

Coastal and Estuarine Research at GTMNERR:



**Current and Future Long-Term
Research Efforts**

National System

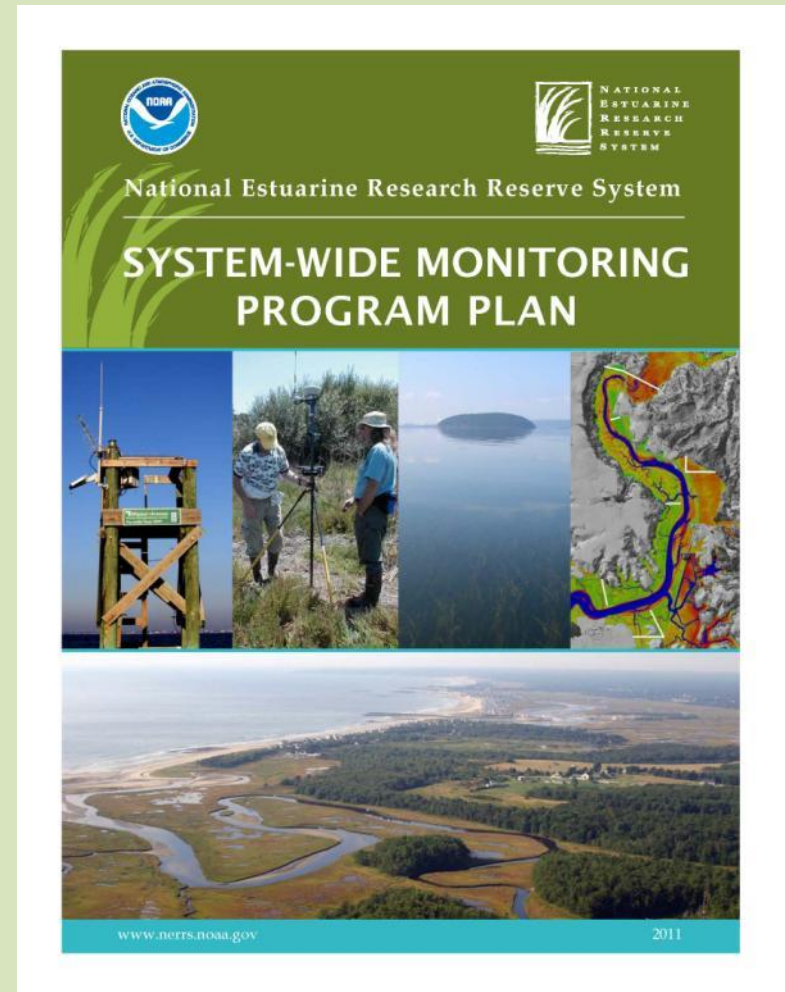
n = 28



System-Wide Monitoring Program

SWMP Mission:

Develop quantitative measurements of short-term variability and long-term changes in the meteorological, water quality, biological systems, and land-use / land -cover characteristics of estuaries and estuarine ecosystems for the purposes of informing effective coastal zone management.



System-Wide Monitoring Program

WORKING OBJECTIVES:

Maintain a long-term monitoring program that uses the individual reserves ($n = 28$) as a network of intensively studied coastal and estuarine reference sites for evaluating ecosystem function and change at multiple temporal and spatial scales.

- Establish baseline of information
- Allow detection of community responses
- Facilitate experimental approaches

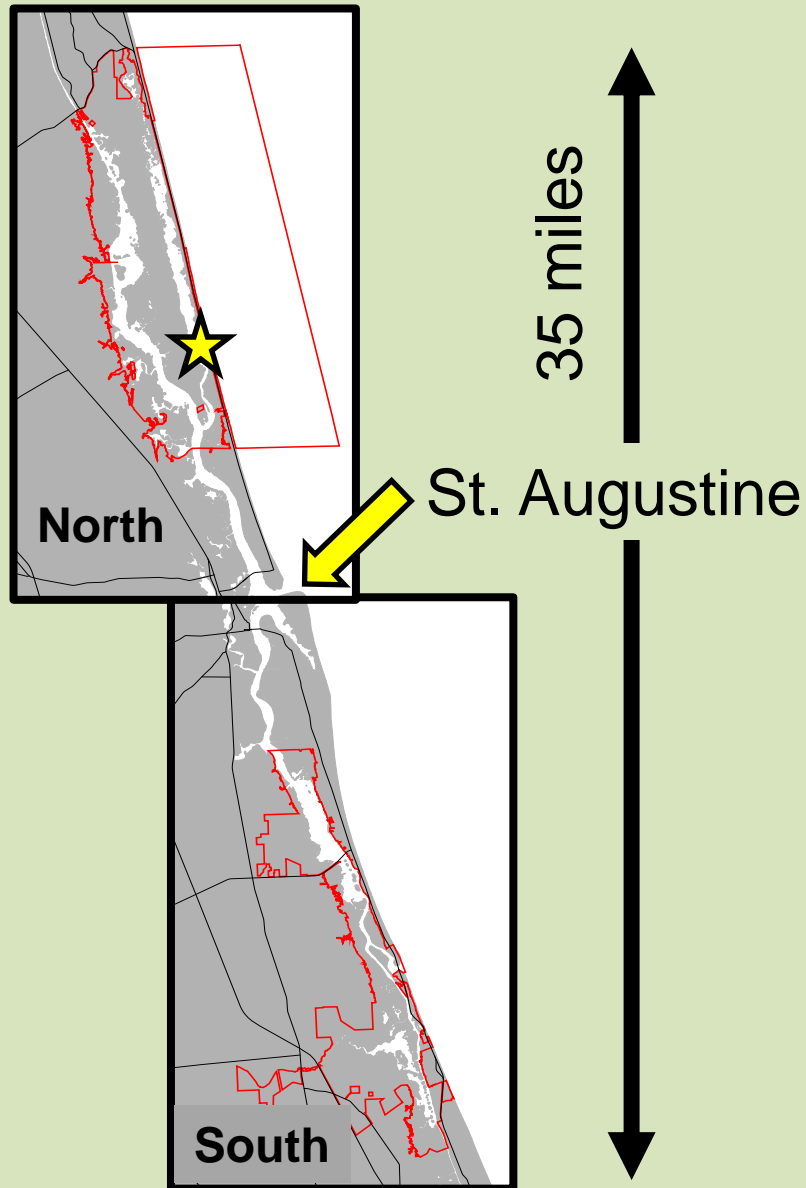
SWMP Elements

SWMP Element:

A NERRS monitoring activity with associated protocols, parameters, and budgets that has been fully vetted and approved by the NERRS as a fundamental component of reserve operational programs.

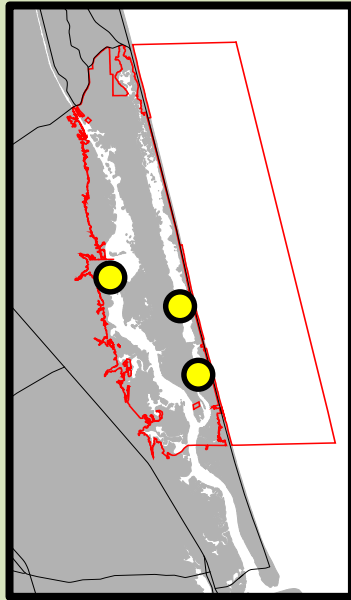
- ***Core element*** – Required to be implemented at all reserves; standardized national protocols
- ***Elective element*** - May be implemented by a single or a subset of reserves to address local, regional, or national issues.

GTMNERR Research Programs

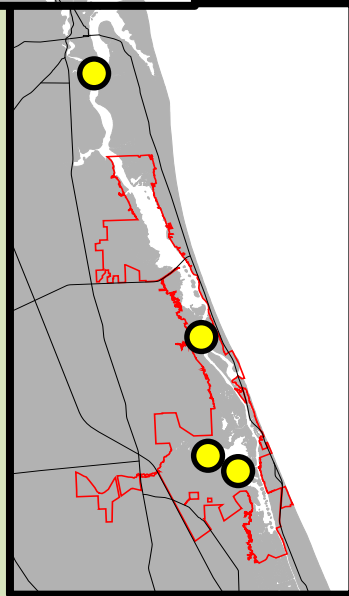


- Combination of core and elective elements within the reserve
- Wide variety of research programs; broadly categorized into terrestrial and aquatic.

Water Quality, Weather

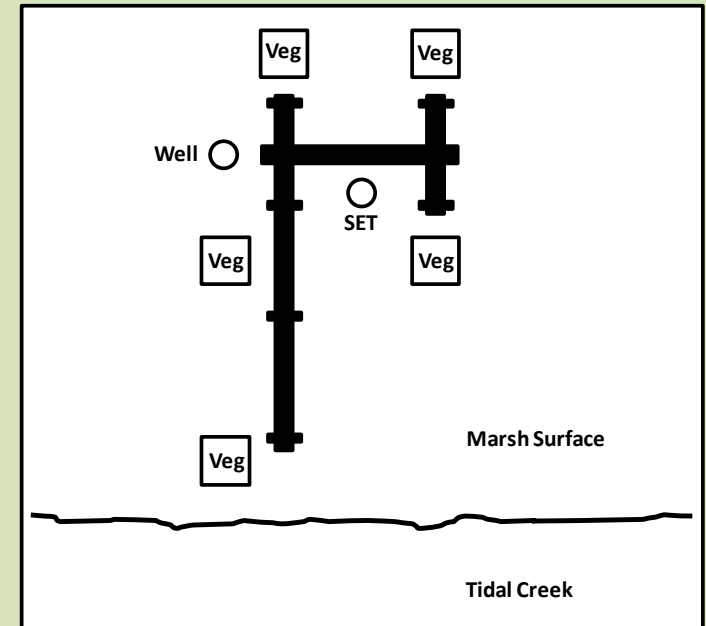
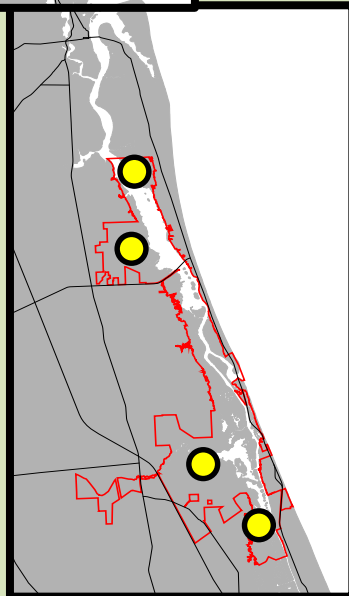
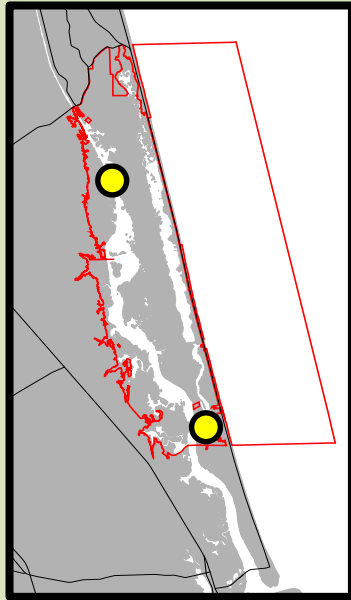


Core Element:
6 - WQ
1 - Weather

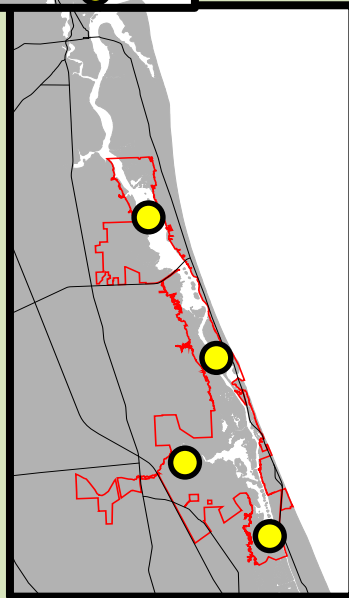
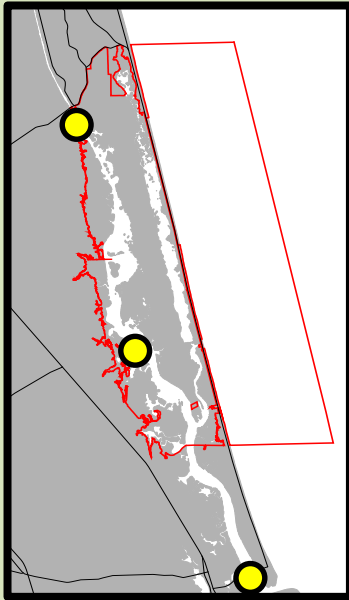


Emergent Vegetation

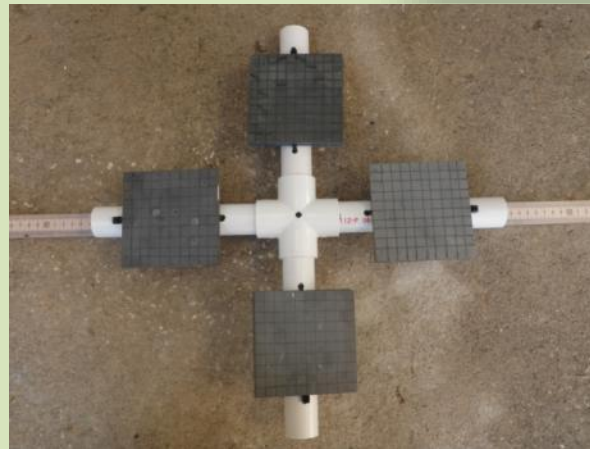
Core Element:
6+ stations



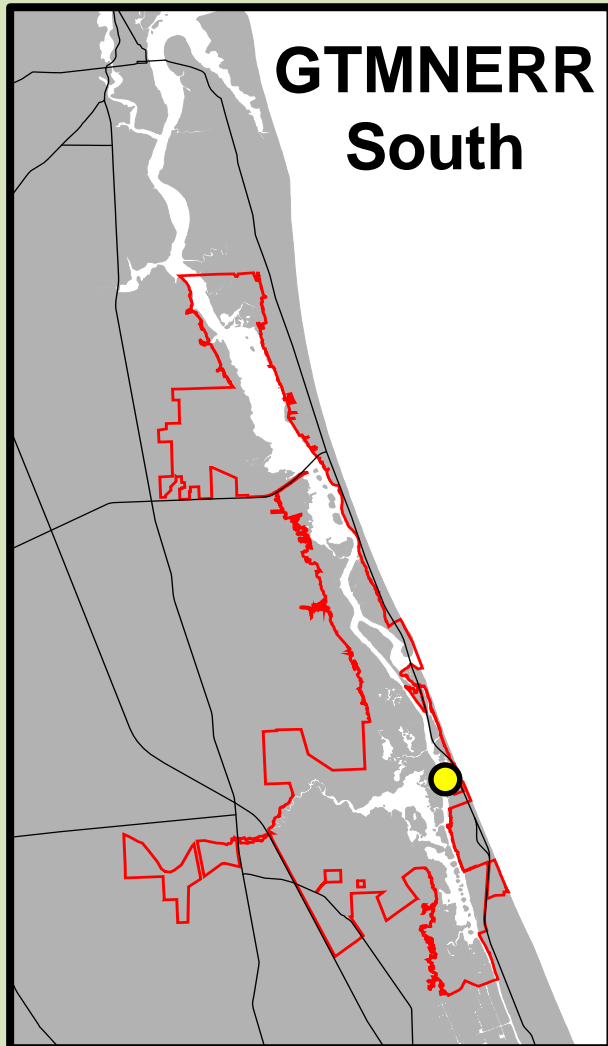
Fouling Communities



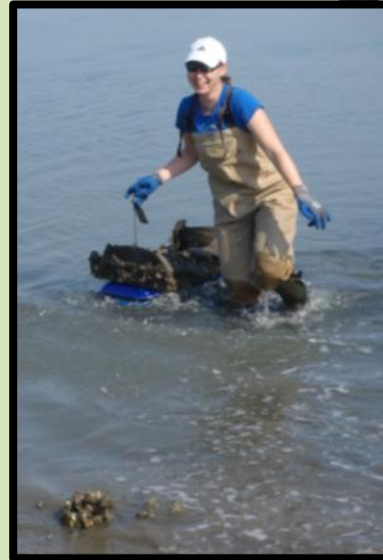
*Elective
Element:*
7 stations



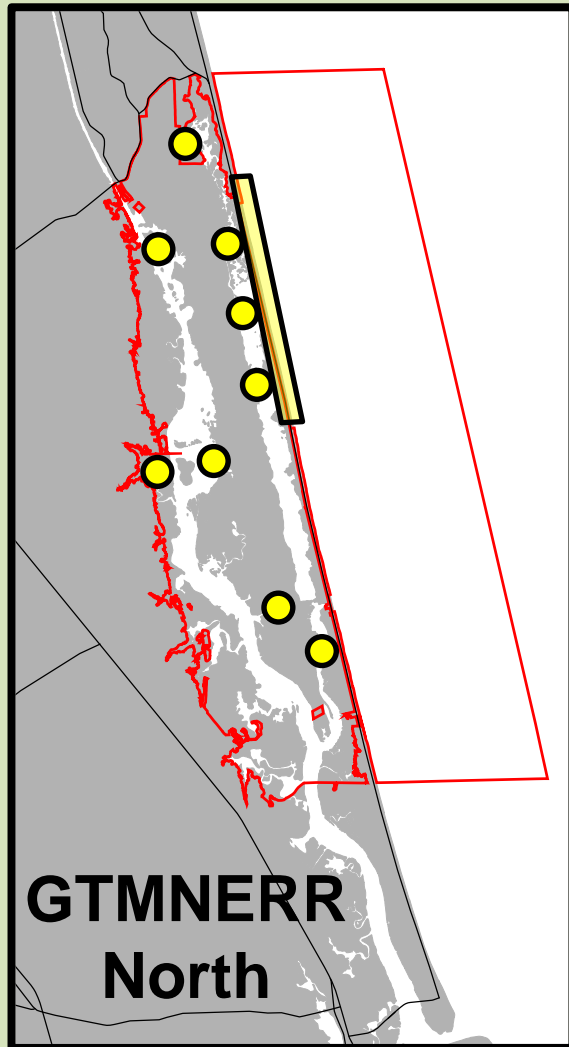
Invasive Crabs



*Elective
Element:*
1 station



Shorebirds & Secretive Marsh Birds



Elective Elements:

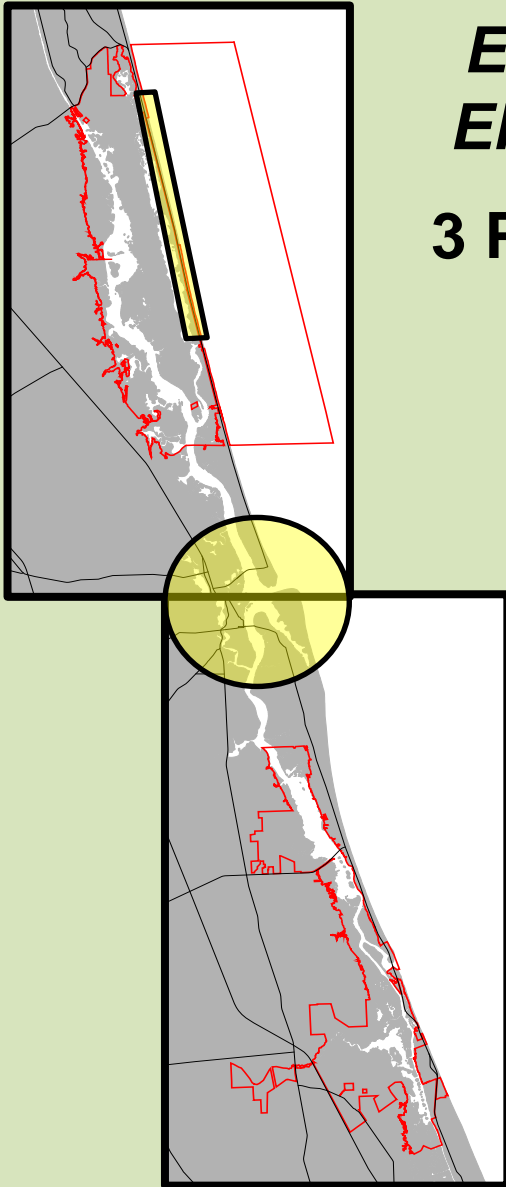
**Marsh Birds –
9 areas**

**Shorebirds –
beach zone**



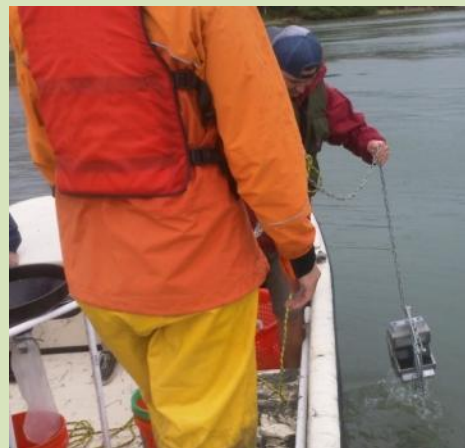
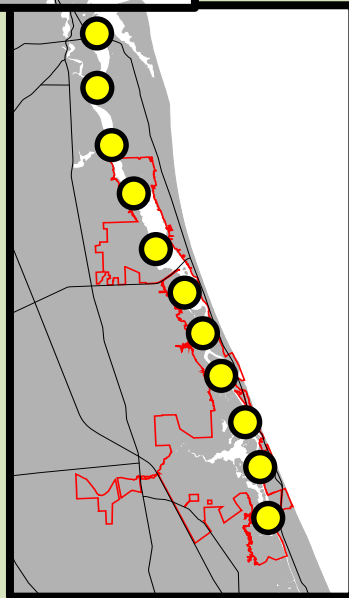
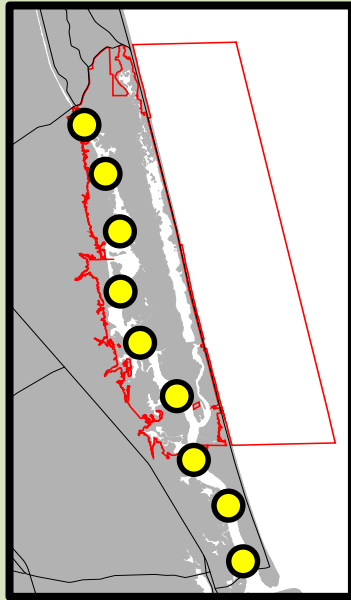
Sea Turtles

*Elective
Element:*
3 Projects

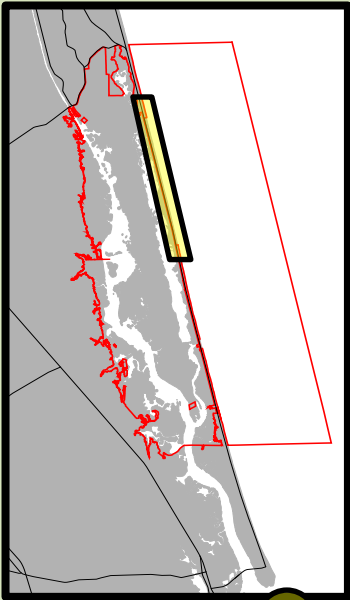


Fishes & Invertebrates

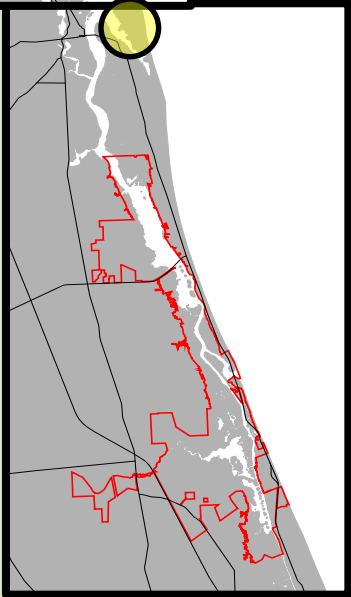
***Elective
Elements:***
20 stations



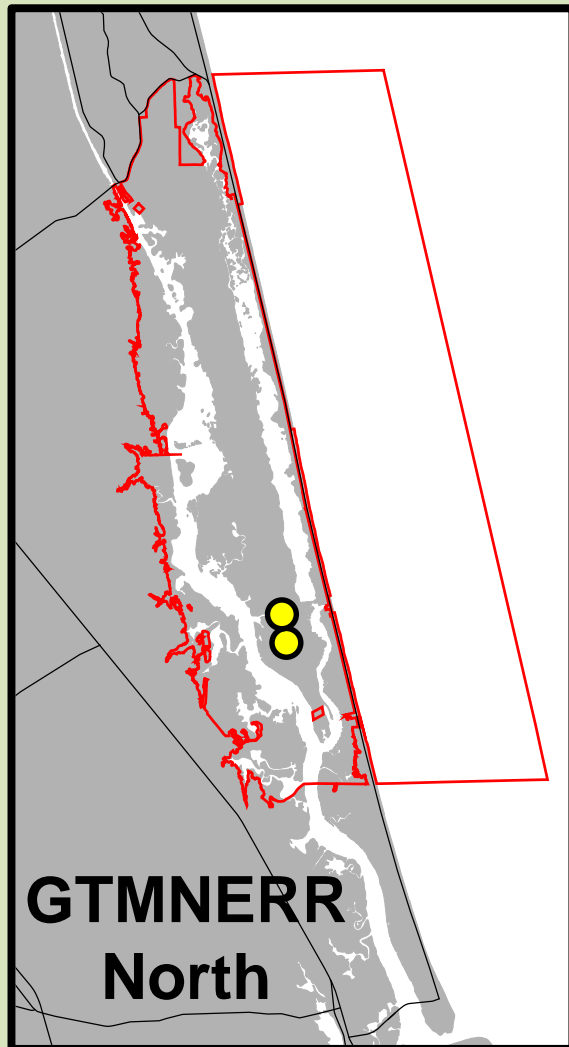
Anastasia Island Beach Mouse



*Elective
Element:
2 areas*



Mosquitoes & Aquatic Invertebrates

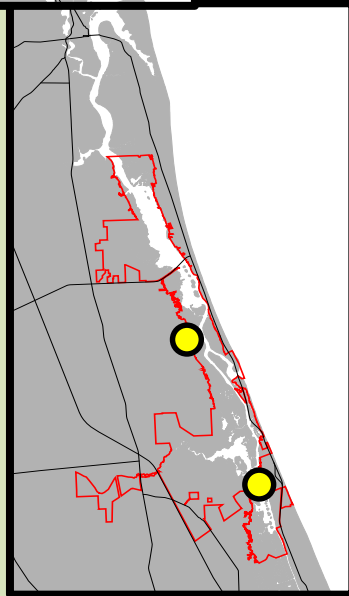
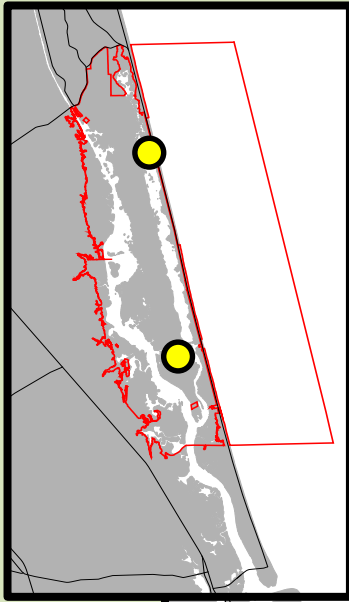


Elective Elements:
2 areas
(freshwater marsh)



Native Bees

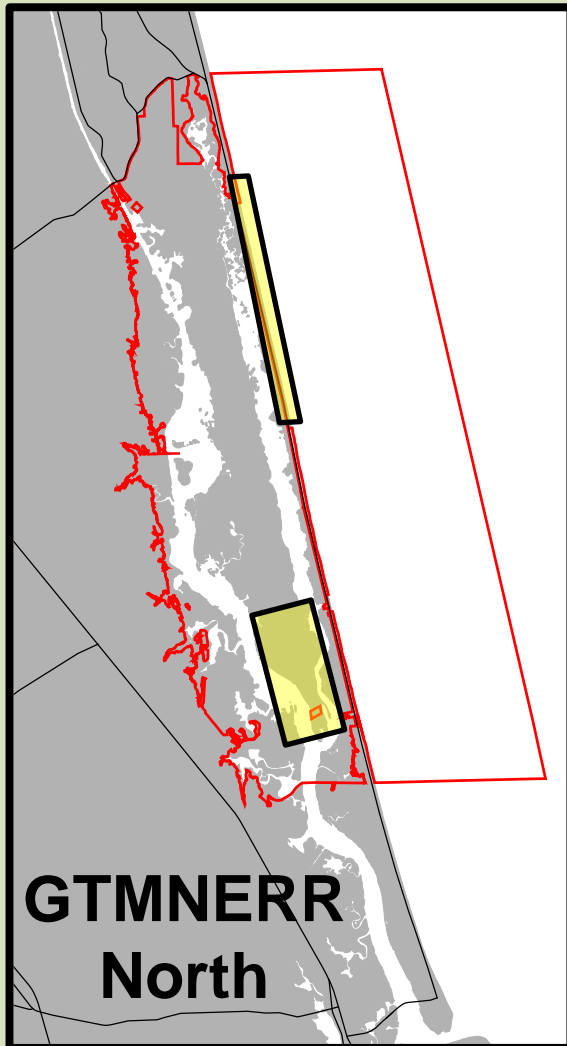
*Elective
Element:*
4 areas



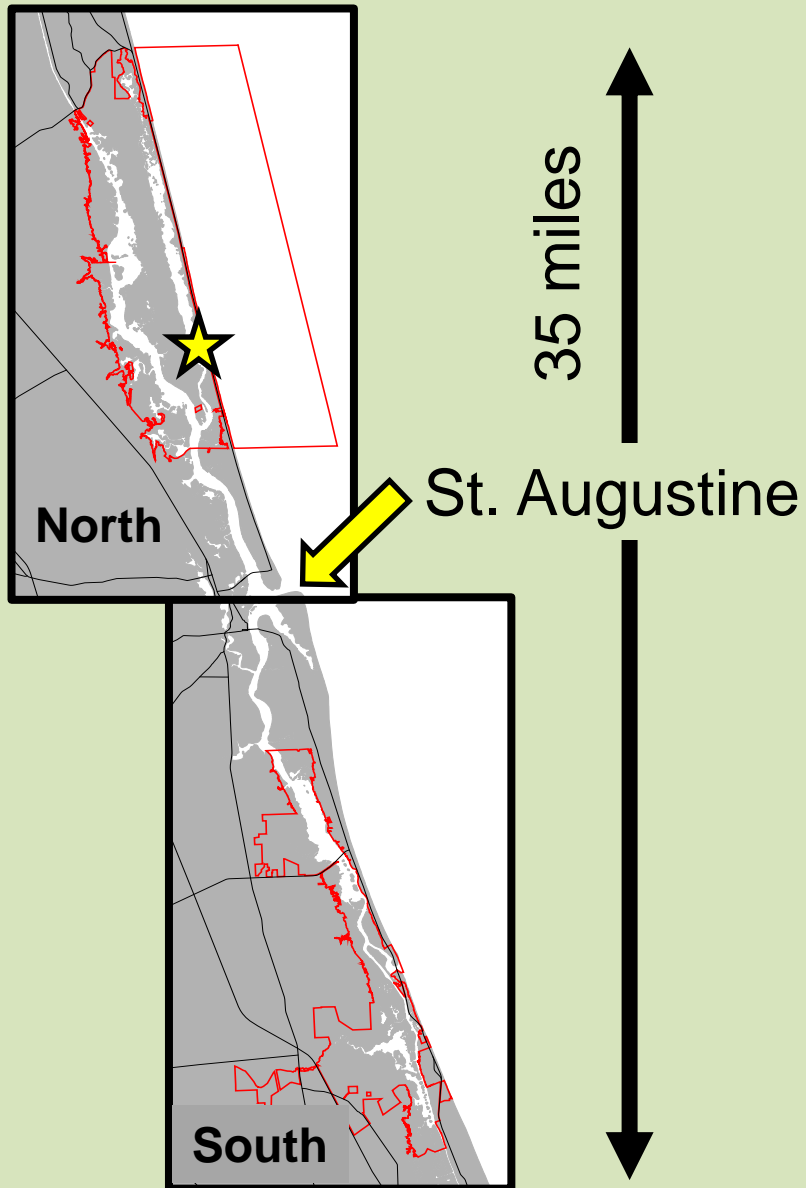
Gopher Tortoise

*Elective
Elements:*

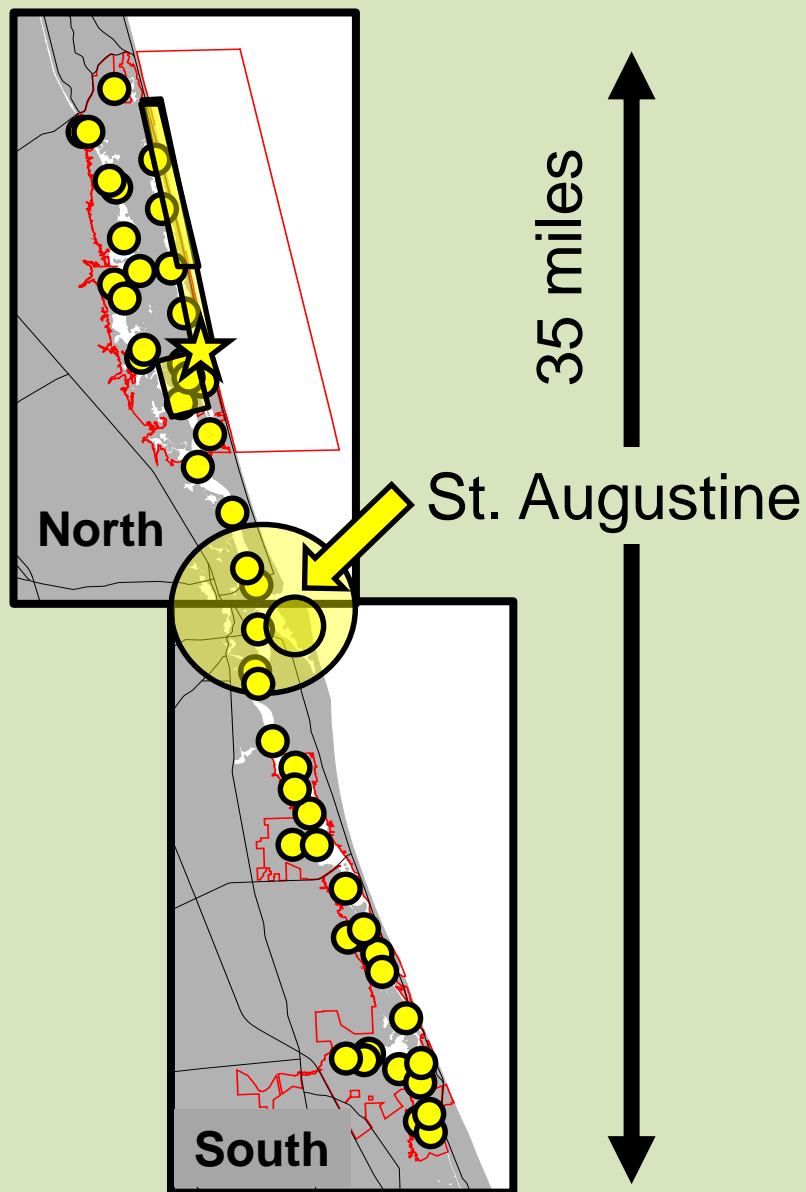
**2 Projects,
2 areas**



GTMNERR Research Programs



GTMNERR Research Programs



COMPREHENSIVE.....

Multiple projects examining a wide variety of coastal and estuarine topics

UNIQUE..... All projects focused on relatively small area of intensive study

ATTRACTIVE..... Ongoing research activities at GTMNERR attract outside researchers seeking to build upon existing projects

QUESTIONS?



