Joint Climate Change Vulnerability Assessment in Southeast PBC

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Palm Beach County Background

- 1,977 square miles
- ≈ 47 miles of coastline
- 39 municipalities
- Approximately 1.5 million year-round residents
  - 43.6% living in unincorporated
  - **56.4% living in incorporated areas**
What is the CRP?

• 7 municipalities + PBC
• CRP communities share:
  • ≈ 20-mile stretch of Intracoastal Waterway
  • similar physical, geographic and social characteristics
  • similar climate change impacts
  • lack of a comprehensive local assessment
Southeastern municipalities began meeting to discuss common climate threats and needs.

Decided to pursue joint CCVA; inventoried GIS data and developed CCVA methodology.

Finalized scope of work and cost-share structure, signed ILA to create CRP.

Issued RFP for CCVA, hired consultant team, conducted 3 workshops.

Completing Steps 1 and 2 of CCVA (threats and assets), beginning vulnerability assessment.

Spring 2021
The CCVA Project Team
CCVA Scope of Work

Task 1. Explore Climate Threats → June 2020
Task 2. Assemble Data on Community Assets → June 2020
Task 3. Assess Vulnerabilities and Risks → October 2020
Task 4. Investigate Potential Adaptation Strategies → January 2021
Task 5. Prepare Final Report and Interactive Map/Tool → March 2021
Top 12 Threats

- 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
Assets

- Critical Facilities
- Water Infrastructure
- Economy
- Natural Resources
- People
- Residential Property
- Commercial Property
- Public/Cultural Property
- Transportation & Mobility
How We Are Using the Unified SLR Projection

NOAA High
Recommended for Sensitive and Critical Infrastructure

NOAA Intermediate High
Recommended for Assets with Adaptive Capacity

IPCC Median
Recommended for Assets with Short Life Cycle

FIGURE 1: SFRCCC Unified Sea Level Rise Projection modified to show colored curves
Applying Sea Level Rise Scenario Projections (Preliminary)

- Consider two planning horizons
  - 2040: where incremental adaptation is possible mid-life cycle
  - 2070: where incremental adaptation is not possible
- Consider risk across the scenario projections
  - Lower thresholds can represent higher risk
- Levels of risk aversion can be selected based on asset sensitivity and Compact guidance

<table>
<thead>
<tr>
<th>Year</th>
<th>Risk</th>
<th>Mean Sea Level Threshold (inches)</th>
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</thead>
<tbody>
<tr>
<td>2040</td>
<td>High</td>
<td>10 (IPCC Median)</td>
</tr>
<tr>
<td></td>
<td>Med</td>
<td>17 (NOAA Intermediate High)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>21 (NOAA High)</td>
</tr>
<tr>
<td>2070</td>
<td>High</td>
<td>21 (IPCC Median)</td>
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<tr>
<td></td>
<td>Med</td>
<td>40 (NOAA Intermediate High)</td>
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<tr>
<td></td>
<td>Low</td>
<td>54 (NOAA High)</td>
</tr>
</tbody>
</table>
Thank you!

Questions?

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