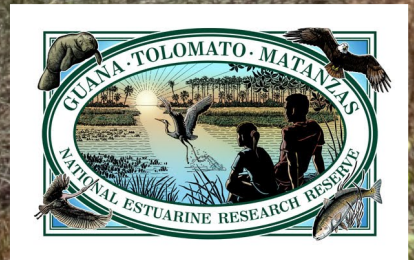




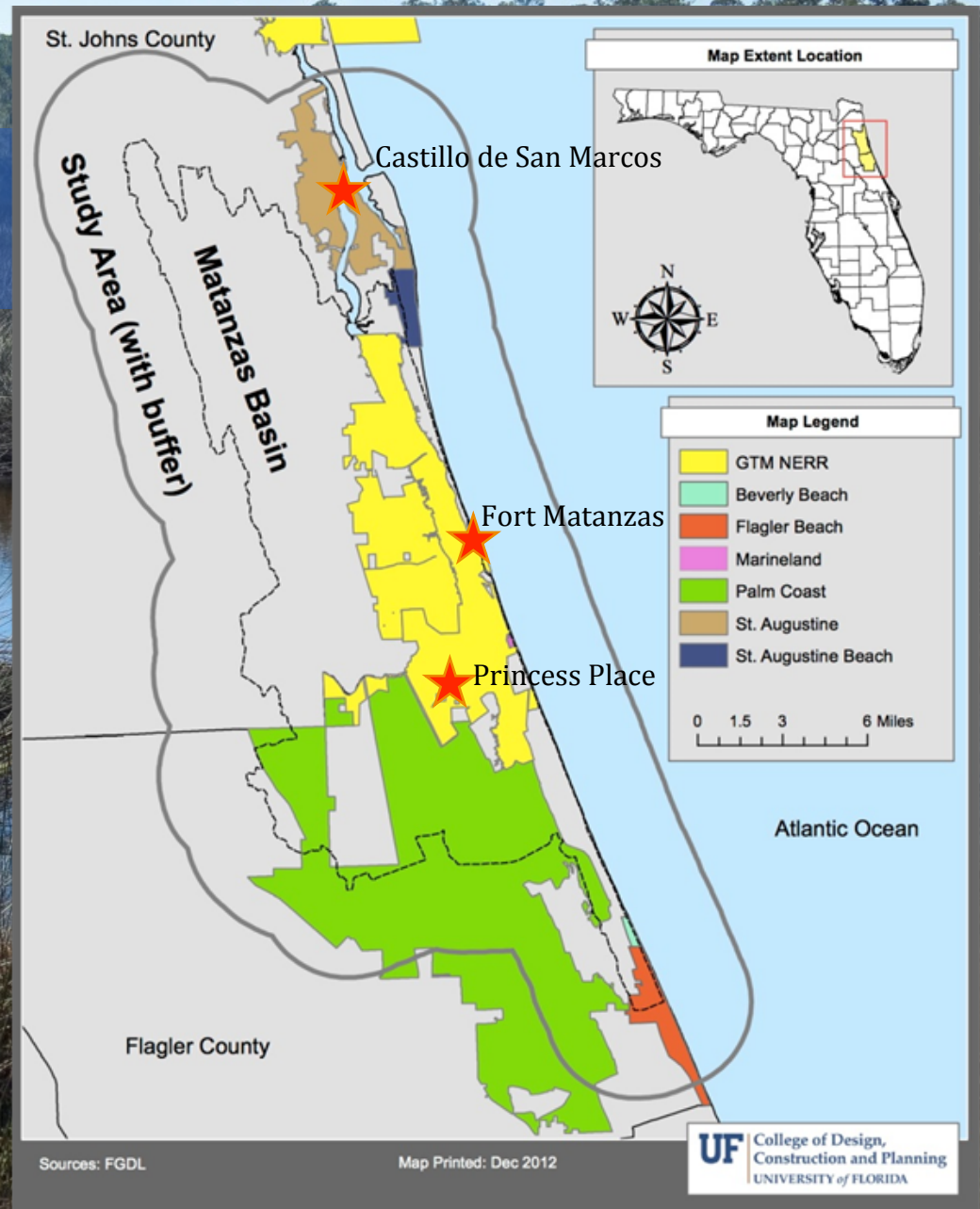
Planning for Sea Level Rise in the Matanzas Basin

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University of Florida
April 24, 2014

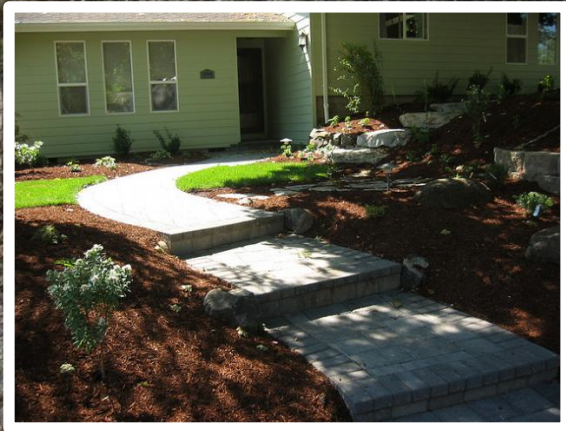
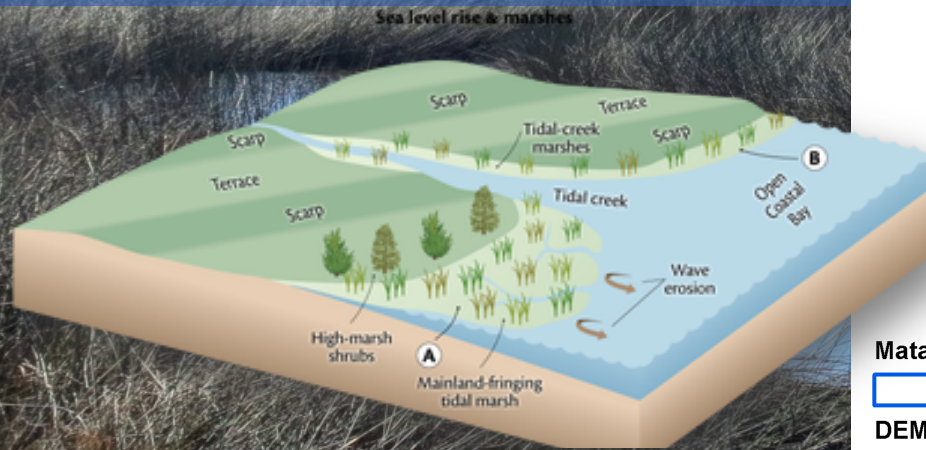


Study Area

- 334,000 acres
- 38 miles of coastline
- Total population 125,000
- Coastal population 30,000
- Future population growth



Elevation

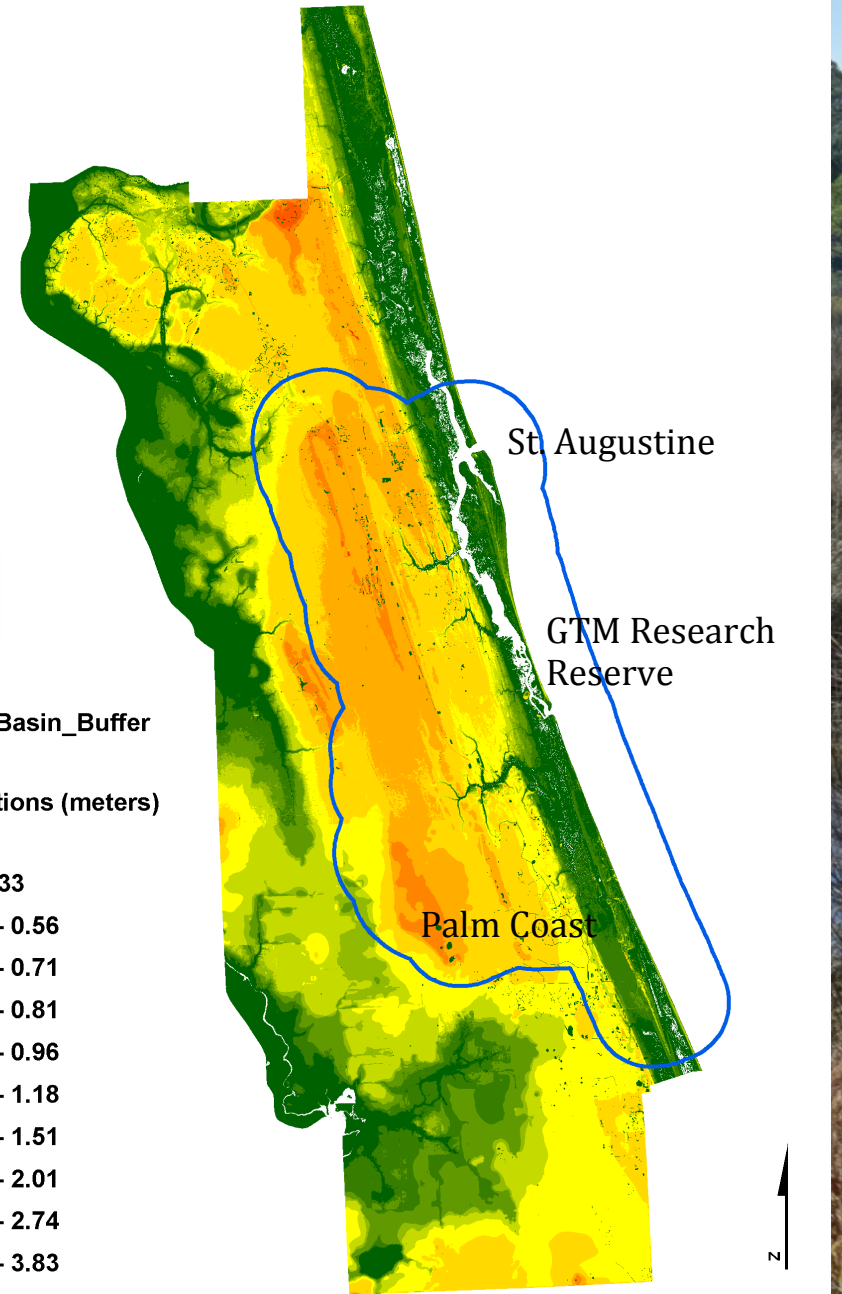


Matanzas_Basin_Buffer

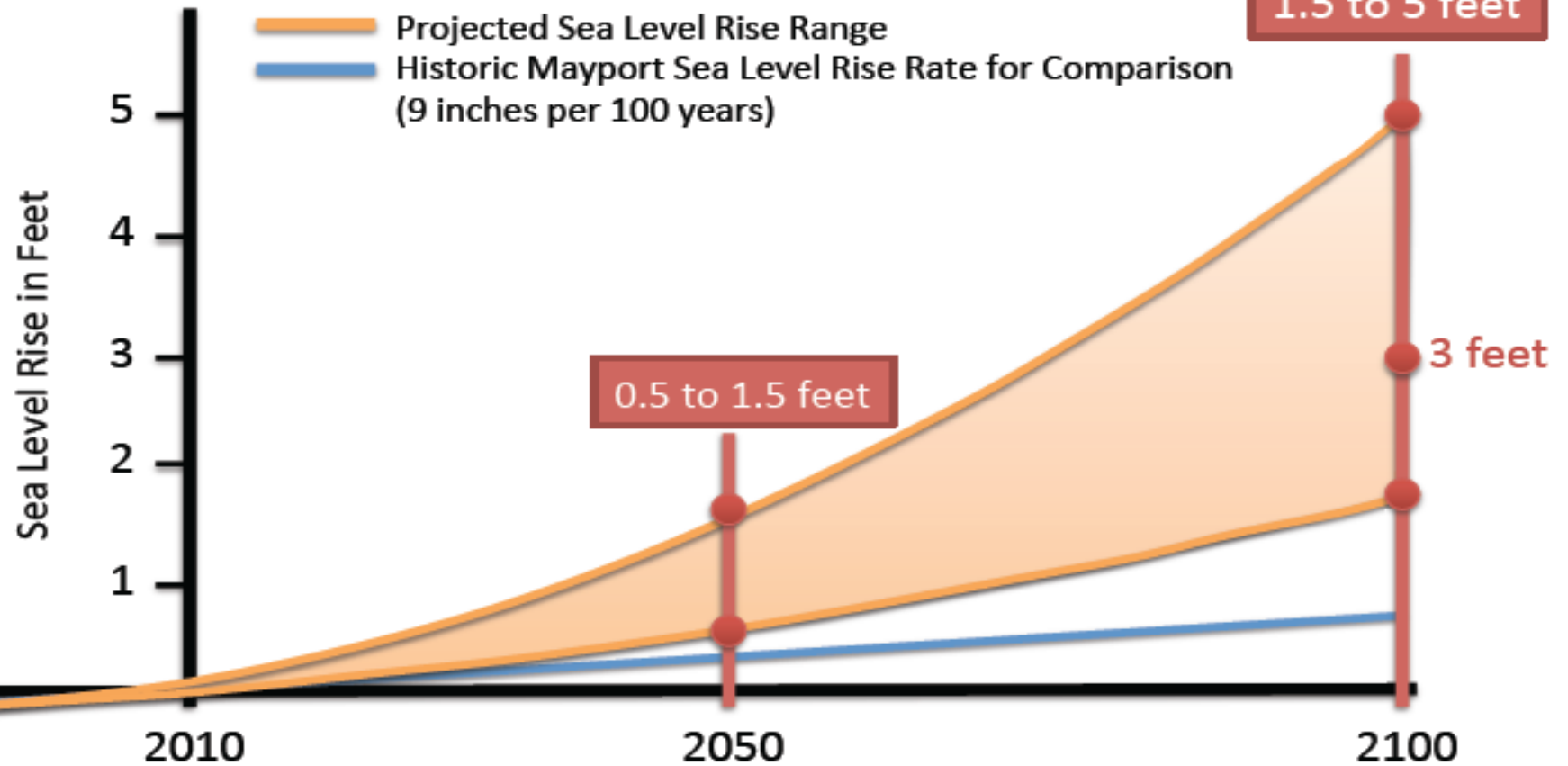


DEM Elevations (meters)

<VALUE>



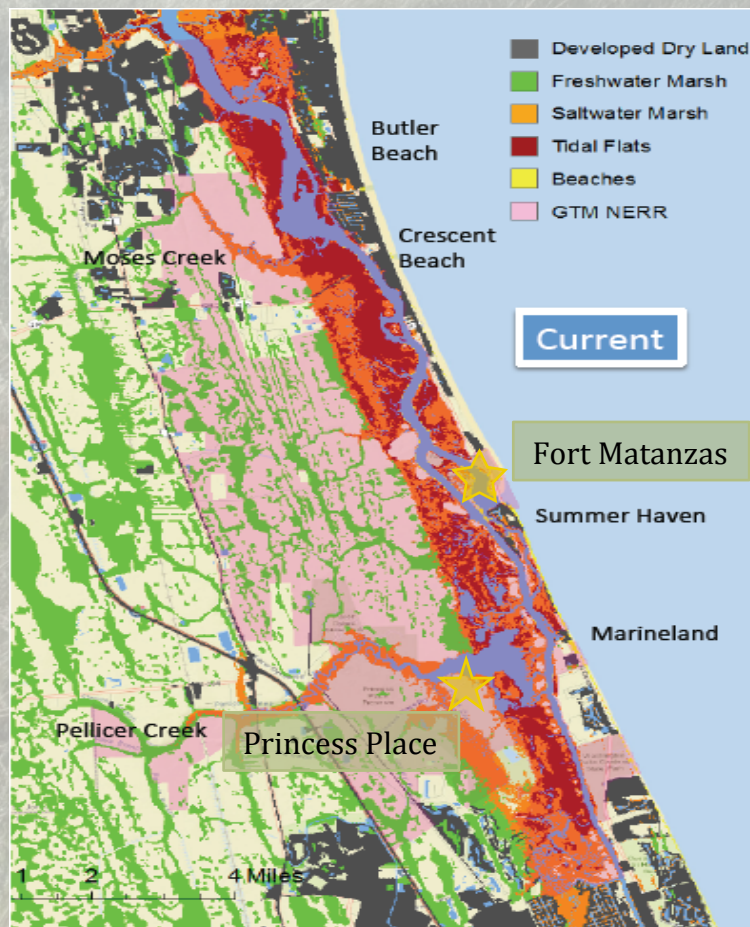
US Army Corps of Engineers Guidance



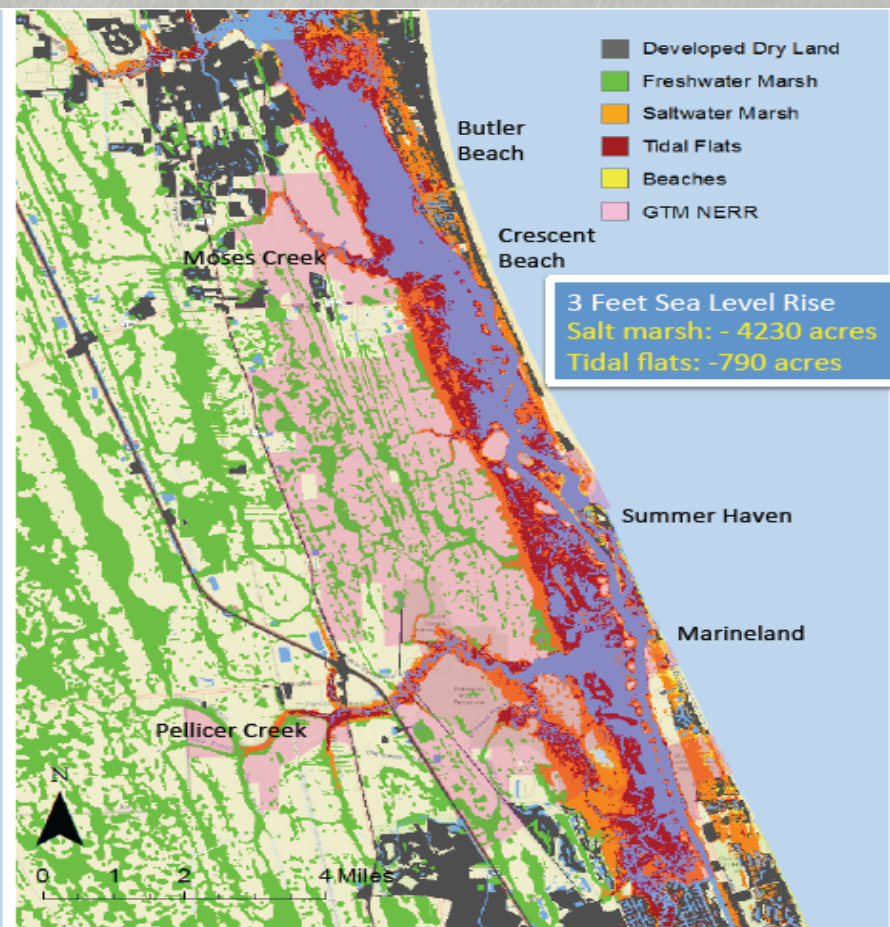
Impacts of Sea Level Rise in the Matanzas Basin

Sea Level Affecting Marshes Model (SLAMM)

Current Conditions



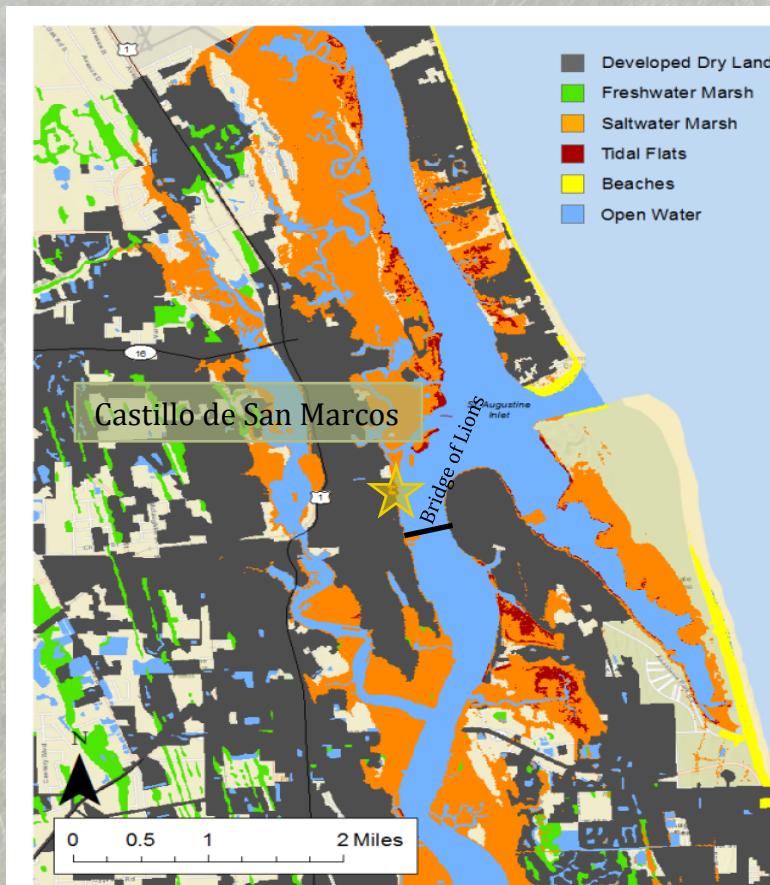
3' Sea Level Rise in 2100



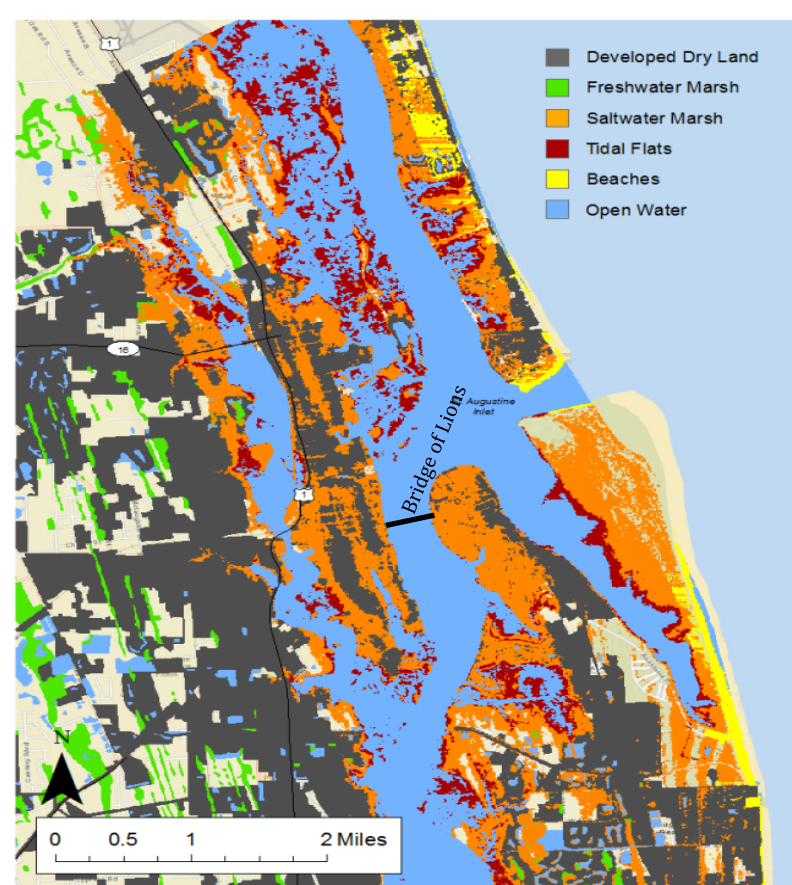
Impacts of Sea Level Rise in St. Augustine

Sea Level Affecting Marshes Model (SLAMM)

Current Conditions



3' Sea Level Rise in 2100





Impacts of Sea Level Rise in Study Area

Sea Level Affecting Marshes Model (SLAMM)

Land Use	Parcels Affected	Acres Affected
Residential	13,362	2,456
Vacant Residential	4,518	1,637
Commercial	1,446	609
Vacant Commercial	310	268
Government	641	1,140

Public Input

Phase 1: Stakeholder Workshops

- Work with interested stakeholders to understand the potential implications of sea level rise in the Matanzas basin.

Phase 2: Large Public Workshop

- Analyze and compare possible future development and ecological conservation scenarios.

Phase 3: Final Open Meeting

- Identify and promote adaptation tools to bring future development and conservation strategies into fruition.

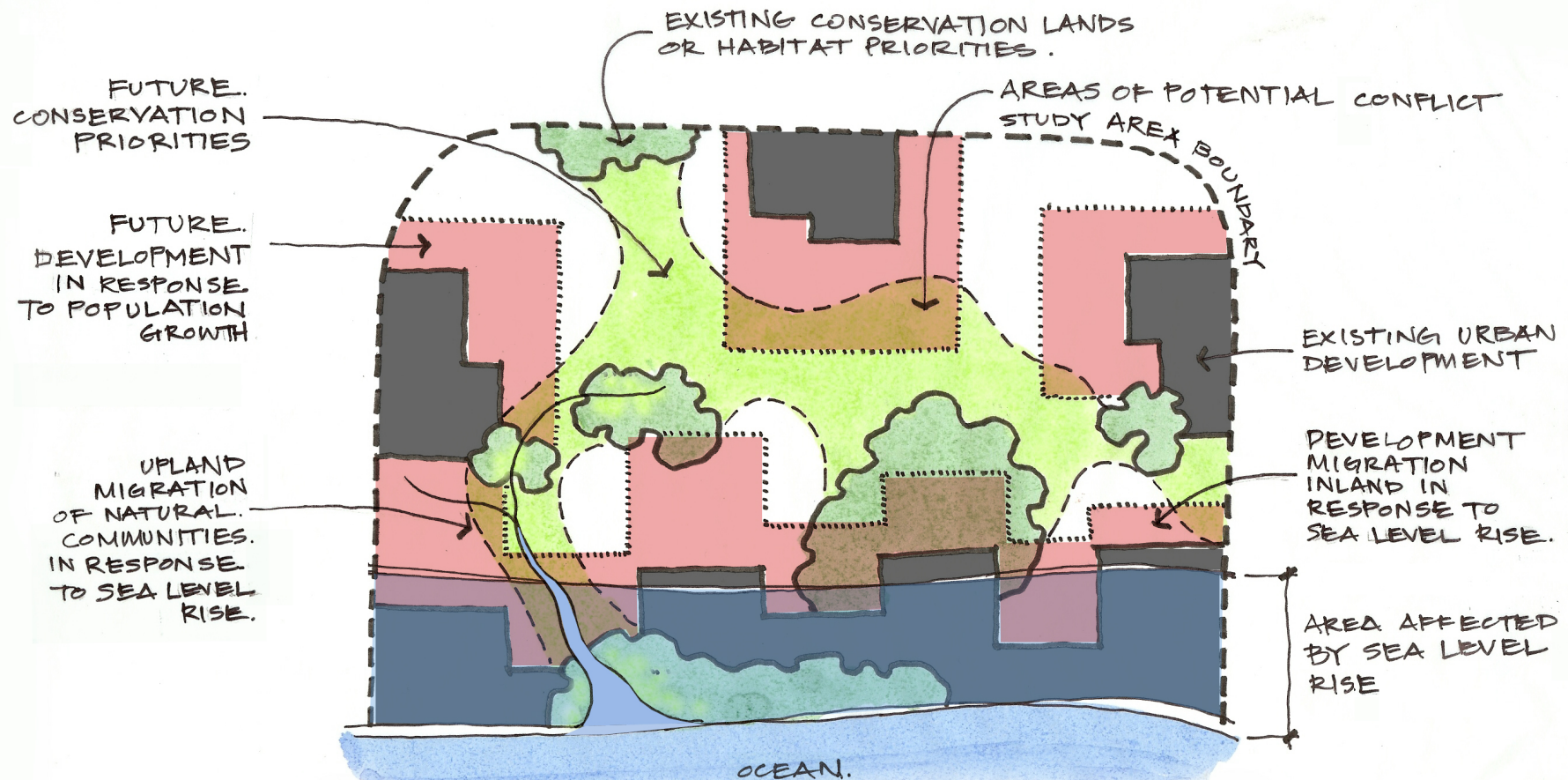
Local
Steering
Committee



Potential Future Land Use Conflicts

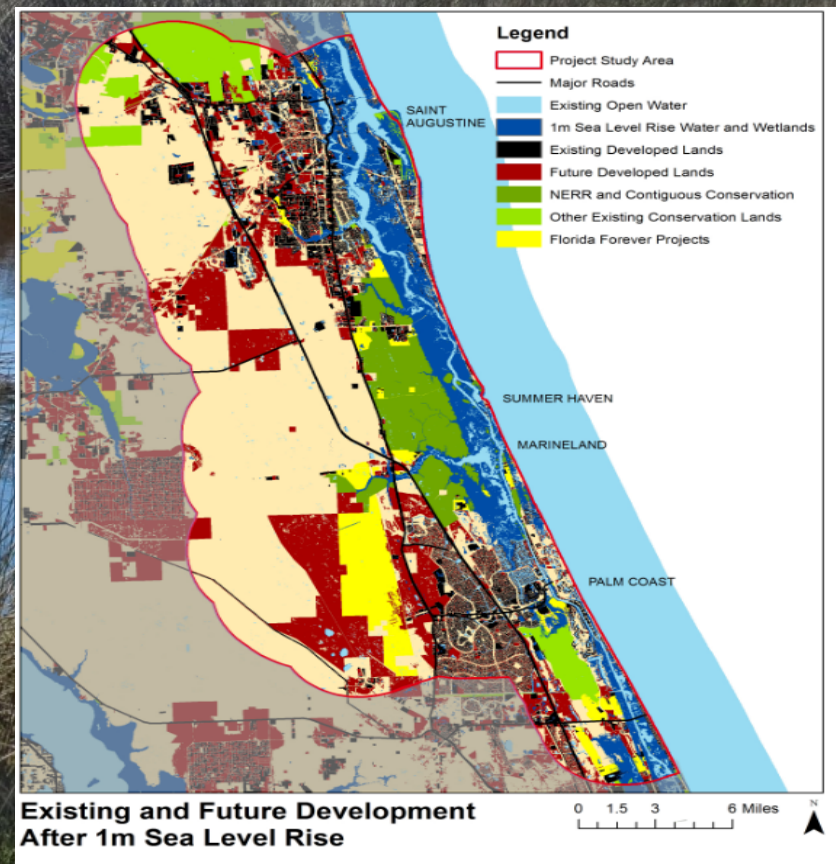
- ❑ Public input: Maintain quality of life, including presence and health of natural areas
- ❑ Sea level rise threatens
 - ❑ Natural areas on the coast
 - ❑ Current development on the coast
 - ❑ Future development on the coast
- ❑ Future development threatens natural systems

Land Areas of Potential Conflict



Development Trend

- Future (by 2060) development at current residential densities and avoiding areas impacted by sea level rise will occupy 42,656 acres
- Competes with conservation areas



Inputs to Conservation Priority Lands

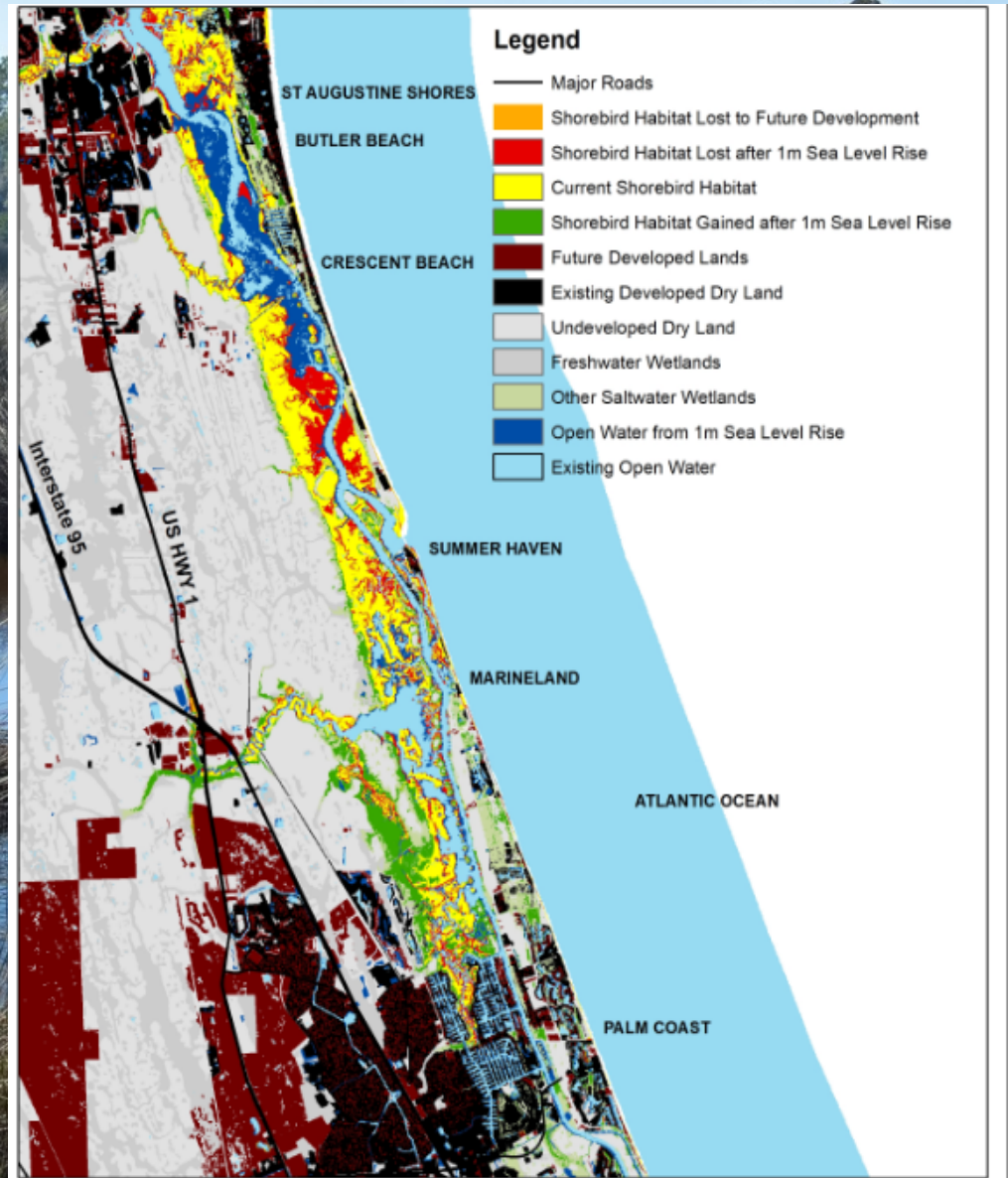
- Focal species habitats
- Connectivity
 - Waterways
 - Coastal to upland
- Statewide conservation priority lands
- Fill in corridors



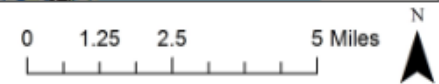
Threats to Shorebird Habitats



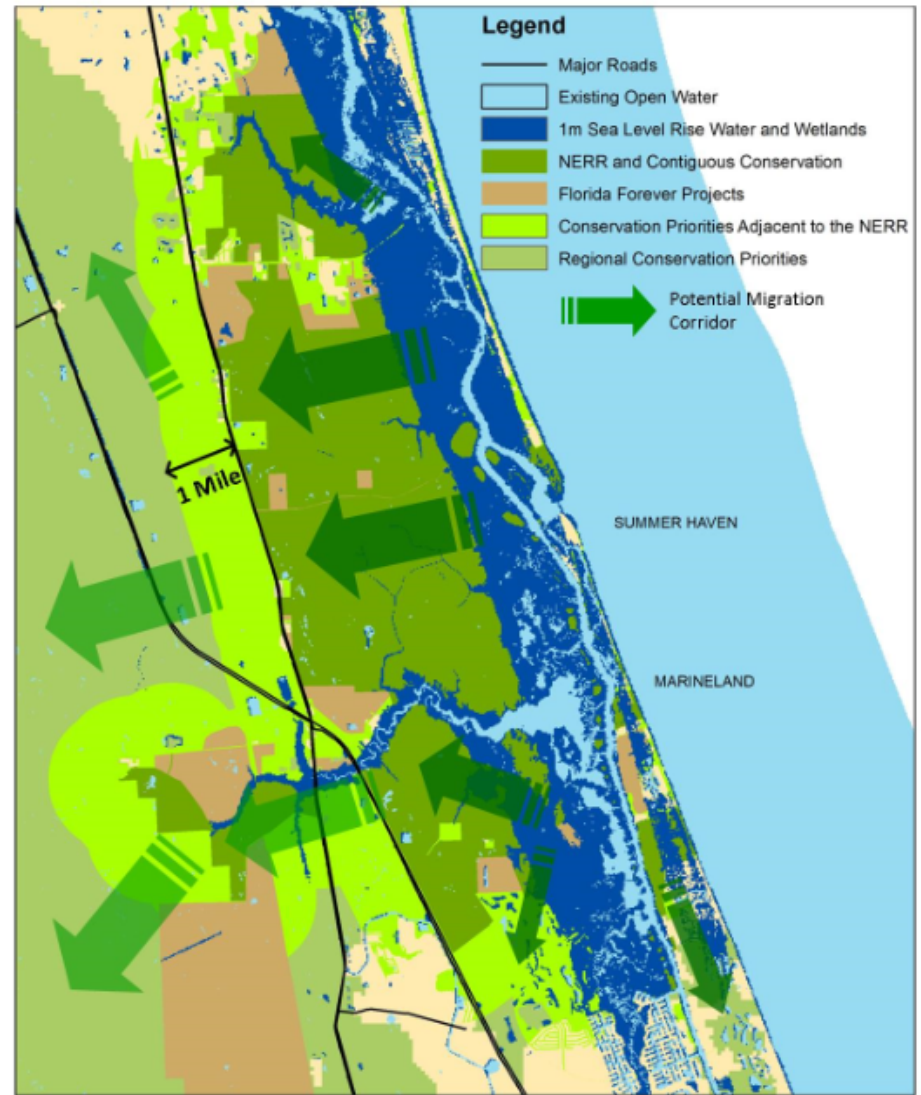
Low-lying



Potential Shorebird Habitat after 1m Sea Level Rise



Conservation Priorities in the Matanzas Basin



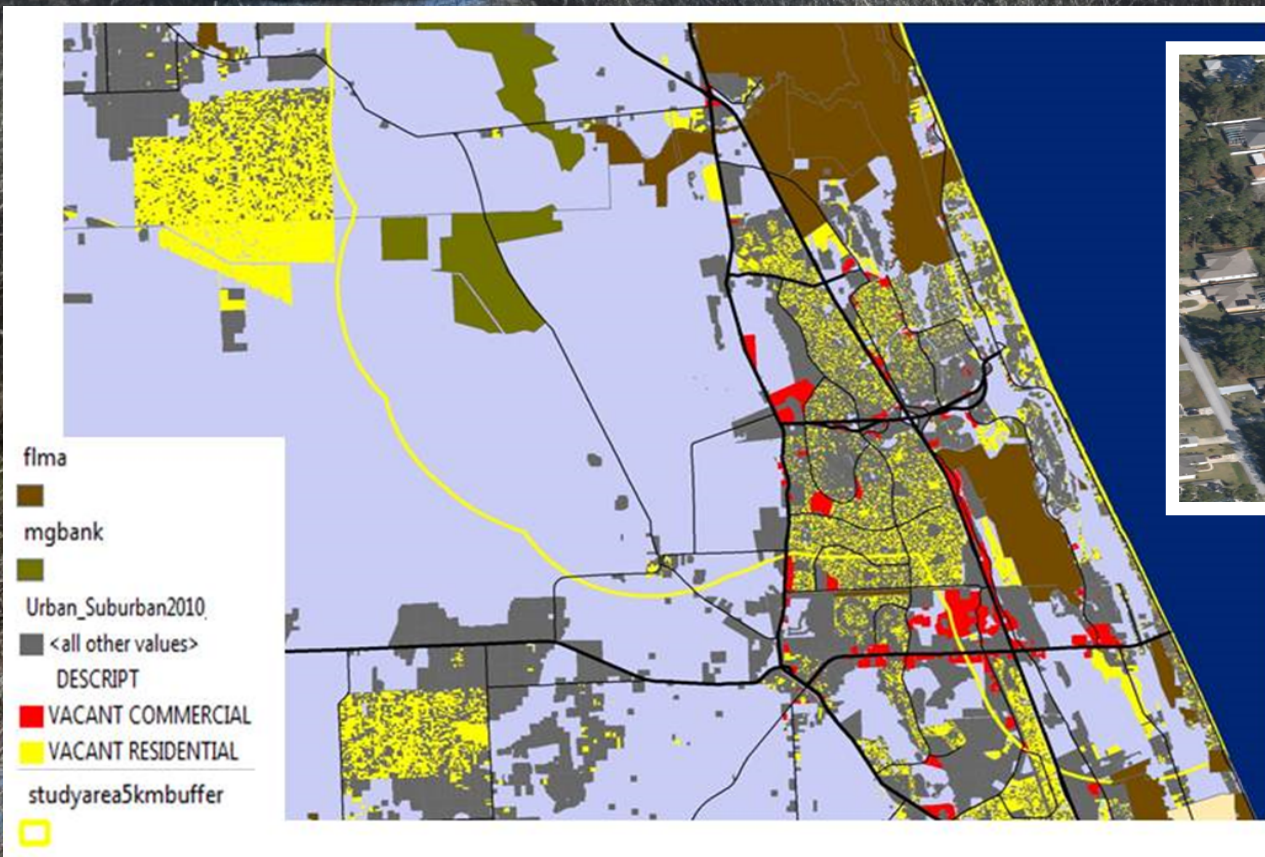
**Habitat Migration Corridor Priorities
Adjacent to the Reserve**



Alternative Land Use Scenario

- New natural areas conservation
- Responsible adaptation of existing development on coast
- Saltmarsh, wetland, and watershed restoration
- Discourage new coastal development in low-lying, erodible areas
- Encourage new development on higher ground
 - Adjacent to existing development
 - In-fill, mixed use, and slightly higher development densities
 - Low impact design for stormwater, etc.

Infill Appropriate Areas: Southern Portion of the Study Area





Specific Recommendations

- Prioritized new conservation areas for adaptation of ecological systems of the GTM Research Reserve
- Recommendations and toolkit of specific strategies to adapt current and future development, and to achieve conservation goals
 - Continued planning, research, and outreach
 - Physical and land use strategies
 - Supportive policies and programs



Thank You!

PlanningMatanzas.org

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