

# **Texas High School Coastal Monitoring Program at Ball High School: 2023-2024**

January 2025

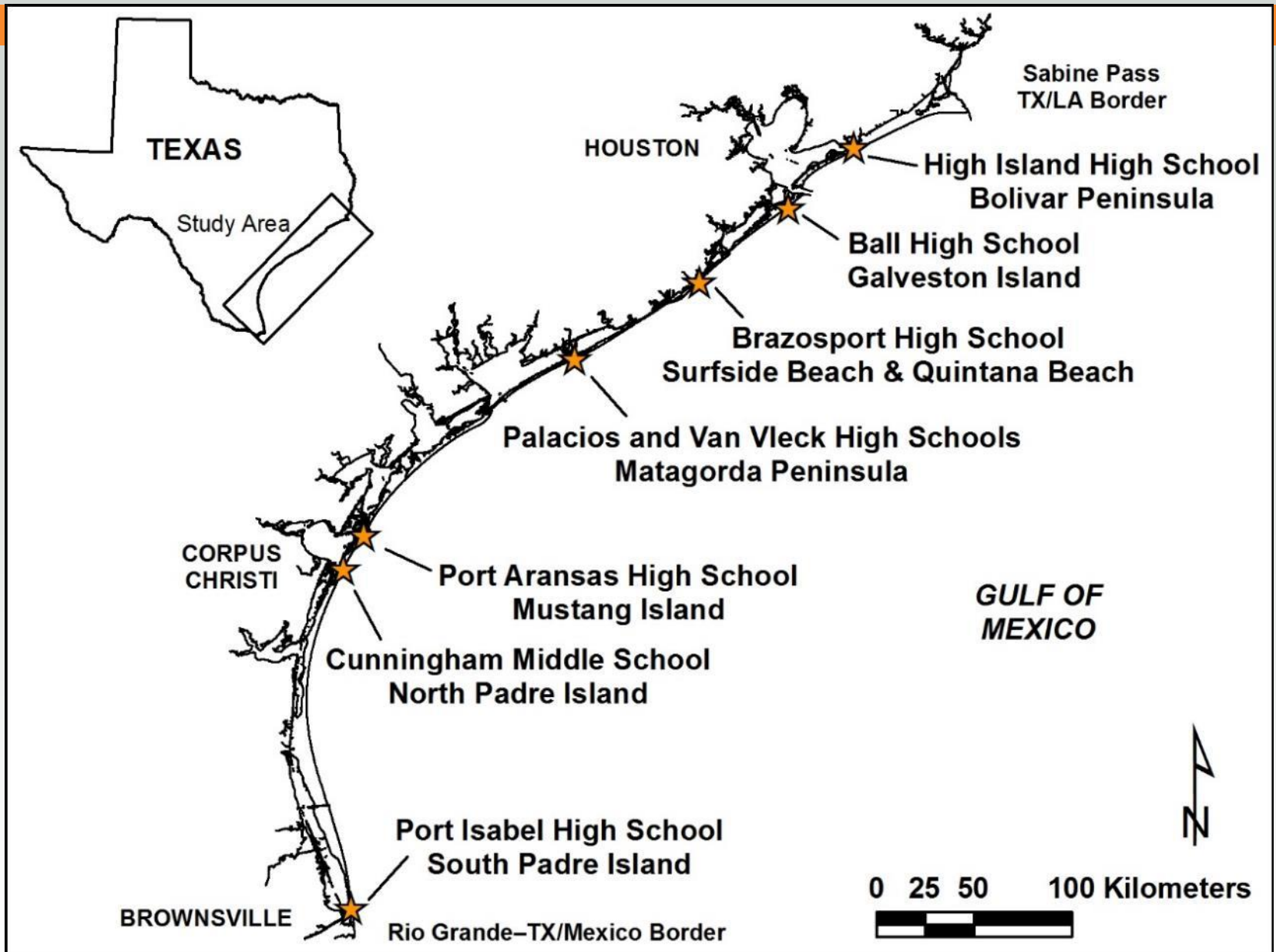


BUREAU OF  
ECONOMIC  
GEOLOGY

# 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

**October 11, 2023**



**January 18, 2024**



**April 30, 2024**

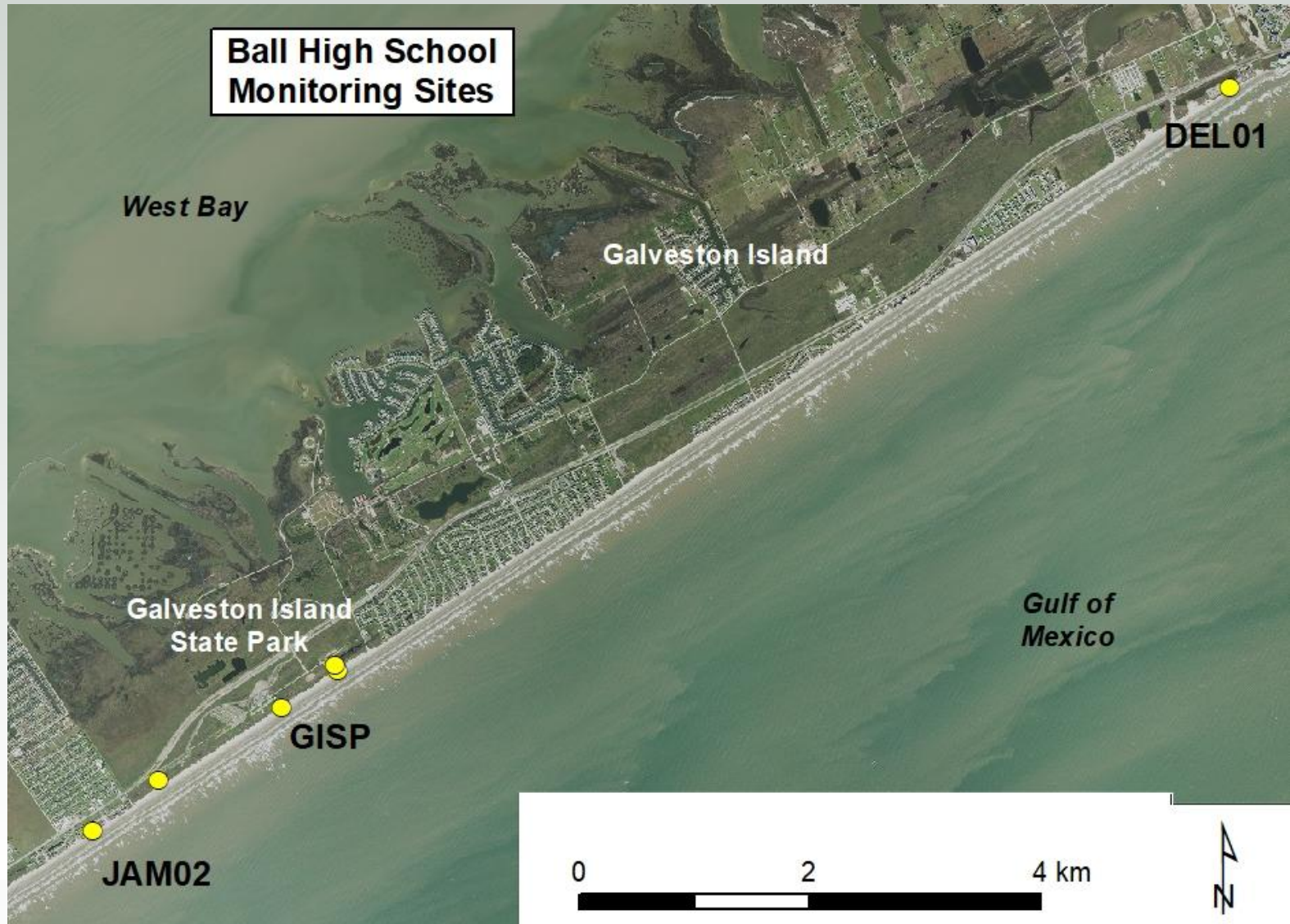


**October 25, 2024**





# Galveston Island Study Sites



**JAM02**

**November 17, 2021**

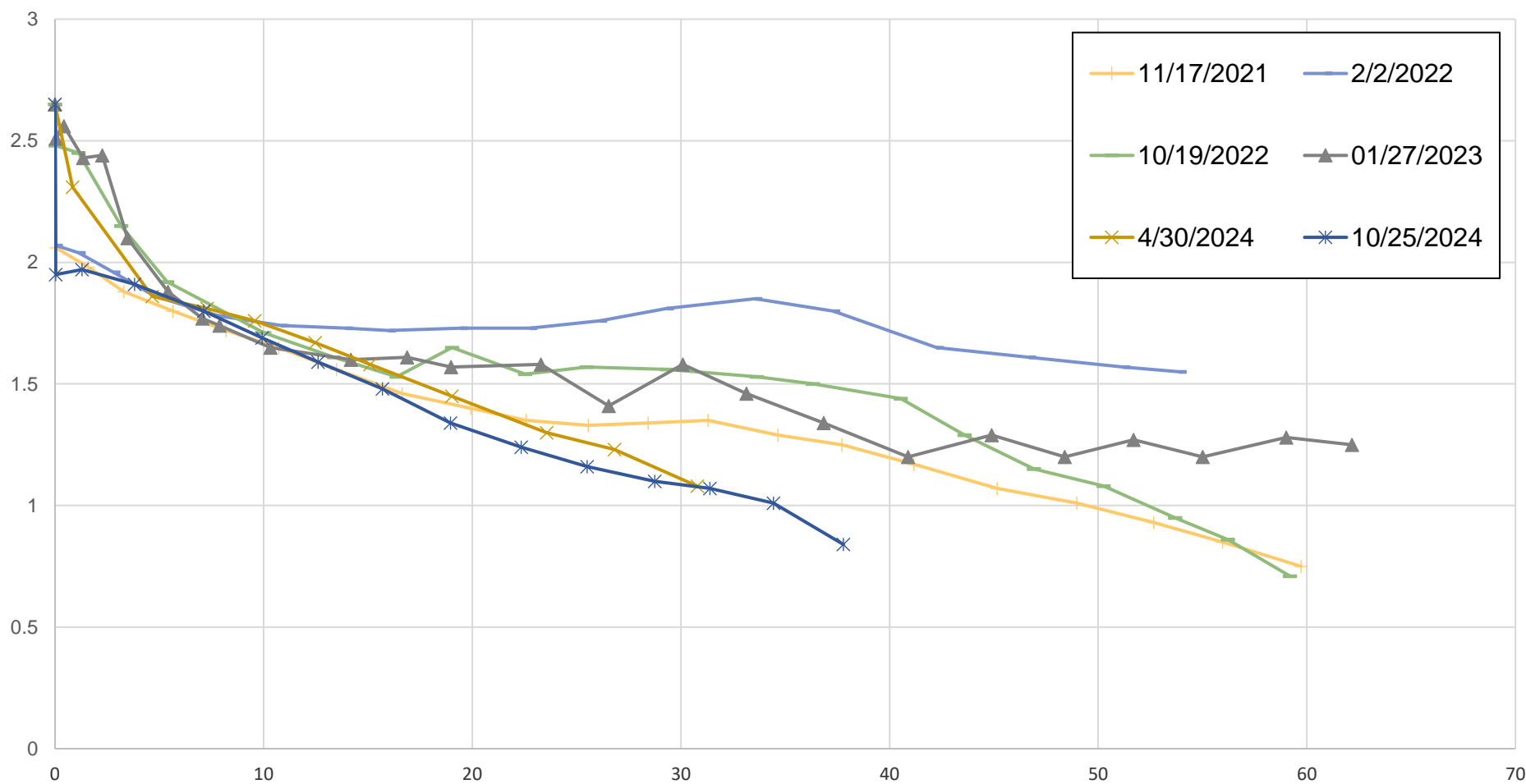


**October 25, 2024**



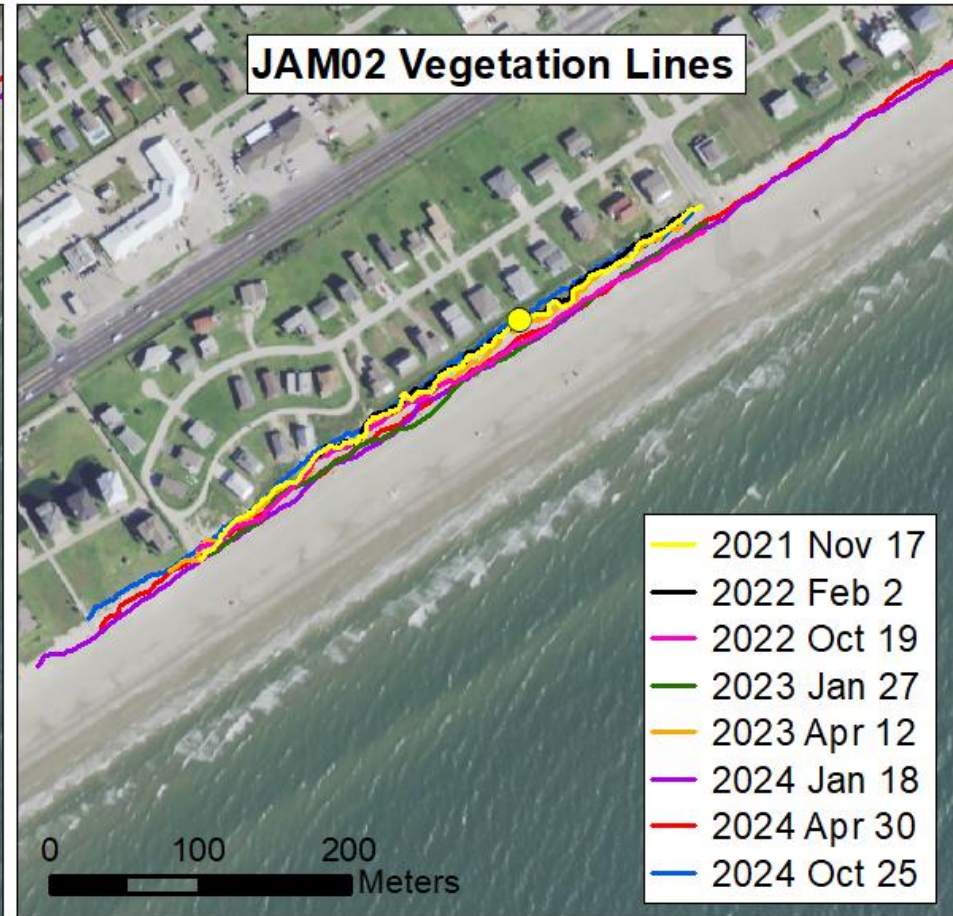
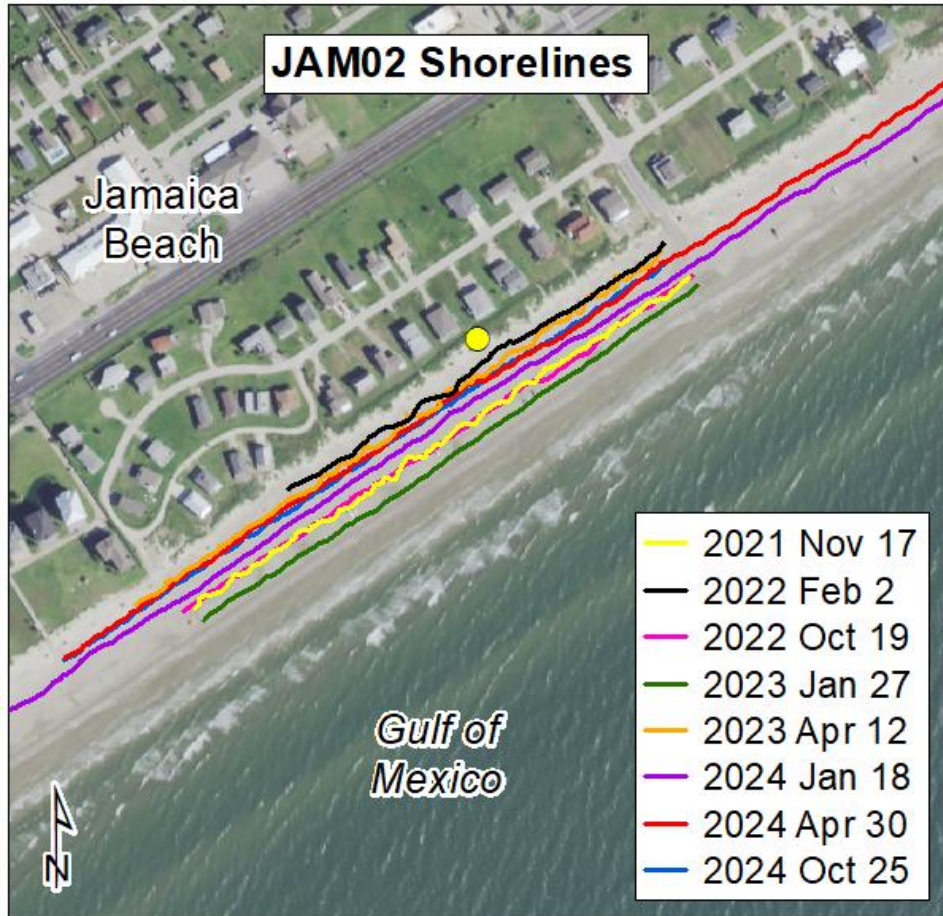


# JAM02: fall 2021-fall 2024

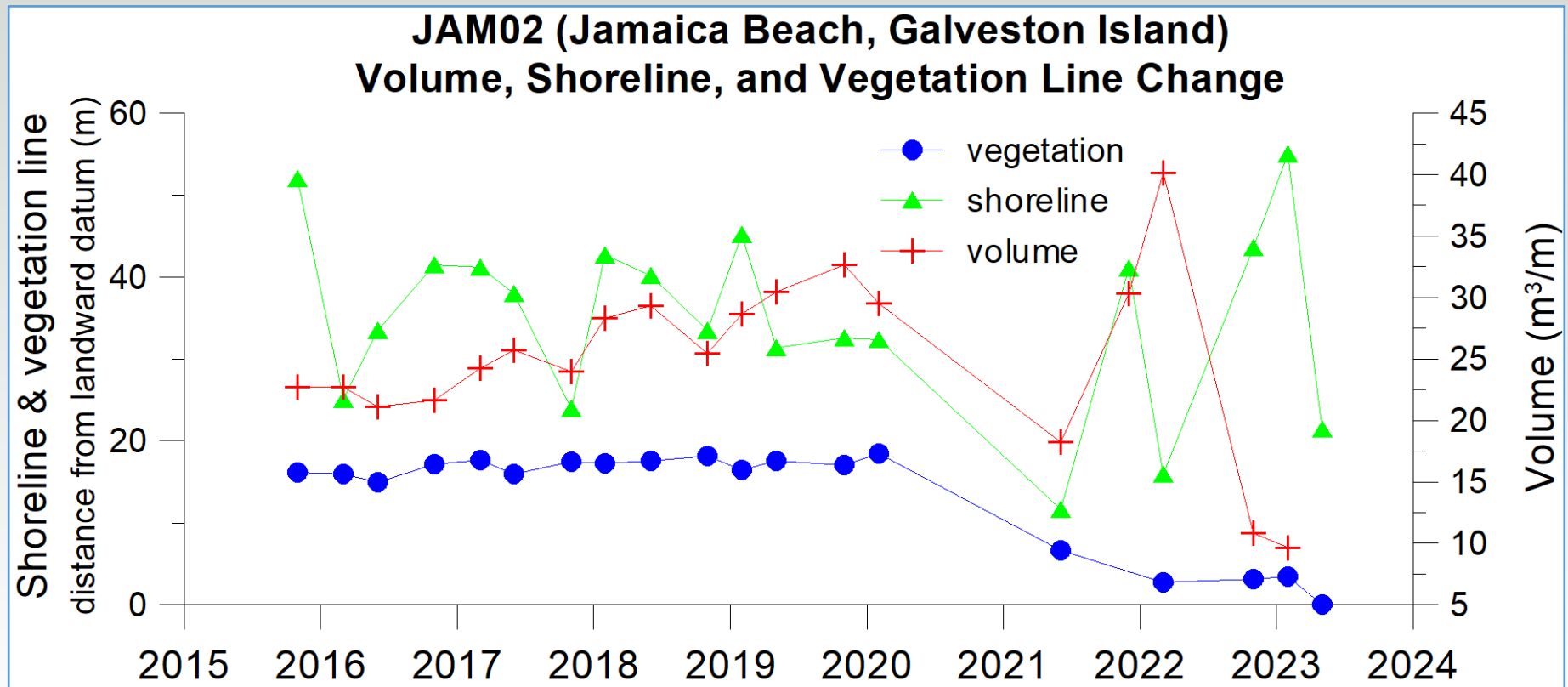




# JAM02 shore and vegetation line positions



# JAM02: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.



# BEG02 & GISP1

October 11, 2023

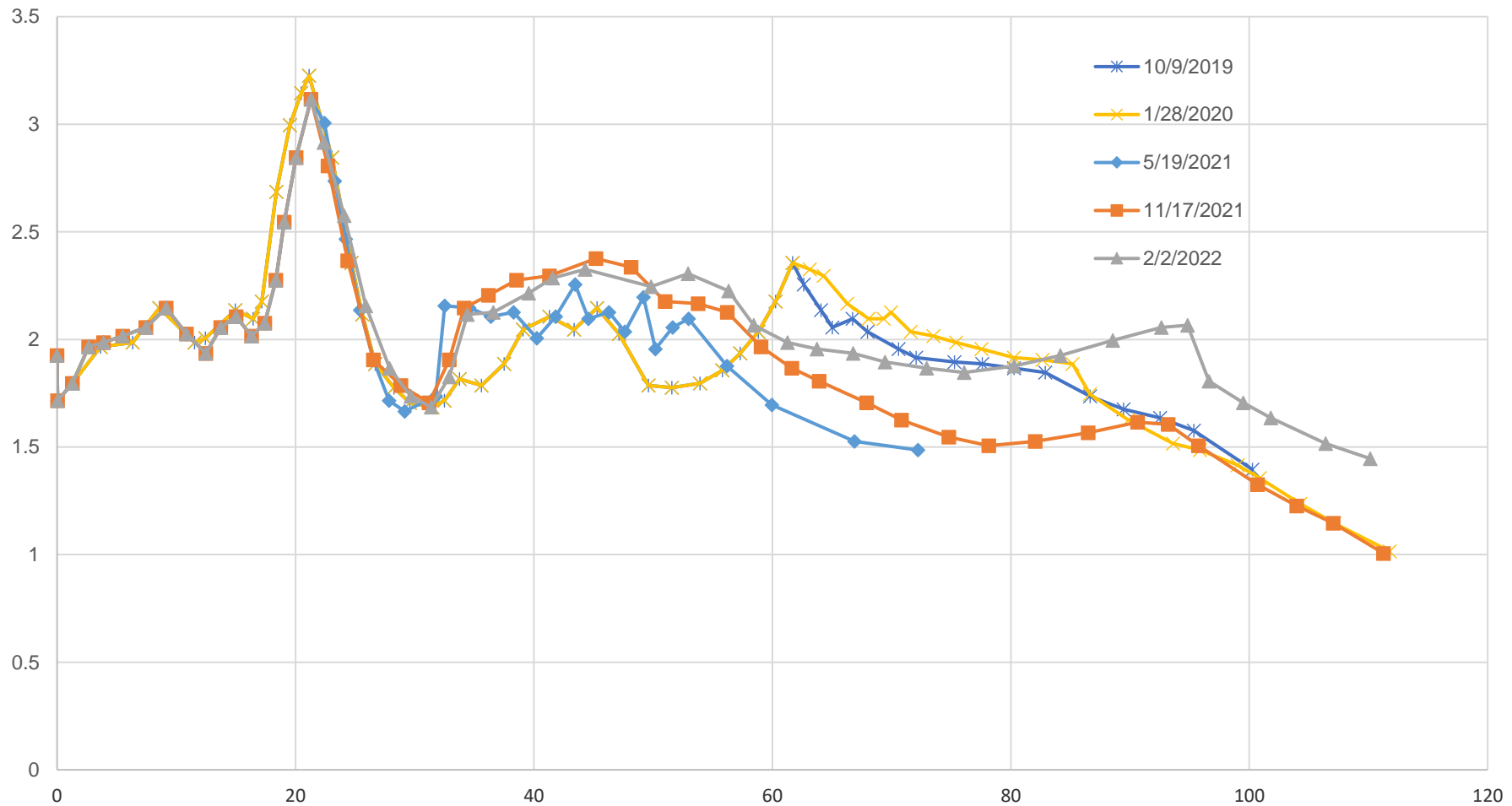


October 25, 2024

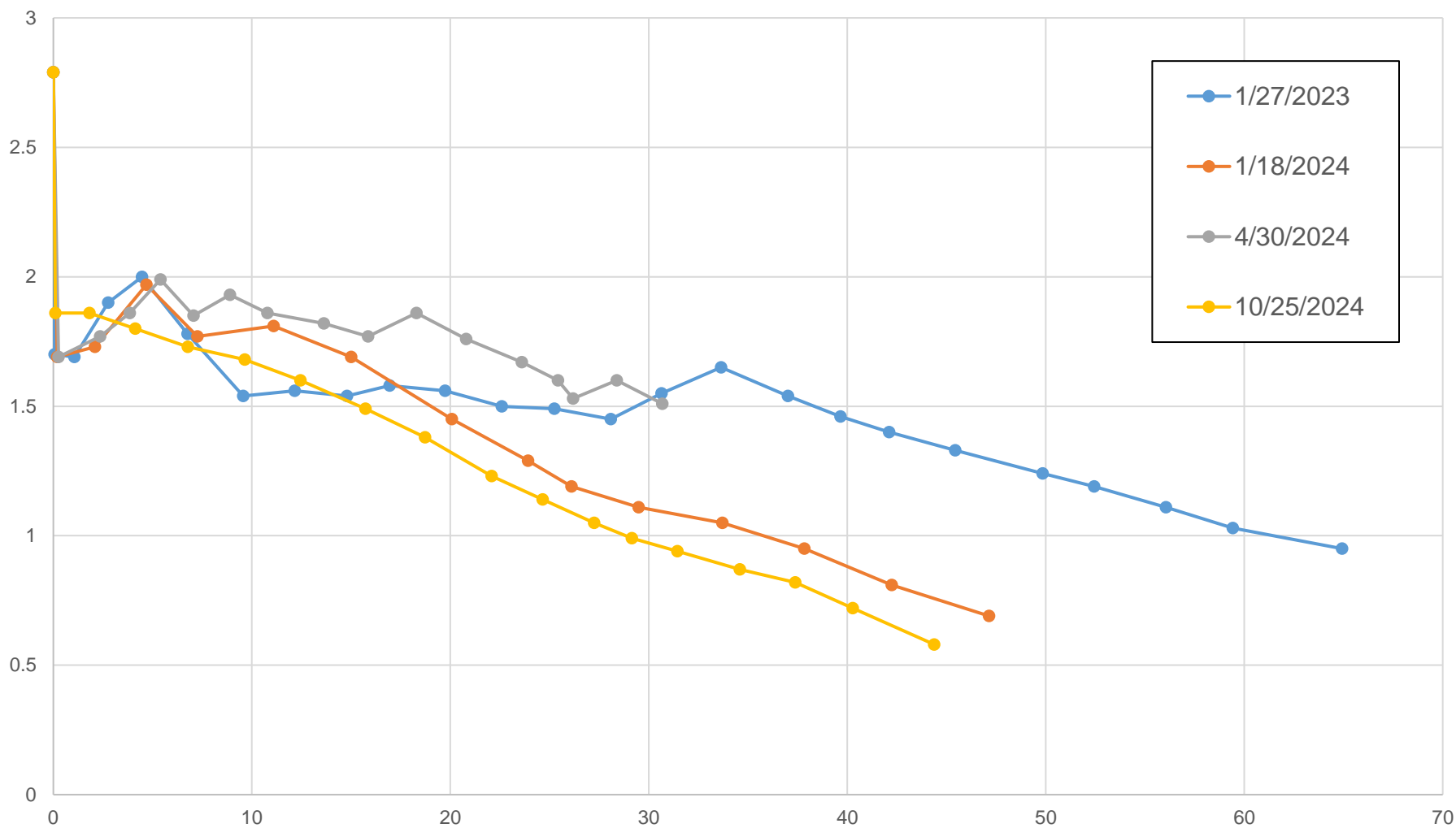




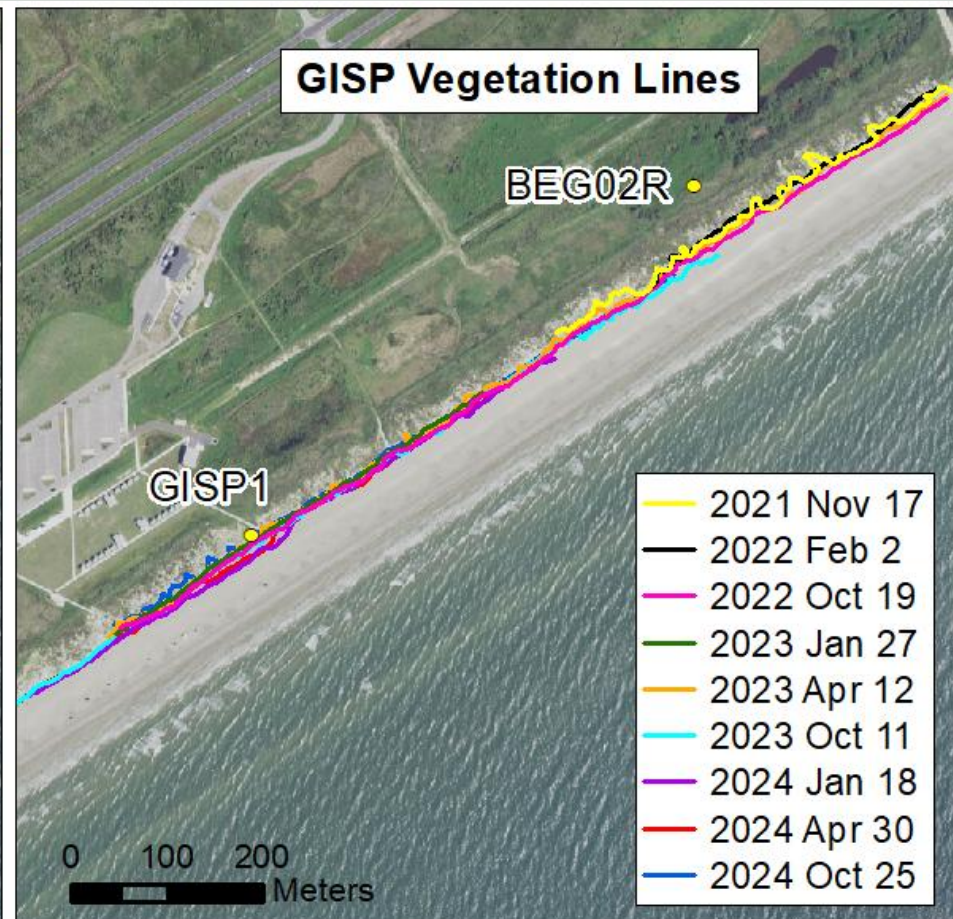
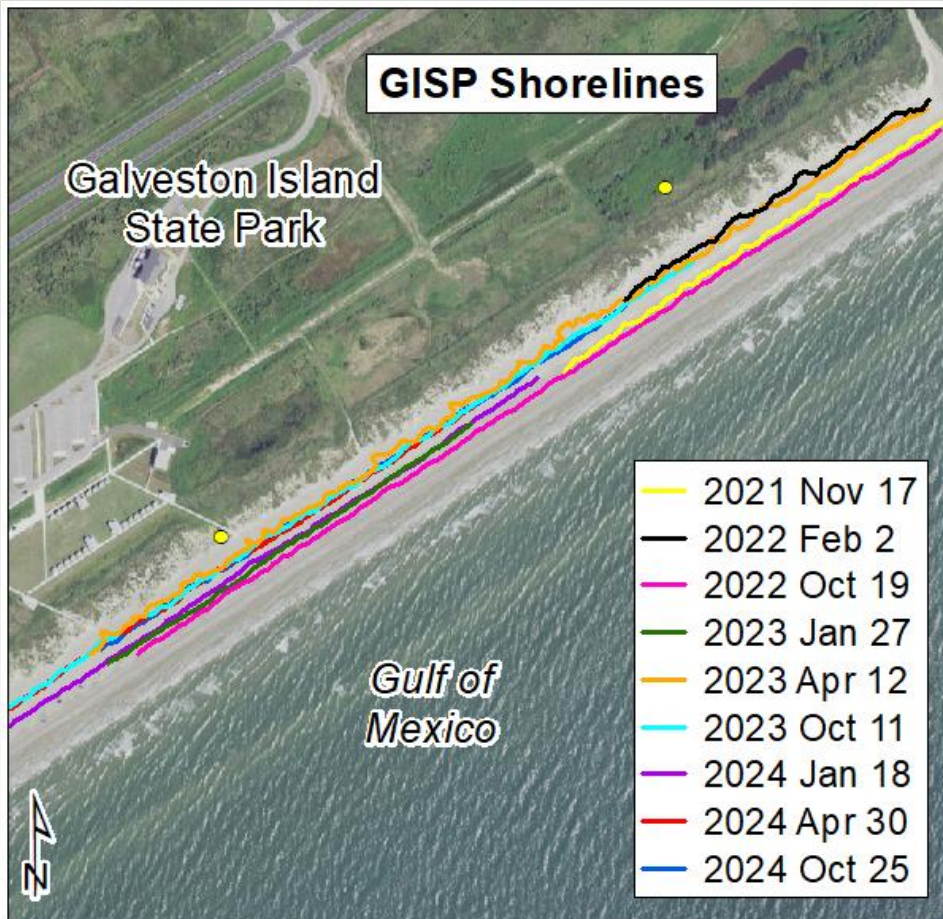
# BEG02 : spring 2021- winter 2022



# New site GISP1 : winter 2023-fall 2024

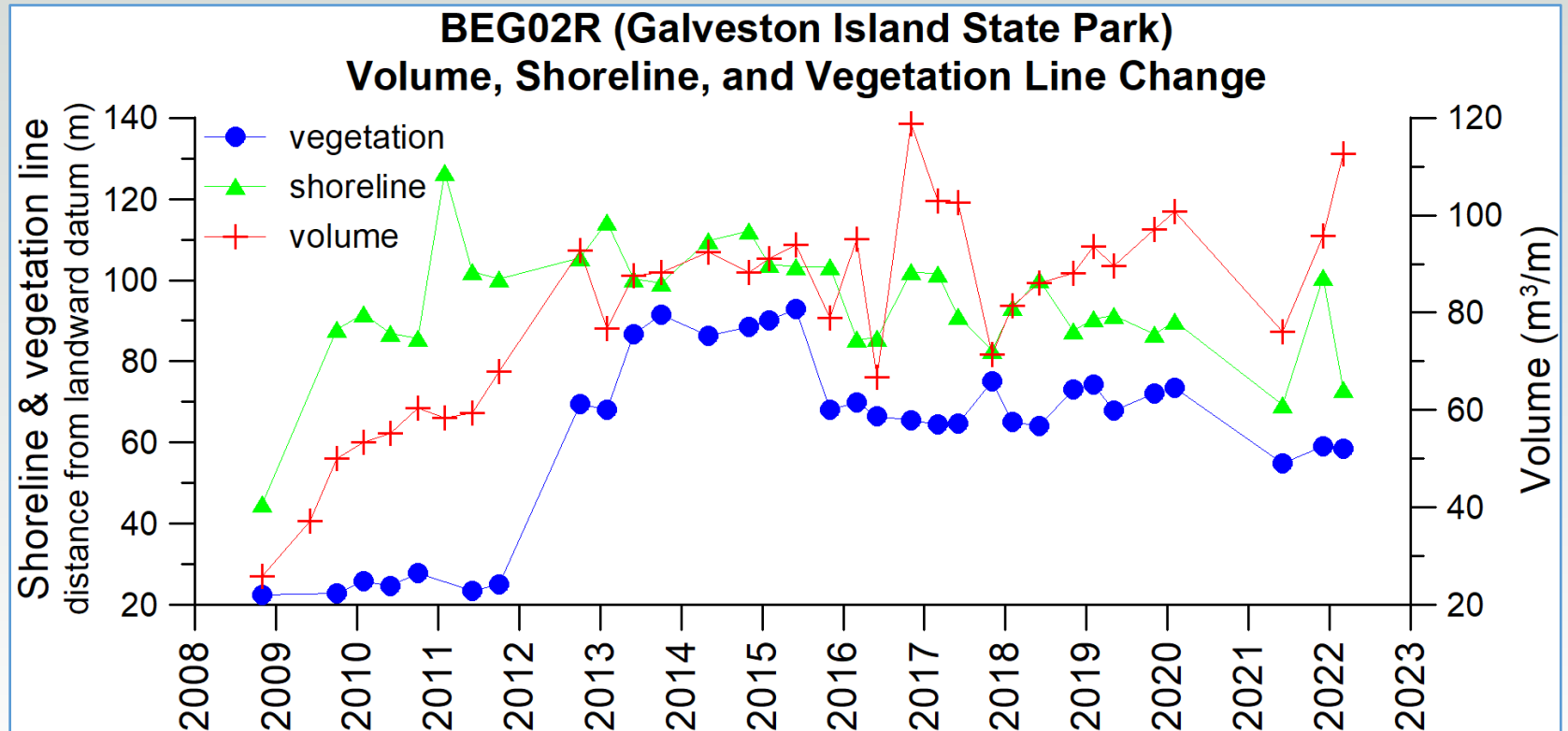


# GISP shore and vegetation line positions





# BEG02: shoreline, vegetation line, and volume changes



Sediment volume was calculated above 1 meter NAVD88.

**DEL01**

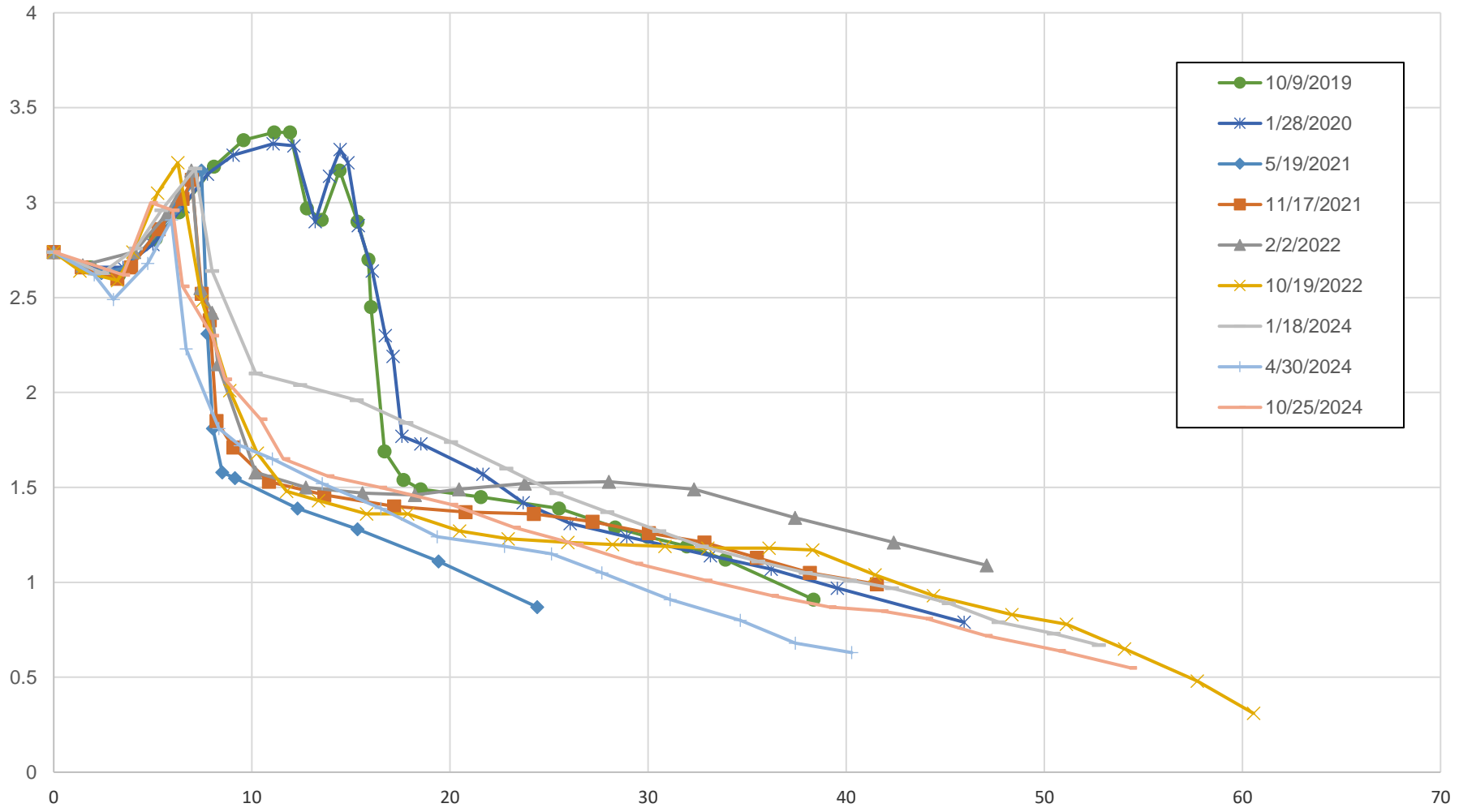
**October 19, 2022**



**April 30, 2024**

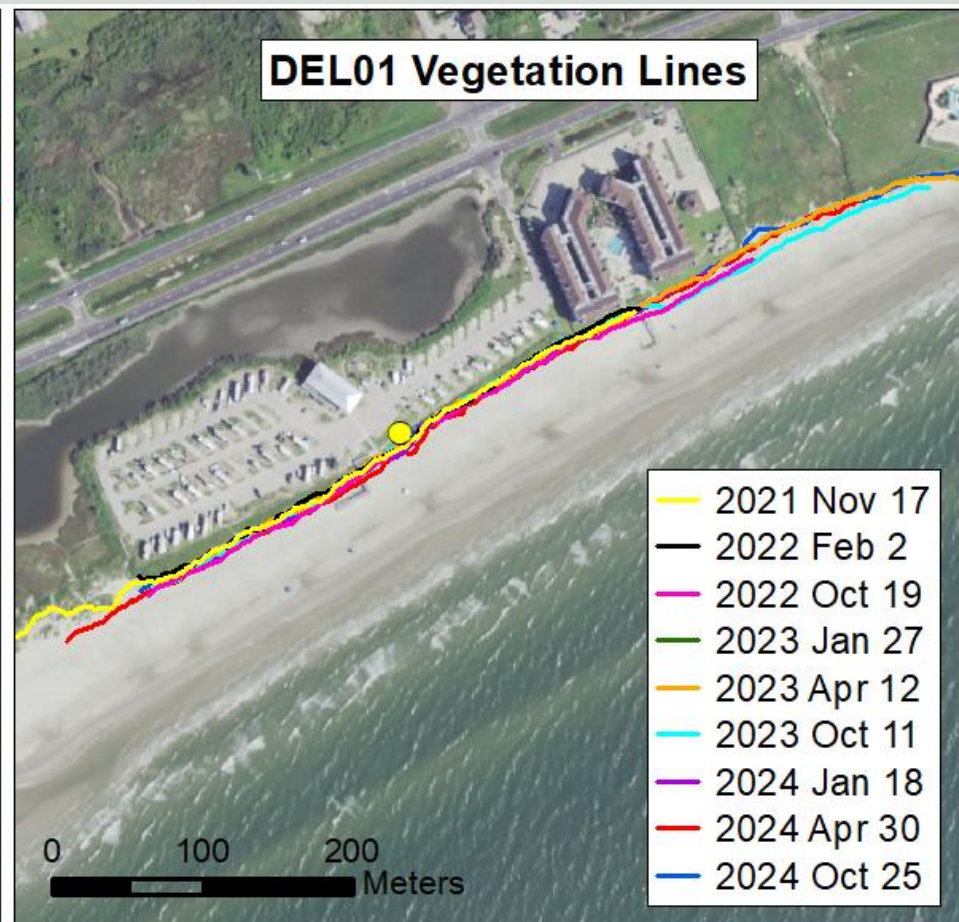
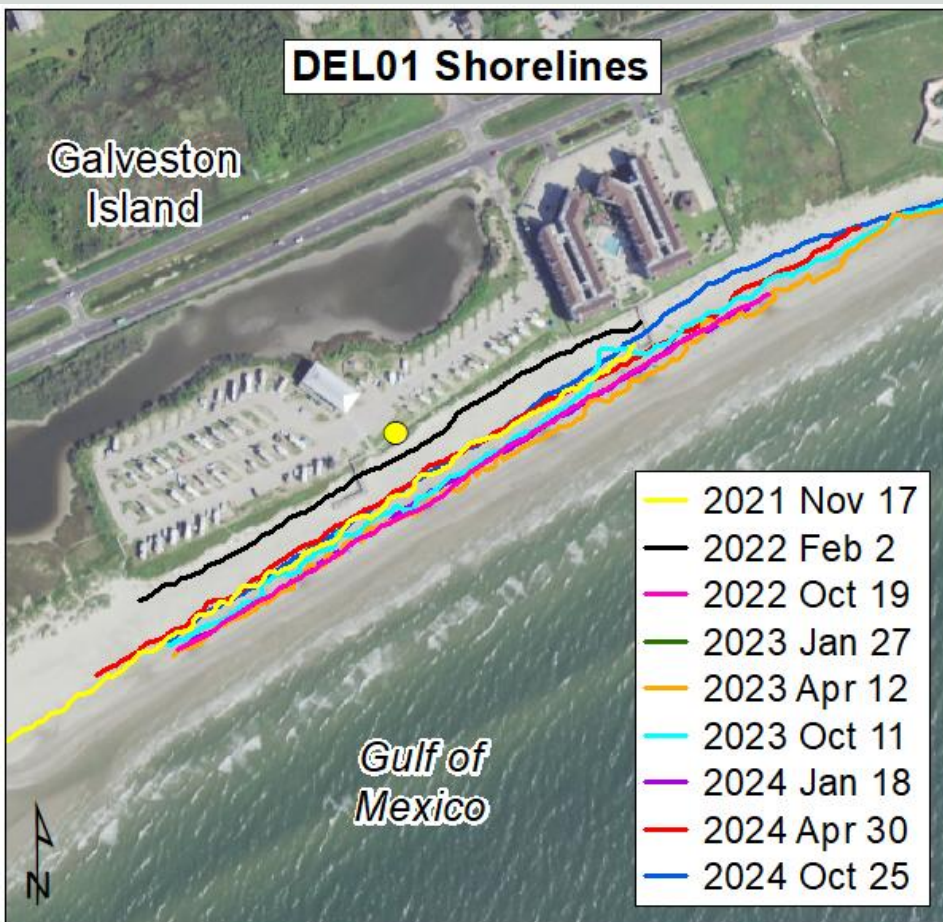


# DEL01: fall 2019-fall 2024

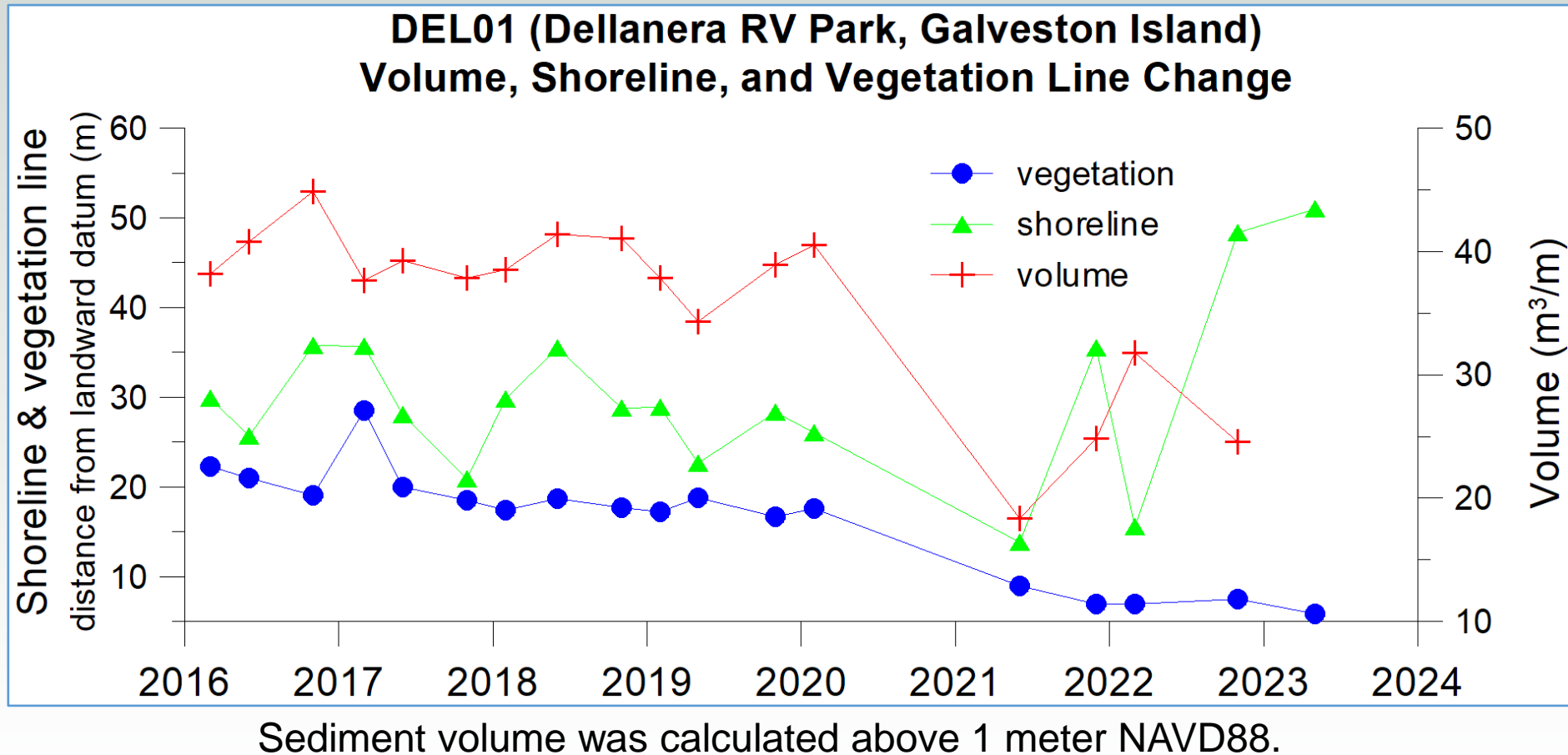




# DEL01 shore and vegetation line positions



# DEL01: shoreline, vegetation line, and volume changes





# Babe's Beach shoreline positions

