Sea Level Rise Planning and School Curriculum

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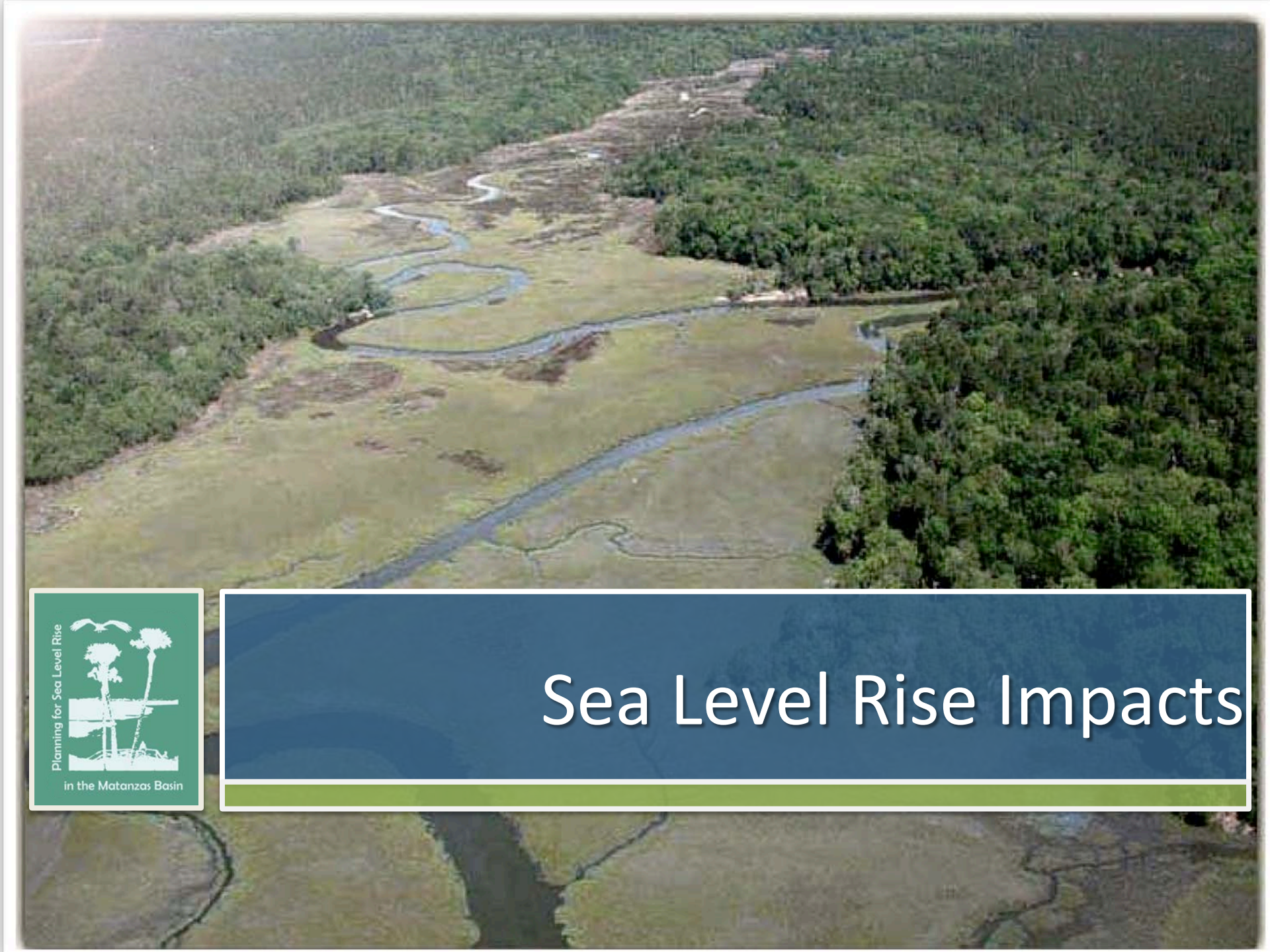
Two Projects: Two Curricula

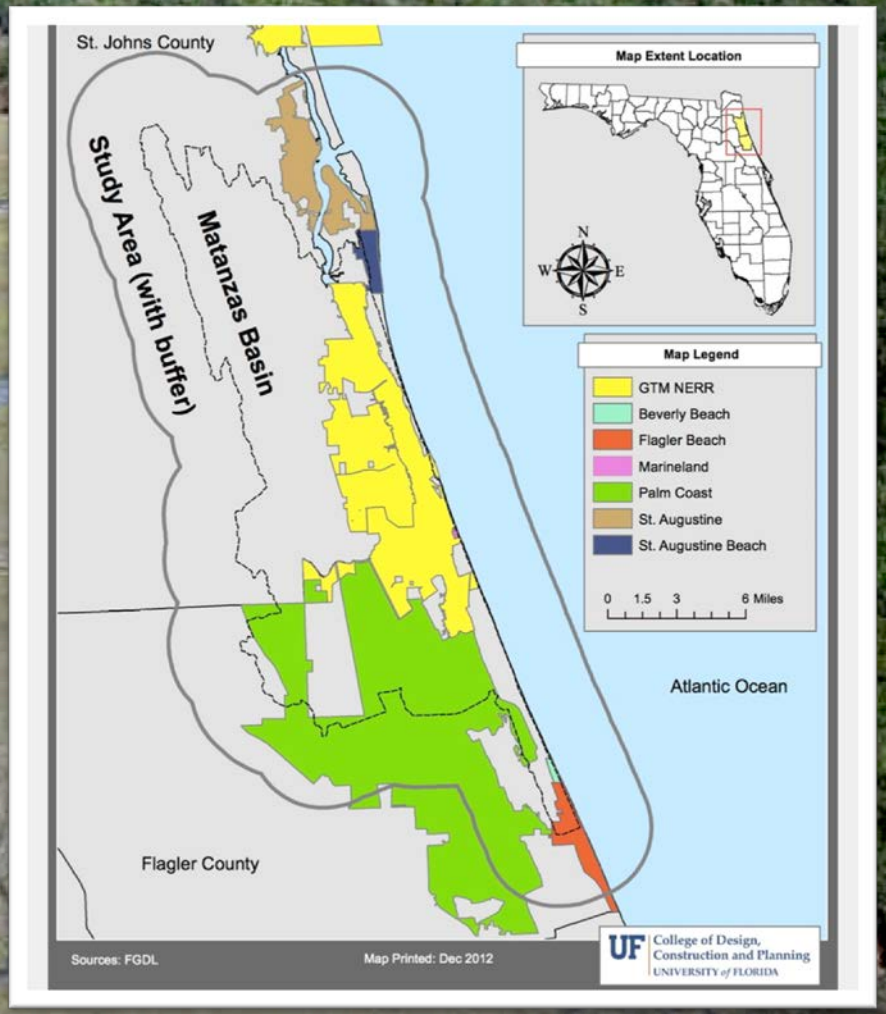
- Matanzas – Northeast Florida
  - Sea Level Rise Primer
  - Sea Level Rise Strategies Role-Play Game
- Levy County – Gulf Coast, Big Bend
  - Planning for Coastal Change Summer Camp Curriculum



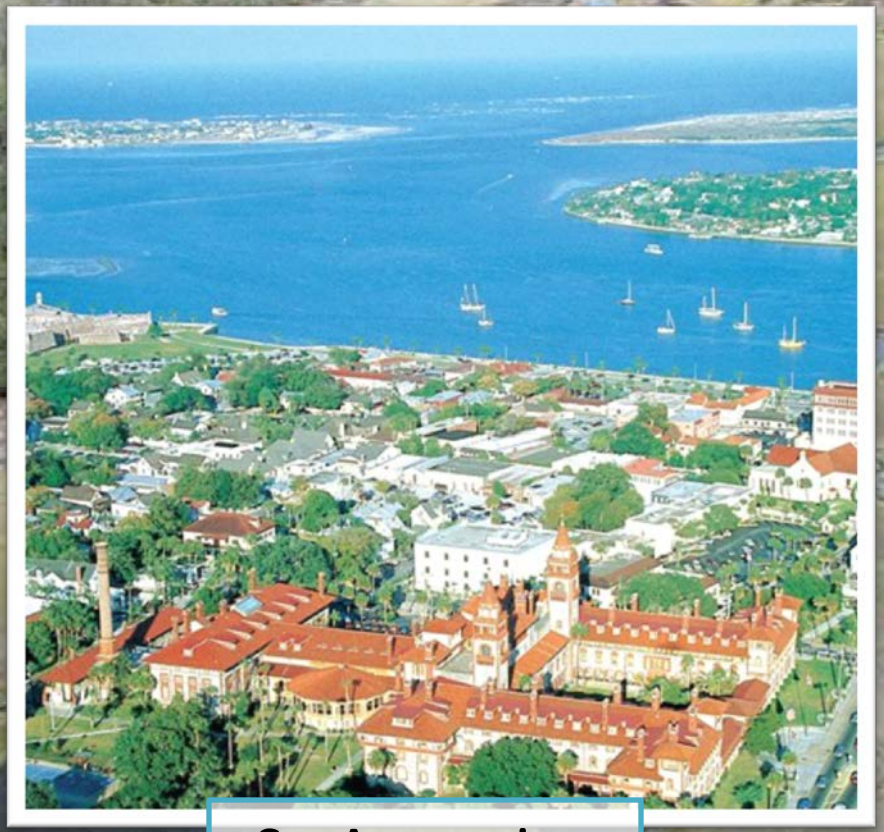
Sea Level Rise Impacts

Matanzas Study Area

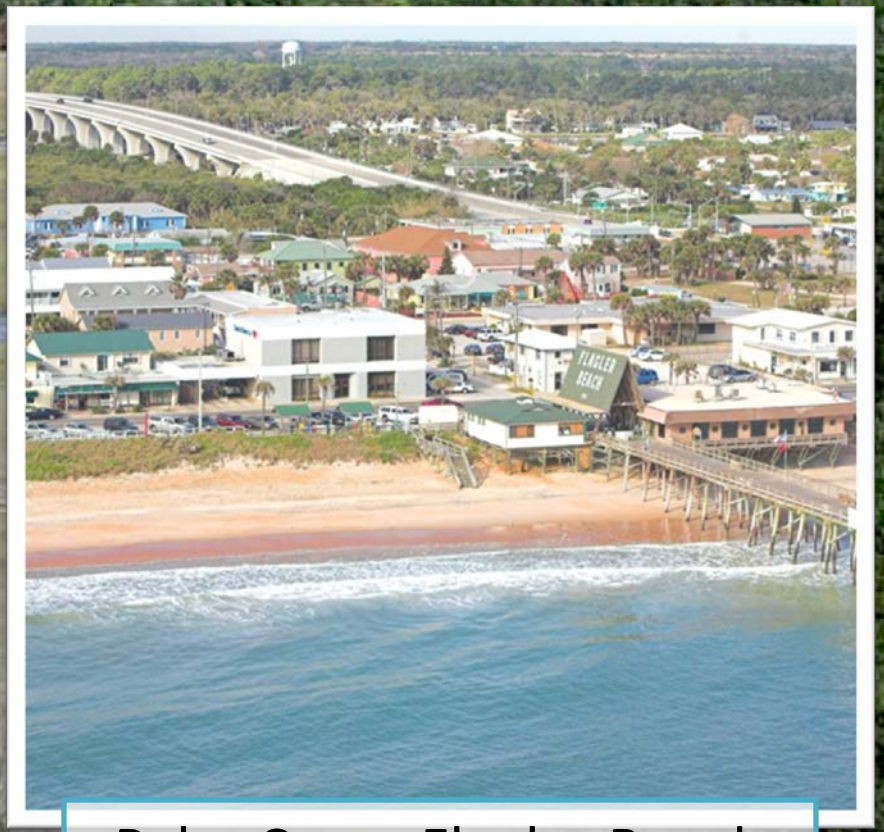
Matanzas Basin



Study Area



St. Augustine



Palm Coast-Flagler Beach

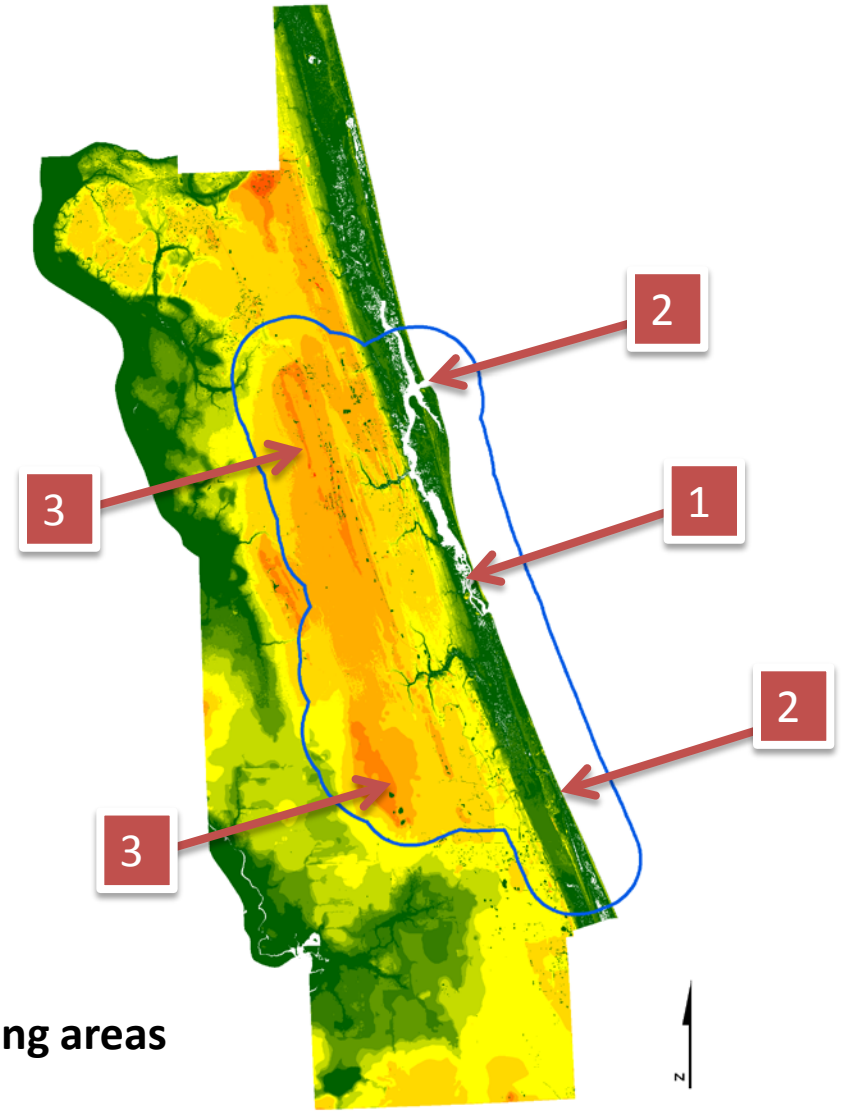
Elevation and Development

Three Types of Areas for Adaptive Design

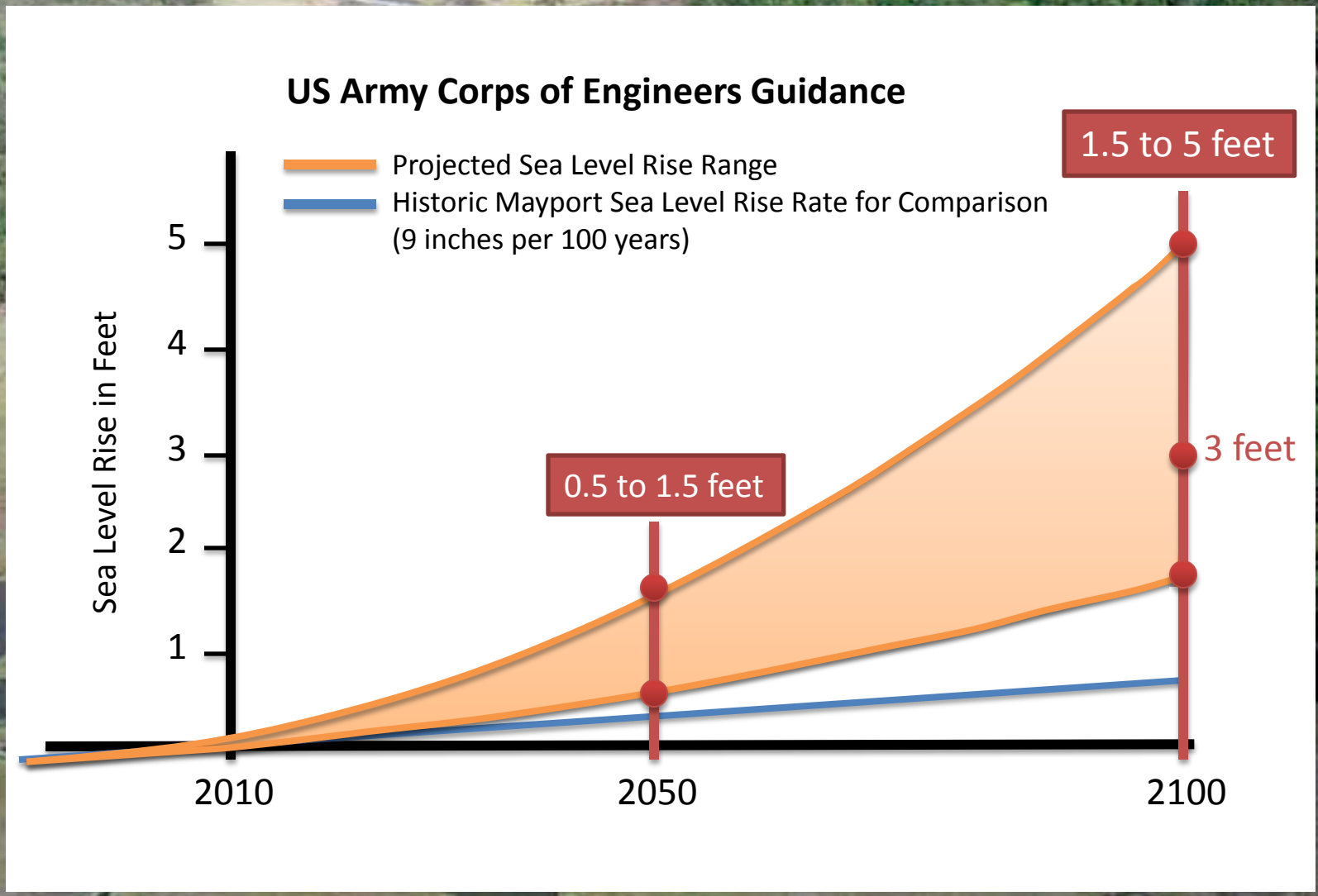
1. Coastal natural areas

1. Coastal development

1. Upland future development or conservation



Future Sea Level Rise



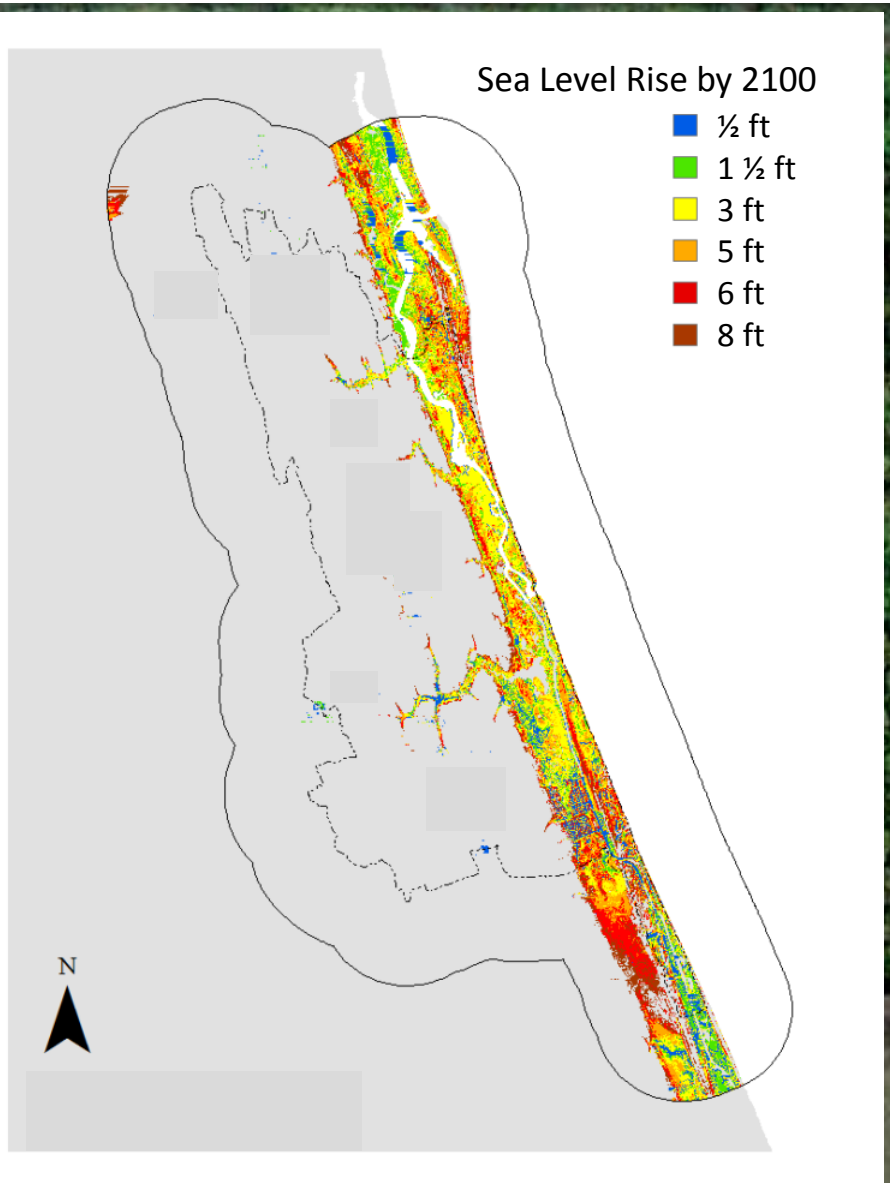
Analysis of Sea Level Rise Impacts

Impacts	Elevation Model	Habitat Changes Model: SLAMM	Storm Surge Model: Hazus	Local Knowledge
Increased flooding frequency	✔	✔	✔	✔
Greater coastal erosion				✔
Saltwater intrusion into aquifers				✔
Higher storm surges			✔	✔
Habitat and species changes		✔		✔

Areas Impacted by Sea Level Rise

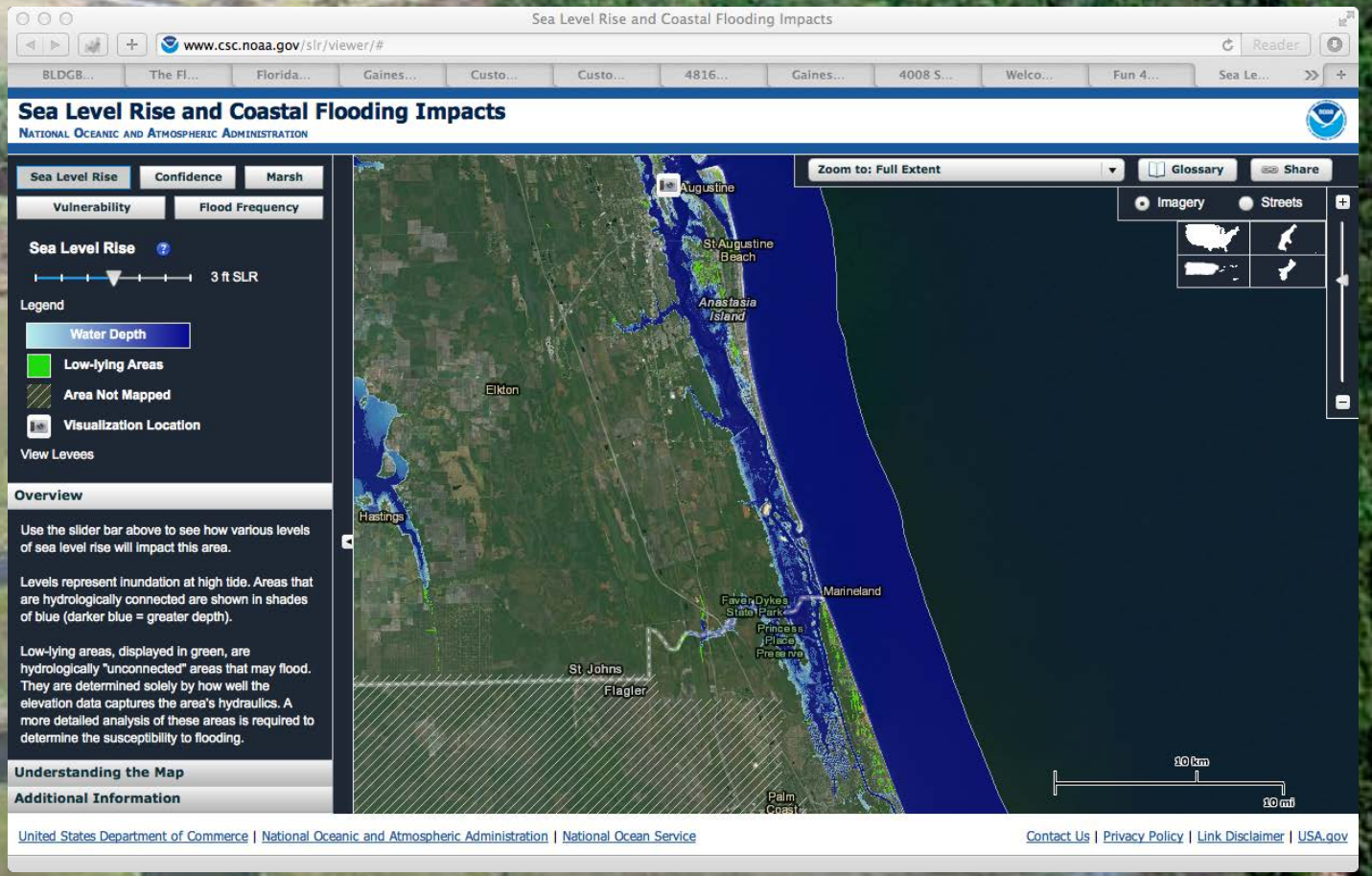
Dynamic Model

- Sea Level Affecting Marshes Model (SLAMM)
- Habitat changes
- Shows impacts to developed areas if they are allowed to change



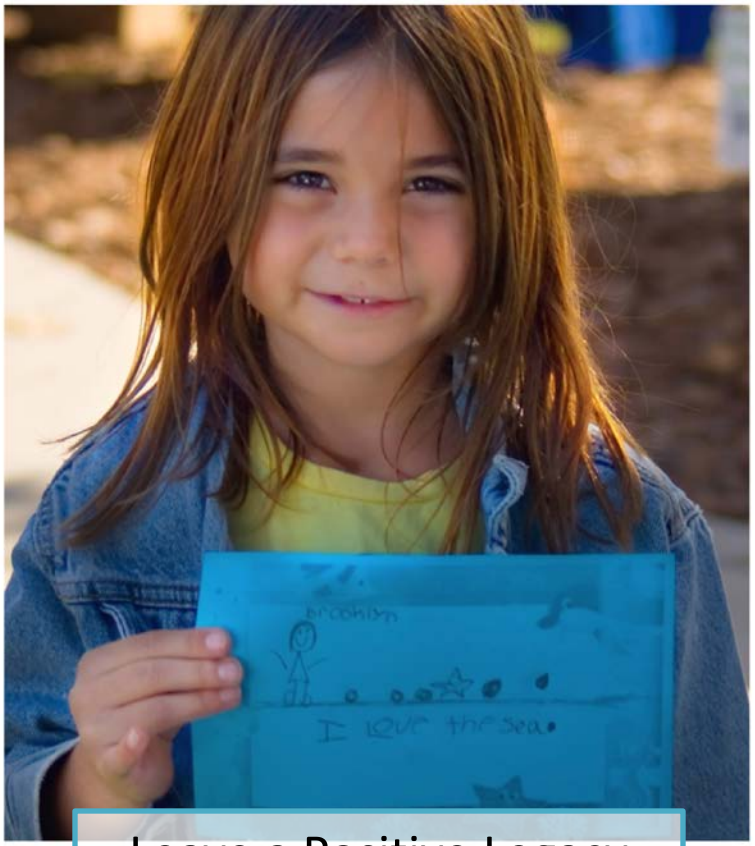
NOAA Sea Level Rise Viewer

http://www.csc.noaa.gov/digitalcoast/tools/slrviewer



Why plan for sea level rise now?

- Sea level rise is occurring now and will accelerate
- Planning is slow
- Responsibility for public safety, health and welfare
- Gain public confidence and reduce liability and market uncertainties
- Opportunities to reduce risk and costs, improve communities, and provide adaptation services



Leave a Positive Legacy

Adaptation Strategies

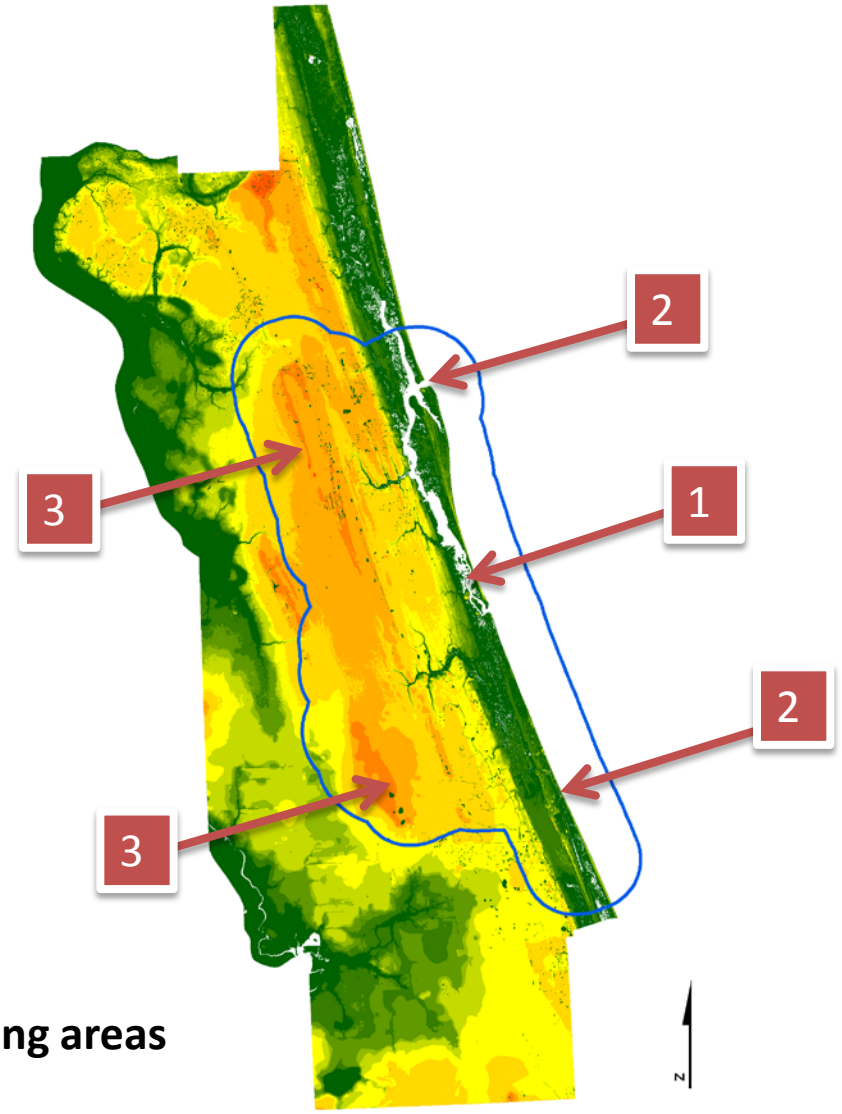
Integrated Planning and Design

Three Types of Areas for Adaptive Design

1. Coastal natural areas

1. Coastal development

1. Upland future development or conservation



Preserve Natural Lands and Systems

1. Coastal natural areas

Ecosystem Conservation

Coastal Land Acquisition and Conservation Easements

Preserve Natural Lands and Systems

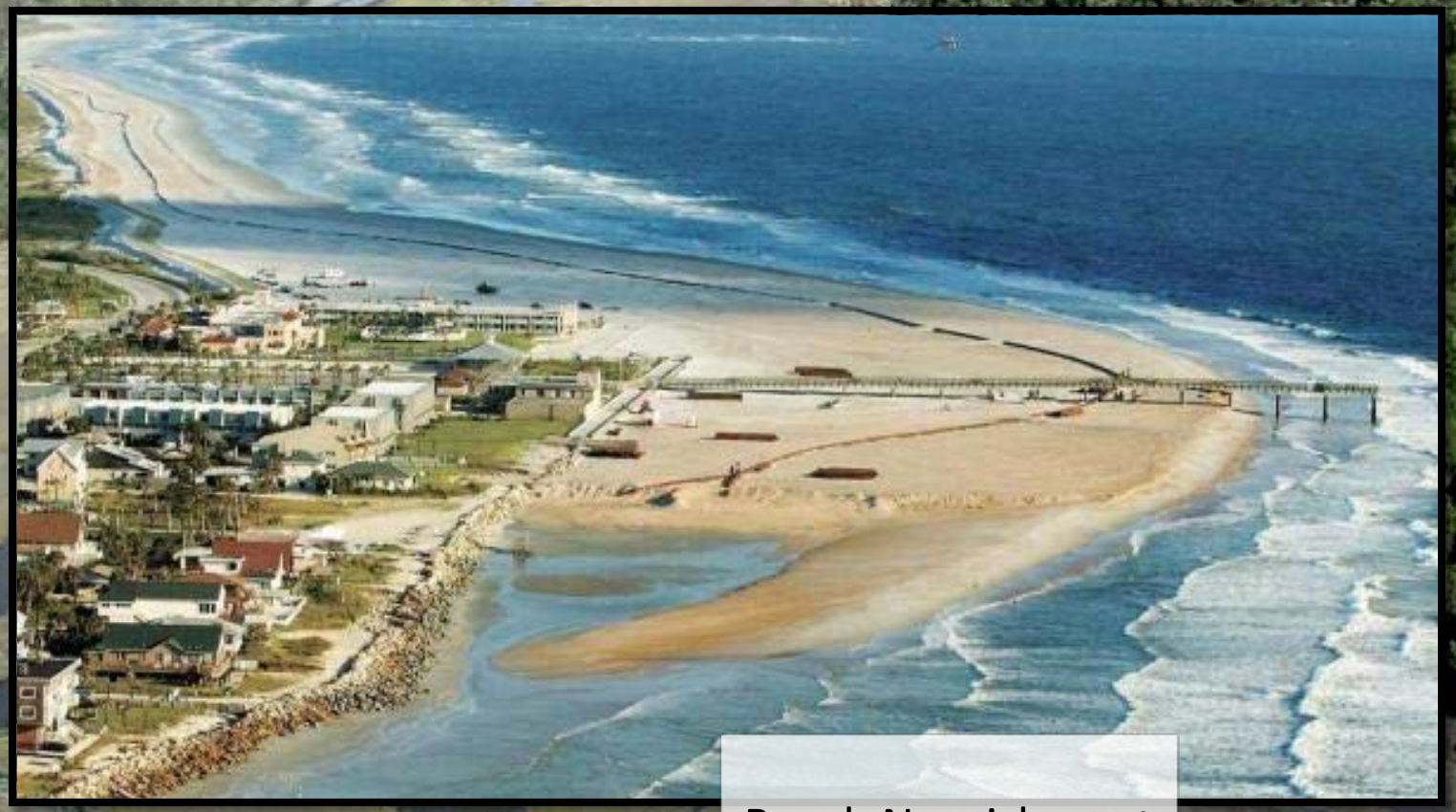
2. Coastal development

Living Shoreline

Restore Wetlands

Plan Infrastructure Investments

2. Coastal development

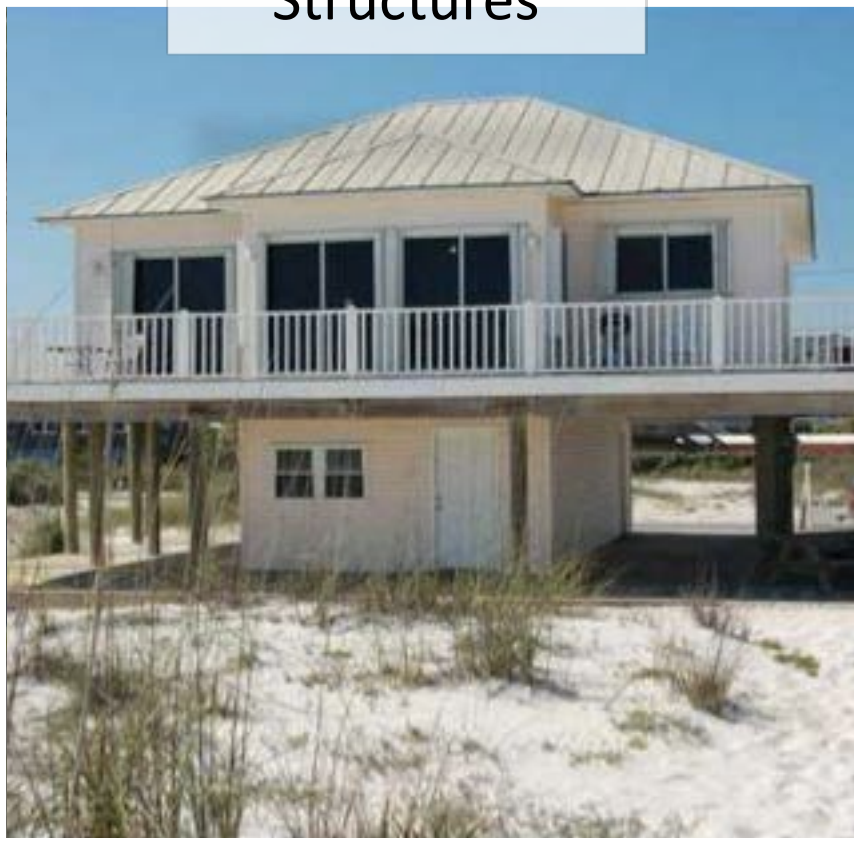


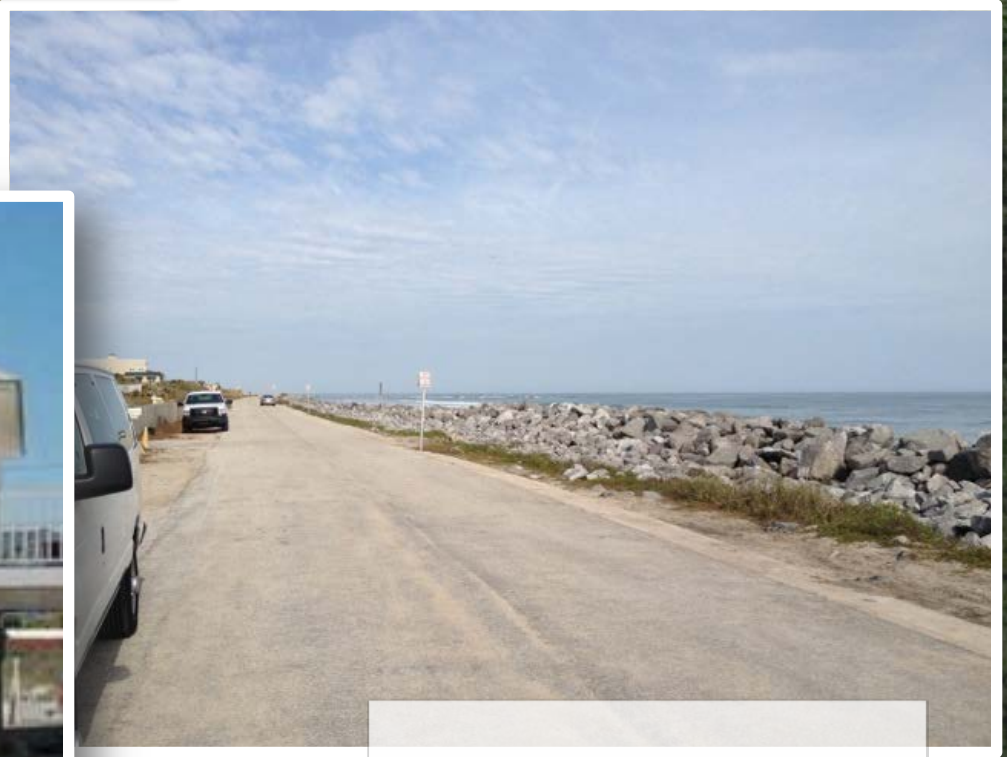
Beach Nourishment

Plan Infrastructure Investments

2. Coastal development

Elevating Structures





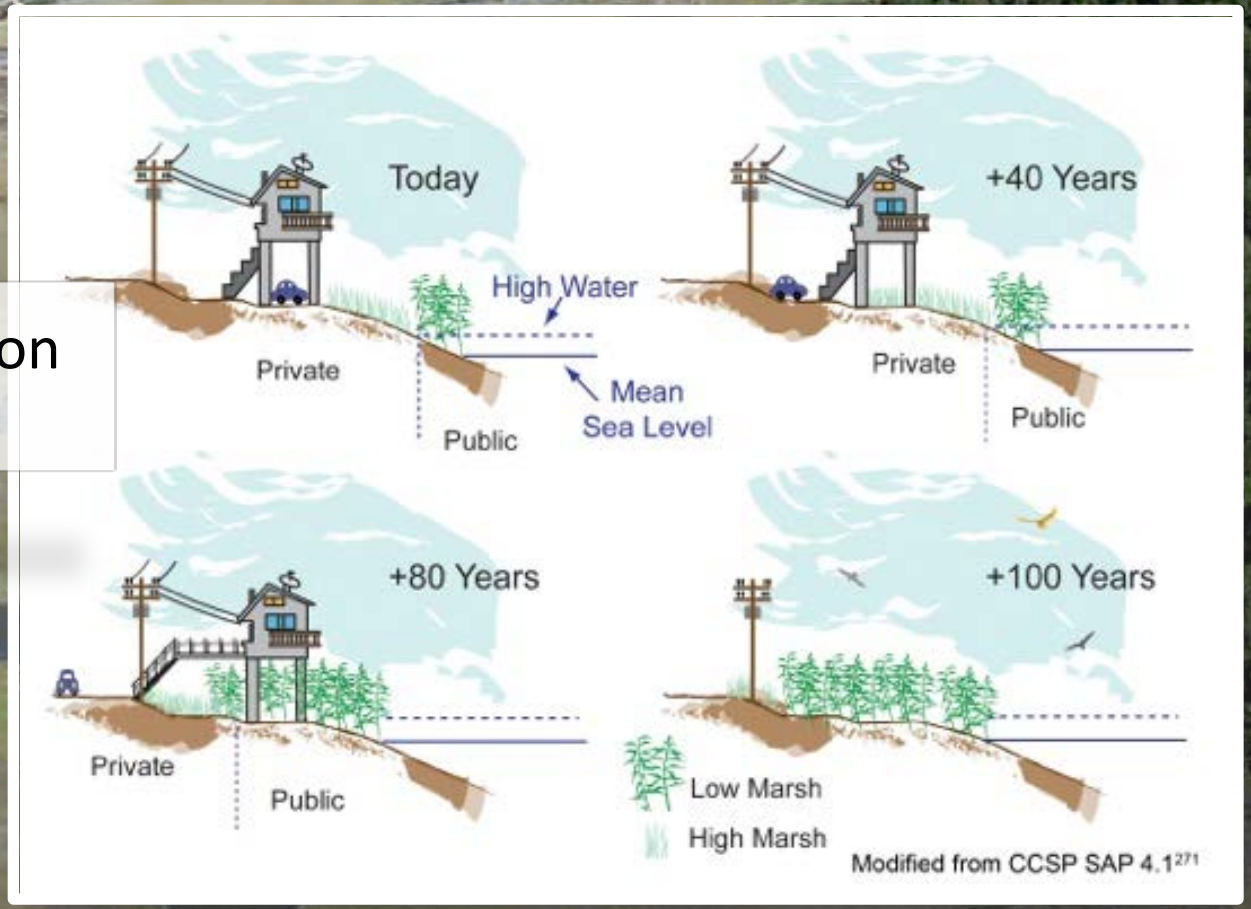
Seawalls and Riprap

Move Special Places

2. Coastal development

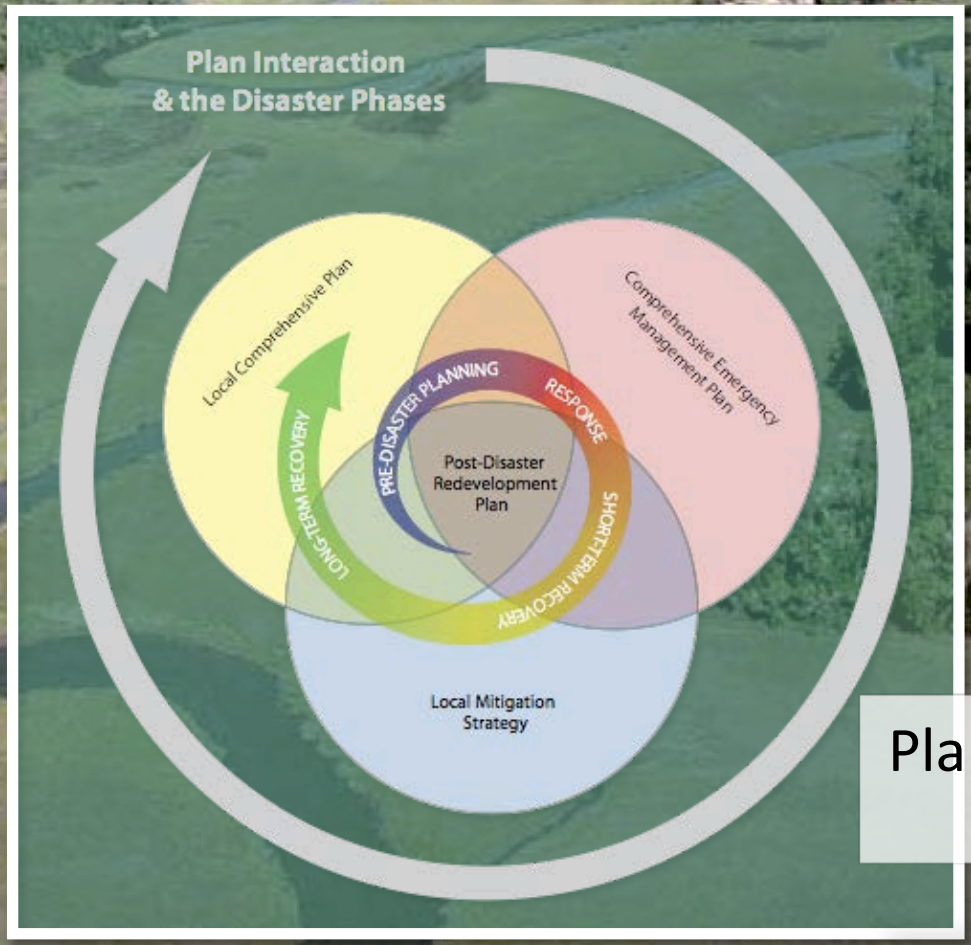
Planned Relocation

Rolling Easements



New Development on Higher Ground

3. Upland undeveloped

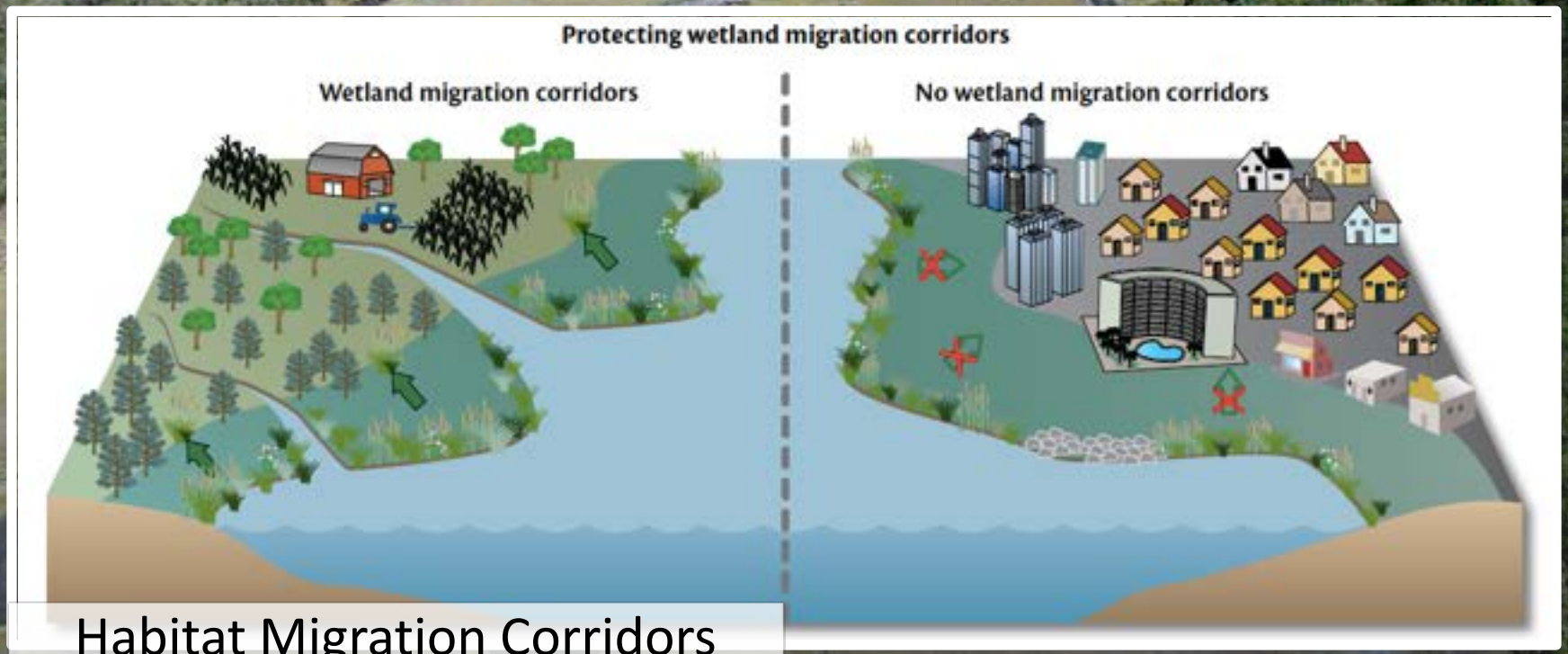


Planned Relocation

Local Plans

Preserve Natural Lands and Systems

3. Upland undeveloped

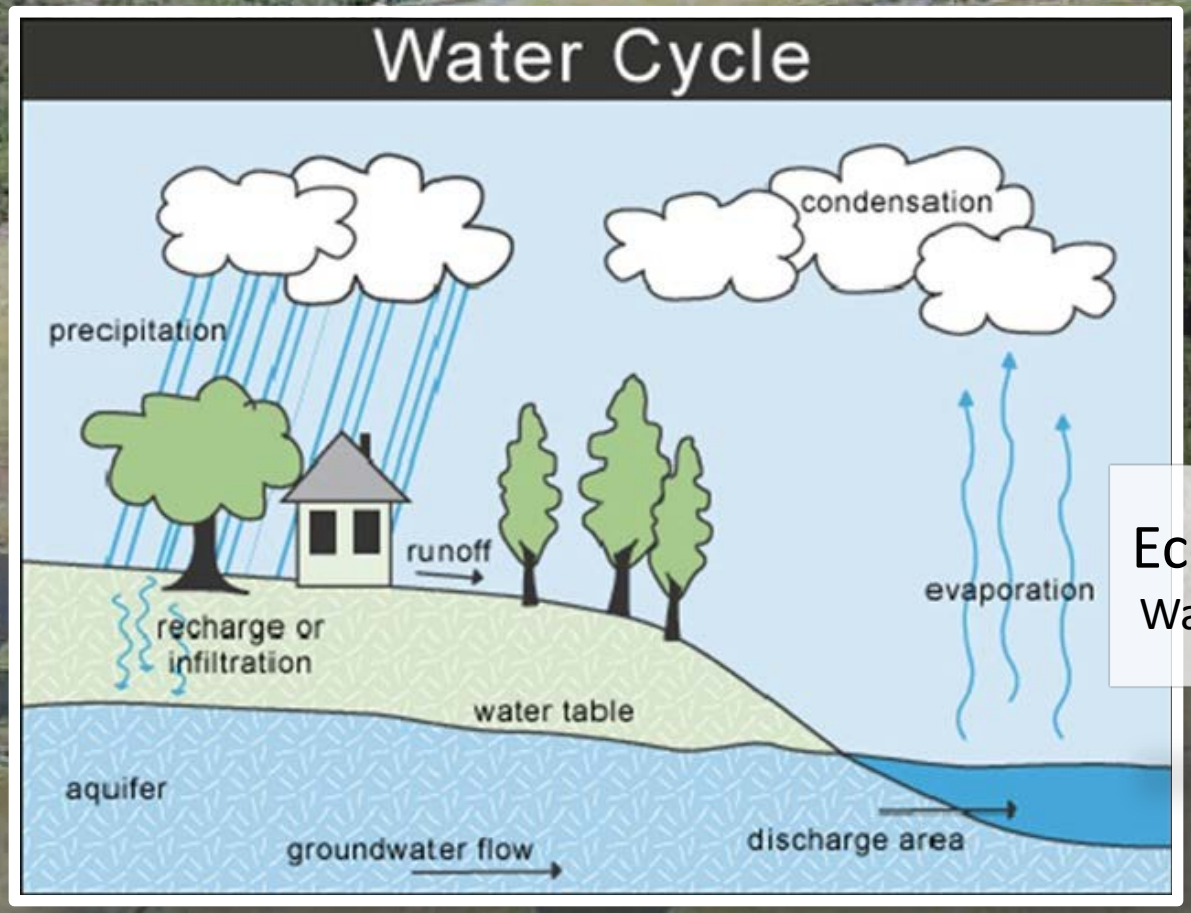


Habitat Migration Corridors

Upland Land Acquisition and Conservation Easements

Preserve Natural Lands and Systems

3. Upland undeveloped



Ecosystem Services

Water Storage Easement

Adaptation Strategies Game

- Refer to handout

Summer Camp Curriculum

- Refer to handout


Thank You!