

# Intertidal marsh vegetation monitoring in the GTM NERR



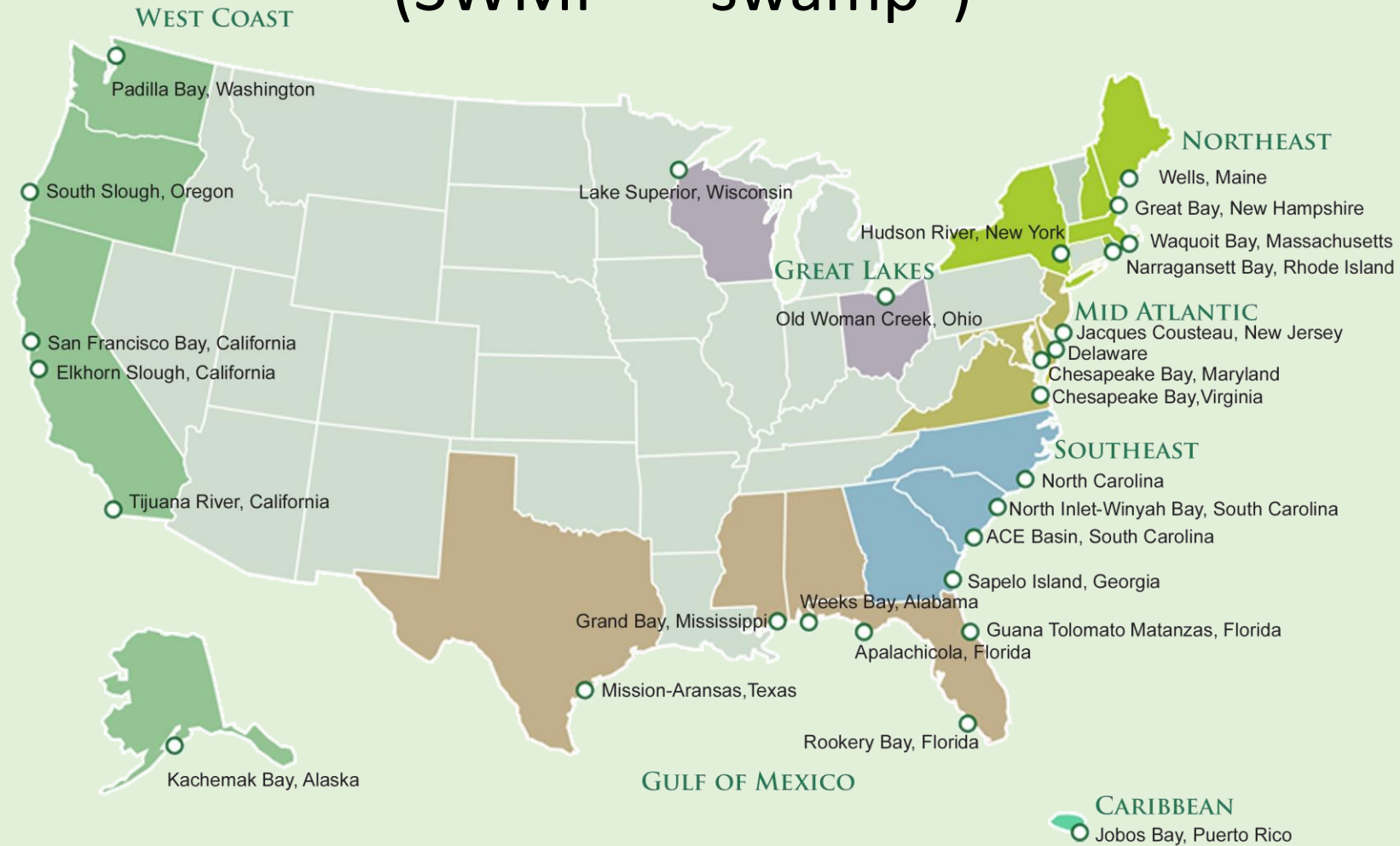
NATIONAL  
ESTUARINE  
RESEARCH  
RESERVE  
SYSTEM

Jason Lynn  
Nikki Dix  
Pamela Marcum



# System-Wide Monitoring Program

(SWMP = “swamp”)



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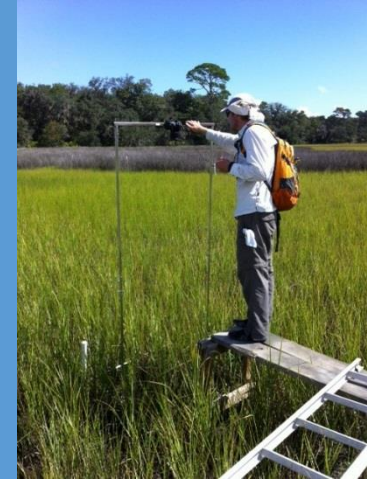
weather



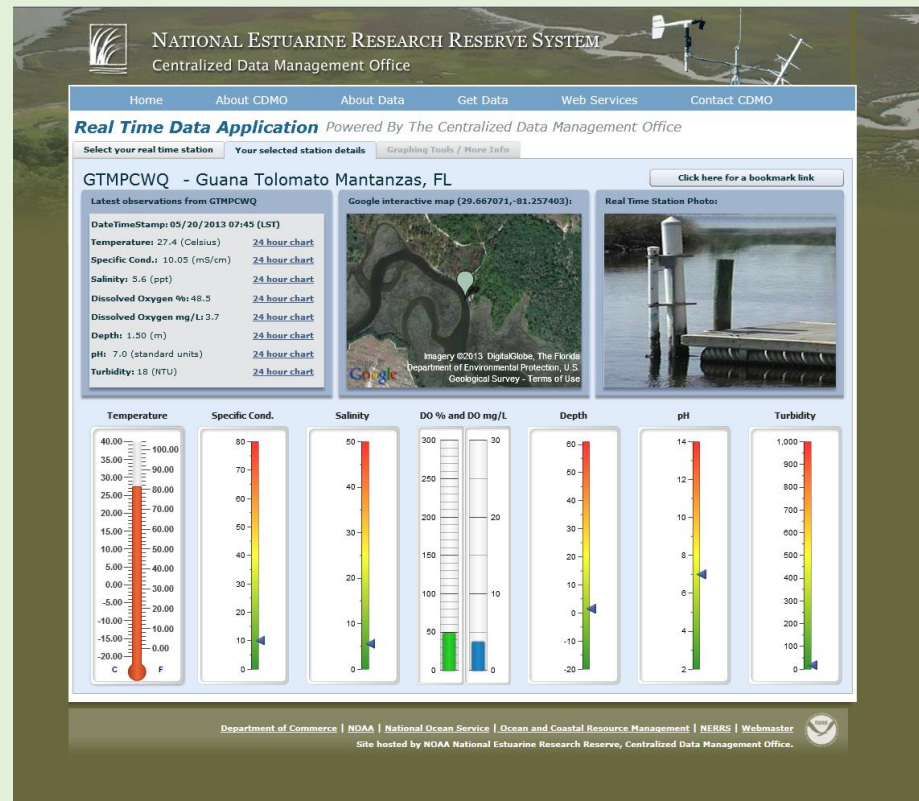
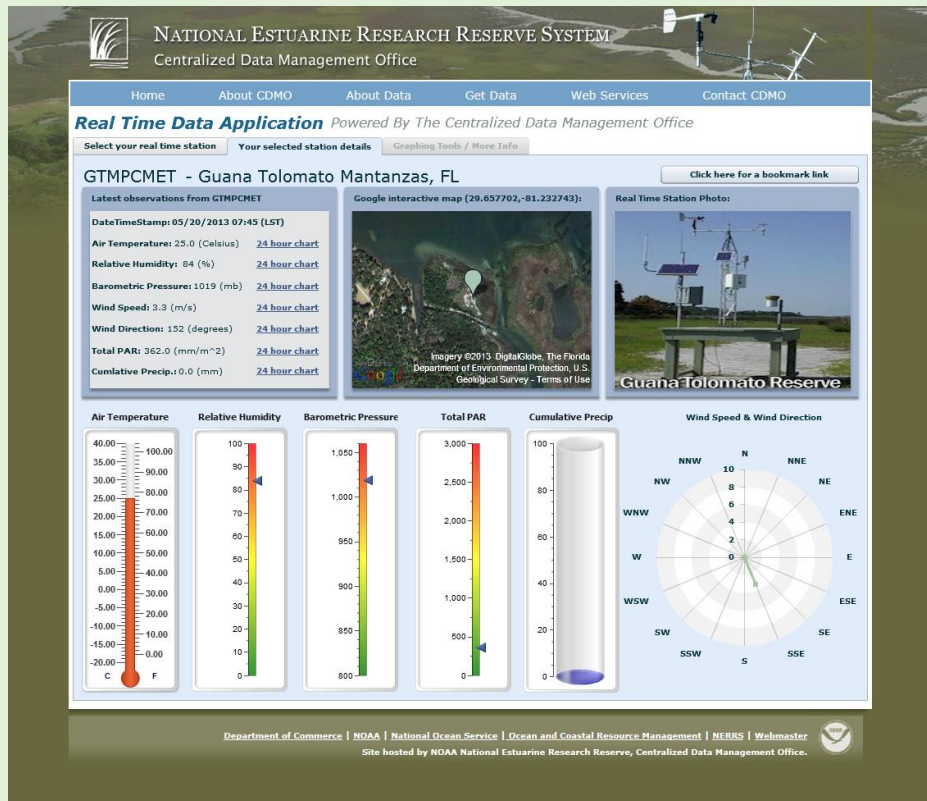
water quality



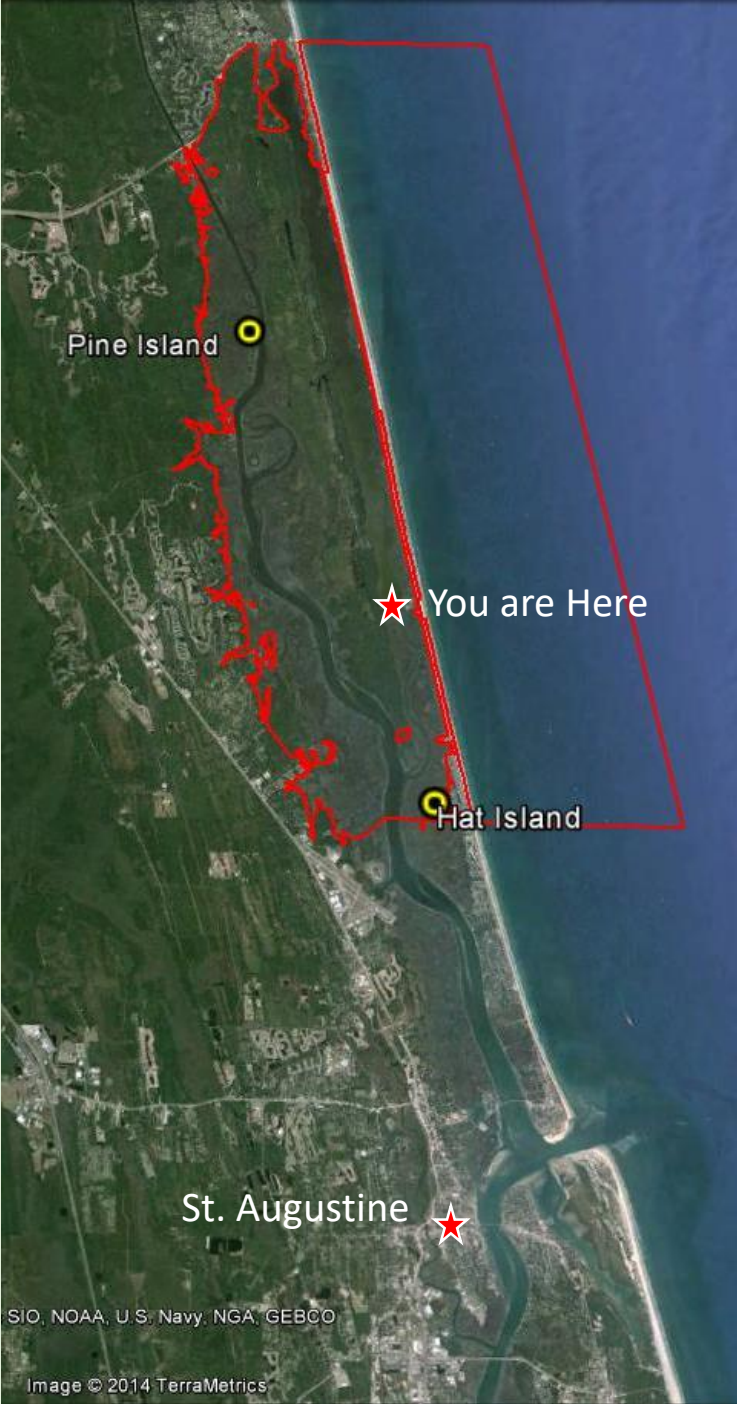
biological



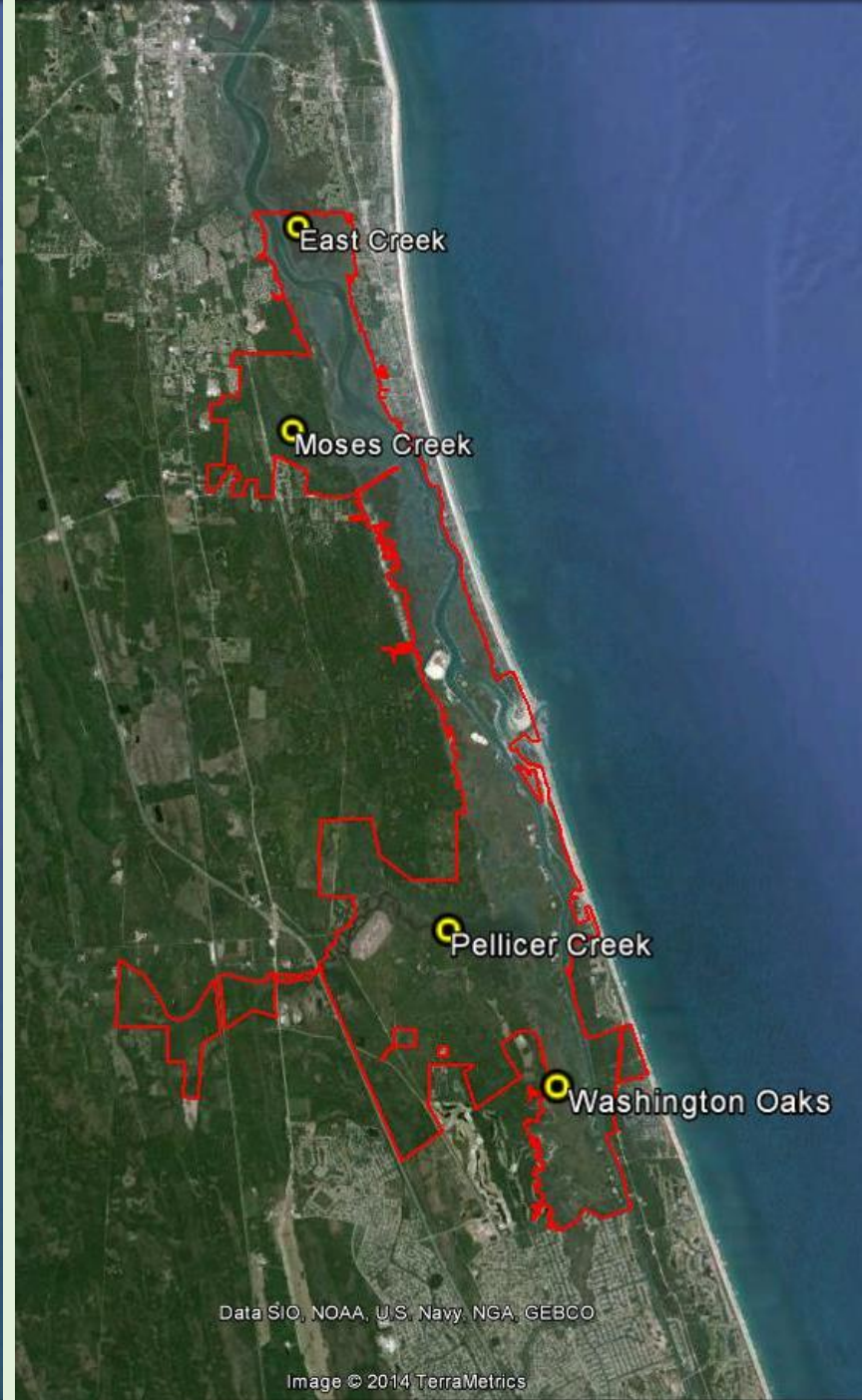
# Water Quality and Weather



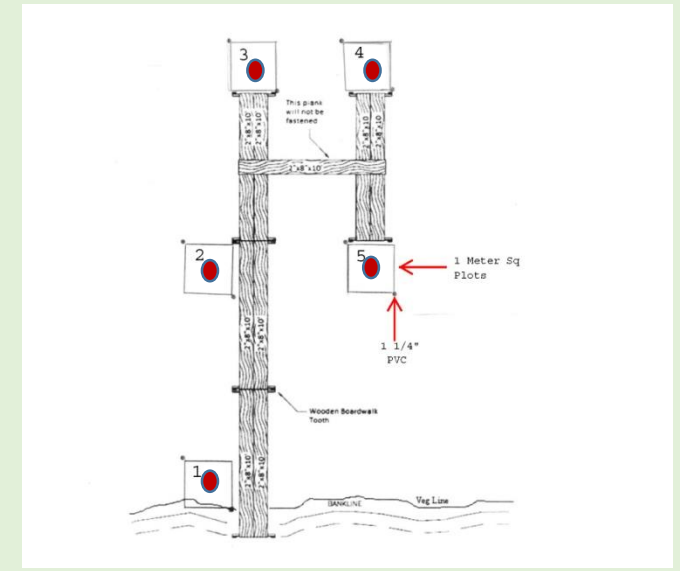
<http://cdmo.baruch.sc.edu/>



Imagery Date: 1/22/2013 29°59'44.95" N 81°



Imagery Date: 1/22/2013 29°



# Biomonitoring: Vegetation

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■ bare earth

■ *Spartina alterniflora*

■ *Batis maritima*

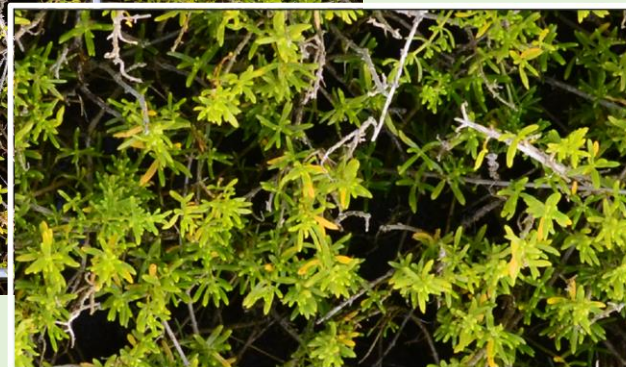
■ *Sarcocornia ambigua*

■ *Juncus roemerianus*

■ *Avicennia germinans*

# Biomonitoring: Vegetation

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- bare earth
- *Spartina alterniflora*
- ← ■ *Batis maritima*
- *Sarcocornia ambigua*
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# Biomonitoring: Vegetation

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# Biomonitoring: Vegetation

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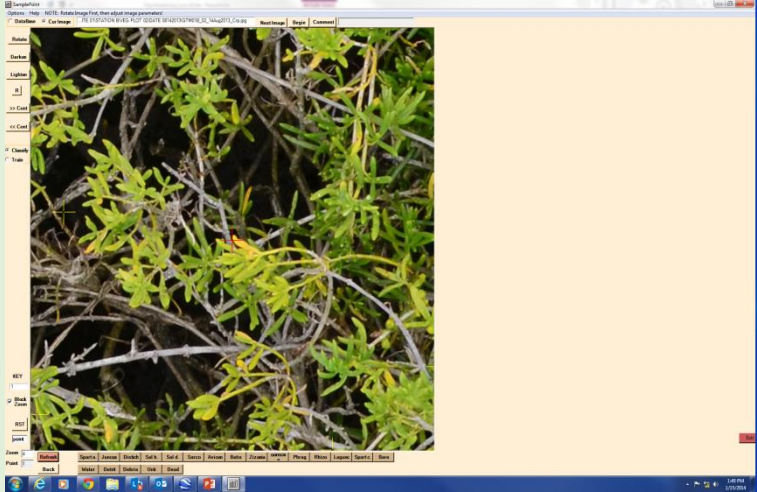
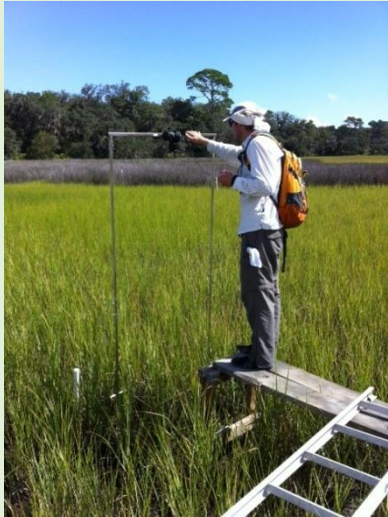
■ *Juncus roemerianus*

← ■ *Avicennia germinans*

# Biomonitoring: Methods

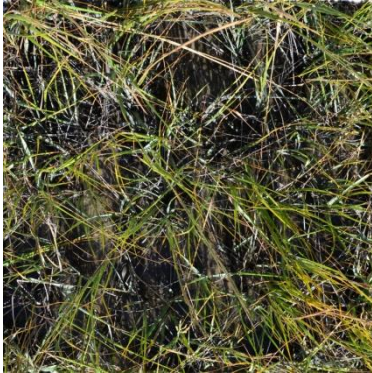
In the field:

- Images
- Percent Cover
- Canopy Height



In the lab:

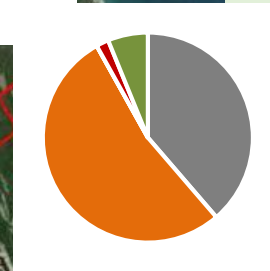
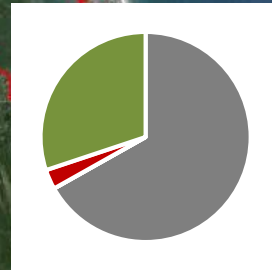
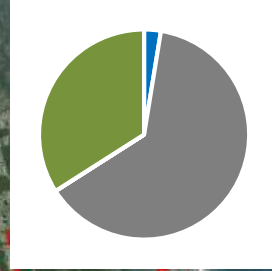
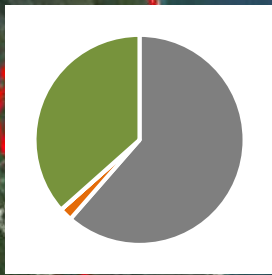
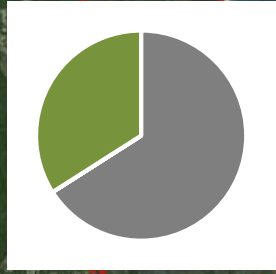
- Calculated Percent Cover



examples of images cropped and prepared for close-to-Earth remote sensing in SamplePoint

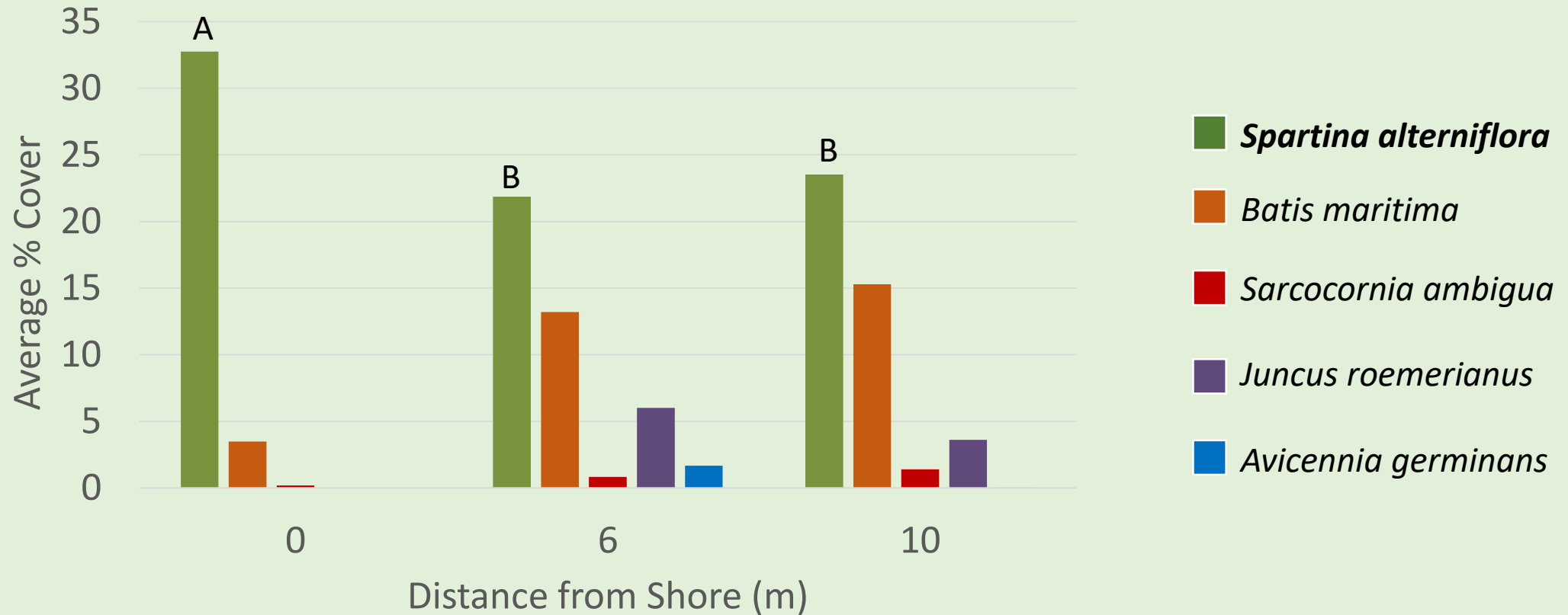
# Biomonitoring: Species Composition

- bare earth
- *Spartina alterniflora*
- *Batis maritima*
- *Sarcocornia ambigua*
- *Juncus roemerianus*
- *Avicennia germinans*



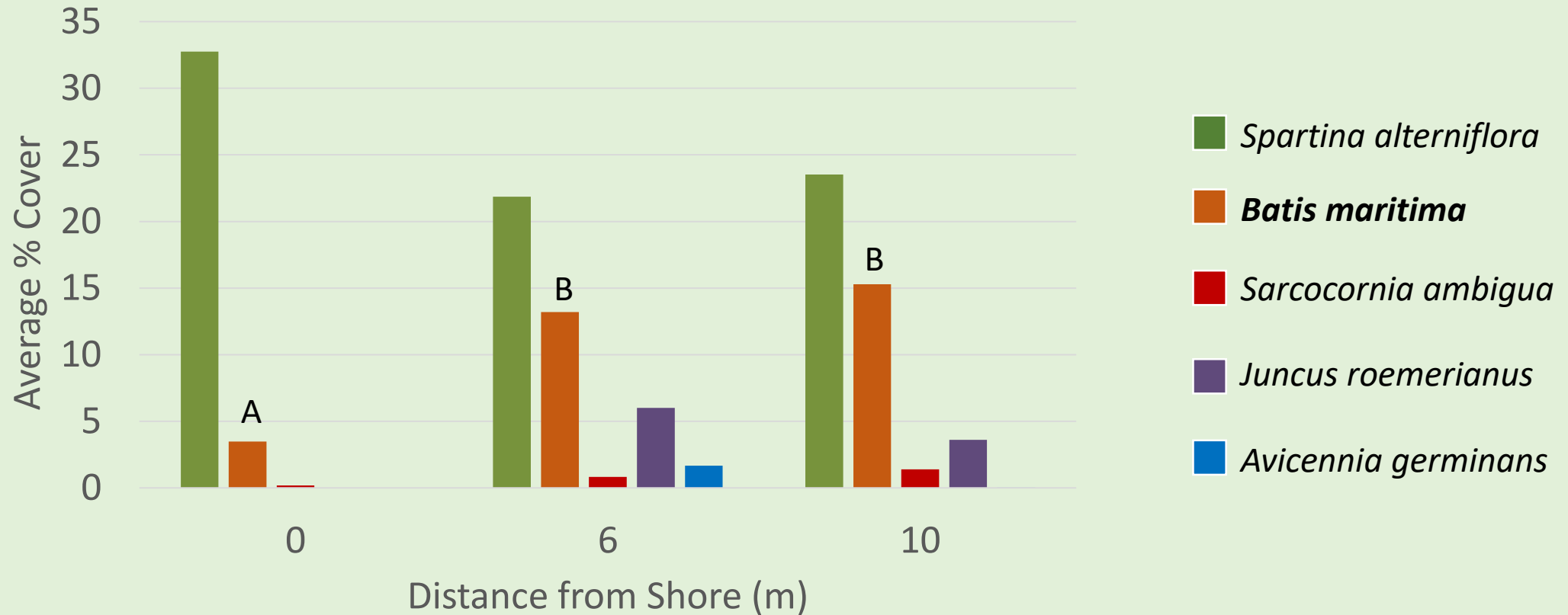
# Biomonitoring: Spatial Distribution

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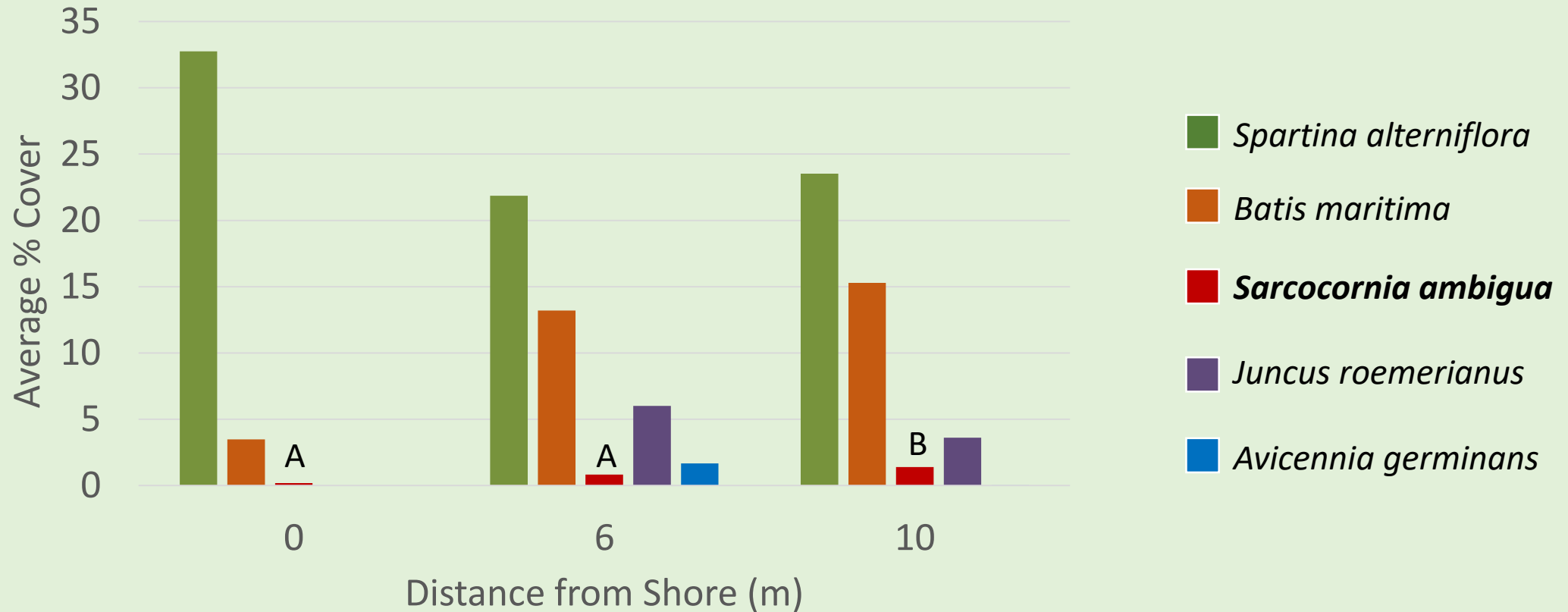
# Biomonitoring: Spatial Distribution

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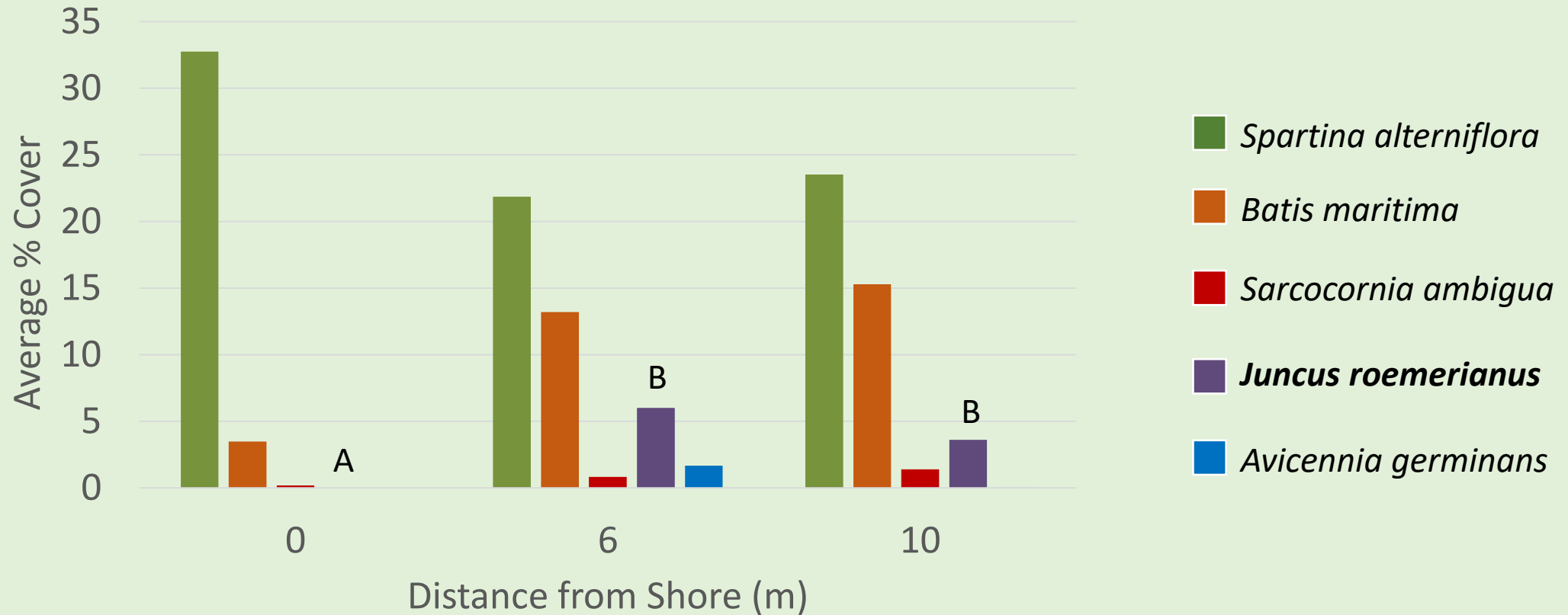
# Biomonitoring: Spatial Distribution

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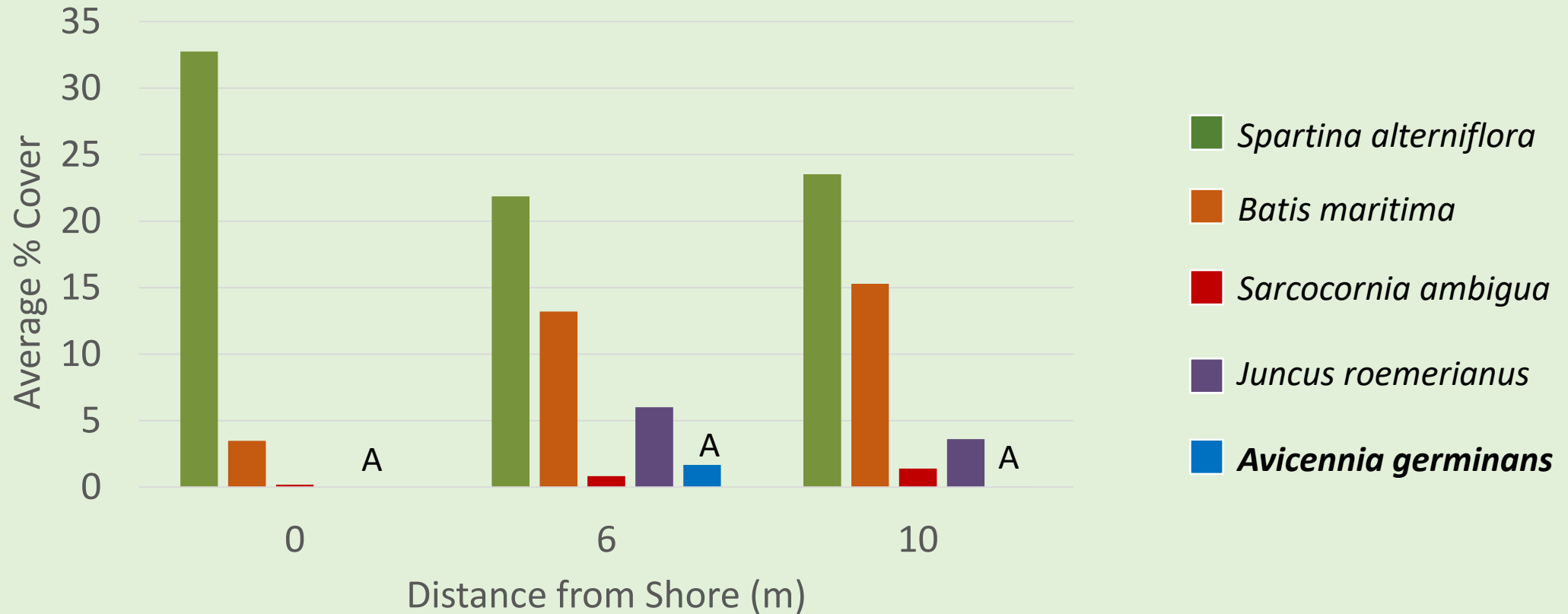
# Biomonitoring: Spatial Distribution

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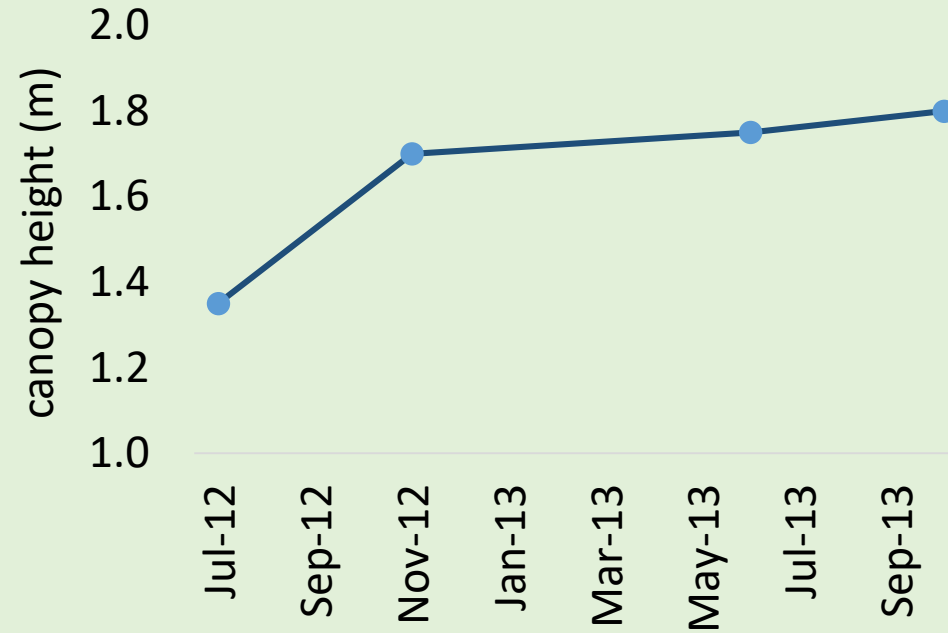


# Biomonitoring: Spatial Distribution



# *Avicennia germinans* at East Creek Site

7/17/12  
25% calculated cover



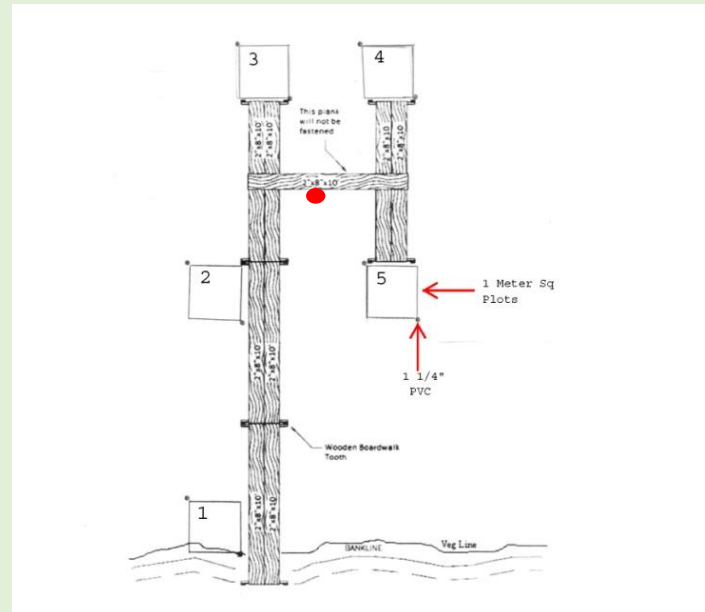
10/03/13  
57% calculated cover



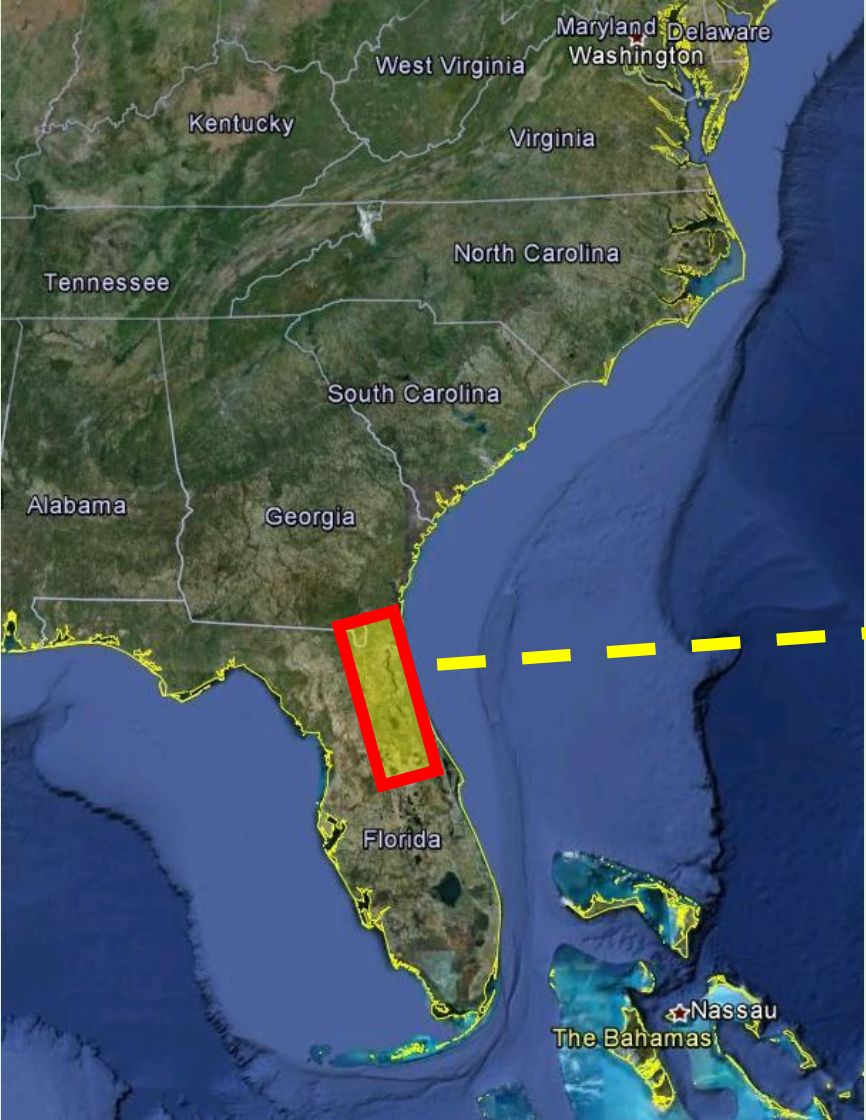
# Biomonitoring: Surface Elevation



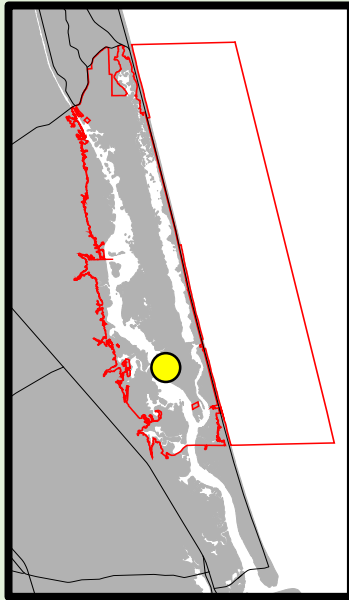
*Deep Rod  
Surface Elevation Tables  
(SETS)*



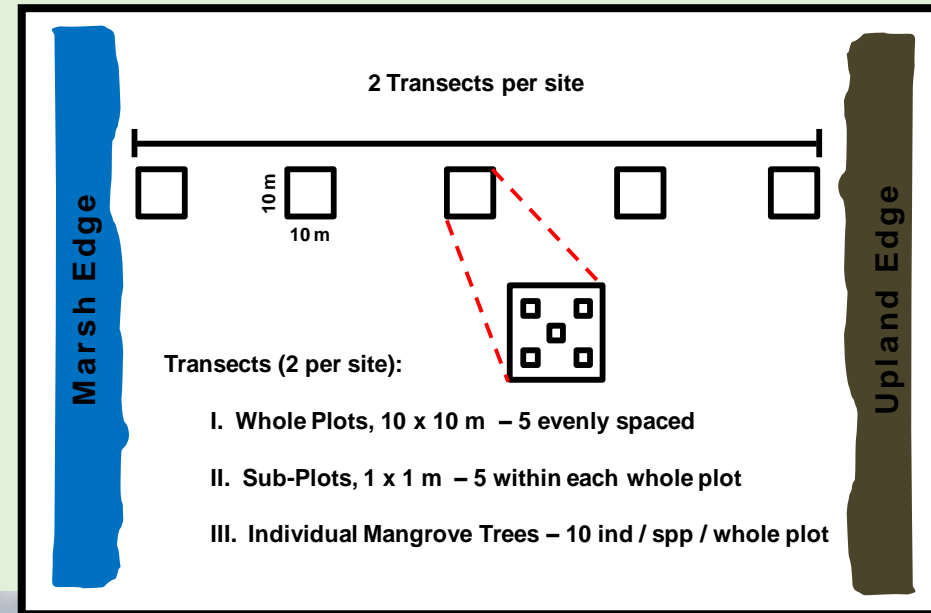
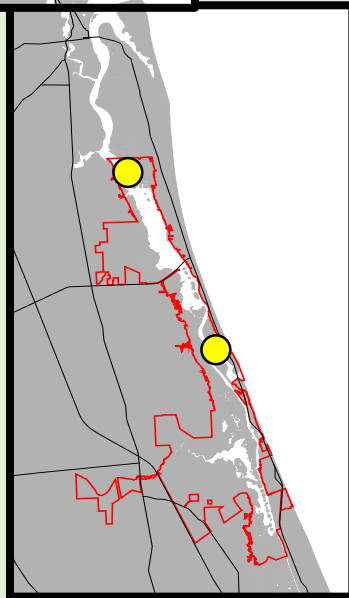
# Biomonitoring: Vegetation



# Mangrove – Salt Marsh Ecotone



***Elective  
Element:***  
**3 - Sites**





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