

Texas High School Coastal Monitoring Program at Ball High School: 2021-2022

July 2022

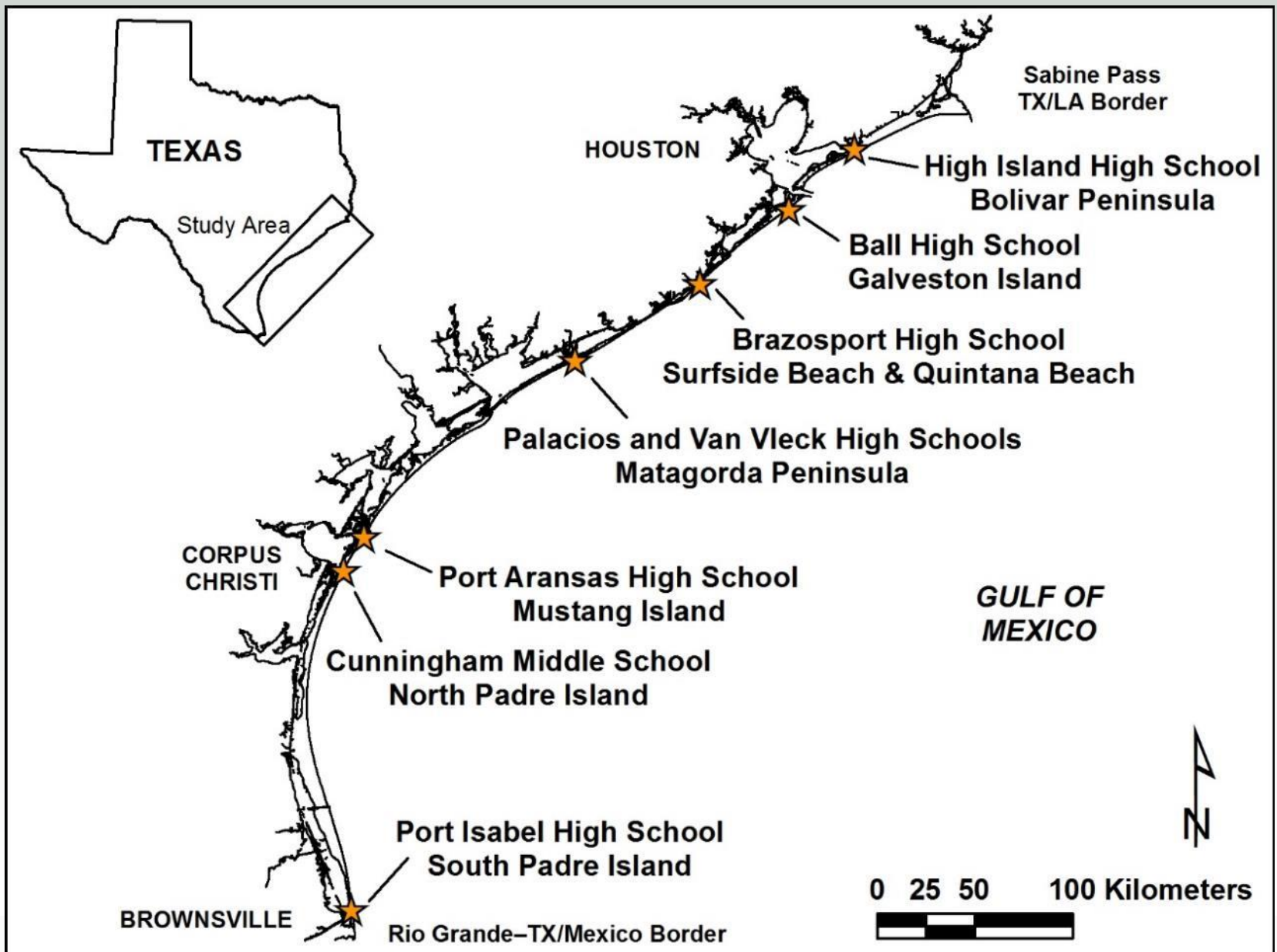


BUREAU OF
ECONOMIC
GEOLOGY

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



Galveston Island Study Sites



2021-2022 field trips

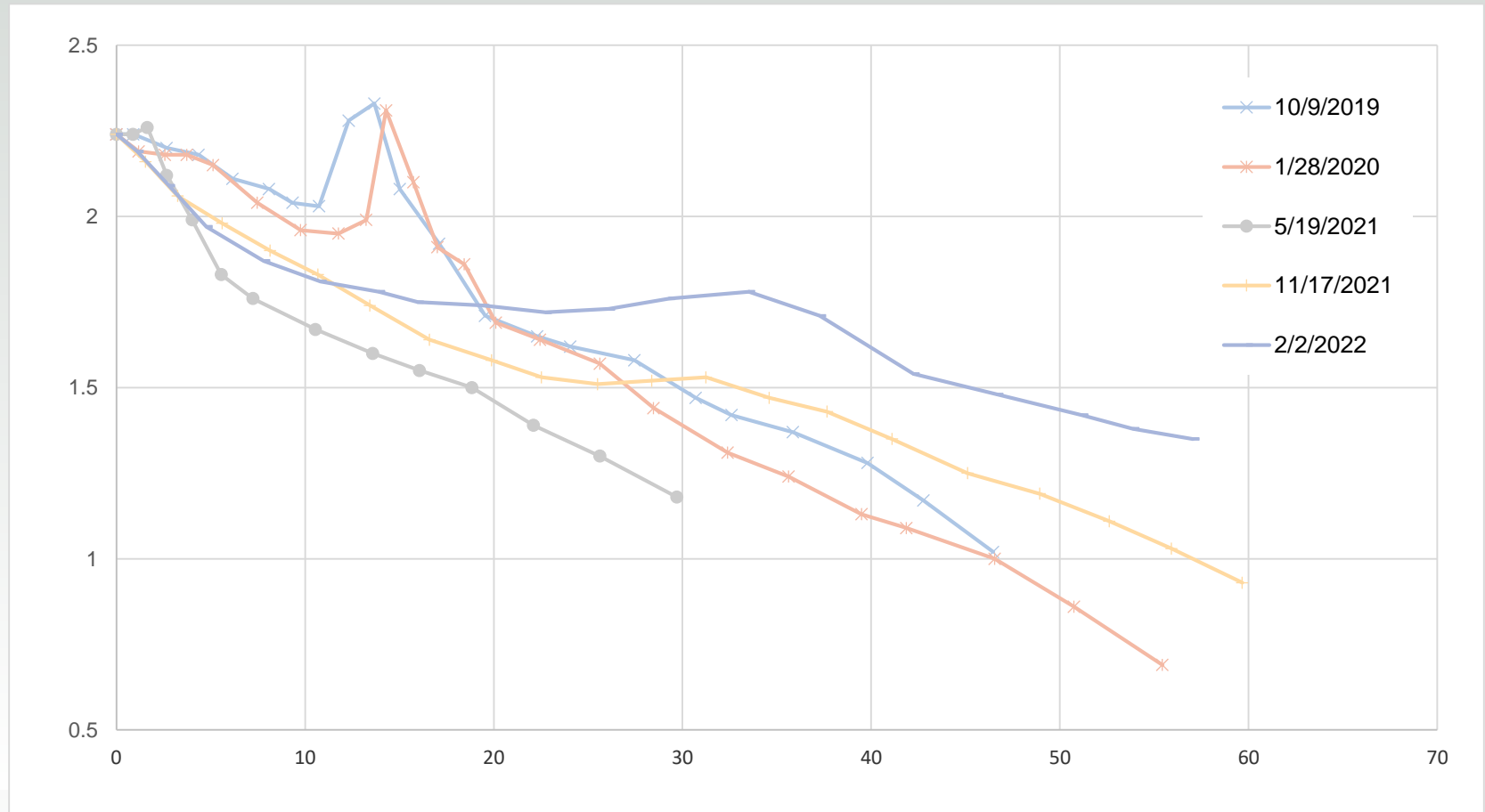
November 17, 2021



February 2, 2022



JAM02: fall 2019-winter 2022



JAM02 shore and vegetation line positions

JAM02 Shorelines



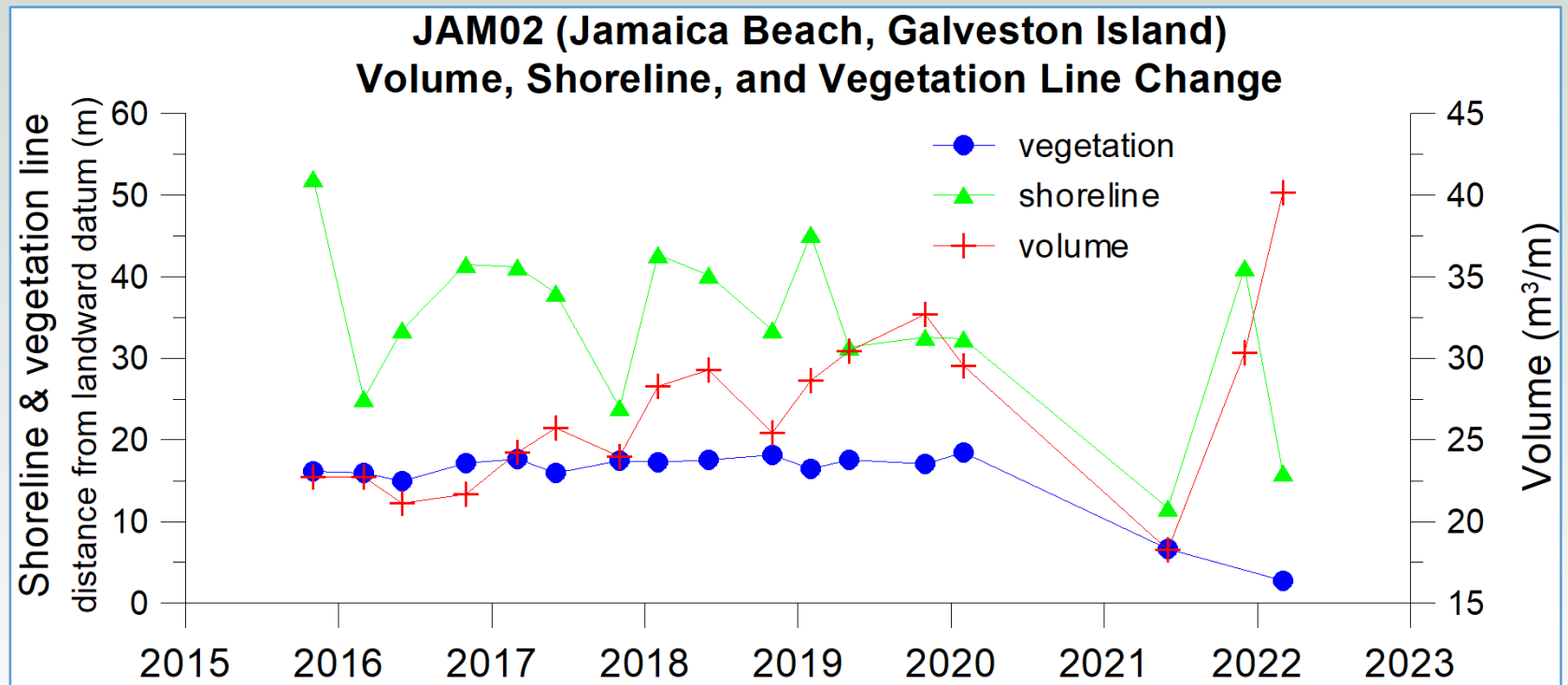
— 2019 Jan 30
— 2019 Apr 25
— 2019 Oct 9
— 2020 Jan 28
— 2021 May 19
— 2021 Nov 17
— 2022 Feb 2

JAM02 Vegetation Lines



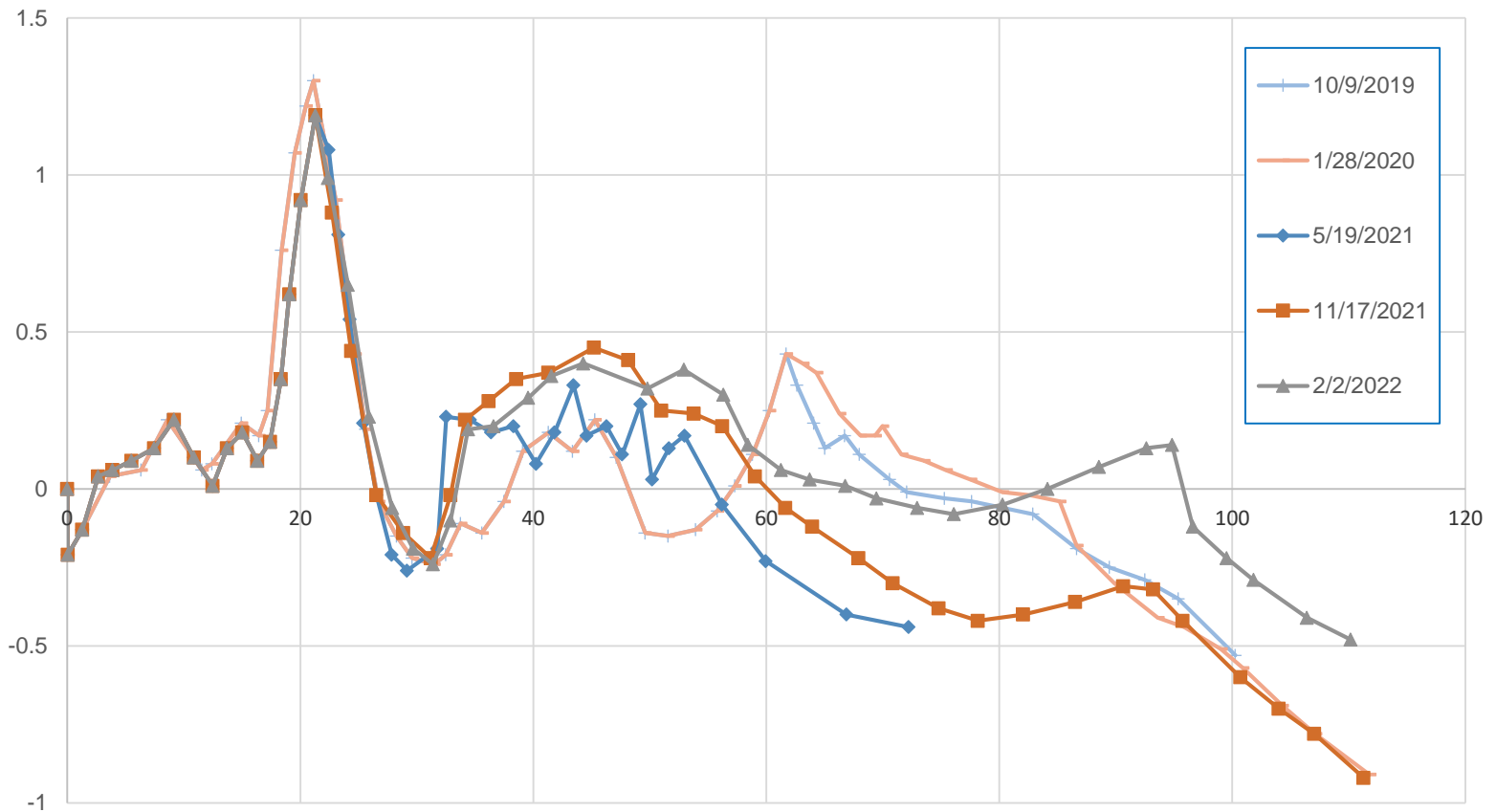
— 2019 Jan 30
— 2019 Apr 25
— 2019 Oct 9
— 2020 Jan 28
— 2021 May 19
— 2021 Nov 17
— 2022 Feb 2

JAM02: shoreline, vegetation line, and volume changes

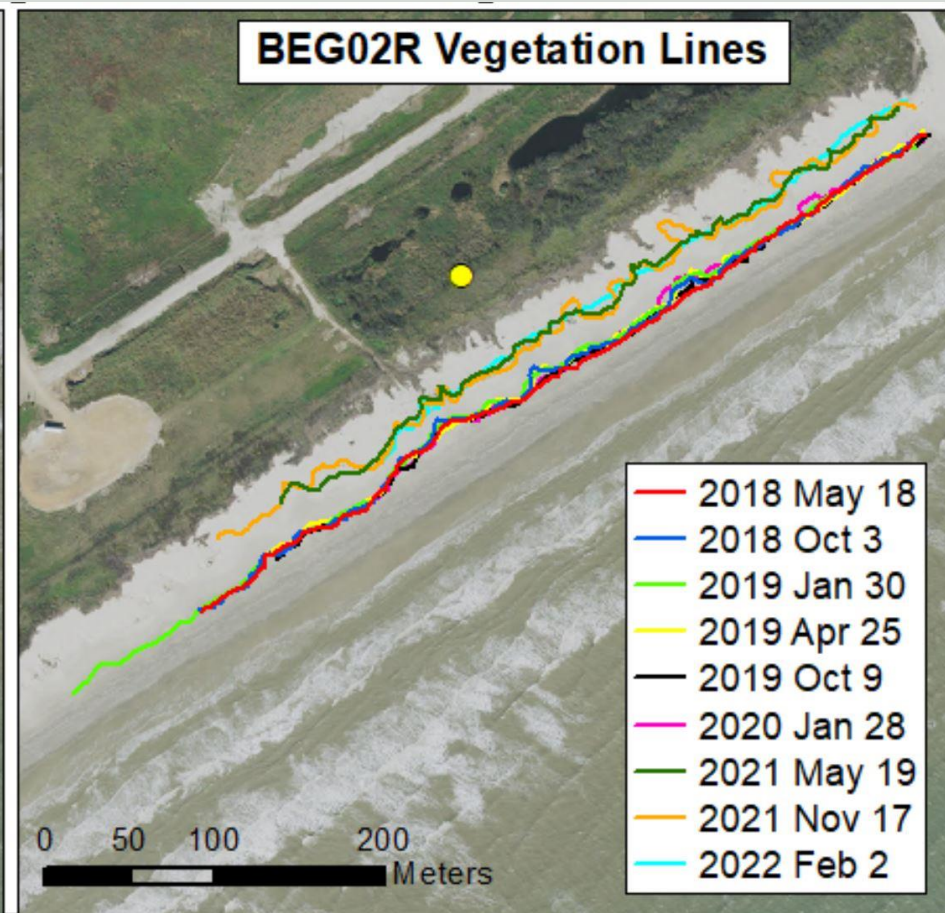
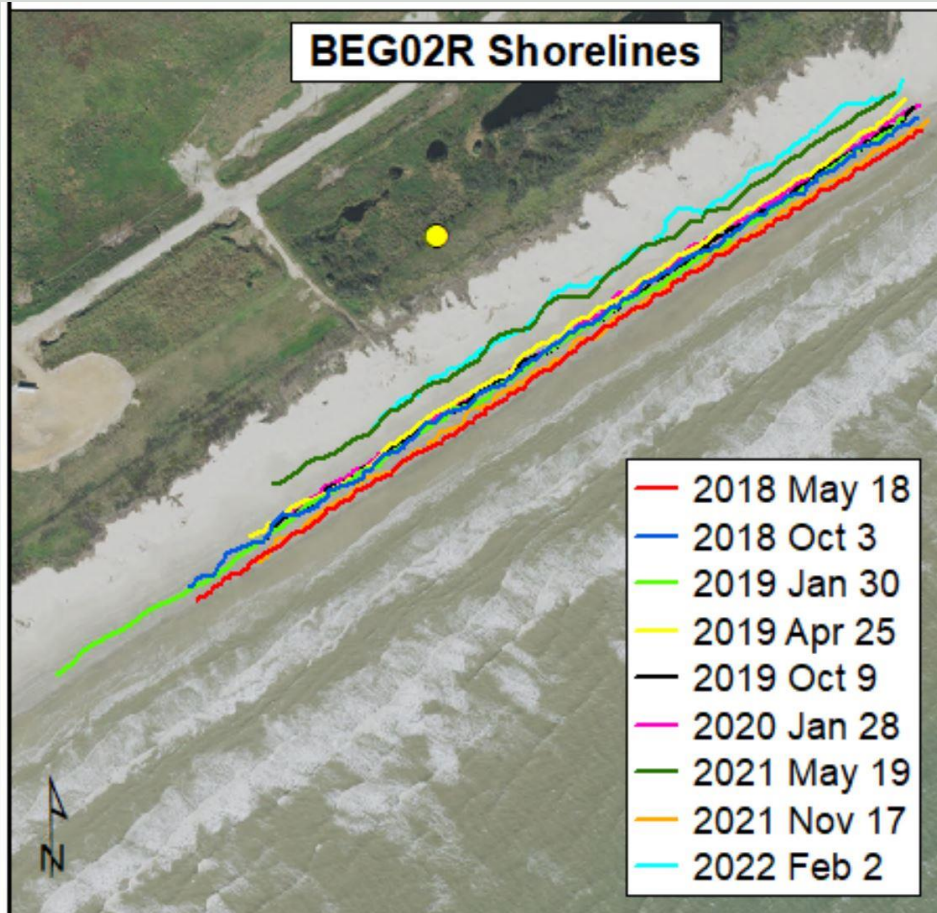


Sediment volume was calculated above 1 meter NAVD88.

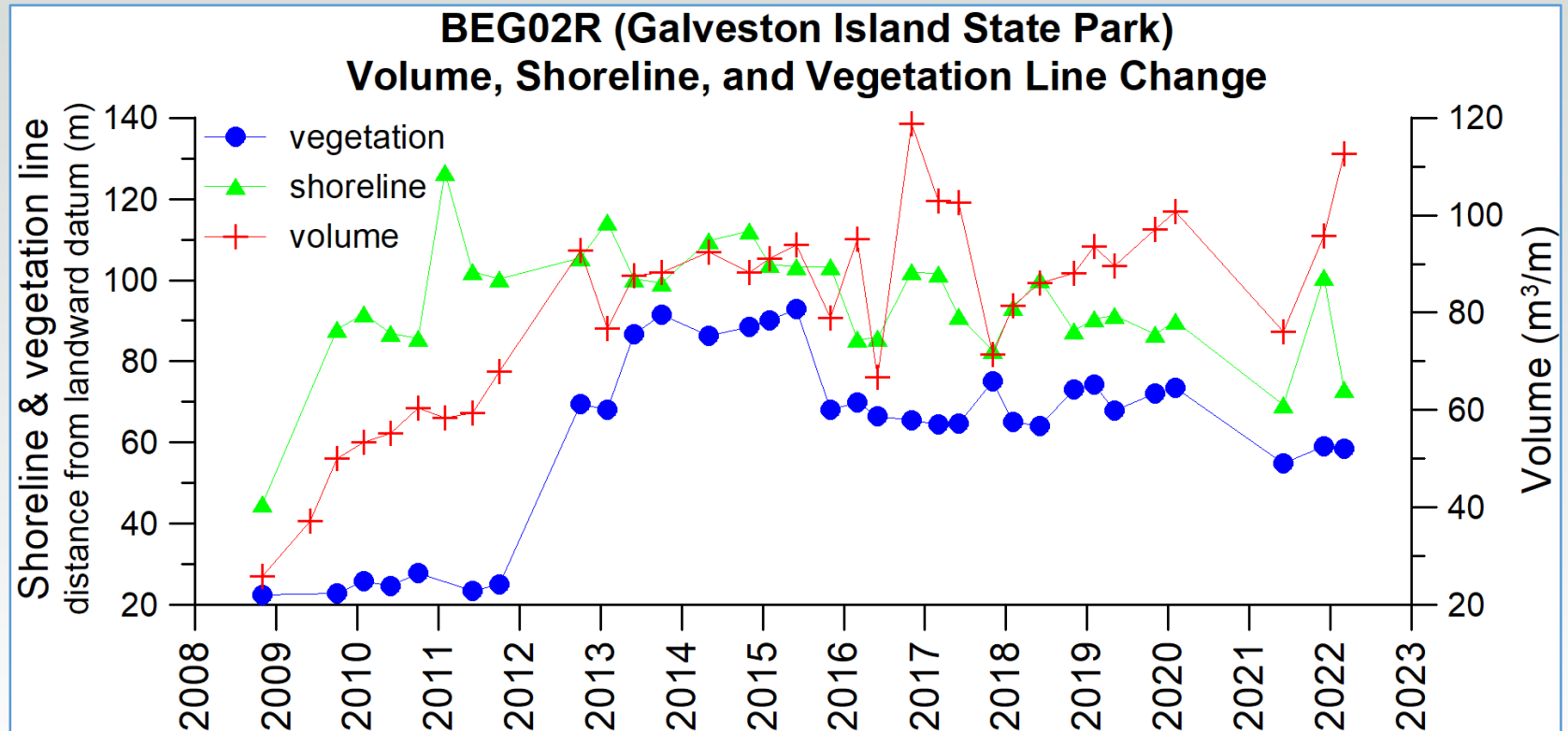
BEG02: fall 2019-winter 2022



BEG02 shore and vegetation line positions

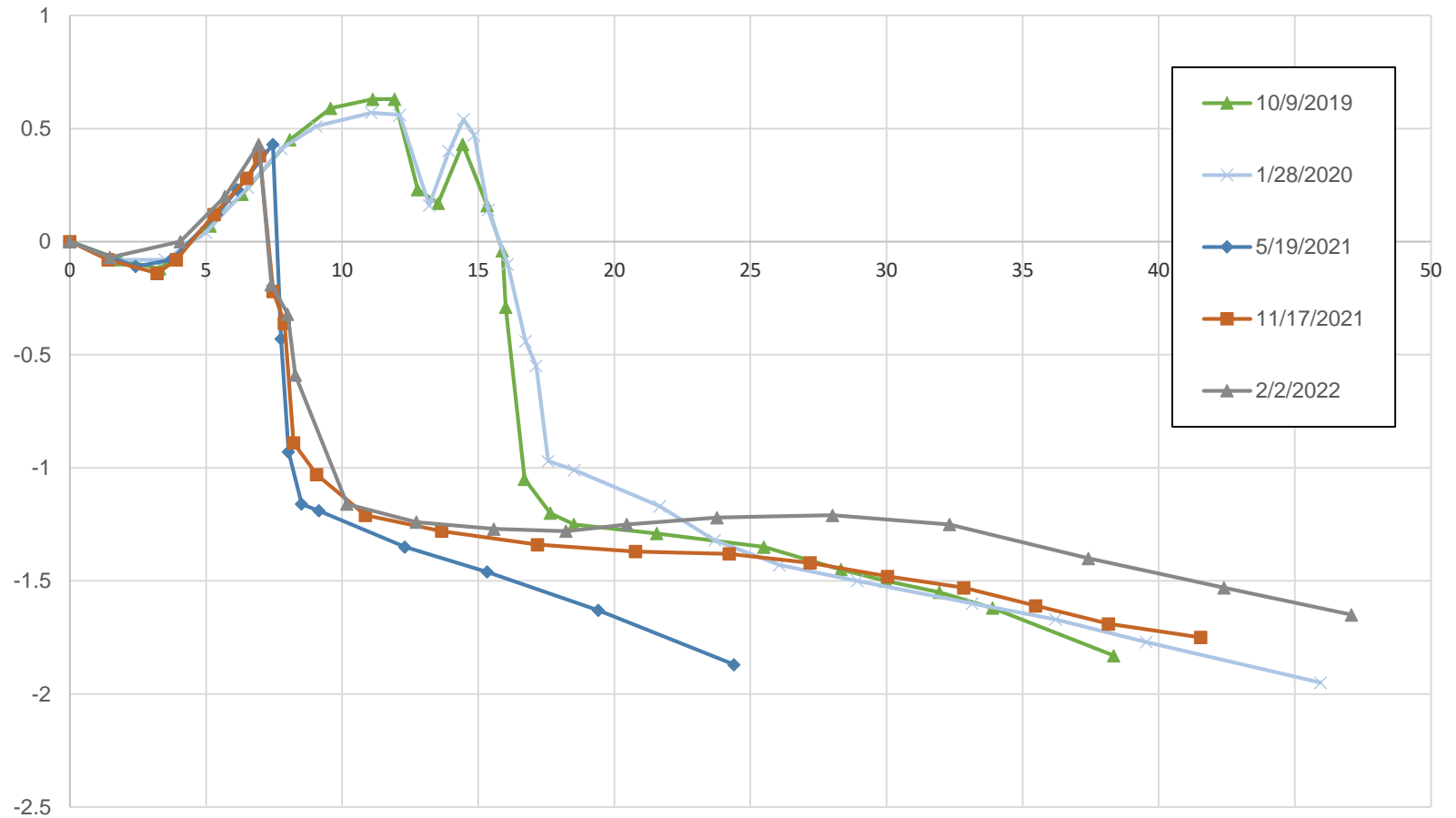


BEG02: shoreline, vegetation line, and volume changes

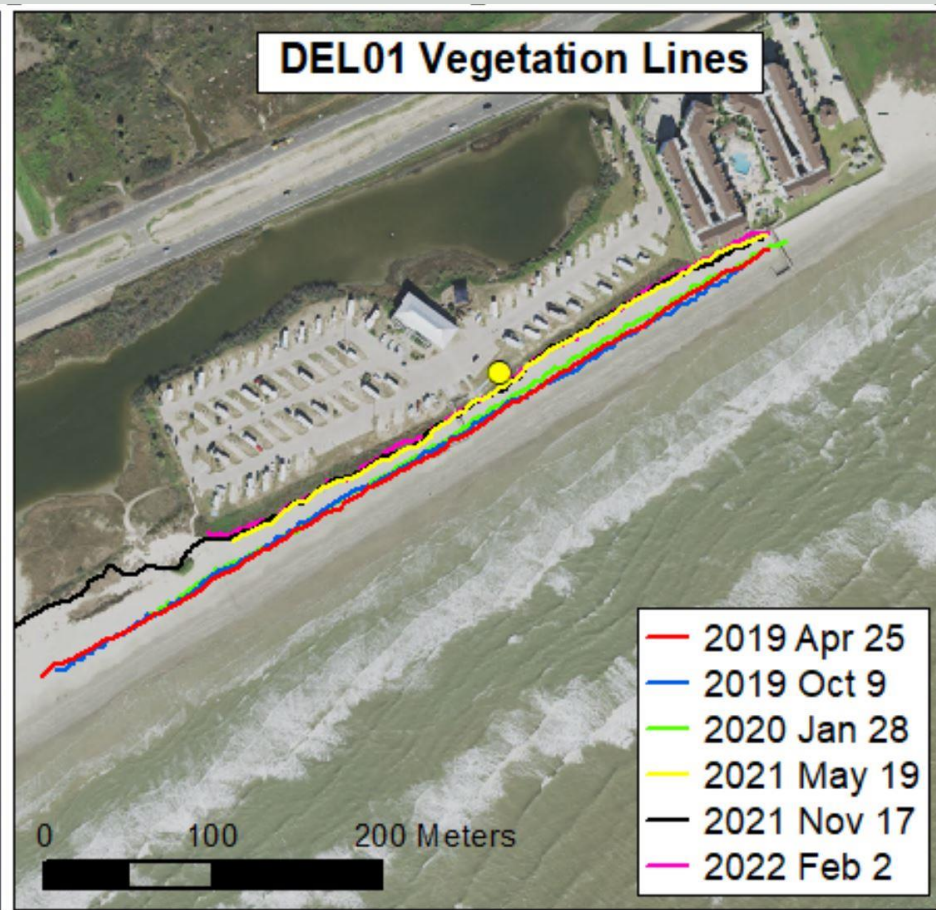
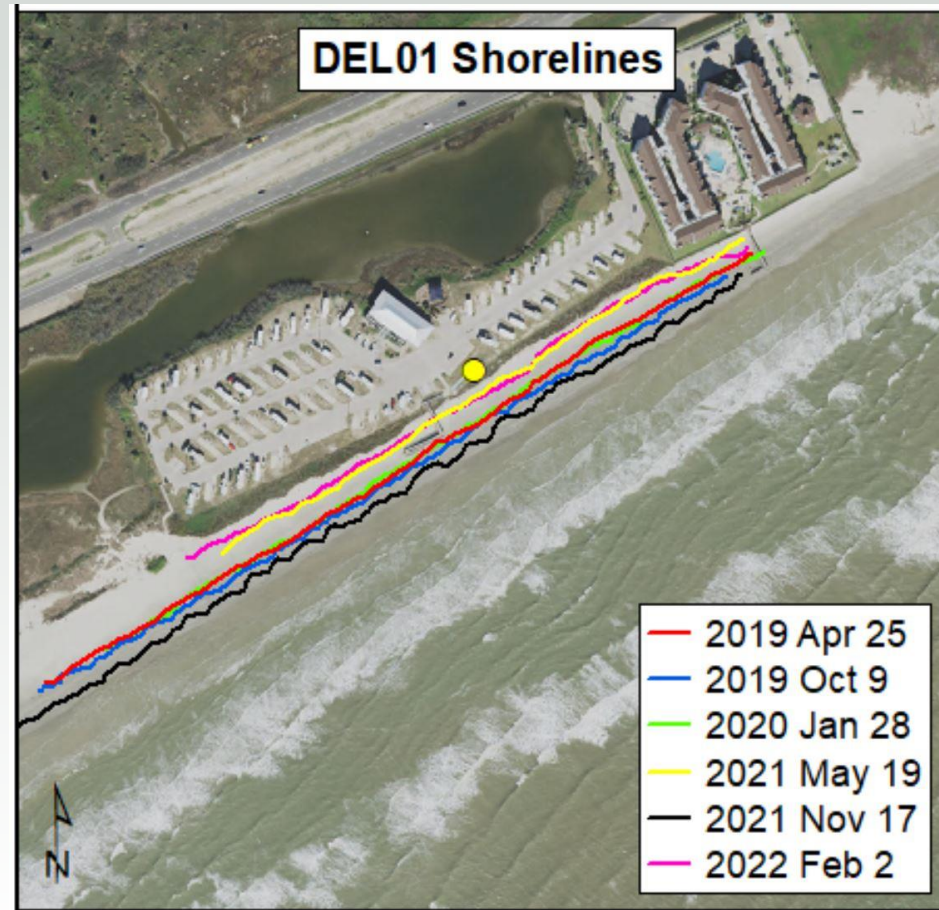


Sediment volume was calculated above 1 meter NAVD88.

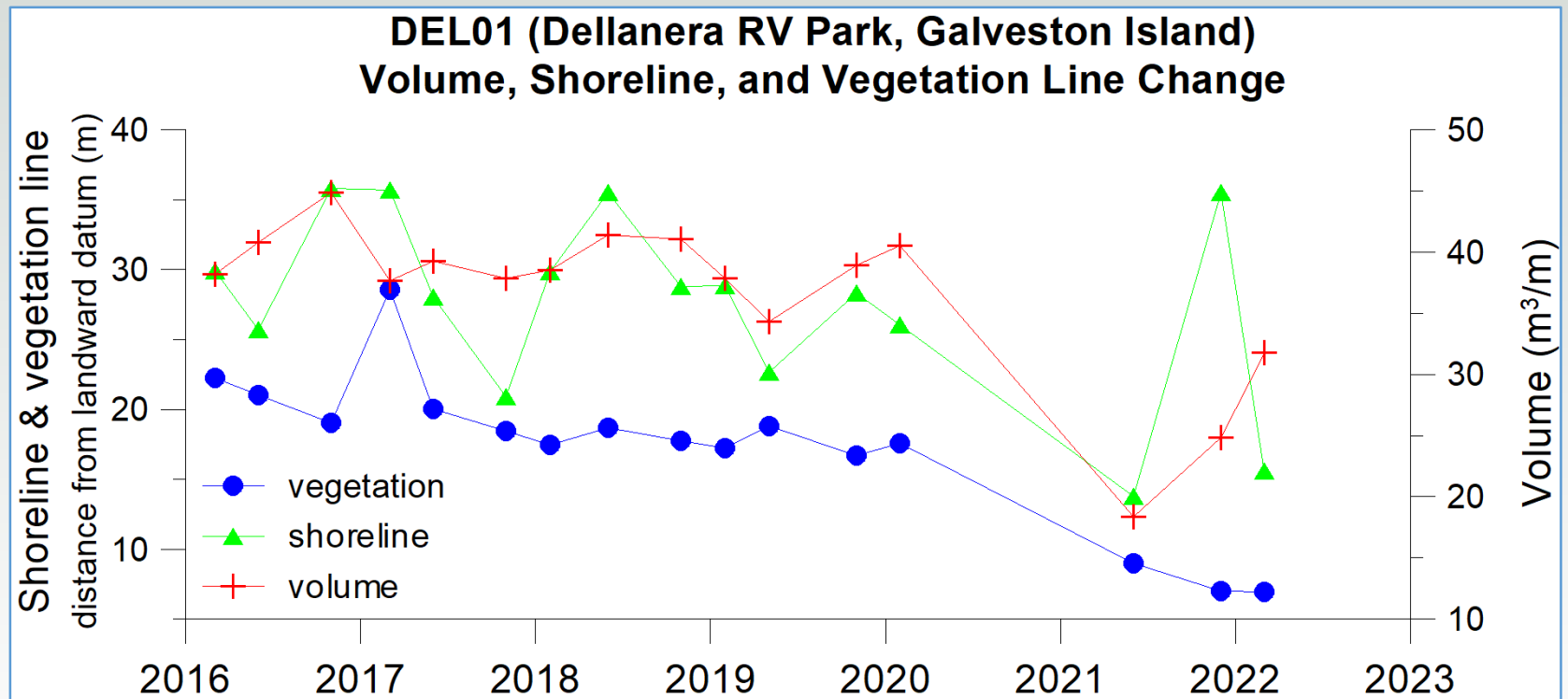
DEL01: fall 2019-winter 2022



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

