

Texas High School Coastal Monitoring Program at Port Isabel High School: 2023-2024

January 2025

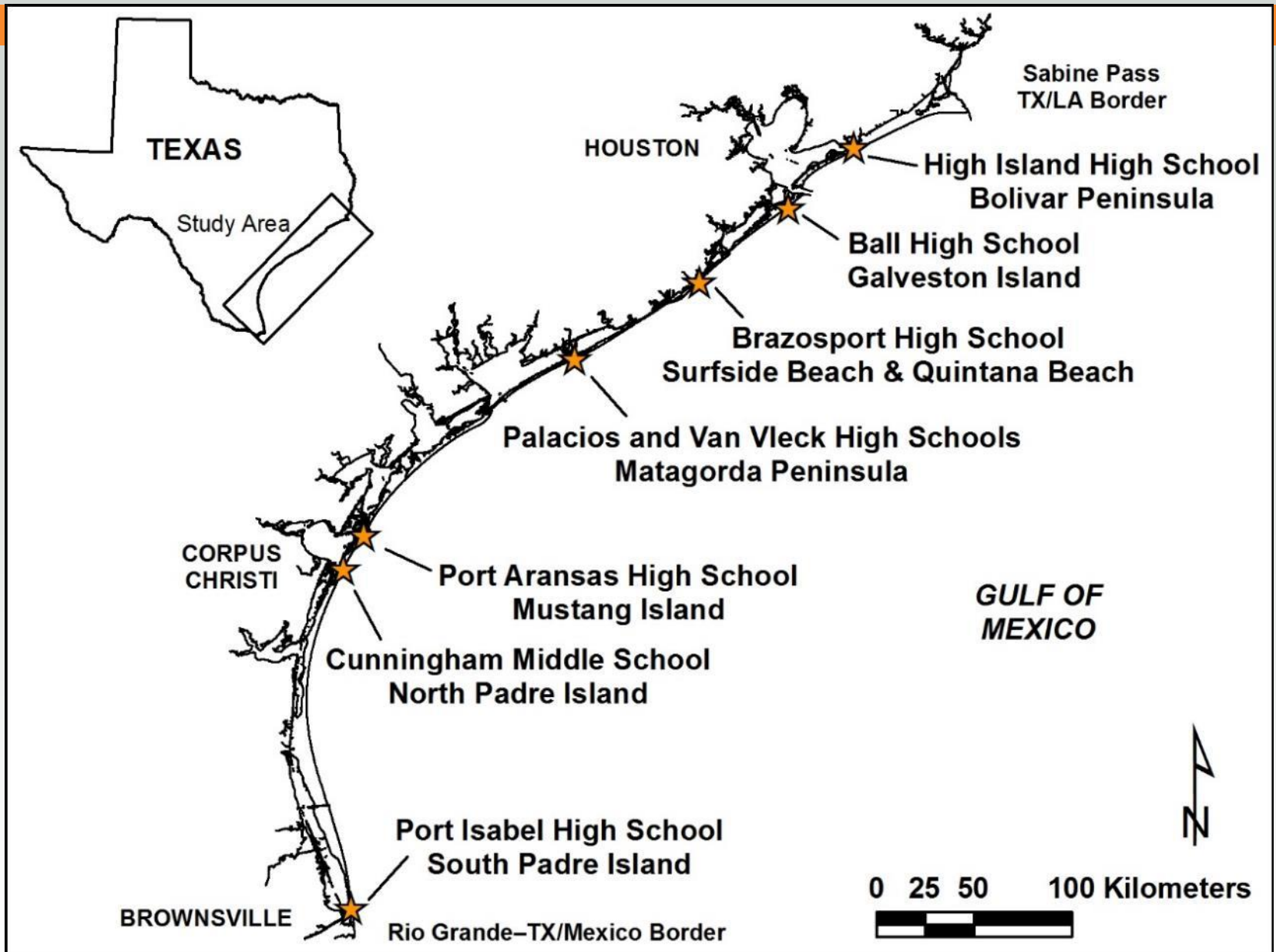


BUREAU OF
ECONOMIC
GEOLOGY

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.





**2023-2024: 23 field trips
with ~230 students**

**1997-2024
421 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

September 20, 2023



January 24, 2024



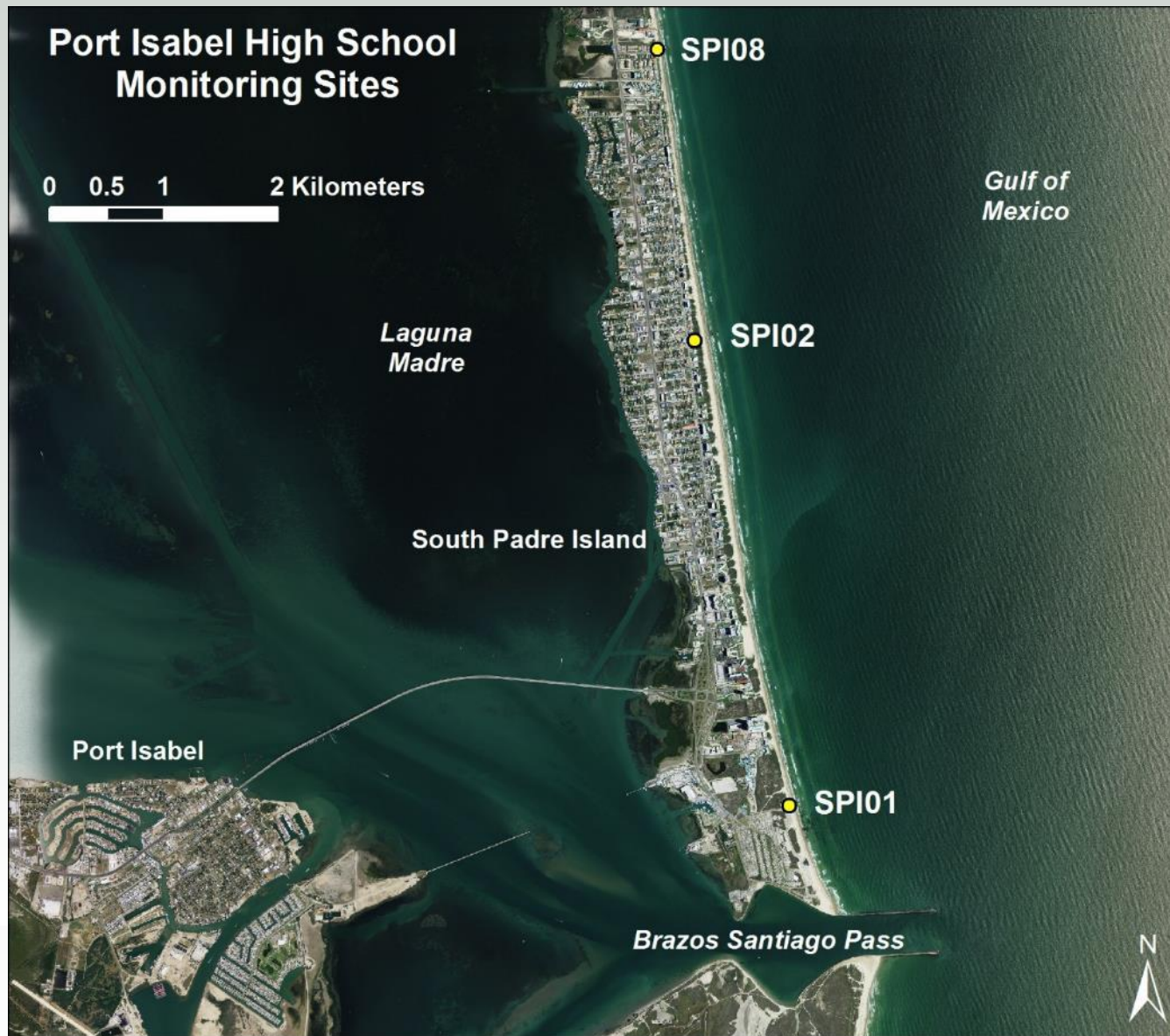
April 17, 2024



October 16, 2024



South Padre Island Study Sites



SPI08

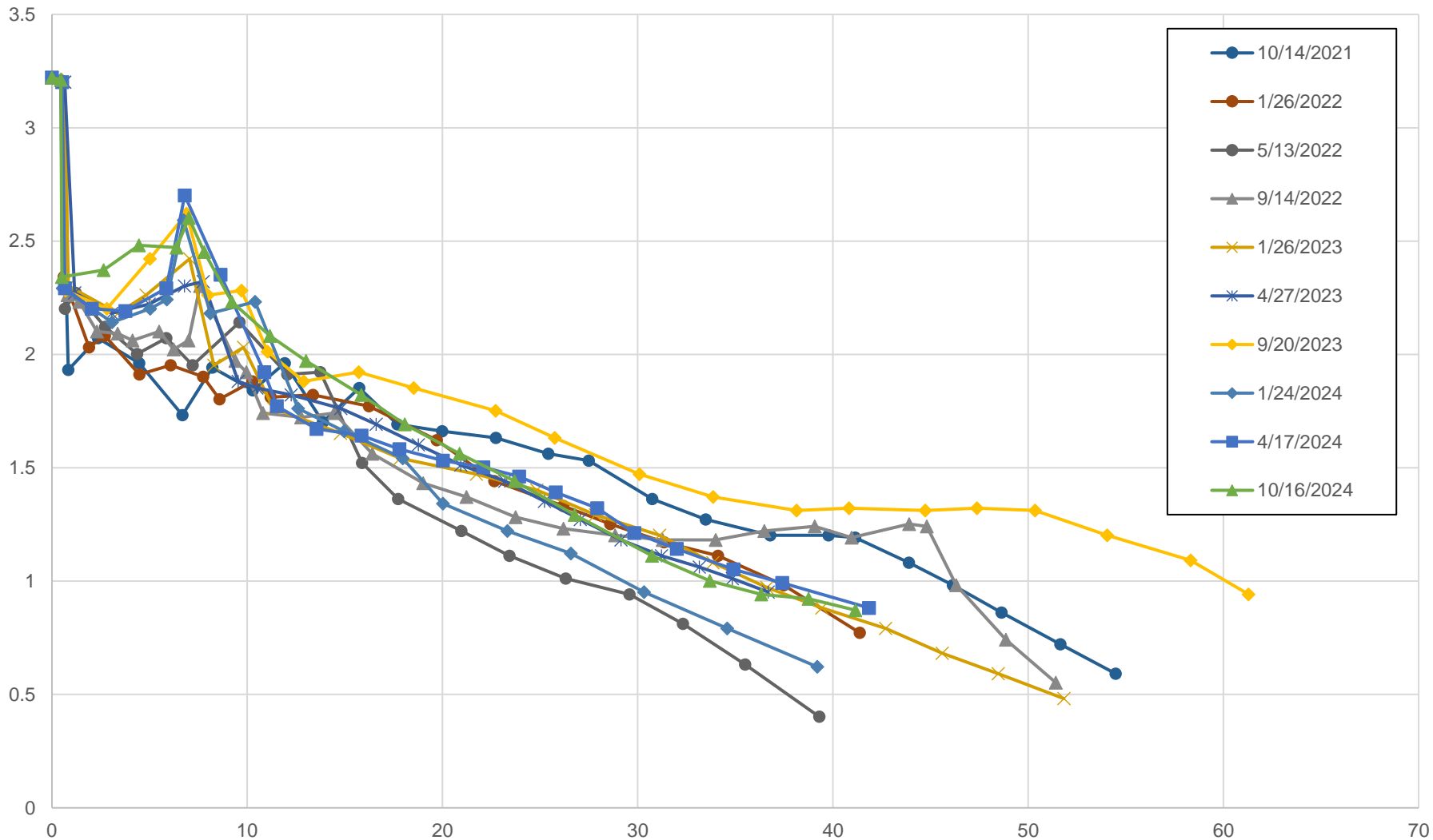
October 14, 2021



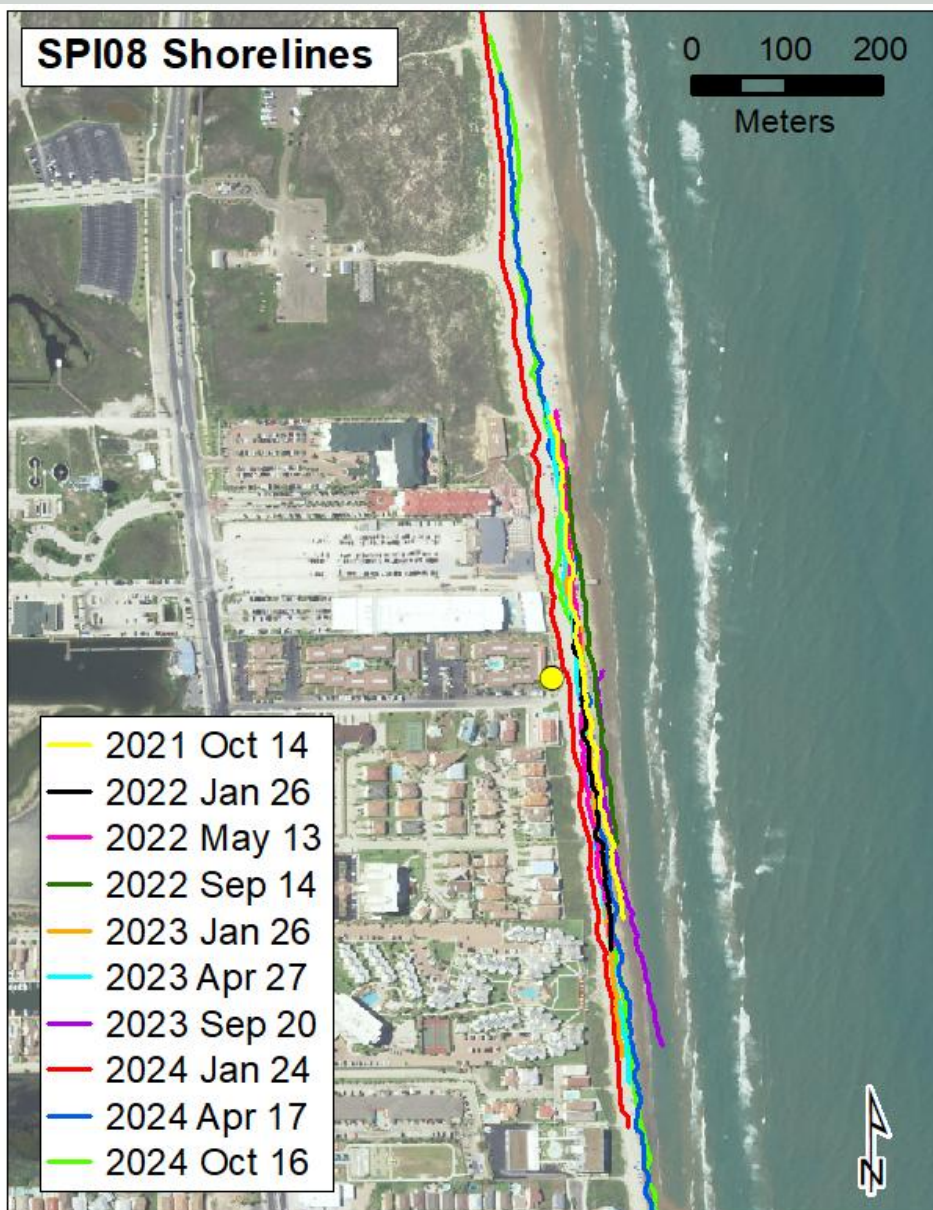
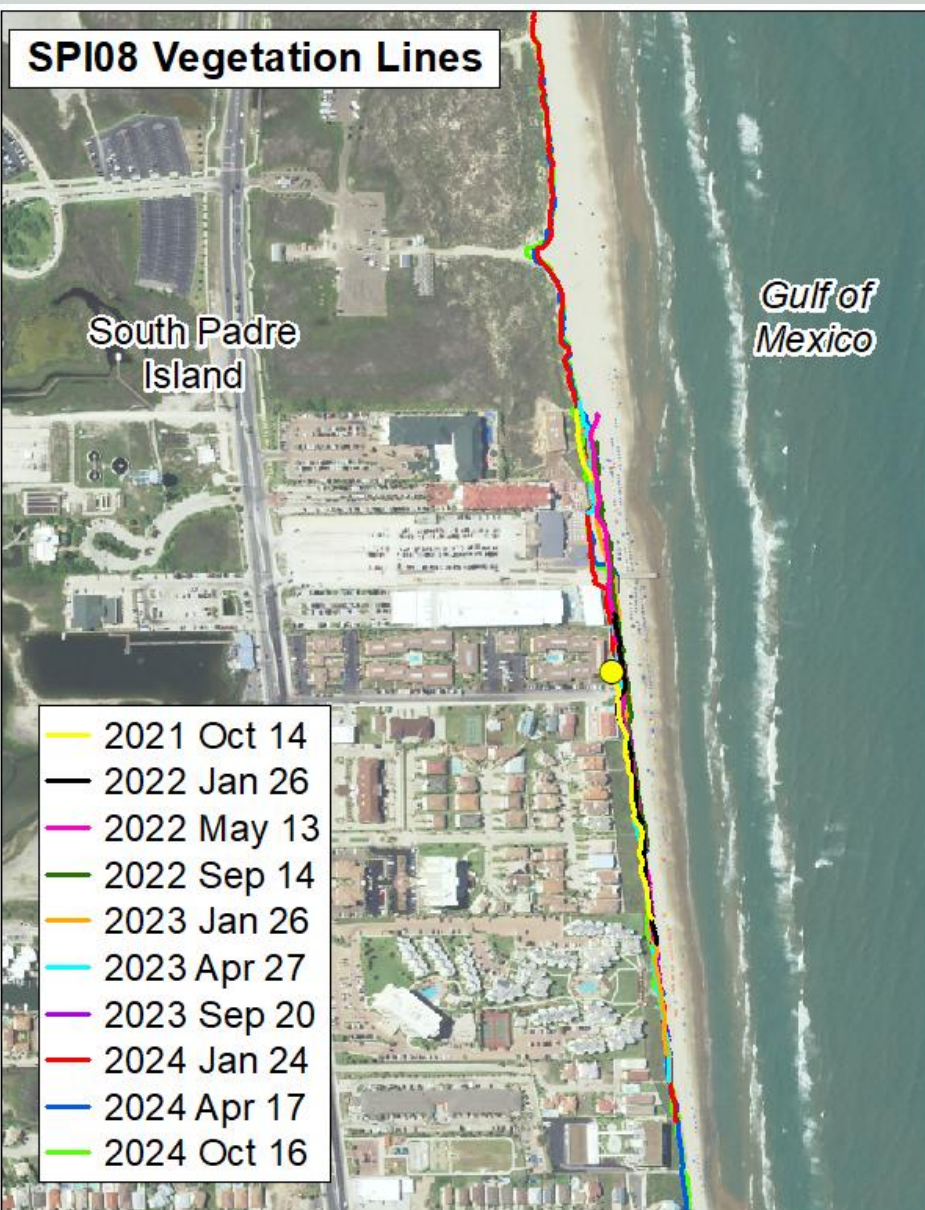
October 16, 2024



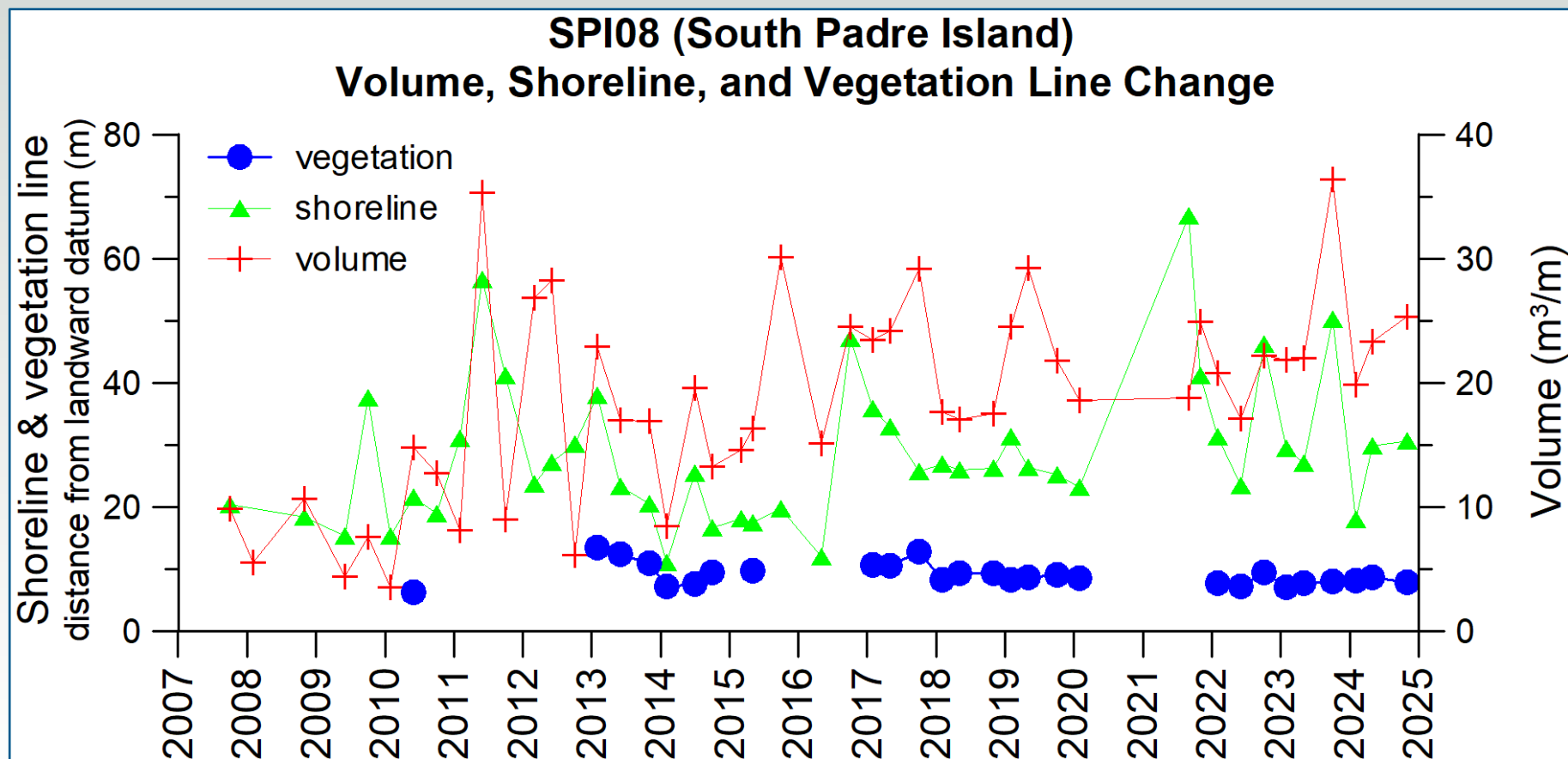
SPI08: fall 2021-fall 2024



SPI08 shore and vegetation line positions



SPI08: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

SPI02

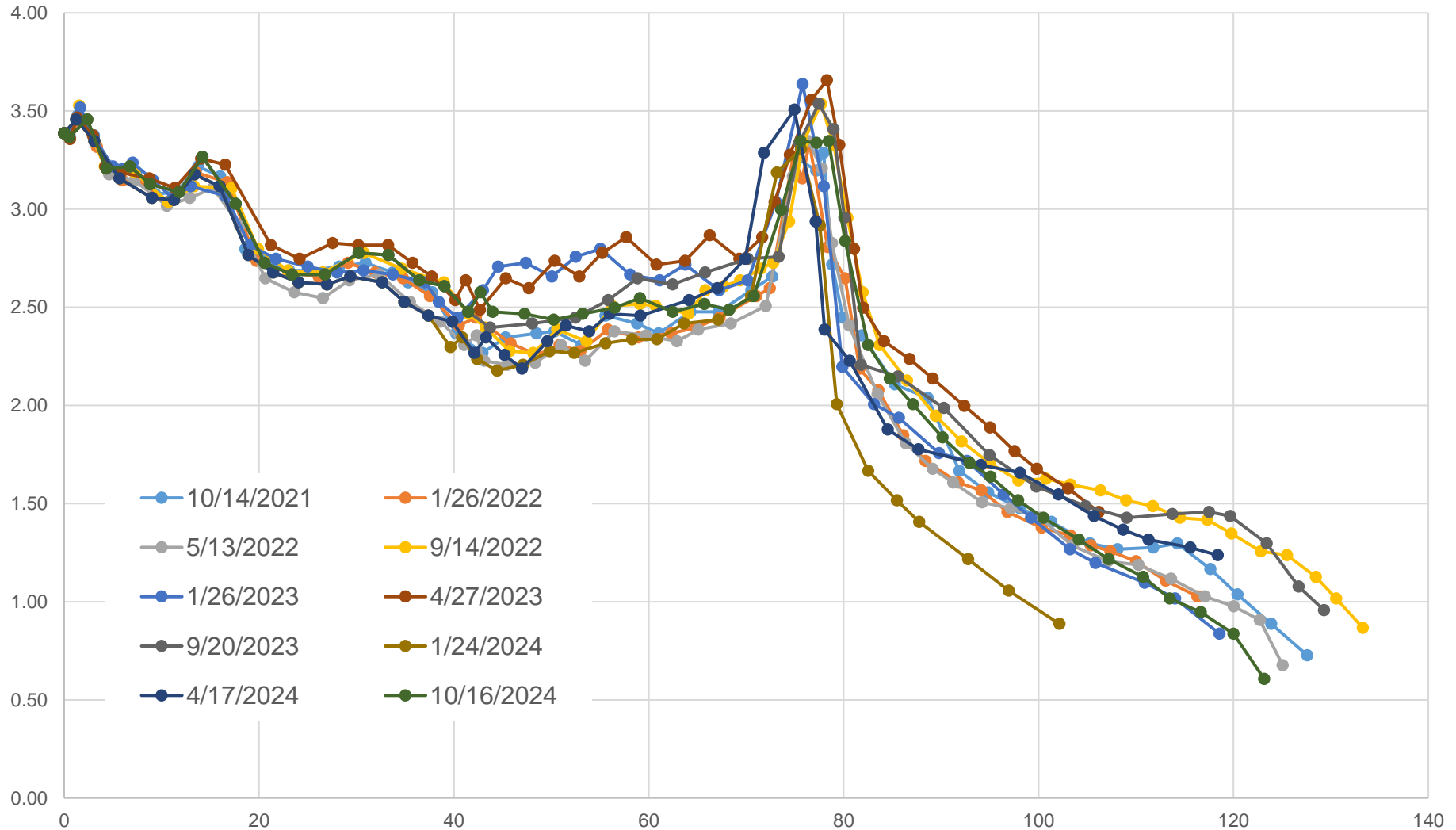
October 14, 2021



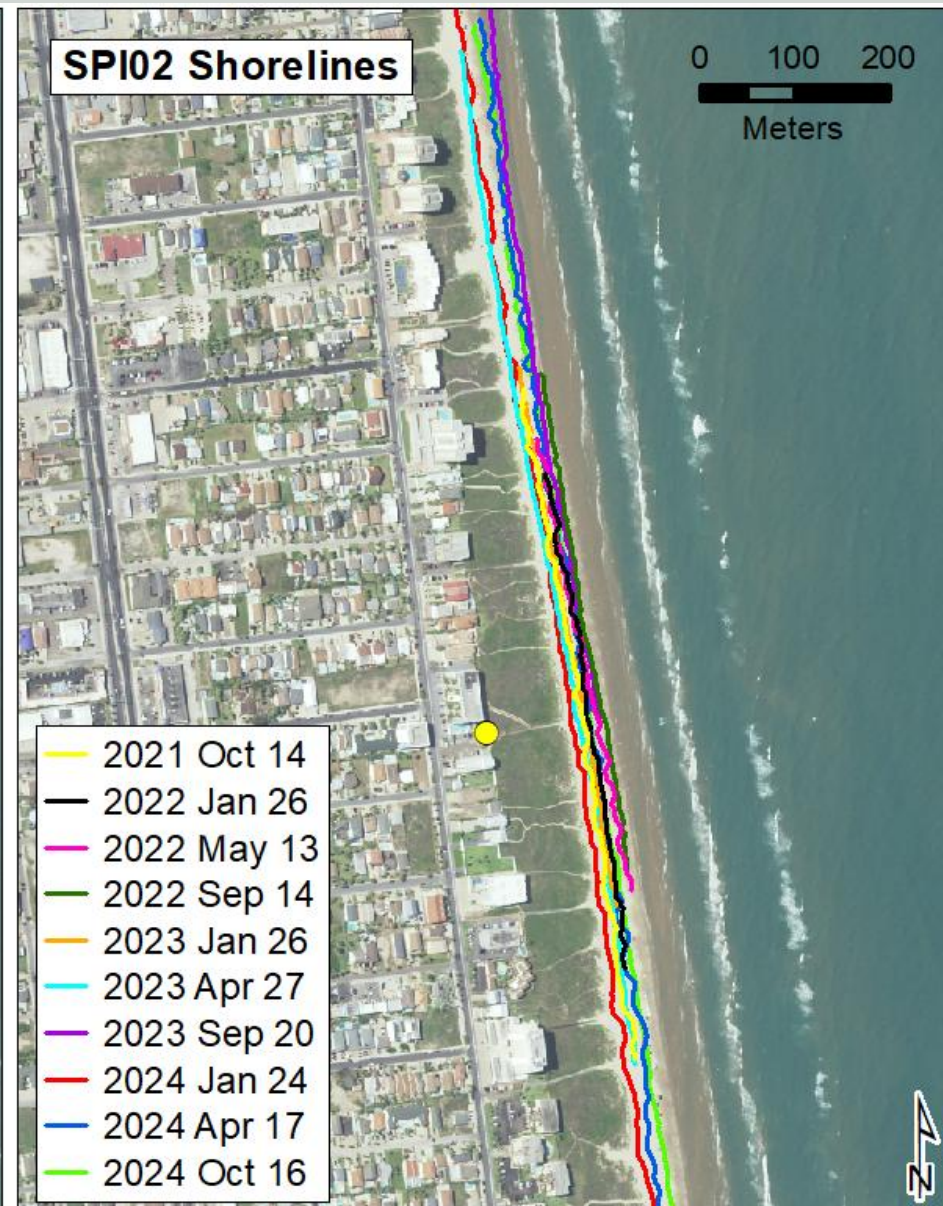
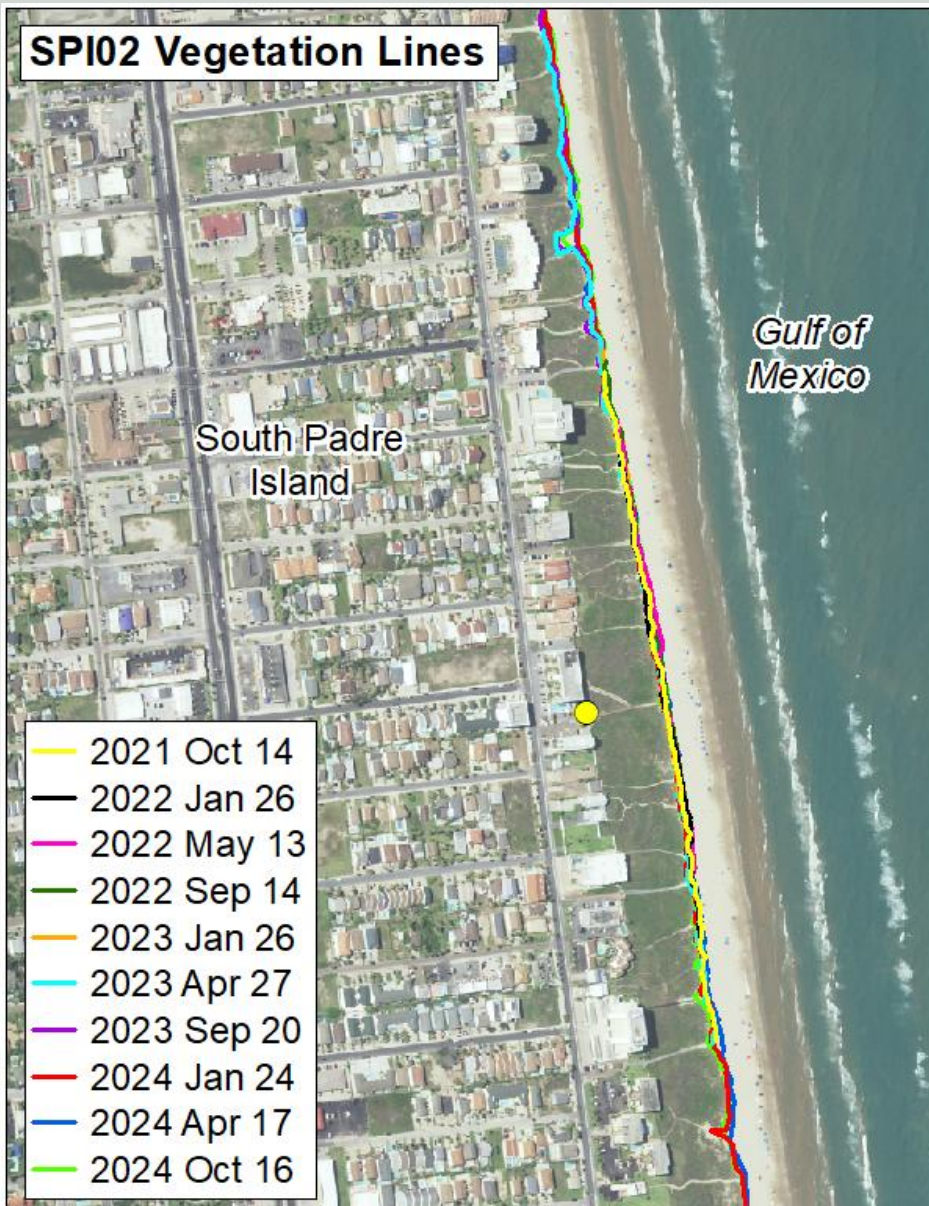
October 16, 2024



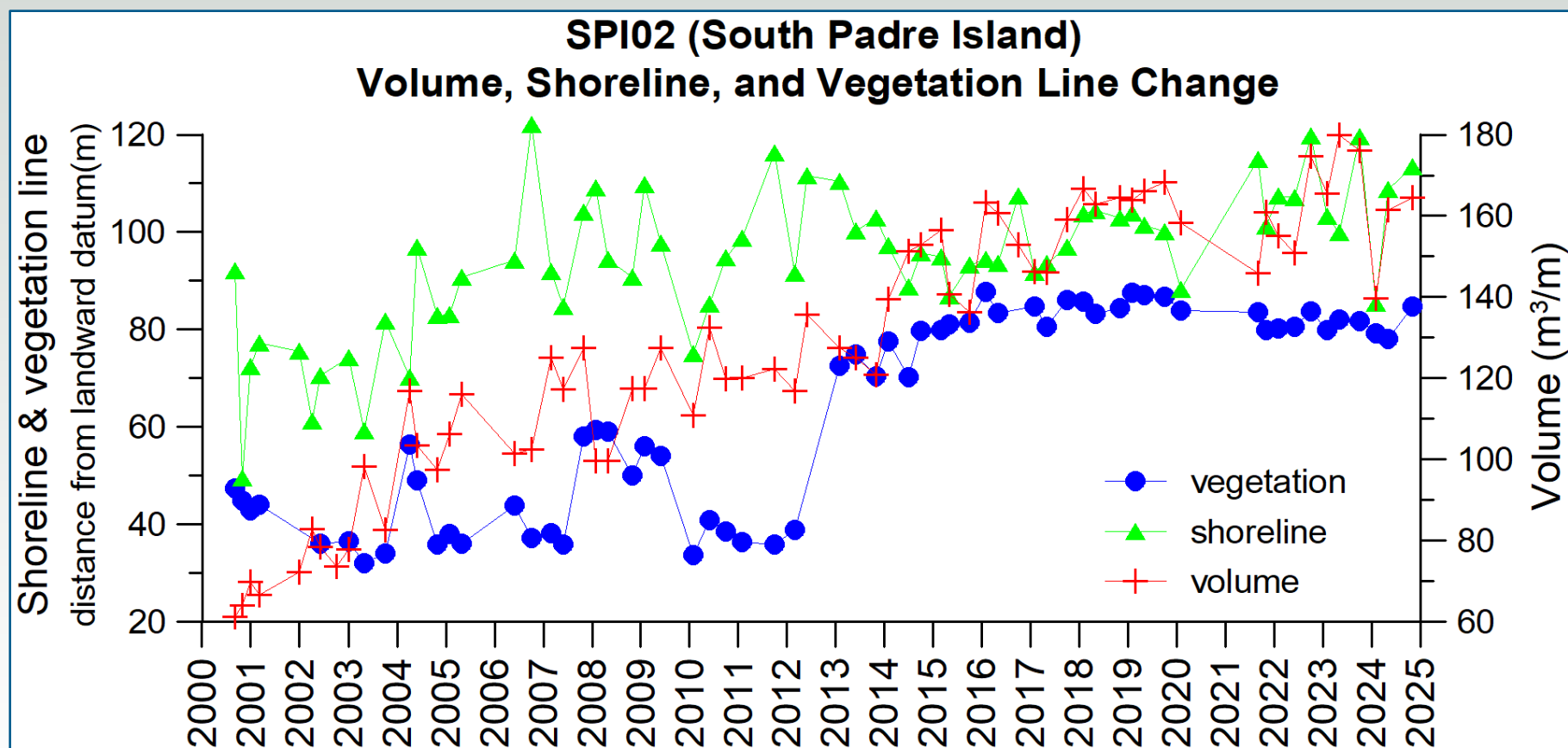
SPI02: fall 2021-fall 2024



SPI02 shore and vegetation line positions



SPI02: shoreline, vegetation line, and volume changes

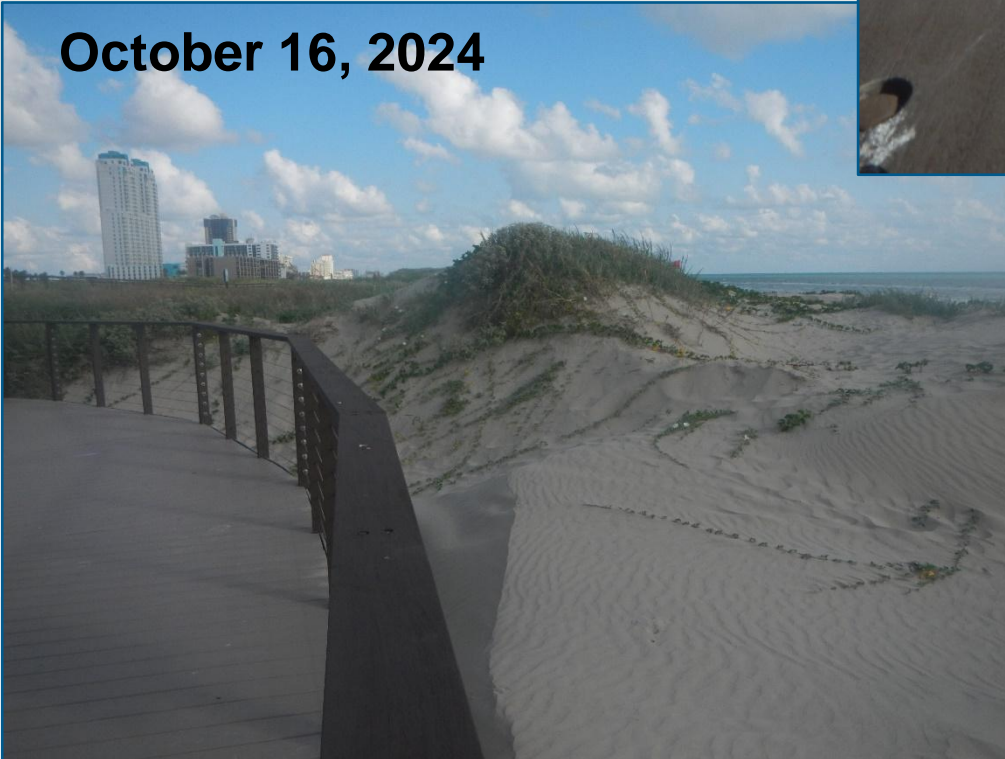


Sediment volume was calculated above 1 meter NAVD88.

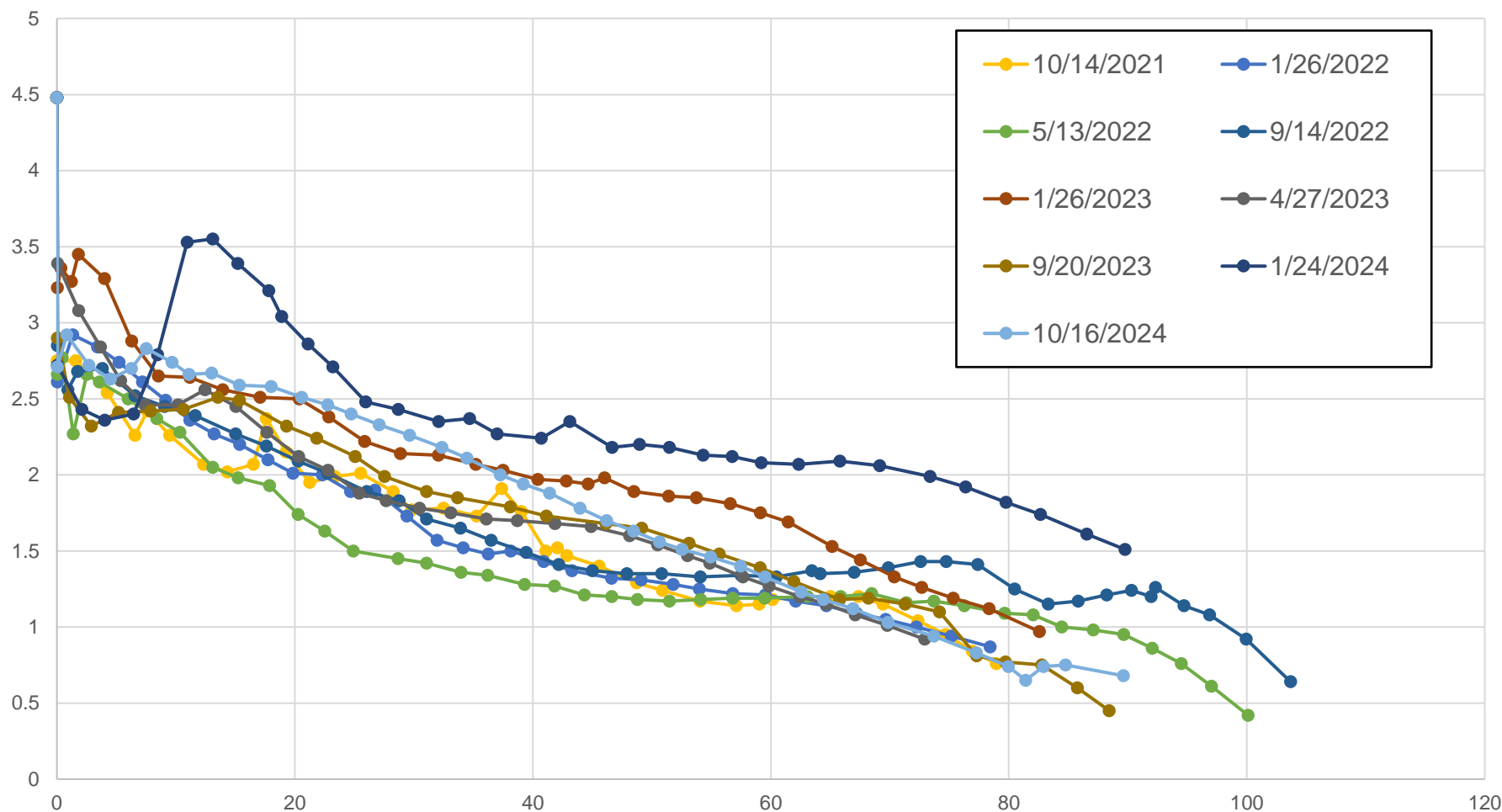
SPI01



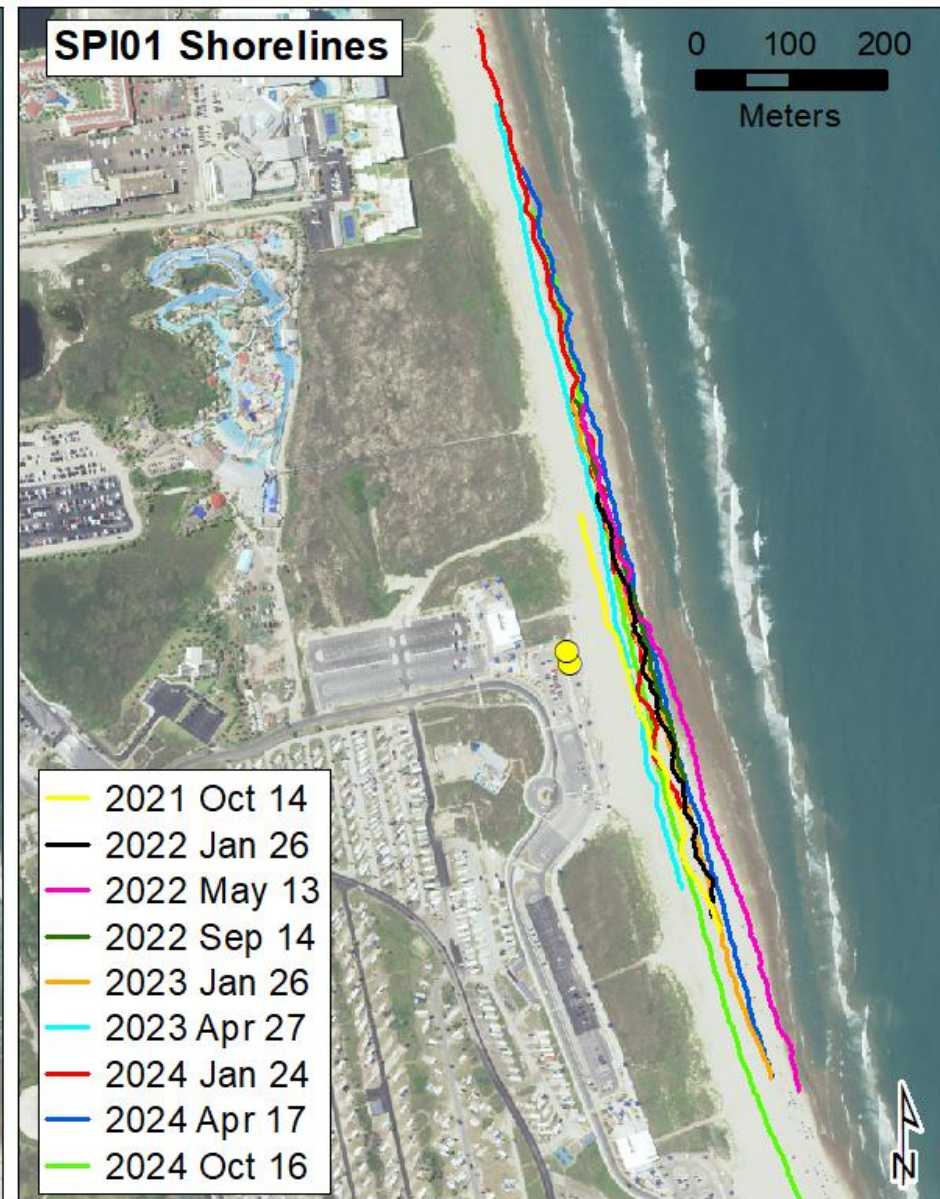
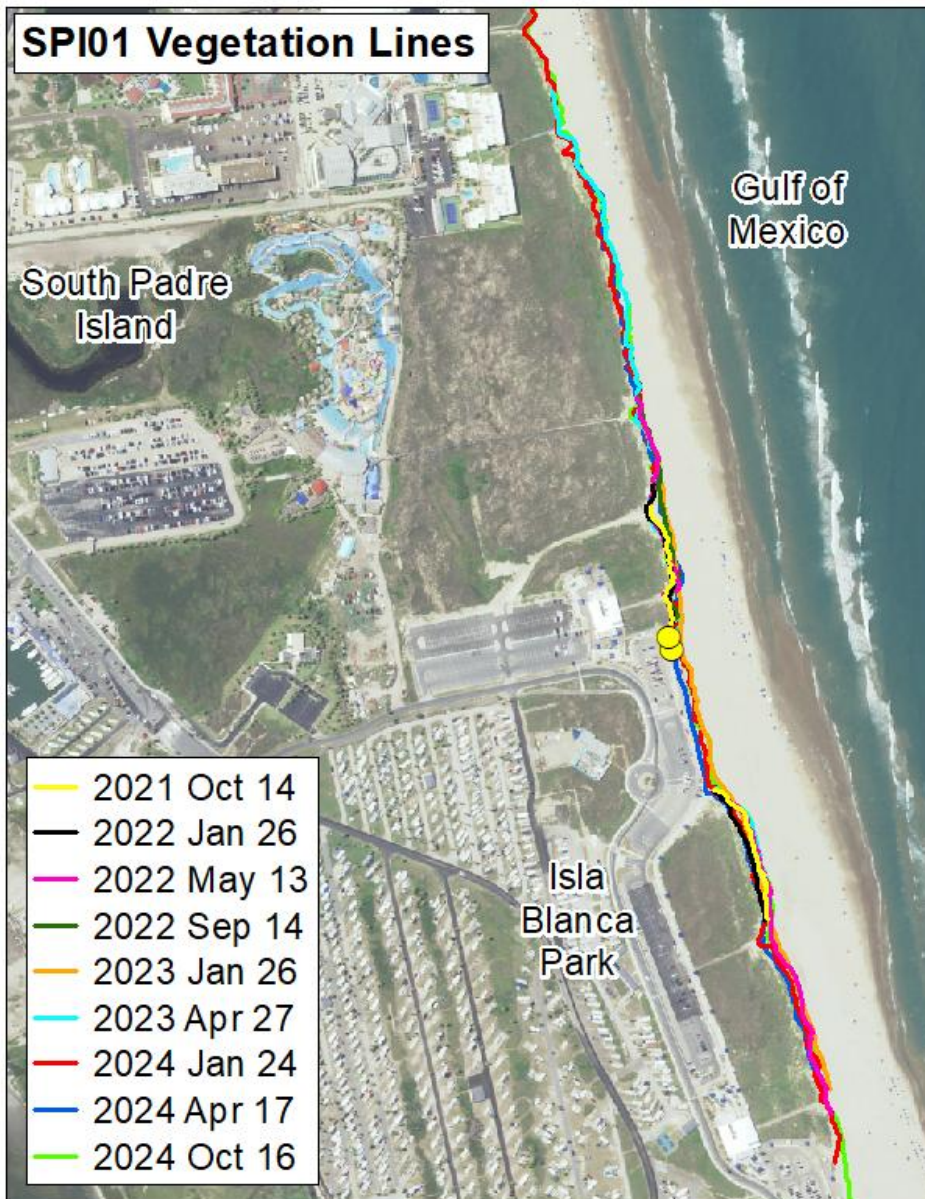
October 16, 2024



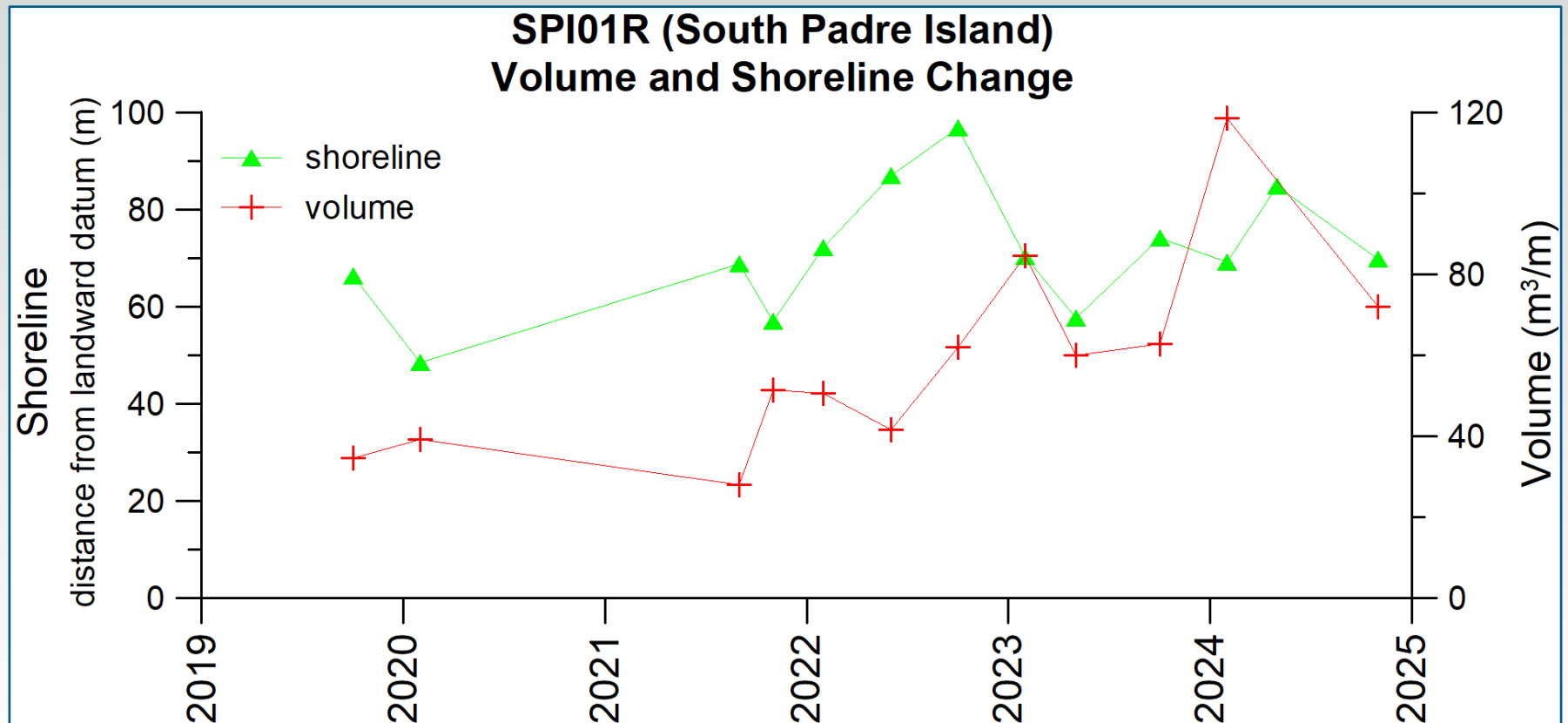
SPI01R: fall 2021-fall 2024



SPI01 shore and vegetation line positions



SPI01R: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.