

Texas High School Coastal Monitoring Program at Ball High School: 2022-2023

December 2023



BUREAU OF
ECONOMIC
GEOLOGY

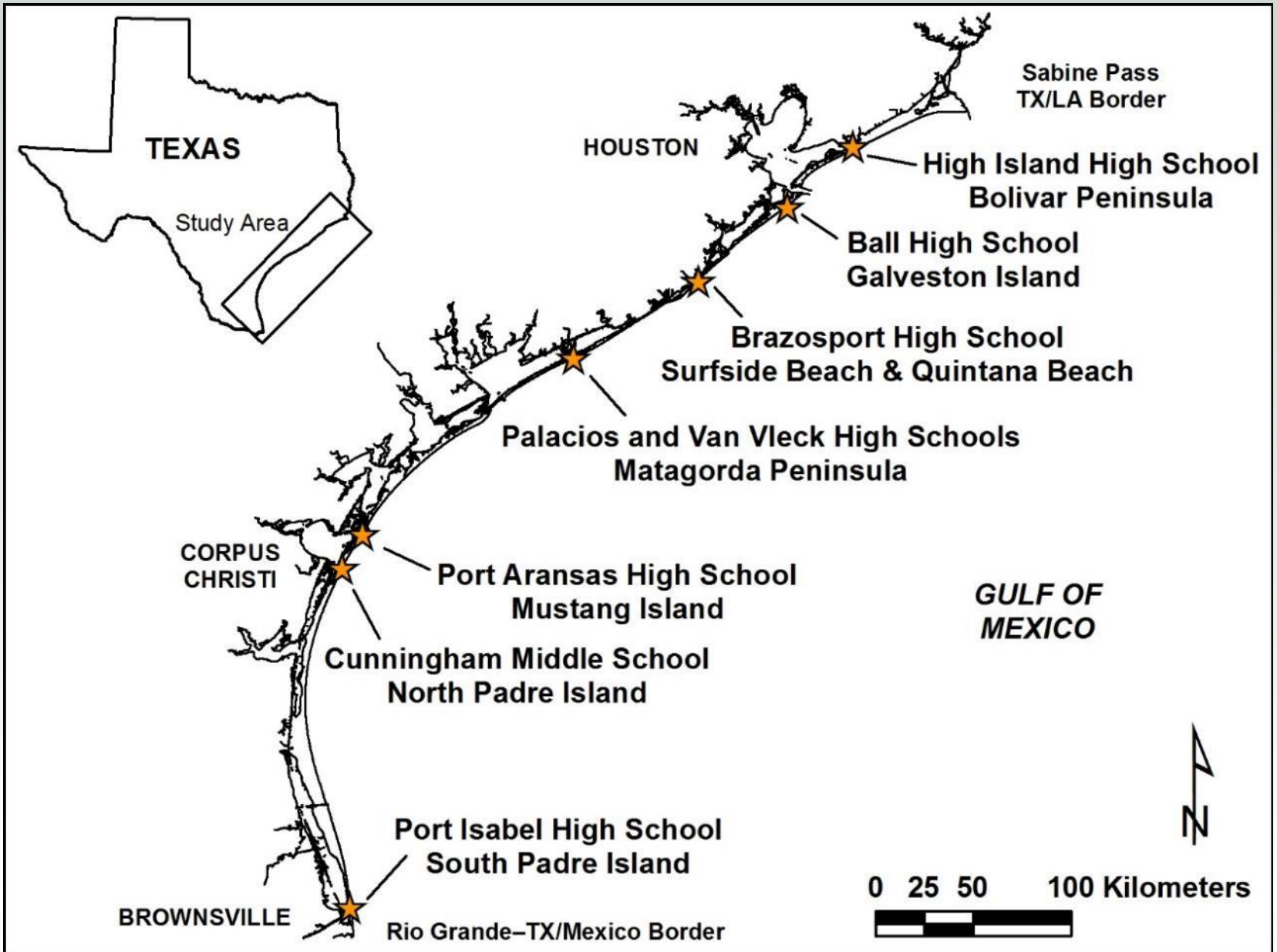
Texas High School Coastal Monitoring Program

- 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.



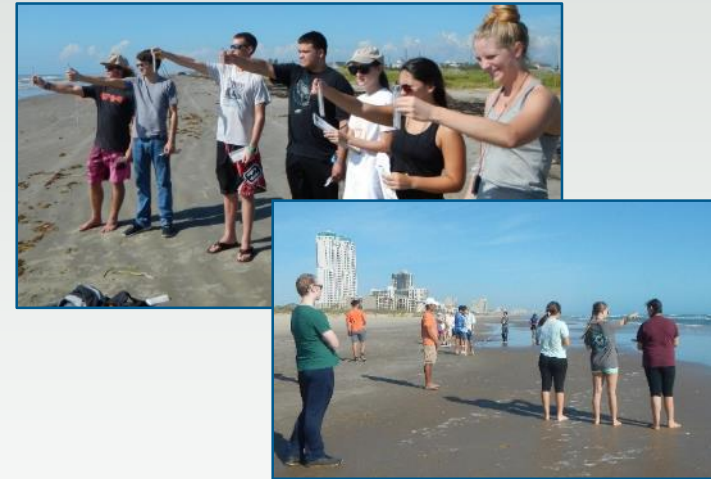
 **TEXAS Geosciences**
Bureau of Economic Geology
Jackson School of Geosciences
The University of Texas at Austin





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



Galveston Island Study Sites



2022-2023 field trips

October 19, 2022



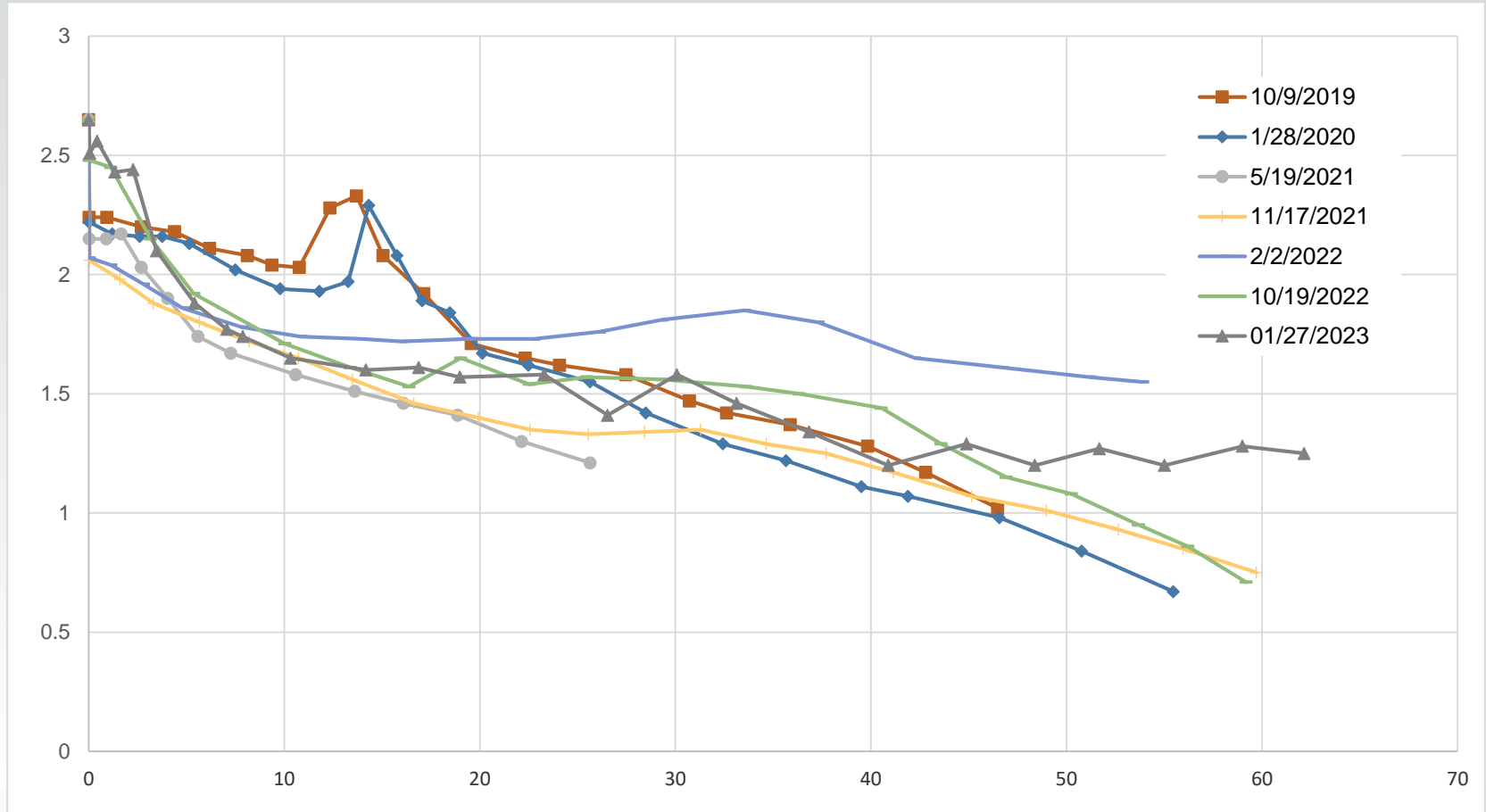
January 27, 2023



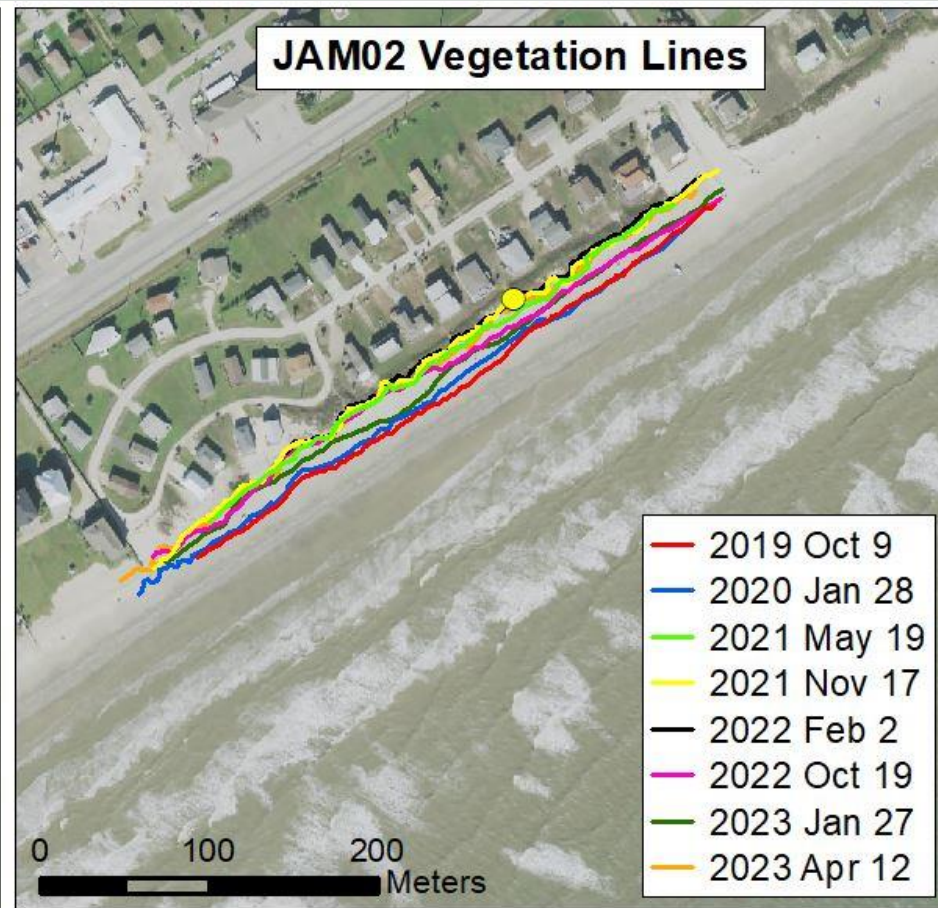
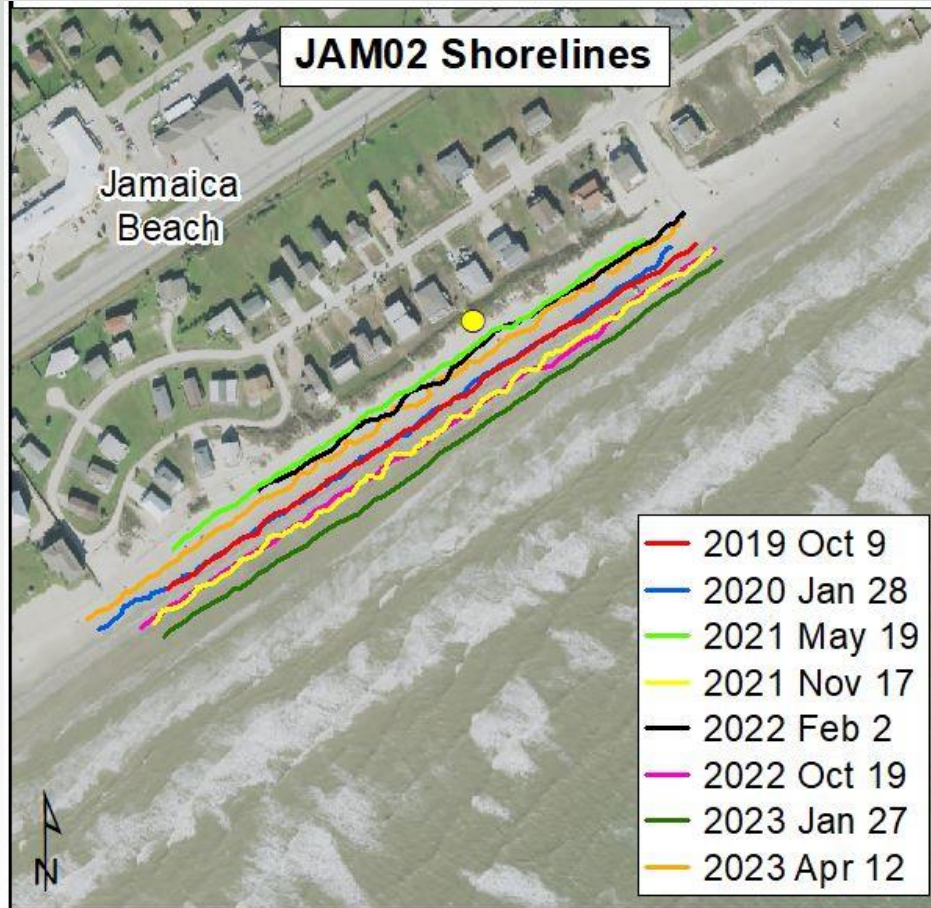
October 11, 2023



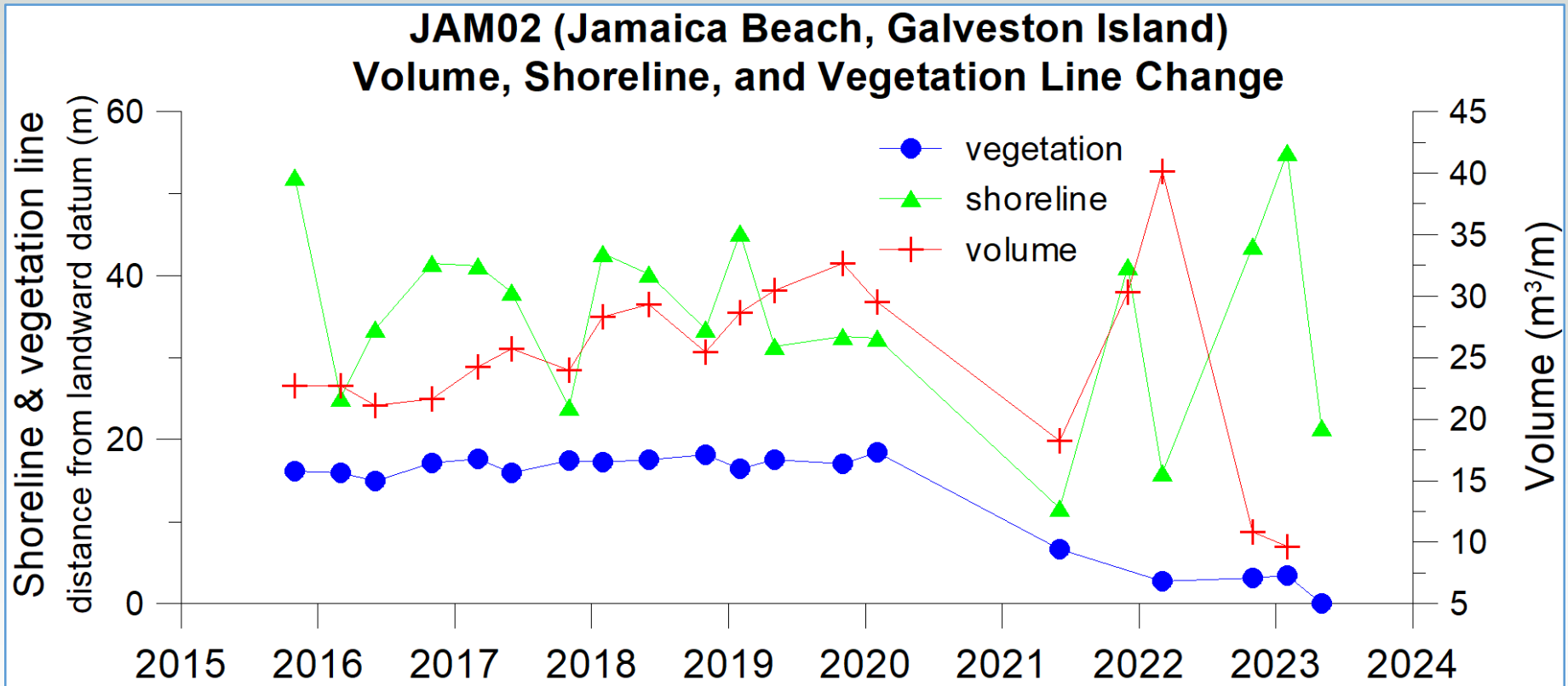
JAM02: fall 2019-winter 2023



JAM02 shore and vegetation line positions

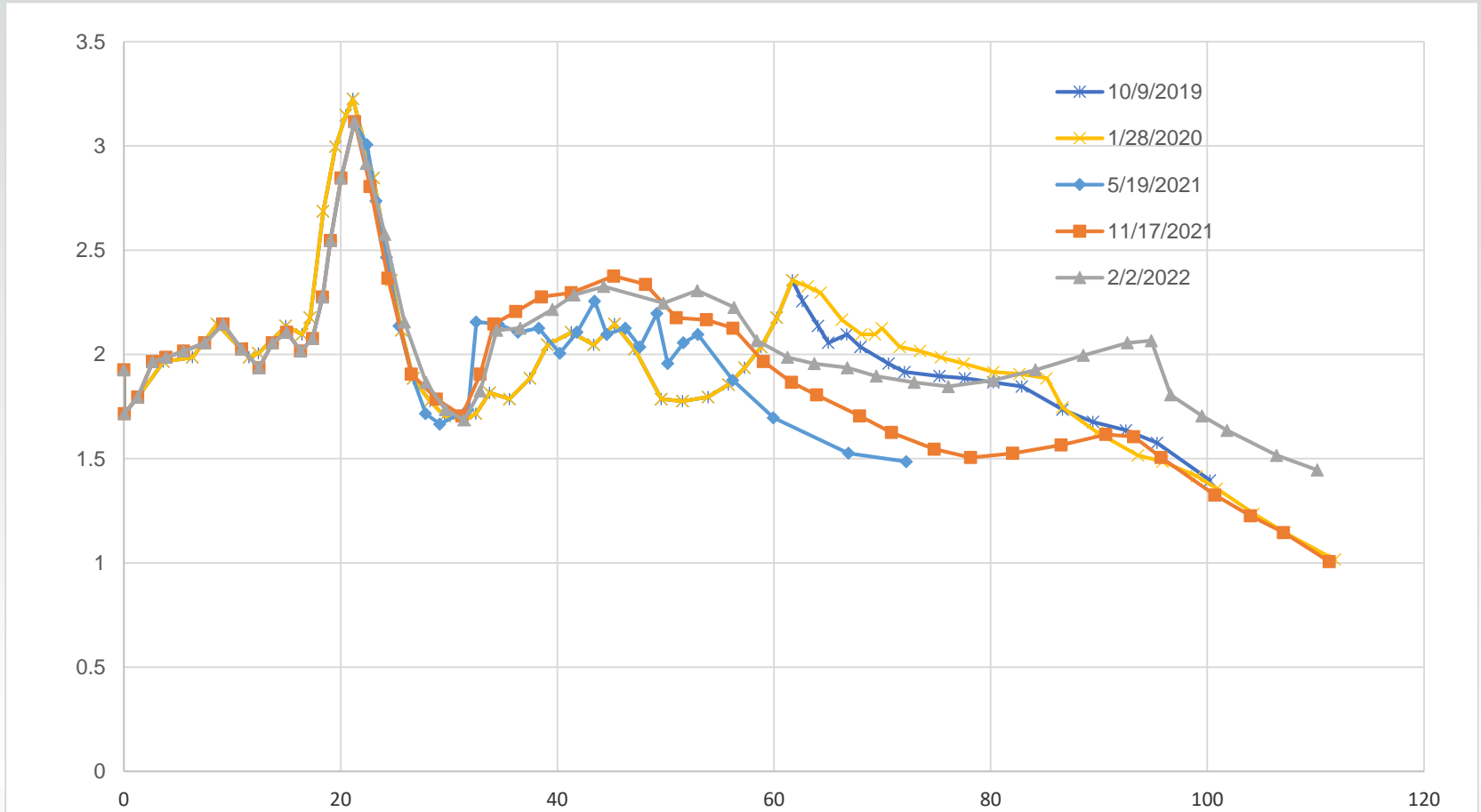


JAM02: shoreline, vegetation line, and volume changes

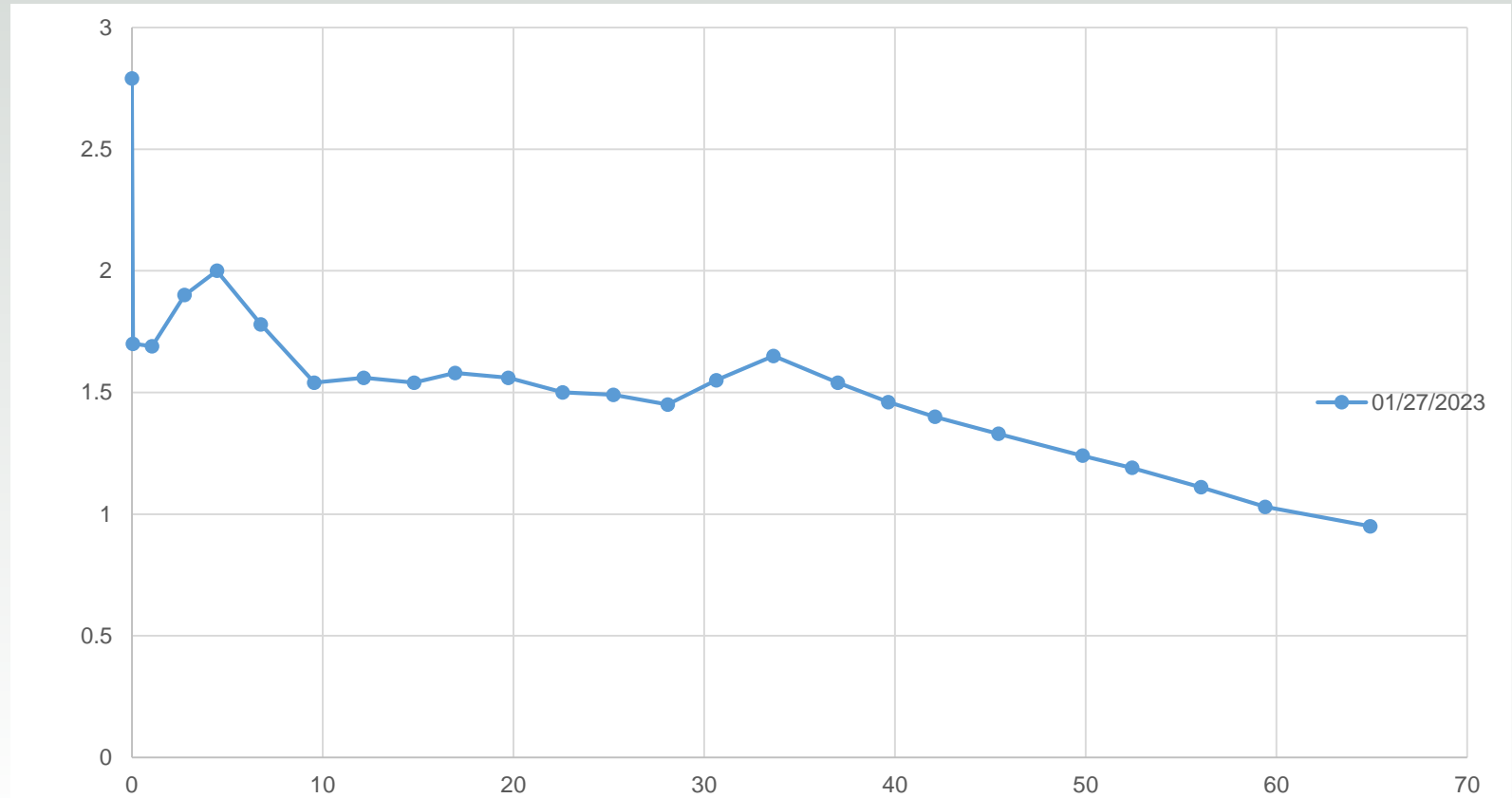


Sediment volume was calculated above 1 meter NAVD88.

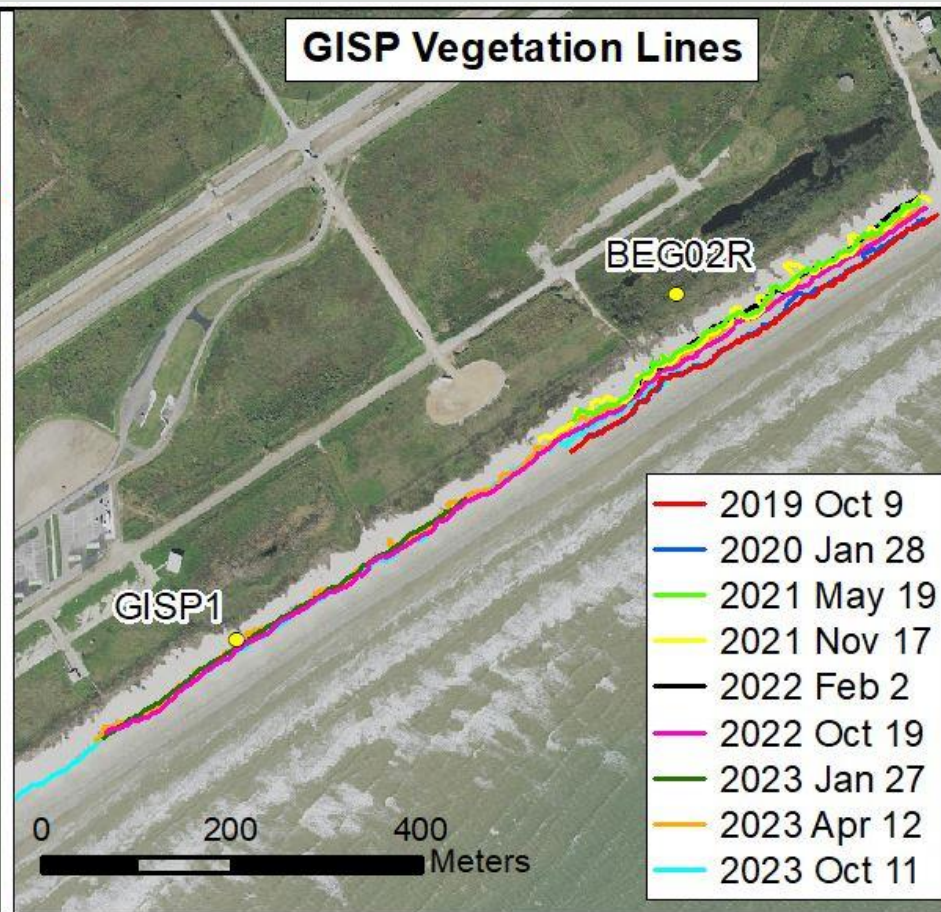
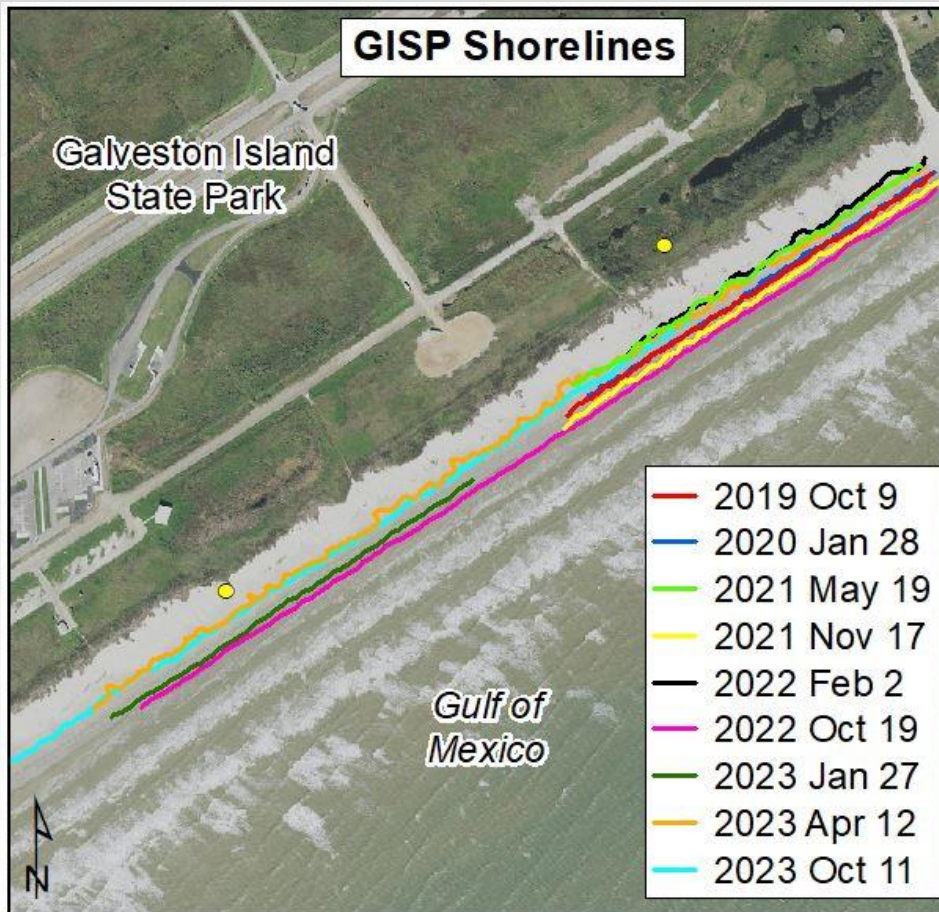
BEG02 : spring 2021- winter 2022



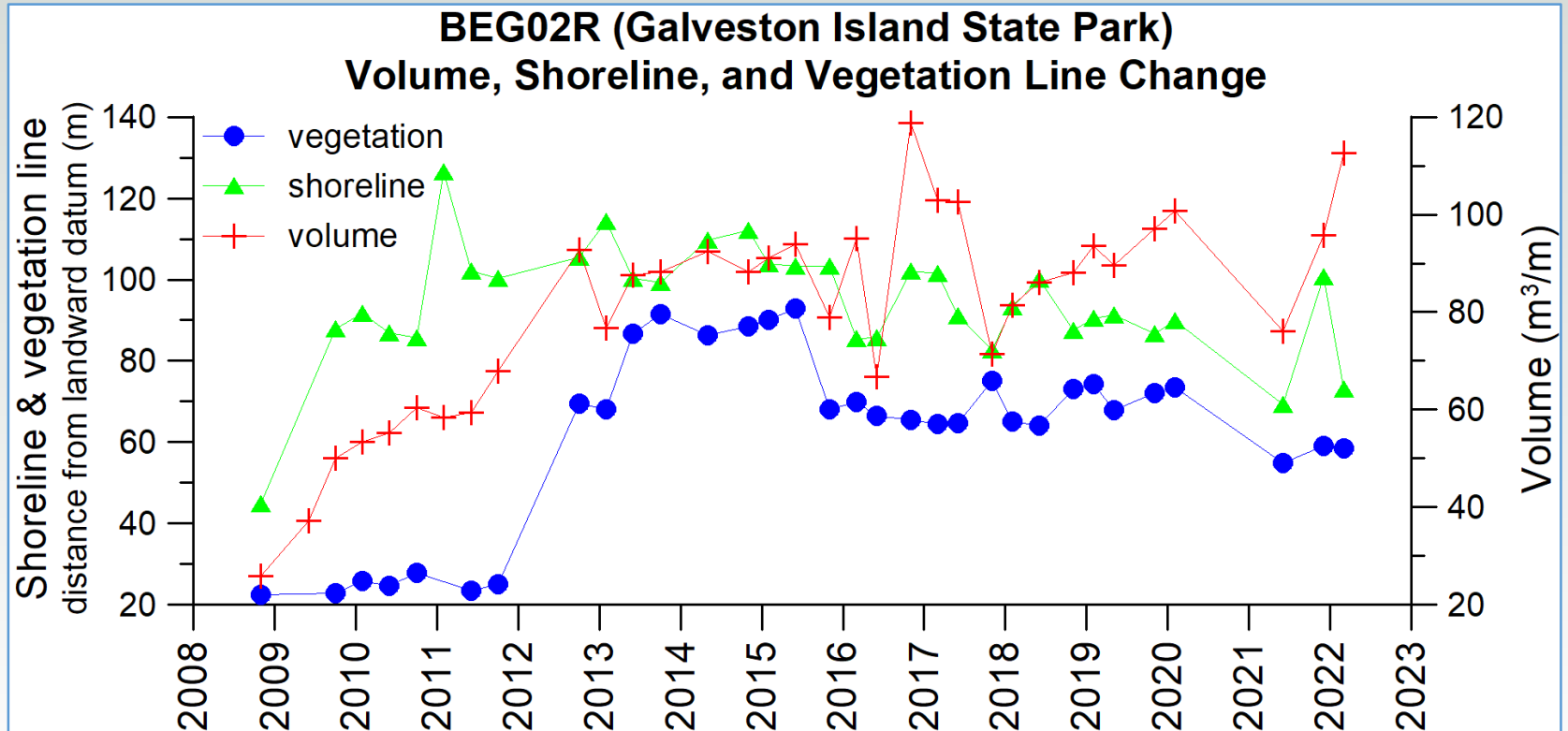
New site GISP1 : winter 2023



GISP shore and vegetation line positions

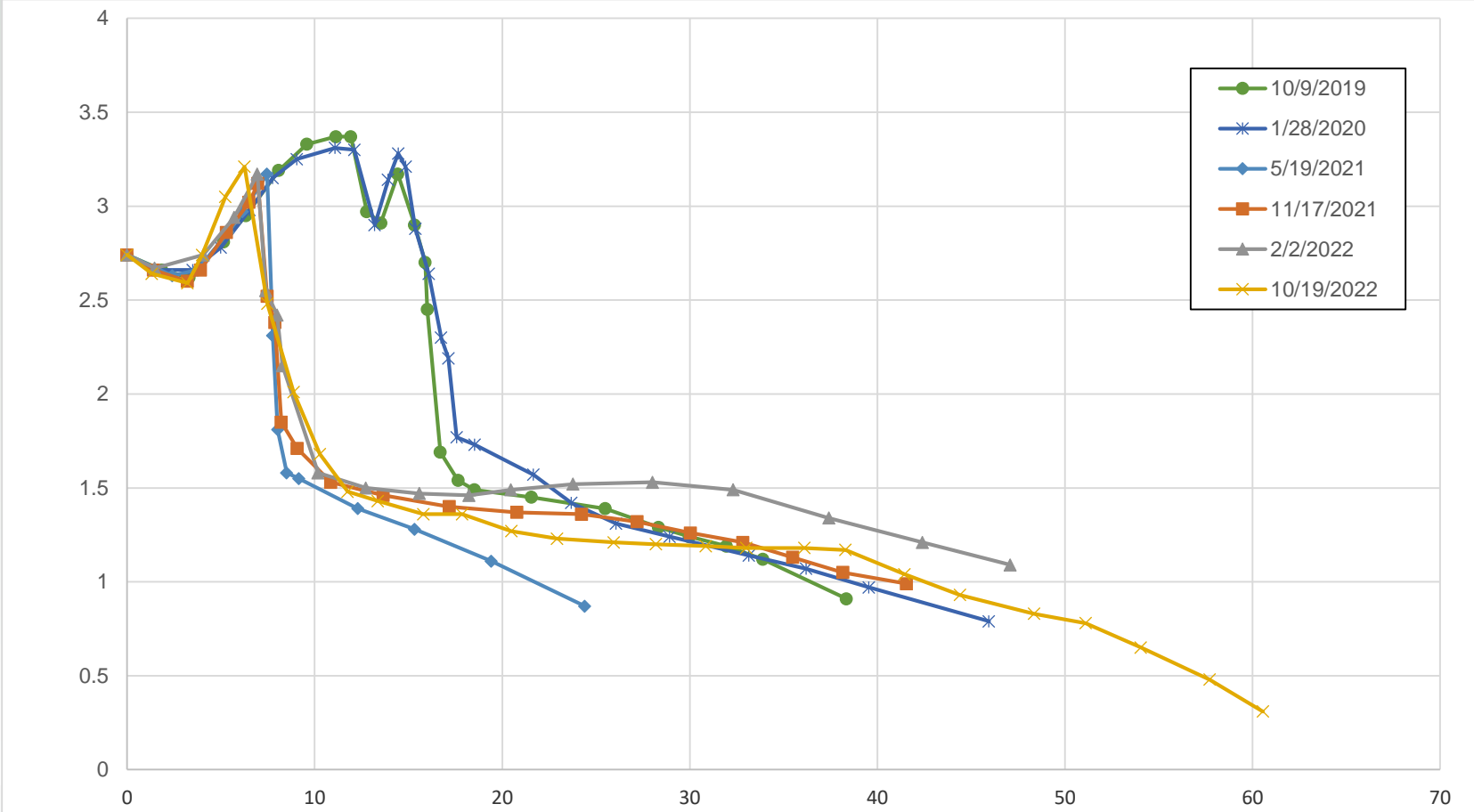


BEG02: shoreline, vegetation line, and volume changes

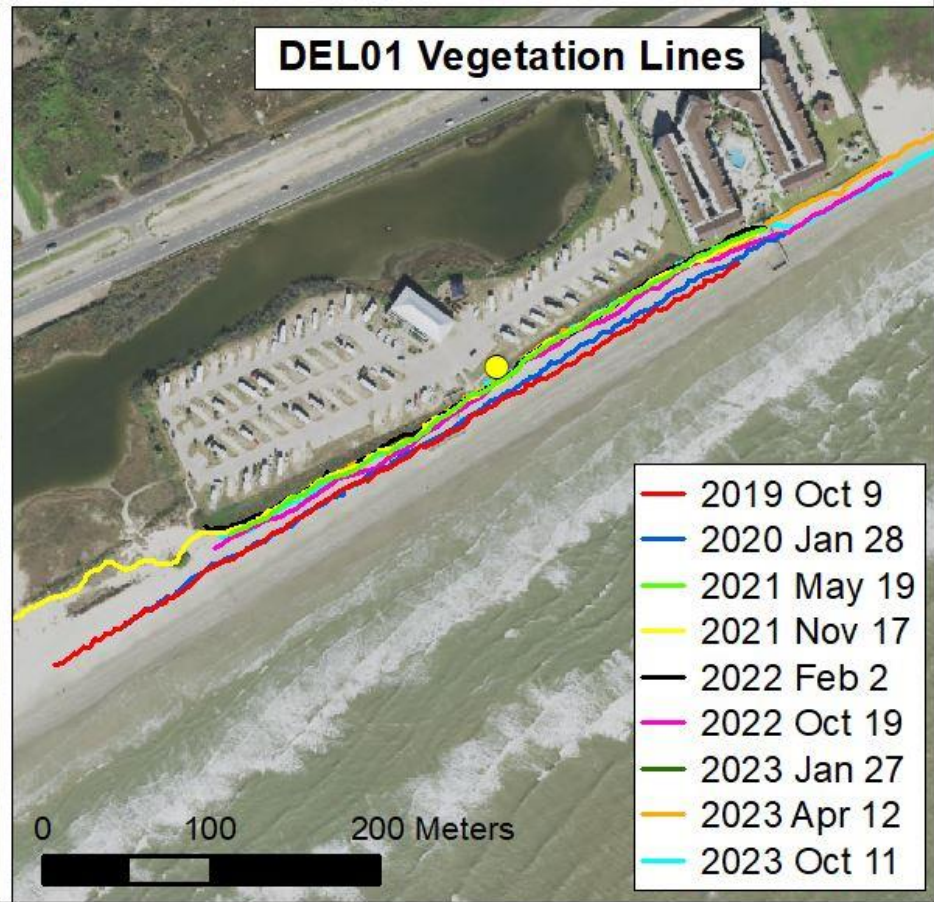
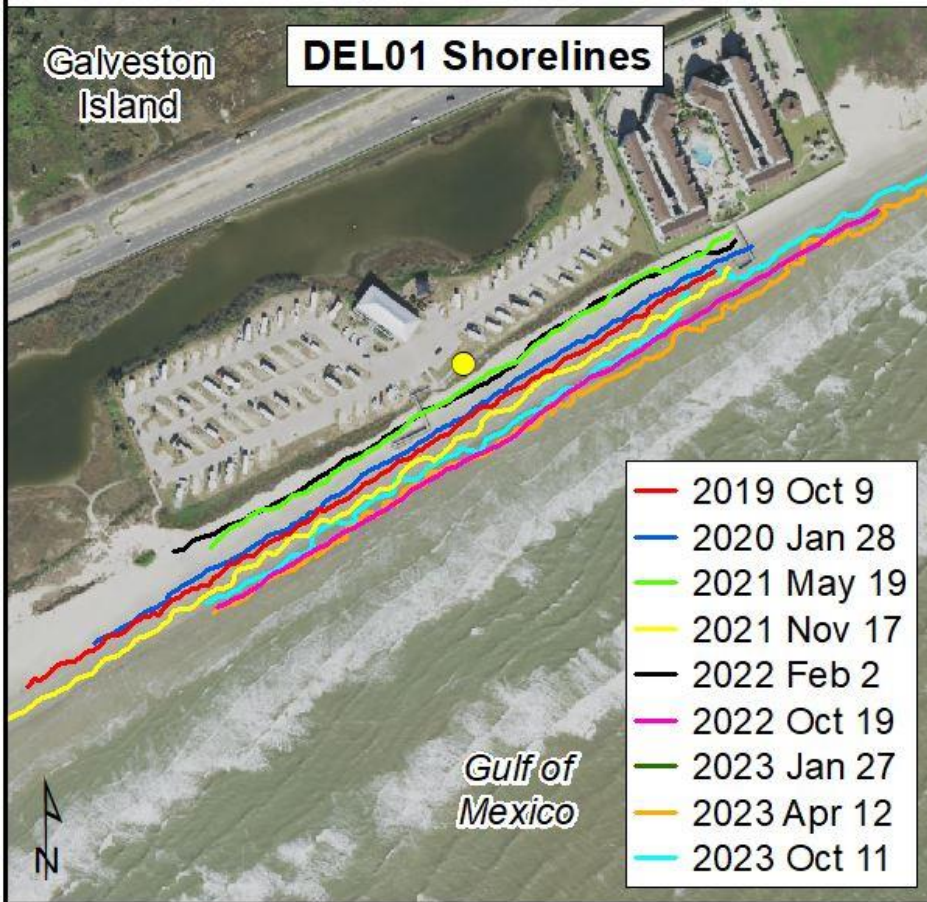


Sediment volume was calculated above 1 meter NAVD88.

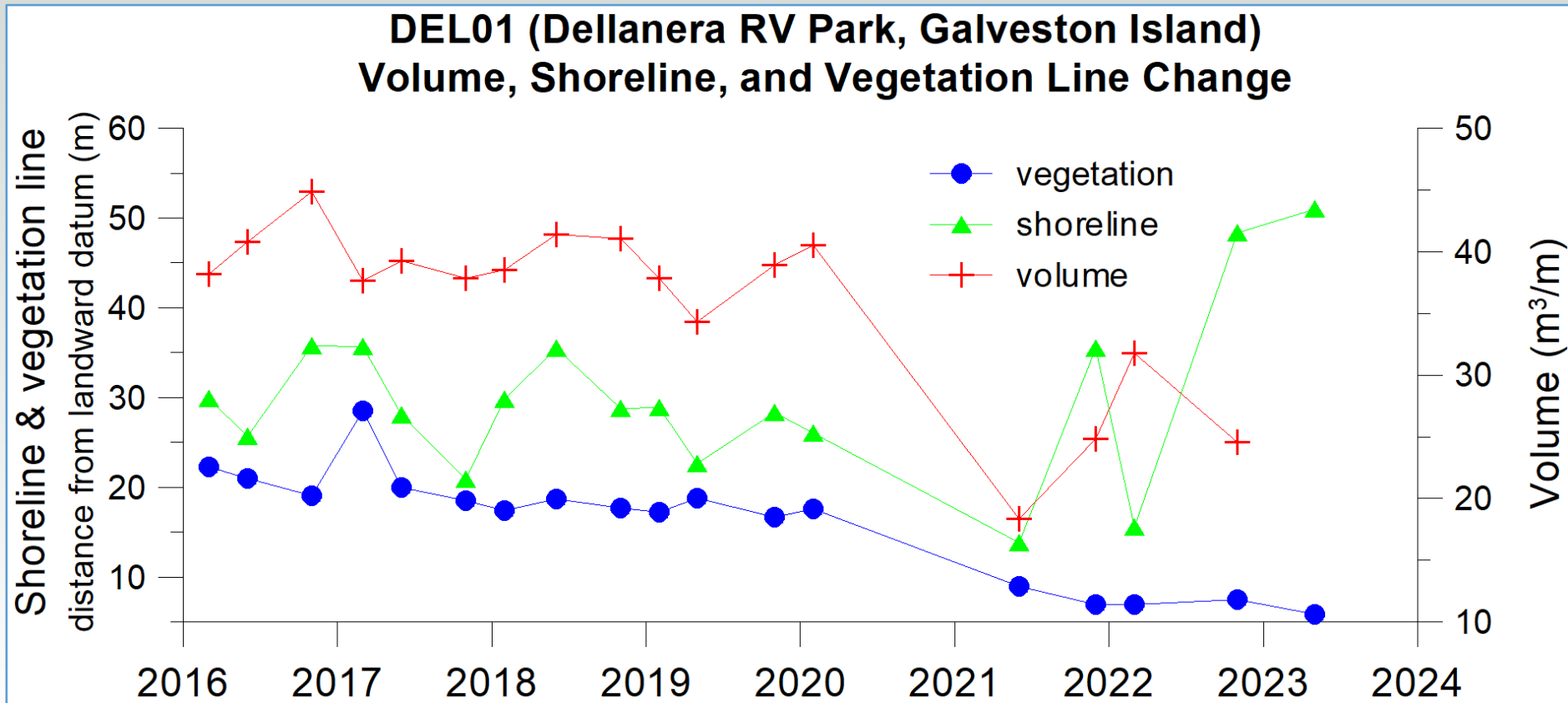
DEL01: fall 2019-fall 2022



DEL01 shore and vegetation line positions



DEL01: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

Babe's Beach shoreline positions

