Texas High School Coastal Monitoring Program at Port Isabel High School: 2024-2025

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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 public.

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

TEXAS A&M UNIVERSITY CORPUS CHRISTI | HARTE RESEARCH INSTITUTE FOR GULF OF MEXICO STUDIES

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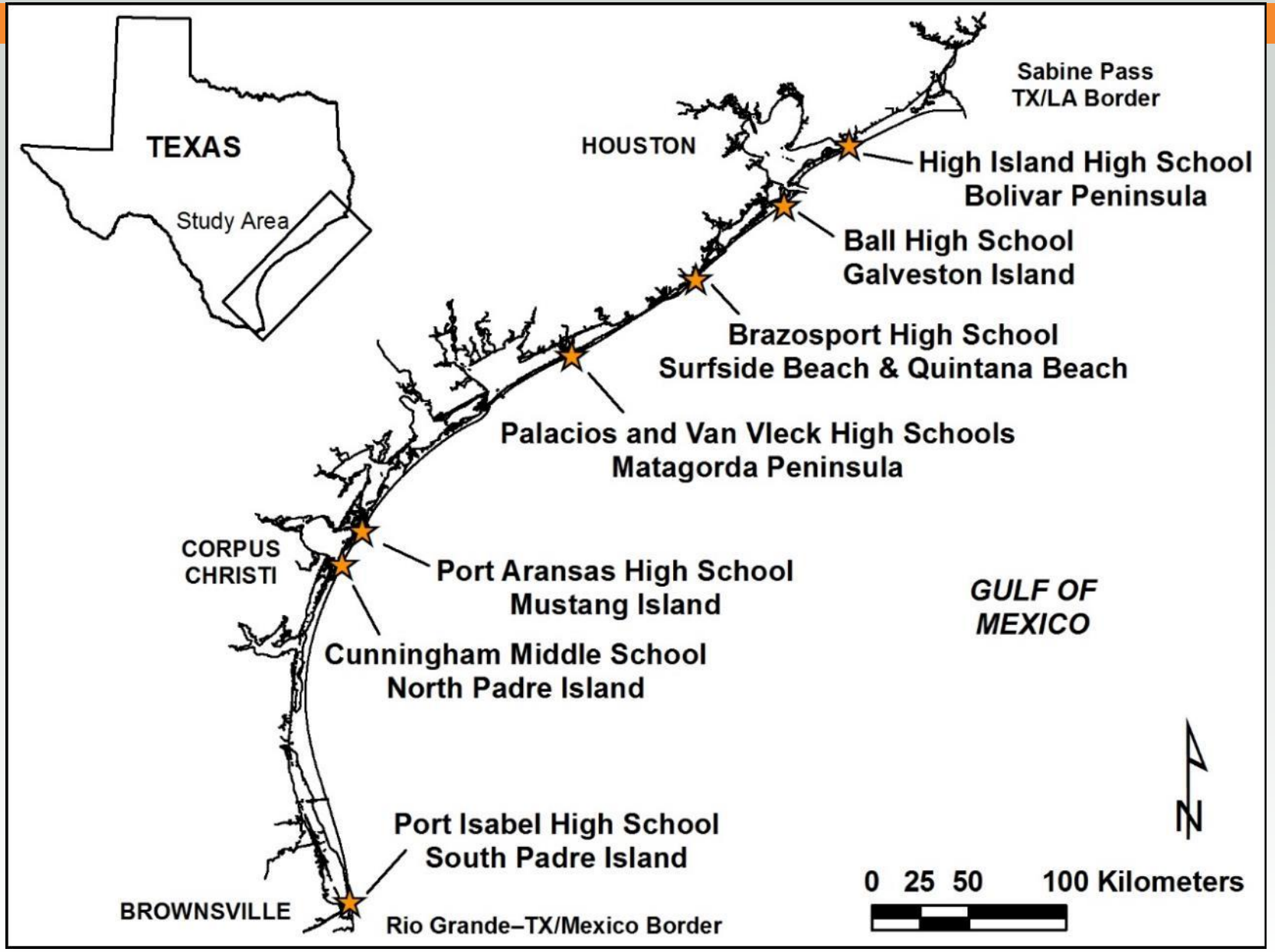

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2024-2025: 23 field trips with ~220 students

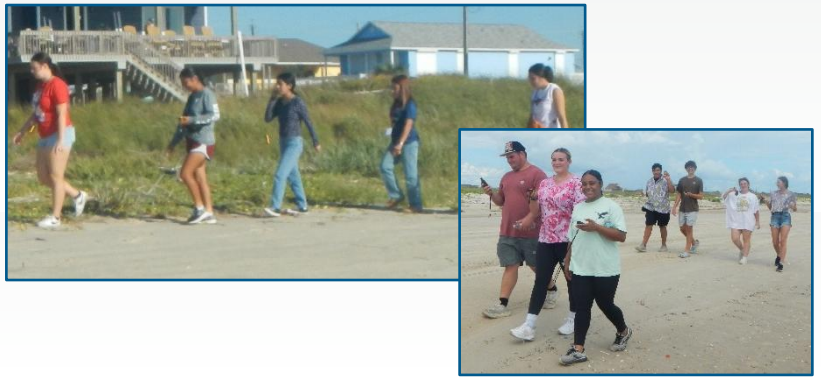
1997-2025 444 field trips

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



2024-2025 field trips

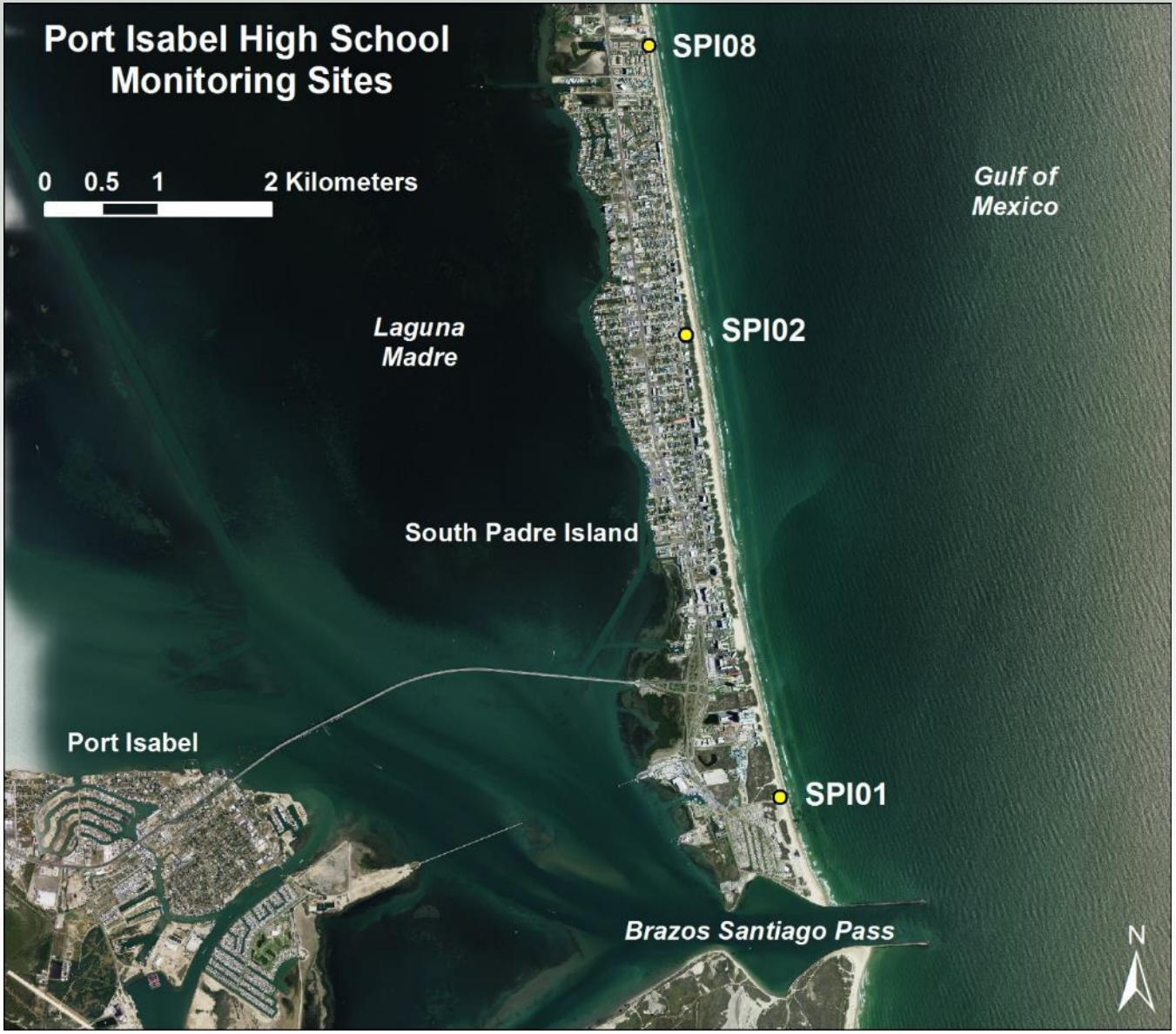
October 16, 2024

January 16, 2025

April 24, 2025

September 24, 2025

South Padre Island Study Sites



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SPI08

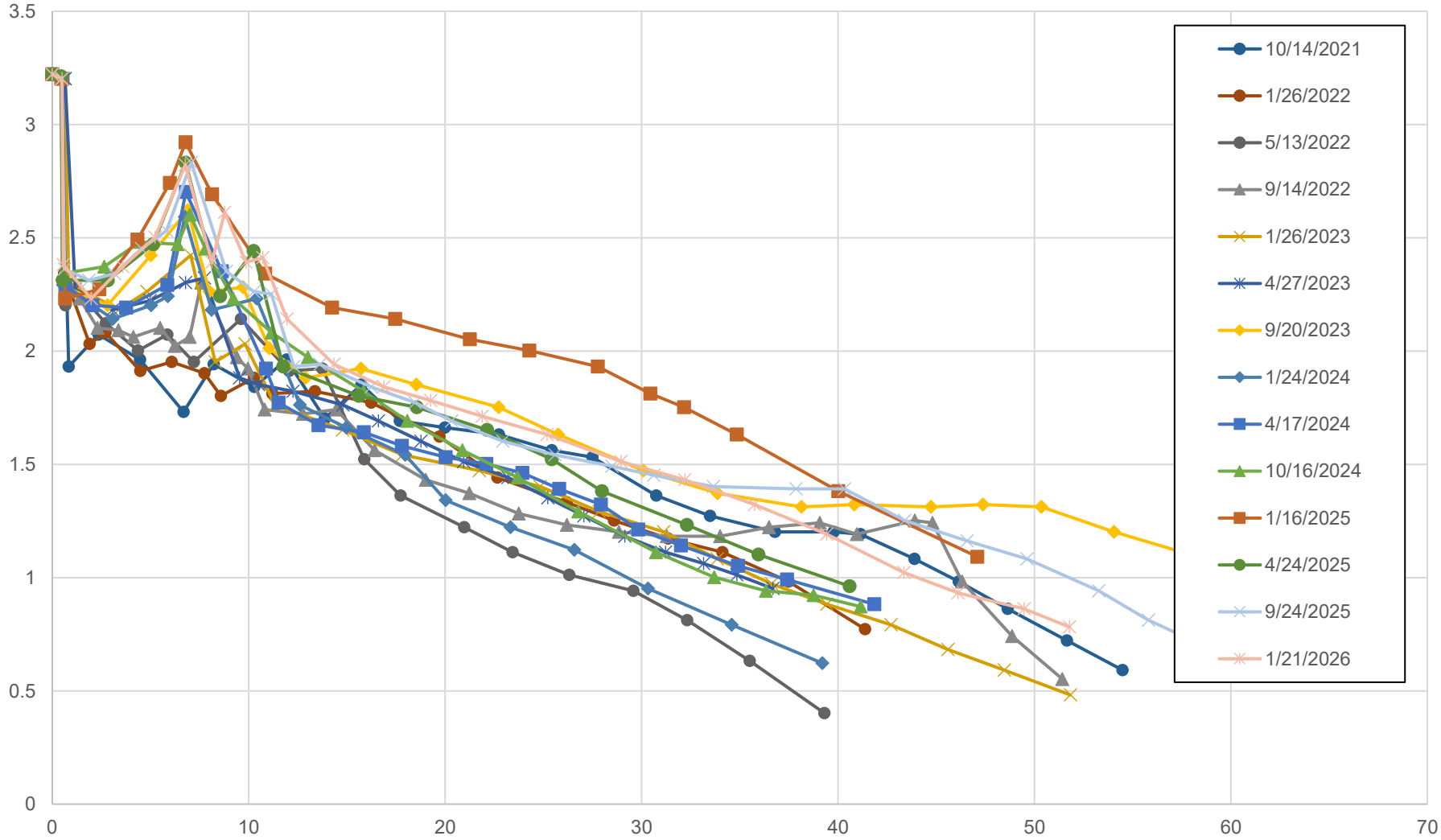

October 16, 2024
Dunes and veg looking north


January 16, 2025
Wet/dry line looking north

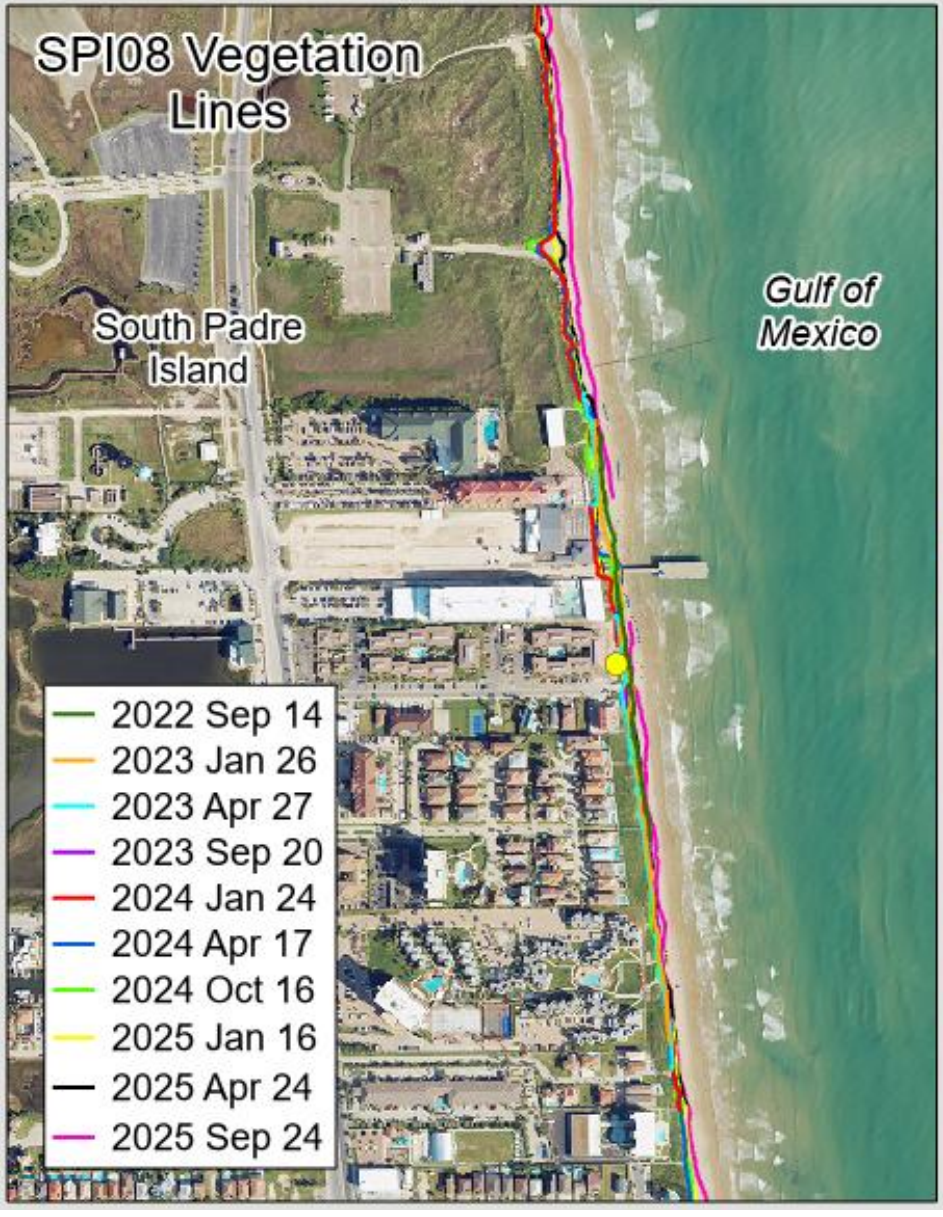

April 24, 2025
View toward Gulf

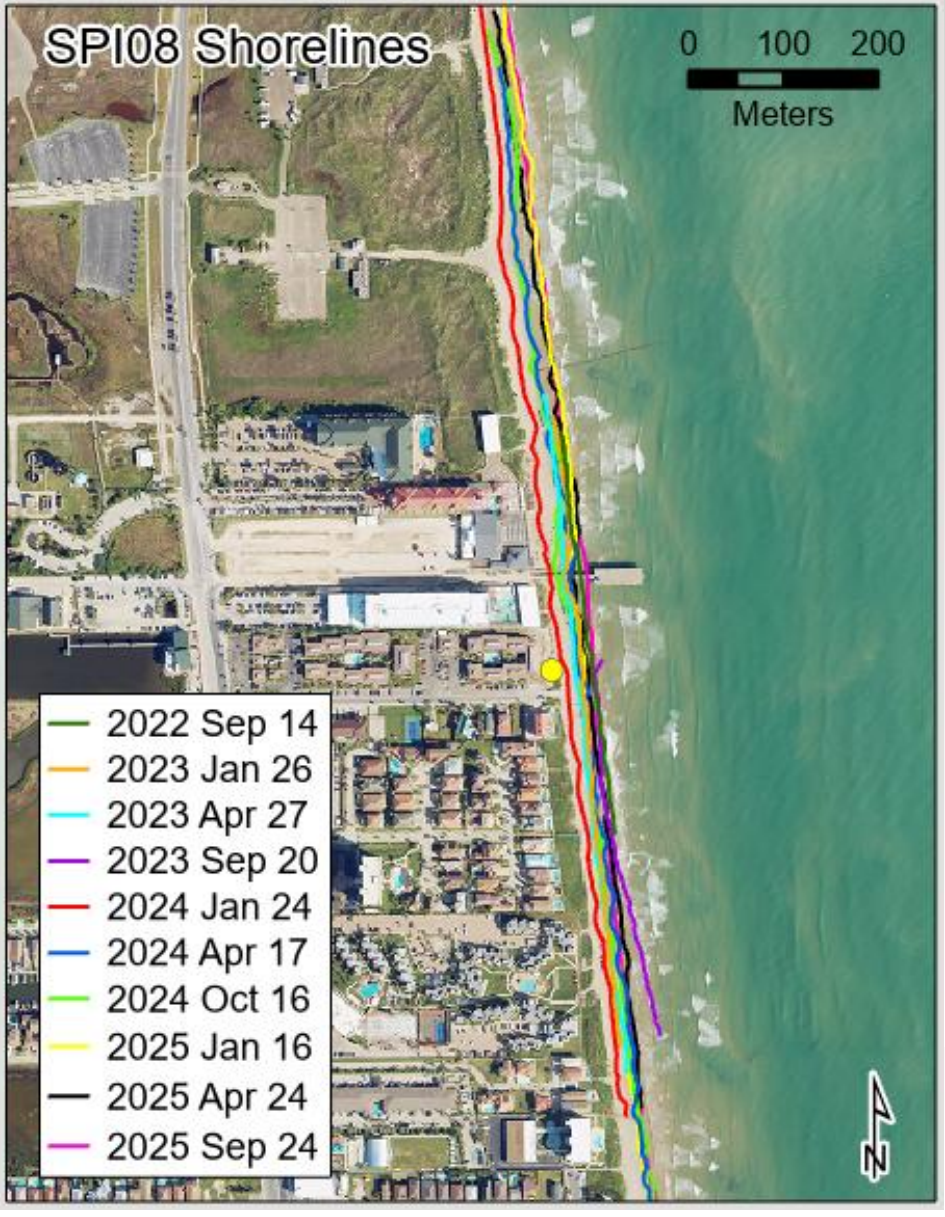

September 24, 2025
Waterline looking toward datum

SPI08: fall 2021-fall 2025

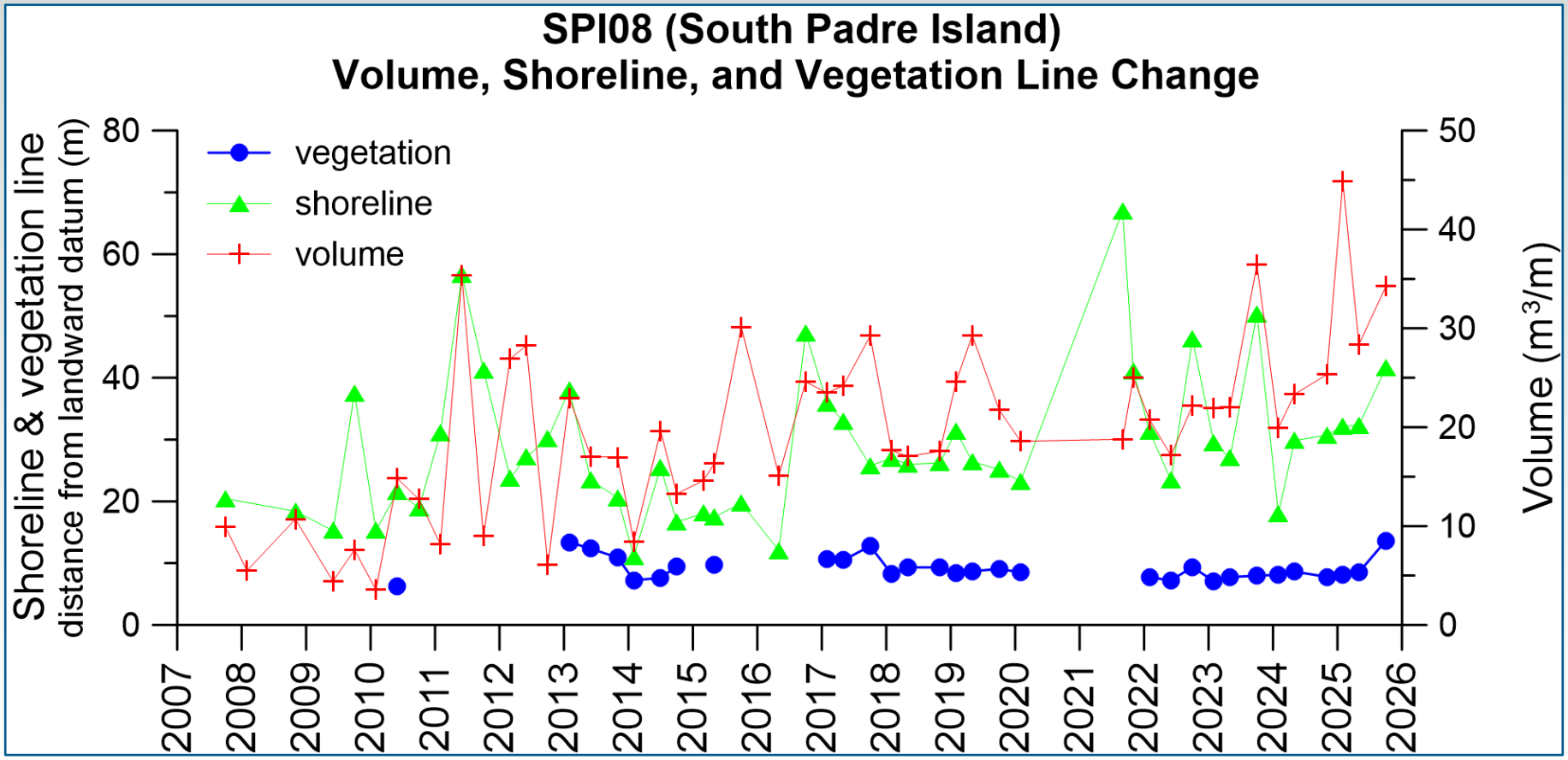


SPI08 shore and vegetation line positions





SPI08: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

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SPI02

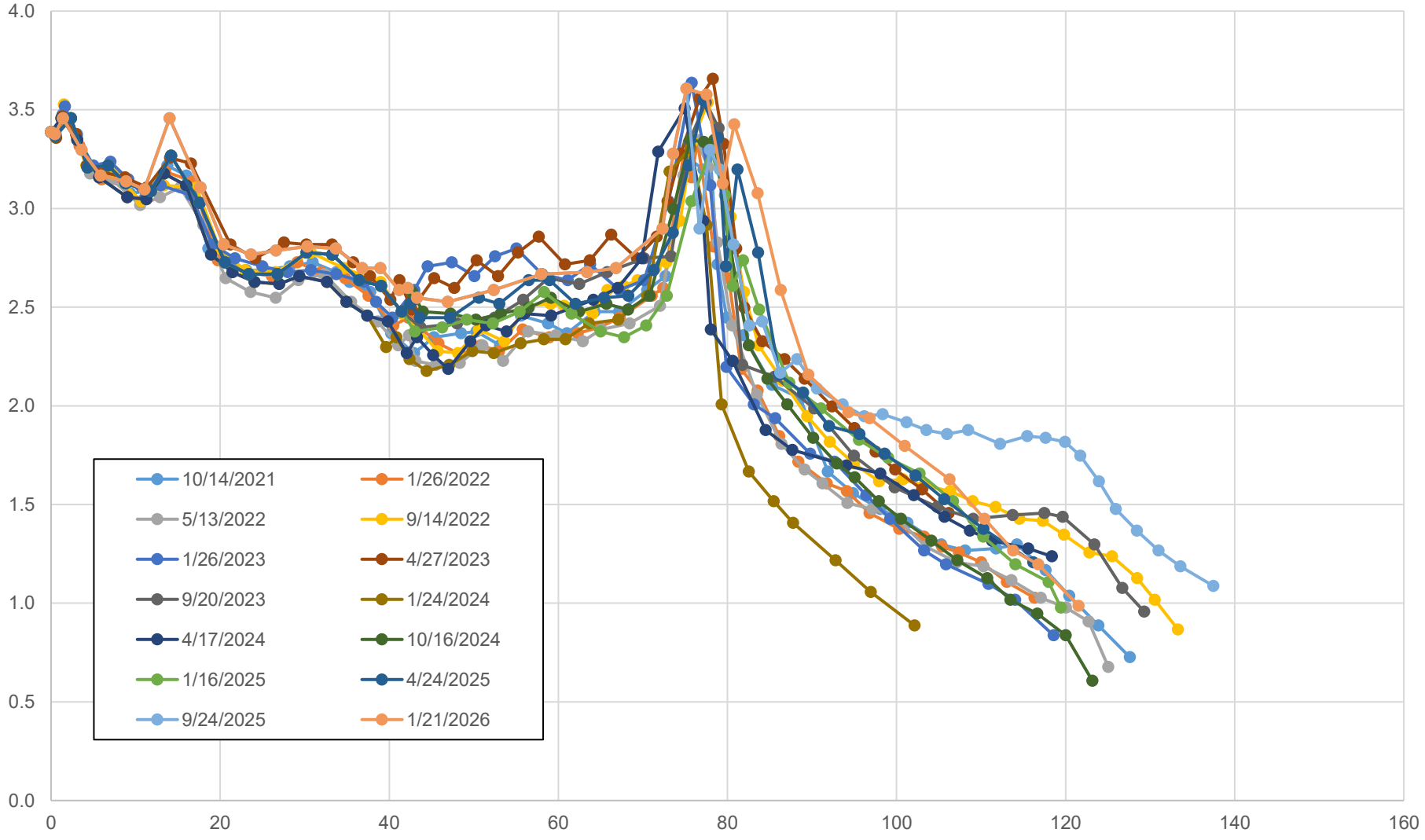

October 16, 2024
Dunes looking north


January 16, 2025
Beach looking north


April 24, 2025
Vegetation line


September 24, 2025
View toward Gulf

SPI02: fall 2021-fall 2025



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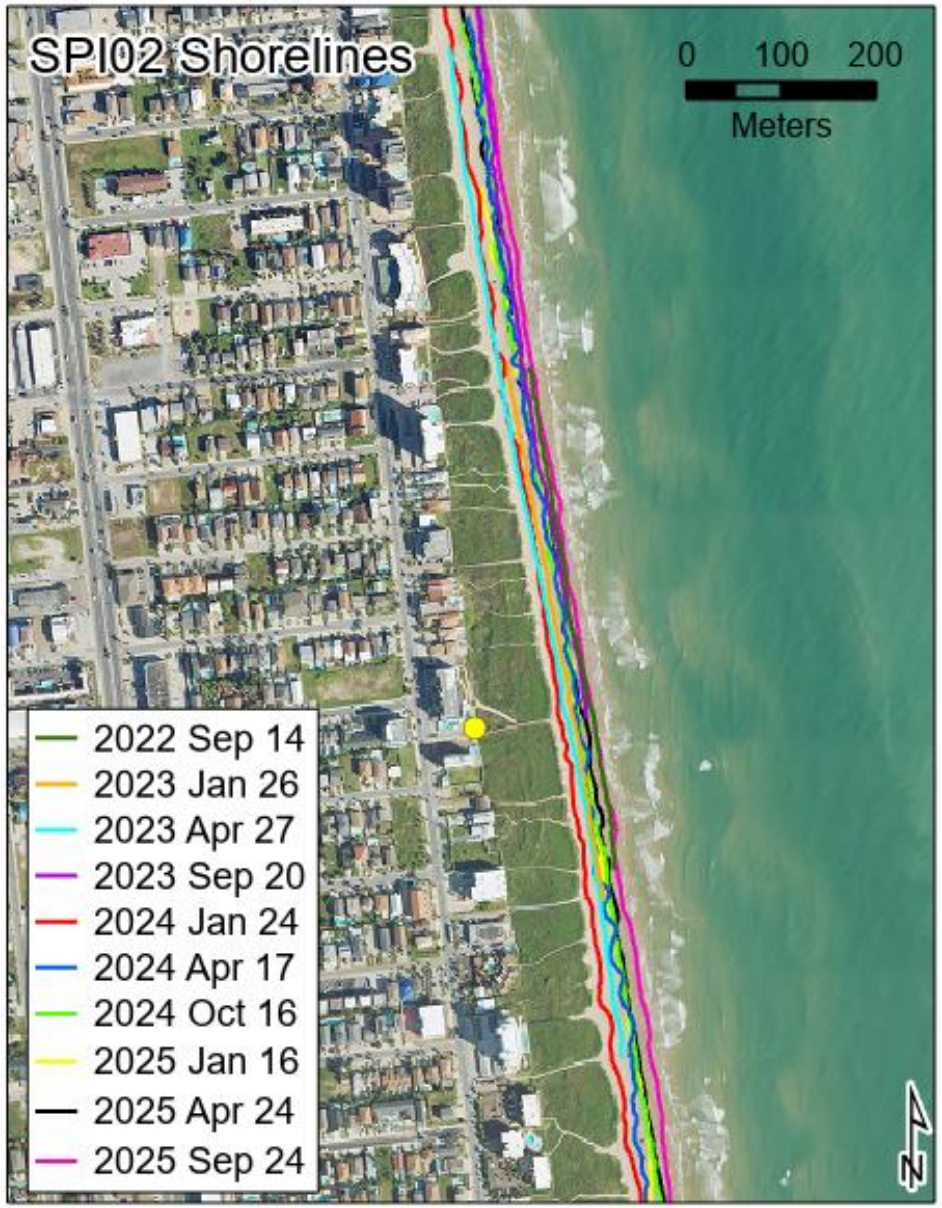
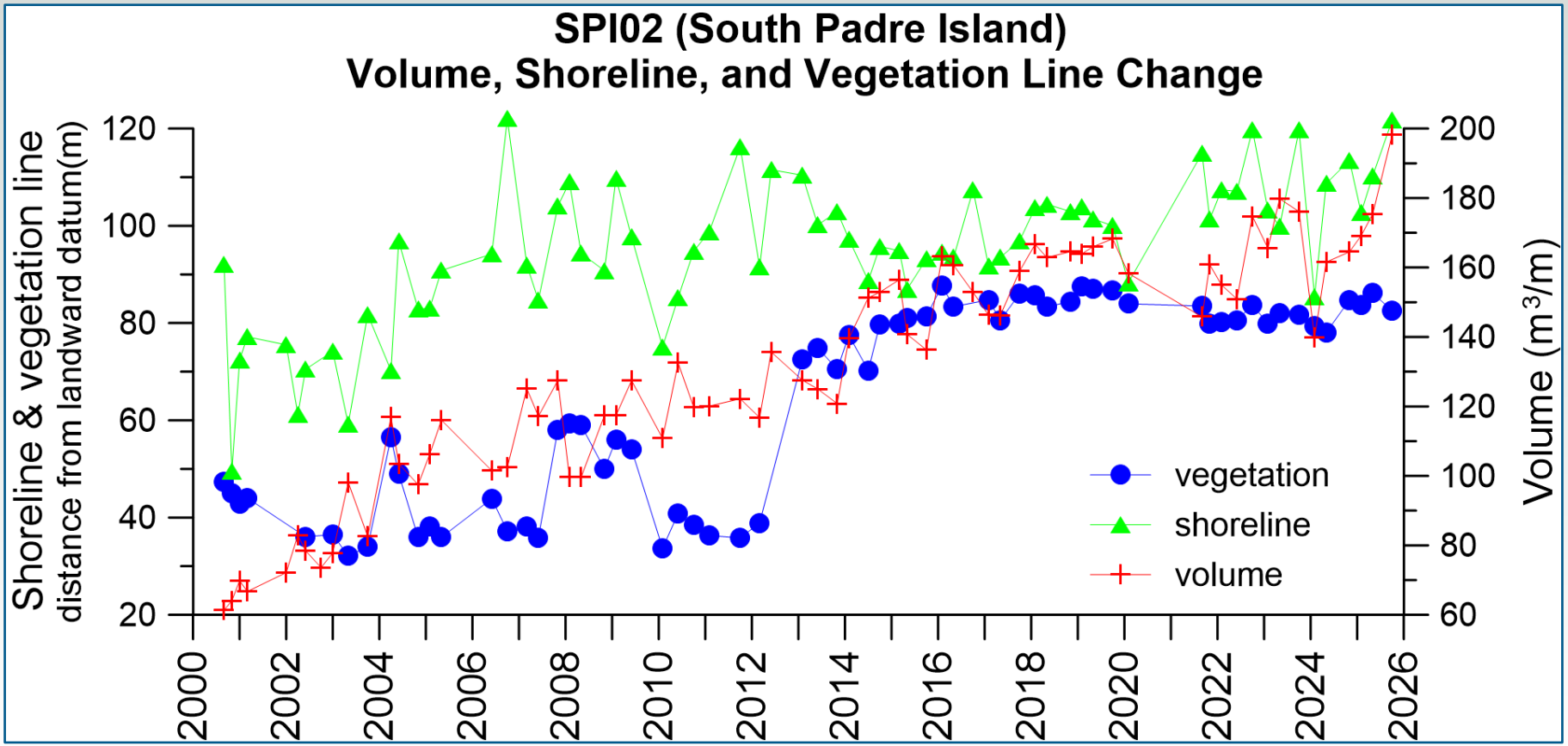
SPI02 shore and vegetation line positions



SPI02: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

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SPI01

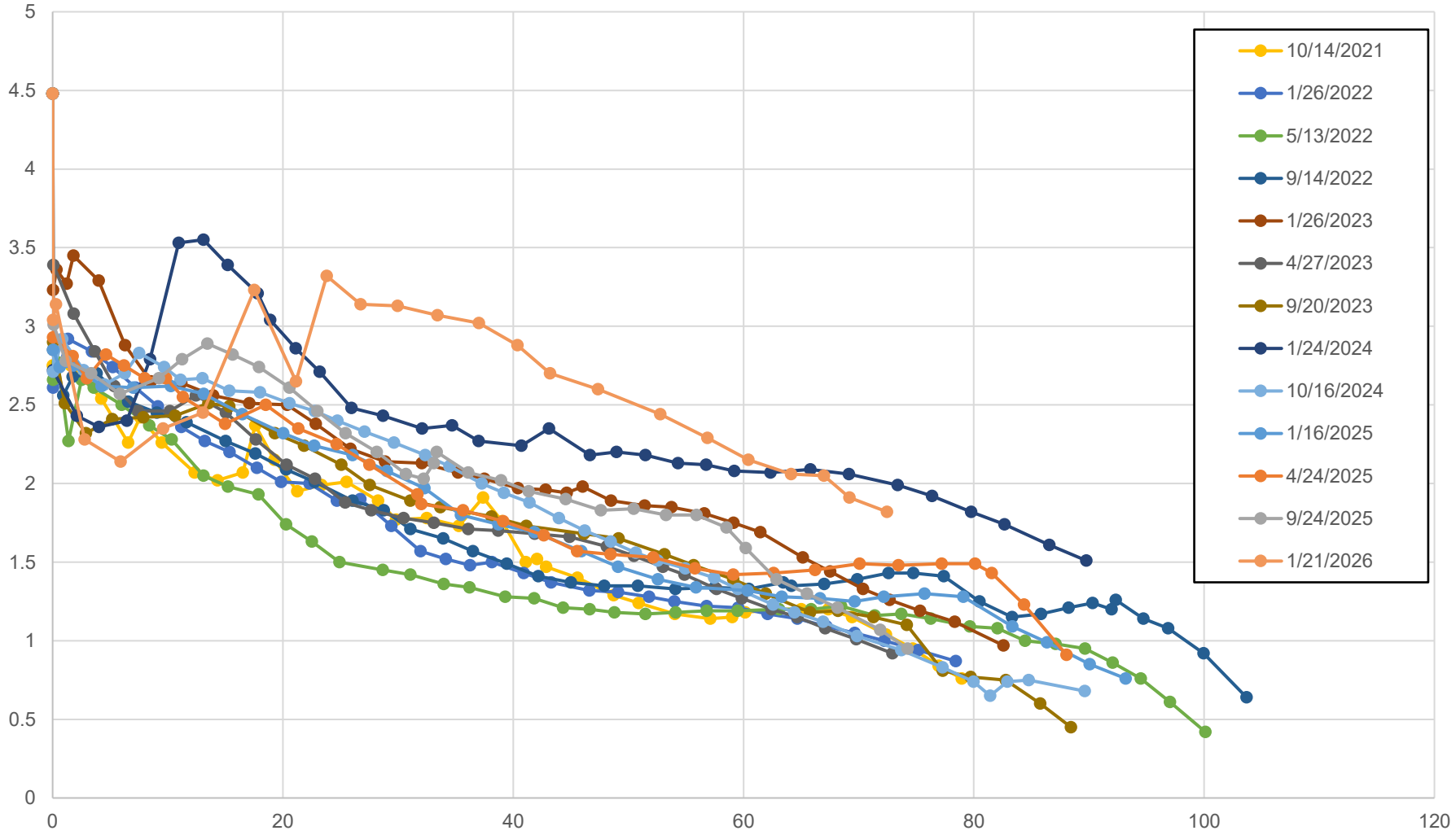

October 16, 2024
View toward Gulf


January 16, 2025
Veg line looking north


April 24, 2025
Backbeach looking north


September 24, 2025
View from waterline

SPI01R: fall 2021-fall 2025



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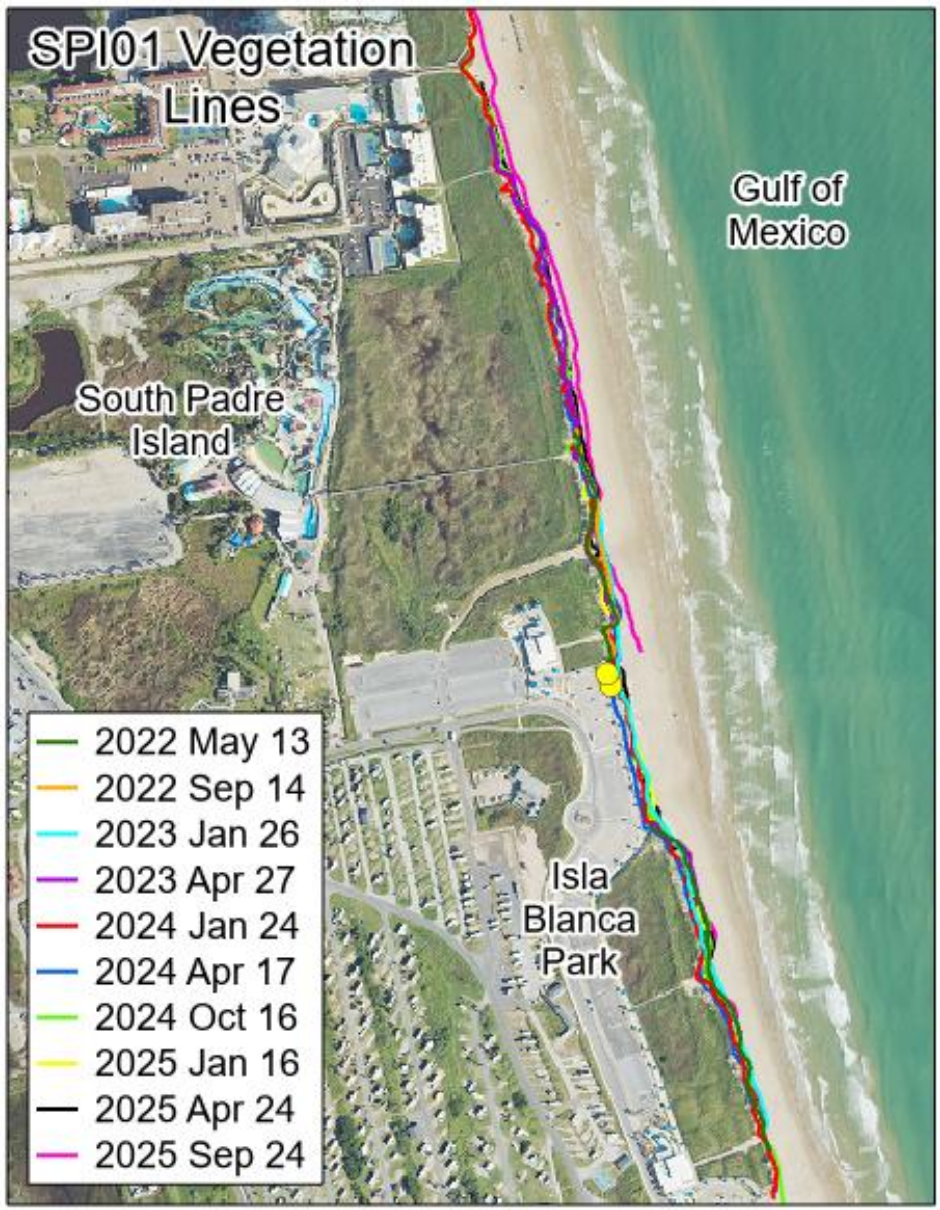
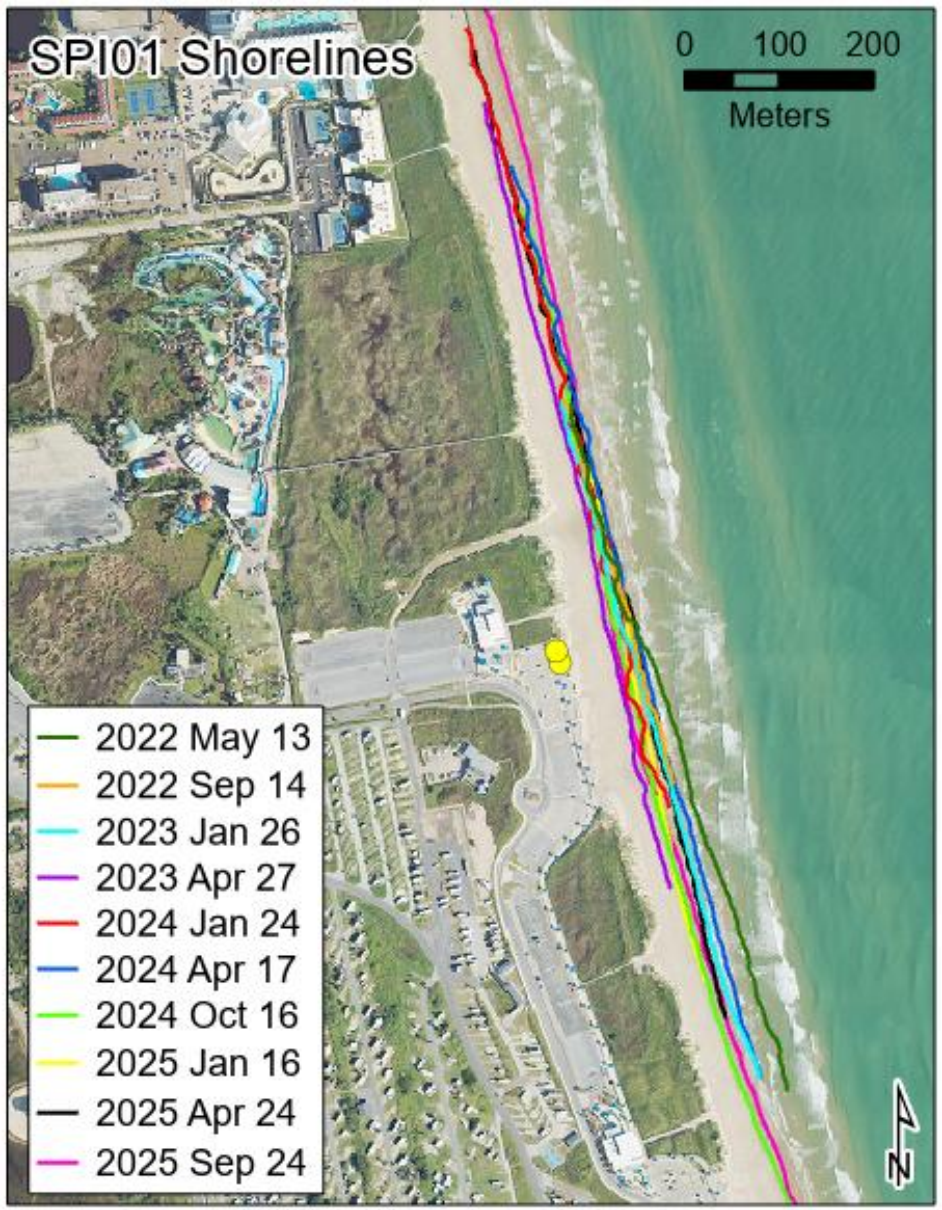
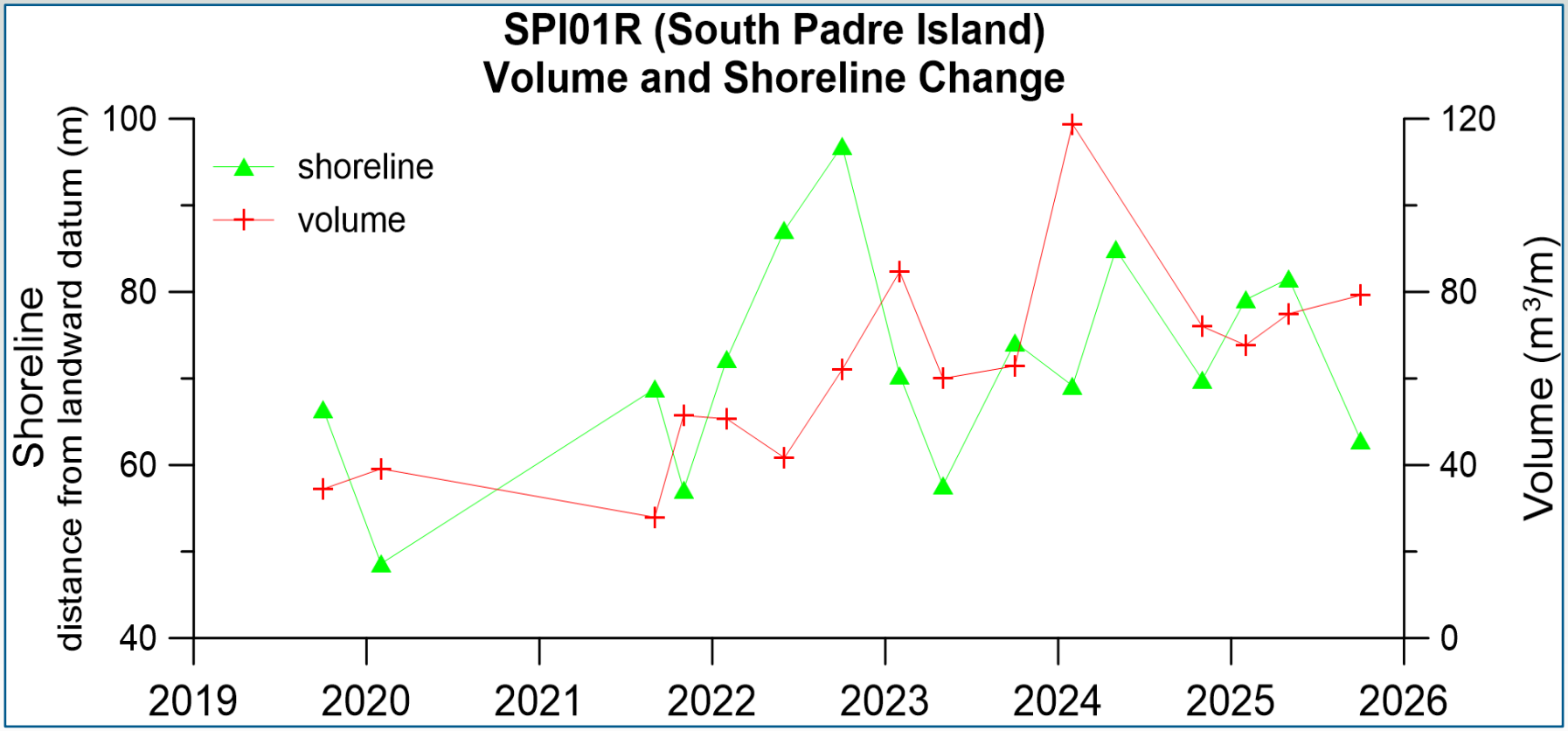
SPI01 shore and vegetation line positions





SPI01R: shoreline, vegetation line, and volume changes



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