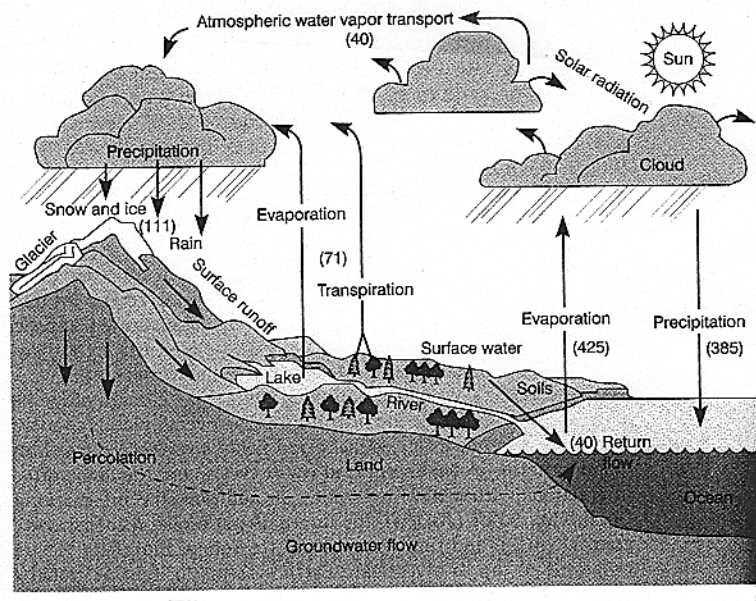


Water Cycle

mackenzie +
mackenzie (1995)
our changing planet.



Water Reservoirs

Water on our planet is found in the reservoirs of oceans, glacial ice (cryosphere), groundwater, lakes, soils, atmosphere, and rivers (Table 3.2). Approximately 99% of the total water on Earth is located in the oceans and glacial ice, and only about 1% is found in all the groundwater, lakes, soils, rivers, and atmosphere on the planet. Water is continually being shifted (recycled) from one of these reservoirs to another in the water cycle. The total amount of water in the different reservoirs remains nearly constant with time on a short time scale, but it can change for various reasons. These changes can have profound effects on the ecosphere. For example, it is known that the temperature of Earth can fluctuate on time scales varying from yearly to centuries to thousands to millions of years (see Chapter 10).

TABLE 3.2
Distribution of water in the ecosphere.

Reservoir	Volume (10^6 km^3)	Percent of total
Ocean	1370	97.25
Cryosphere (ice caps and glaciers)	29	2.05
Groundwater	9.5	0.68
Lakes	0.125	0.01
Soils	0.065	0.005
Atmosphere	0.013	0.001
Rivers	0.0017	0.0001
Biosphere	0.0006	0.00004
Total	1408.7	100

(After Berner and Berner, 1987.)