Texas High School Coastal Monitoring Program at High Island High School: 2024-2025

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 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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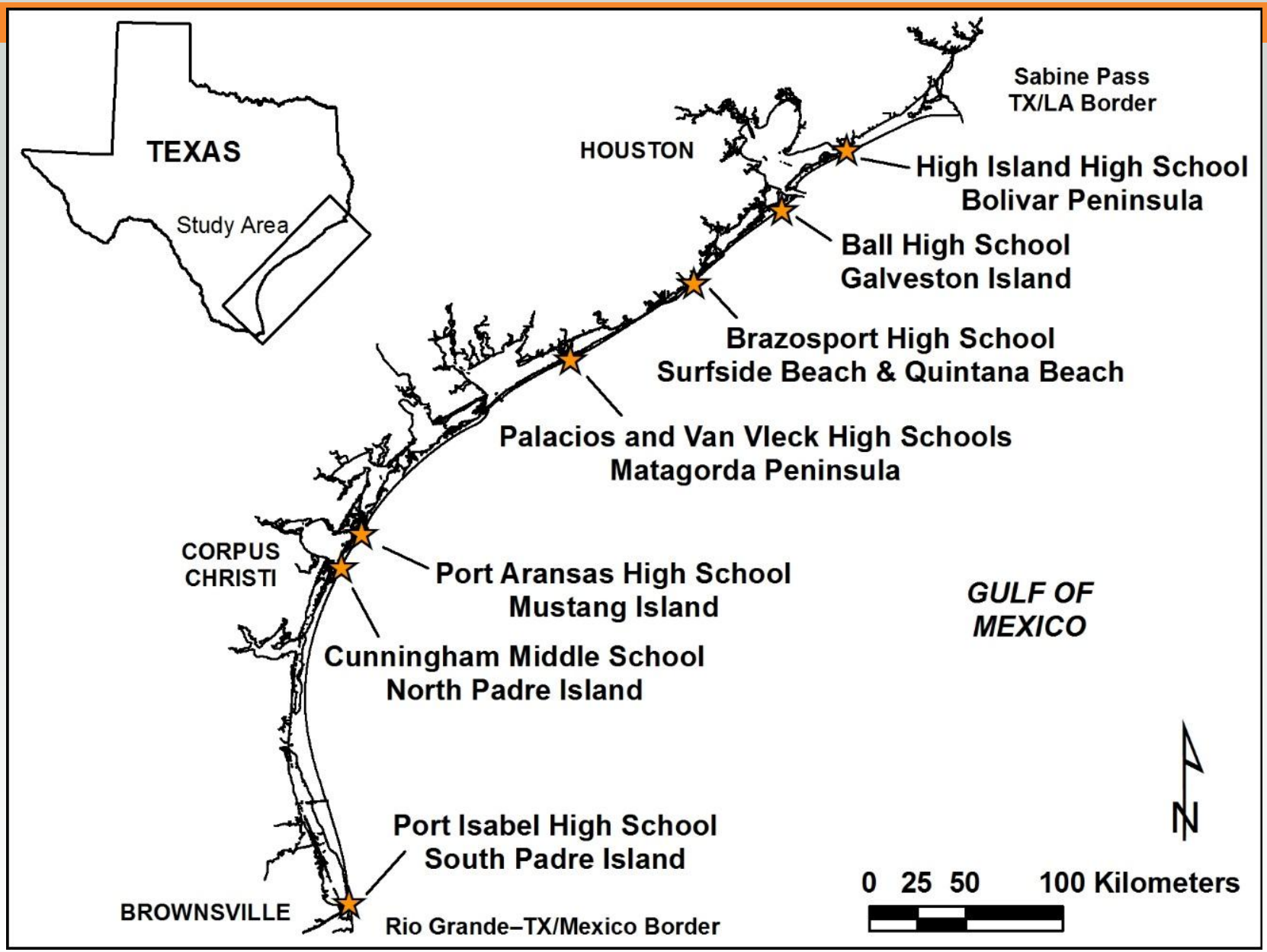

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2024-2025: 23 field trips with ~220 students

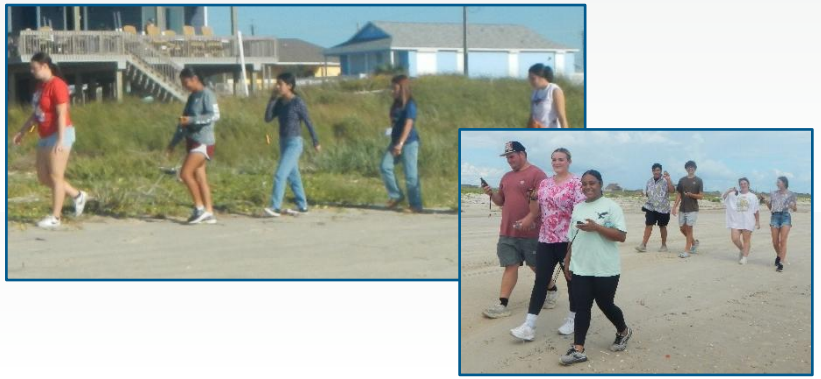
1997-2025 444 field trips

Student Collected Data

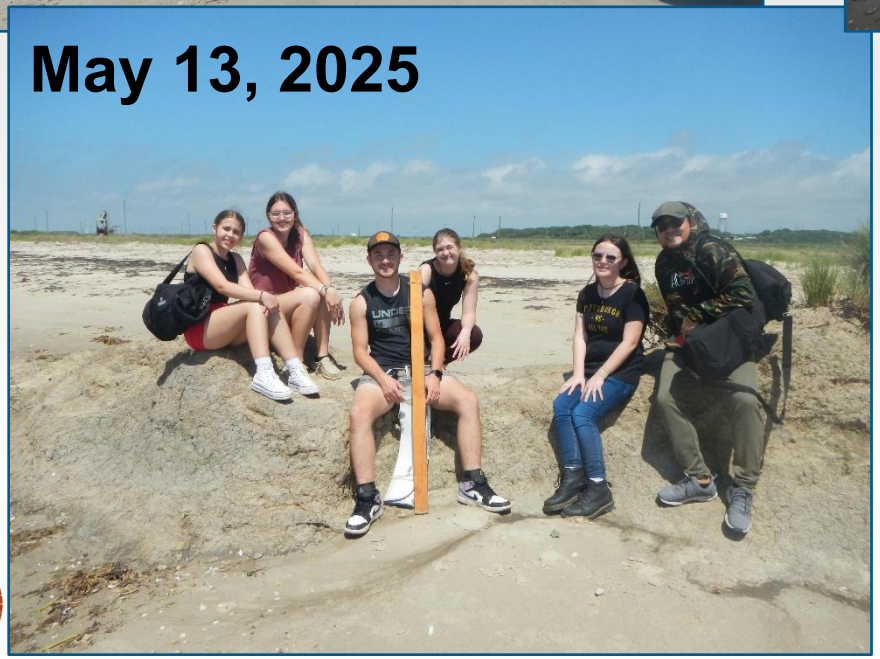
- Topographic transect oriented perpendicular to the shoreline
  - measured from the same starting point landward of the foredune and oriented in the same direction.

- Estimates of processes acting on the beach
  - wind direction and speed; wave direction, height, and period; and longshore current direction and speed

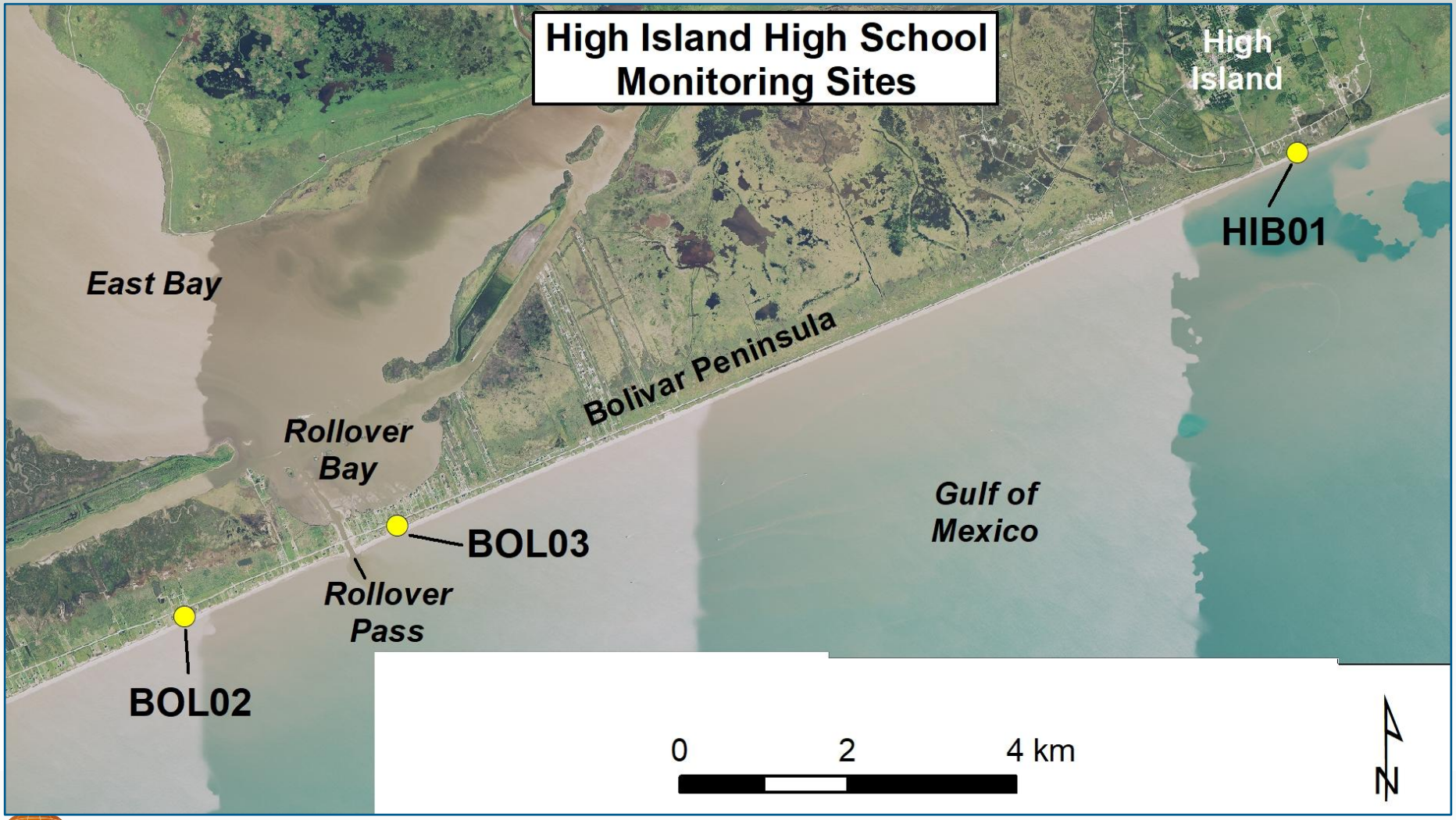
- GPS survey of the vegetation line and shoreline
  - quantitative data on the position of the shoreline and vegetation line



field trips



Bolivar Peninsula Study Sites



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BOL02

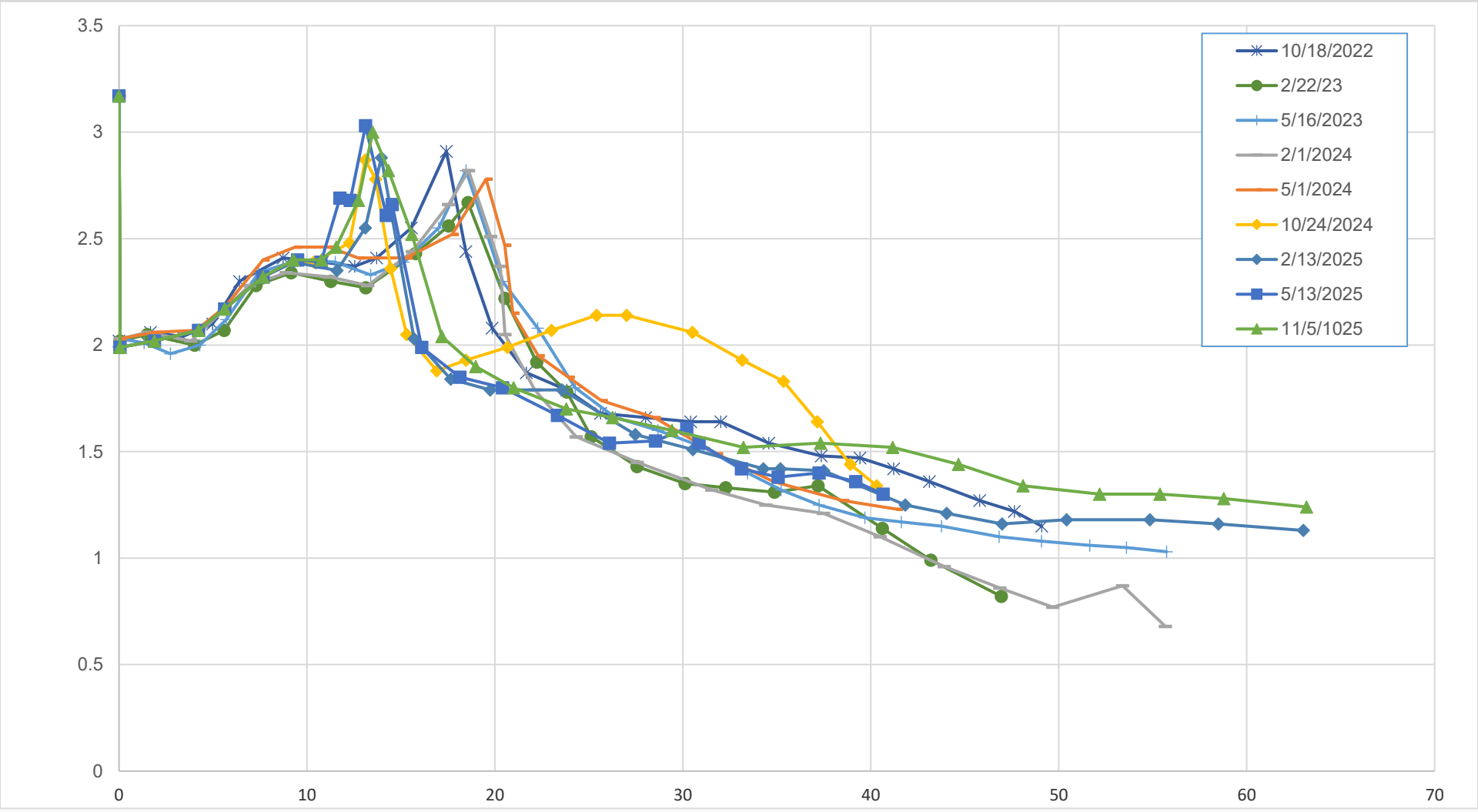

October 24, 2024
Push-up dune NE


February 13, 2025
Wet/dry line NE

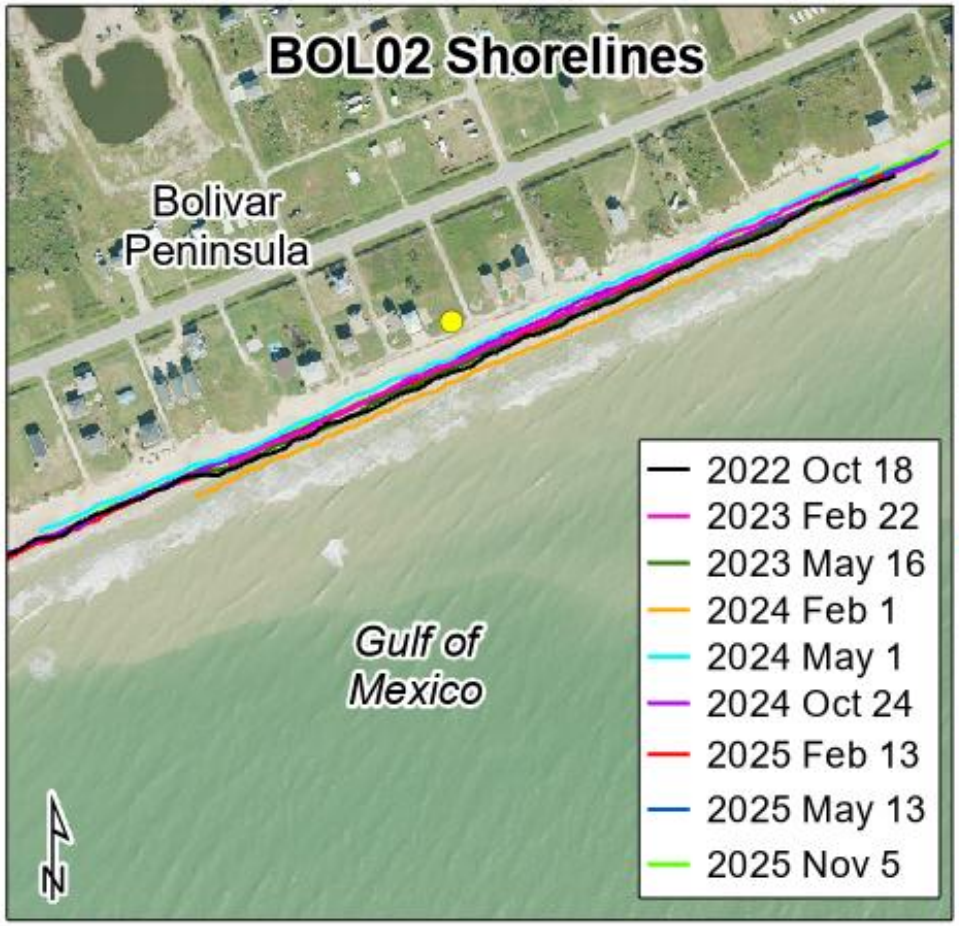

May 13, 2025
Debris line NE

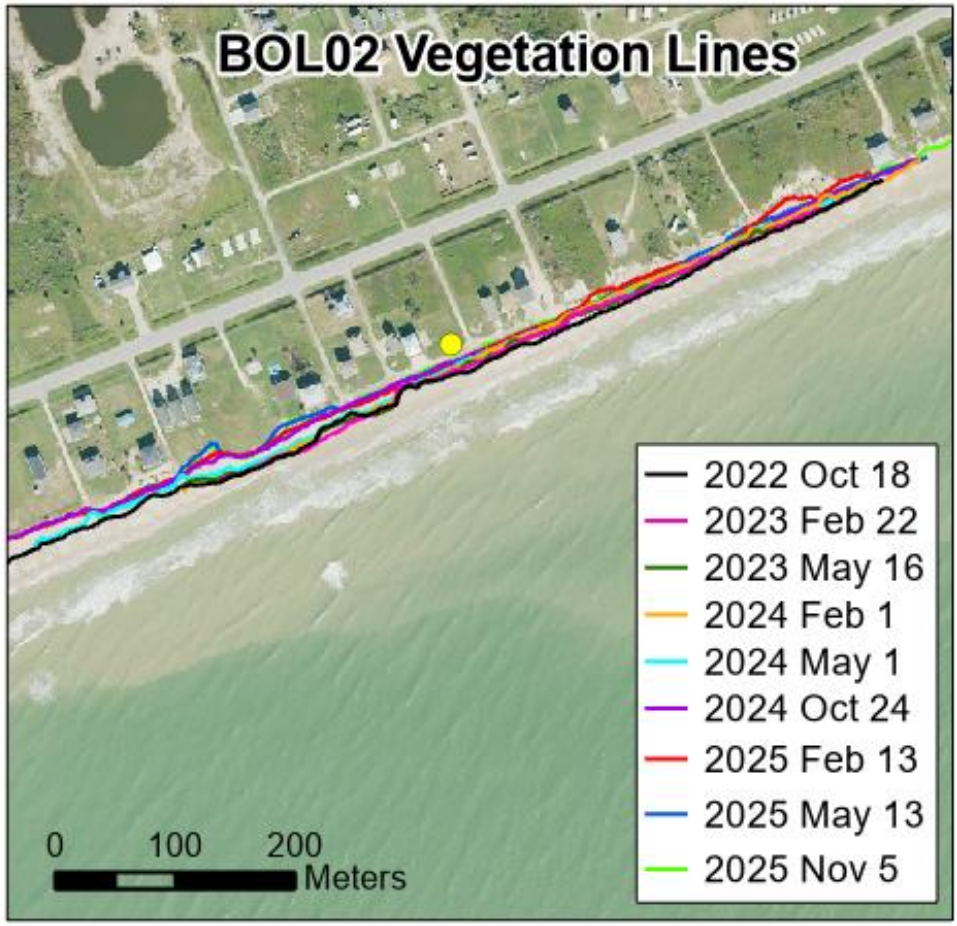

November 5, 2025
Veg line & backbeach NE

BOL02: fall 2022-fall 2025

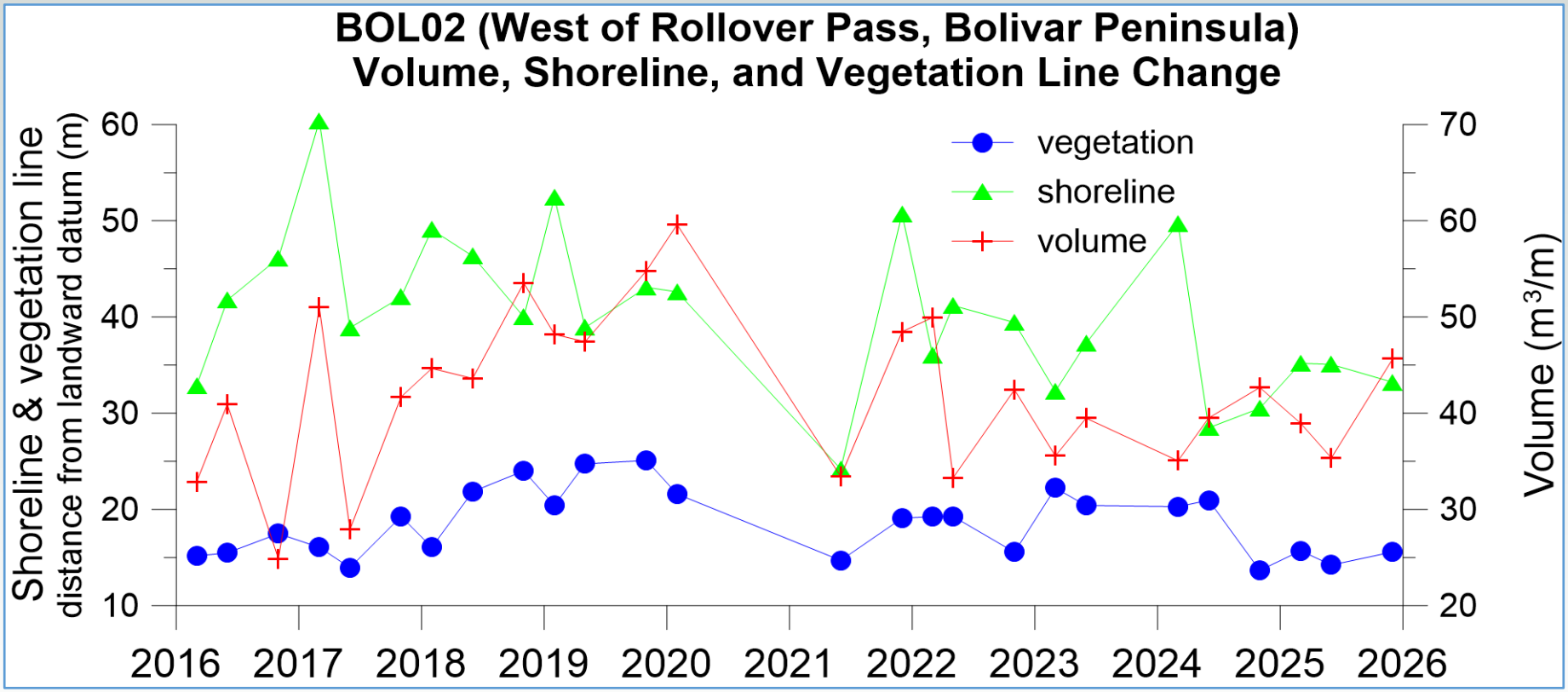


BOL02 shore and vegetation line positions

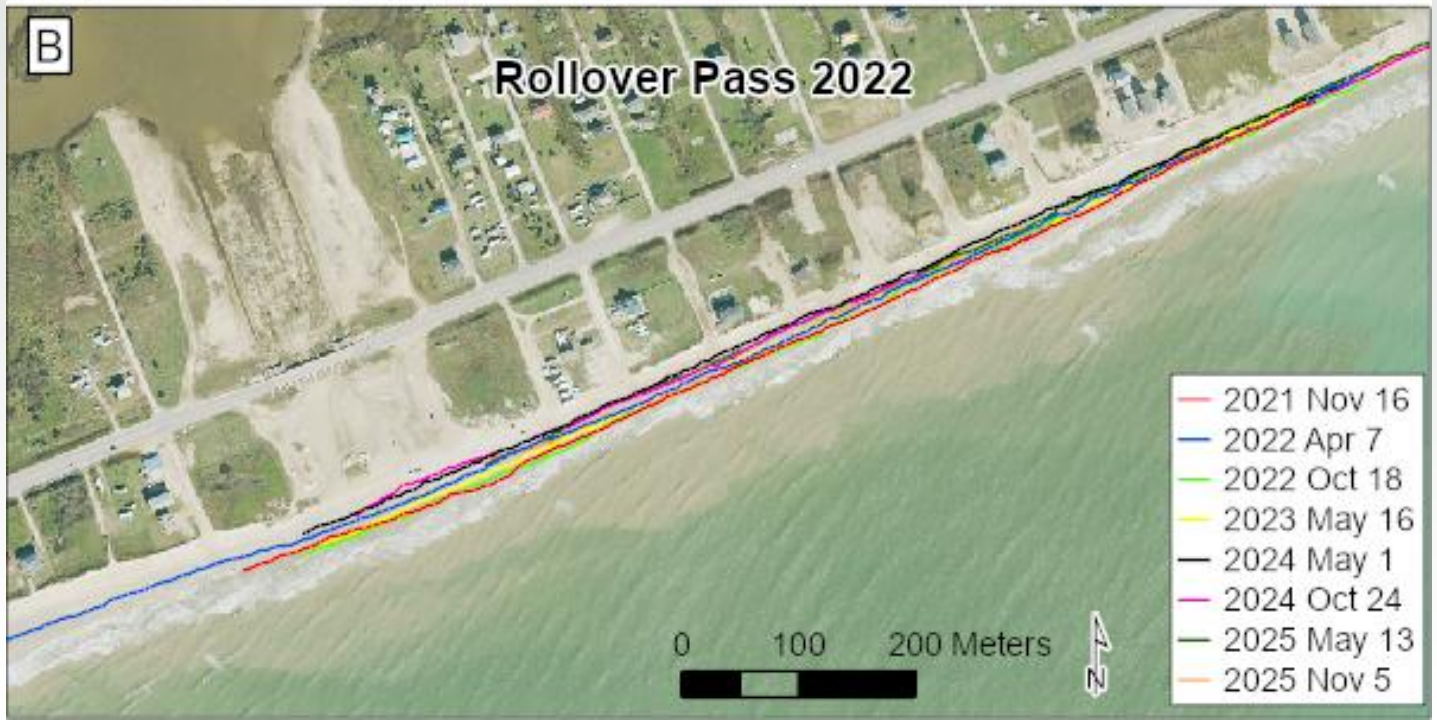




BOL02: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.



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BOL03

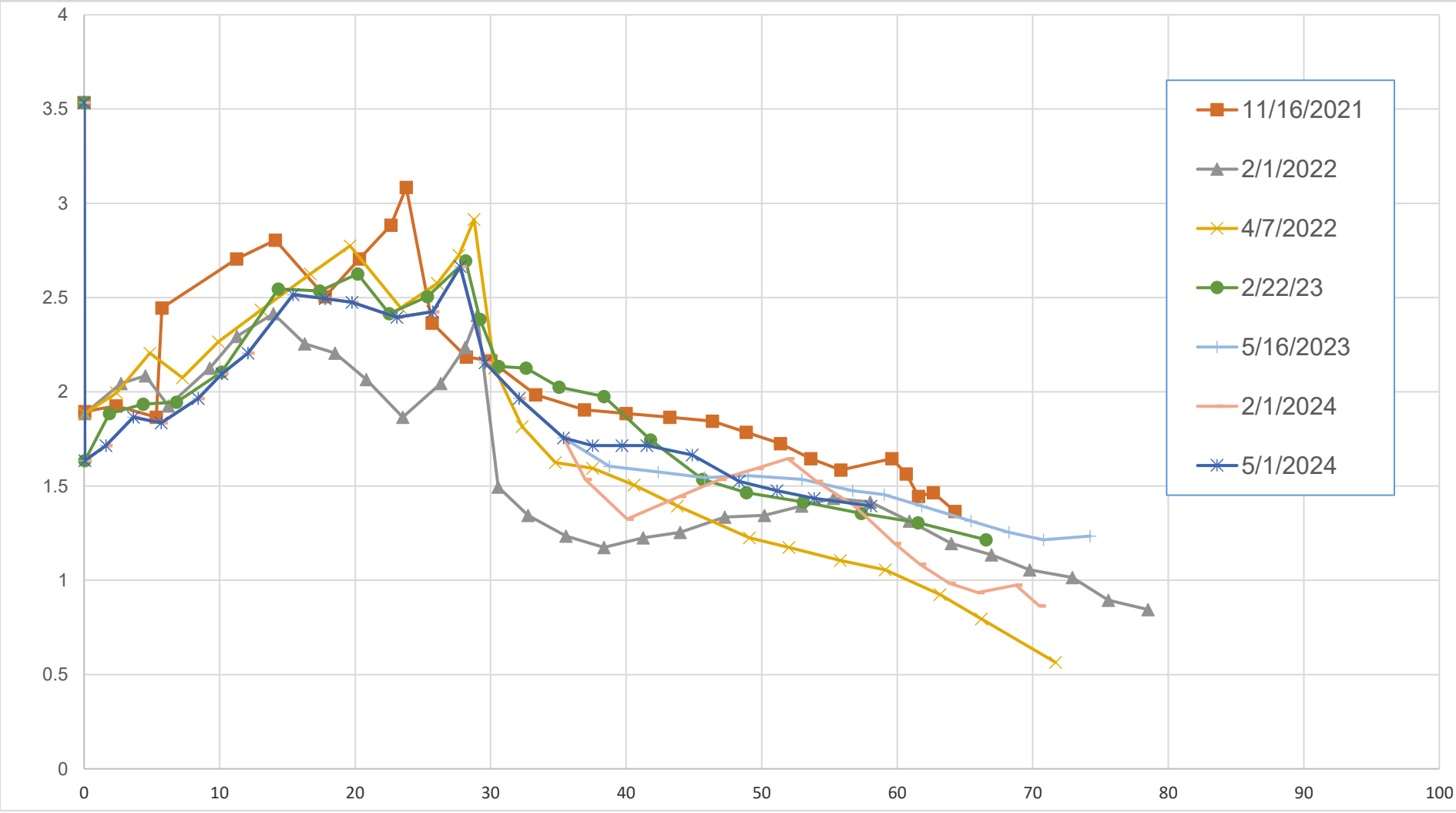

October 24, 2024
Dune toe NE


February 13, 2025
Wet/dry line NE


May 13, 2025
View from waterline


November 5, 2025
Wet/dry line NE

BOL03: fall 2021-spring 2024



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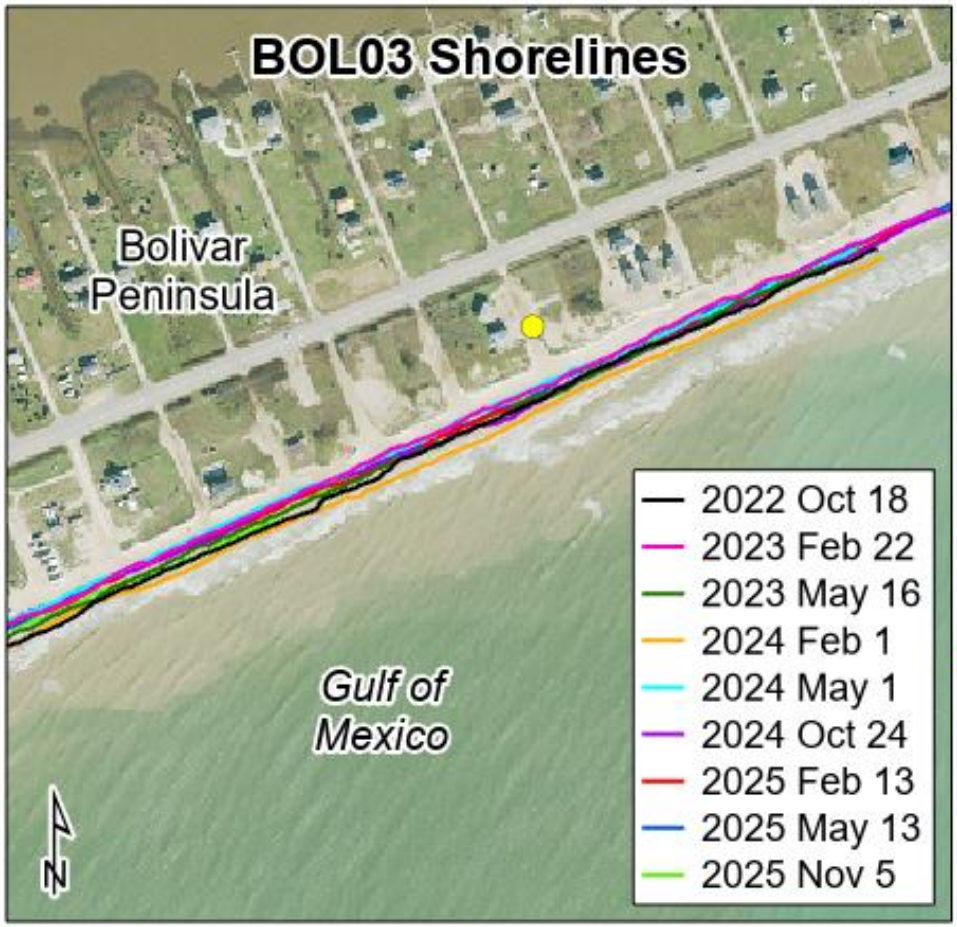
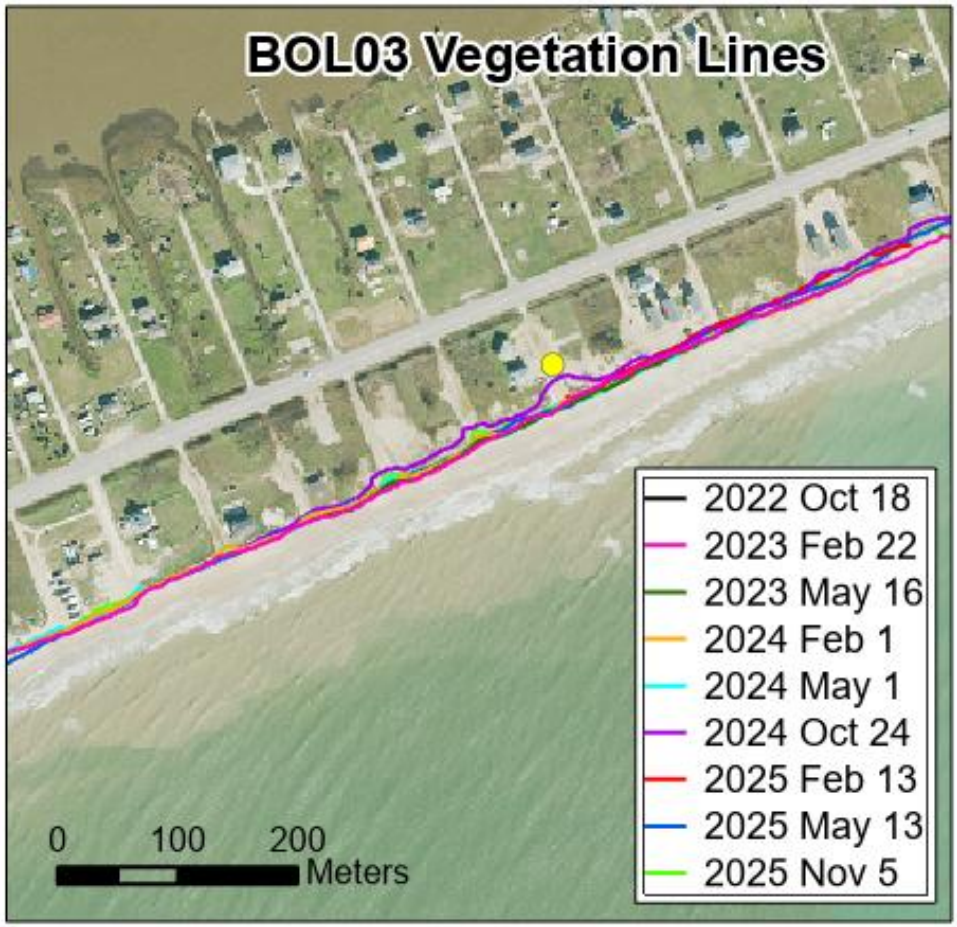
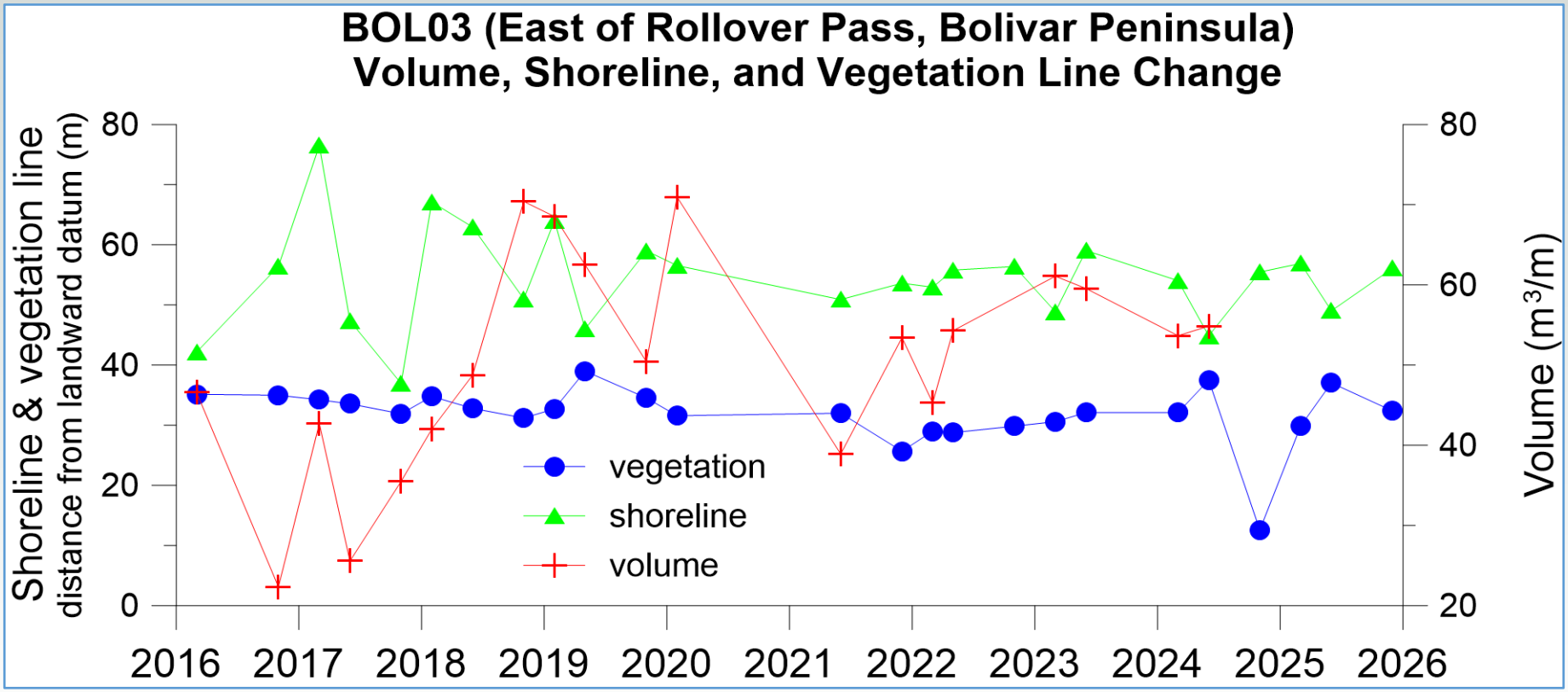
BOL03 shore and vegetation line positions





BOL03: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

HIB01

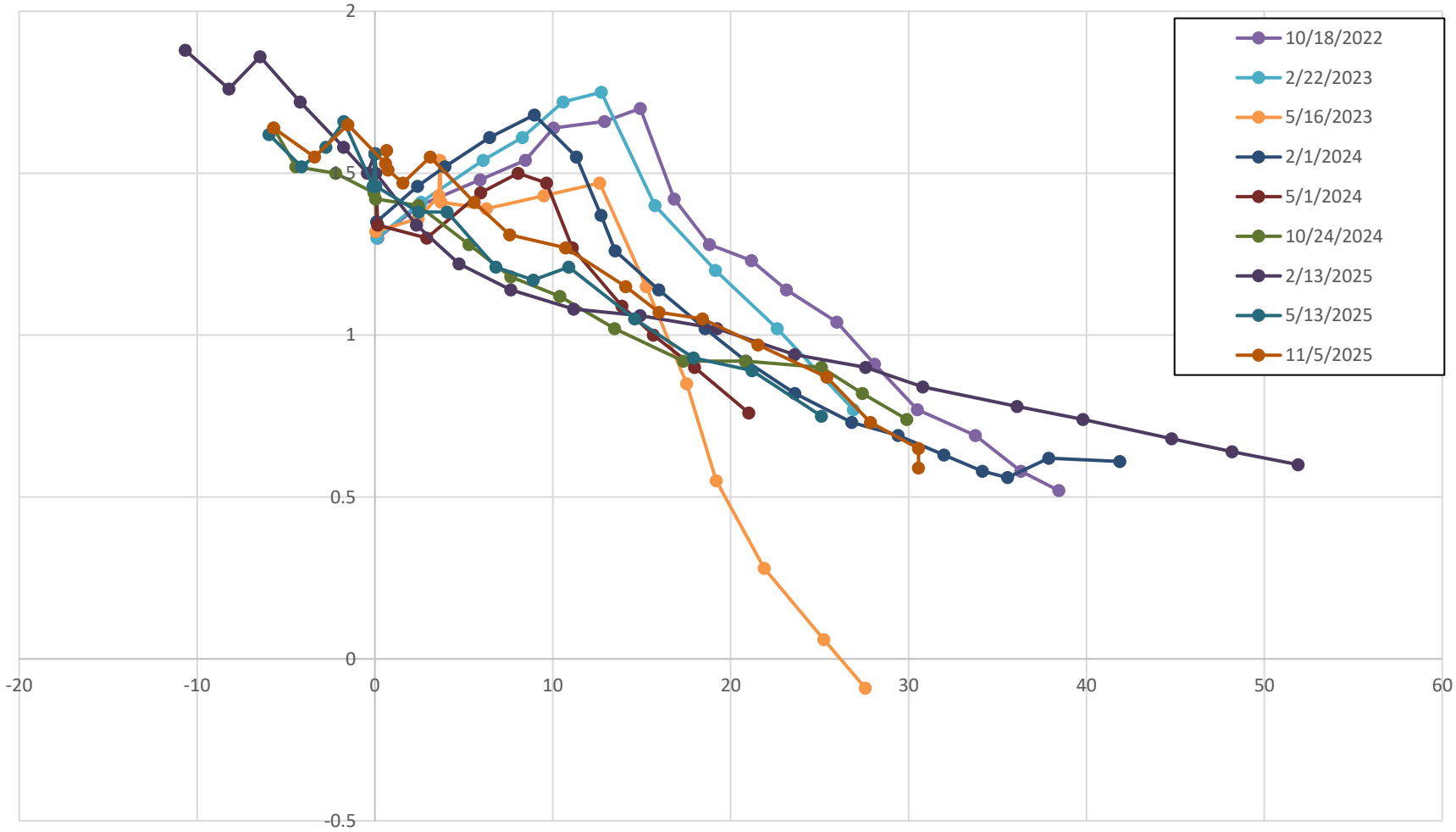

October 24, 2024
Veg line NE


February 13, 2025
Wet/dry line NE

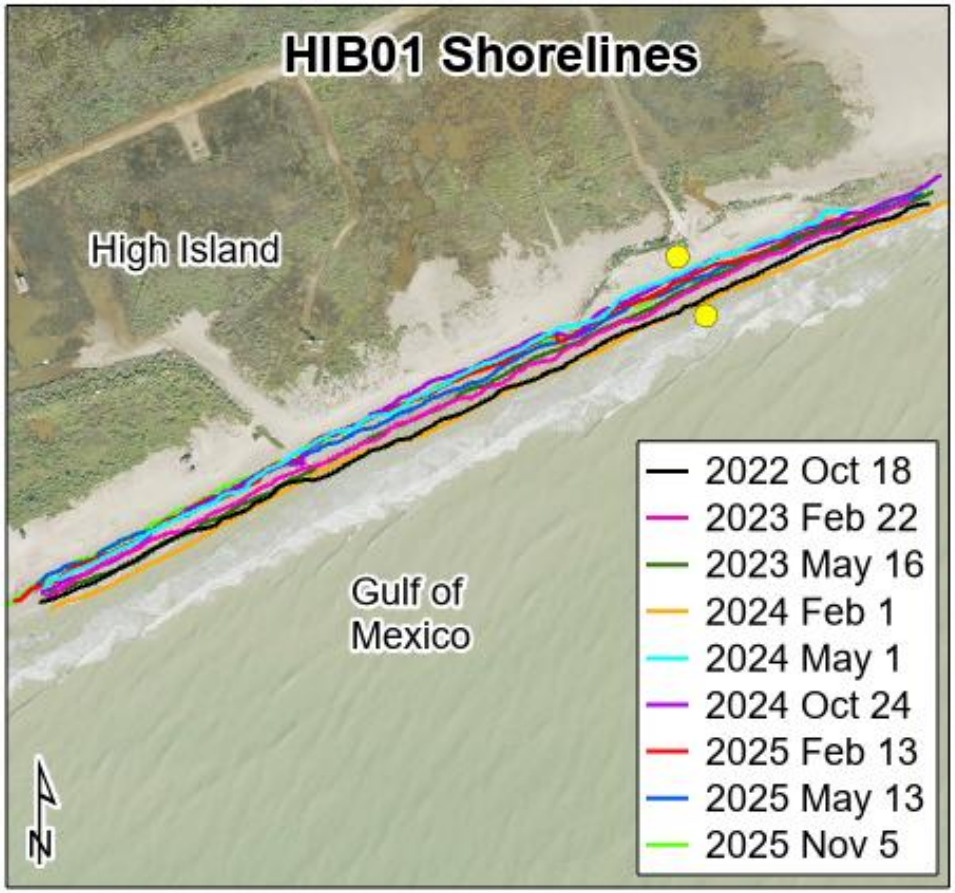

May 13, 2025
View from waterline

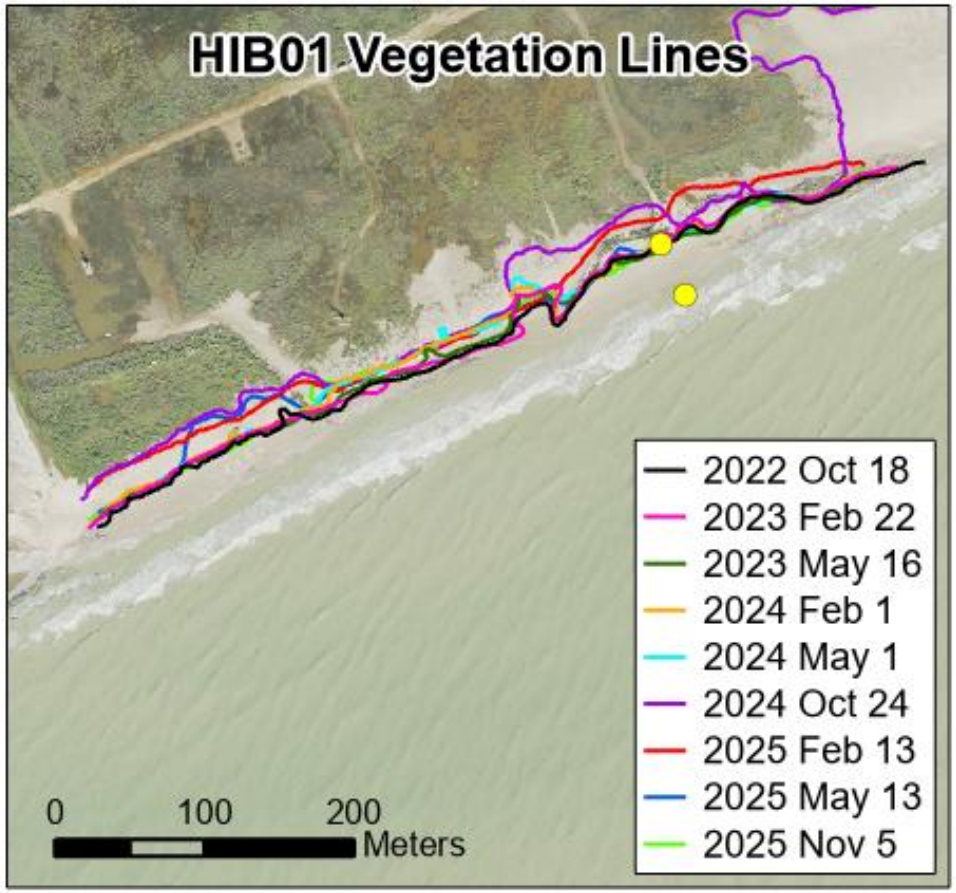

November 5, 2025
Veg line NE

HIB01: fall 2021-fall 2025

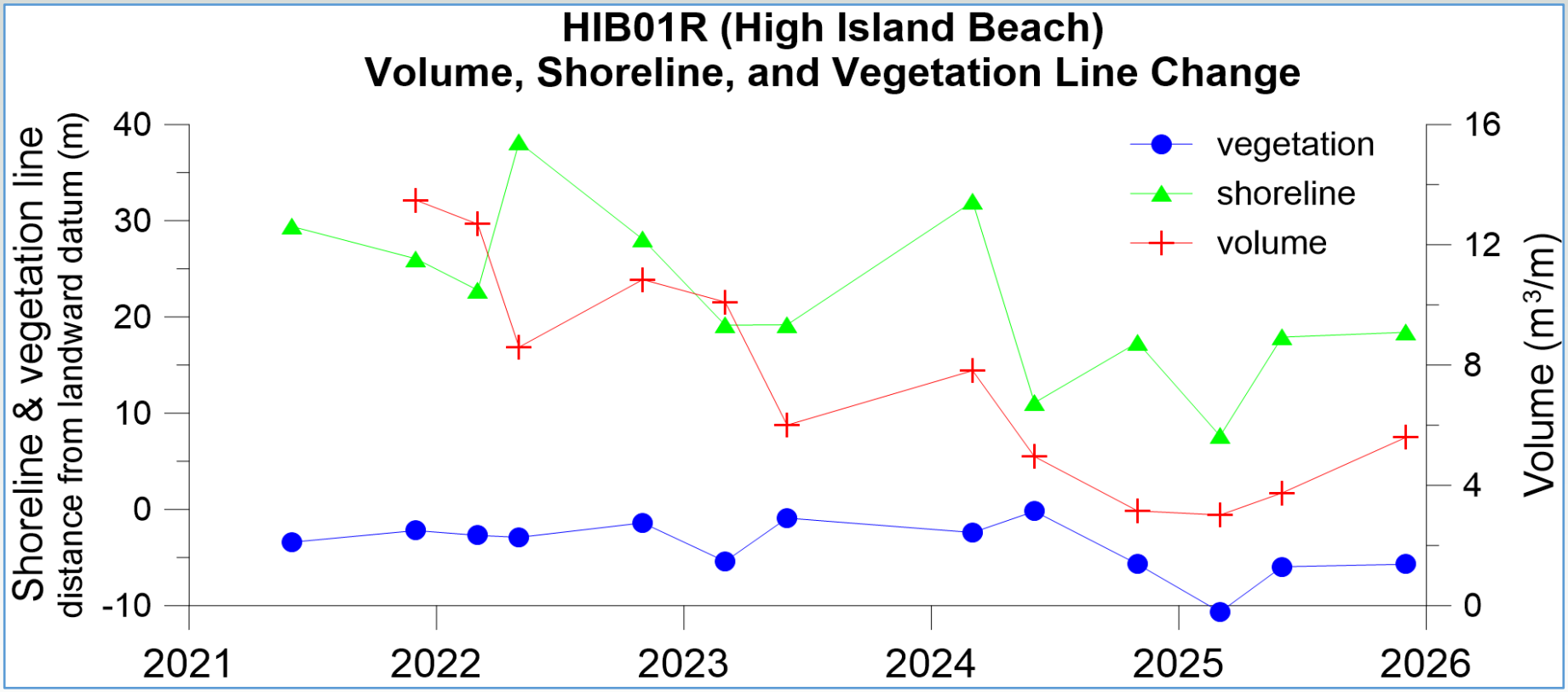


HIB01 shore and vegetation line positions





HIB01: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.