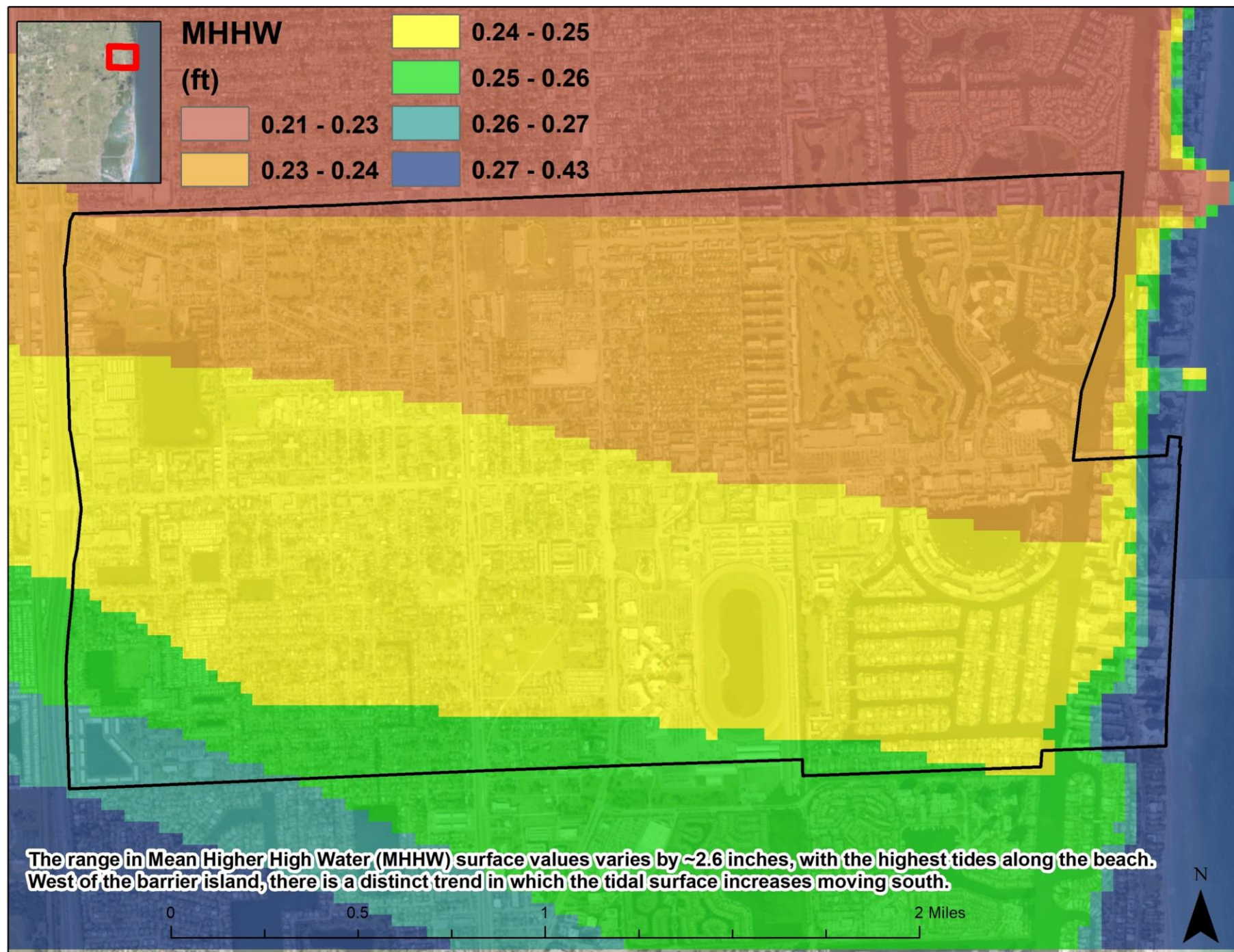


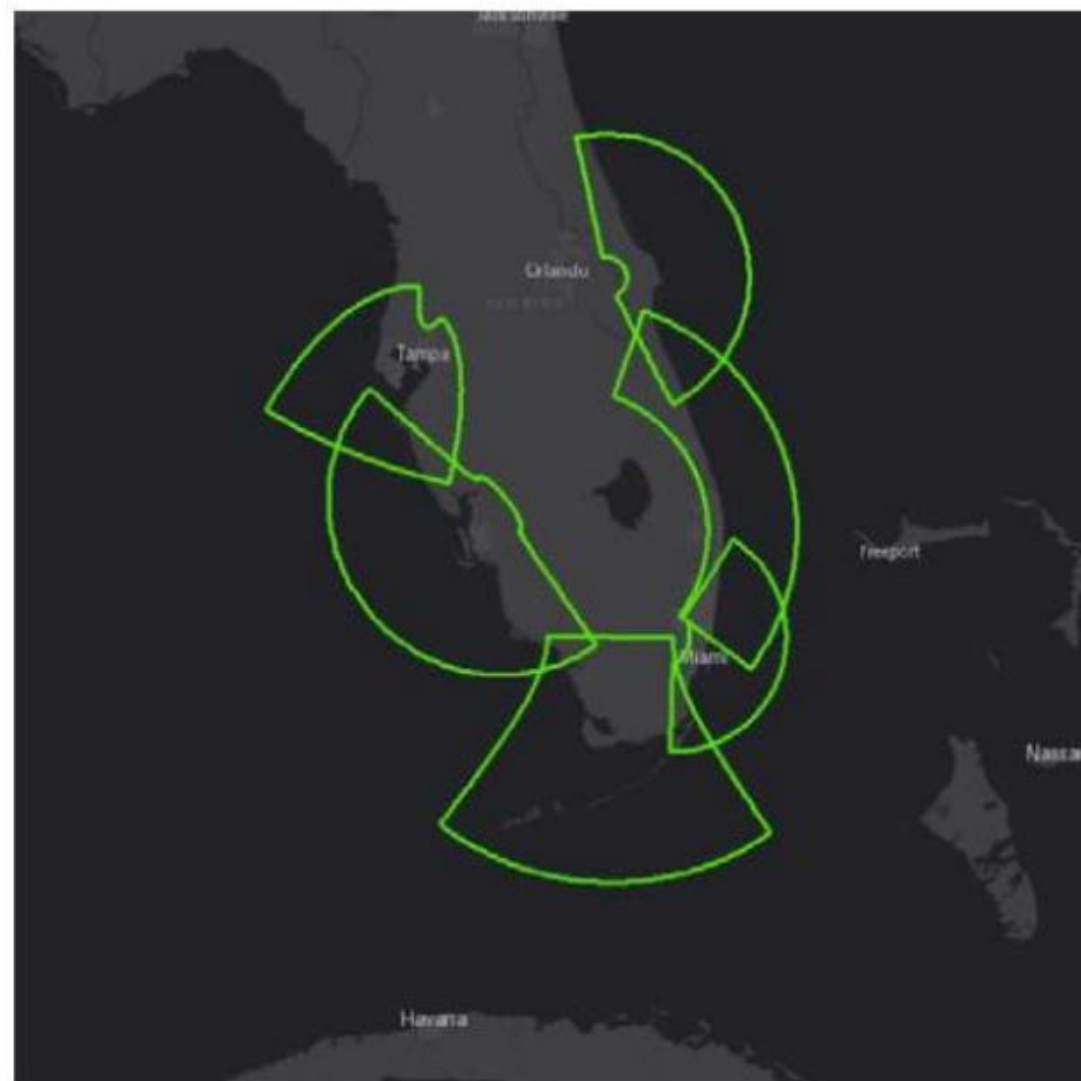
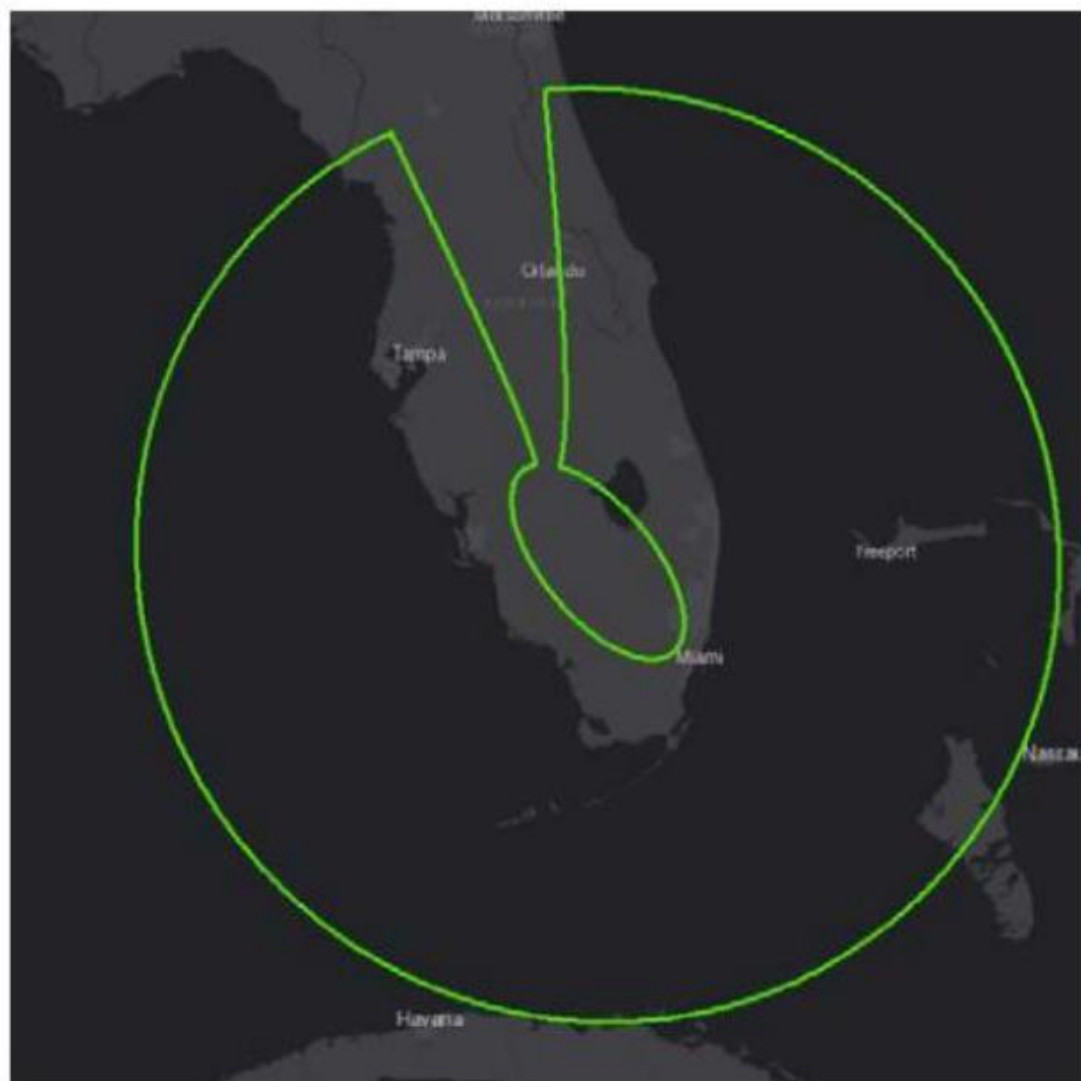
Elevation (ft NAVD88)



N







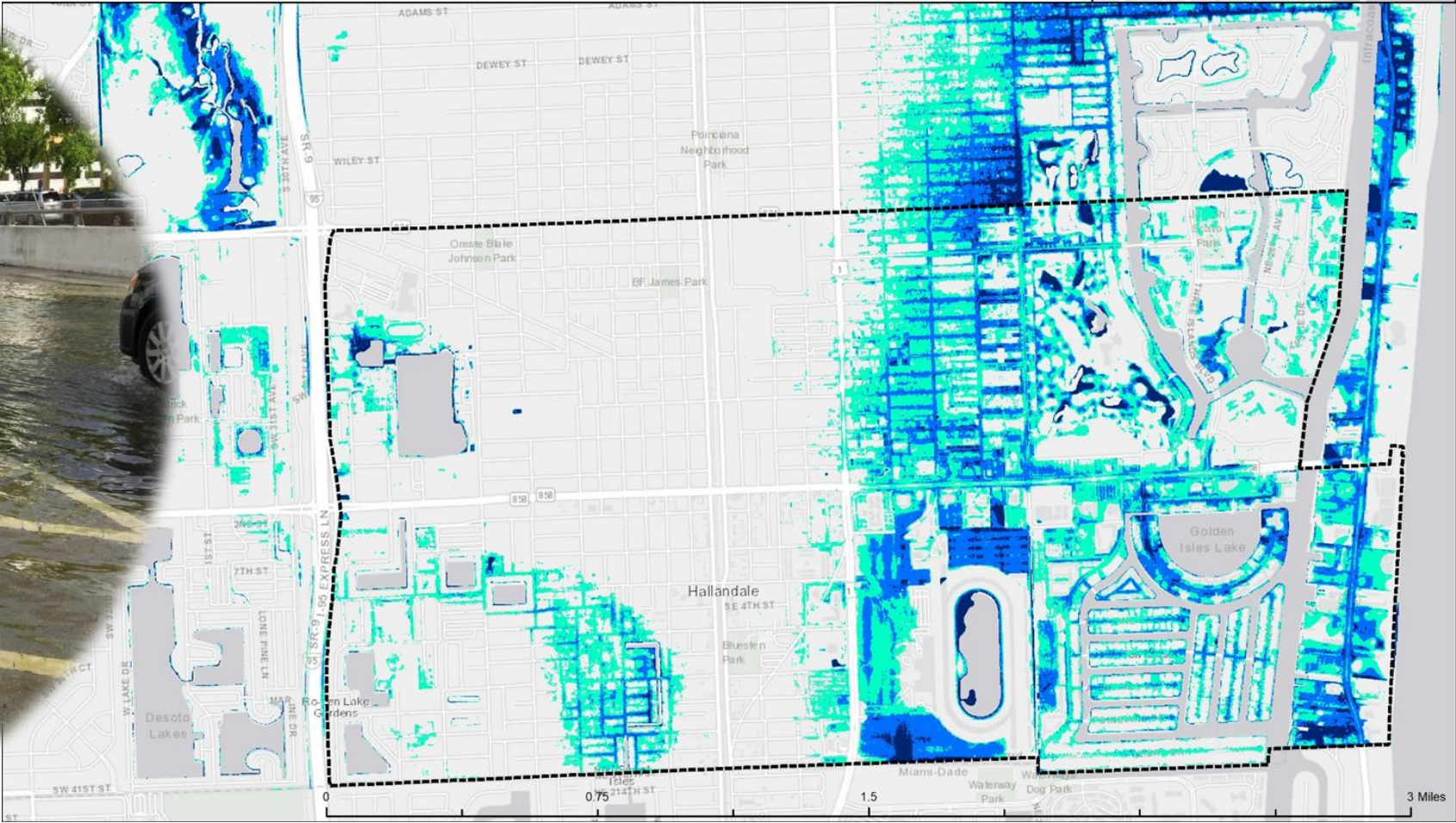
Current Periodic Flooding

King Tide
Flood Event
Inundation
Extent
(2.06 ft NAVD88)

Current
(2017)

1 FT SLR

2 FT SLR



This map is based on both current existing data AND projections.

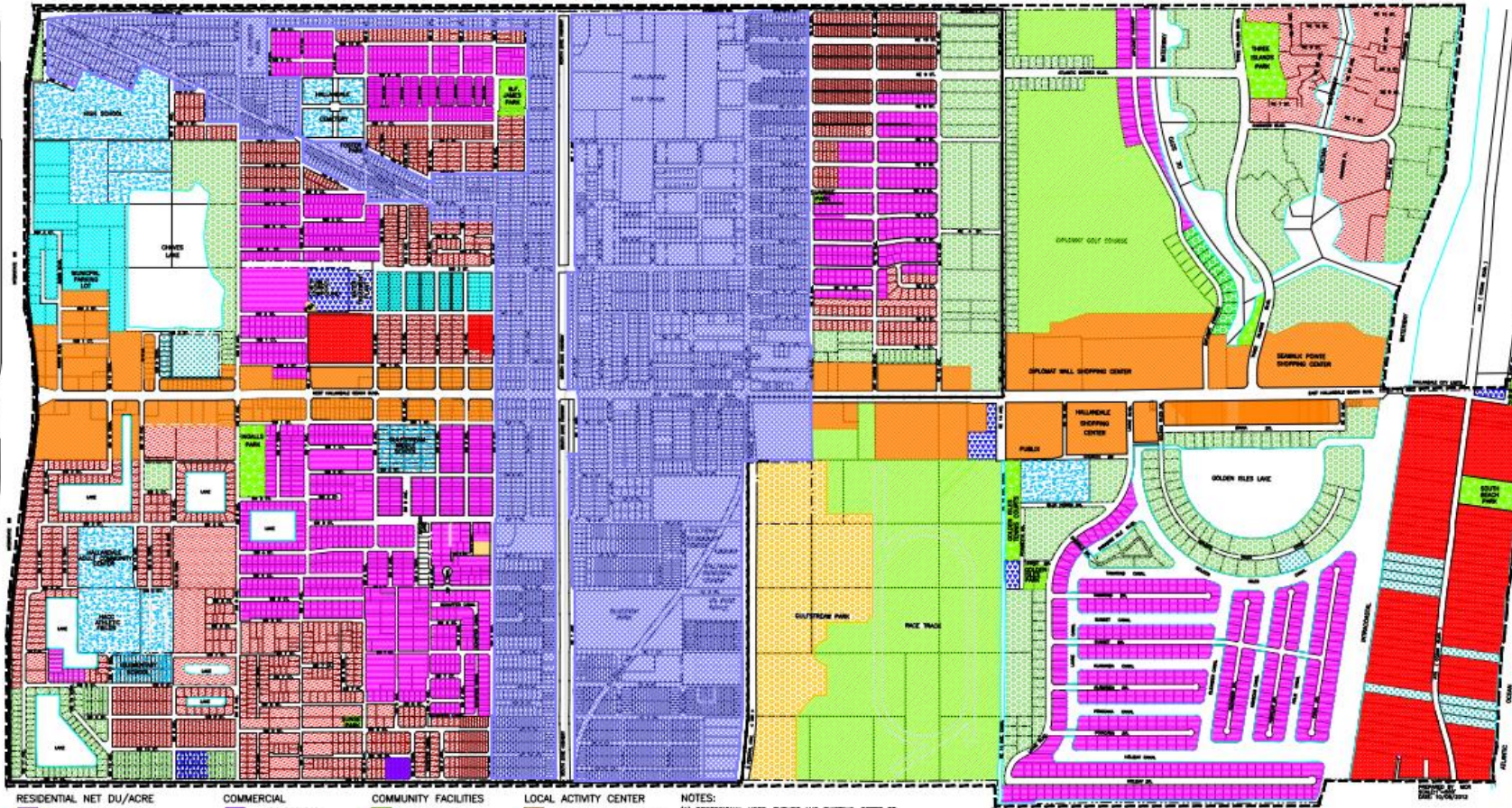
Coastal High Hazard Area (CHHA)

163.3178(2)(h)9, F.S.

the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model



CITY OF HALLANDALE BEACH FUTURE LAND USE MAP



RESIDENTIAL NET DU/ACRE
LOW-DENSITY UP TO 7.0
LOW-MEDIUM DENSITY UP TO 14.0
MEDIUM DENSITY UP TO 18.0
HIGH DENSITY UP TO 25.0
HIGH DENSITY-2 UP TO 50.0

COMMERCIAL
NEIGHBORHOOD
GENERAL
RECREATION
LIGHT INDUSTRIAL
EMPLOYMENT CENTER

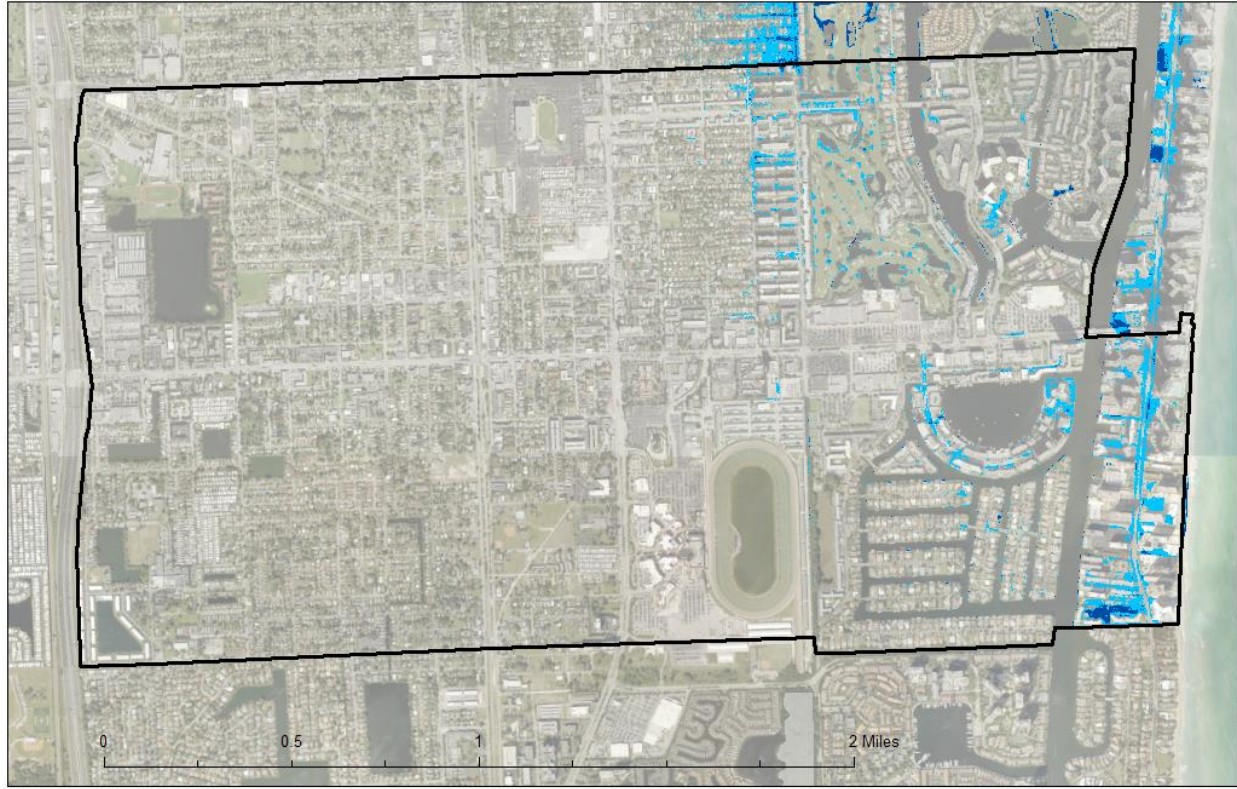
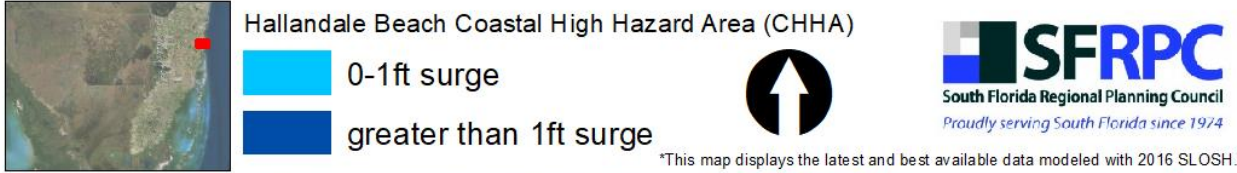
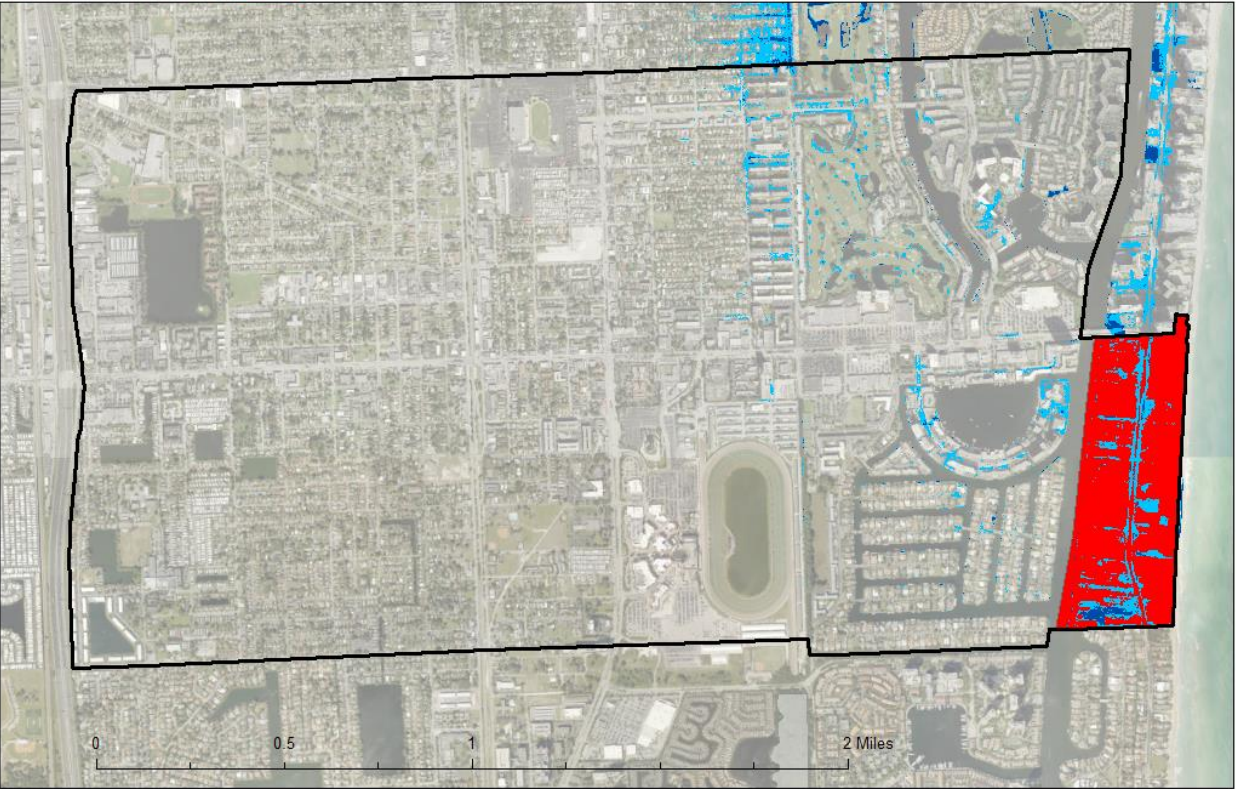
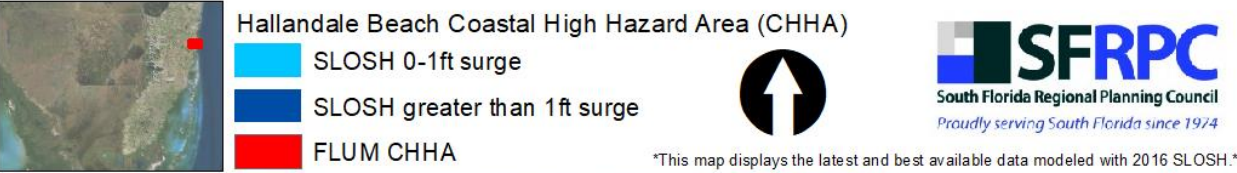
COMMUNITY FACILITIES
PUBLIC PARKS
INSTITUTIONAL
UTILITIES
HISTORIC

LOCAL ACTIVITY CENTER
THE VILLAGE AT GULFSTREAM
PARK LAC
REGIONAL ACTIVITY CENTER

NOTES:
(1) RECREATIONAL USES, FUTURE AND EXISTING, REFER TO: FIGURE 8-2, VOLUME II, COMPREHENSIVE PLAN.
(2) WATER WELLS AND CONES OF INFLUENCE, REFER TO: FIGURE 7-6, VOLUME I, COMPREHENSIVE PLAN.
(3) HISTORICAL DISTRICTS AND STRUCTURES, REFER TO: FIGURE 4-19, VOLUME I, COMPREHENSIVE PLAN.
(4) HALLANDALE FUTURE LAND USE PLAN COMPLETES WITH BROWARD COUNTY TRAFFICWAYS PLAN, REFER TO: FIGURE 3-12, VOLUME I, COMPREHENSIVE PLAN.
(5) CITY OF HALLANDALE BEACH FLEXIBILITY ZONES, REFER TO: FIGURE 2-2, VOLUME II, COMPREHENSIVE PLAN.

TRANSPORTATION CONCURRENCE EXCEPTION AREAS
URBAN INFILL AREA
URBAN REDEVELOPMENT AREA
CITY LIMITS

Present
CHHA in Red



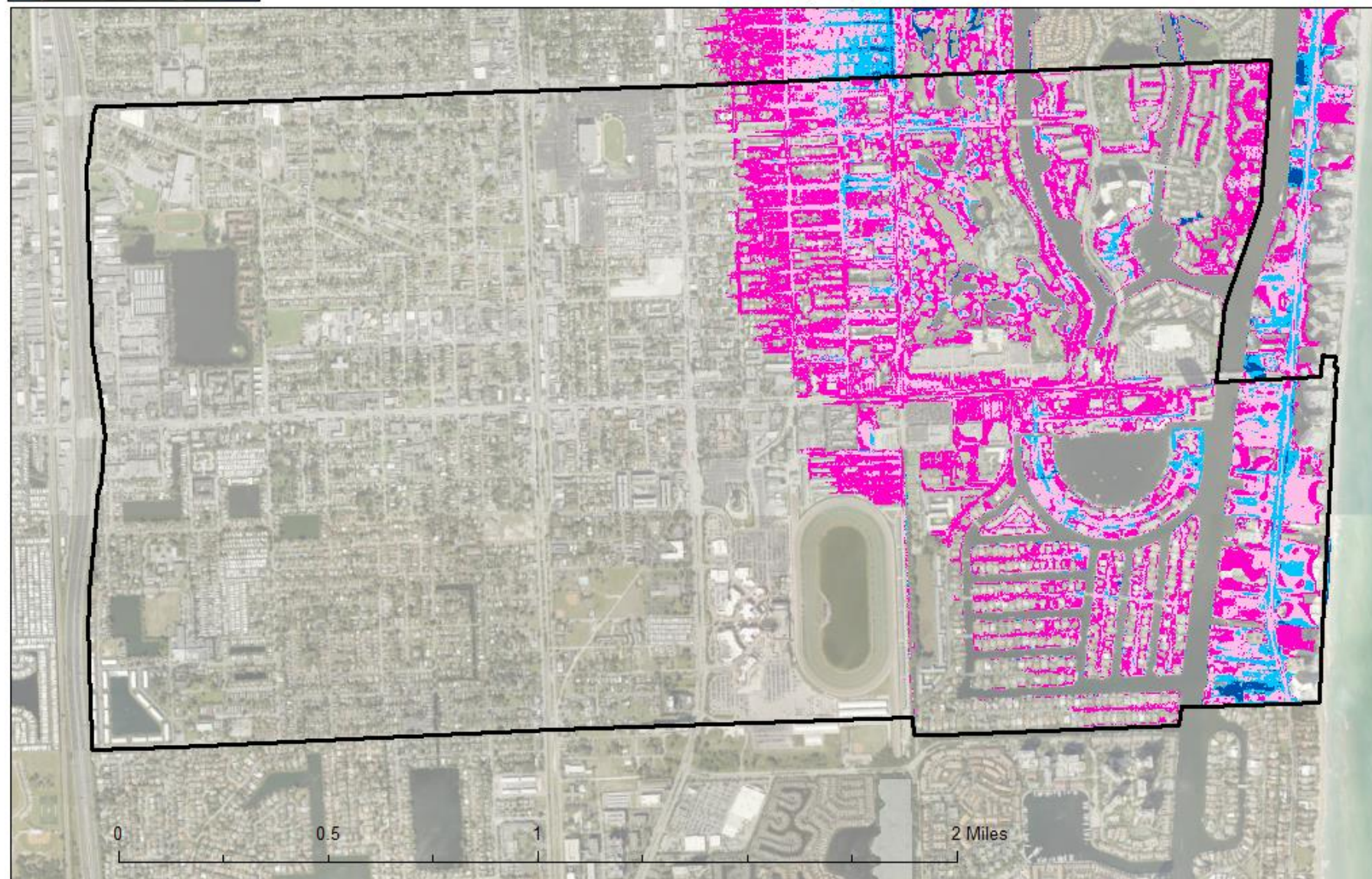


Projected SLOSH with Sea-Level Rise

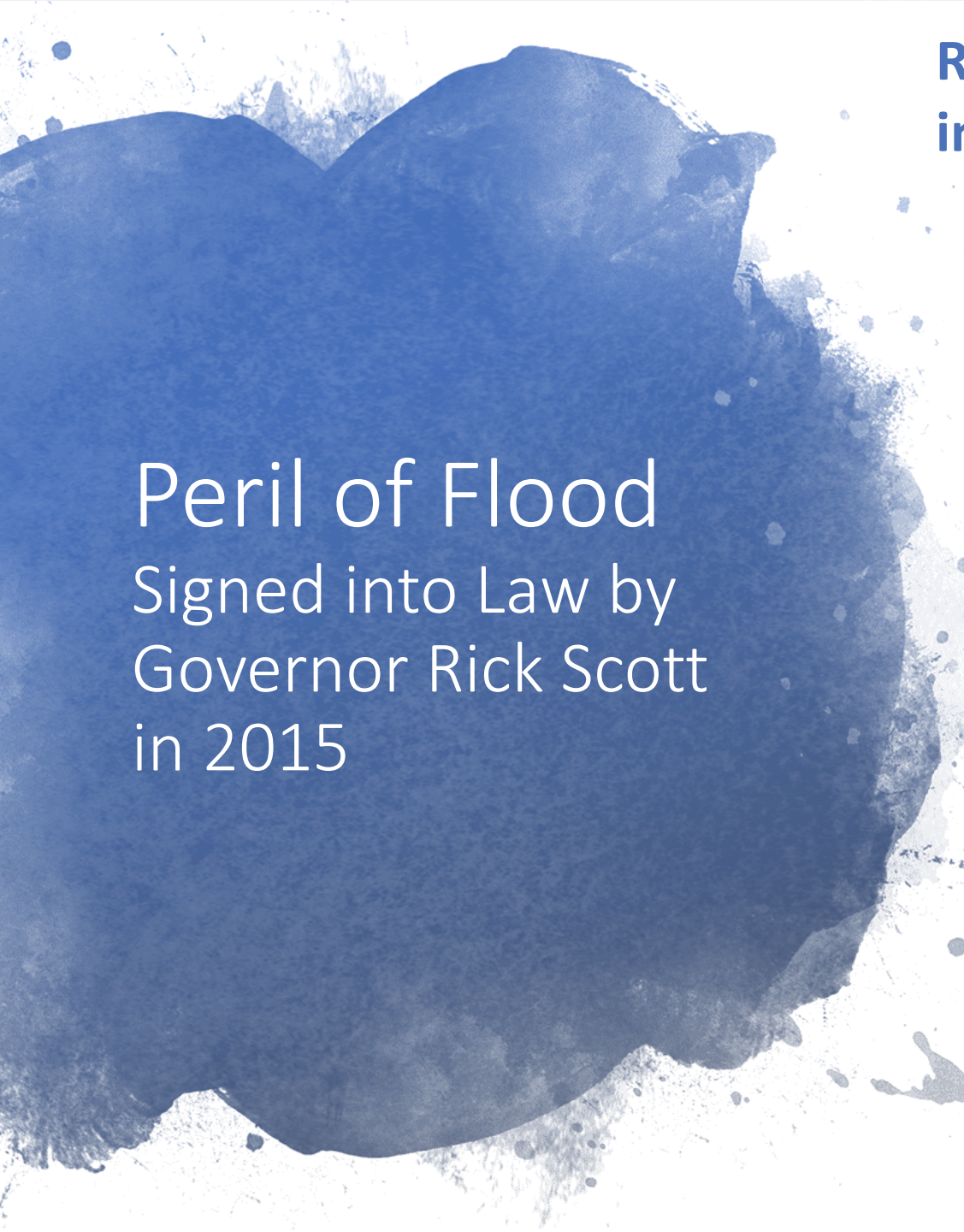
- 2060 CHHA (2 ft SLR)
- 2040 CHHA (1 ft SLR)
- Present Day CHHA 0-1ft surge
- Present Day CHHA >1ft surge



This map displays the latest and best available data modeled with 2016 SLOSH.



	Total Area (Miles ²)
City of Hallandale Beach	4.6
Current CHHA	0.07
CHHA + 1ft. Sea-level Rise	0.34
CHHA + 2 ft. Sea-level Rise	0.76



Peril of Flood

Signed into Law by
Governor Rick Scott
in 2015

Requires the Coastal Management Element include a redevelopment component outlining:

1. Include development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
2. Encourage the use of best practices development and redevelopment principles, strategies, and engineering solutions that will result in the removal of coastal real property from flood zone designations established by the Federal Emergency Management Agency.
3. Identify site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies issued in this state.
4. Be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.
5. Require that any construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.
6. Encourage local governments to participate in the National Flood Insurance Program Community Rating System administered by the Federal Emergency Management Agency to achieve flood insurance premium discounts for their residents.

Summary of Recommendations

- Promotes the use of pervious pavement and native landscaping
- Encourages new development and infrastructure in the CHHA and/or FEMA flood zones use best practices to address sea-level rise
- Incorporates Low-Impact Development into new public projects in the CHHA/FEMA flood zones, including those projects outlined in the BODR
- Continue to improve and repair stormwater management which can function under sea-level rise projections within its lifespan
- Include innovative adaptation or mitigation measures when replacing infrastructure after disaster related damage
- Limit development in areas known to suffer repeated damage due to hurricanes, storm surge, or flooding events
- Begin retrofitting and/or relocating public facilities out of flood zones and the CHHA following damage from natural disasters, tidal flooding, or sea-level rise

Changes to Objective 1.1

a. The City shall limit the specific and cumulative impacts of development or redevelopment upon wetlands, water quality, water quantity, wildlife habitat, living marine resources and the beach dune system through the review of developments in conjunction with County and **State** DEP.

Policy 1.1.2: The City shall restrict construction or redevelopment in areas controlled by State Coastal Construction Control Lines (CCCL) **pursuant to the authority granted in Section 161.053.**

Policy 1.1.3: The City shall require that developers use construction methods which will minimize adverse environmental impacts **and reduce the flood risk.**

Policy 1.1.5: The City shall continue to require building construction techniques **be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in Title 44 C.F.R. Part 60.**

Changes to Objective 1.2

Policy 1.2.4: The City shall continue to coordinate with representatives of all coastal governments which are within **at least two miles** of the boundaries of the Hallandale Beach Coastal area, **including Dania Beach, Hollywood, Aventura, Golden Beach, and Sunny Isles**, to discuss plans and strategies and the implementation of specific programs to ensure (1) adequate sites for water-dependent uses, (2) prevent estuarine pollution, (3) control surface water runoff, (4) protect living marine resources, (5) reduce exposure to natural hazards, and (6) ensure public access to the intercoastal Waterway and Atlantic Beaches.

Policy 1.2.6: The City shall promote the use of pervious pavement and native landscaping methods in order to reduce the deleterious effects of runoff on adjacent ecosystems and property owners through zoning requirements and incentive programs.

Changes to Objective 2.2

Policy 2.2.3: The City shall continue to participate in the National Flood Insurance Program Community Rating System administered by the Federal Emergency Management Agency (FEMA) to achieve flood insurance premium discounts for its residents.

Policy 2.2.4: New development and infrastructure in areas modeled to be within the CHHA and/or FEMA flood zones will be encouraged to use best practices to address sea level rise.

Policy 2.2.5: The City shall incorporate Low-Impact Development (LID) into all new public projects within FEMA flood zones and the CHHA, including infrastructure improvements proposed in the Basis of Design Report (2016). LID is defined as an ecologically-based stormwater management approach favoring soft engineering to manage rainfall on site through a vegetated treatment network (University of Arkansas Community Design Center, 2010).

Changes to Objective 2.3

Policy 2.3.2: The City shall develop an *Adaptation Action Area* designation for those low-lying coastal zones that are experiencing coastal flooding due to extreme high-tides and storm surge and are vulnerable to the impacts of rising sea level, and consider policies within the Coastal Management Element to improve resilience to coastal flooding resulting from high-tide events, storm surge, flash floods, stormwater runoff, and related impacts of Sea-Level Rise. Designating adaptation action areas should be done in coordination with Broward County, adjacent municipalities where applicable, Florida Department of Transportation, and other agencies that plan for or own, operate, and maintain public facilities/infrastructure within or crossing proposed adaptation action areas. Criteria for the adaptation action area may include, but need not be limited to, areas for which the land elevations are below, at, or near mean higher high water, which have a hydrologic connection to coastal waters, or which are designated as evacuation zones for storm surge.

Policy 2.3.3: The City shall continue to include development and redevelopment principles, strategies, and engineering solutions that reduce flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of Sea-Level Rise.

Policy 2.3.4: The City shall continue repairs and improvements to its stormwater management which is capable of functioning under projected Sea-Level Rise within the lifespan of the capital improvements. The City shall utilize the unified Sea-Level-Rise projections established by the Southeast Florida Regional Climate Change Compact.

Changes to Objectives 3.1 & 3.2

POLICY 3.1.1: The City shall not expand capacity of utilities or other infrastructure serving high-hazard areas beyond existing levels, but will only make improvements based on public safety, **adaptation**, and maintenance needs.

POLICY 3.2.2: As part of the City's Post-Disaster Plan, the City will develop a plan for the replacement of infrastructure **which integrates additional innovative climate adaptation and mitigation in the CHHA. The City shall limit development in areas known to suffer repeated damage during hurricane, storm surge, or other flooding events.**

Policy 3.2.3: The City shall prepare Post-Disaster Redevelopment Plans in the CHHA which reduce or eliminate the exposure of human life, public property, and private property to natural hazards by 2020.

Policy 3.2.4: The City shall begin retrofitting and/or relocating public facilities out of flood zones and the CHHA following damage or destruction from natural disasters, tidal flooding, and/or Sea-Level Rise with the exception of water dependent uses such as beach access corridors.

Thank You
