

Texas High School Coastal Monitoring Program at Van Vleck High School: 2021-2022

July 2022

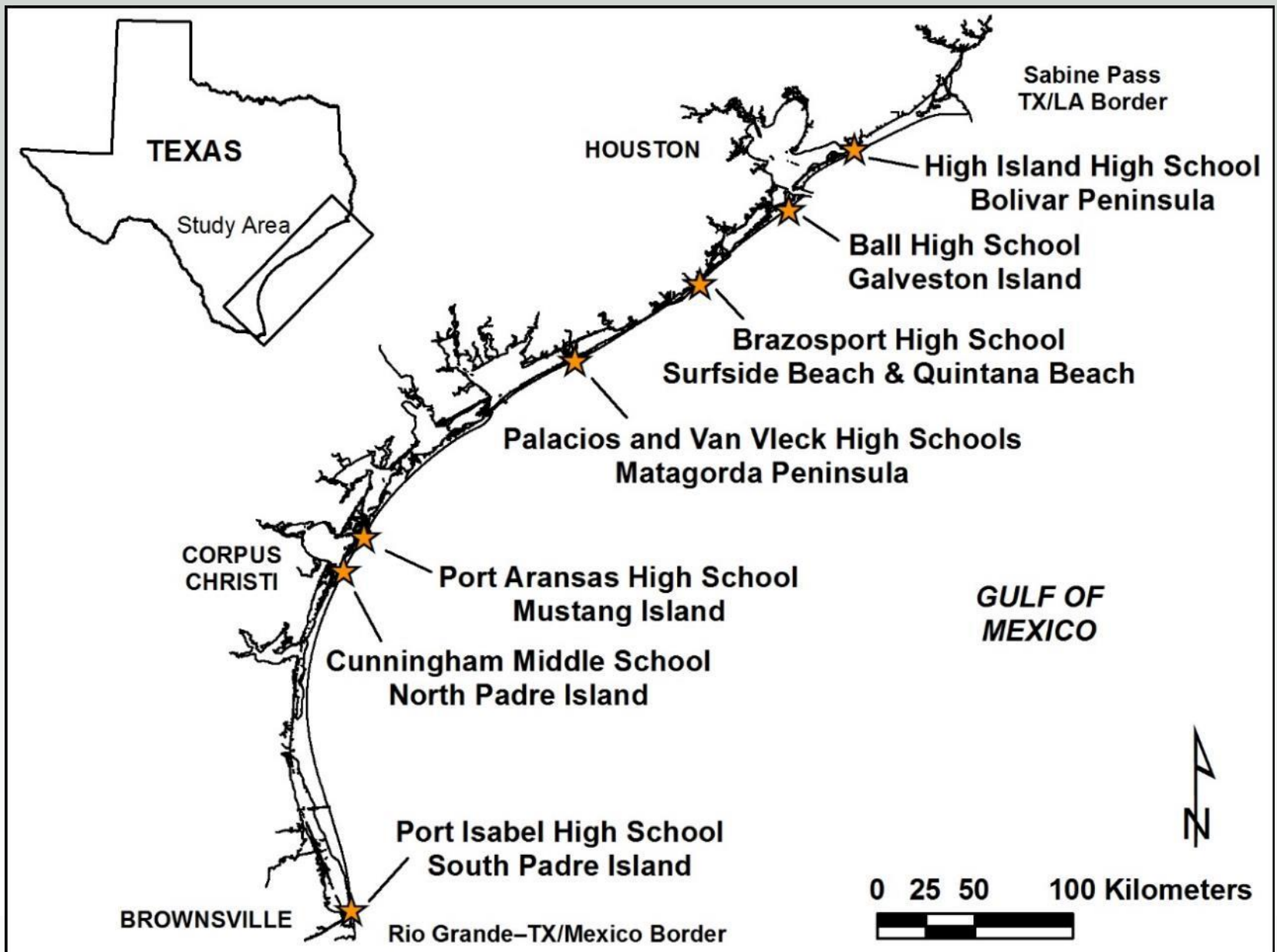


BUREAU OF
ECONOMIC
GEOLOGY

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



2021-2022 field trips

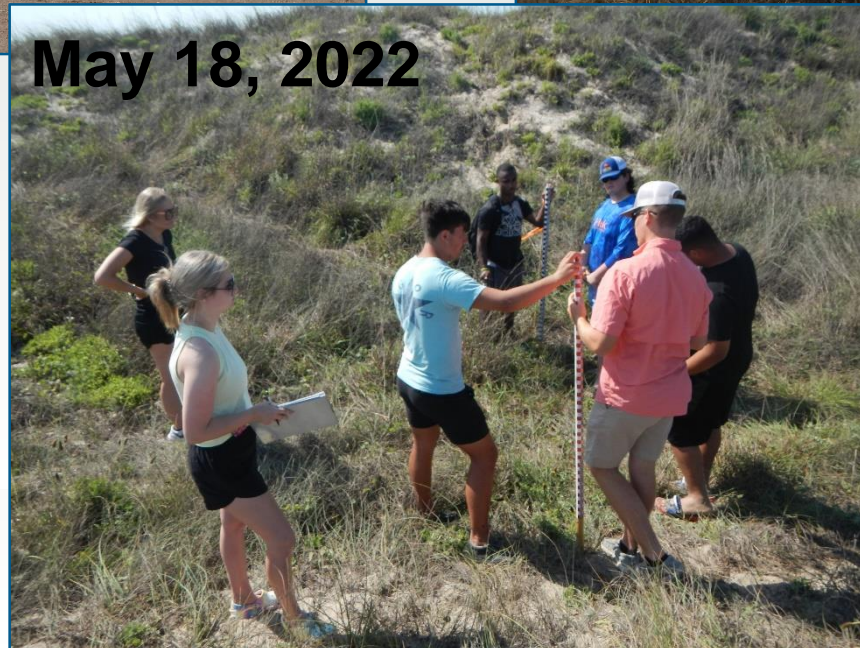
October 7, 2021



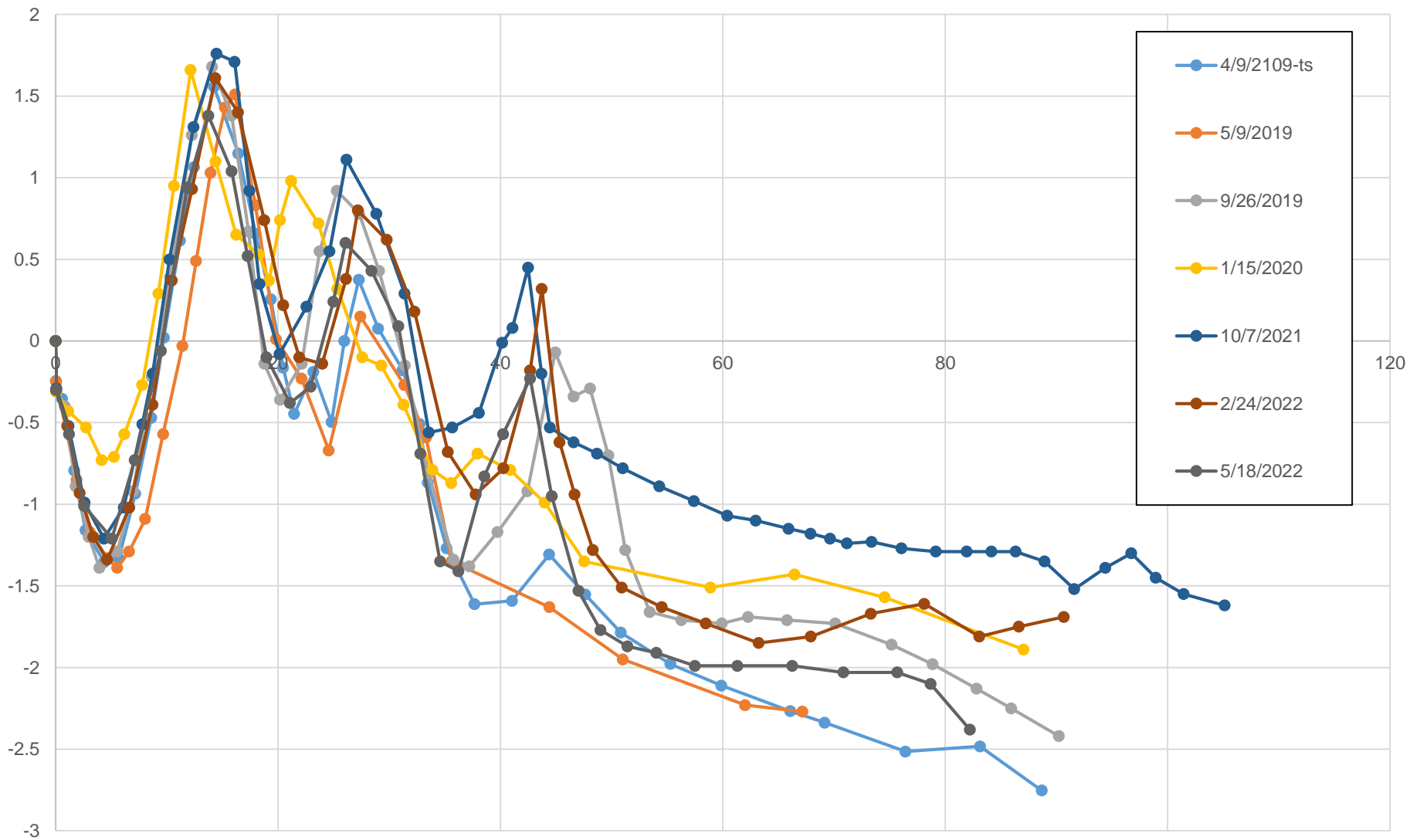
February 24, 2022



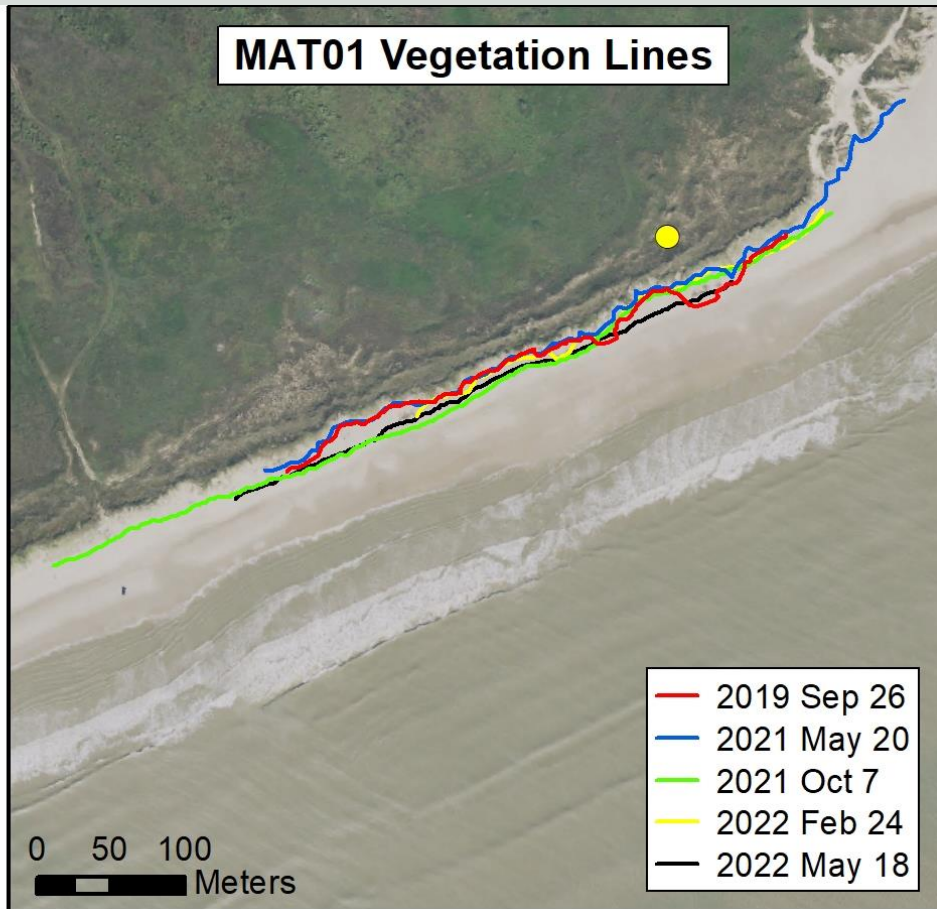
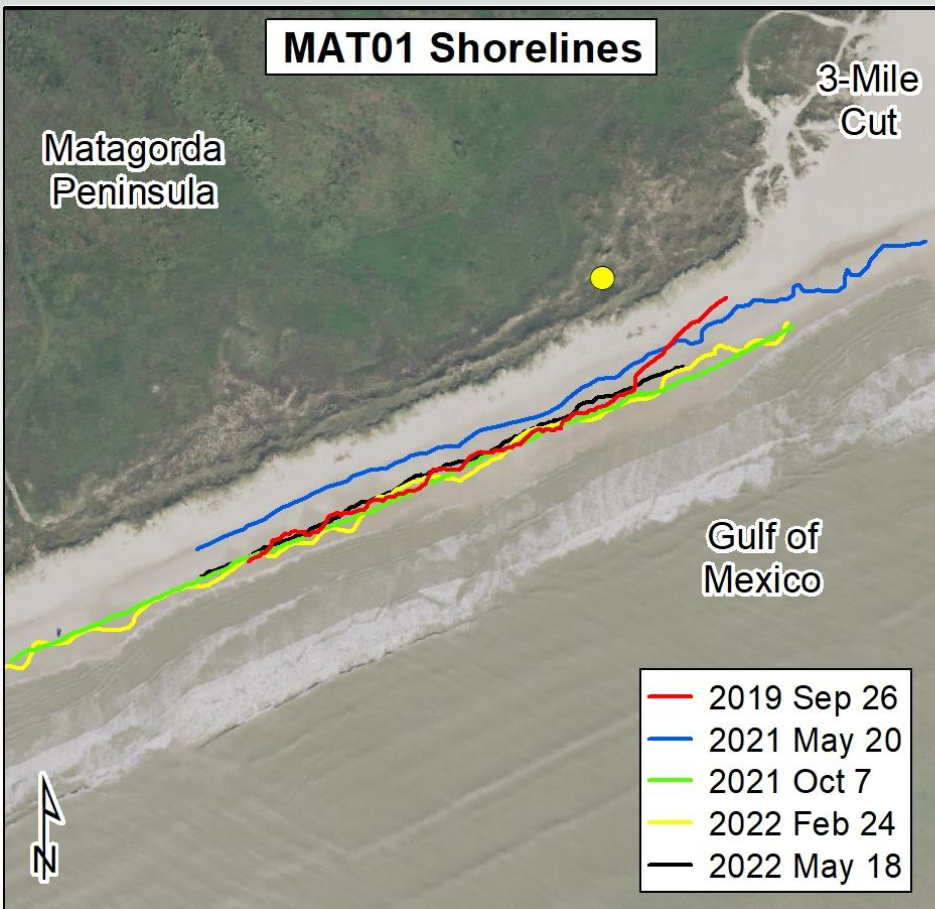
May 18, 2022



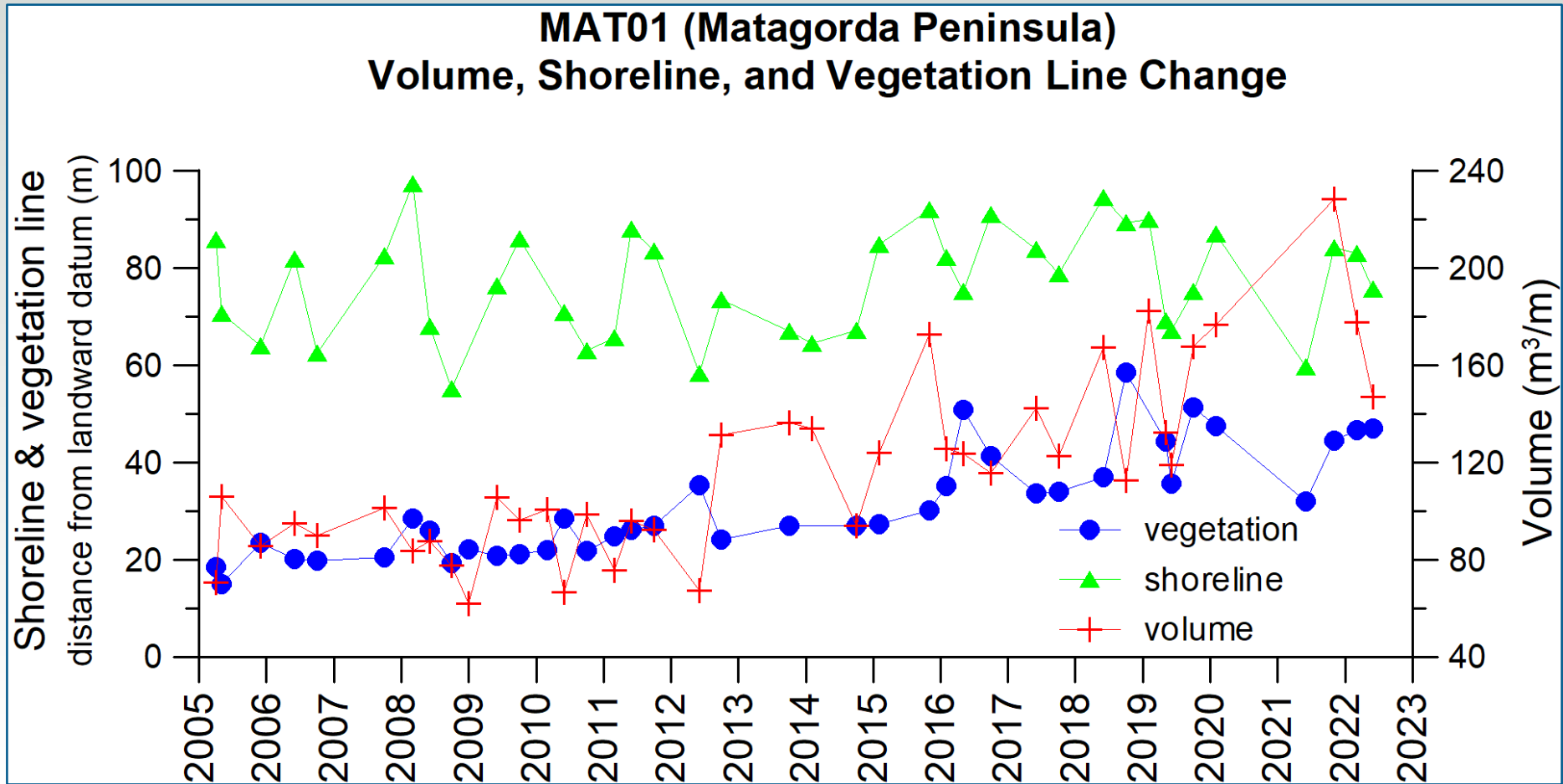
MAT01: spring 2019-spring 2022



MAT01 shore and vegetation line positions

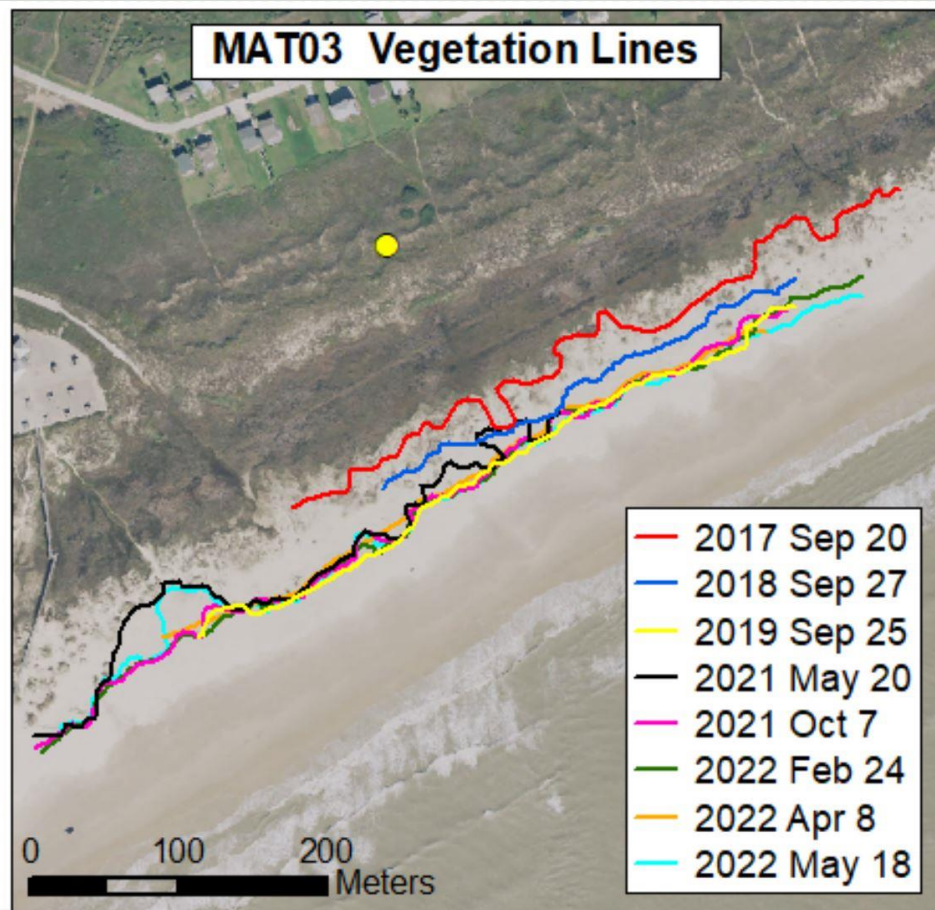
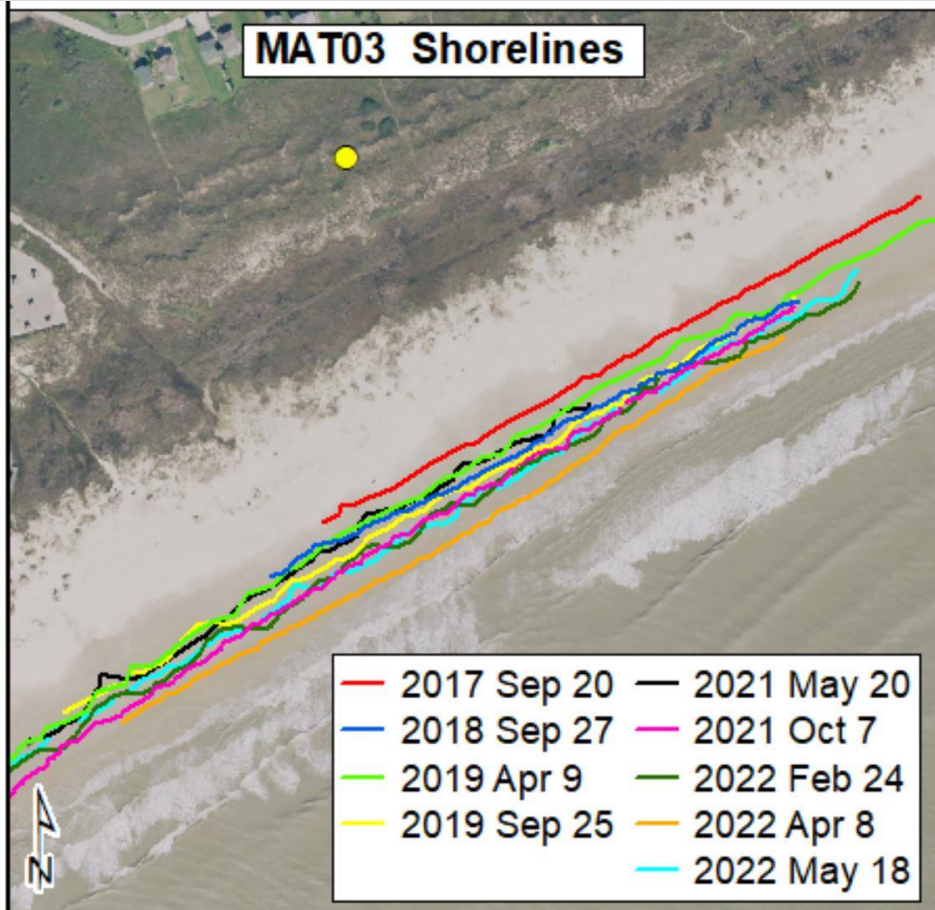


MAT01: shoreline, vegetation line, and volume changes

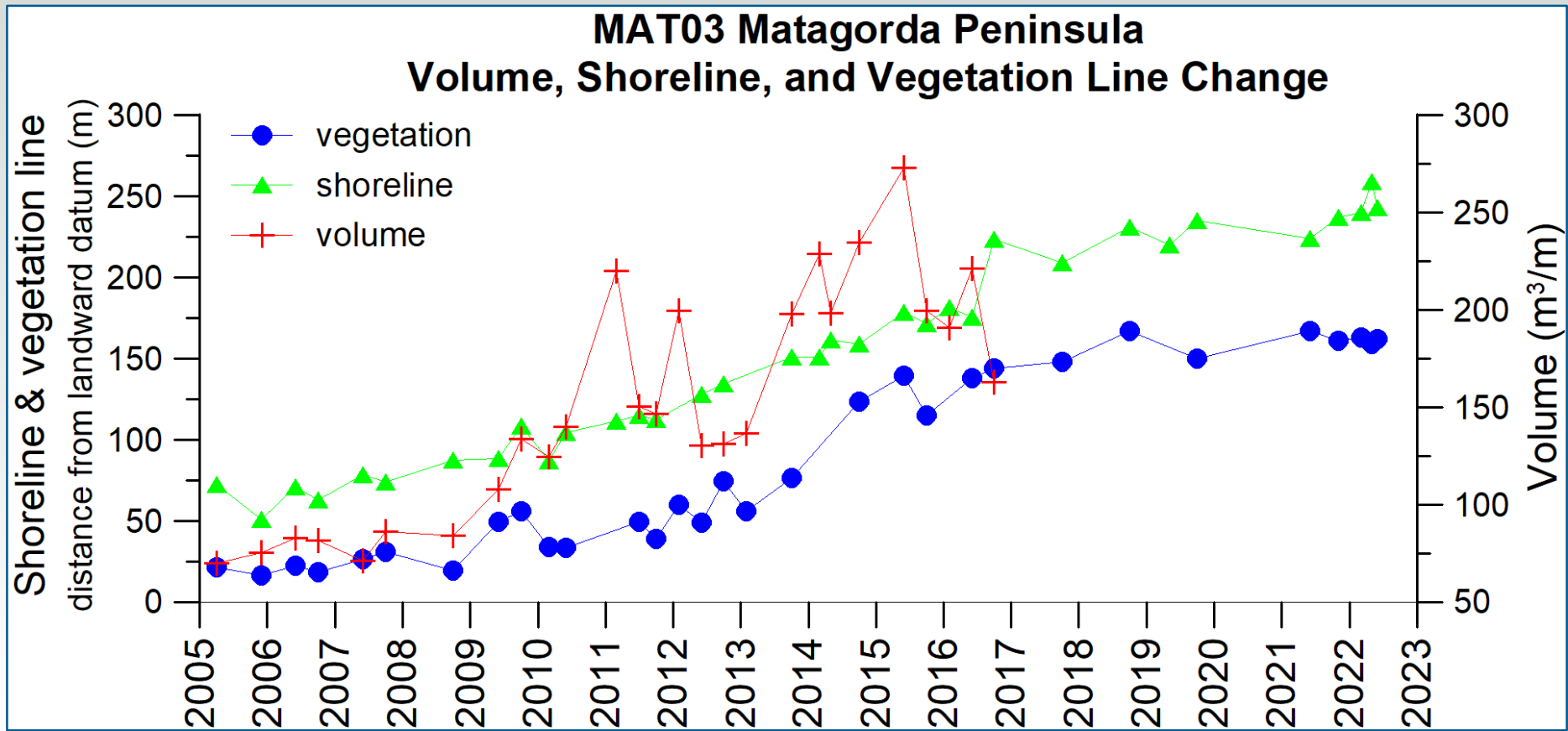


Sediment volume was calculated above 1 meter NAVD88.

MAT03 shore and vegetation line positions



MAT03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.