

Texas High School Coastal Monitoring Program at Van Vleck High School: 2023-2024

January 2025

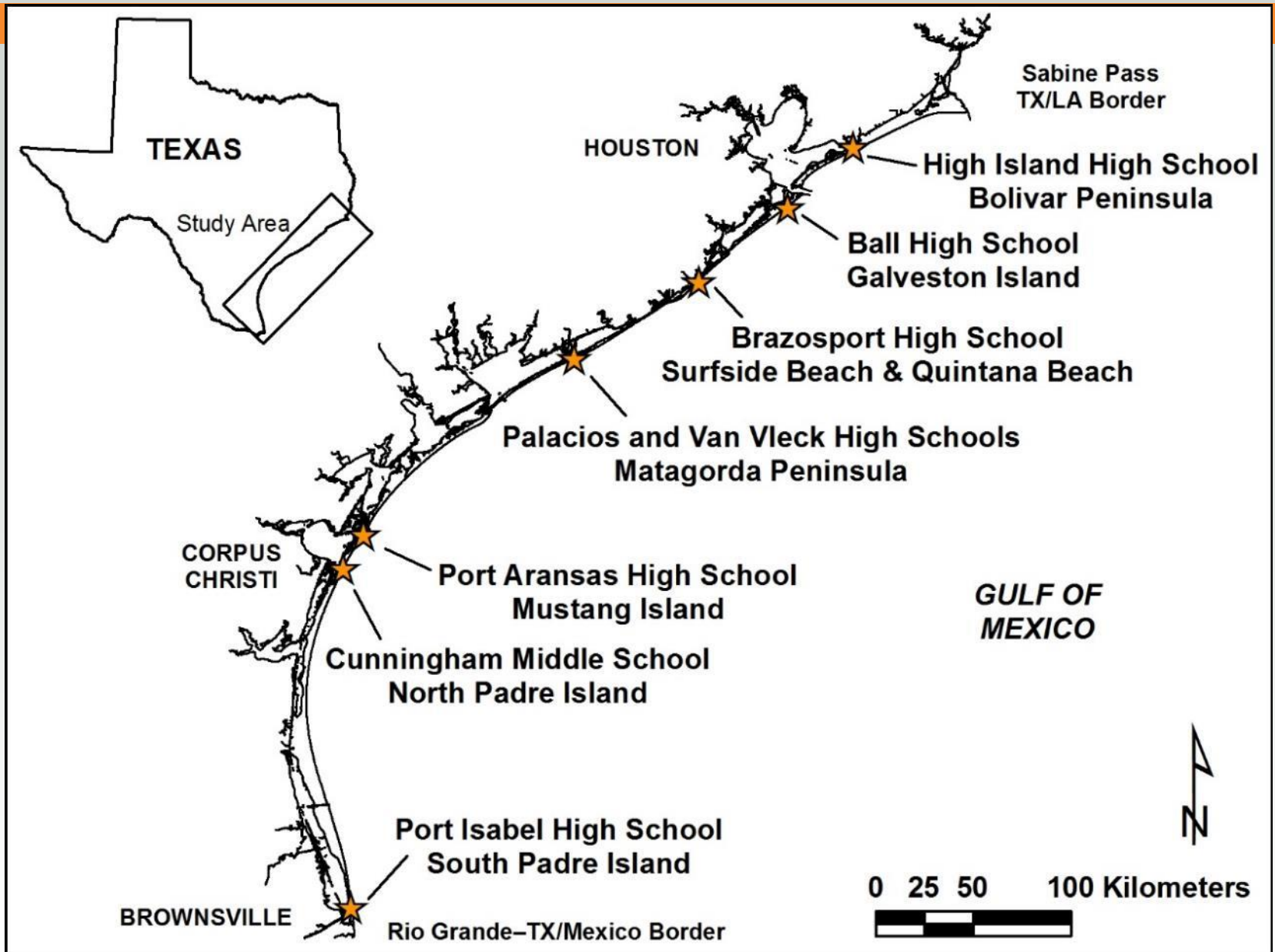


BUREAU OF
ECONOMIC
GEOLOGY

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.





**2023-2024: 23 field trips
with ~230 students**

**1997-2024
421 field trips**

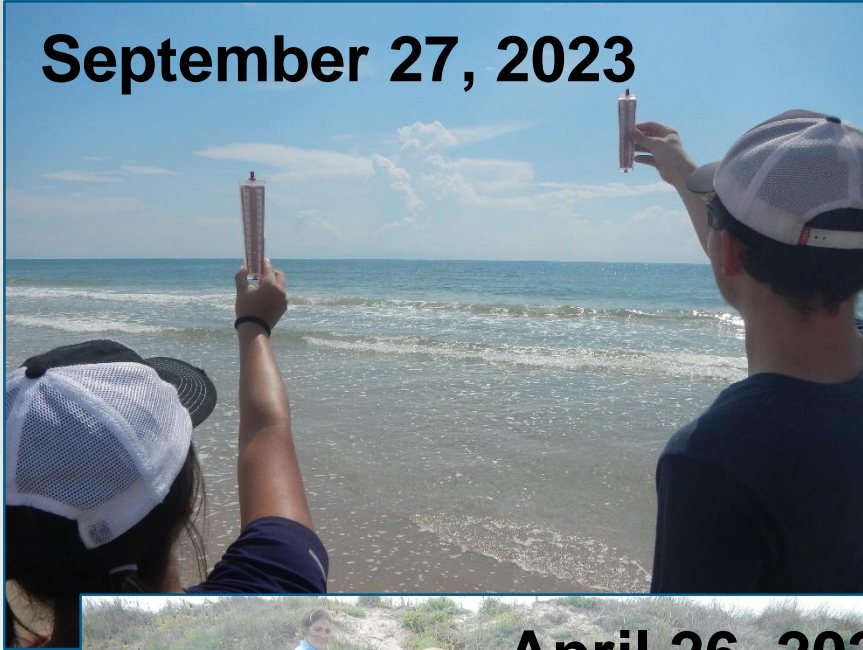
Student Collected Data

- 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



field trip dates

September 27, 2023



February 21, 2024



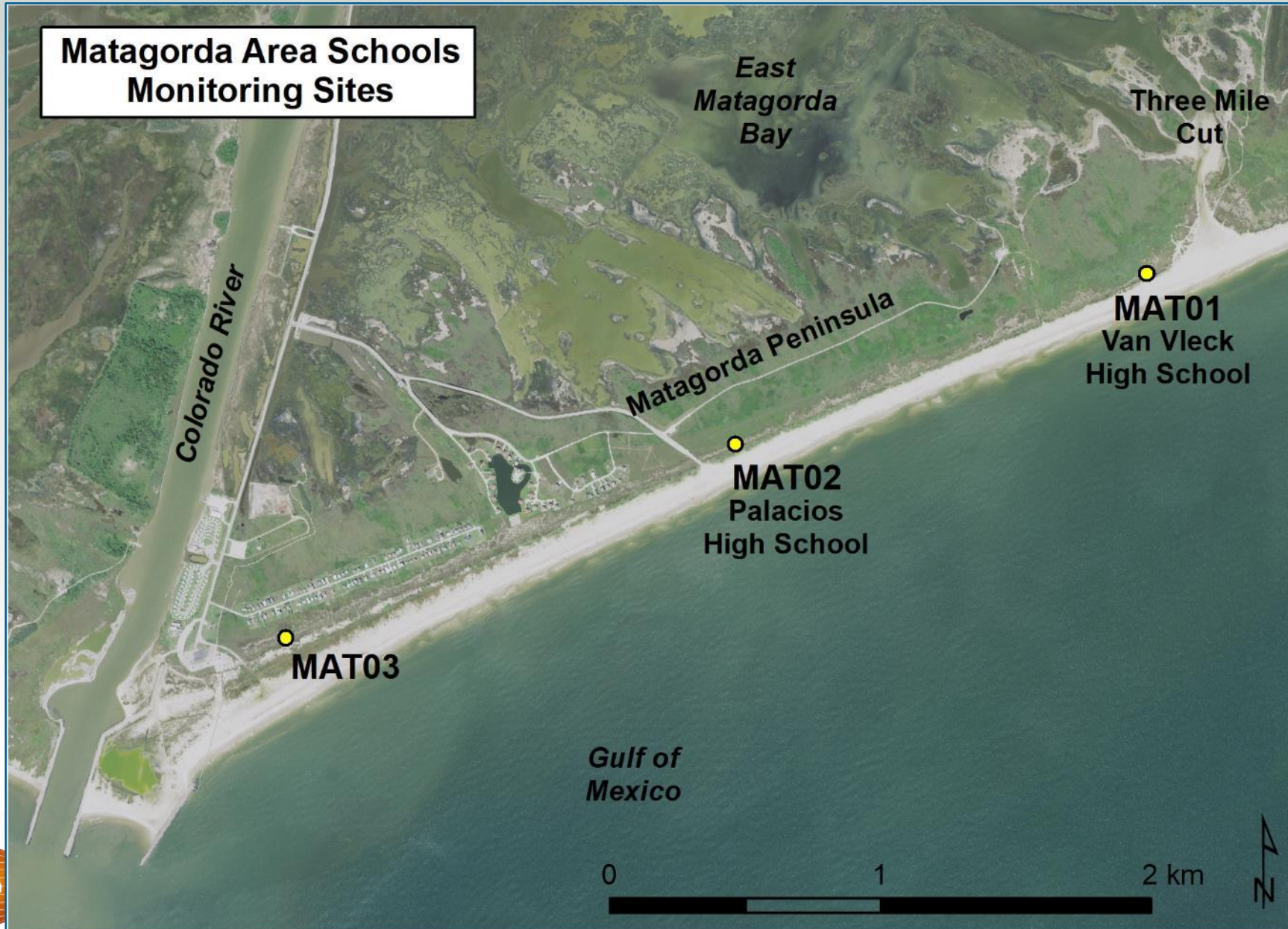
April 26, 2024



October 2, 2024



Matagorda Peninsula Study Sites



October 7, 2021

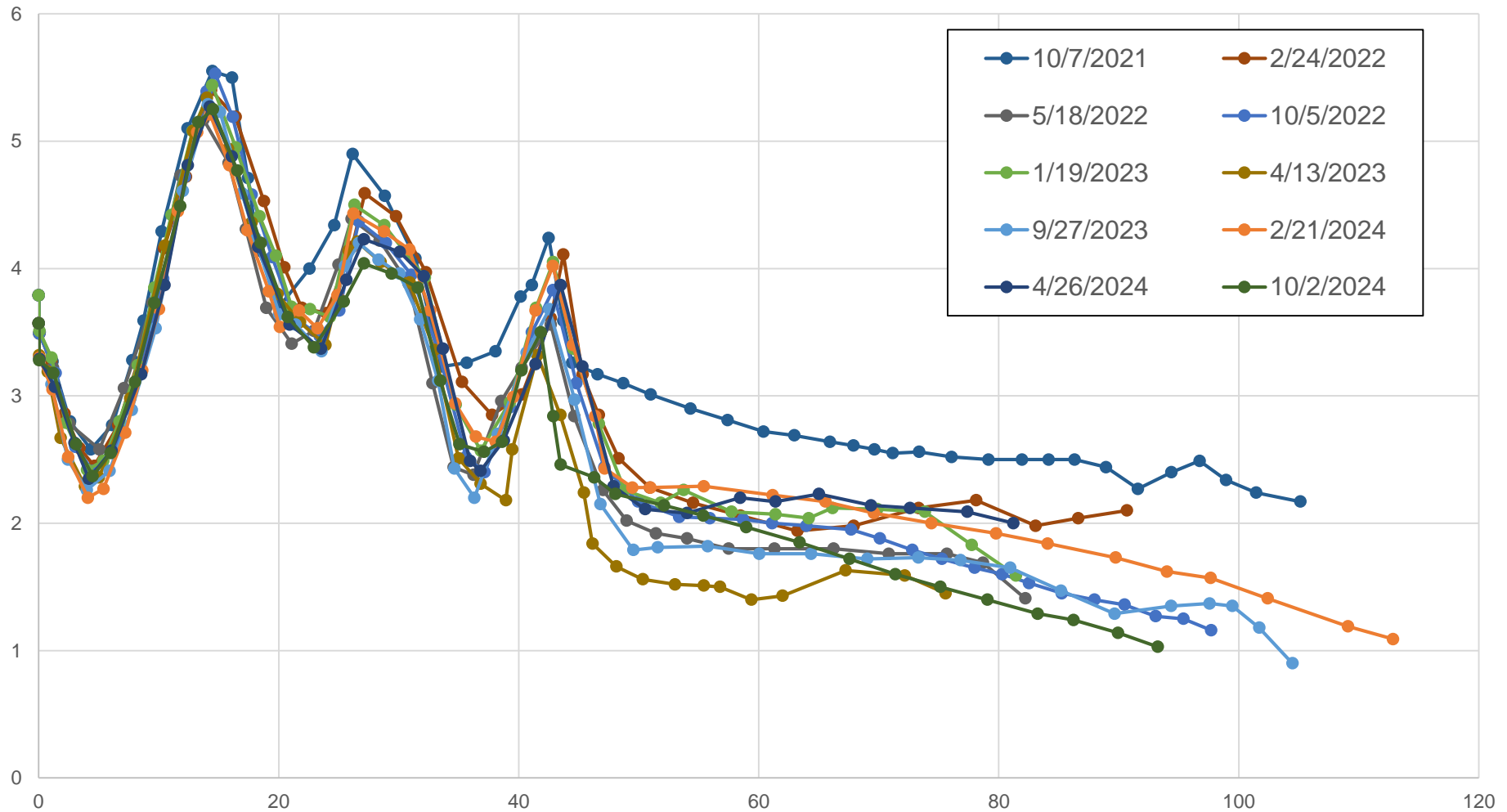
MAT01



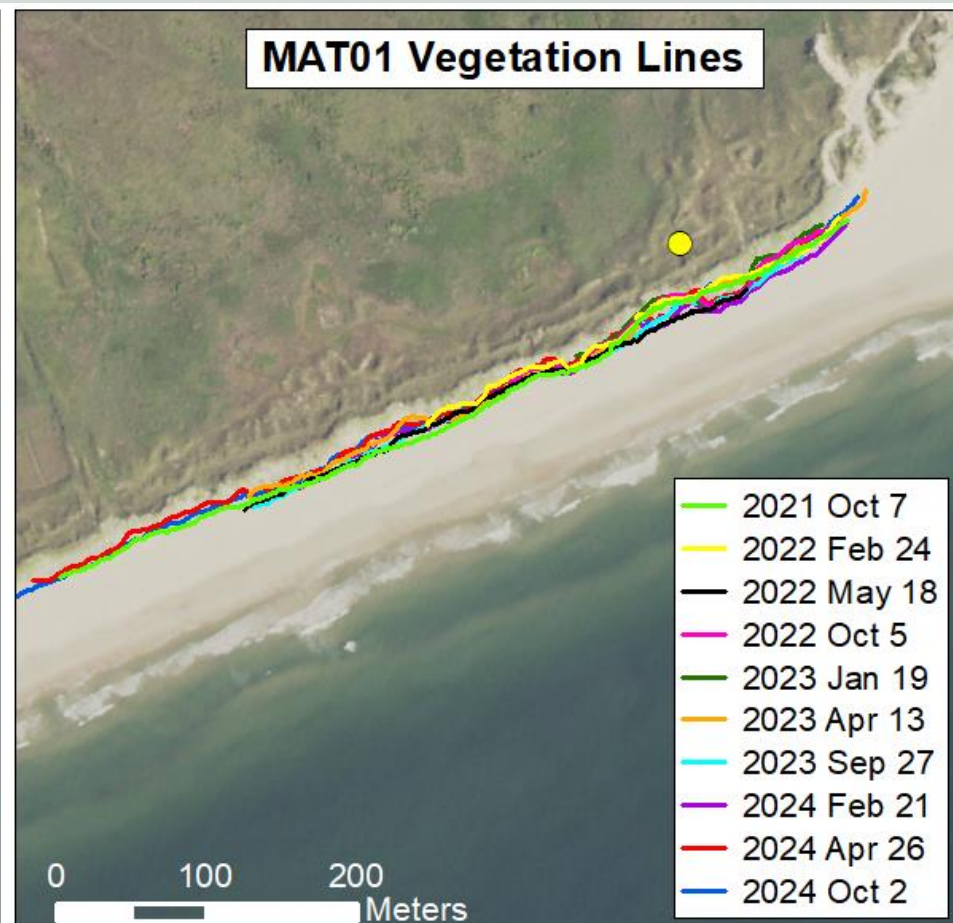
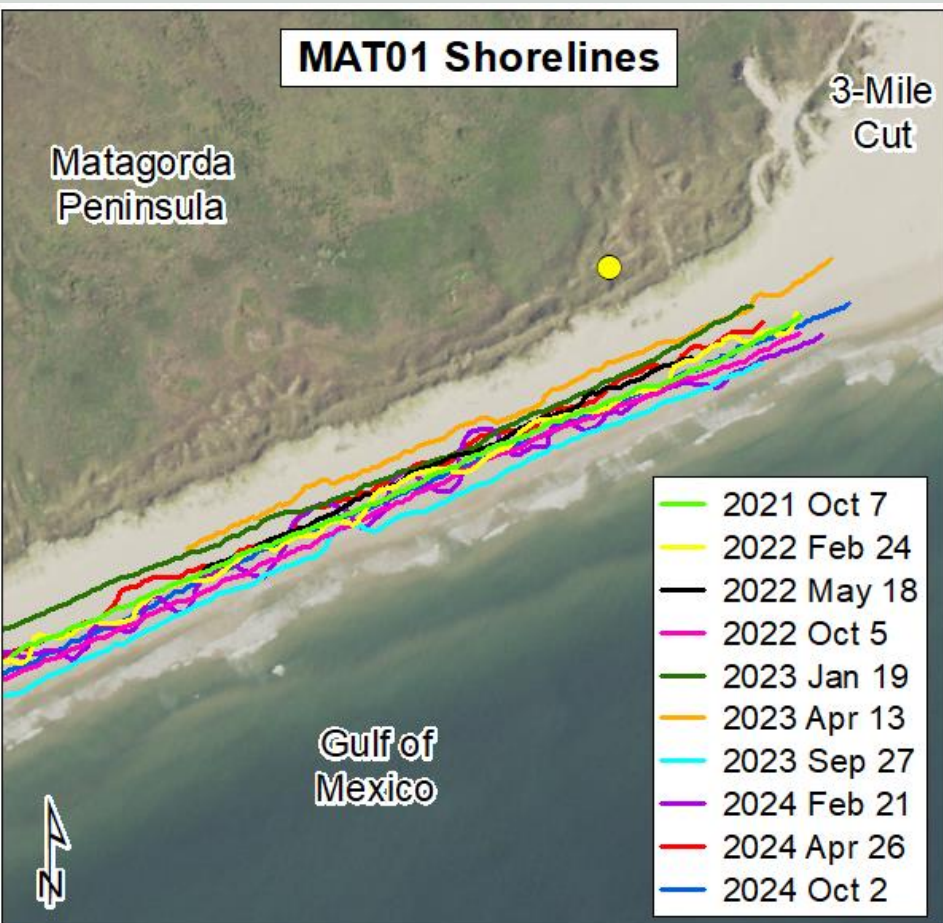
February 21, 2024



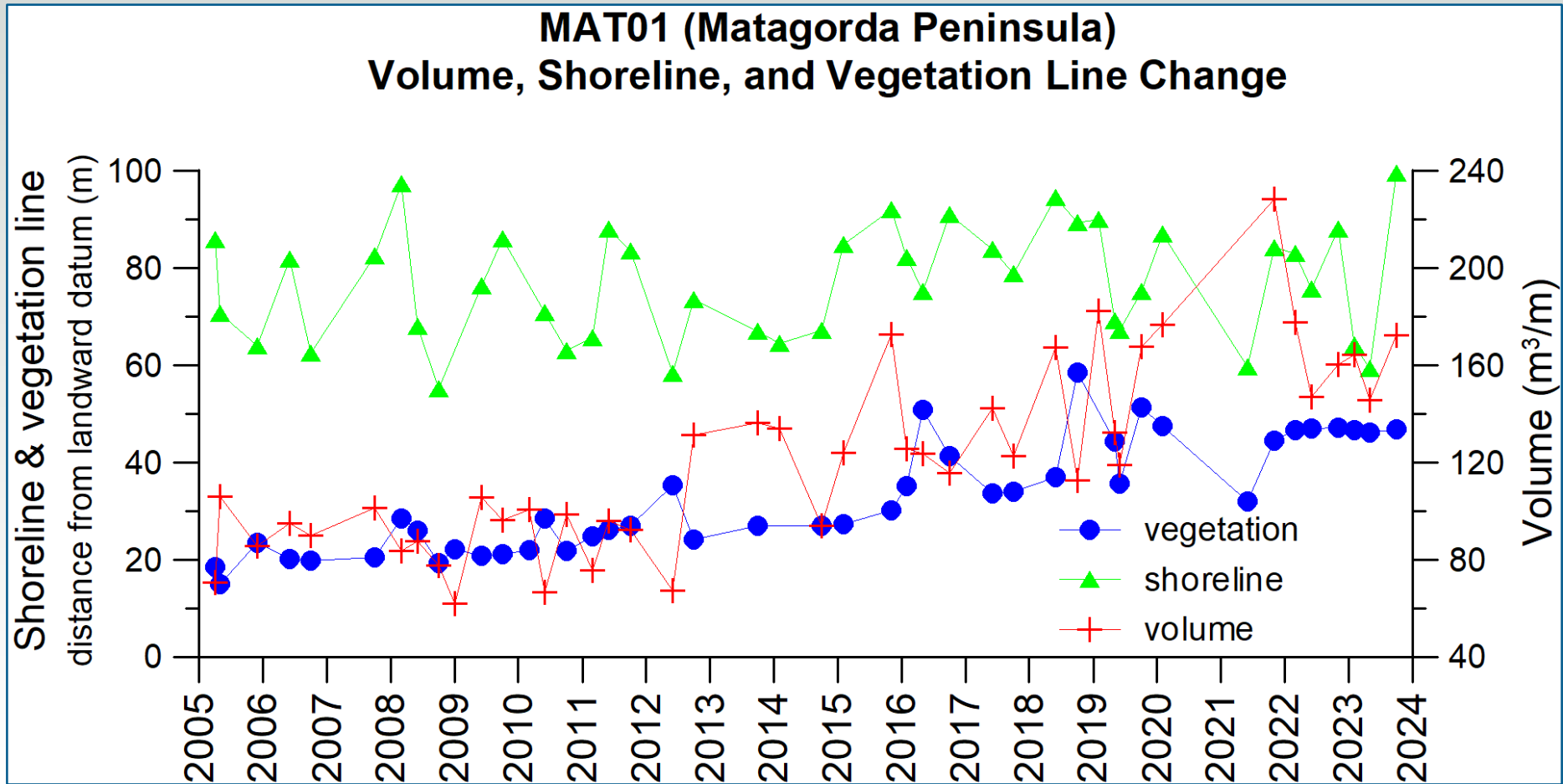
MAT01: fall 2021-fall 2024



MAT01 shore and vegetation line positions



MAT01: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

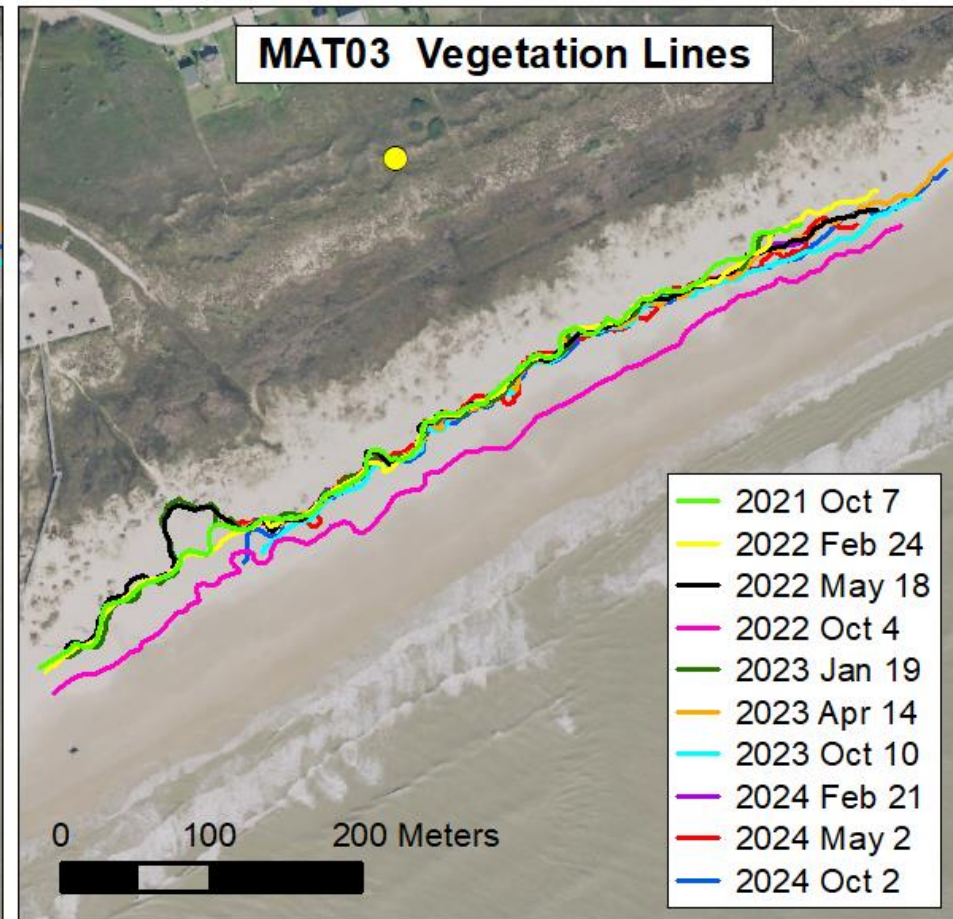
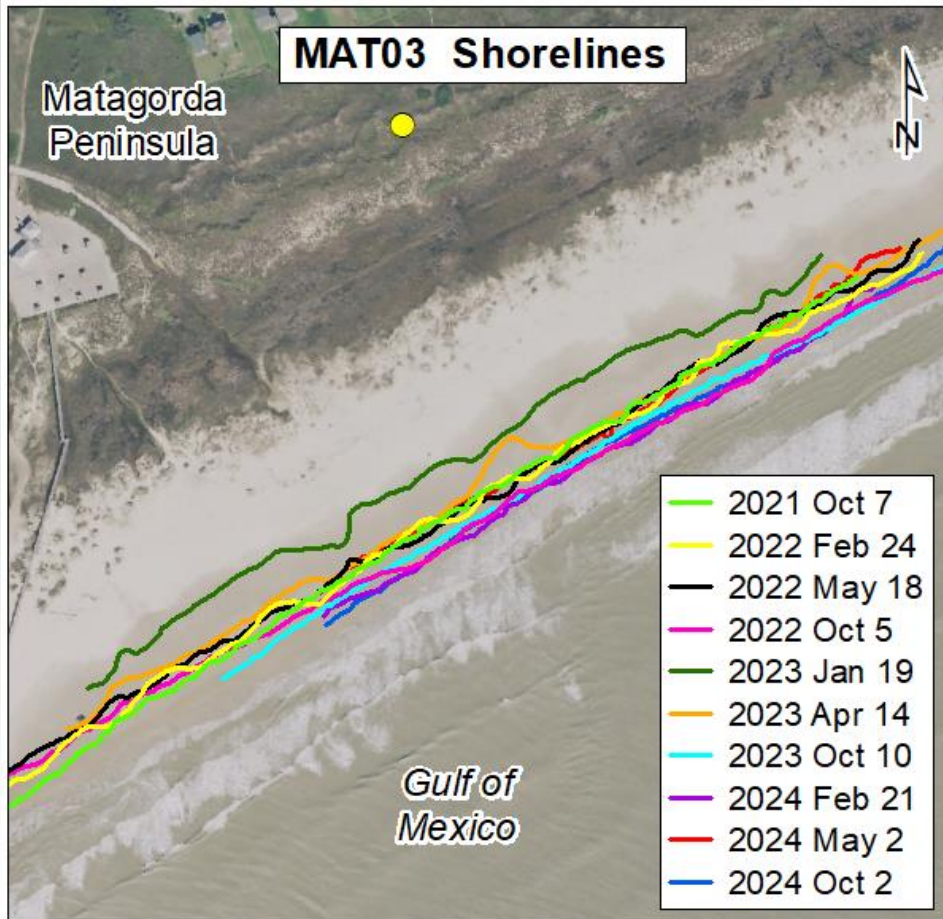
MAT03

October 7, 2021

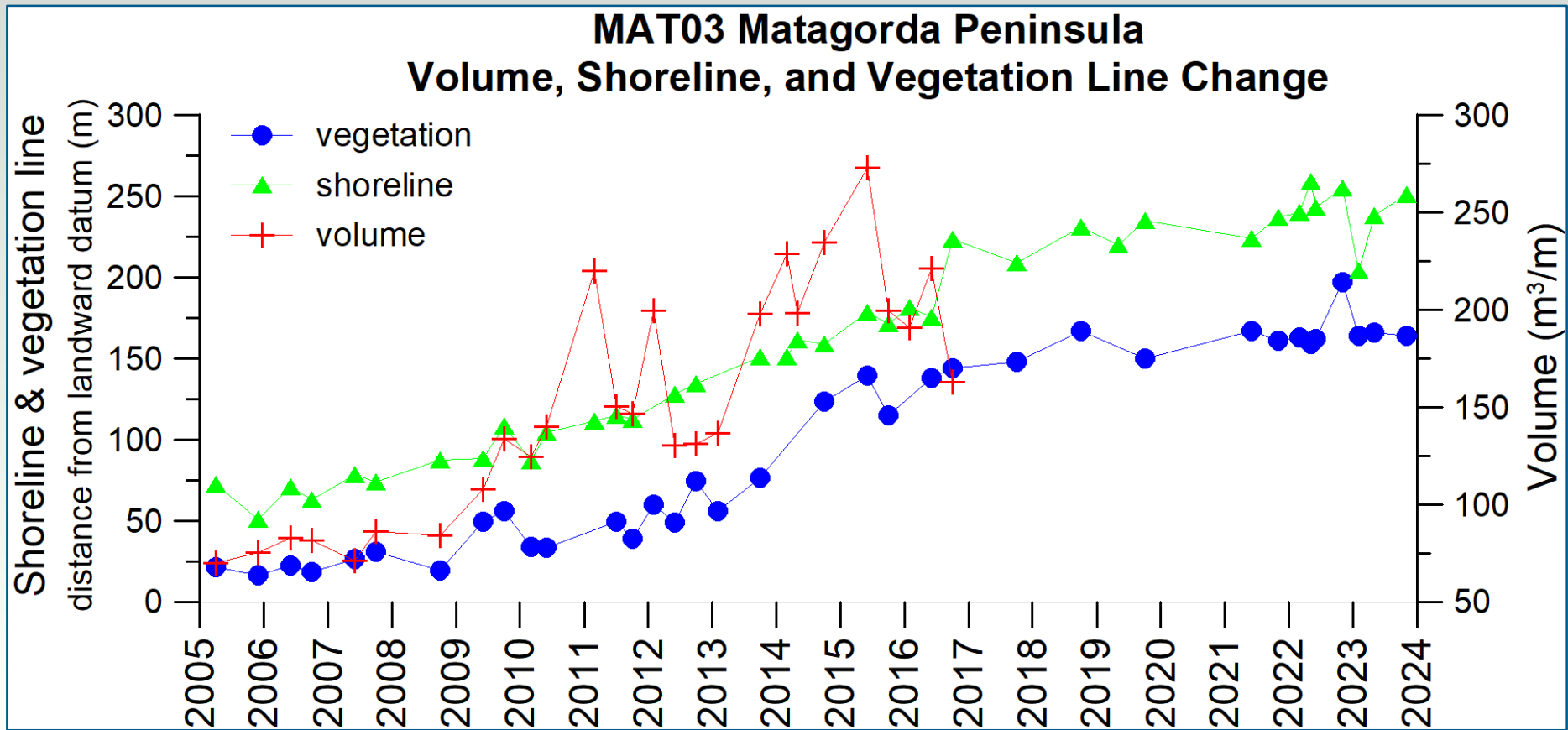


February 21, 2024

MAT03 shore and vegetation line positions



MAT03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.