

**All rivers eventually flow into the oceans. The area where a river meets the ocean is known as an *estuary*. Estuaries have a mixture of freshwater and saltwater.**

**Waves** can deposit sand in the estuaries. At high tide ocean water brings in sediments and sea life that feed and nourish life in the estuary.



# Edisto River flows into the Atlantic Ocean



***Inlets*** are the water-filled spaces between the barrier islands.



Overhead view of Murrells Inlet, South Carolina.

**As the tides change, the amount of water in the inlet will change.**

**Ocean currents and storms can change the shape of an inlet opening.**

**Large storms, for example hurricanes, can also cause massive destruction to the shape of the beaches, barrier islands, estuaries, and inlets because they produce high waves and heavy winds.**



**5-3.5 Compare the movement of water by waves, currents, and tides.**

**EXPLAIN THE  
THREE WAYS  
WATER CAN MOVE  
ON EARTH.**

# 1. WAVES

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The repeated movement of water is known as a wave. All waves have the same parts. The highest part is known as the *crest* and the lowest part is known as the *trough*. Most ocean waves are caused by winds that are blown across the surface of the water. A wave changes shape when it reaches the shore.

# **2. CURRENTS**

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Flowing streams of water that move continually through the ocean in a specific direction are called *currents*. Some currents flow at the ocean's surface and some are found deeper in the ocean. *Surface currents* are caused by the movement of Earth and by the force and direction of wind. The movement of Earth and winds causes these currents to flow along curved paths. Warm water and cold water are moved to different regions on Earth as a result of currents. *Warm surface currents* are driven by Earth's rotation from the tropics to higher latitudes. *Cold surface currents* are driven by Earth's rotation from the polar latitudes toward the equator.