

# **Texas High School Coastal Monitoring Program at Palacios High School: 2022-2023**

July 2023

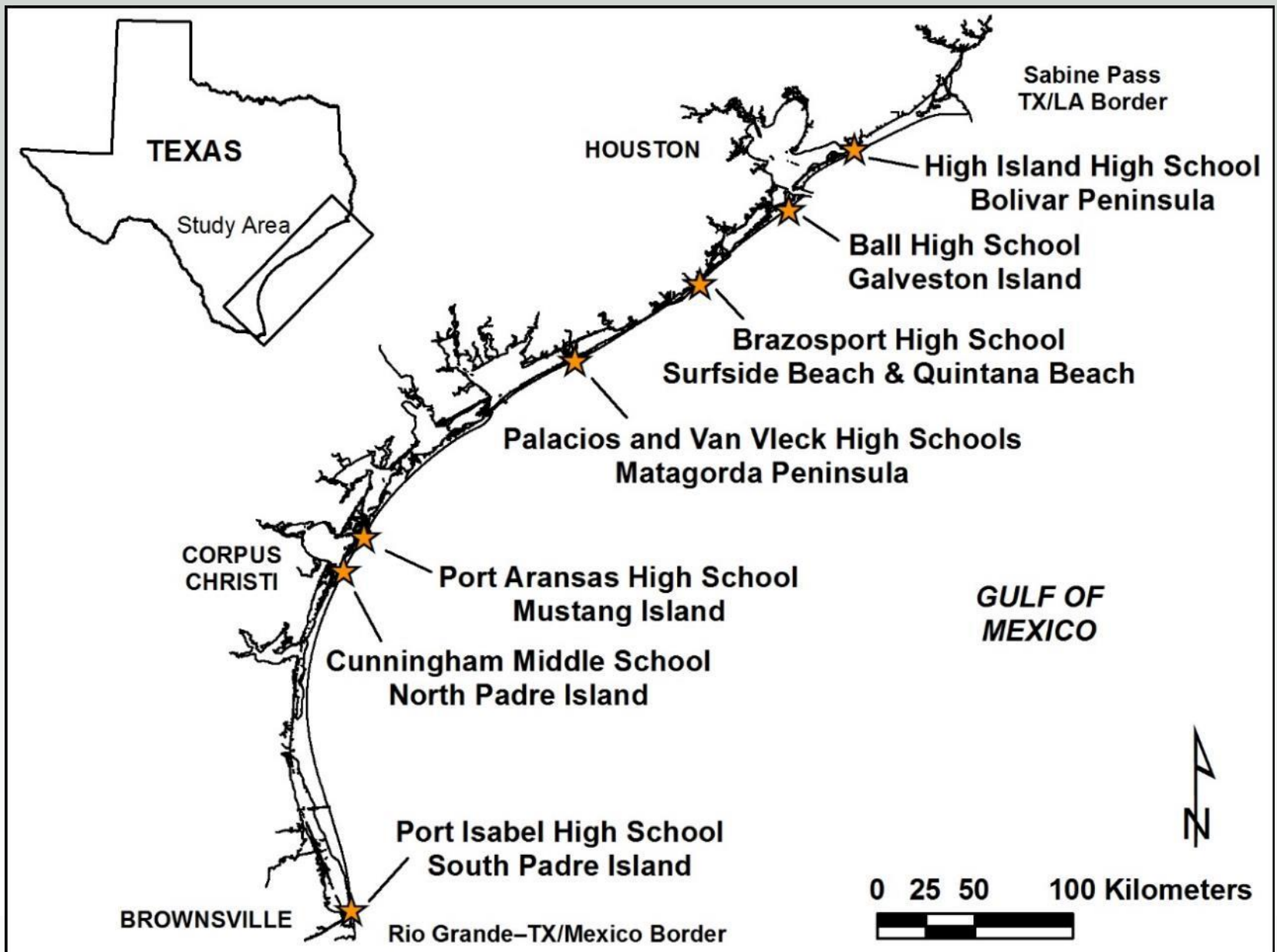


BUREAU OF  
ECONOMIC  
GEOLOGY

# Texas High School Coastal Monitoring Program

- Provide high school students with a real-world learning experience by monitoring the beach and dune environment.
- Obtain a better understanding of the relationship between coastal processes, beach morphology, and shoreline change
- Increase public awareness and understanding of coastal change, processes, and hazards by making data and findings available for coastal managers and scientists, students and teacher, and the general public.





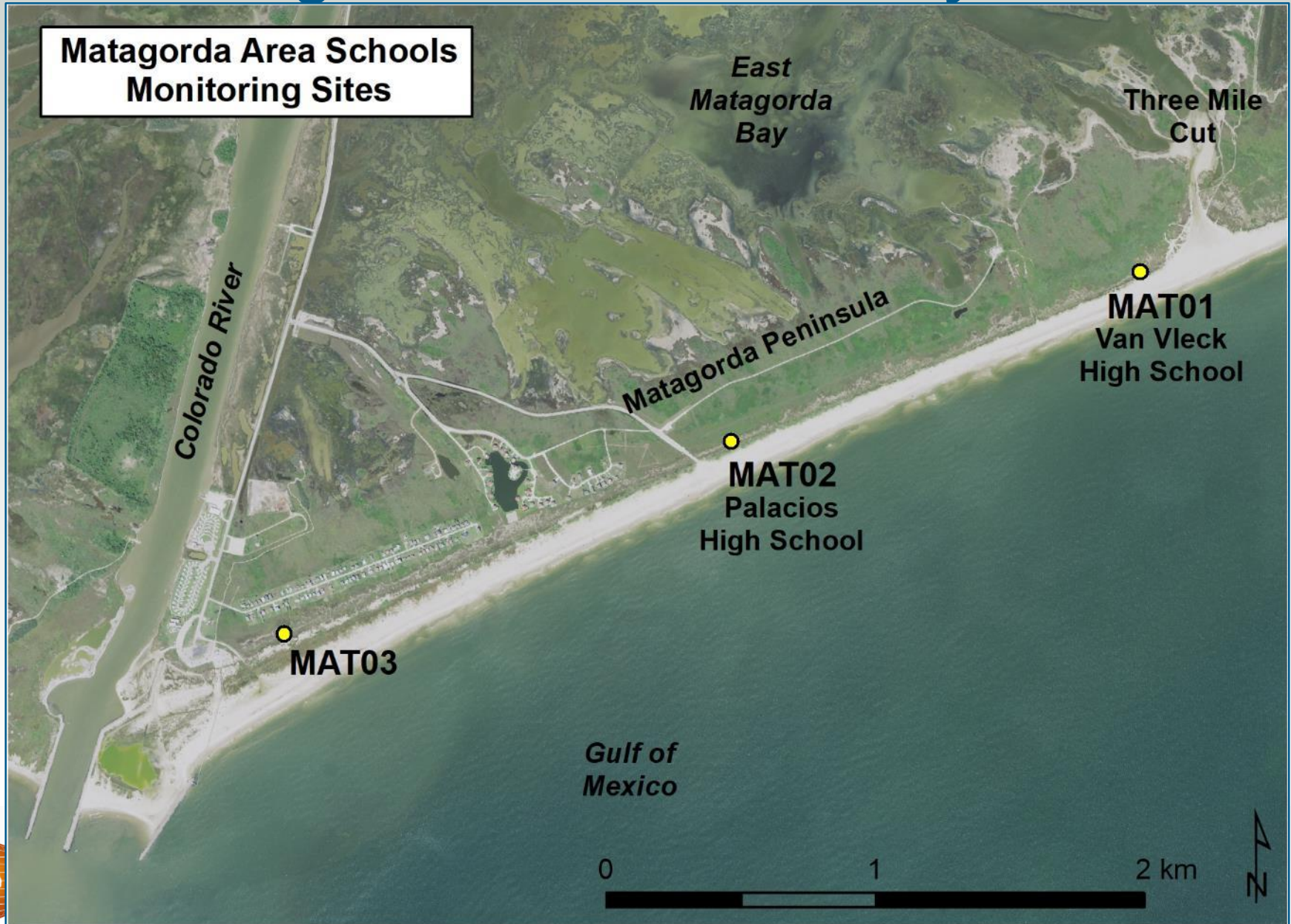
# Student Collected Data

- Topographic transect oriented perpendicular to the shoreline
  - measured from the same starting point landward of the foredune and oriented in the same direction.
- Estimates of processes acting on the beach
  - wind direction and speed; wave direction, height, and period; and longshore current direction and speed
- GPS survey of the vegetation line and shoreline
  - quantitative data on the position of the shoreline and vegetation line





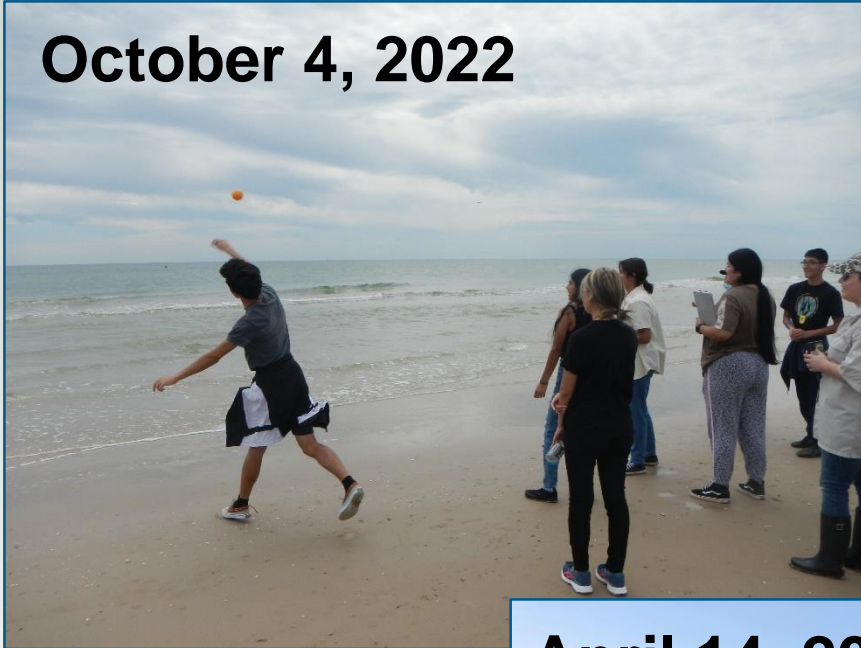
# Matagorda Peninsula Study Sites





# 2022-2023 field trips

**October 4, 2022**



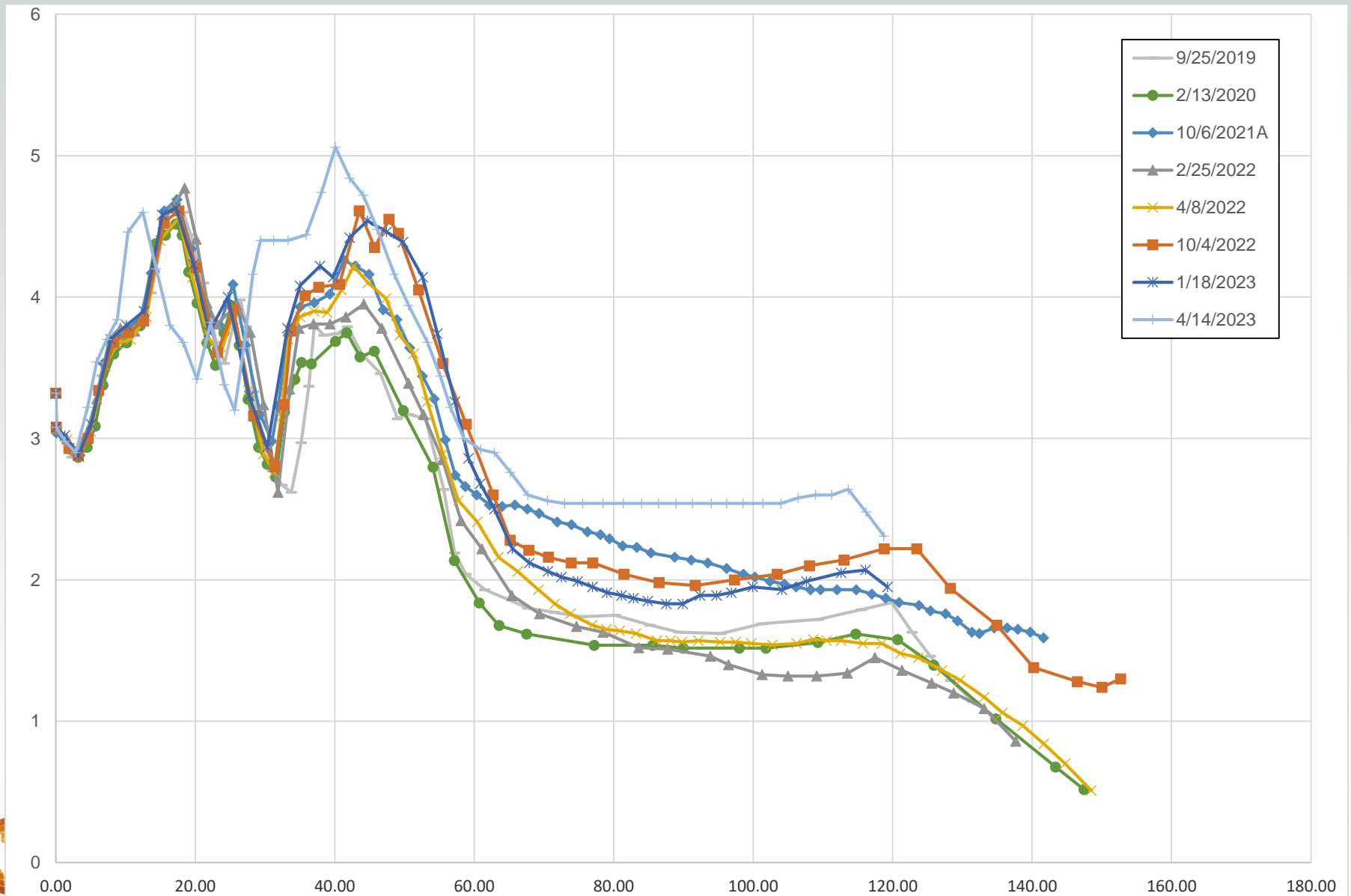
**January 18, 2023**



**April 14, 2023**

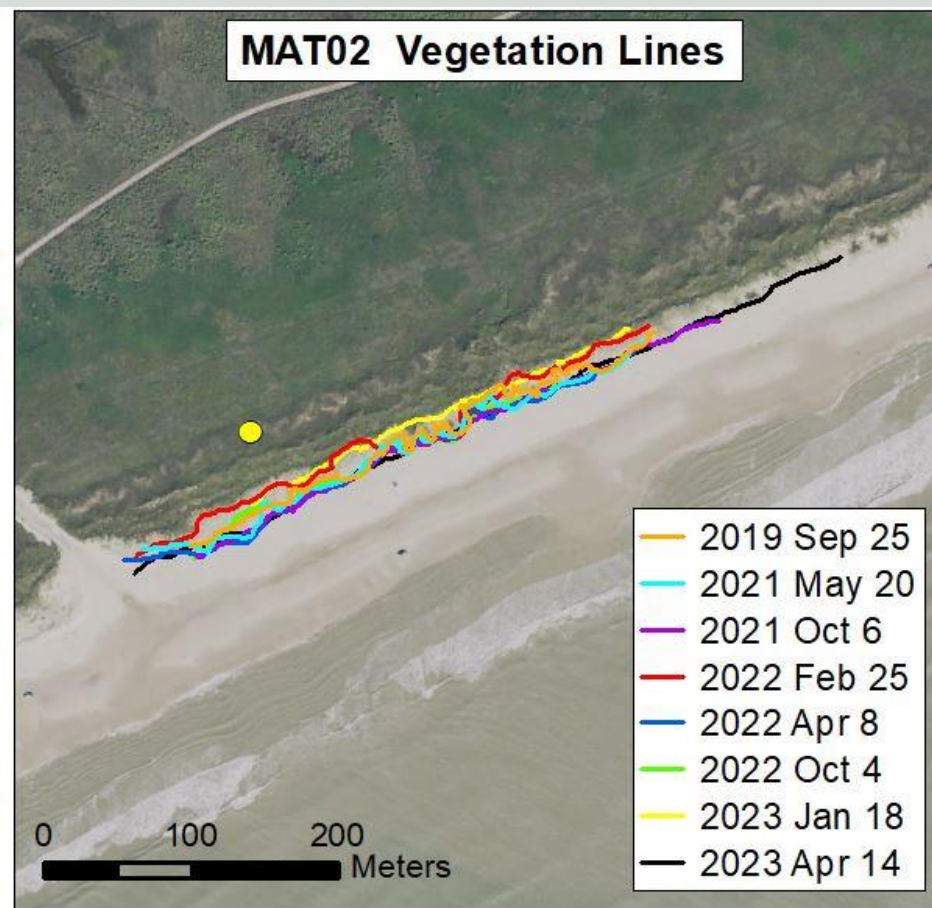
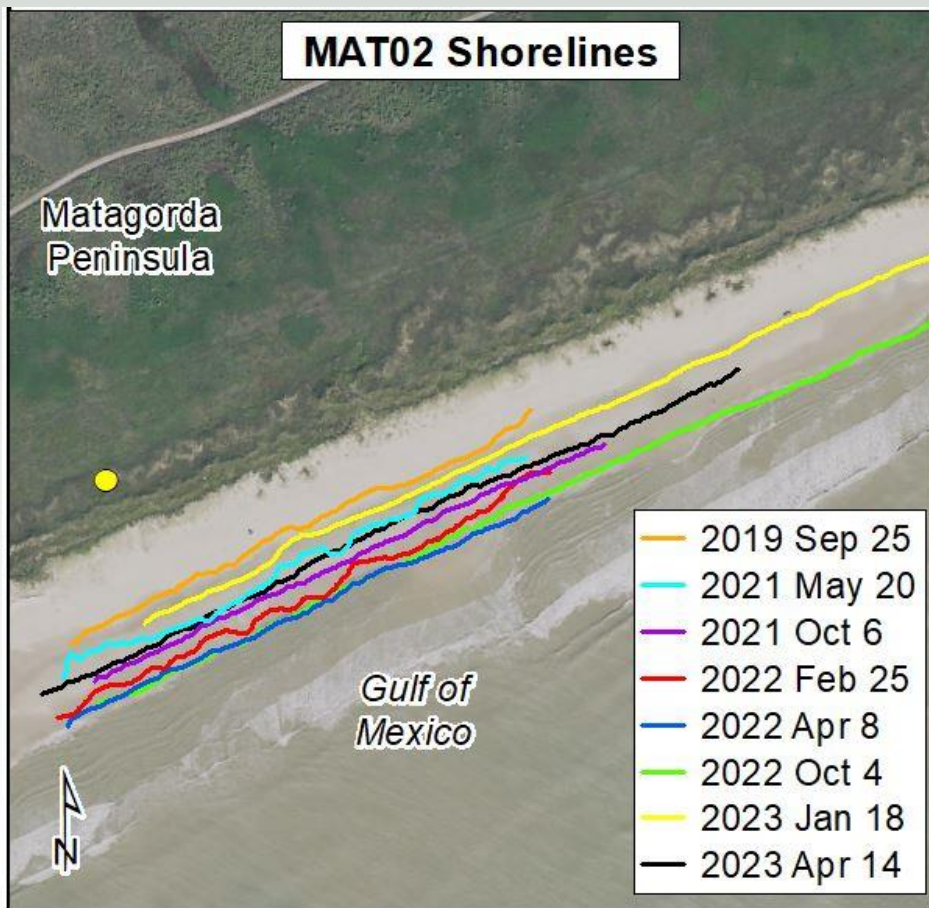


# MAT02: fall 2019-spring 2023



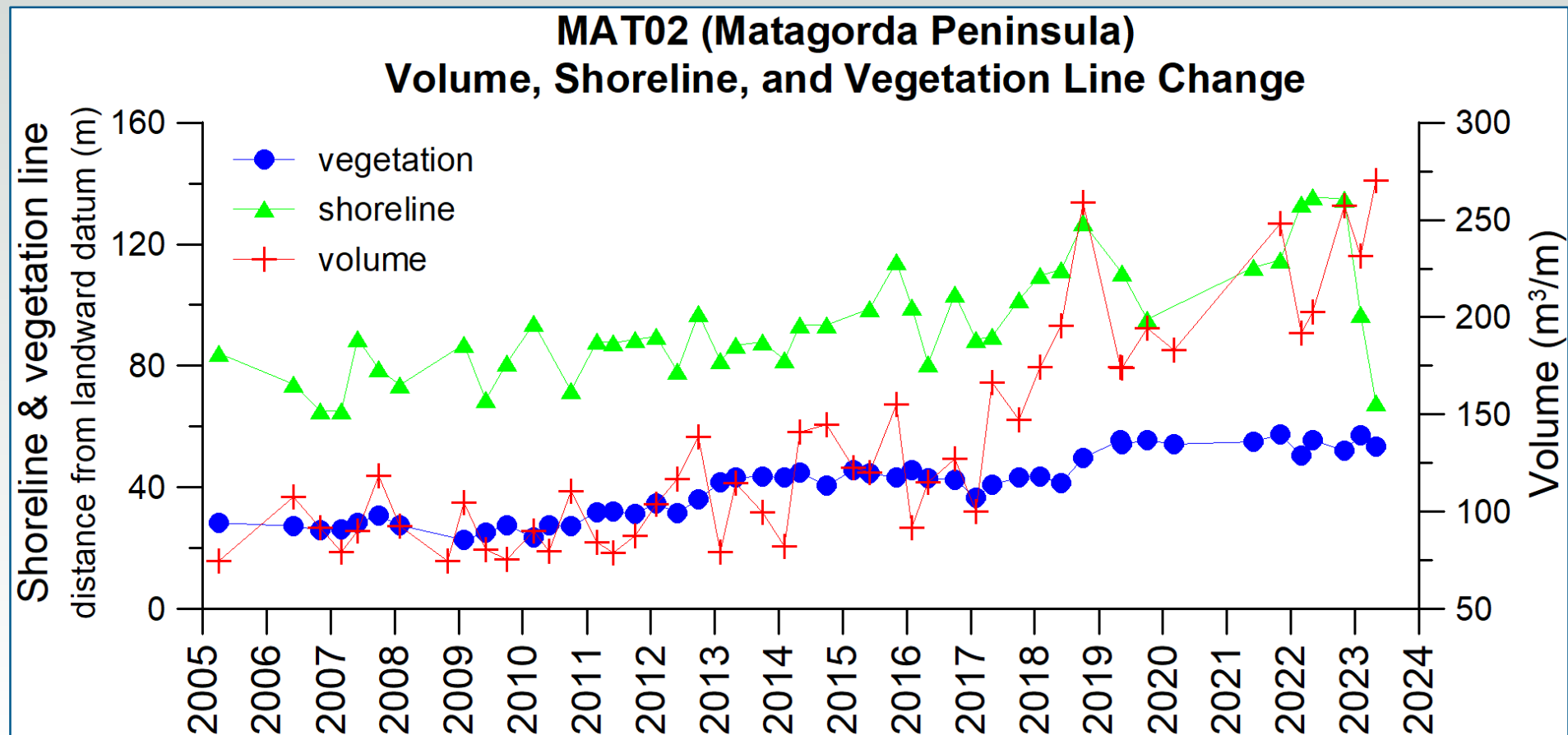


# MAT02 shore and vegetation line positions



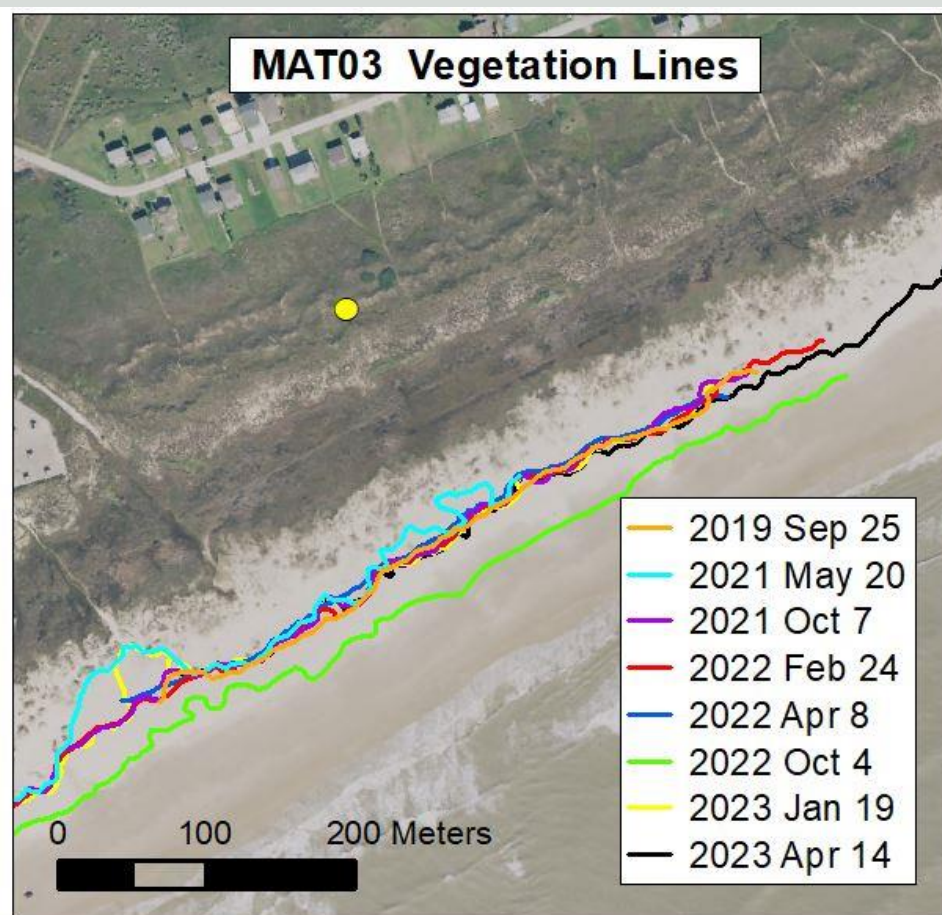
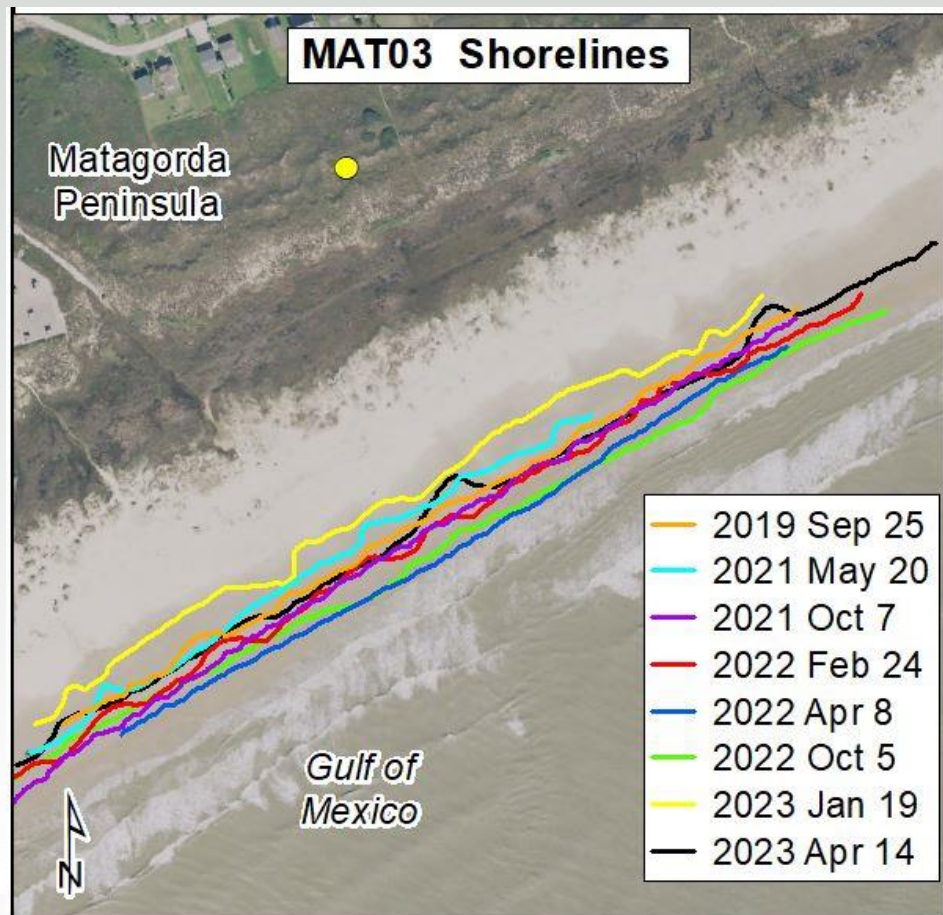


# MAT02: shoreline, vegetation line, and volume changes

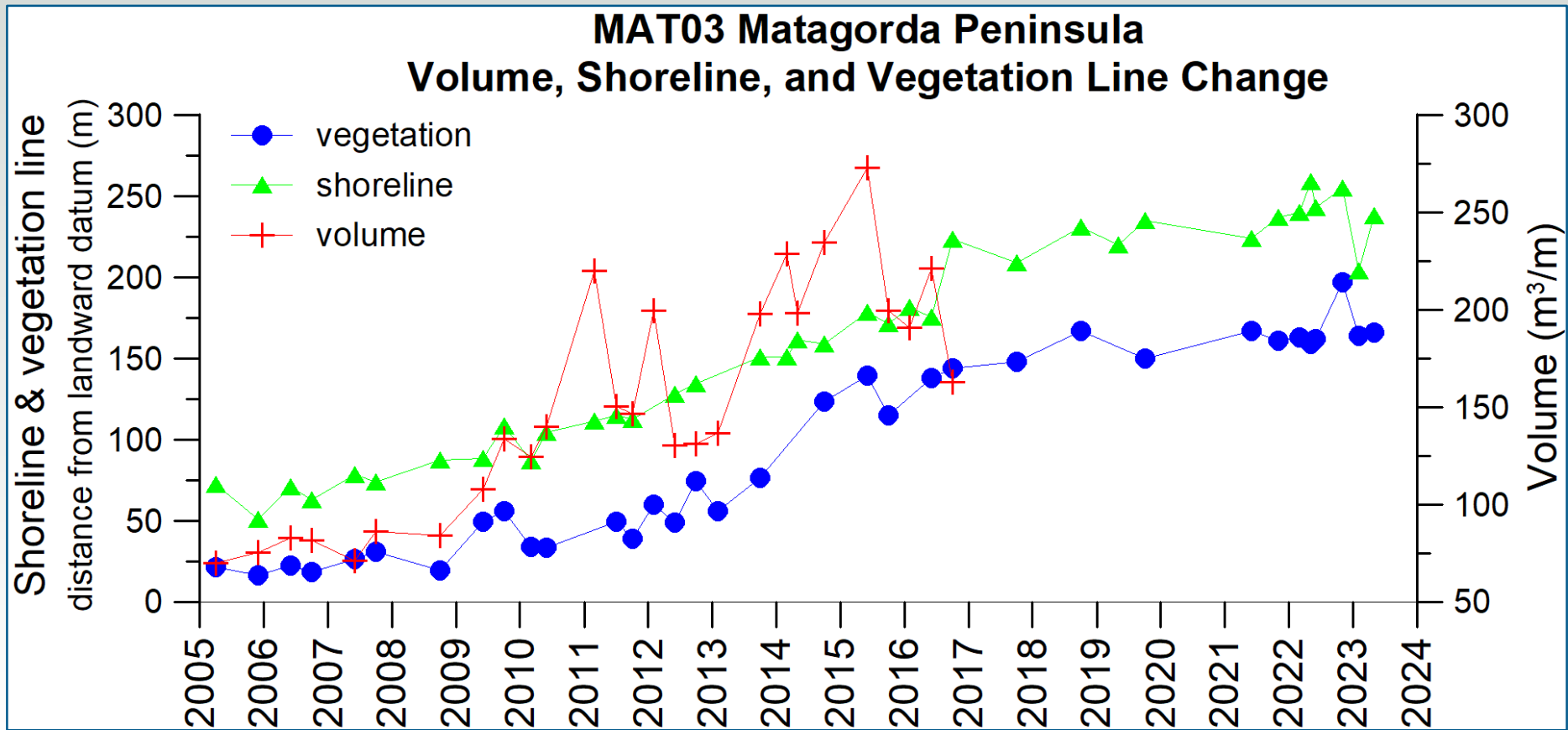


Sediment volume was calculated above 1 meter NAVD88.

# MAT03 shore and vegetation line positions



# MAT03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.