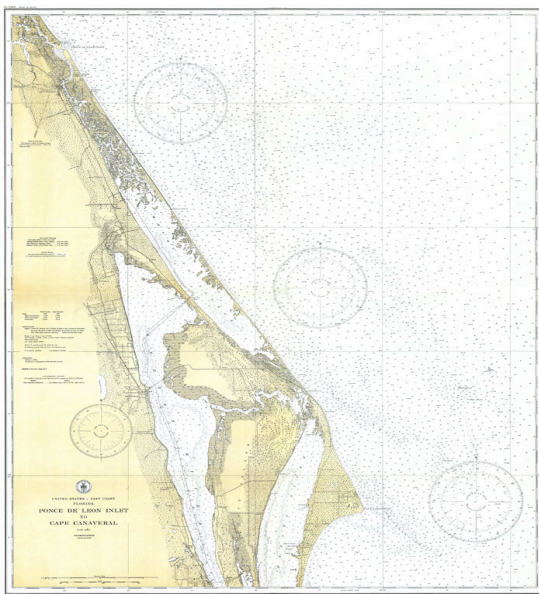


FCAT Questions - Coastal Dynamics
Grades 6-8
SCD 1.2.4, SCD 1.2.5

Barrier islands are long narrow deposits of sediment on shallow ocean floors that build up over time to create an island. These islands run parallel to the mainland and are usually separated by a shallow sound or salt marsh. Barrier islands are sometimes found in chains along the coast and are separated from each other by tidal inlets. Many larger barrier islands have been developed into resort communities and have become popular tourist attractions. Salt marshes and flats have been filled in to accommodate new construction for the growing human population. However, the natural forces that build the islands also erode shorelines with a combination of wind, waves, currents and tides, moving sand away from one end of the islands and depositing it in another area. Over time the island itself changes, sometimes leaving little or no beach area. To rebuild a beach, humans sometimes use a process called beach nourishment. This process involves bringing in sand from other sources to build back the beach. However, it is very costly and is only a temporary effort to stop the shifting sand. Barrier islands are important for two reasons. First, they protect the coastlines from storms and hurricanes, and second, they provide a habitat for wildlife.

1. Cape Canaveral is located on a barrier island off the Florida coast in Brevard County. Why is the location of the island important to the mainland of Brevard County if a hurricane were to strike the coast area?



- A. The storm surge that comes with a hurricane will be weakened by the island before it reaches the mainland.
- B. The wind from a hurricane will be blocked by the island before it reaches the mainland.
- C. People who live on the island don't have far to go to reach the mainland.
- D. Boaters are safe if they move to the ocean side of the island.

2. The Cape Hatteras Lighthouse was built in the 1800's at the ocean-facing edge of a barrier island. It had to be moved to another location in 1999 to keep it from falling into the sea. What would have been the cause of the lighthouse's destruction if it had not been relocated?
 - A. Too many people visiting the light house over the years.
 - B. Too much wind damage on one side of the light house.
 - C. Too many years of sand erosion at the base of the light house.
 - D. Too many years of rain caused the light house to leak.

3. Beach nourishment is one way to rebuild a beach. Why is this only a **temporary** means of restoring a beach that has washed away?
 - A. It costs so much money the job can not be completed.
 - B. The currents will always continue to erode the sand.
 - C. There are no plants to help hold the sand.
 - D. There are not enough resources of sand to rebuild beaches.

4. Barrier islands change in size and location due to the erosion and depositing of sand by wind, waves, and currents. Some islands are completely gone in a matter of days. What would cause a barrier island to change so much in such a very short period of time?
 - A. Lack of plant life
 - B. High tides
 - C. Storms or hurricanes
 - D. Resort development