

CURRENTS

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.

Currents, called longshore currents, along the shoreline can move sand from one location to another.

Surface currents are caused by the movement of Earth and by the force and direction of wind.

The movement of Earth and winds cause 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.

Currents



The Global Ocean Realm

What creates ocean currents?

Tides can bring in sand, shells,
and ocean sediments at high tide
and leave them behind when the
tide goes out (low tide.)

Tides

- Storms can cause wave action that removes sand from beaches (like in hurricanes!)

Barrier Islands



Islands are pieces of land surrounded by water on all sides. Islands with sandy beaches are called *barrier islands*.

These barrier islands are naturally occurring and function to protect the mainland from the effects of waves on its shore. As the waves deposit sand on the beaches, the shapes of the barrier islands change.

Currents can move the sand from one end of the island to the other.

Estuaries



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.