

Texas High School Coastal Monitoring Program at Van Vleck High School: 2024-2025

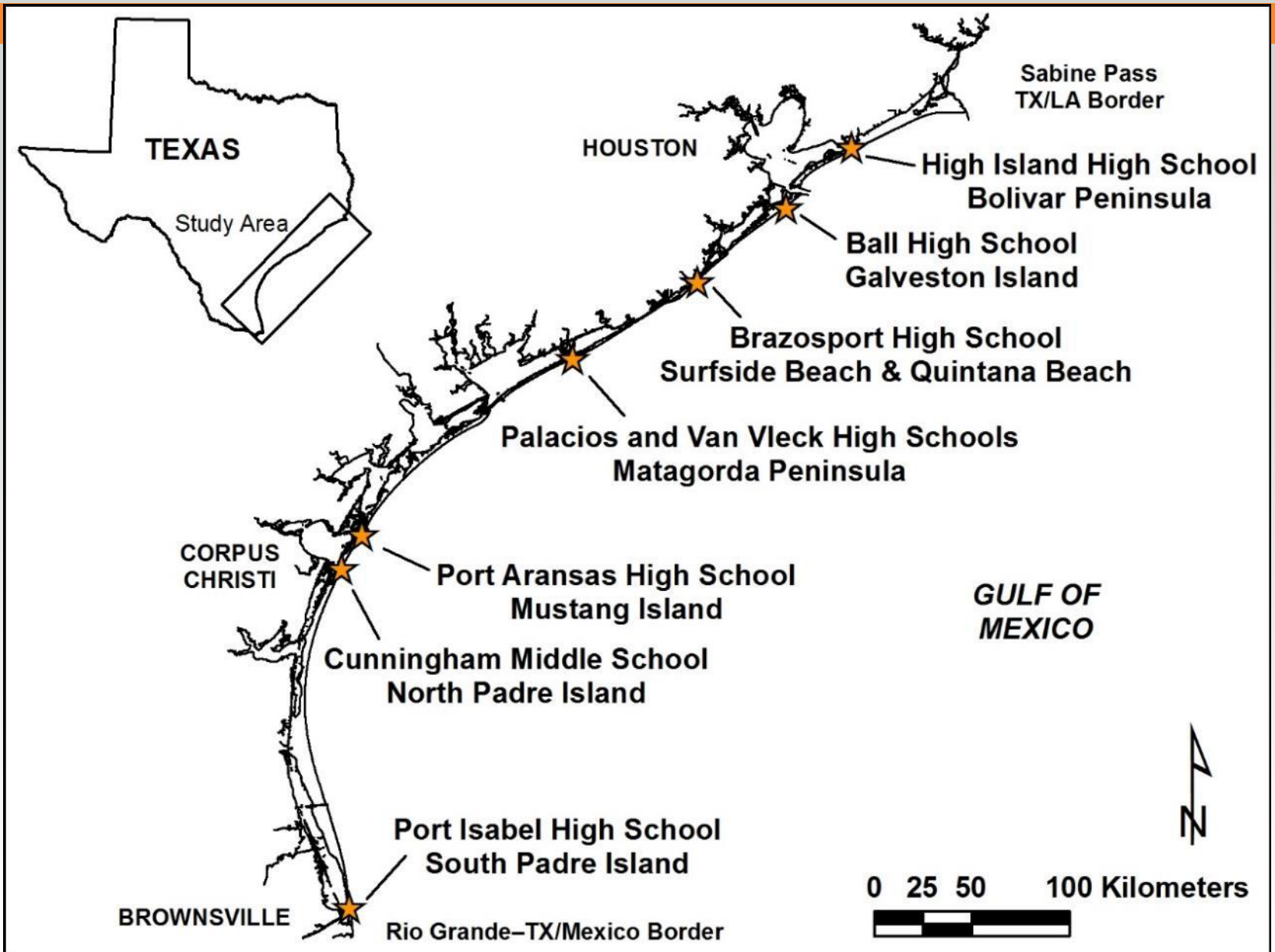


BUREAU OF
ECONOMIC
GEOLOGY

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 teachers, and the 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 2, 2024



February 7, 2025



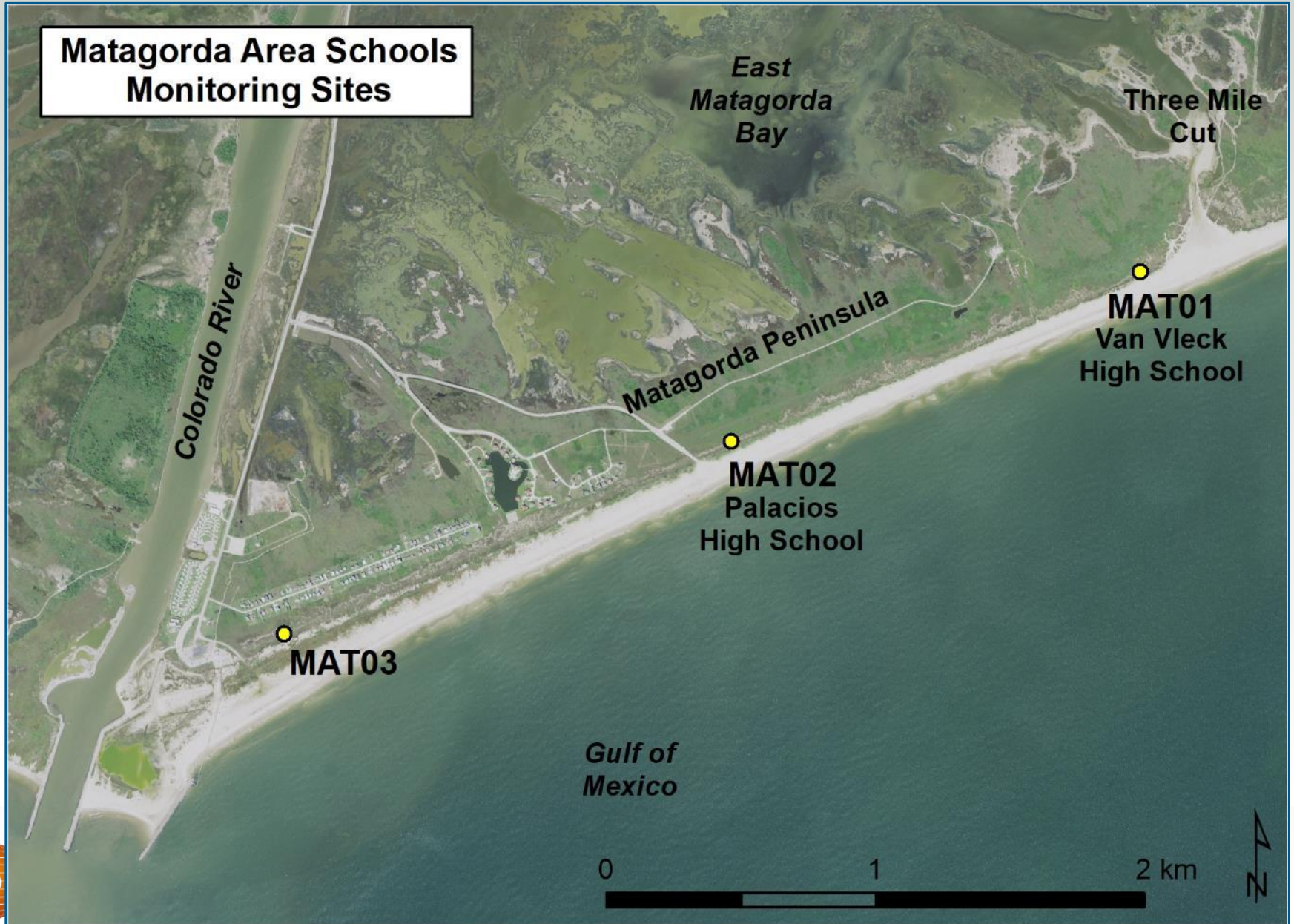
April 29, 2025



October 7, 2025



Matagorda Peninsula Study Sites



MAT01

**October 2, 2024
Coppice dune NE**



**February 7, 2025
Veg line NE**



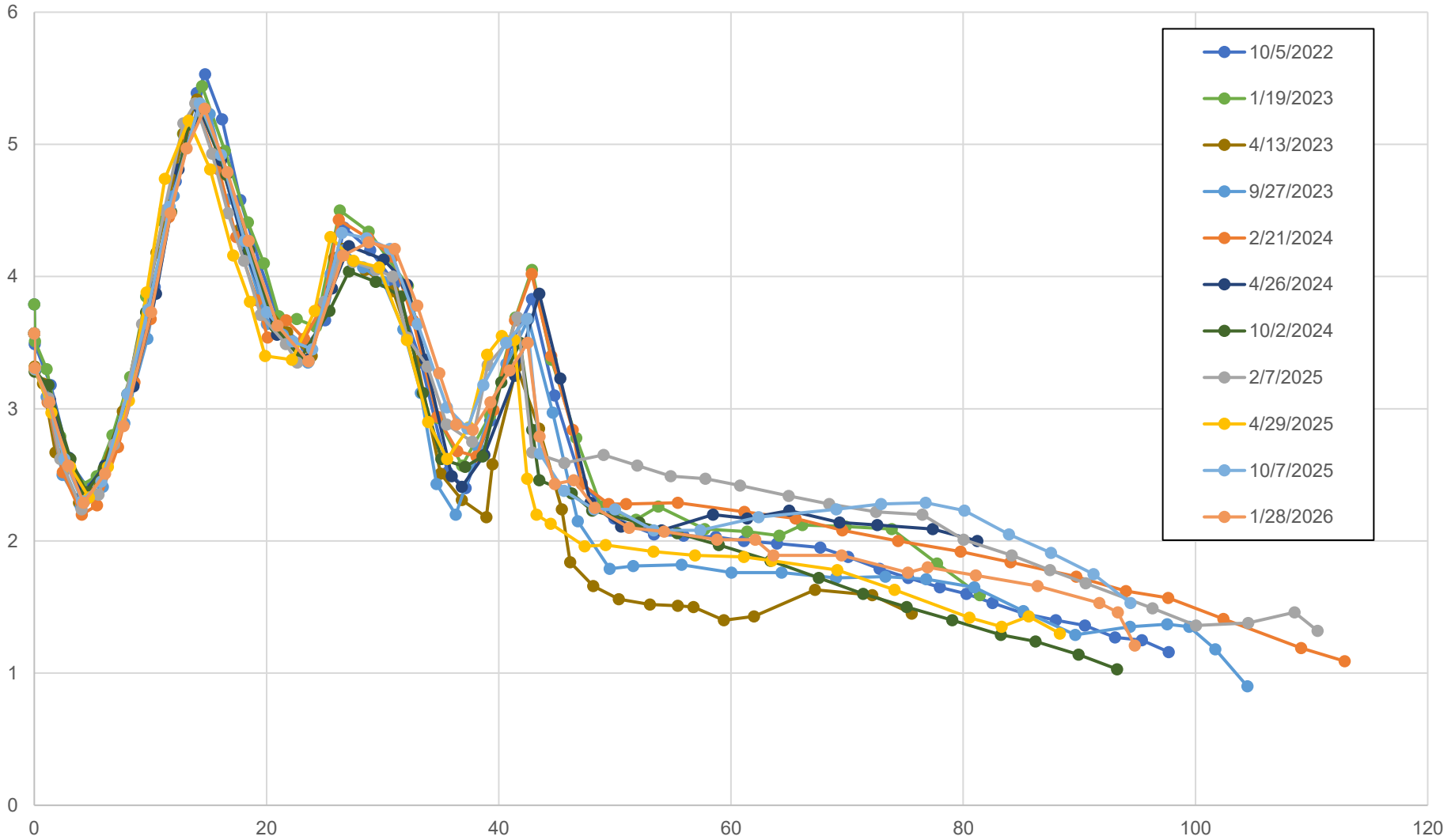
**April 29, 2025
Wet/dry & debris line NE**



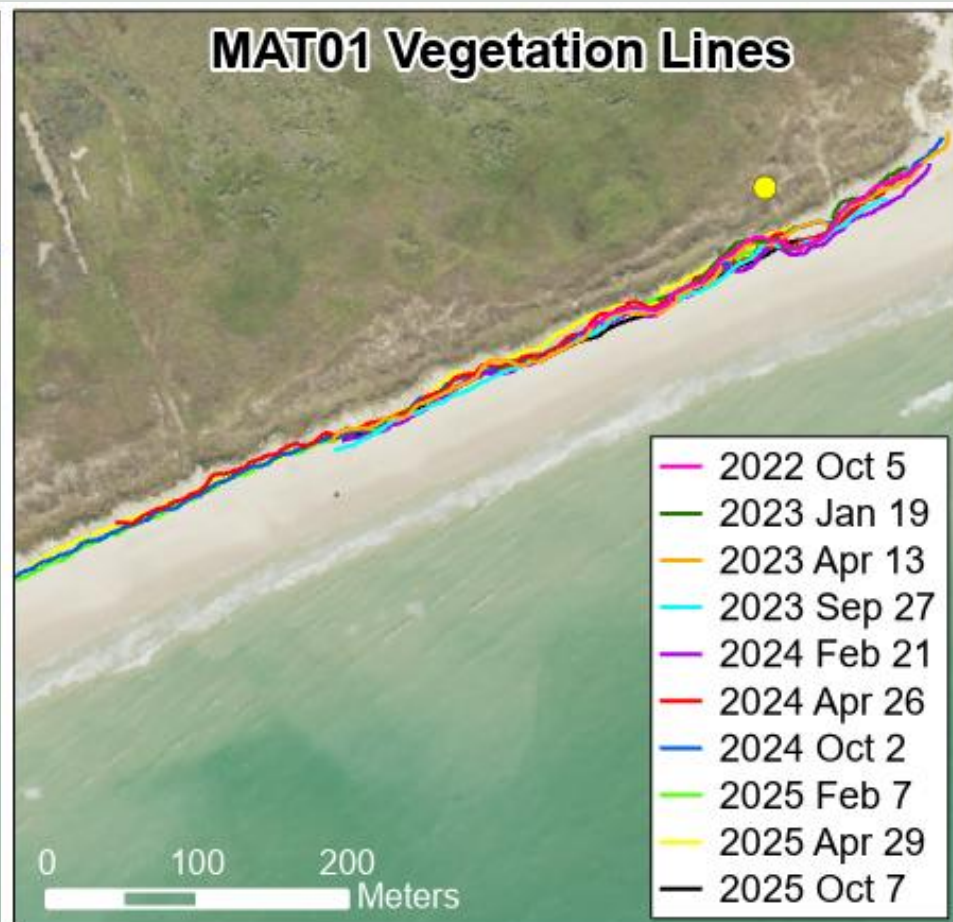
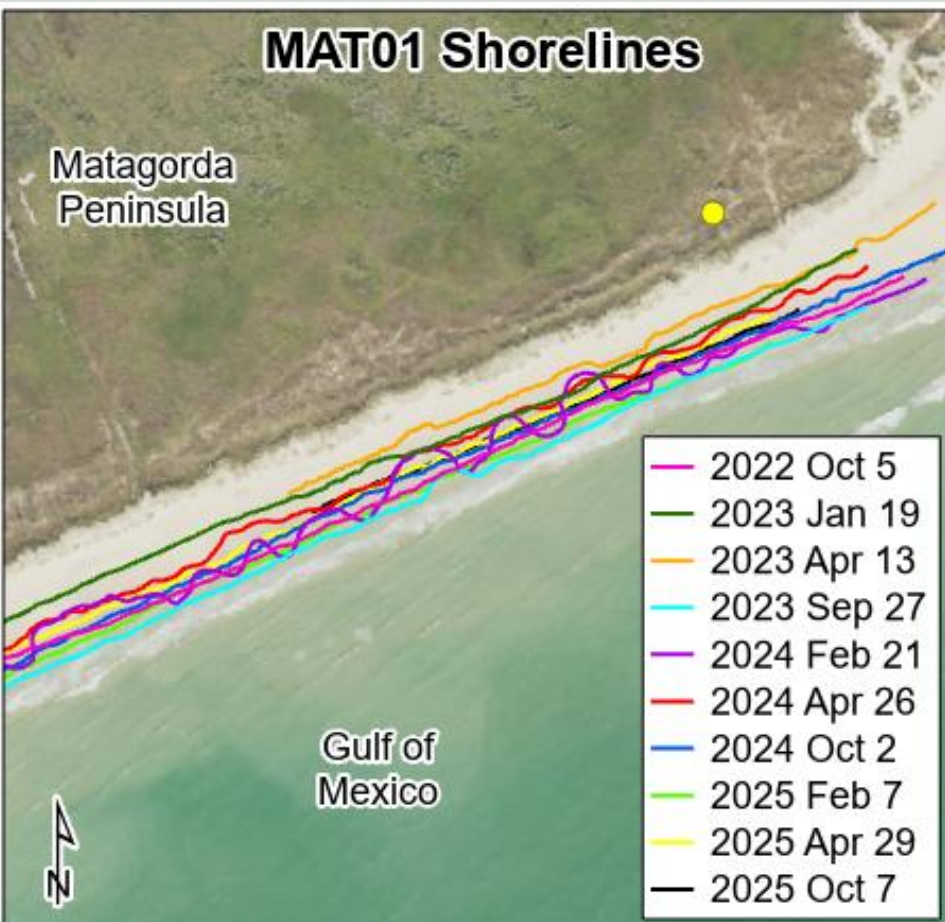
**October 7, 2025
Dune line NE**



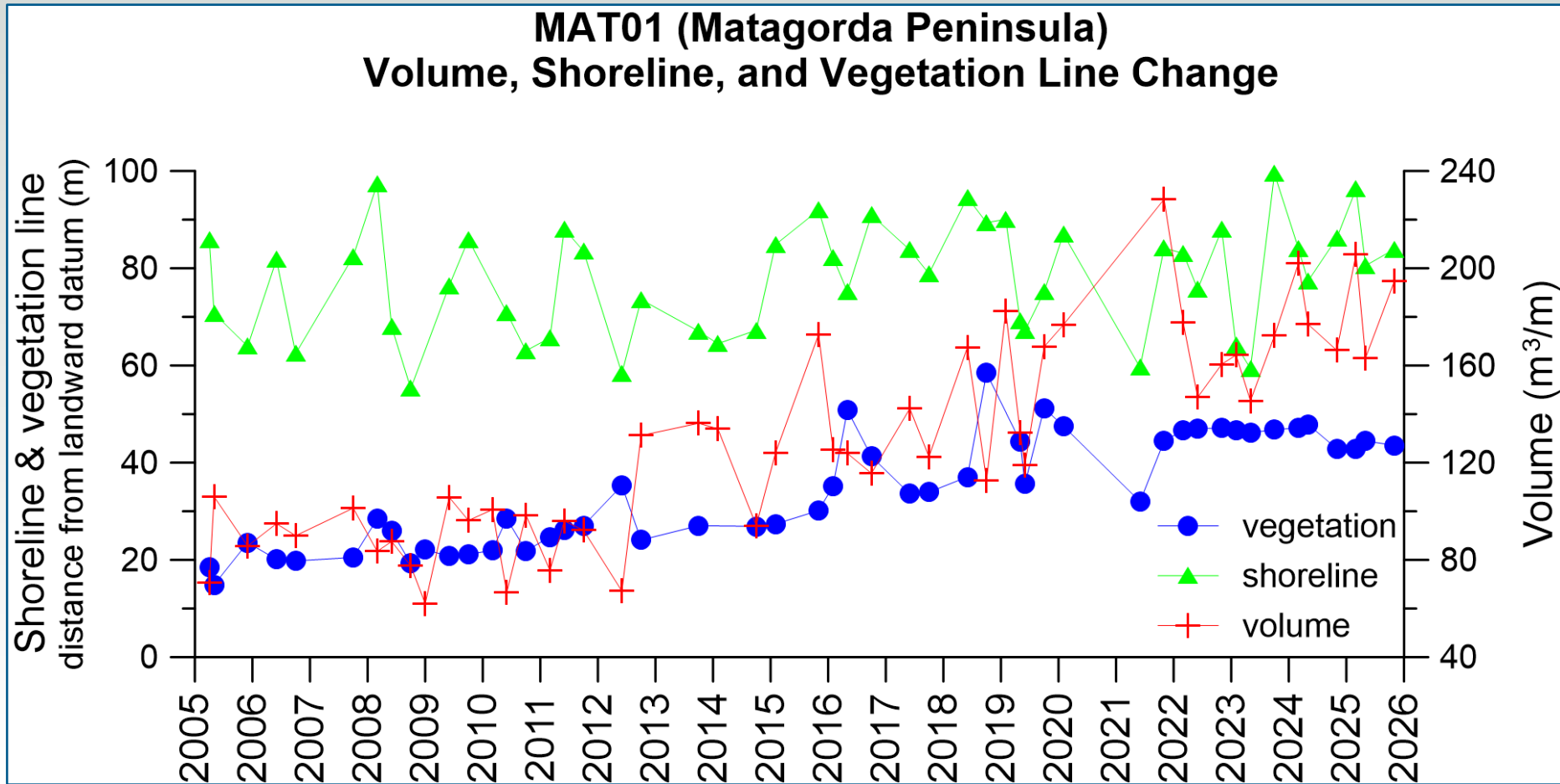
MAT01: fall 2022-winter 2026



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

**October 2, 2024
Coppice dune NE**



**February 6, 2025
View from waterline**



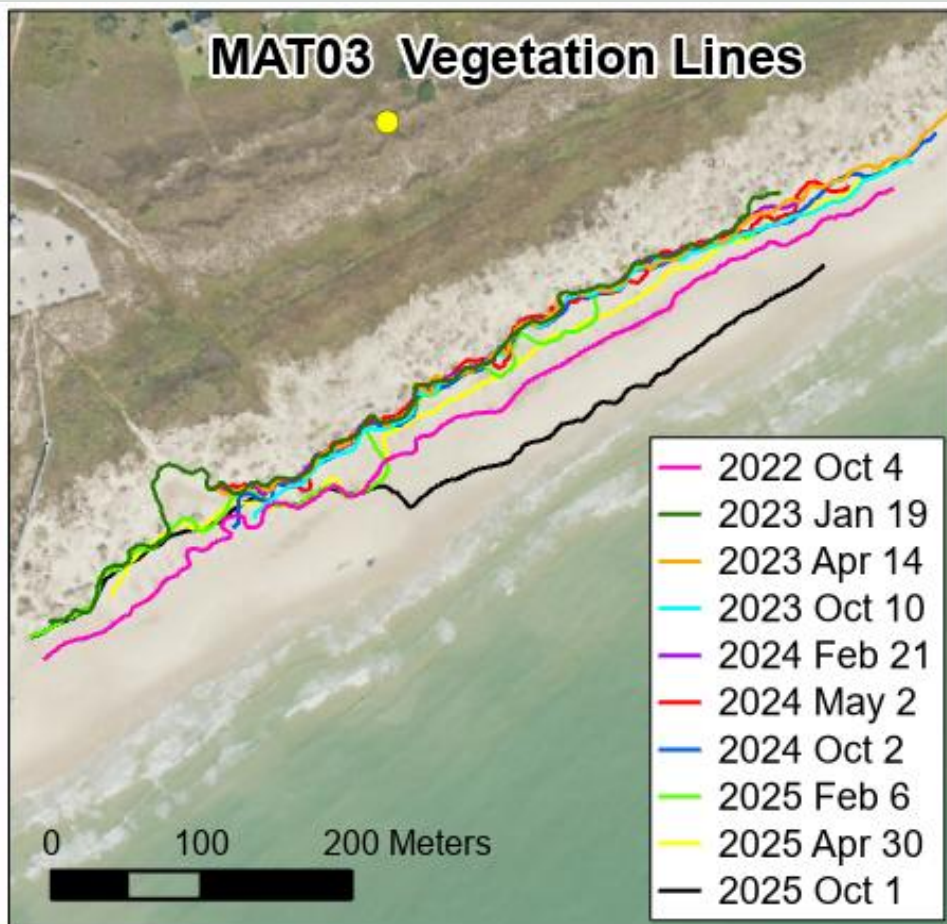
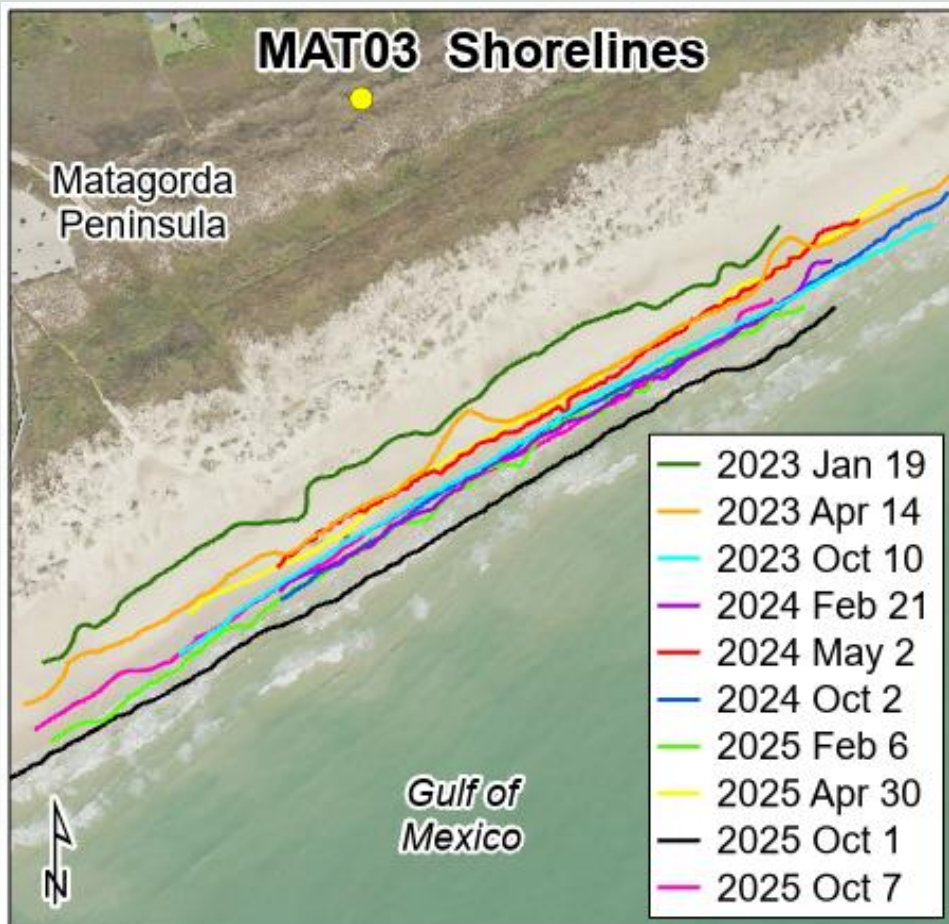
**April 30, 2025
Wet/dry & debris line NE**



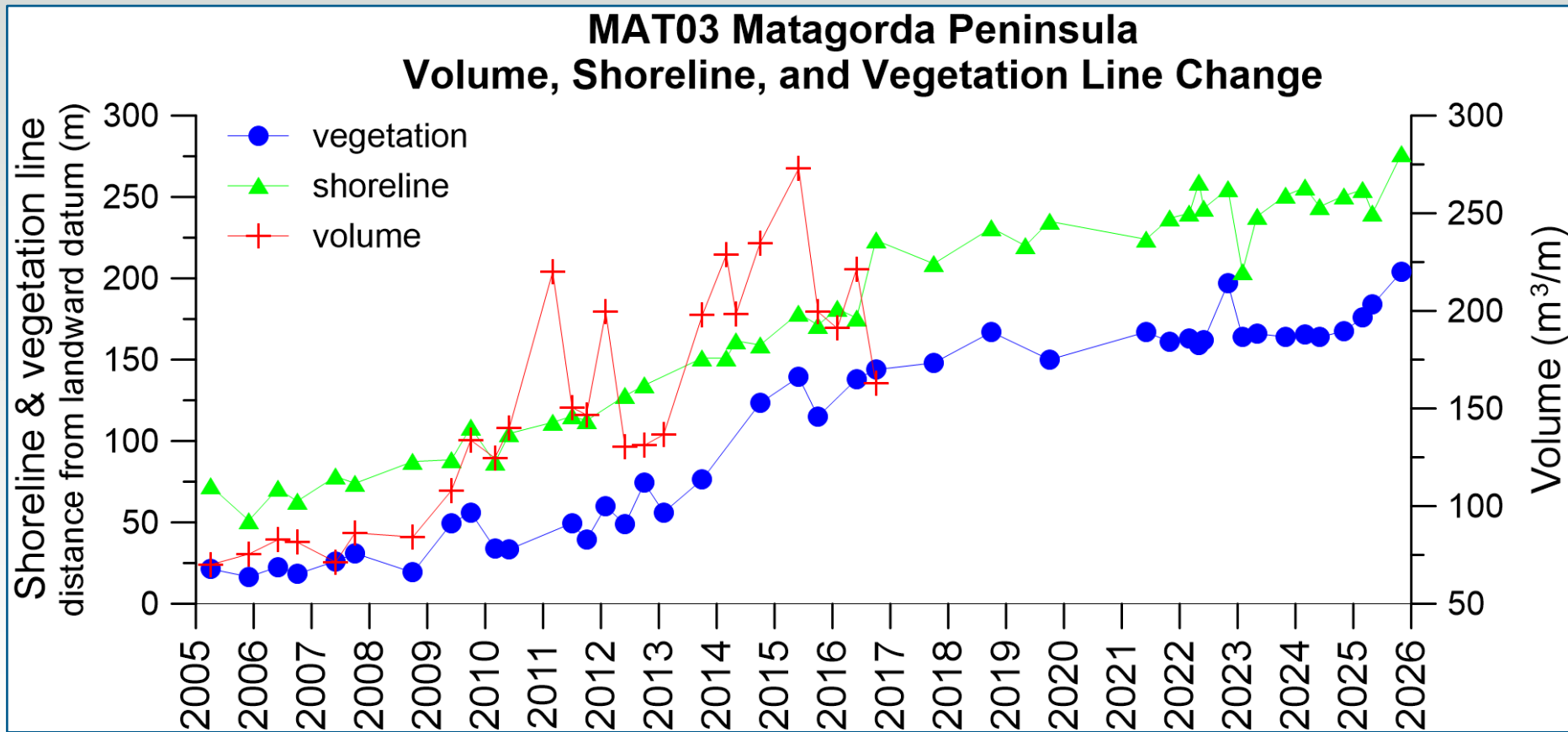
**October 7, 2025
Dunes NE**



MAT03 shore and vegetation line positions



MAT03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.