

Texas High School Coastal Monitoring Program at Palacios High School: 2024-2025

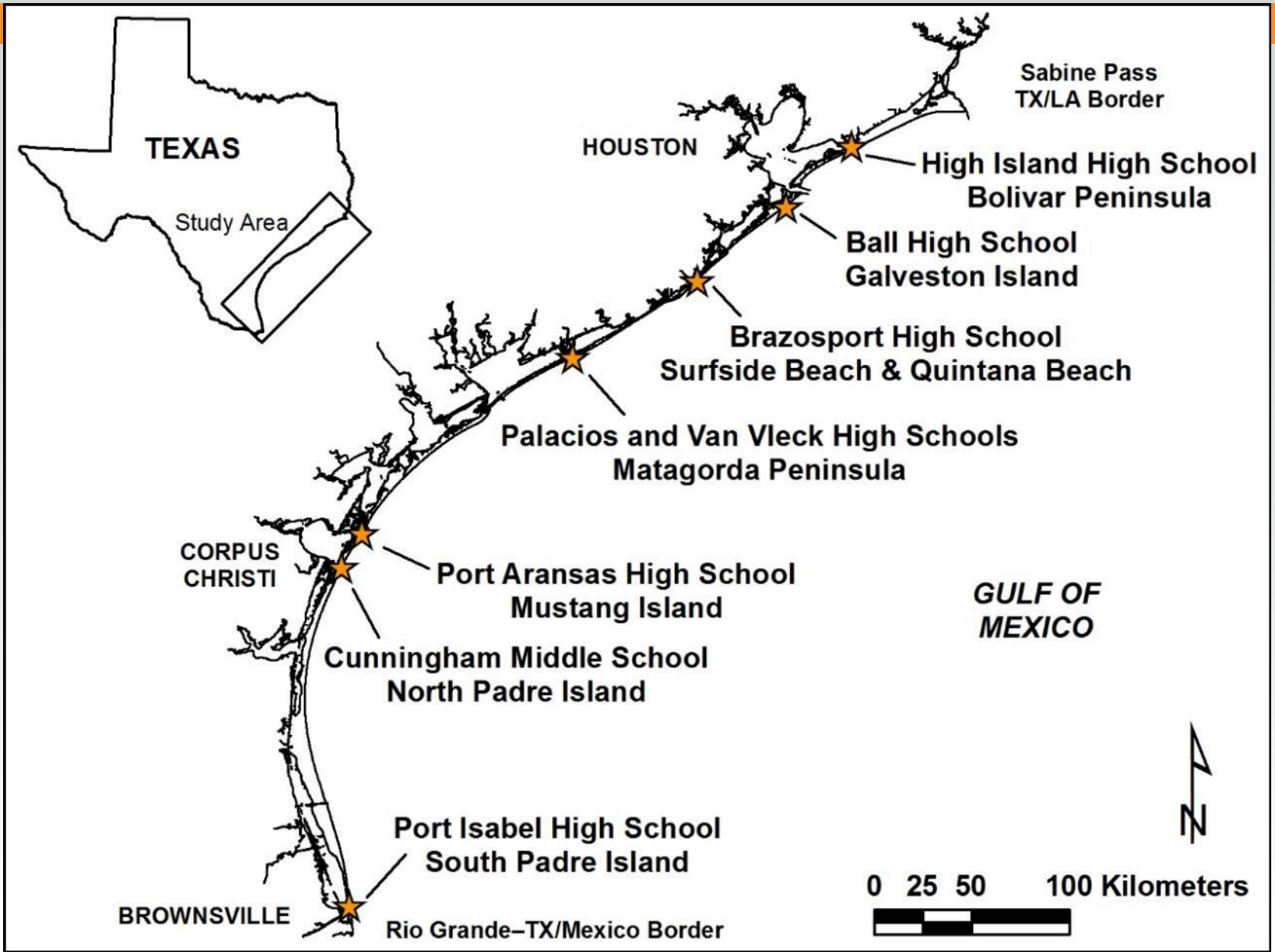


BUREAU OF
ECONOMIC
GEOLOGY

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.





**2024-2025: 23 field trips
with ~220 students**

**1997-2025
444 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

October 8, 2024



February 6, 2025



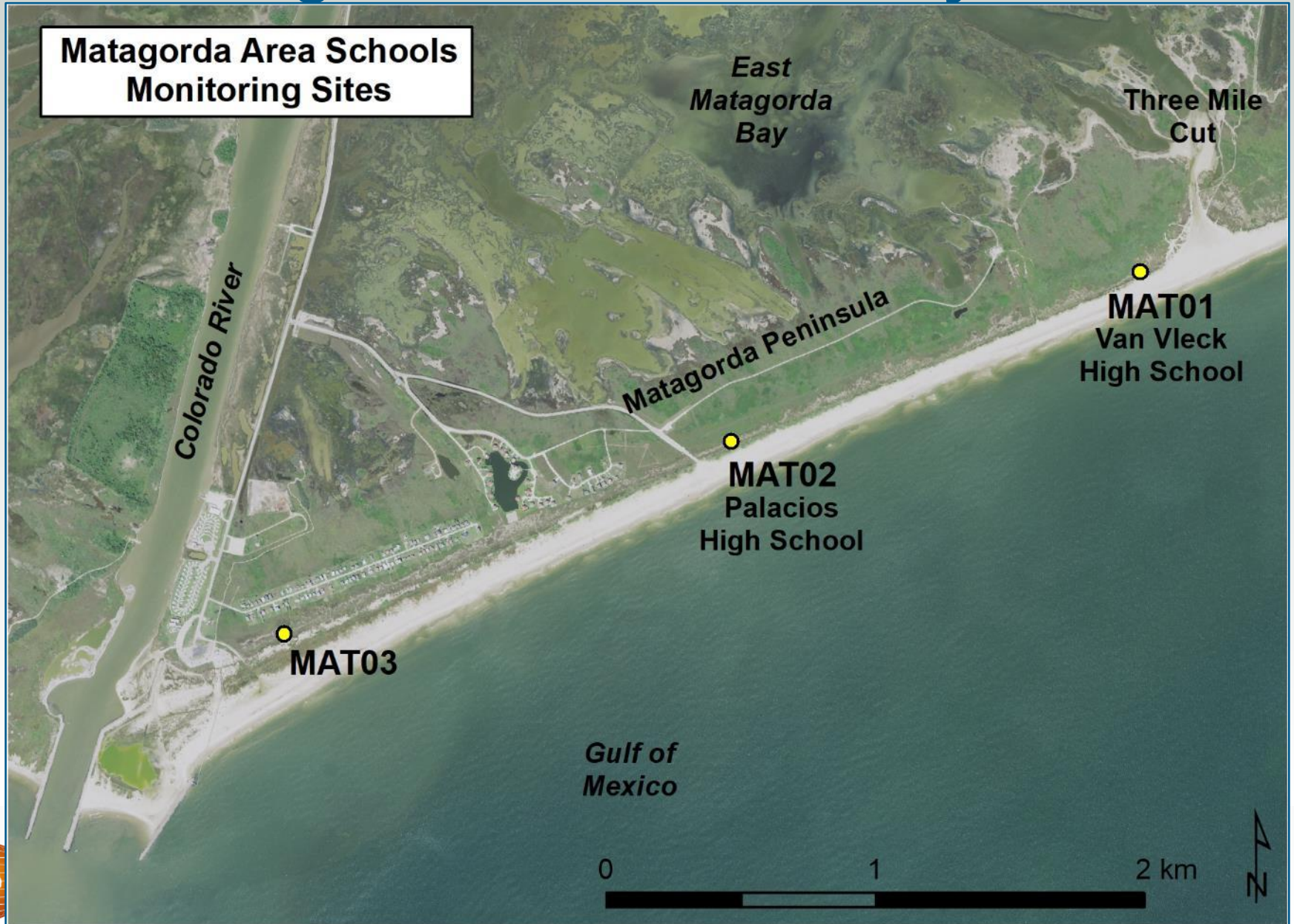
April 30, 2025



October 1, 2025



Matagorda Peninsula Study Sites



**October 8, 2024
Dunes NE**



**February 6, 2025
Wet/dry line NE**



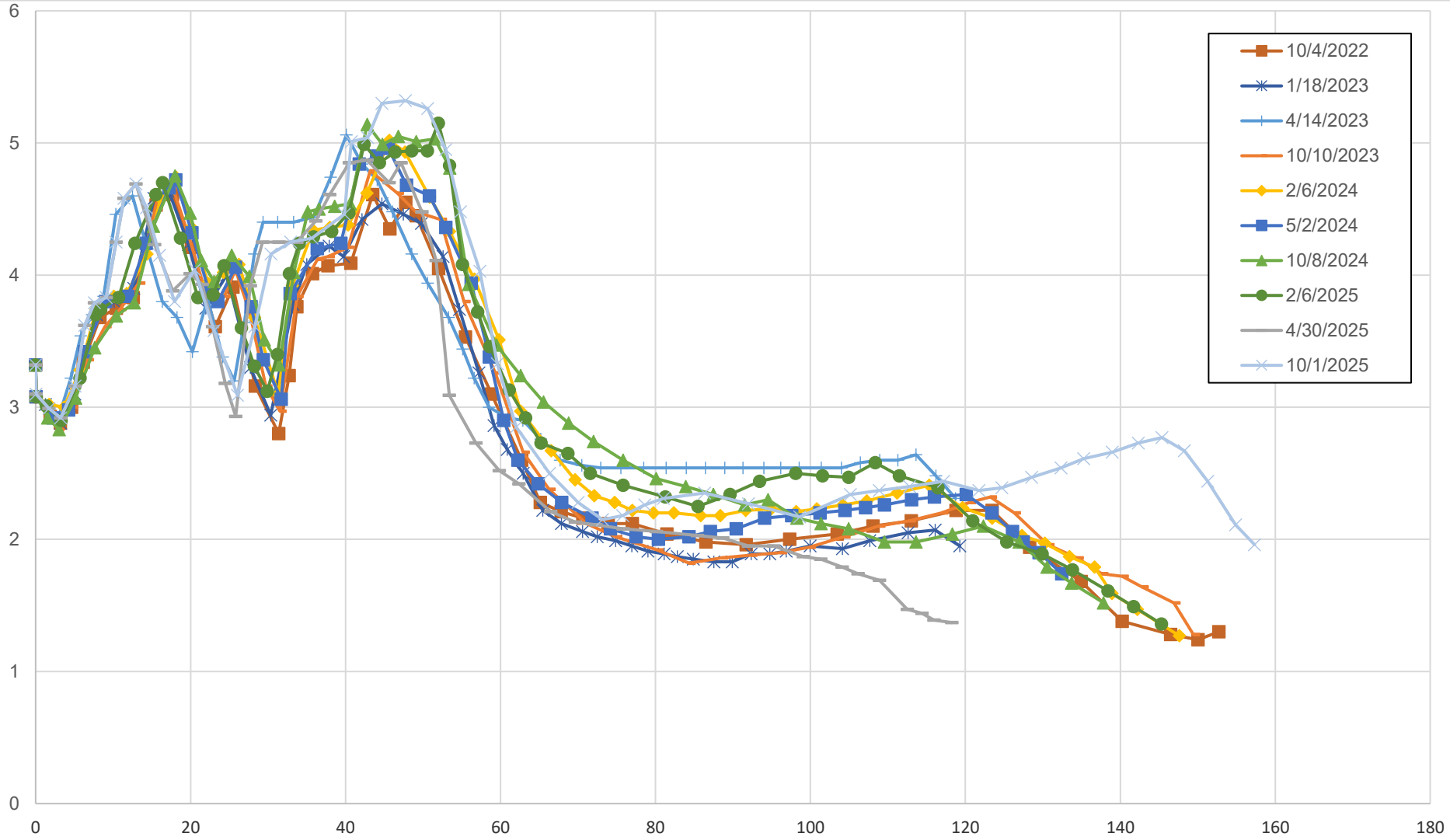
**April 30, 2025
Vegetation line NE**



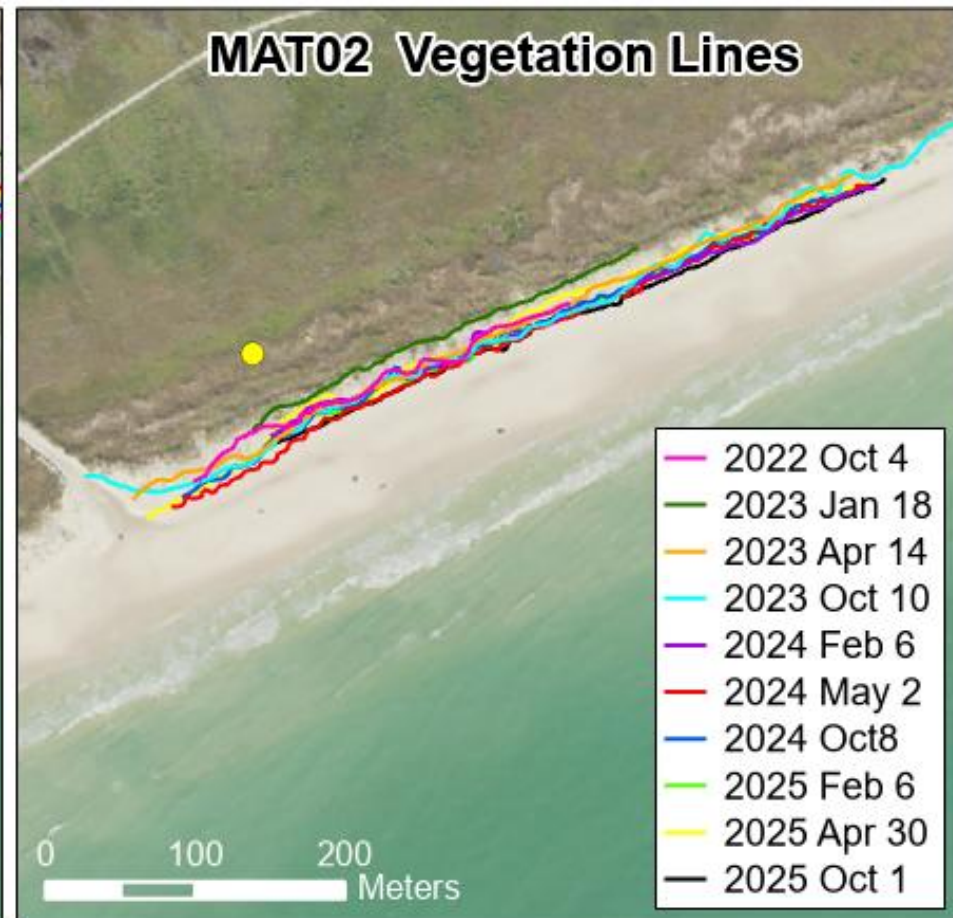
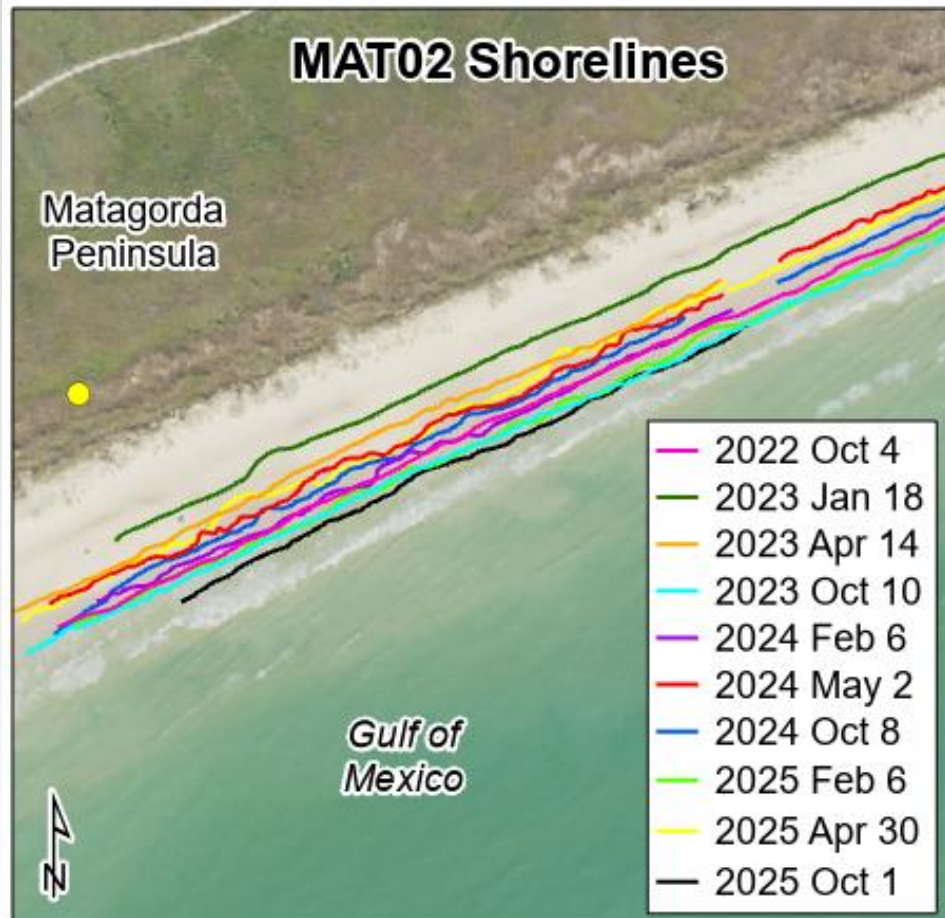
**October 1, 2025
View from waterline**



MAT02: fall 2022-fall 2025

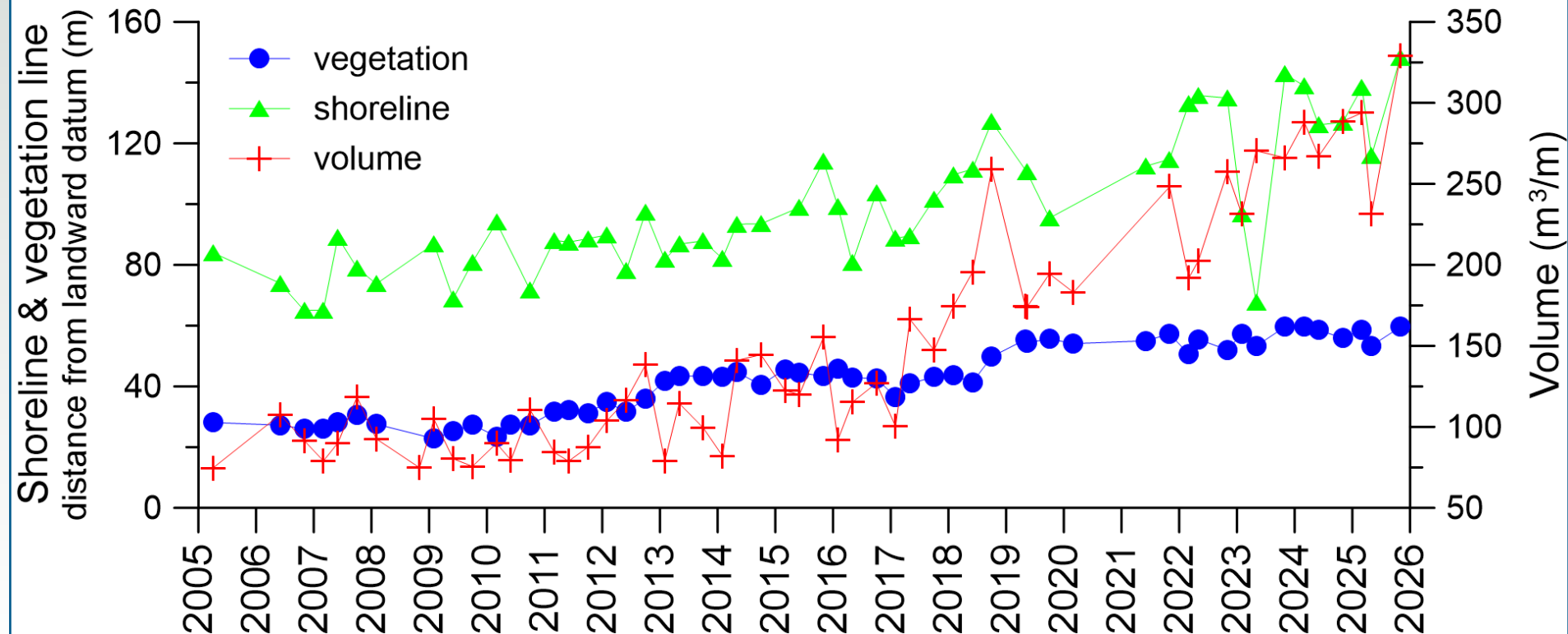


MAT02 shore and vegetation line positions



MAT02: shoreline, vegetation line, and volume changes

**MAT02 (Matagorda Peninsula)
Volume, Shoreline, and Vegetation Line Change**



Sediment volume was calculated above 1 meter NAVD88.

**October 2, 2024
Coppice dune NE**



**February 6, 2025
View from waterline**



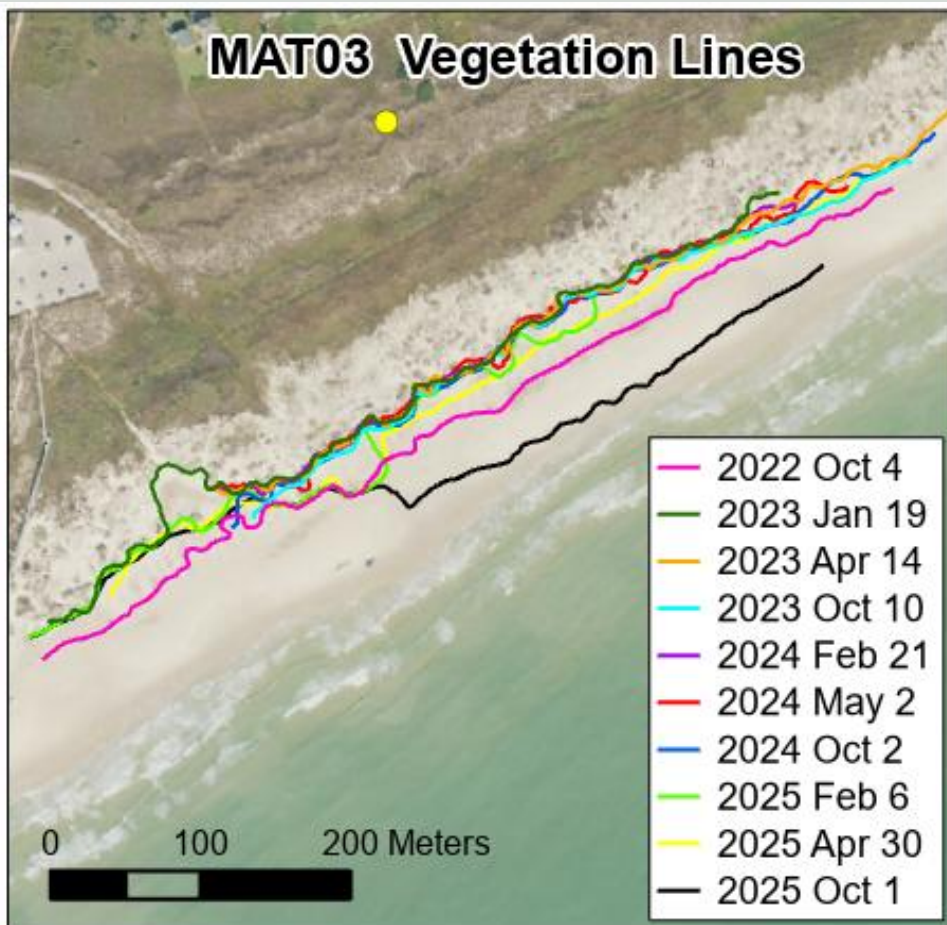
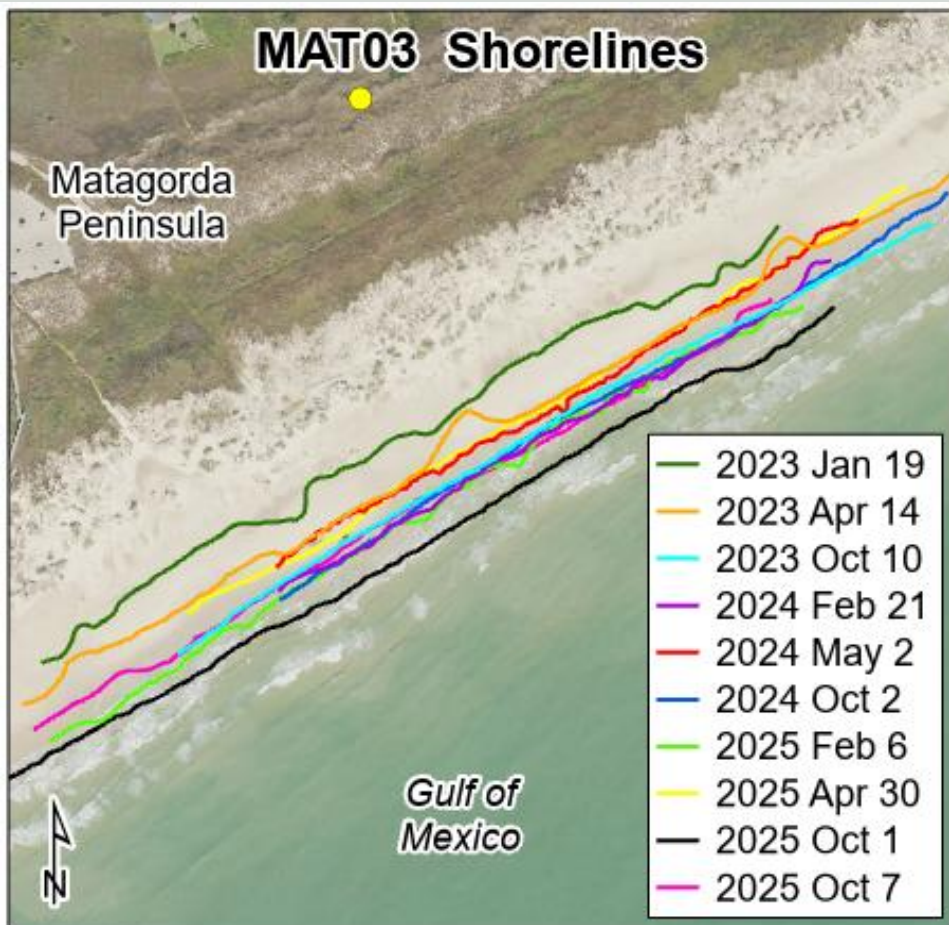
**April 30, 2025
Wet/dry & debris line NE**



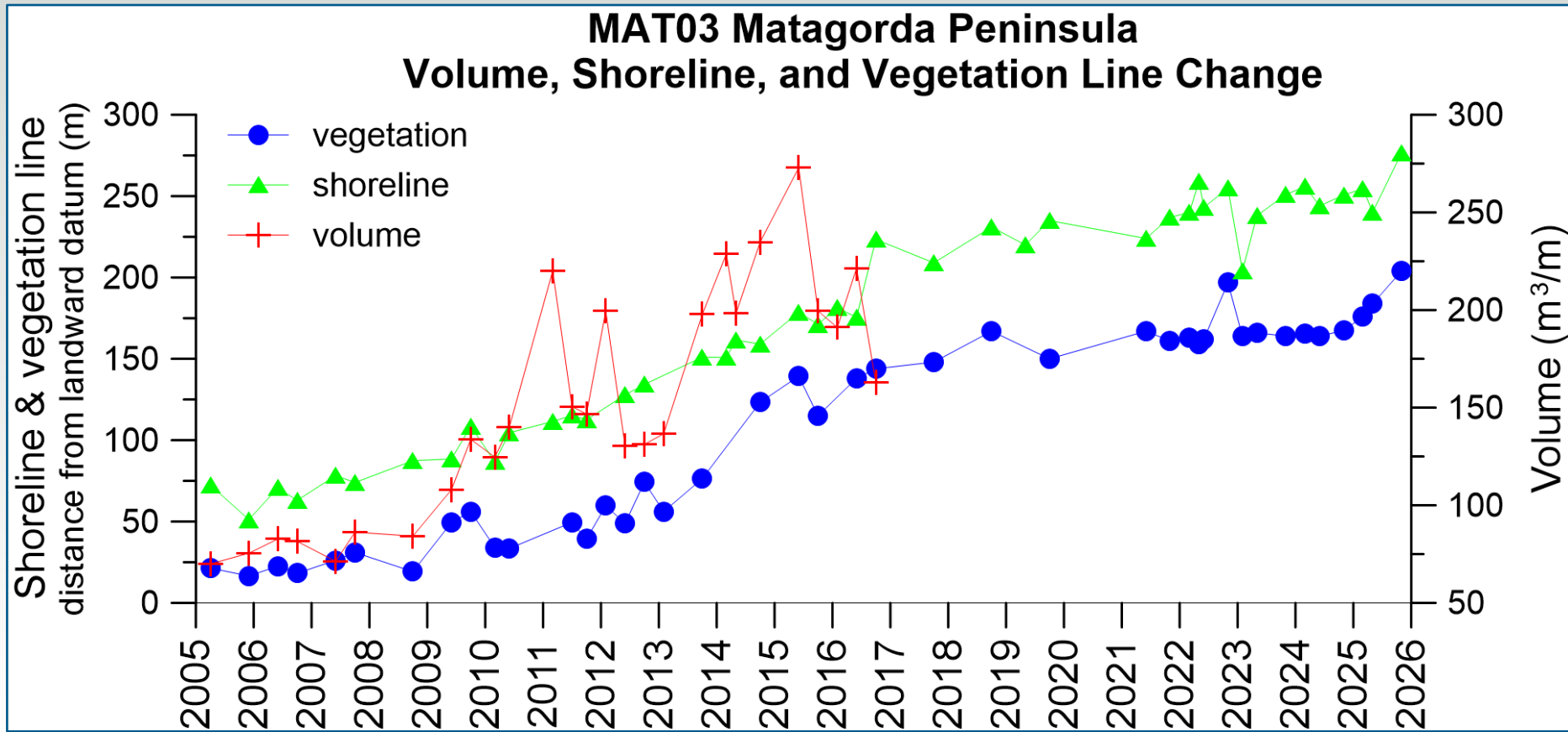
**October 7, 2025
Dunes NE**



MAT03 shore and vegetation line positions



MAT03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.