

The Hydrosphere

- More than 70% of the Earth's surface is covered by water.
- This is referred to as the hydrosphere.
 - About 97% of this water is ocean
 - Most of the rest is frozen "stuck" in glaciers and polar ice caps
 - Less than 1% is drinkable: atmosphere, groundwater, or in fresh water lakes or rivers

Important Vocabulary

Hydrologic Cycle

Evaporation

Condensation

Precipitation

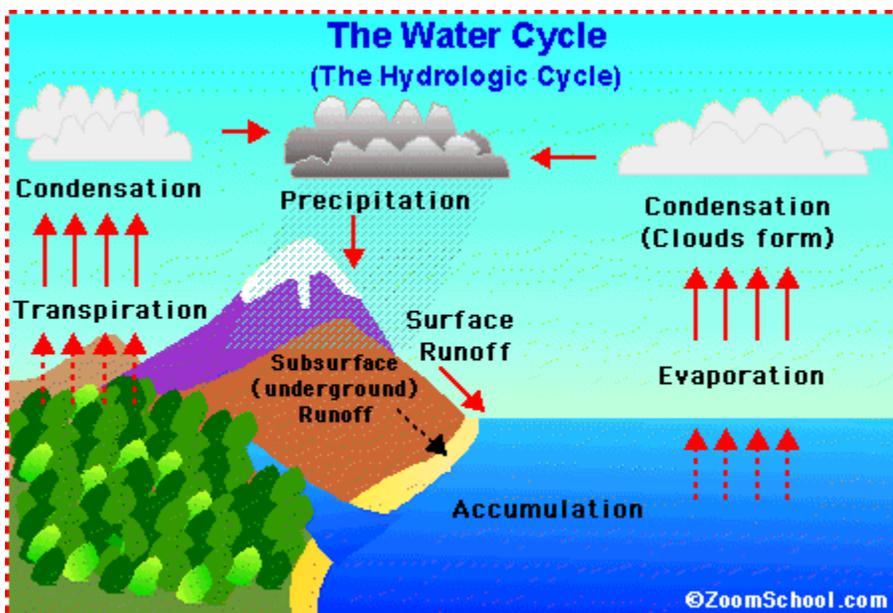
transpiration

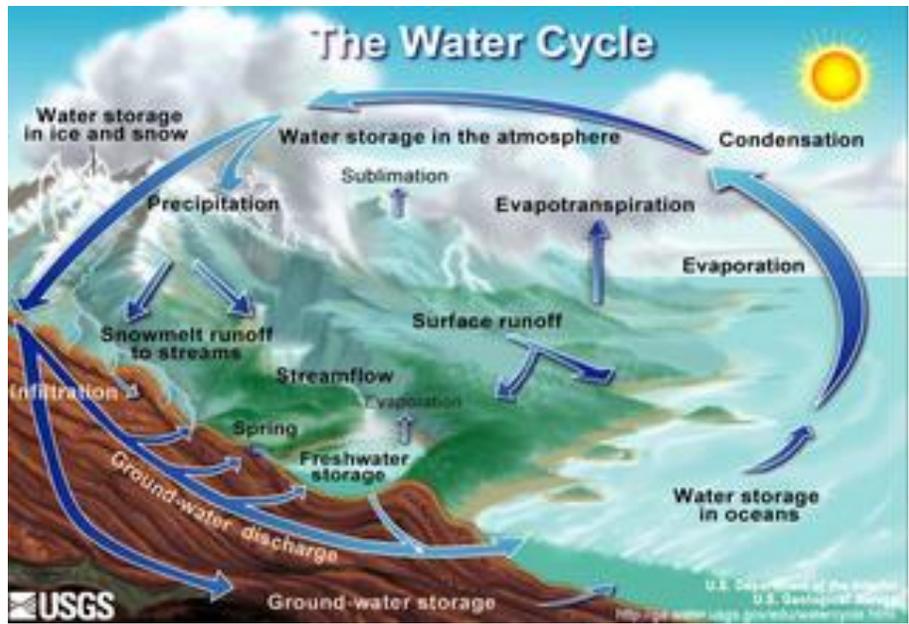
Desalination

Groundwater

aquifer

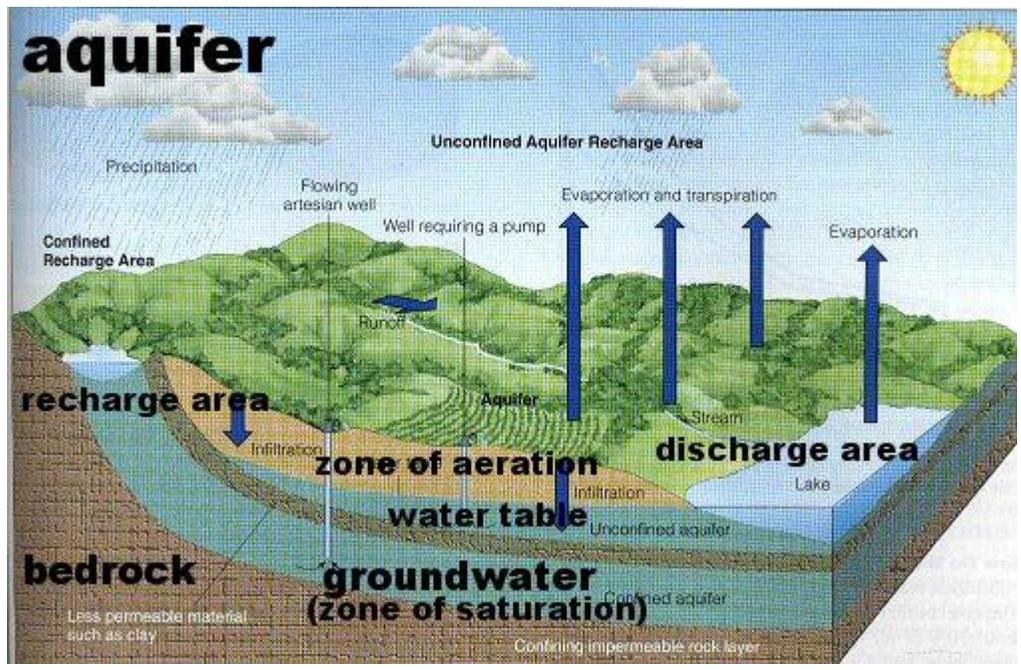
1. The Water Cycle (Hydrologic Cycle)





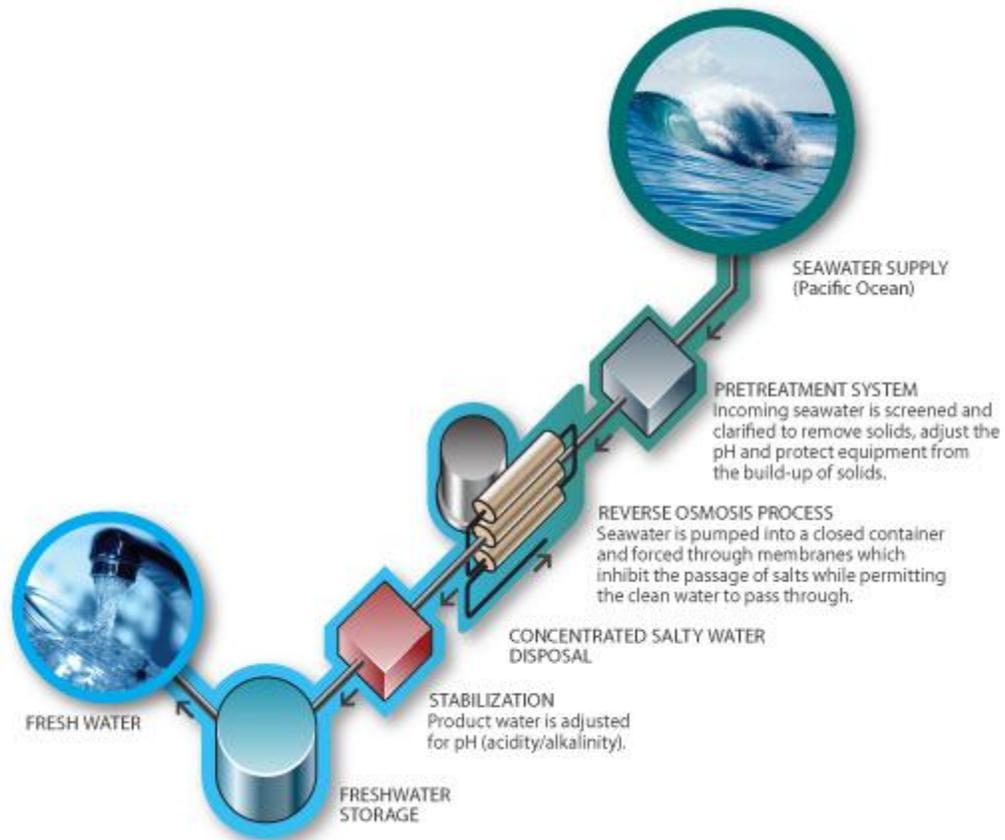
2. Aquifer

- a. An **aquifer** is an underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, or silt) from which groundwater can be usefully extracted using a water well.



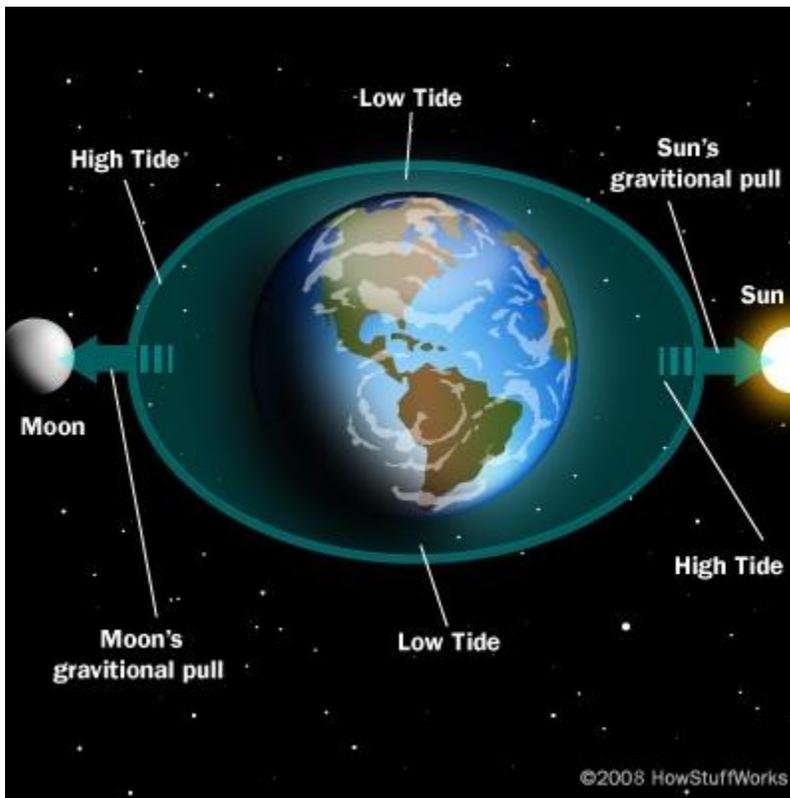
3. Desalination

- a. Refers to any of several processes that remove some amount of salt and other minerals from saline water.



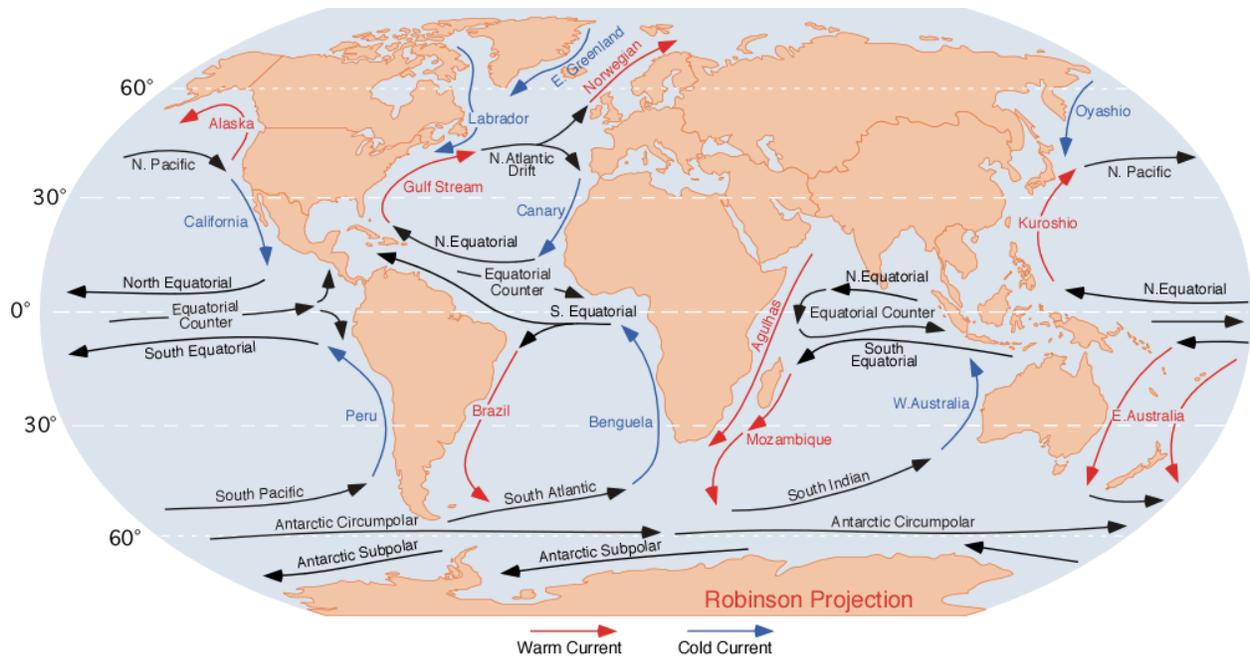
4. Tides

- a. Each day, the surface level of the ocean rises and falls during high and low tide.
- b. Tides are caused by the gravitational pull of the moon on the Earth's ocean waters.
- c. Ocean waters directly facing the moon bulge toward the moon, creating high tide.
- d. On the other side of the Earth is another high tide caused by the force of the Earth's spin and where the moon's pull is the weakest.
- e. Sea levels are:
 - i. Highest: when the moon and sun are lined up on the same side of the earth
 - ii. Lowest: when they are on opposite sides



5. Currents

- a. Currents are movements of the ocean waters
- b. Take place above and below the ocean surface
- c. Surface currents:
 - i. Caused mainly by the spinning of the earth and prevailing winds
 - ii. Water is pushed toward the west
 - iii. This sets in motion large, circular surface currents
 - iv. This transfer of energy helps maintain a balance-carrying warm water from the tropics to the colder regions, and cold water from the polar regions toward the tropics

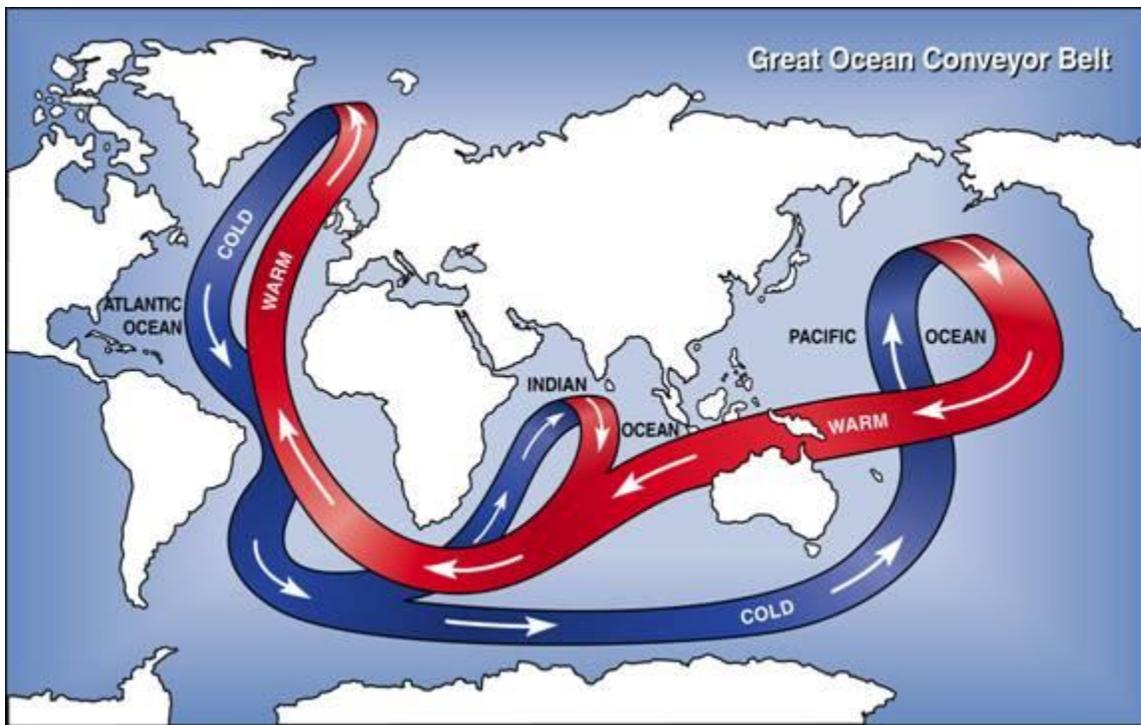
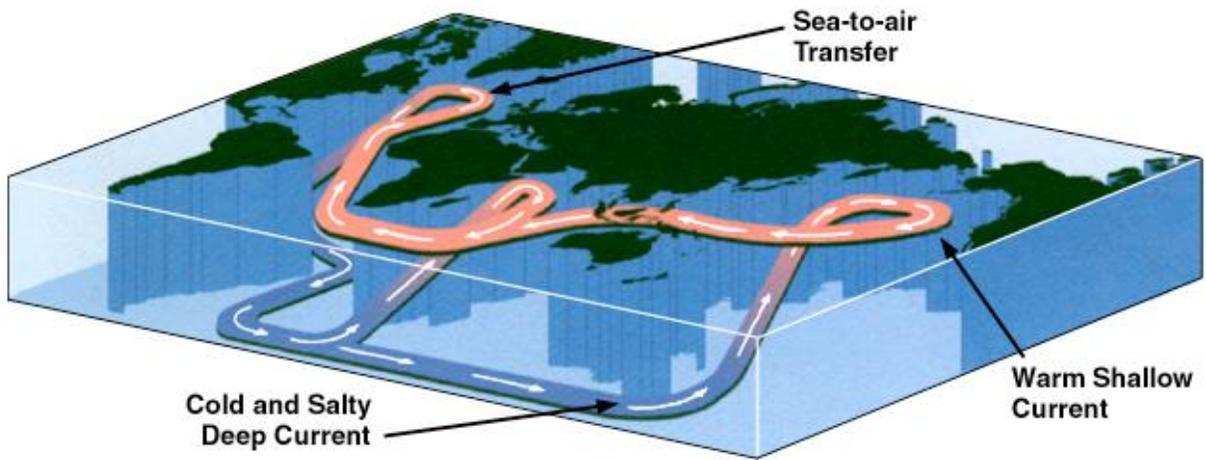


d. Gulf Stream

- i. Carries warm water toward Great Britain
- ii. Creates a milder climate than it would otherwise be

e. Deep ocean currents

- i. Current “layers” are based on their density
 1. Highly dense: cold, salty waters
 - a. Sinks at the poles
 - b. Moves slowly toward the equator, pushing warmer water away
 2. Less dense: warm, less salty waters
 - a. Colder water that has warmed from absorbing heat from the layers above it
 - b. Eventually moves toward the poles
 3. The slow, steady circulation of the ocean’s deep waters takes hundreds of years



Notes created by Audrey Alamo, PreAP World Geography based on excerpts from "Mastering the TEKS in World Geography," Jarrett Publishing.

