Texas High School Coastal Monitoring Program at Van Vleck High School: 2021-2022

July 2022
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
Matagorda Peninsula Study Sites

Matagorda Area Schools Monitoring Sites

East Matagorda Bay

Three Mile Cut

MAT01 Van Vleck High School

MAT02 Palacios High School

MAT03

Colorado River

Gulf of Mexico

Scale: 0 - 2 km
2021-2022 field trips

October 7, 2021

February 24, 2022

May 18, 2022

Bureau of Economic Geology

[Image of beach with group]
MAT01 shore and vegetation line positions
MAT01: shoreline, vegetation line, and volume changes

Sediment volume was calculated above 1 meter NAVD88.
MAT03 shore and vegetation line positions
MAT03: shoreline, vegetation line, and volume changes

Sediment volume was calculated above 1 meter NAVD88.