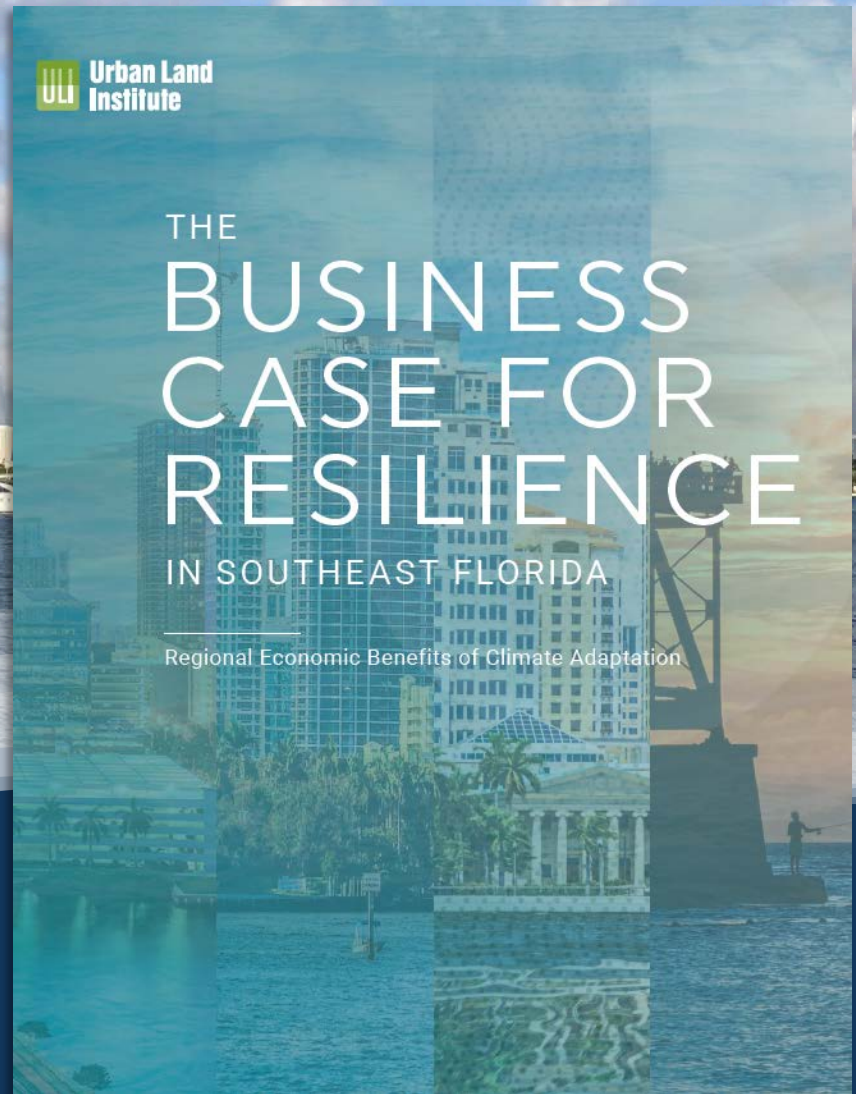




The Business Case for Resilience in Southeast Florida

Jacksonville Resiliency Subcommittee on Infrastructure Continuity of Operations

November 13, 2020



 **Urban Land
Institute**

AECOM

Project History

- ULI coordinated with the Southeast Florida Regional Climate Change Compact to conduct a new regional analysis examining the economic impacts of sea level rise and flooding, and **economic opportunities associated with investments in resilient infrastructure**.
- Led by the Southeast Florida Business Community in partnership with the four counties.
 - What is the business case for adapting to sea level rise and more frequent flooding?
- Funders & Partners
 - Florida DEP Grant
 - Broward, Miami-Dade, Monroe, and Palm Beach Counties
 - Business Community
 - Philanthropy
 - AECOM, Technical & Modeling Consultant



Project Purpose

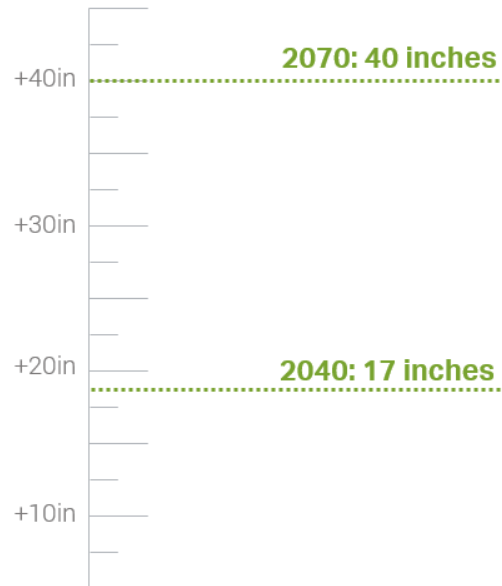
To identify the ***return on investment*** for resilience and adaptation measures in Southeast Florida.



Why Higher Frequency Flooding?

This study examines flooding that occurs often and is not associated with large catastrophic events.

- This study examines events that occur frequently, where the economic implications are not readily understood.
- Adaptation can reduce flooding from higher frequency events.
- These events will get noticeably worse as sea levels rise.



2 Calculating Avoided Damages

Impacts were modeled for parcels where

25%

or more of the parcel footprint is exposed to the modeled coastal conditions.

Temporary Storm Damages

Permanent Damages from Rising Sea Levels

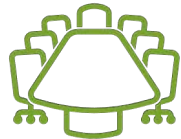


Direct Property Impacts

- Structure and content damages
- Relocation costs

Direct Property Impacts

- Property value loss



Business and Employment Impacts

- Sales output loss
- Income loss
- Job impacts

Business and Employment Impacts

- Sales output loss
- Income loss
- Job impacts



Fiscal Impacts

- Sales tax loss
- Tourist development tax loss

Fiscal Impacts

- Property tax loss
- Sales tax loss
- Tourist development tax loss

2040 Highlight of Avoided Damages



Direct Property Impacts



Business and Employment Impacts



Fiscal Impacts

Temporary Storm Damages

\$3.2bil

In structure and content losses from one **10-year tide** event under 2040 conditions.

360 jobs

Impacted by a **10-year tide** in 2040.

\$2mil

Sales & tourism tax losses from **10-year tide** in 2040.

Permanent Damages from Rising Sea Levels

\$4.2bil

In property value exposed to **daily tidal inundation** in 2040.

720 jobs

Impacted by **daily tidal inundation** in 2040.

\$28mil

Fiscal loss from **daily tidal inundation** in 2040.

**Results shown here are not adjusted to account for financial discounting. Parcels impacted by daily tidal inundation are excluded from the 10-year tide damages. The 10-year tide results account for the impacts of one storm event and are not adjusted for probability of the storm event occurring.*

2070 Highlight of Avoided Damages



Direct Property Impacts



Business and Employment Impacts



Fiscal Impacts

Temporary Storm Damages

\$16.5bil

In structure and content losses from one **10-year tide** event under 2070 conditions.

1,300 jobs

Impacted by a **10-year tide** in 2070.

\$8mil

Sales & tourism tax losses from **10-year tide** in 2070.

Permanent Damages from Rising Sea Levels

\$53.6bil

In property value exposed to **daily tidal inundation** in 2070.

17,800 jobs

Impacted by **daily tidal inundation** in 2070.

\$384mil

Fiscal loss from **daily tidal inundation** in 2070.

**Results shown here are not adjusted to account for financial discounting. Parcels impacted by daily tidal inundation are excluded from the 10-year tide damages. The 10-year tide results account for the impacts of one storm event and are not adjusted for probability of the storm event occurring.*



There is a **compelling** business case for the region to make significant investments in resilient infrastructure **now** and to collaboratively coordinate within the region applicable methods to address these threats.

Community-wide Adaptation

A combination of soft and hard engineering investments at the open coast, intracoastal, and inland areas.

Building-level Adaptation

A combination of structural improvements to property itself.



Note: Building-level adaptation will not provide benefit to regional infrastructure or to coastal resources such as beaches.

Building-Level Adaptation



Community-Wide Adaptation

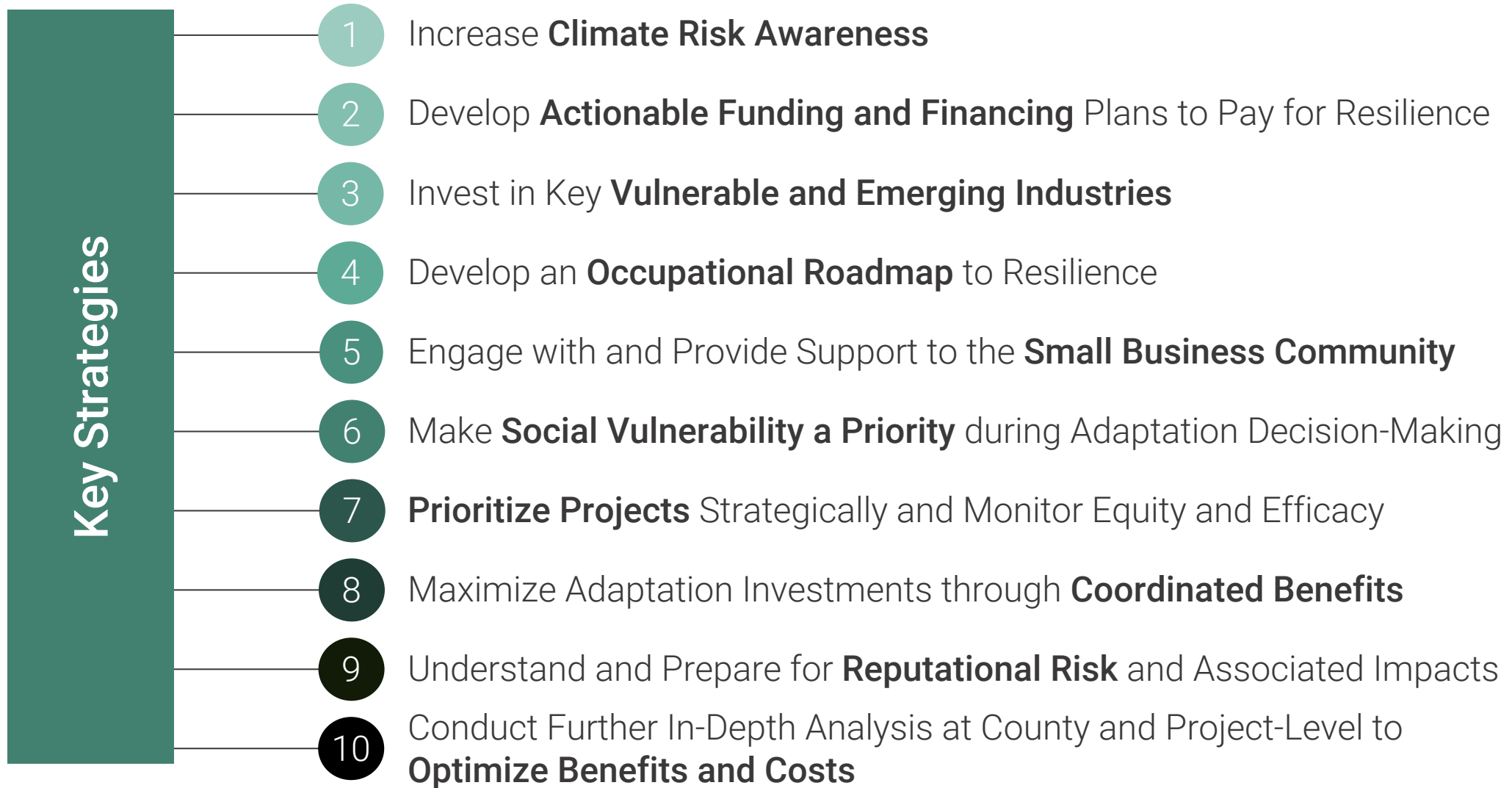


One Job  x Ten Years  = Ten Job Years **10**

*Results presented in net present value terms using a 5 percent discount rate over the period of analysis from 2020 to 2070

**Presented in terms of job years. Job years is equivalent to one year of work for one person; for example, a new construction job that lasts two years will equate to two job years.
Estimated job years supported due to direct investment spending in the four counties of analysis

Recommendations



An aerial photograph of a city waterfront featuring a canal with several boats, including a large ferry. The canal is flanked by lush greenery and walkways on one side, and modern high-rise apartment buildings on the other. In the background, a large, classical-style building with a central tower is visible. The entire image has a blue color overlay.

Thank you.

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