

Currents

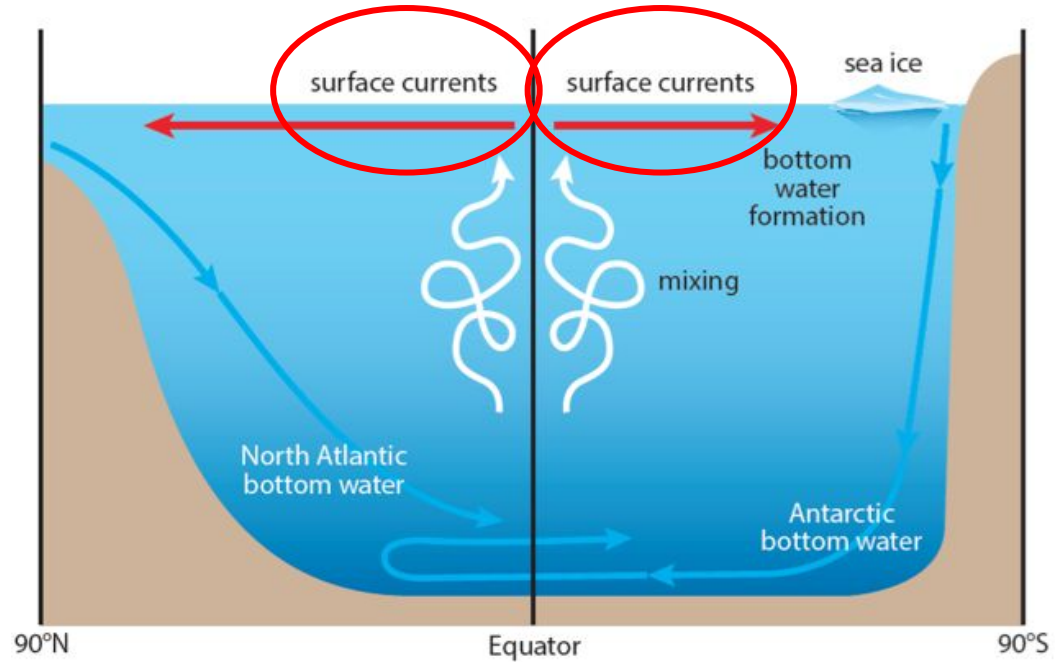
Vocabulary

current



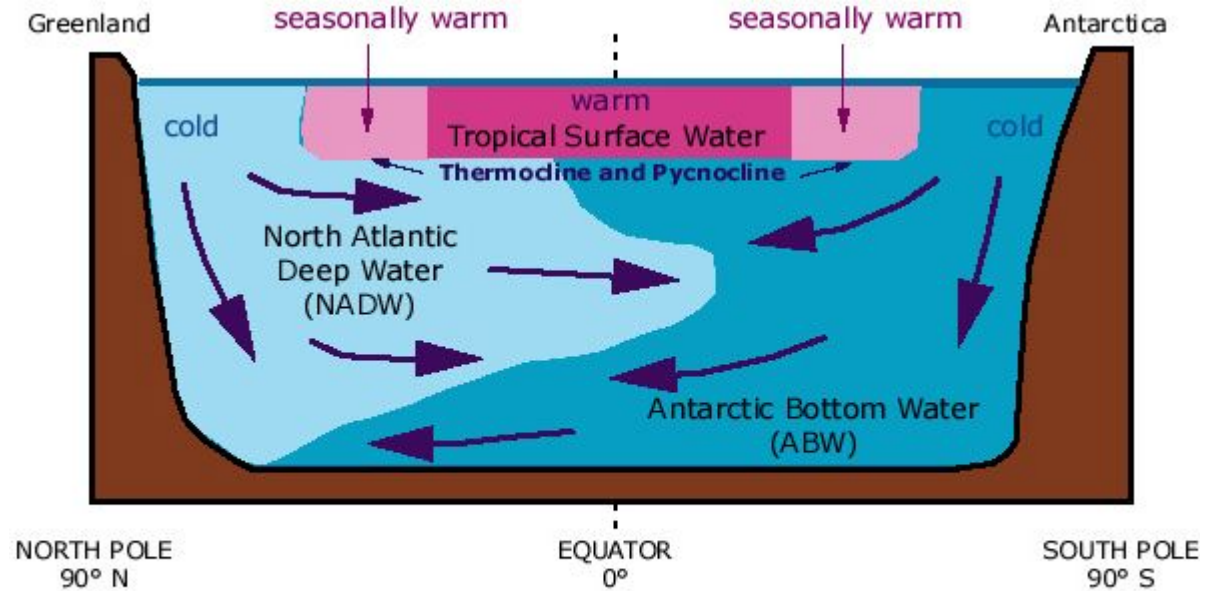
Vocabulary

surface circulation



Vocabulary

deep circulation

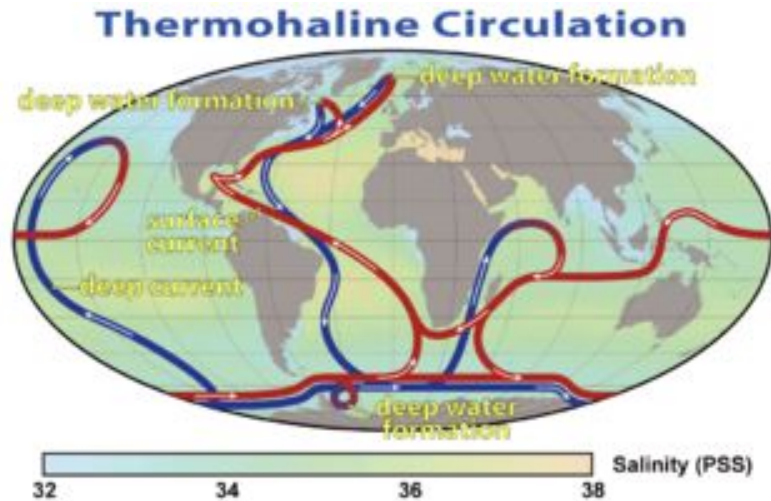


Deep-water circulation in the Atlantic Ocean

© Alessandro Grippo, 2008

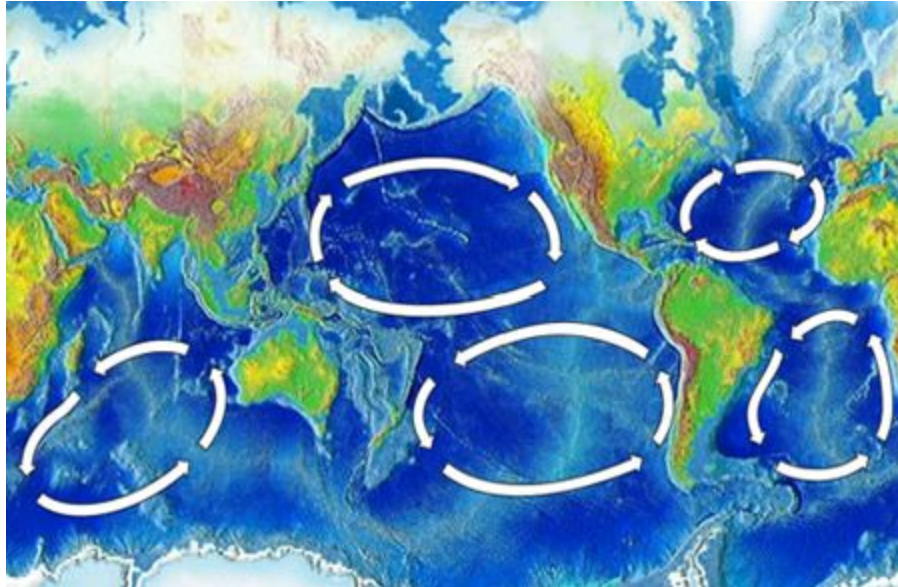
Vocabulary

thermohaline circulation



Vocabulary

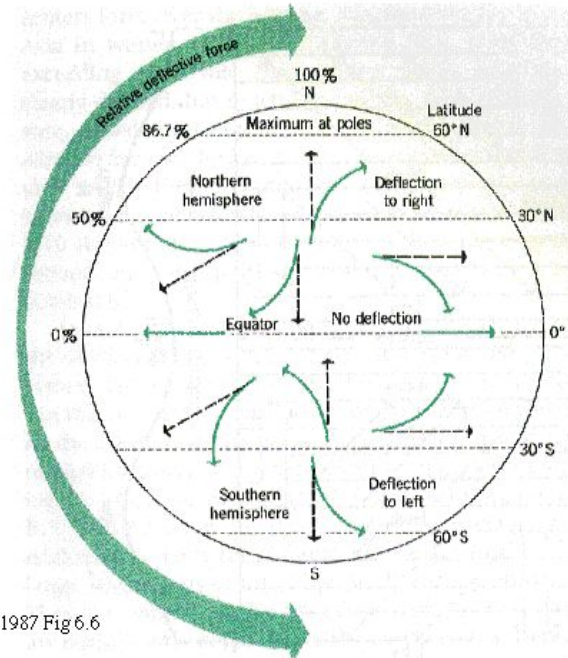
gyre



Vocabulary

Coriolis Strength and Latitude

Coriolis Effect

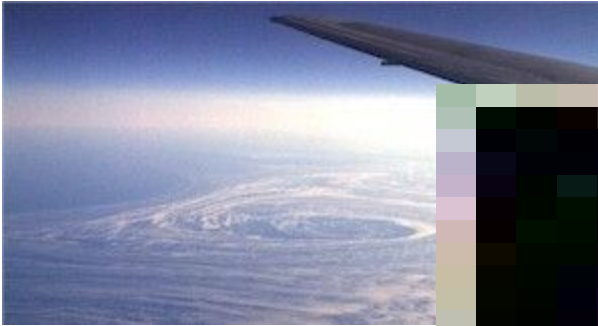


Strahler&Strahler 1987 Fig 6.6

Currents: http://oceanexplorer.noaa.gov/edu/learning/8_ocean_currents/ocean_currents.html#slide

Currents

Current = streams of seawater that circulate through the ocean



Currents

3 Things that Affect Currents

- 1) Wind**
- 2) Gravity
- 3) Water Density

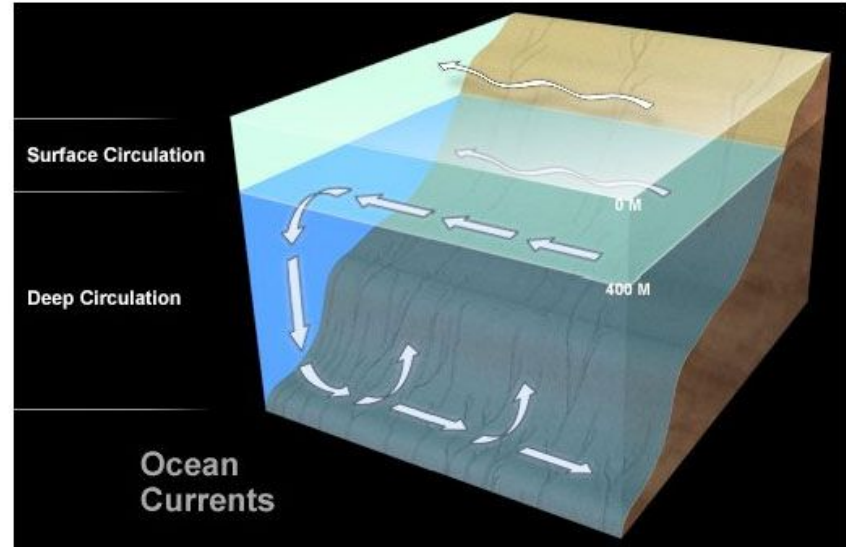


**Wind is the strongest factor affecting surface currents

2 Types of Currents

- 1) Surface Circulation-
movement of water on the
surface

- 2) Deep Circulation-
movement of water
underneath the surface



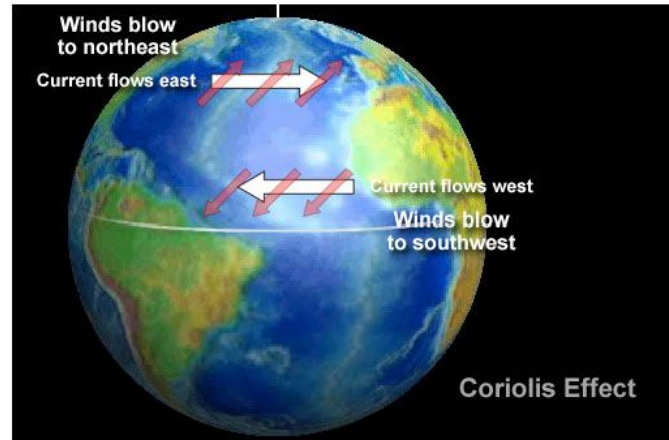
Currents

Gyre= organized, circular flow of water



Currents

Coriolis Effect = currents do not flow parallel; they flow in a diagonal motion



Currents

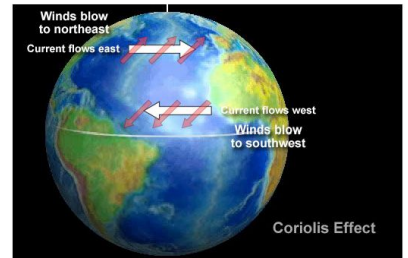
Thermohaline Currents- global movement of water caused by changes in density

- depends on **temperature** and **salinity**



Currents as an Energy Agent

- Currents carry **KINETIC ENERGY**= energy generated by movement
- Currents equalize heat distribution
 - With the Coriolis Effect, currents carry warm water from the equator to the poles and they carry cool water from the poles to the equator



Currents that Support Life

- Currents are an important aspect of the ecosystem of the oceans!
- Fish are adapted to the flow of the global currents
- If we disrupt currents, we disrupt the lives of fish.

