

## **Ocean Currents**

Water holds more energy than air. Most of the energy is carried around our planet by ocean currents.

Warm water is less dense than cold water. It rises at the equator and moves North and South on the surface.

As it travels North some of the water evaporates creating a more dense salt water solution. It also cools down making it more dense.

At the poles the water sinks and travels on the bottom of the ocean. As it travels along the bottom of the ocean it picks up nutrients

When the bottom current hits a land mass the water pushes upwards creating areas rich in nutrients. Complex food webs are found near upwellings

Because of the Coriolis Effect ocean currents create large spinning currents called gyres

Water travelling North is warm. Water travelling South is cold.

Warm ocean currents bring warm air with lots of moisture - precipitation - forests

Cold Ocean currents bring cold air with very little moisture - dry air - deserts

Changing ocean currents can severely impact the climate of the Earth

During El Nino, one ocean current, in the Pacific, changes direction causing Australia to have droughts and Peru to have flash floods. El Nino also impacts Ontario by creating warmer winters.

Melting polar ice caps could influence the direction of ocean currents. This could have an impact on what types of climates are found around the world

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