

# **Texas High School Coastal Monitoring Program at Port Aransas High School: 2021-2022**

July 2022

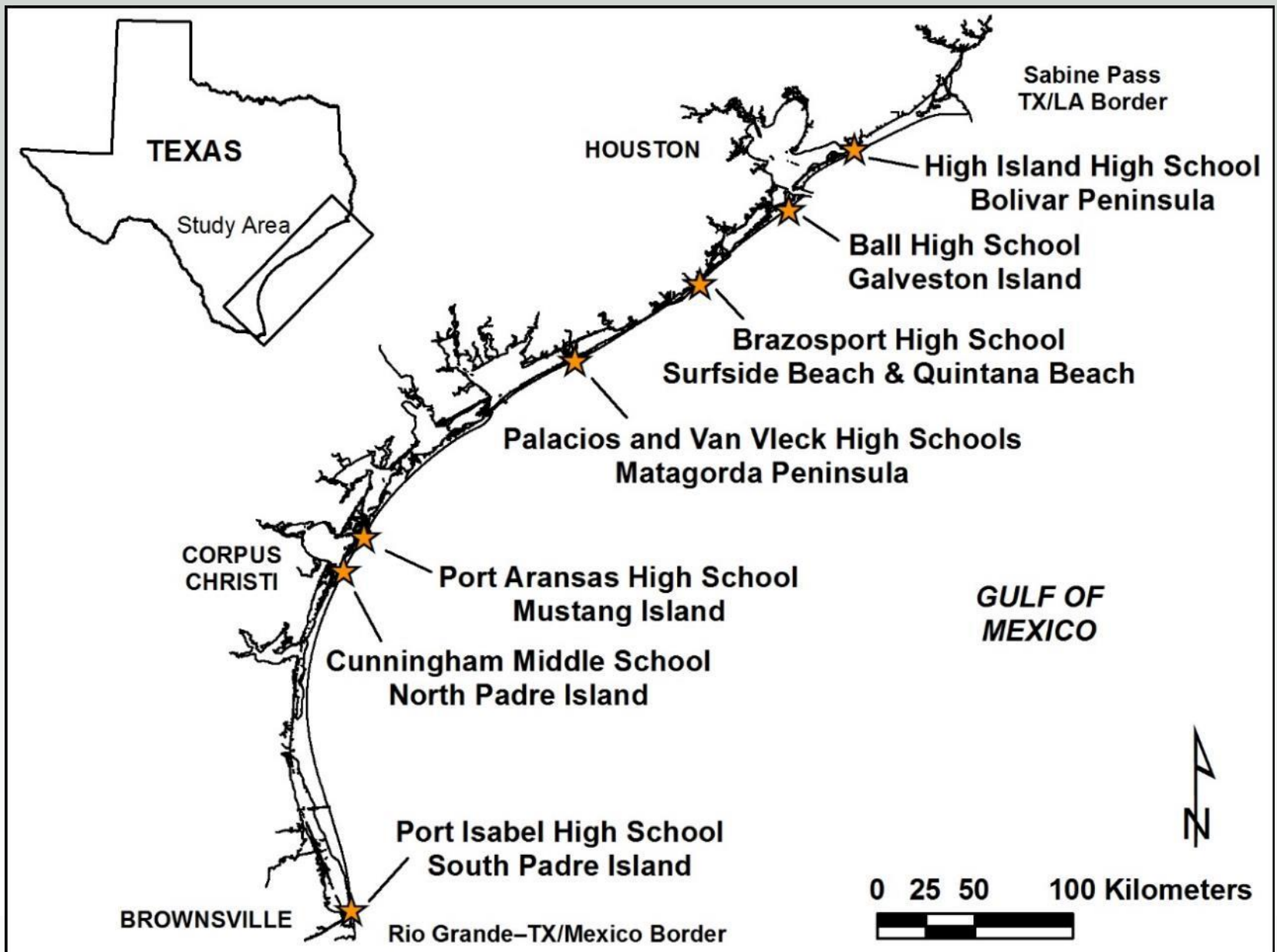


BUREAU OF  
ECONOMIC  
GEOLOGY

# 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.





# 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





# Mustang Island Study Sites

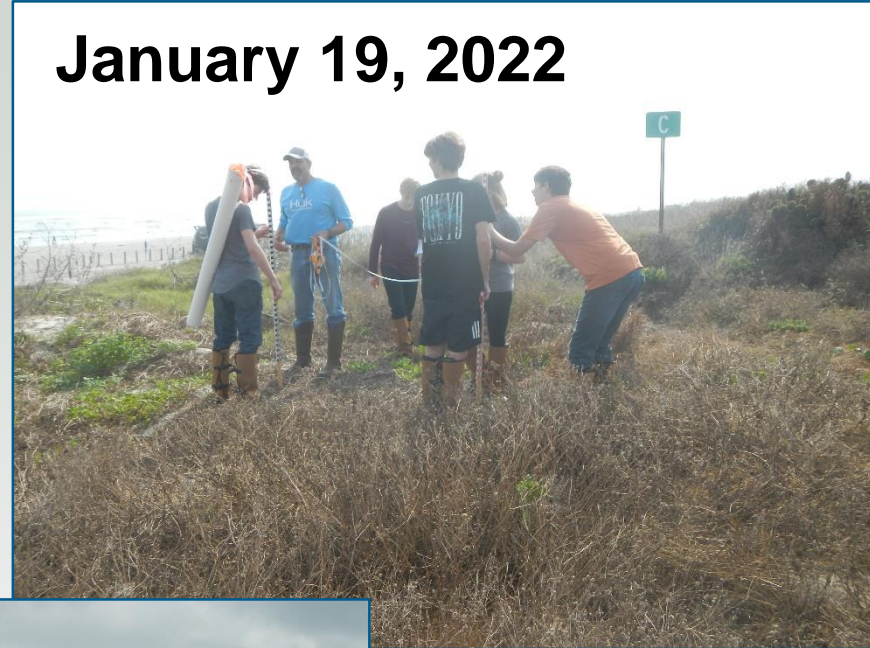


# 2021-2022 field trips

**November 15, 2021**



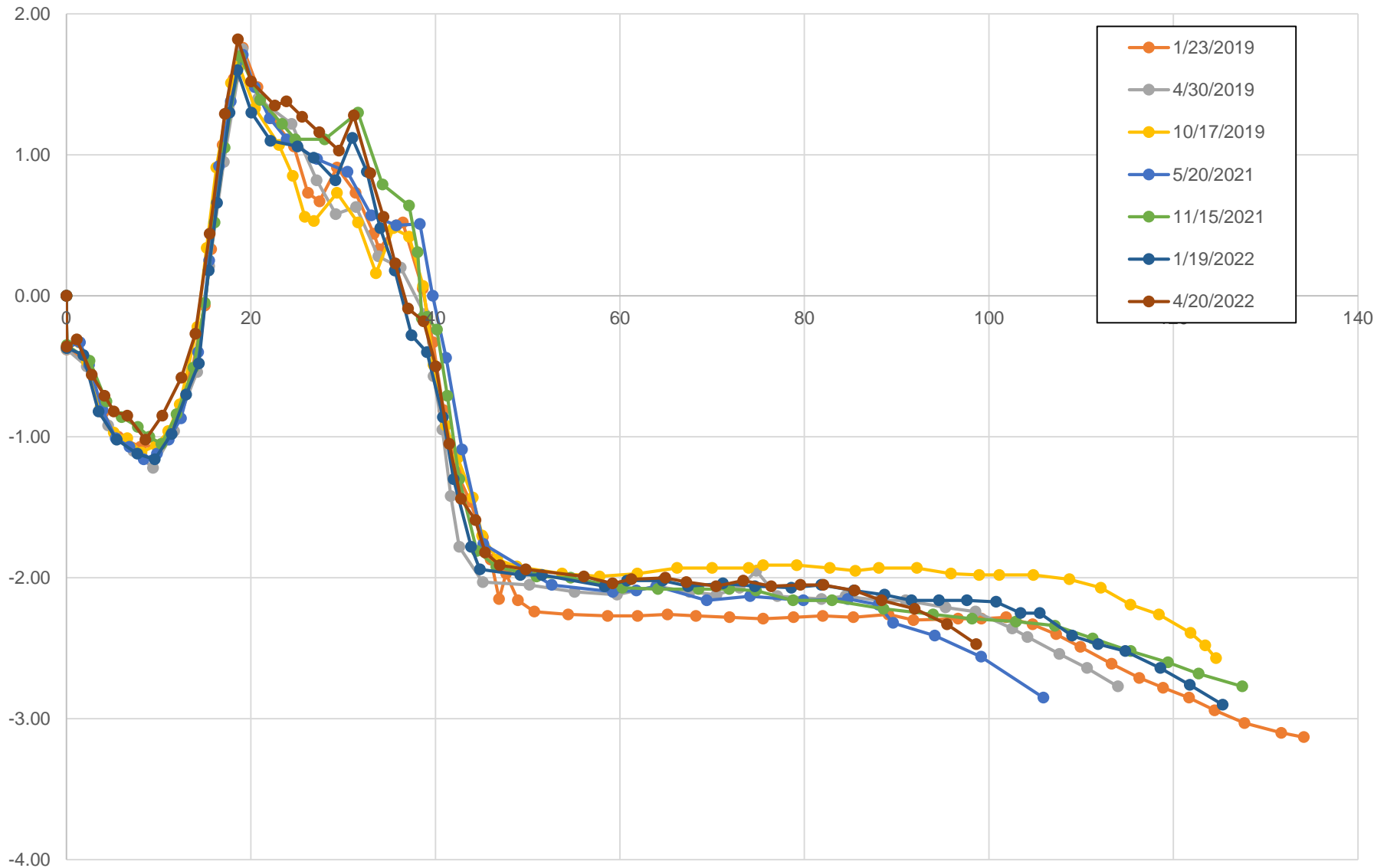
**January 19, 2022**



**April 20, 2022**

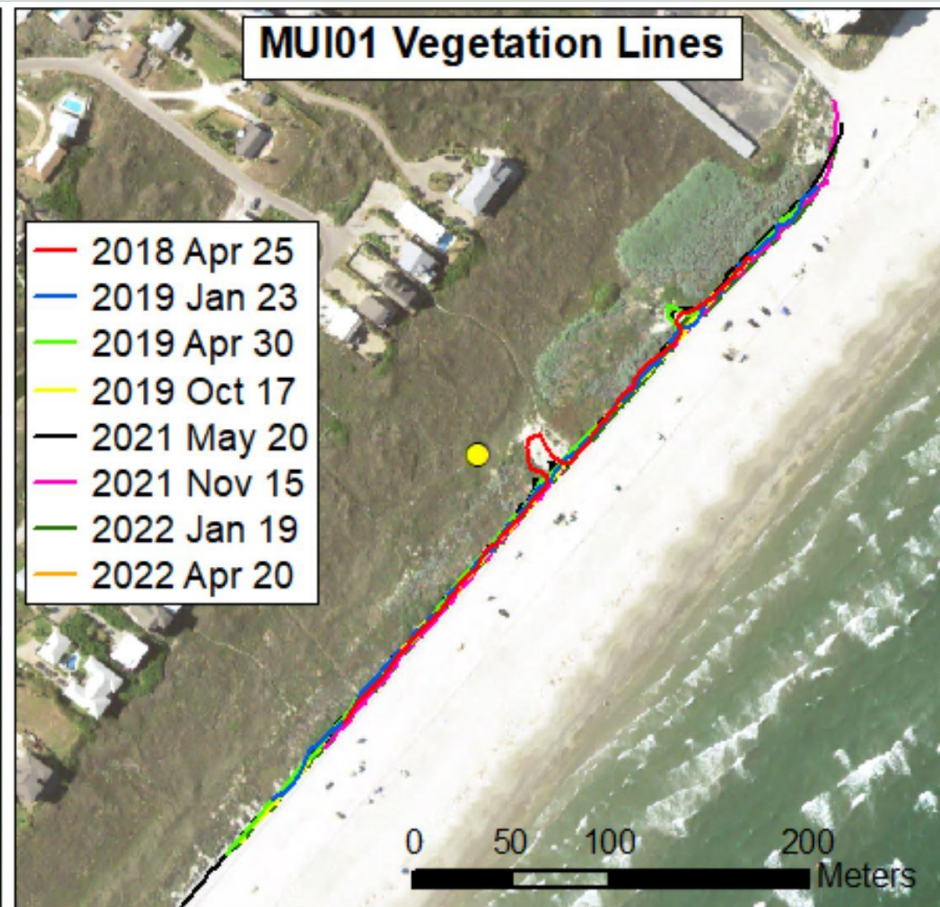
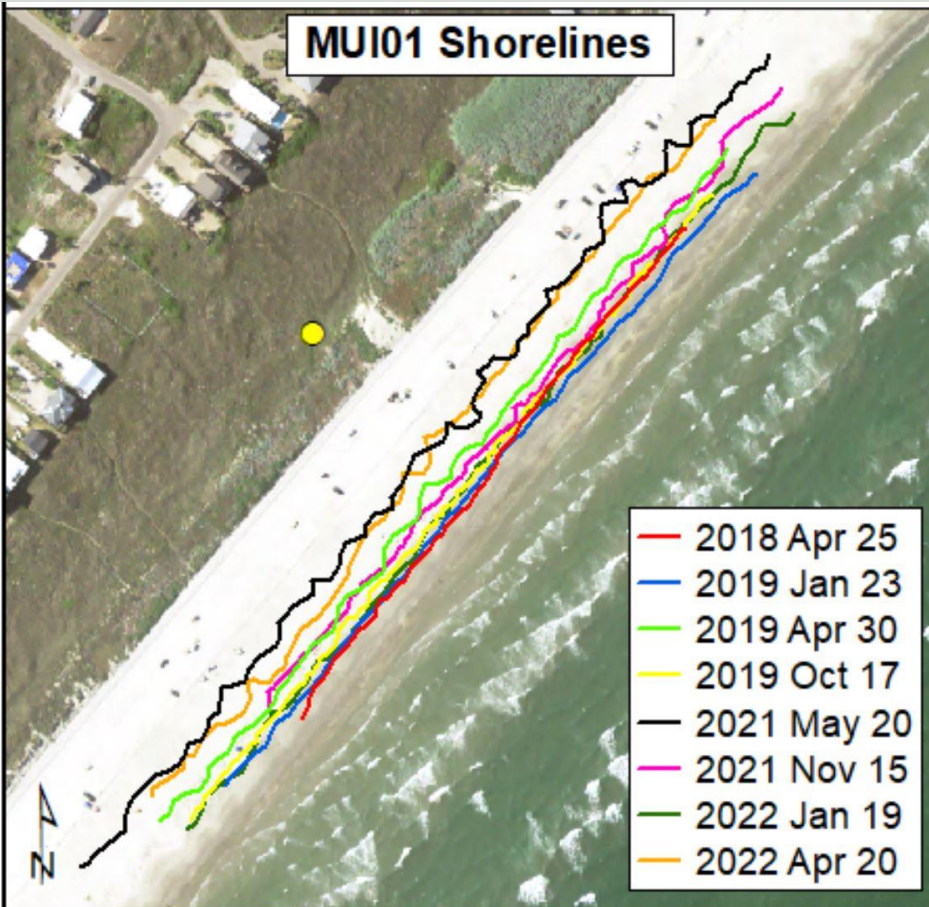


# MUI01: fall 2019-spring 2022



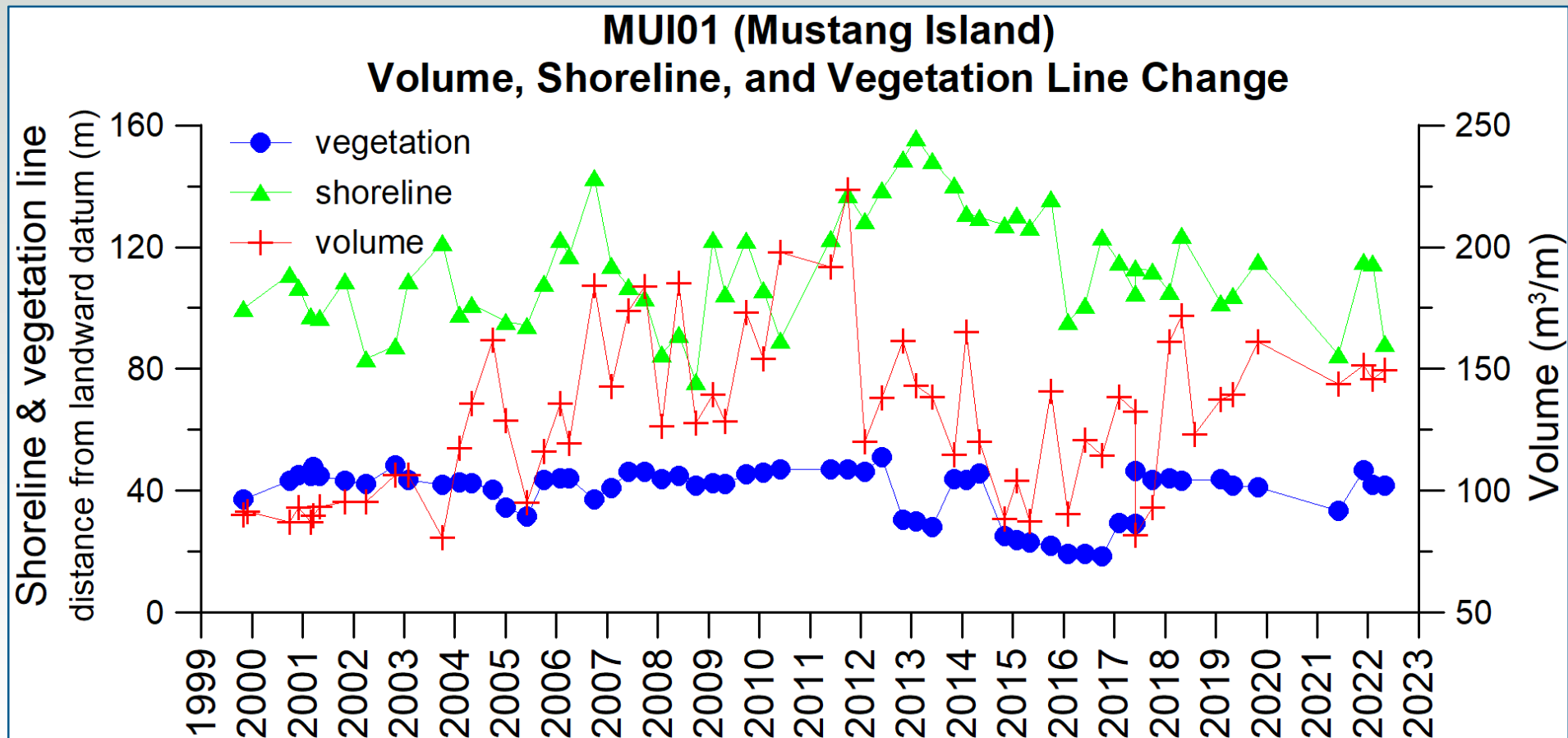


# MUI01 shore and vegetation line positions



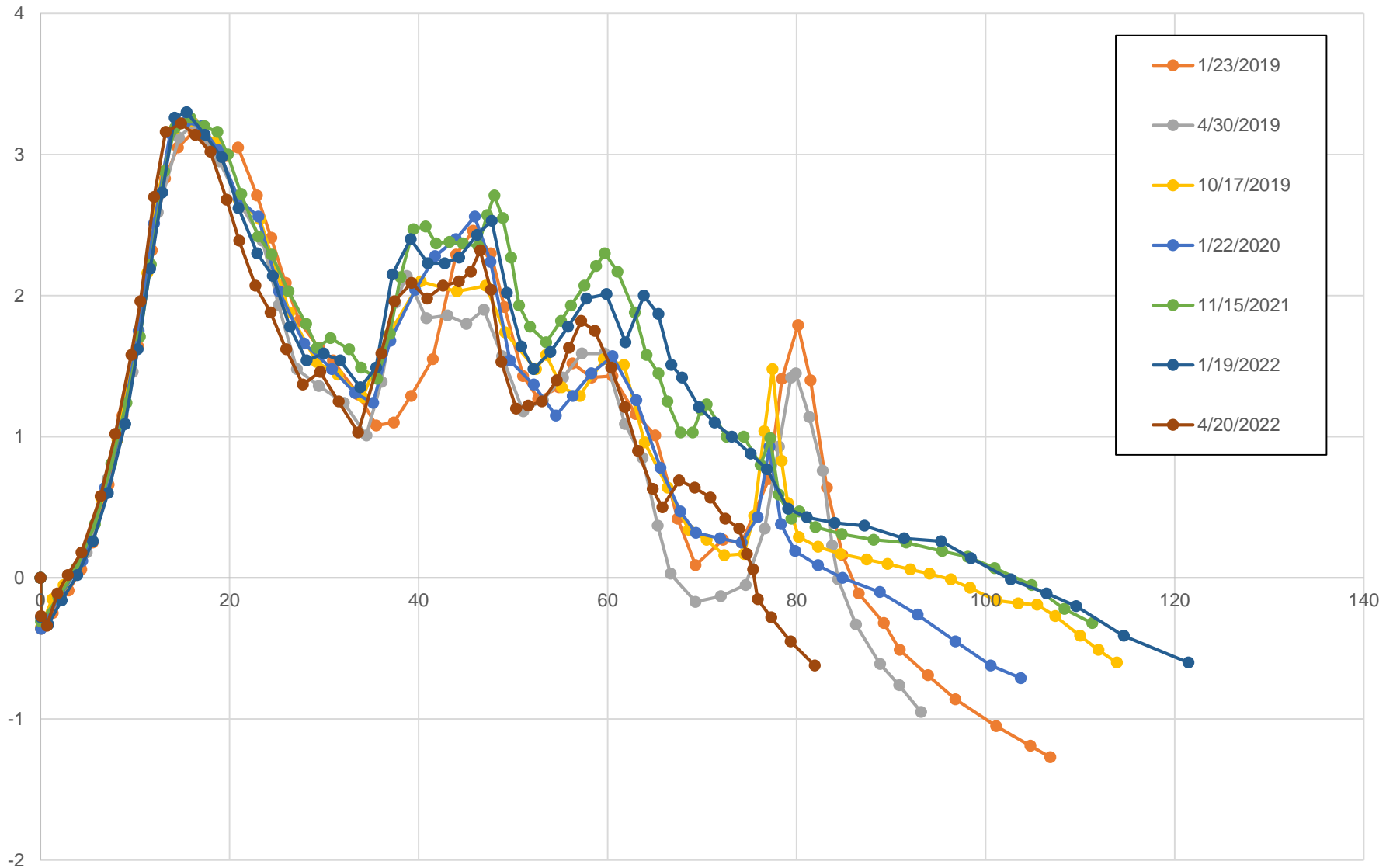


# MUI01: shoreline, vegetation line, and volume changes

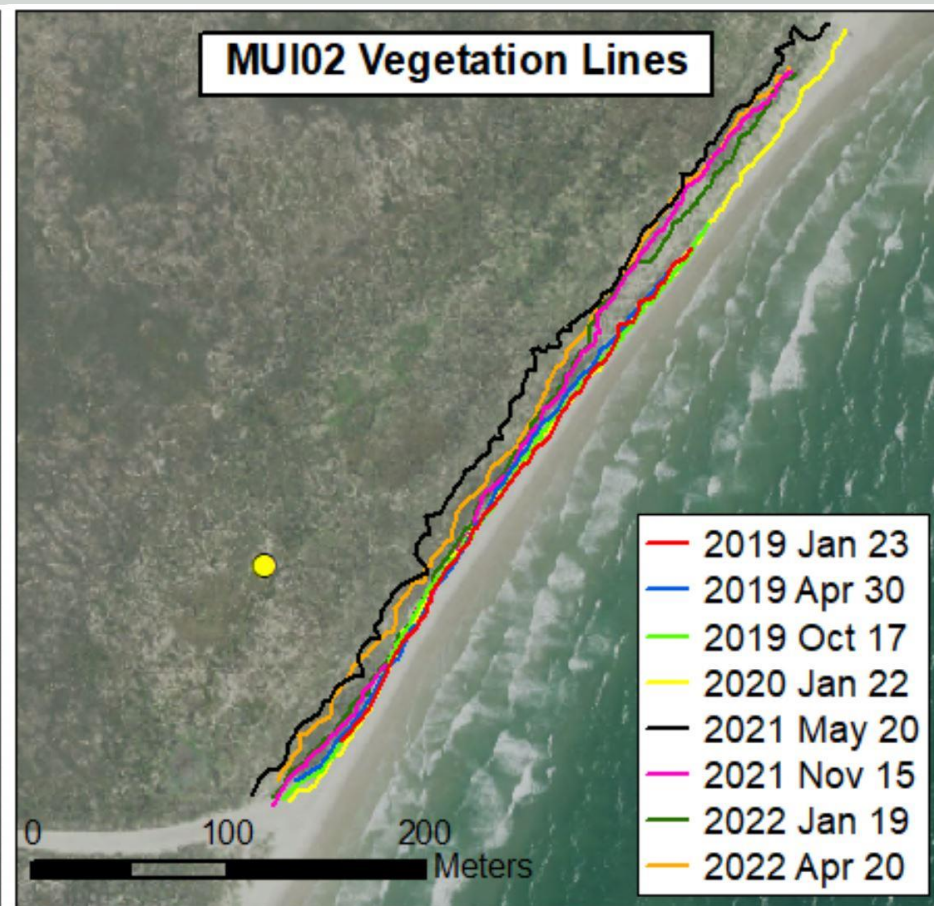
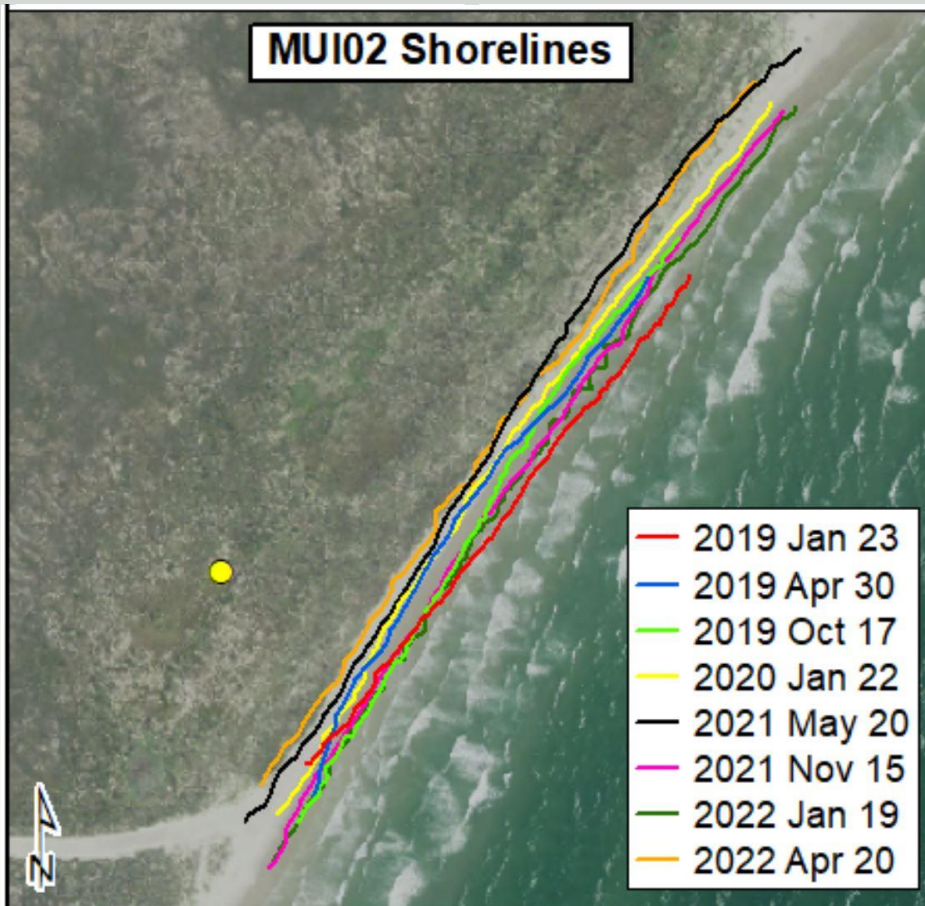


Sediment volume was calculated above 1.5 meter NAVD88.

# MUI02: winter 2019-spring 2022

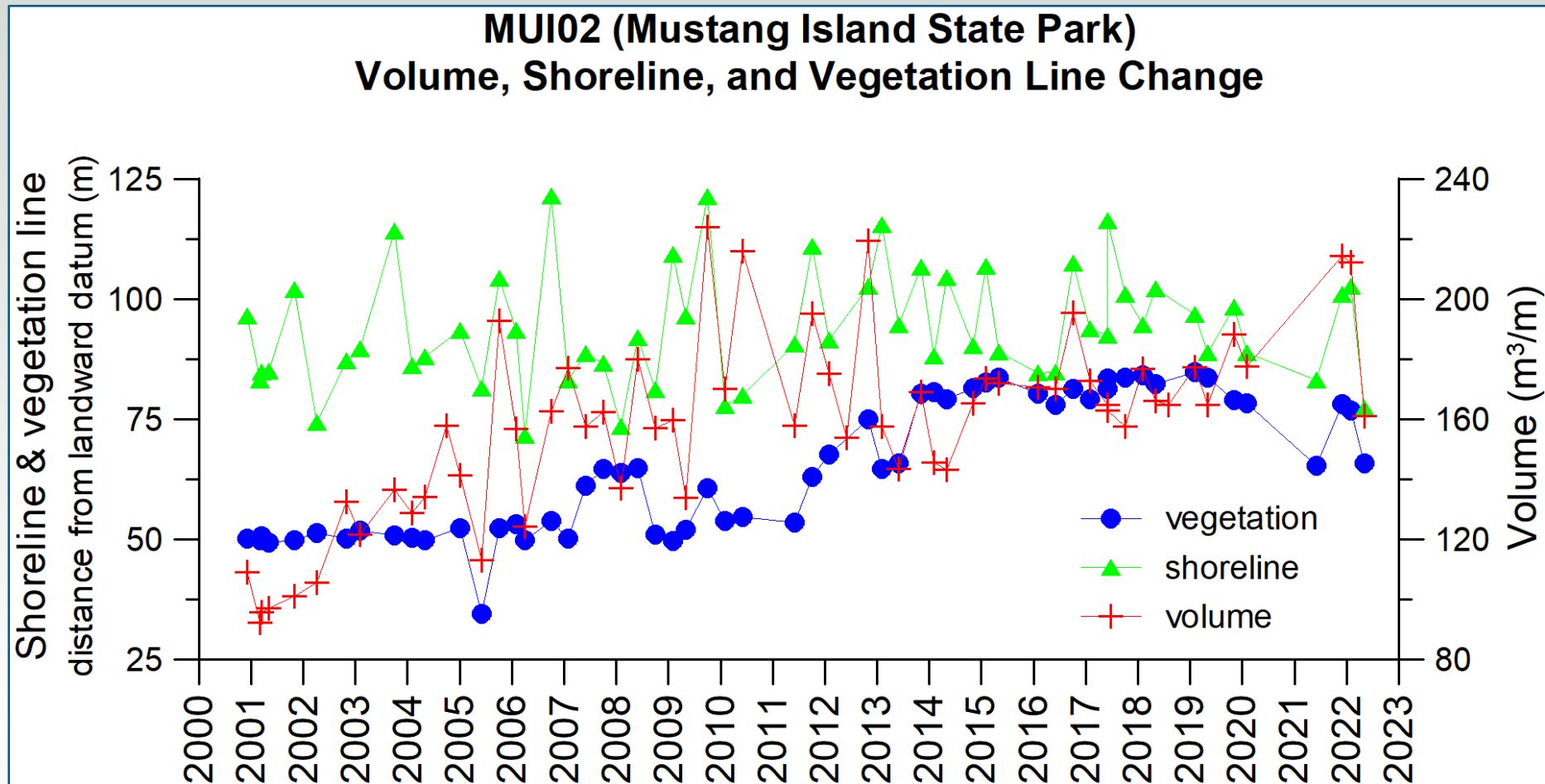


# MUI02 shore and vegetation line positions



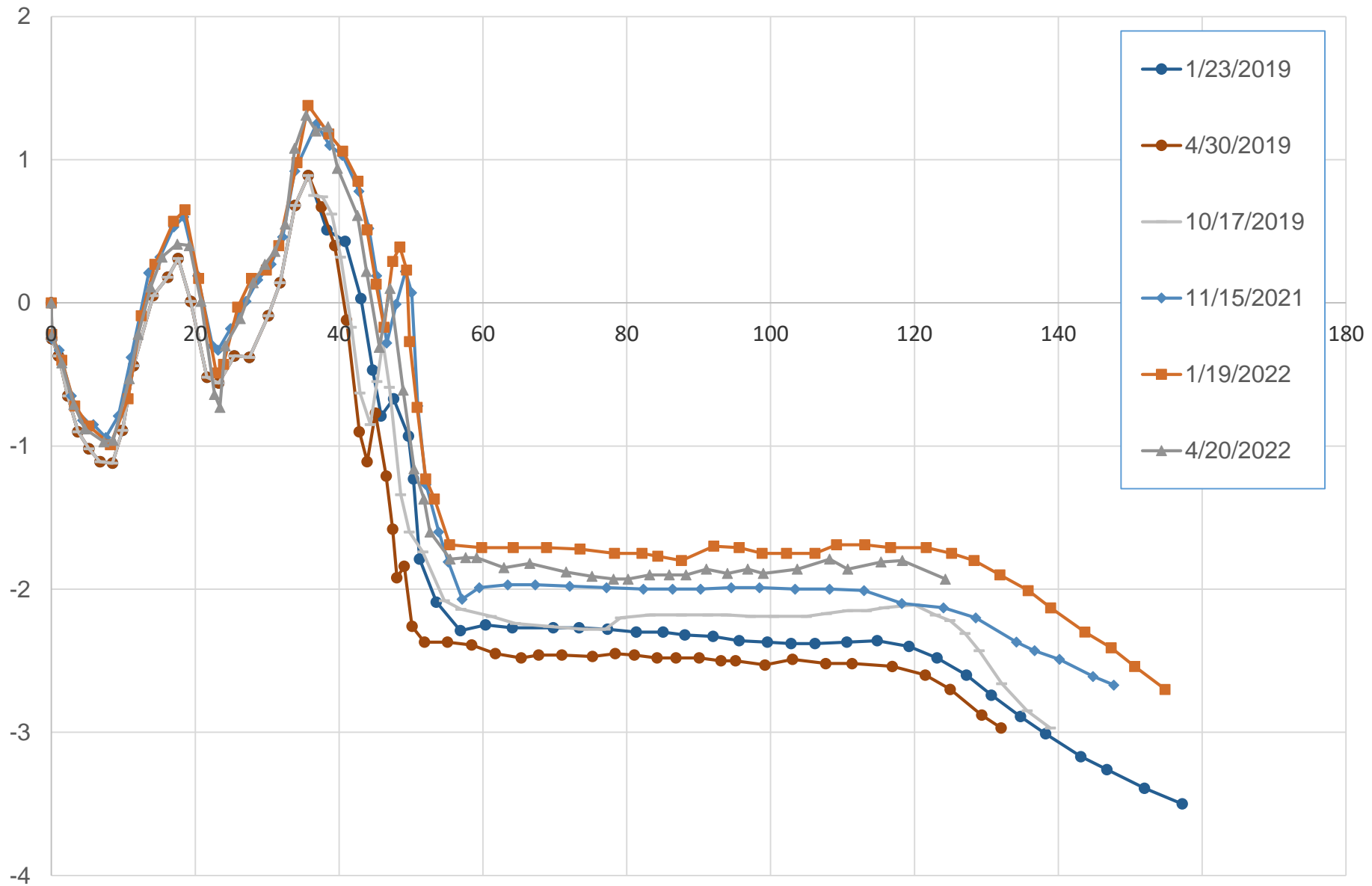


# MUI02: shoreline, vegetation line, and volume changes

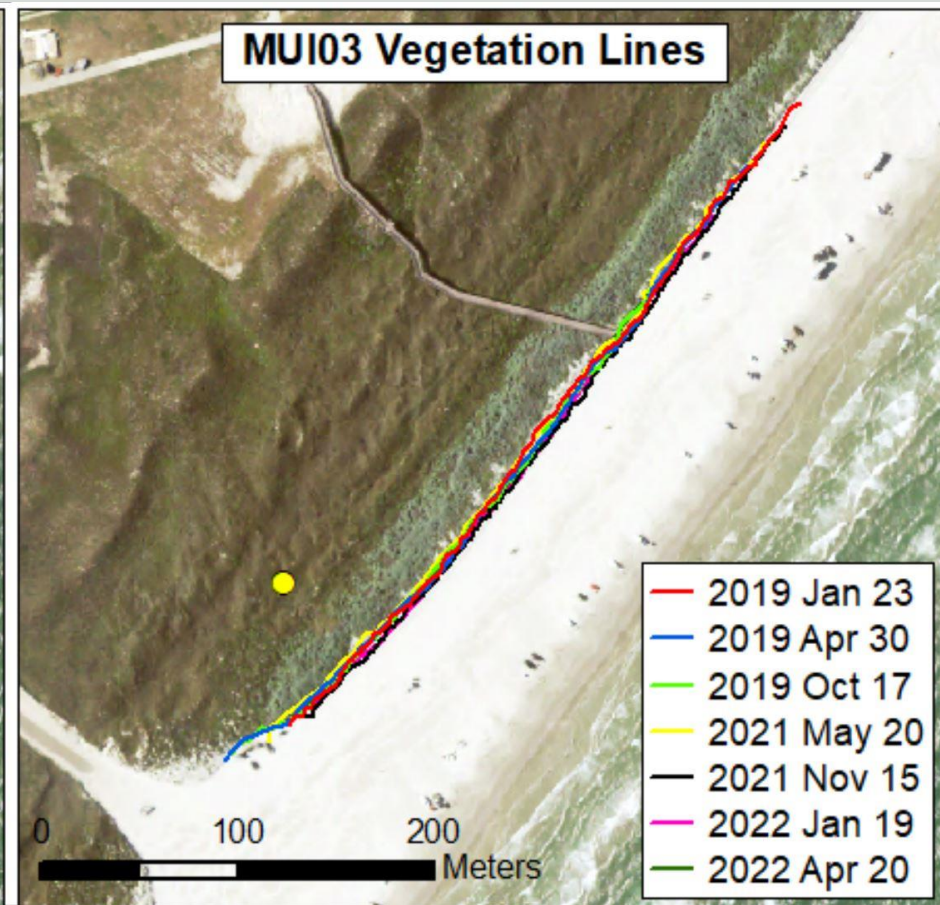
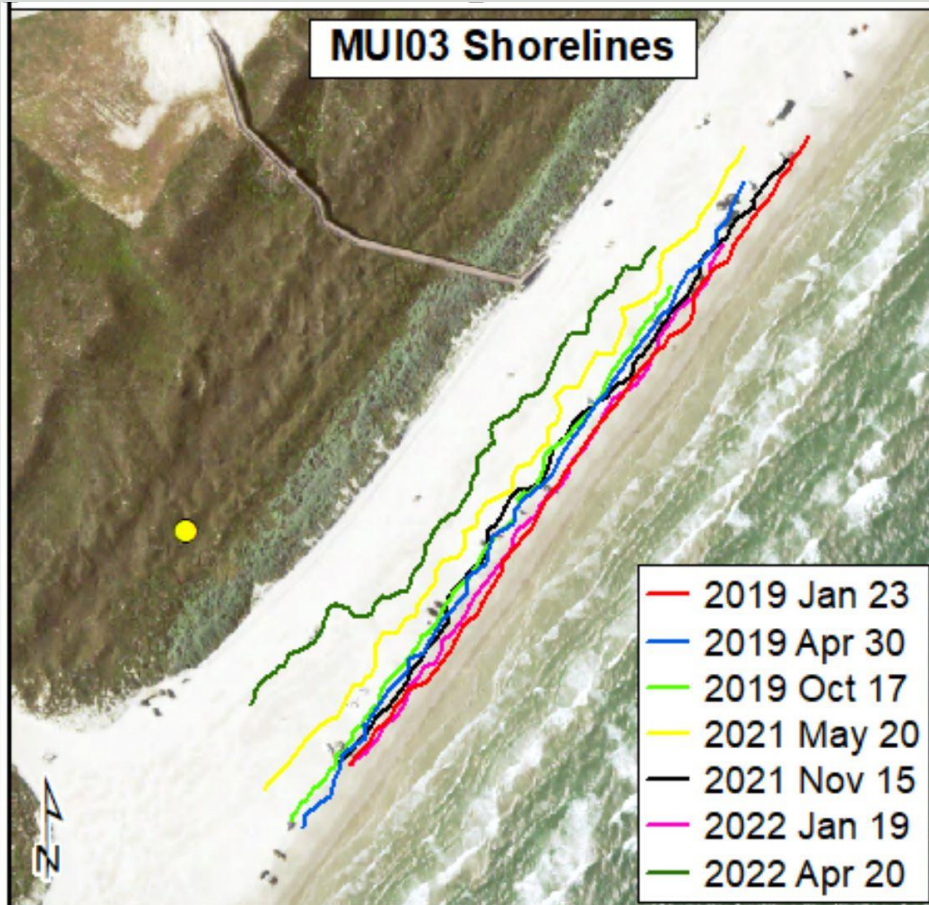


Sediment volume was calculated above 1.25 meter NAVD88.

# MUI03: winter 2019-spring 2022



# MUI03 shore and vegetation line positions





# MUI03: shoreline, vegetation line, and volume changes

