



# **COASTAL RESILIENCE PARTNERSHIP**

## **SOUTHEAST PALM BEACH COUNTY**

# Integrating Socioeconomic Data in a Climate Change Vulnerability

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City of Boynton Beach

Climate Compact Implementation Workshop  
August 18, 2021

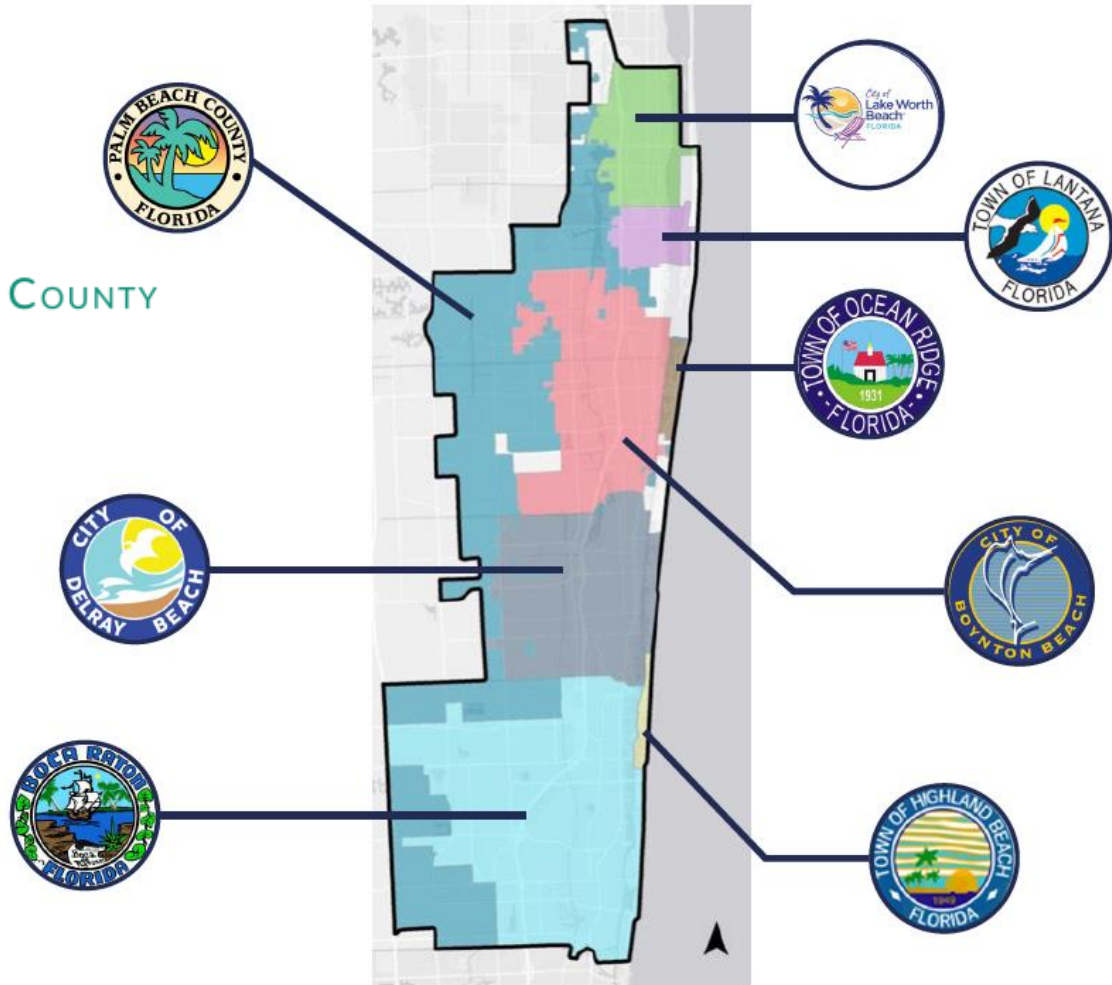




# COASTAL RESILIENCE PARTNERSHIP

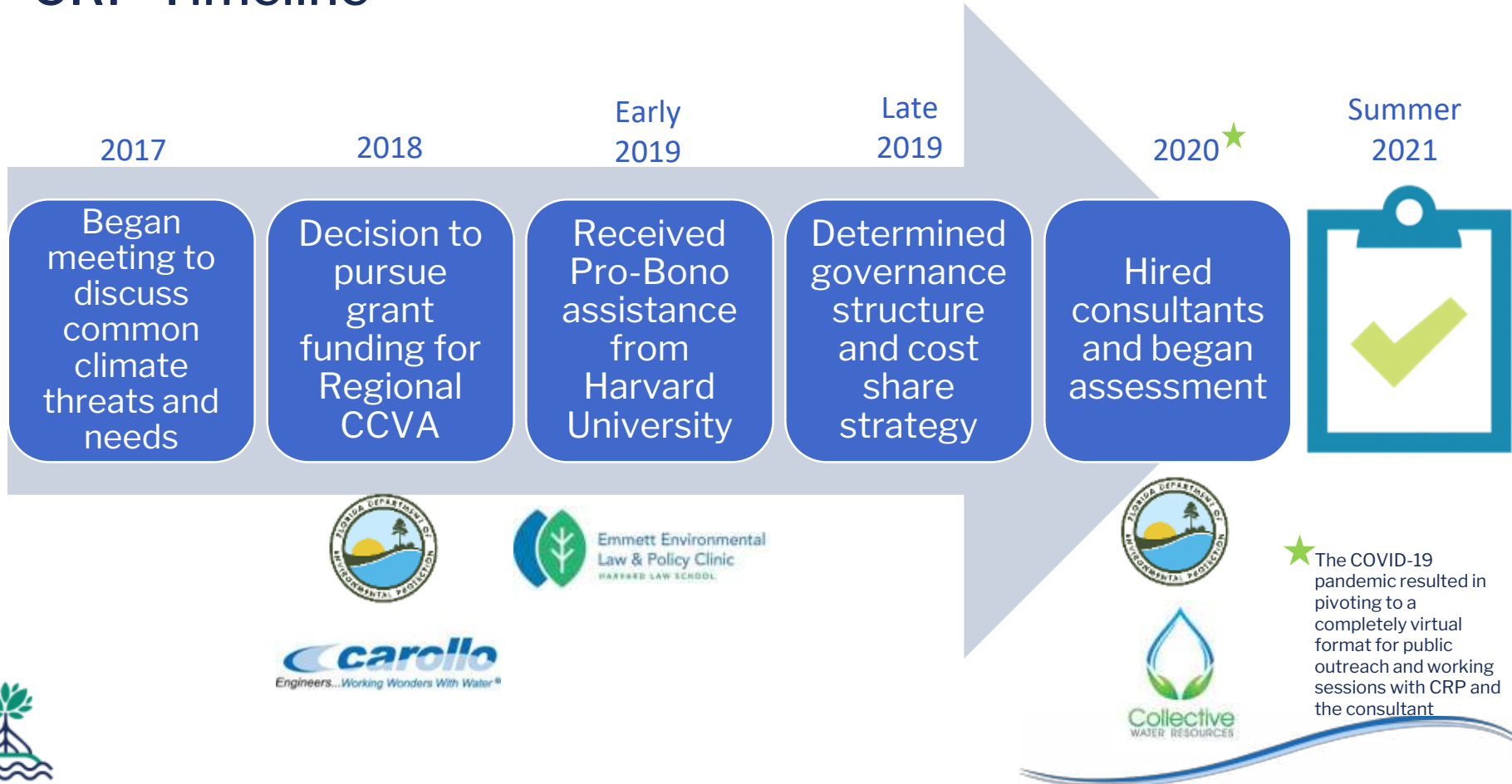
SOUTHEAST PALM BEACH COUNTY

## Multi-Jurisdictional Climate Change Vulnerability Assessment



THIS MAP REPRESENTS THE STUDY AREA FOR THE COASTAL RESILIENCE PARTNERSHIP  
OF SOUTHEAST PALM BEACH COUNTY CLIMATE CHANGE VULNERABILITY ASSESSMENT

# CRP Timeline





# Climate Threats Assessed



High Winds



Rainfall-Induced  
Flooding



Harmful Algal  
Blooms



Pest & Disease  
Outbreaks



Extreme Heat



Drought



Wildfire



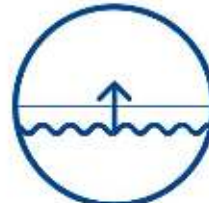
Shoreline  
Recession



Tidal Flooding



Storm Surge



Groundwater  
Inundation



Saltwater  
Intrusion

# Spatially Assessed Threats



High Winds



Rainfall-Induced  
Flooding



Extreme Heat



Tidal Flooding



Storm Surge

# Asset Categories Assessed



Critical Facilities



Property



People and Socioeconomics



Water Infrastructure



Transportation & Mobility



Economic Factors



Natural Resources



# Vulnerability

Understanding the susceptibility of societal assets due to physical and social factors.

**Exposure:** presence of assets in harm

**Sensitivity:** the degree to which asset affected by a threat

**Adaptive Capacity:** the ability to cope

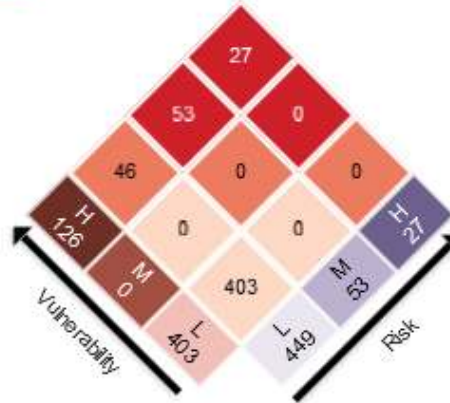


# Risk

Understanding the probability and negative outcome of threats.

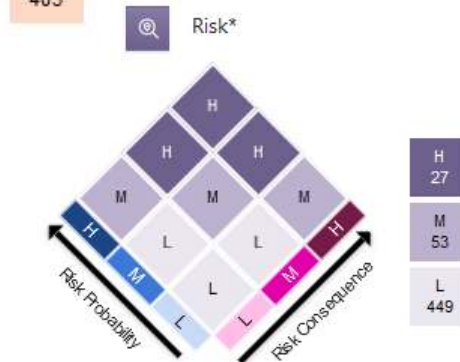


Combined Vulnerability and Risk



likelihood of a threat or occurring

the negative outcome of a event





# Results for study area, at planning scale, and asset-level

## Citywide Analytics

### Rainfall-Induced Flooding (2020)

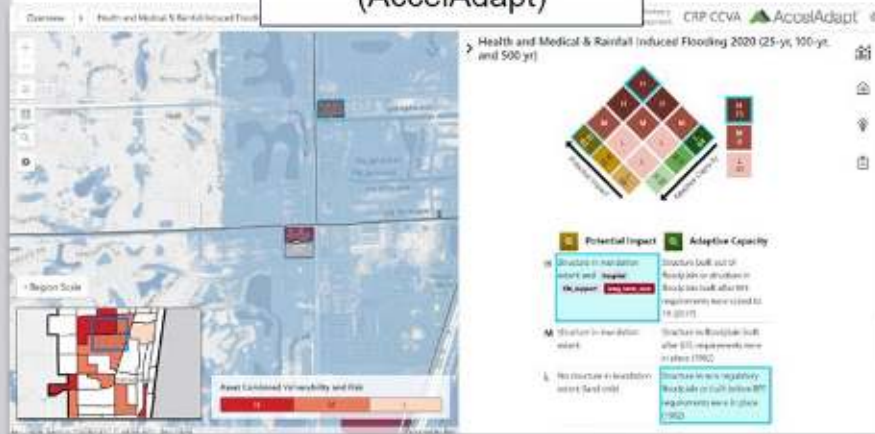
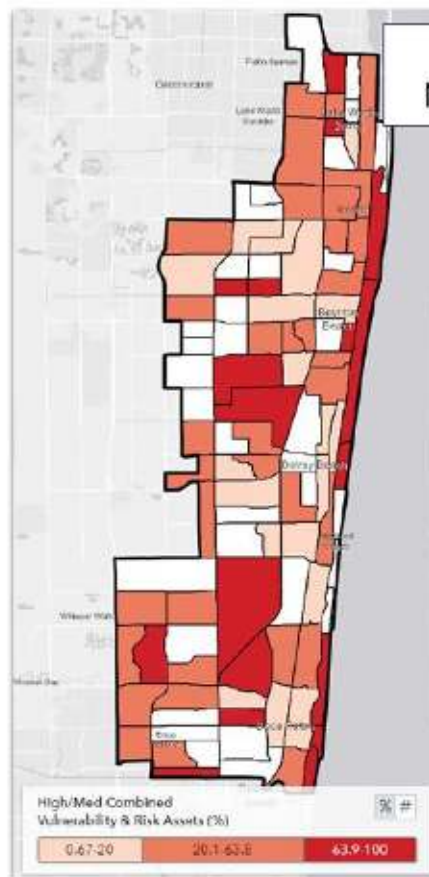
**Businesses** 1,135 (30%)

**Homes** 48,648 (43%)

**Health & Medical Facilities** 75 (37%)

## Census Tracts/ Neighborhood Areas

## Asset-level (AccelAdapt)





# How socioeconomic data are used in the CCVA

- Used in the “ruleset” for Extreme Heat assessment
- Overlaid on all spatial threat assessments to examine social vulnerabilities

## Used to ask and answer specific questions:

- What are the types and areas with the most social vulnerability?
- Where are high social vulnerabilities co-located with high physical vulnerabilities?
- Are equity and justice being prioritized when identifying adaptation investments?





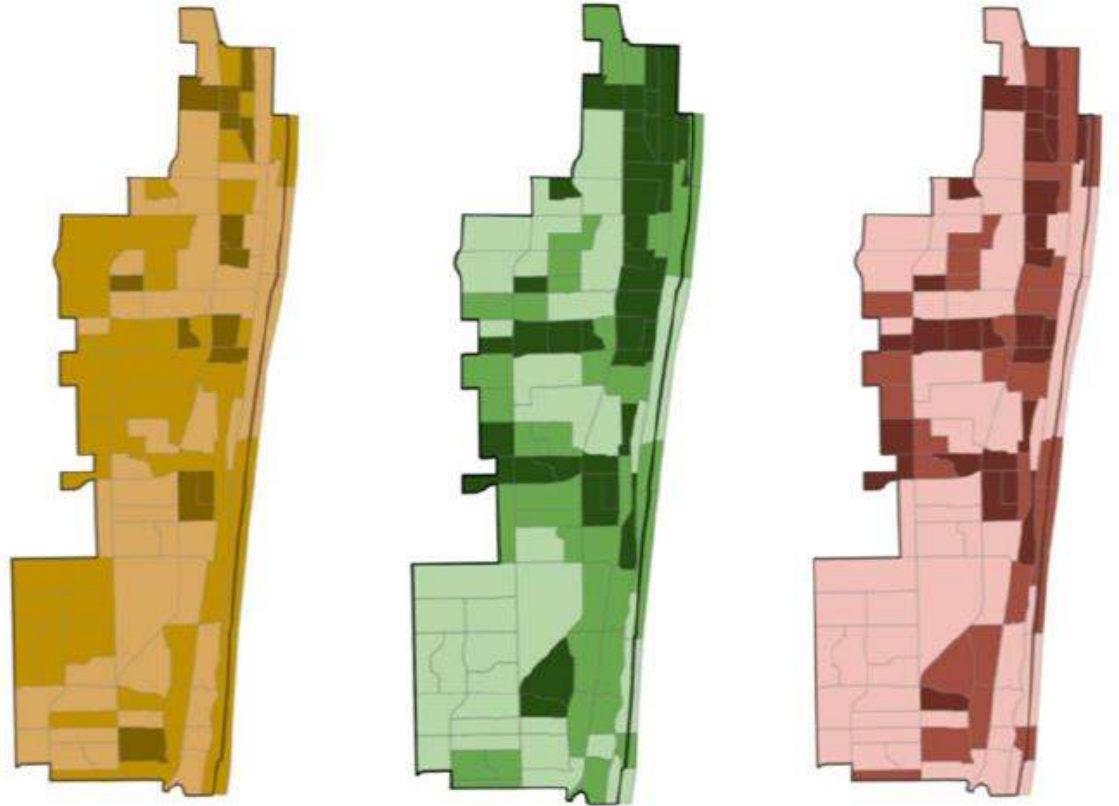
## Extreme Heat

### Potential Impact

- Sensitive populations (over age 65, under 18)
- Developed land cover

### Adaptive Capacity

- Households below the poverty line
- Tree canopy coverage



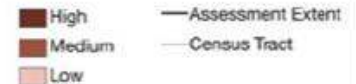
Potential impact by census tract



Adaptive capacity by census tract



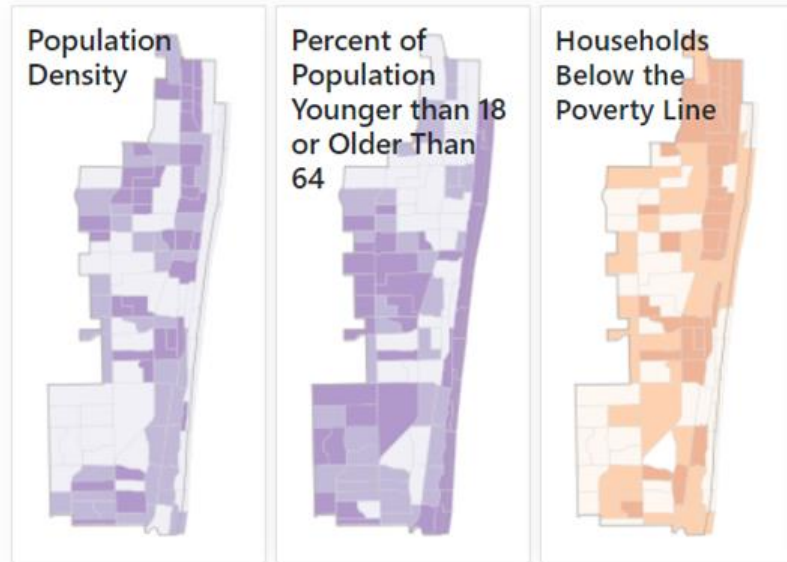
Vulnerability by census tract



## Vulnerability

# For all other spatial threat assessments, overlay data include:

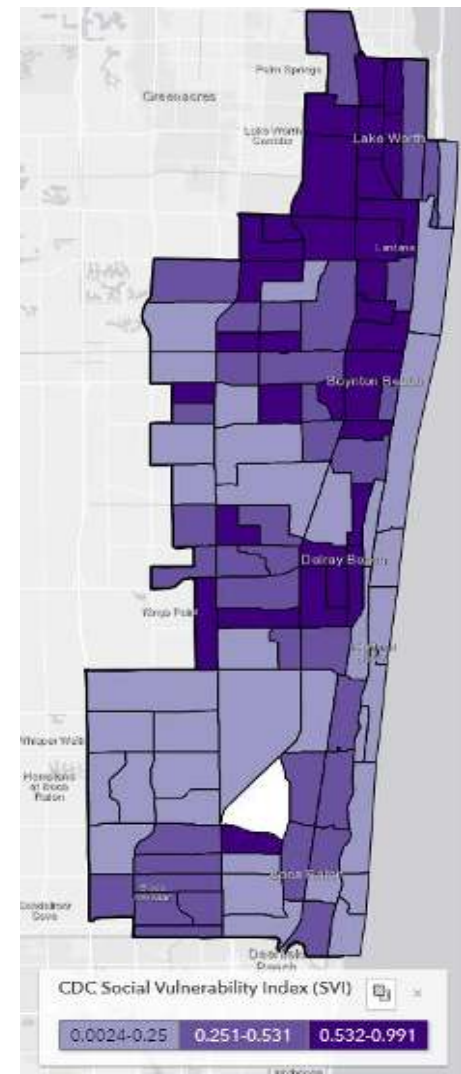
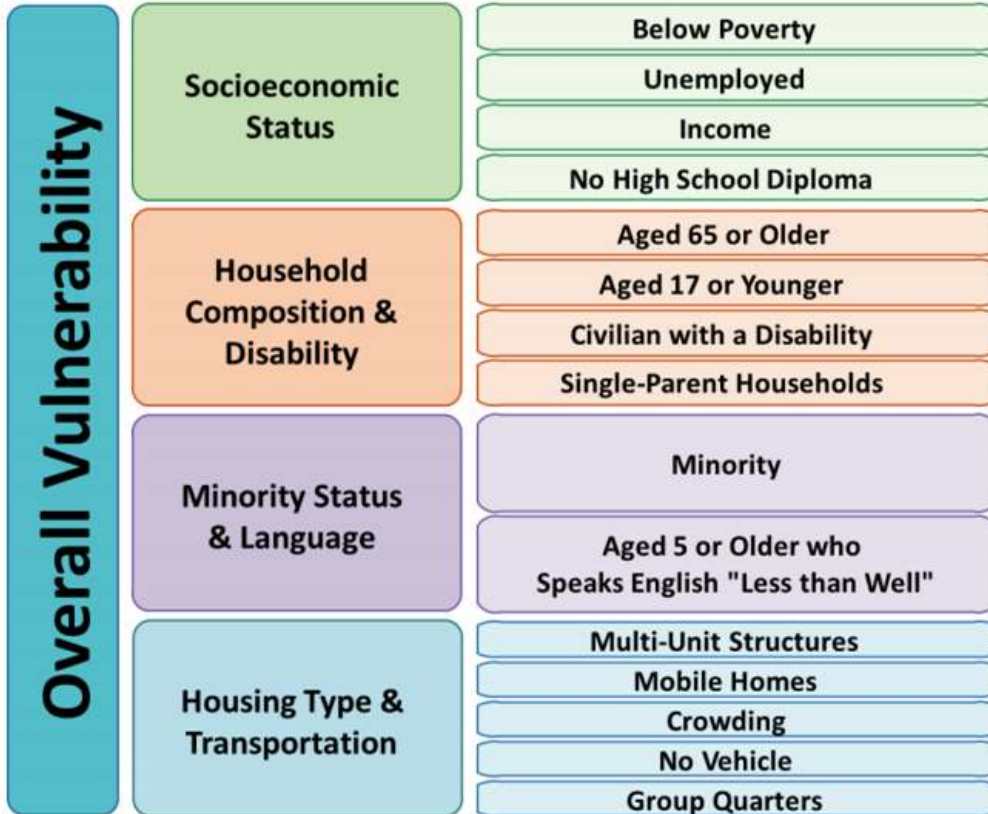
## Socioeconomic metrics from U.S. Census (ACS)



Individuals		Households		Overlay Mode
Population Density				☆
Percent of Population Ages 16+ Unemployed				
Percent Hispanic or Latino Origin Population				
Percent African American Population				
Percent of Population Younger than 18 or Older Than 64				☆
Workers Relying on Public Transportation				
Percent of Population with less than a High School Diploma				
Percent of Population with at least a High School Diploma				
Percent of Population with a College Degree				
Households Below the Poverty Line				☆
Households Above the Poverty Line				
Percent of Households Receiving SNAP Benefits				☆
Median Household Income				



# CDC's Social Vulnerability Index (SVI)

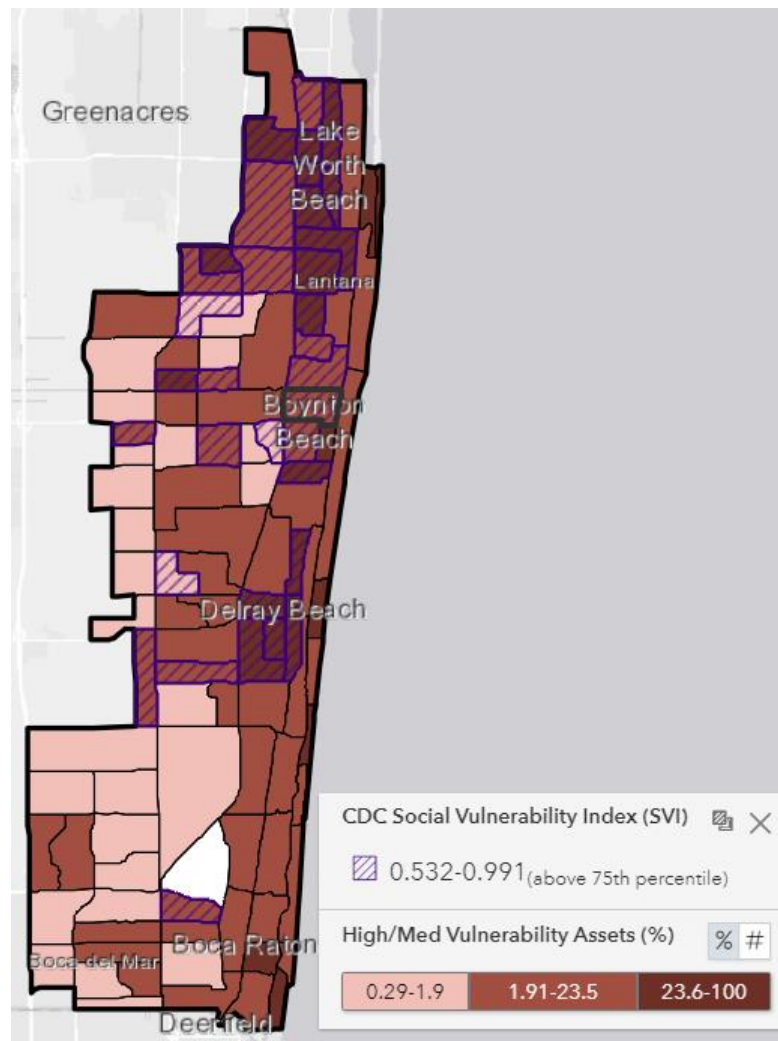






# High Winds & Residential Property

- 12,242 residential properties (11%) are highly vulnerable & at risk
- 5,207 of these properties are sensitive housing types (multi-residence, assisted housing, group home, mobile home)
- 17 of the most socially vulnerable Census tracts also contain >23% of vulnerable residential properties

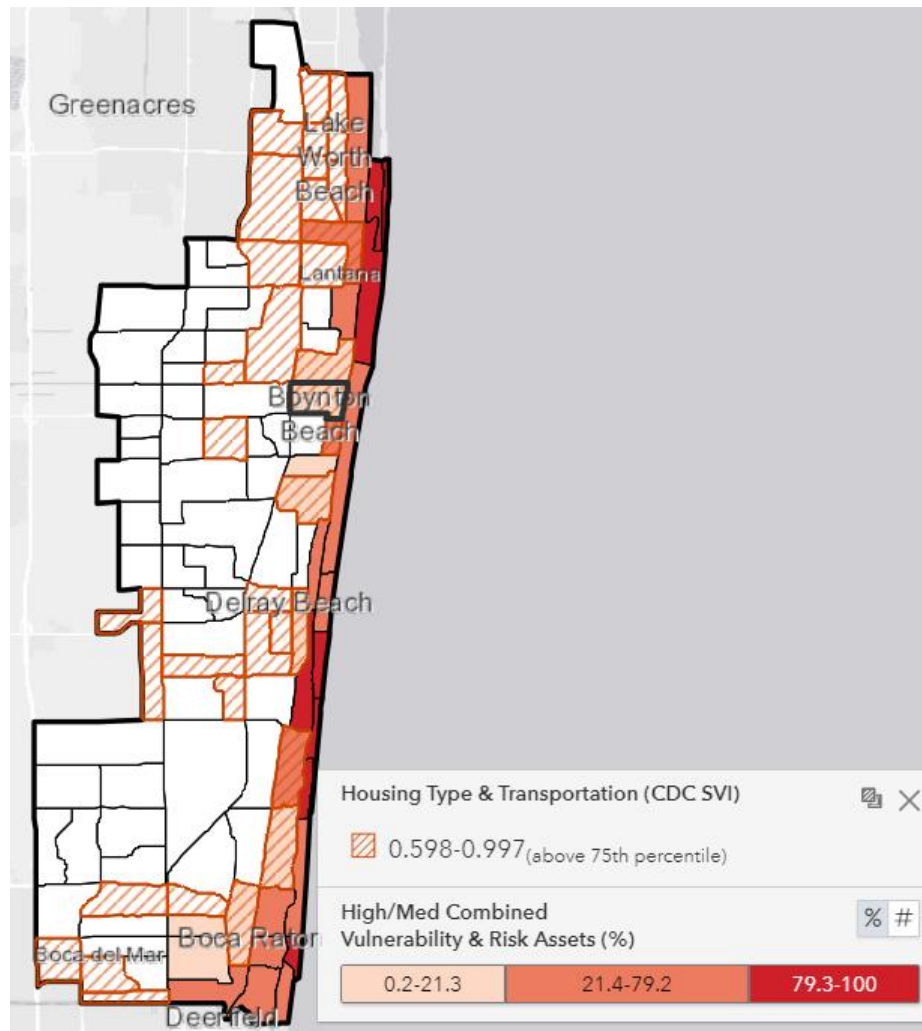




# Storm Surge & Residential Property

- 8,458 of residential properties (7%) are highly vulnerable/at risk in 2020
- By 2070 (+33" SLR), this increases to 11% of properties
- 721 sensitive properties (multi-residence, assisted housing, group homes, mobile home)
- Overlap with 3 Census tracts with high housing/transportation vulnerability (e.g., no vehicle)

Critical for evacuation

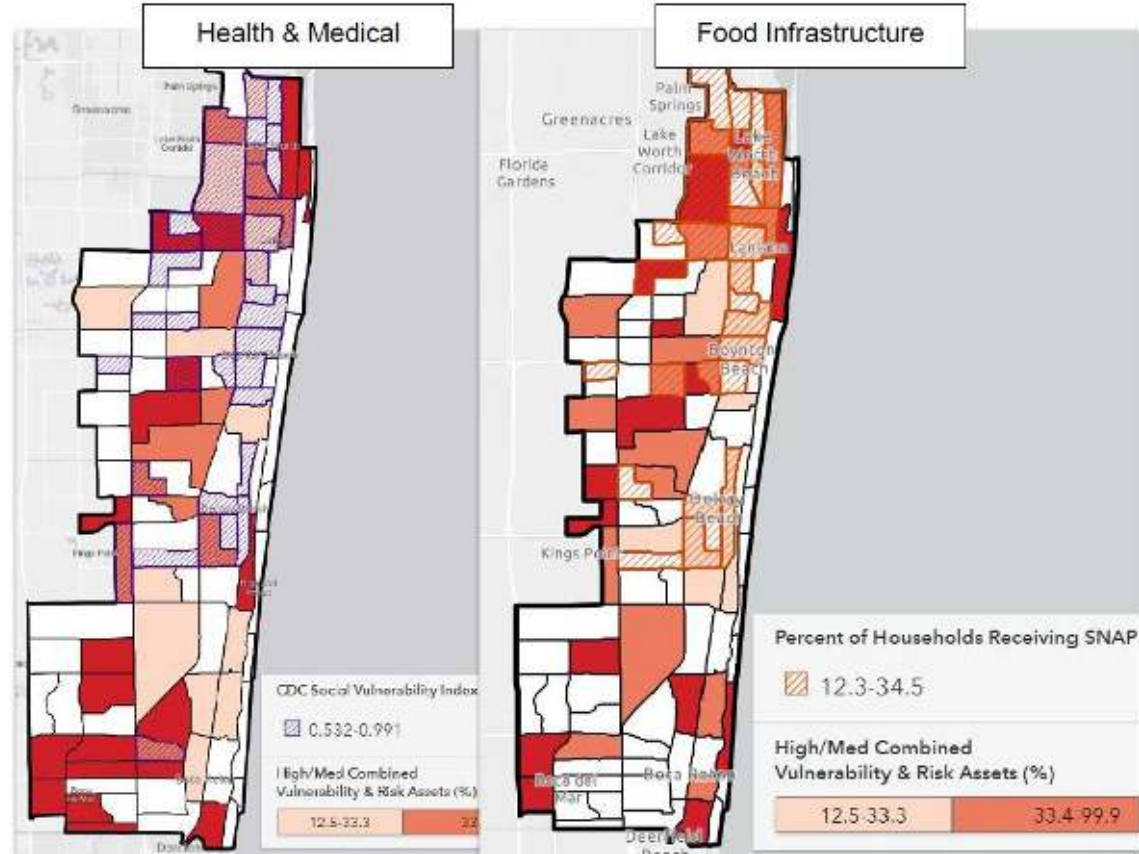




# Rainfall-Induced Flooding & Critical Facilities

2020 (25, 100, and 500-year flood extents)

- 37% of Health & Medical and 29% of Food Infrastructure assets are highly vulnerable & at risk
- 11 of the most socially vulnerable Census tracts have vulnerable health & medical facilities
- 10 of the highest SNAP participation Census tracts have vulnerable food retailers/pantries



# SOCIAL EQUITY & ADAPTATION



It is important to consider frontline communities – those that will experience climate change first and worst and ensure that we all rise above the challenge together.

## Shared Benefits

Can the benefits of an action or strategy reduce historical or current disparities, economic or otherwise?

## Relationship Building

Does the action help foster building effective, long-term relationships and trust between diverse communities and local government?

## Alignment and Partnership

Does the action align with existing priorities of frontline communities and allow for collaboration and partnership?

## Capacity Building

Does the action help build frontline community capacity through funding or expanded knowledgebase?



# Next Steps

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- Integrate assessment results and equity metrics into interdepartmental planning and operations
- Prioritize and implement adaptation strategies with equity
- Engage with Florida “Always Ready” resilience law and prepare for state and federal funding opportunities
- Host public meetings about climate threats and solutions that are easily accessible to underserved populations
- Continue to collaborate as the Coastal Resilience Partnership





# Racial and Social Equity Comprehensive Community Needs Assessment



ANALYTICS

Economic Development, Education,  
Housing, Criminal Justice and Safety,  
Public Health

ENHANCED COMMUNITY  
ENGAGEMENT

Community survey, focus groups,  
formation of standing committees

POLICY  
RECOMMENDATIONS

Detailed policy recommendations that  
take into account the varied economic  
and social needs of residents



# COASTAL RESILIENCE PARTNERSHIP

SOUTHEAST PALM BEACH COUNTY

## Thank You

### Consultant Team:



### Expert Panel:



ERIN L. DEADY, P.A.



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# Questions?

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for full CCVA report  
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