

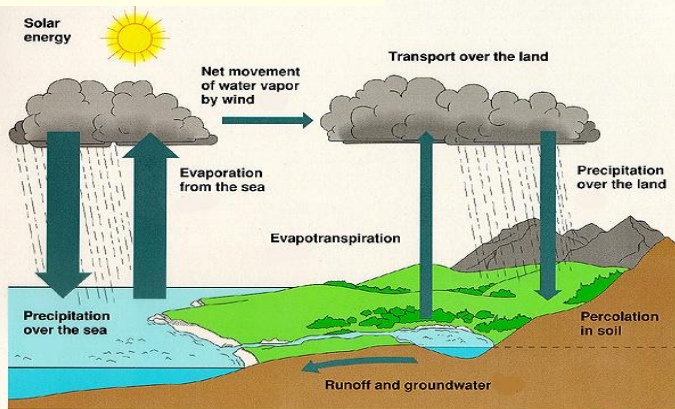
Water Distribution

Living systems need water to survive. Ecosystems depend on it. The land is changed by it. Industry uses large amounts of it. Climate and weather are determined by it.

Our 'blue planet' – as viewed from space - is unique among the planets in our solar system, because 74% of its surface is covered by water.



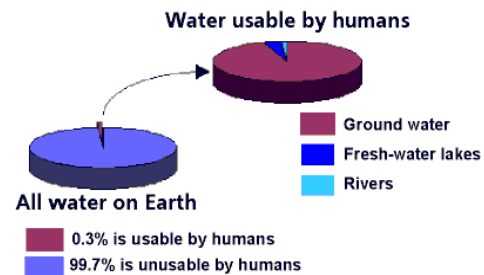
The Water Cycle



The **Water Cycle** controls the distribution of water on the Earth. The Sun's energy drives the water cycle. Each year 325,000 miles³ of surface water moves through the cycle as water vapour.

Managing Our Water Resources

Four countries (Brazil 18%, Canada 9%, China 9%, and United States 8%) hold nearly half of the Earth's renewable supply of freshwater. Management of our water resources means managing our water sheds by protecting them. By balancing the water needs of people, industries, wildlife and the environment. The water on our planet exists in many different forms and is evenly distributed over the entire planet. Drinking water must be fresh water, not salt water. Not all freshwater on the Earth is drinkable. Water that is drinkable (safe to drink) is called **potable** water. Of all the water on the Earth, only 0.3% is potable (useable) water.



Water source	Model	Percent of total water	Potable, or not?
Oceans		97.20%	Saltwater
Icecaps, Glaciers		2.15%	Frozen
Ground water		0.63%	Fresh - but not entirely accessible
Rivers, lakes, Inland seas, soil moisture and in the atmosphere		0.02%	Potable - some with Indirect access however
Total water		100%	

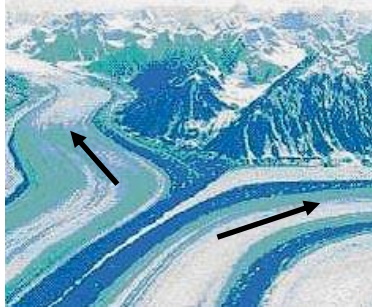
Watersheds

A **watershed** (also called a drainage basin) is a region of interconnected rivers and streams. A watershed is all the area of land that drains into one main lake or river. It can contain many smaller streams, rivers and even lakes, which all eventually drain into a larger lake, sea or ocean.

A **reservoir** is an artificial lake. It is used for storage and management, because many of the larger populated centers in the United States are far from major river systems.

The location of the highest land on the continent determines the direction that a watershed drains. This high land is called the **Continental Divide**. In North America it is in the Rocky Mountains.

Streams and Drainage Systems: <http://www.tulane.edu/~sanelson/geol111/streams.htm>



On the west side of the divide, the rivers all flow into the Pacific Ocean.

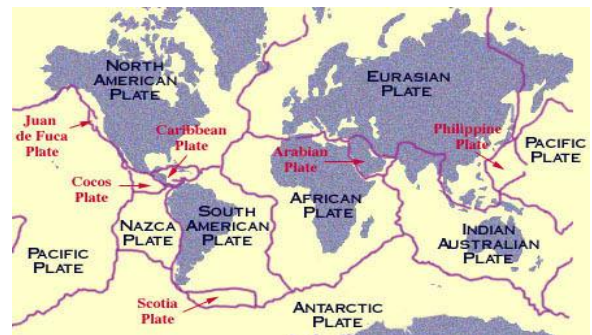
On the East side of the divide, the rivers flow into either the Arctic Ocean or the Atlantic Ocean.

Continental Drainage Systems

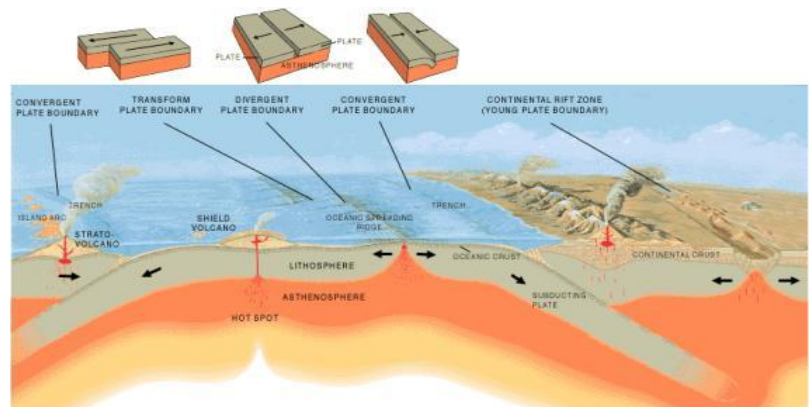
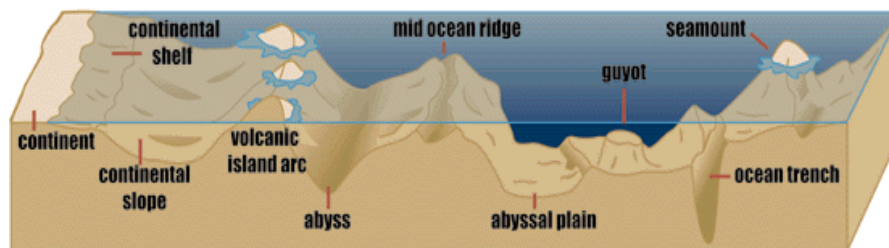
The changing lithosphere affects the drainage patterns of the continents. Continental drainage systems were also created and are affected by the movement of ice.

Processes That Form Ocean Basins

The **Theory of Plate Tectonics** explains how the lithosphere (crust of the Earth) is in pieces and these pieces are moving because of convection currents in the magma. Some of these plates are moving toward other plates, some are moving away and some are moving in opposite directions beside each other.



Features of the Ocean Floor



This illustration shows how the features on the ocean floor are formed.