

# **Texas High School Coastal Monitoring Program at Ball High School: 2024-2025**



BUREAU OF  
ECONOMIC  
GEOLOGY

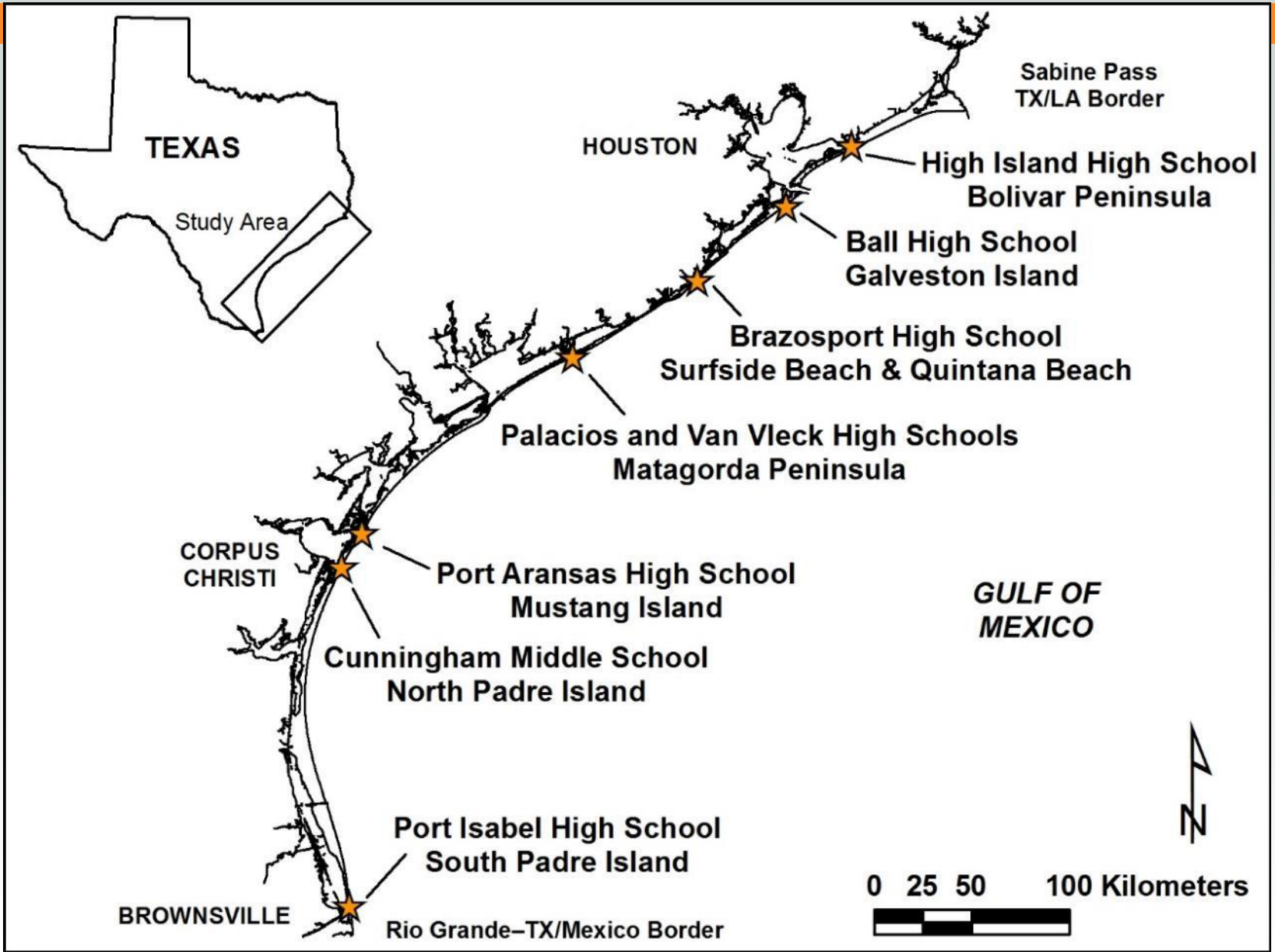
# Texas High School Coastal Monitoring Program

- 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 teachers, and the public.



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





**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 trip dates

**October 25, 2024**



**January 31, 2025**



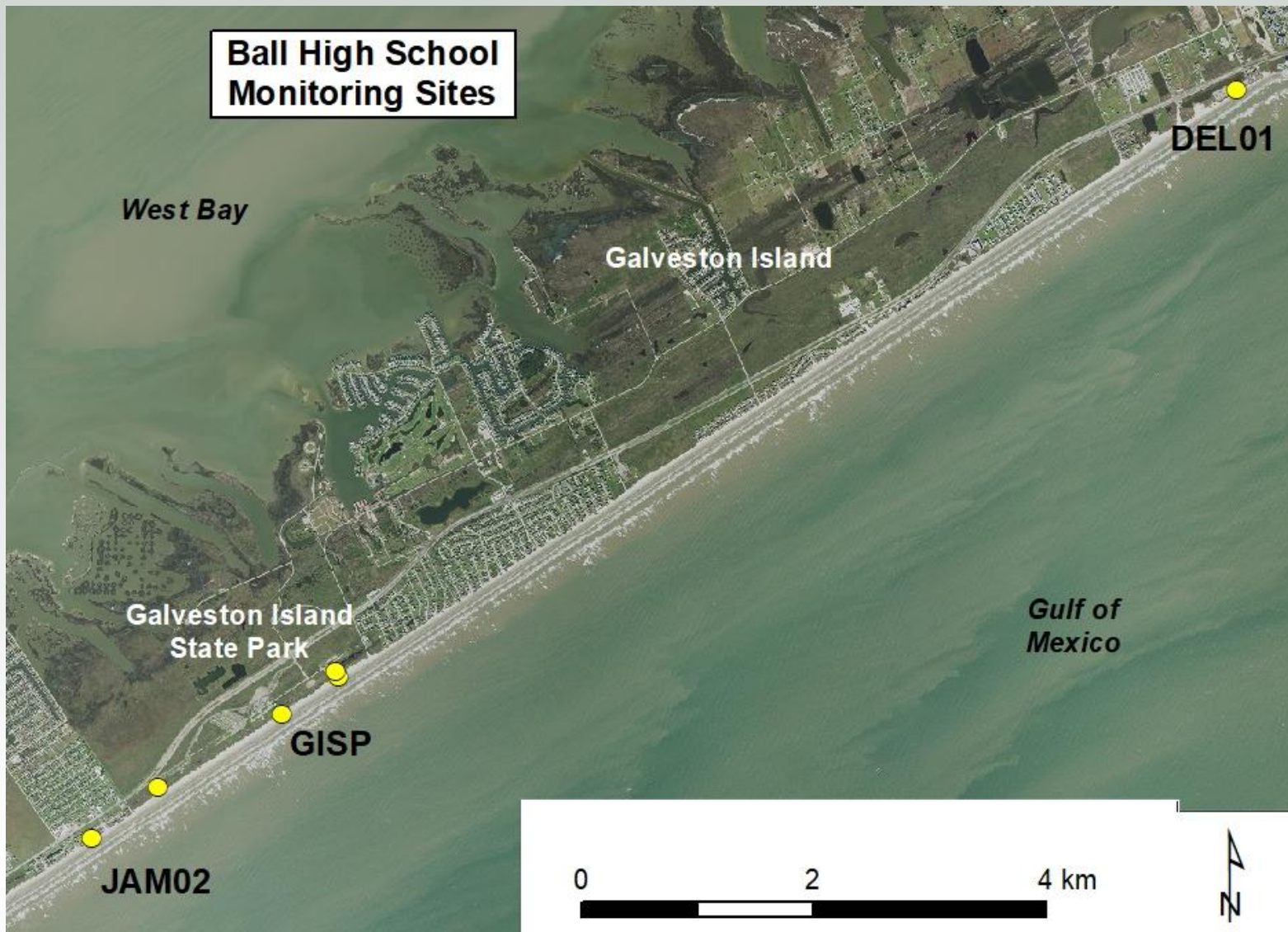
**April 7, 2025**



**October 2, 2025**



# Galveston Island Study Sites



**October 25, 2024  
Scarped veg line NE**



**January 31, 2025  
View toward Gulf**



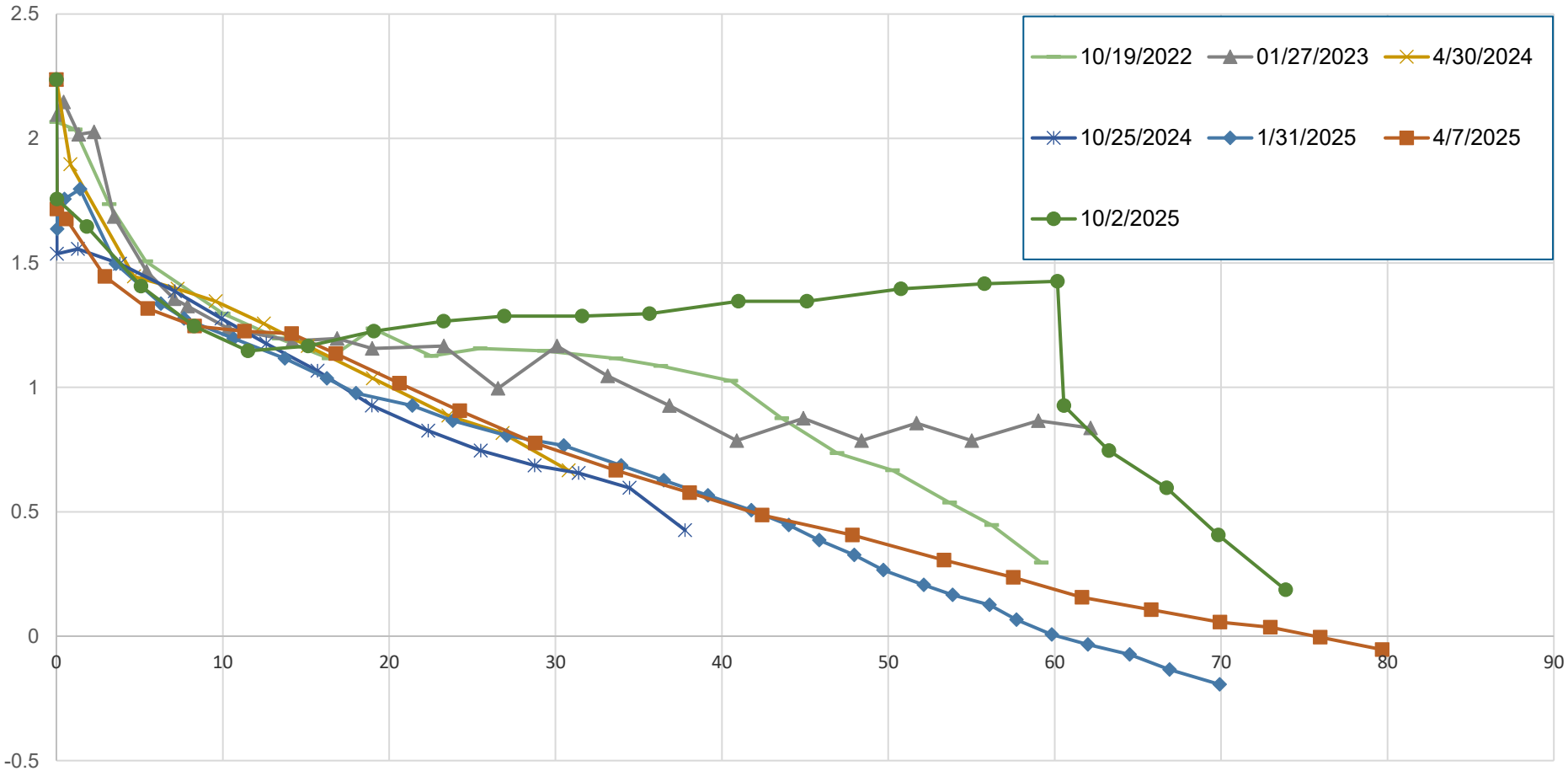
**April 7, 2025  
Debris line NE**



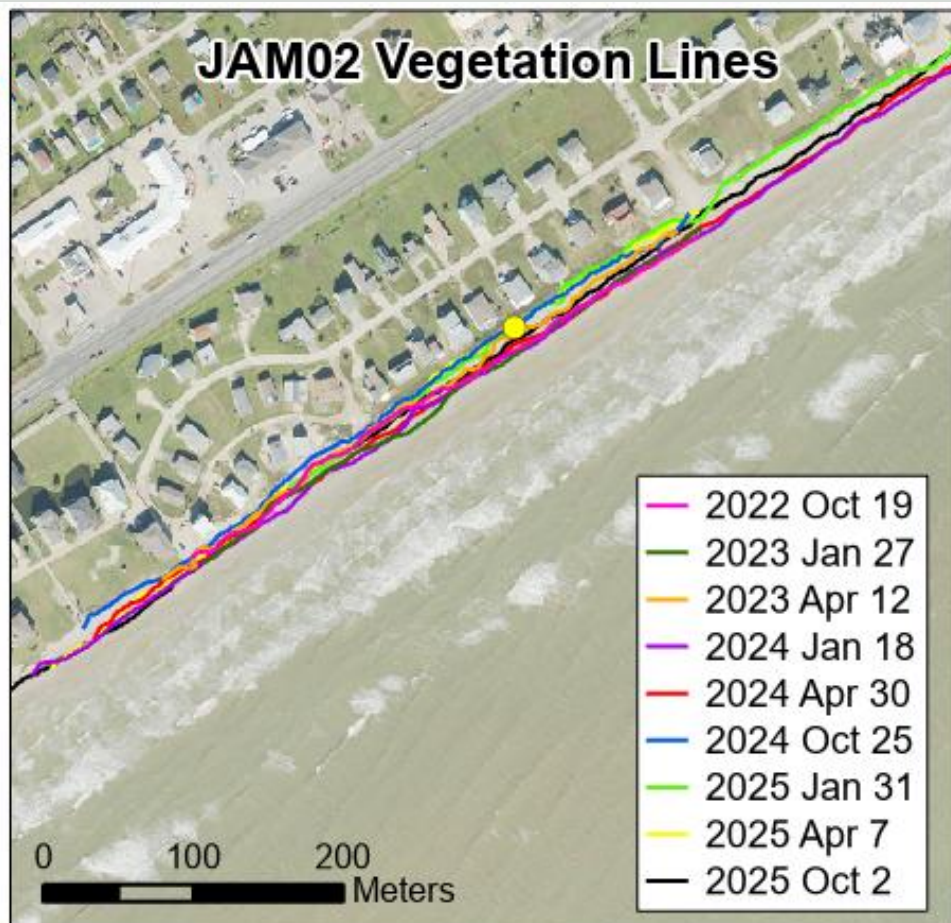
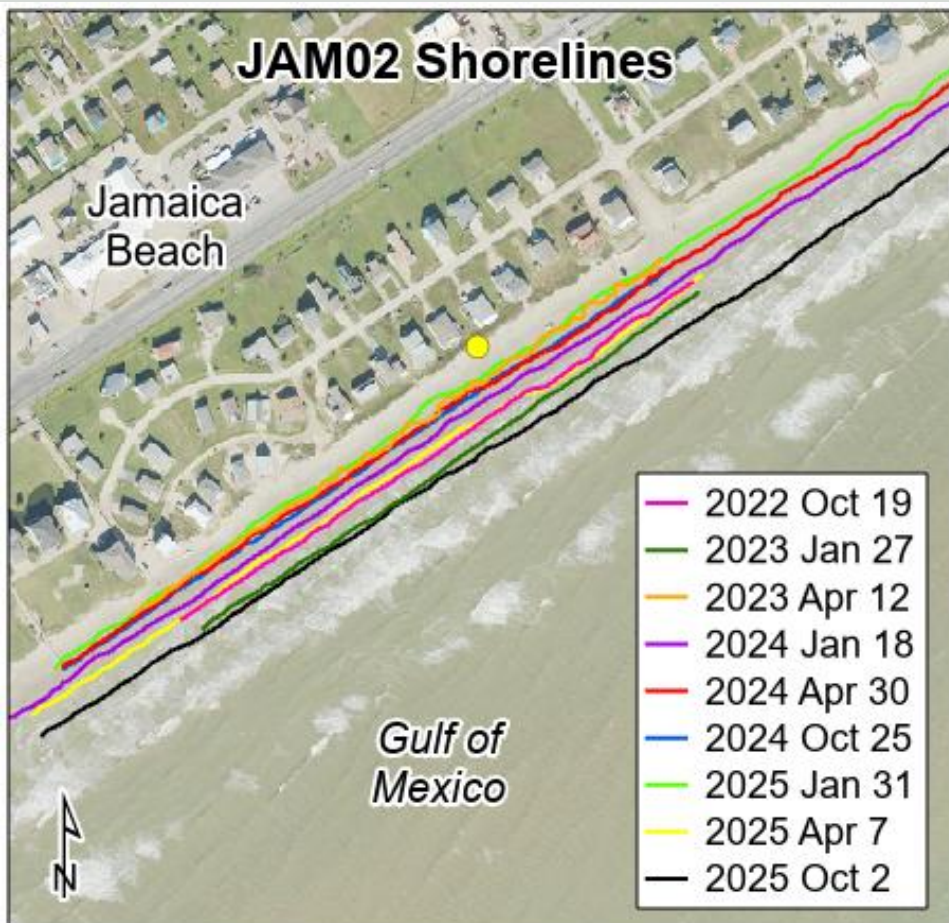
**October 2, 2025  
Scarp and wet/dry line NE**



# JAM02: fall 2022-fall 2025

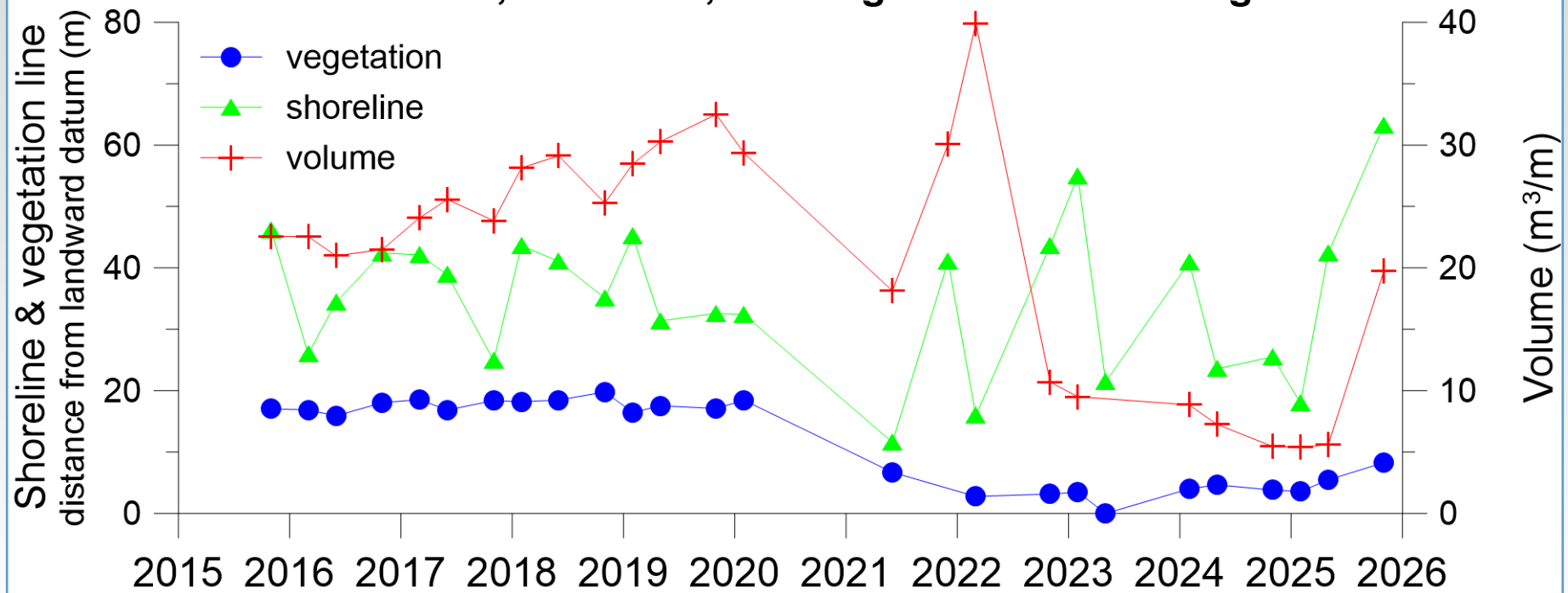


# JAM02 shore and vegetation line positions



# JAM02: shoreline, vegetation line, and volume changes

JAM02 (Jamaica Beach, Galveston Island)  
Volume, Shoreline, and Vegetation Line Change



Sediment volume was calculated above 1 meter NAVD88.

**October 25, 2024  
View toward Gulf**



**January 31, 2025  
View from waterline**



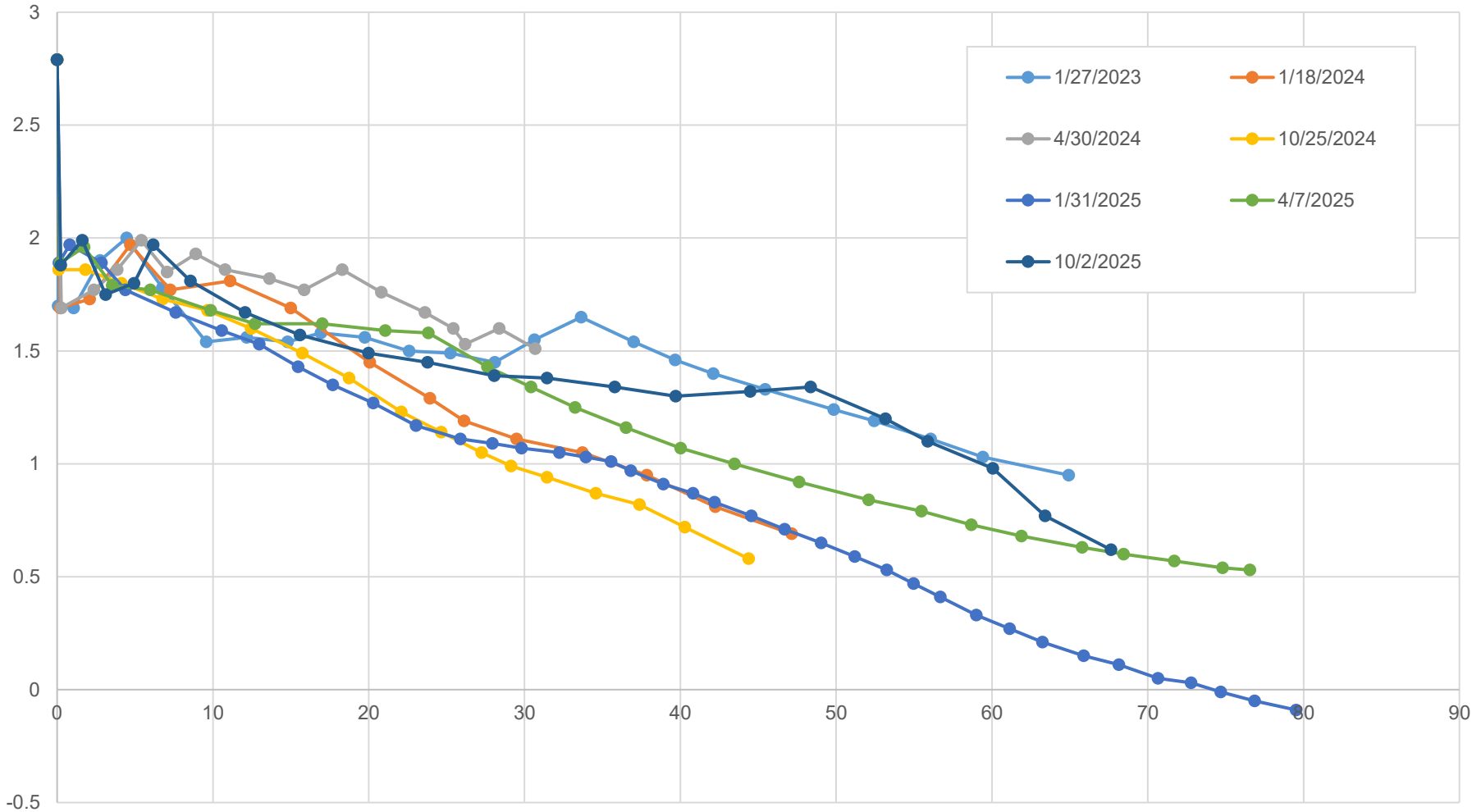
**April 7, 2025  
Debris line NE**



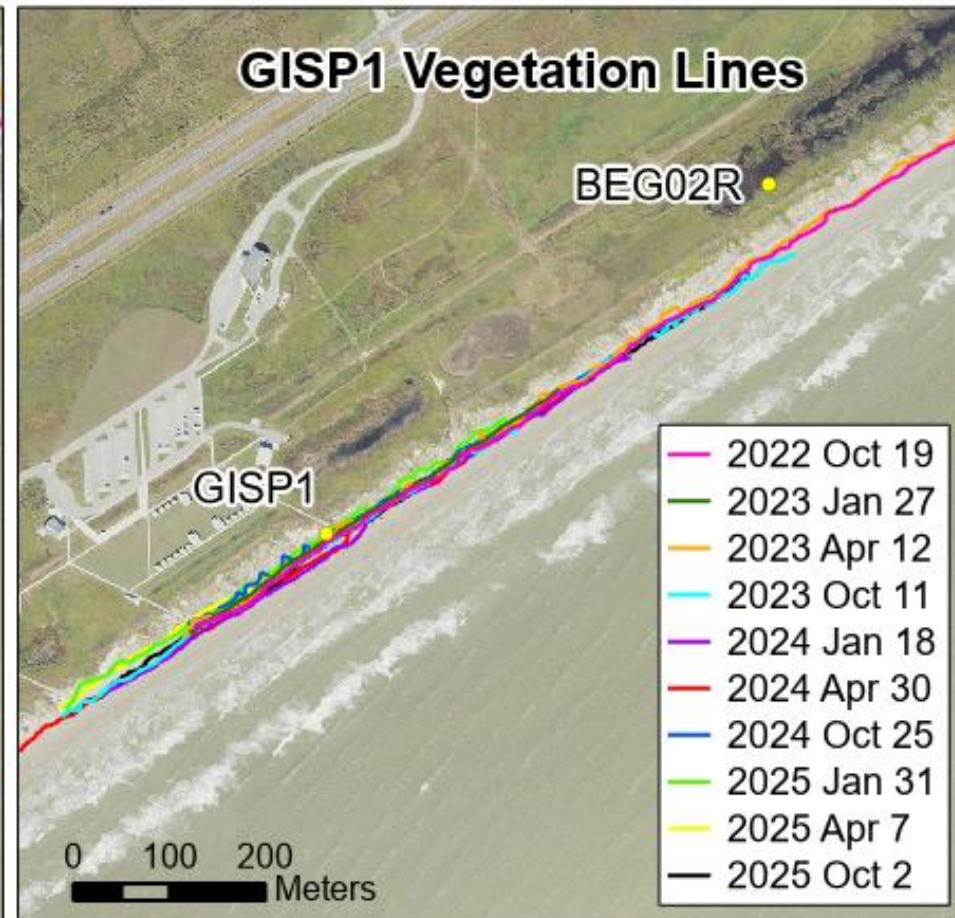
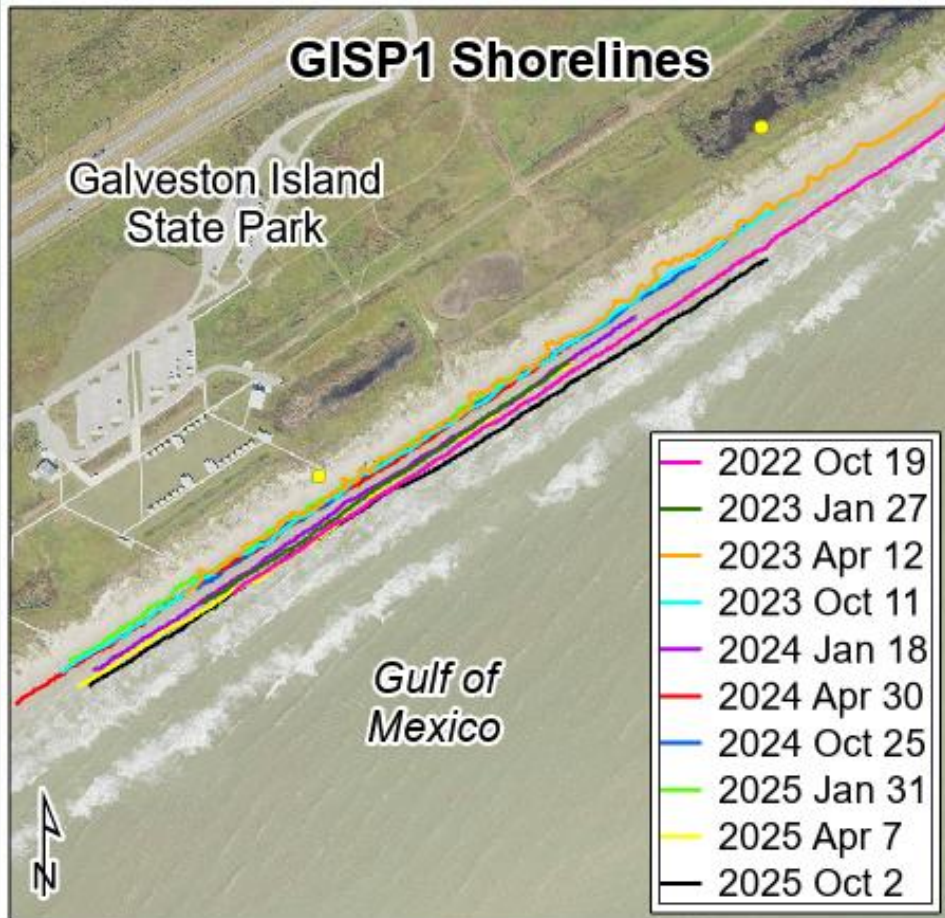
**October 2, 2025  
Veg line SW**



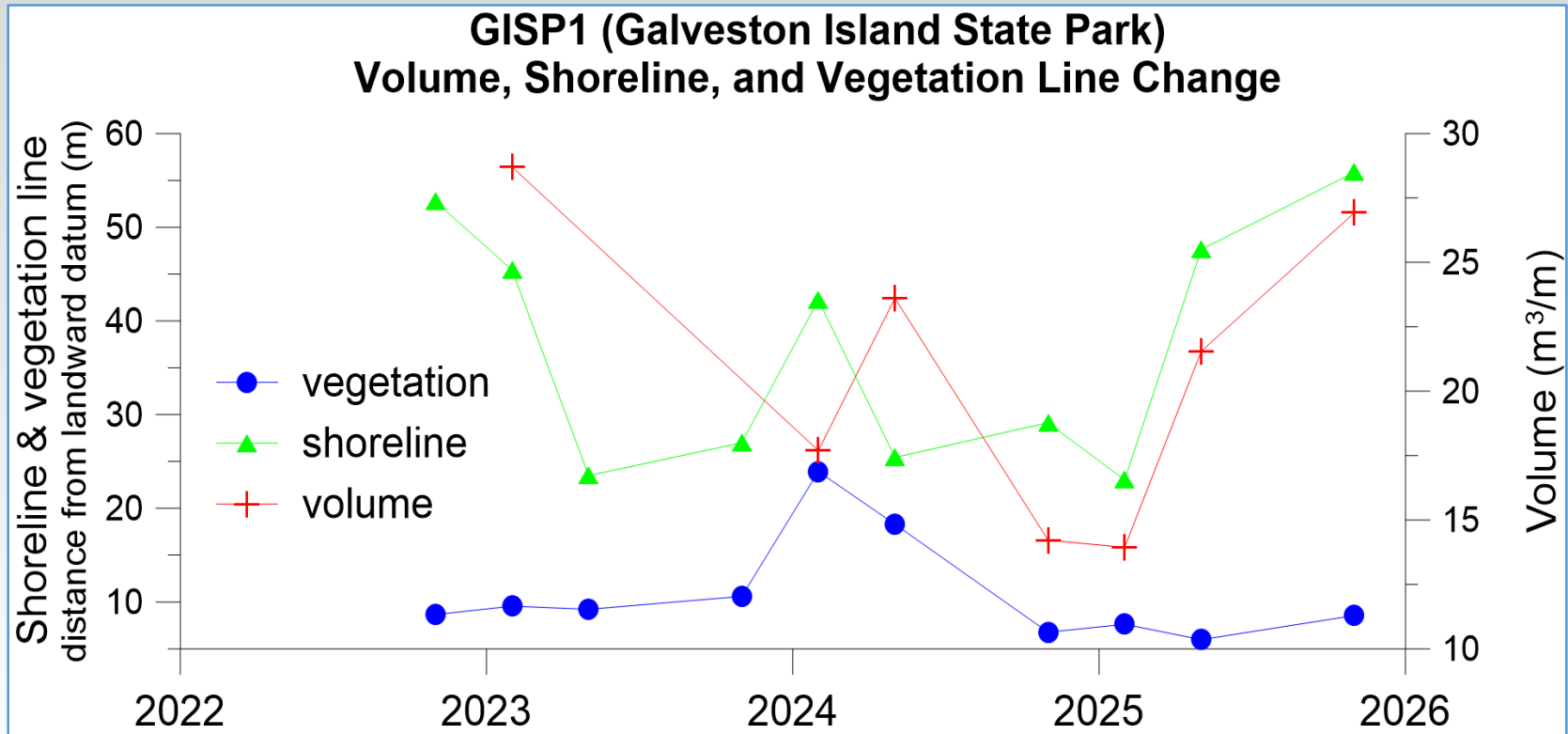
# GISP1 : winter 2023-fall 2025



# GISP shore and vegetation line positions



# GISP1: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

**October 25, 2024  
Scarped veg line NE**



**January 31, 2025  
View toward Gulf**



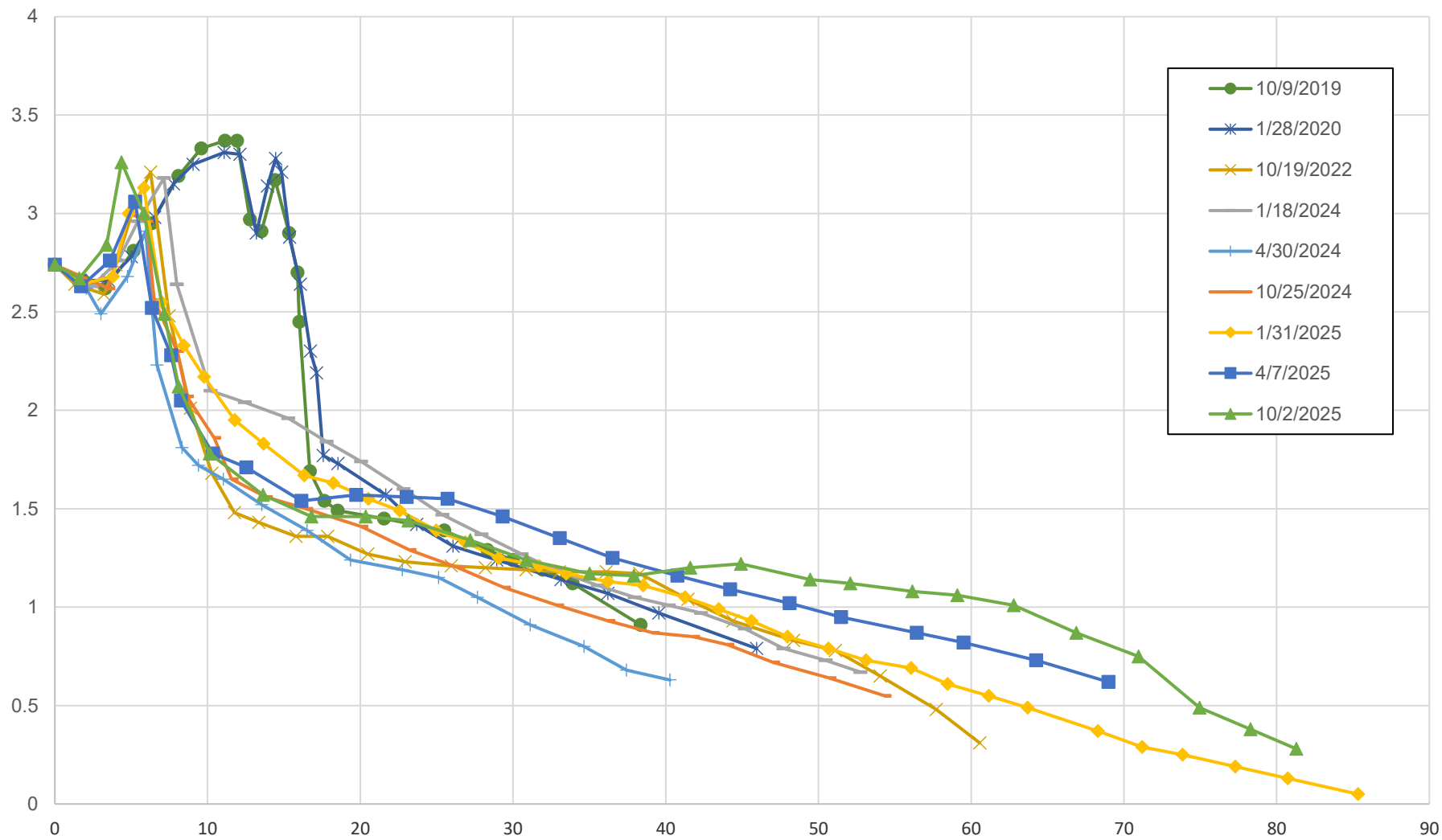
**April 7, 2025  
Debris line NE**



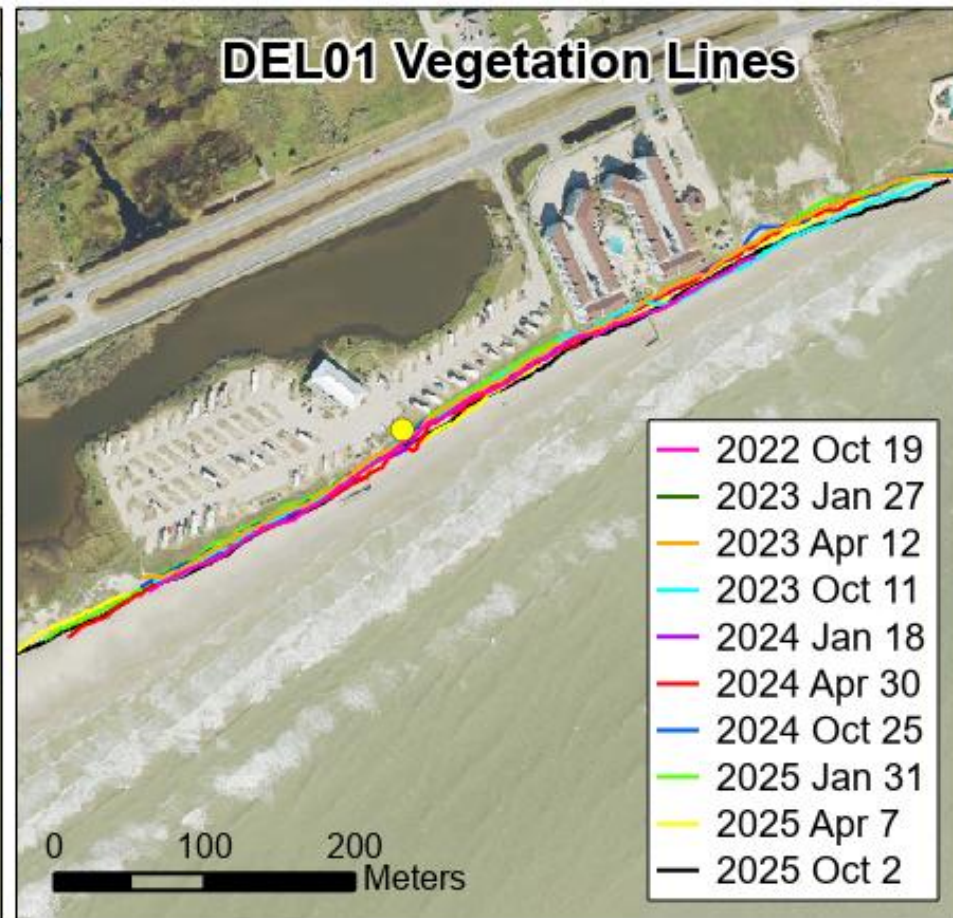
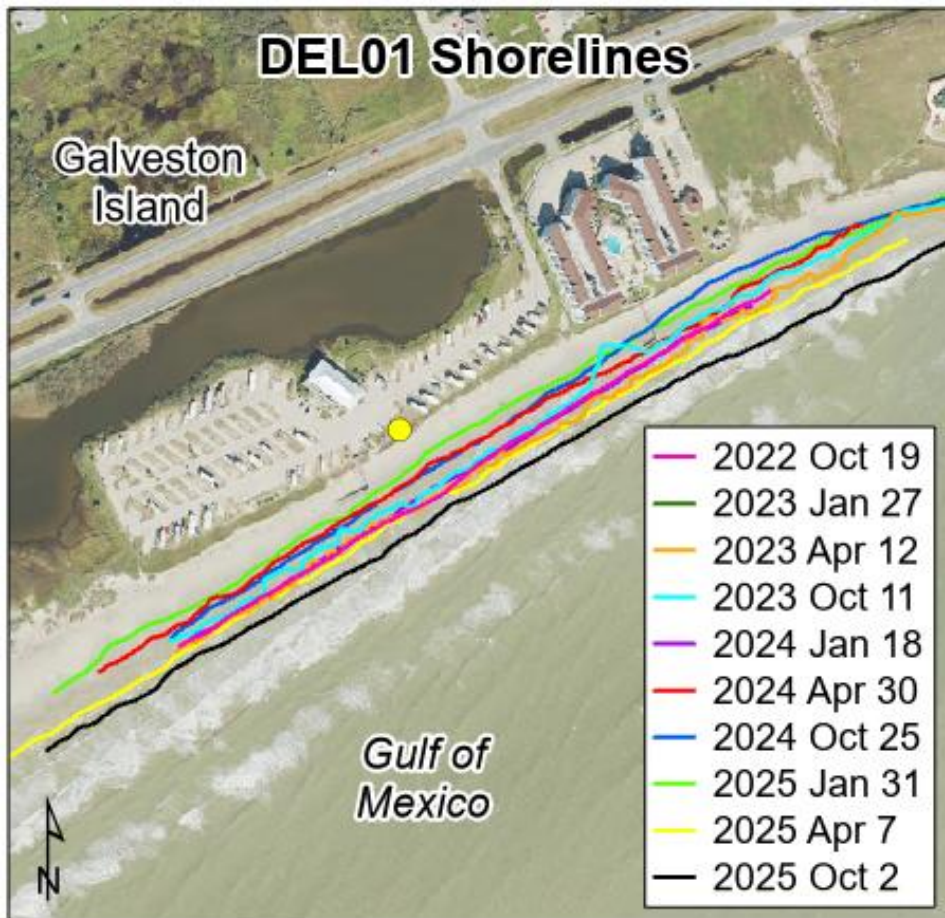
**October 2, 2025  
Wet/dry line NE**



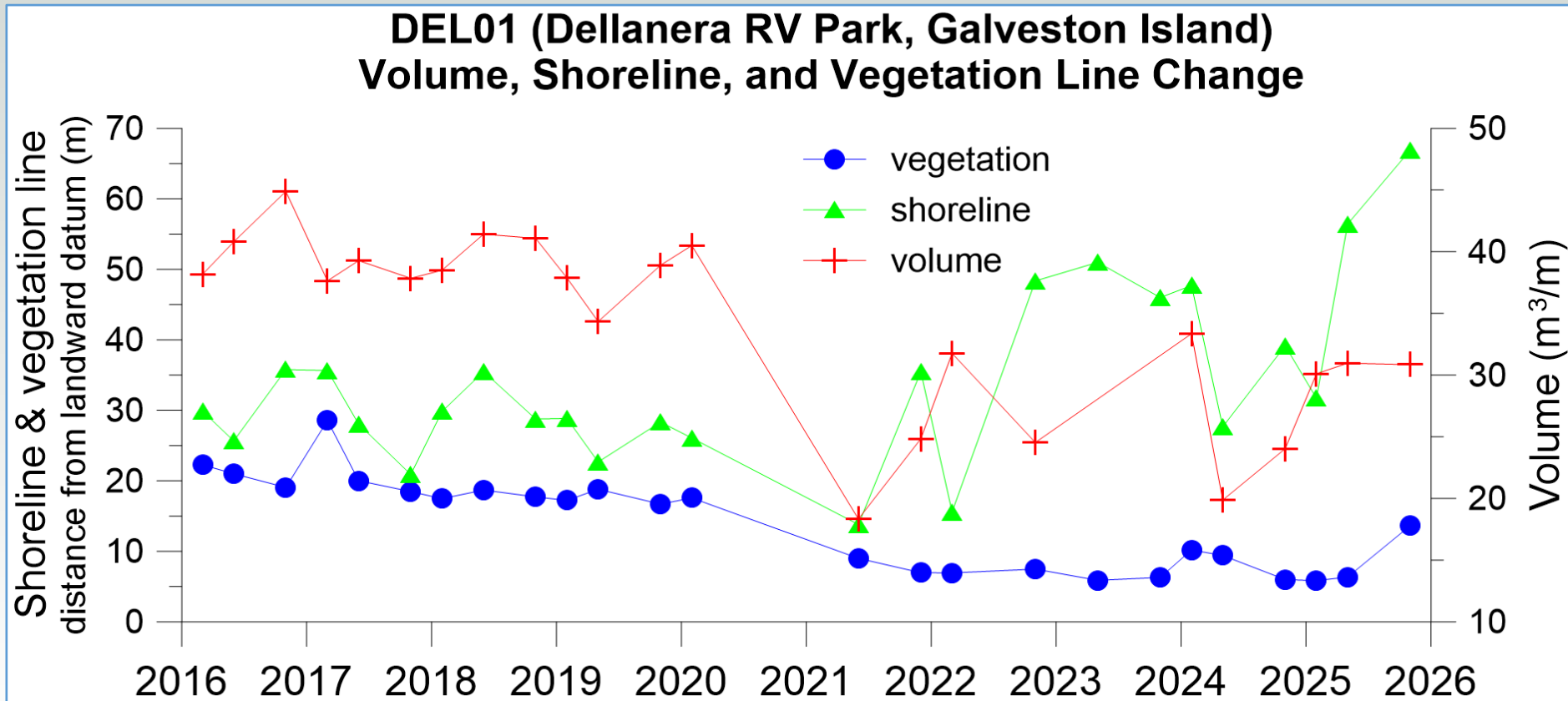
# DEL01: fall 2019-fall 2025



# DEL01 shore and vegetation line positions



# DEL01: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

# Babe's Beach (from 61<sup>st</sup> Street)

**October 25, 2024**



**October 2, 2025**



# Babe's Beach shoreline positions

