

1) Interactions between organisms and environment determine **distribution and abundance**: dispersal, habitat selection, biotic factors, abiotic factors (*climate very important: temperature and water*).

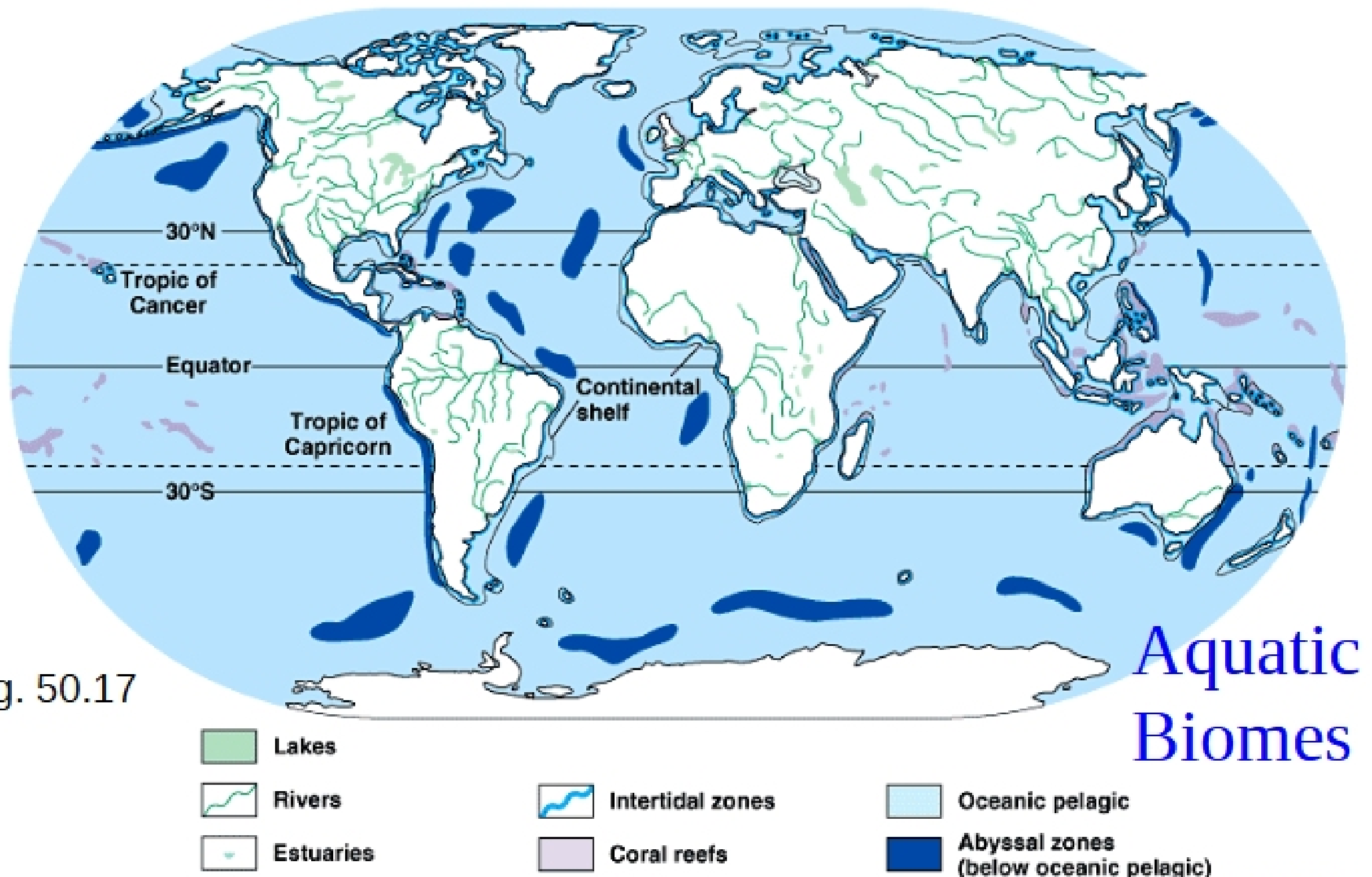
2) Temporal and spatial scales of studies are important.

3) Global climate mostly determined by solar energy and earth's movement in space. Permanent tilt on Earth's axis causes seasonal variation in light, temperature and wind patterns. Hence, seasonal variation in distribution and abundance of organisms.

4) Aquatic biomes occupy the largest part of the biosphere; oceans have a major effect on global and local climate; freshwater biomes are closely linked to terrestrial biomes.

5) The distribution of terrestrial biomes is based mainly on regional variations in climate.

Largest component. Vertical stratification: light, temperature, salinity, density.
 Oceans (3% salt): rainfall, climate, wind. Give O_2 and take CO_2 .
 Freshwater ($< 1\%$ salt): linked to soil and biota of terrestrial biomes.



Aquatic Biomes

Ocean zonation

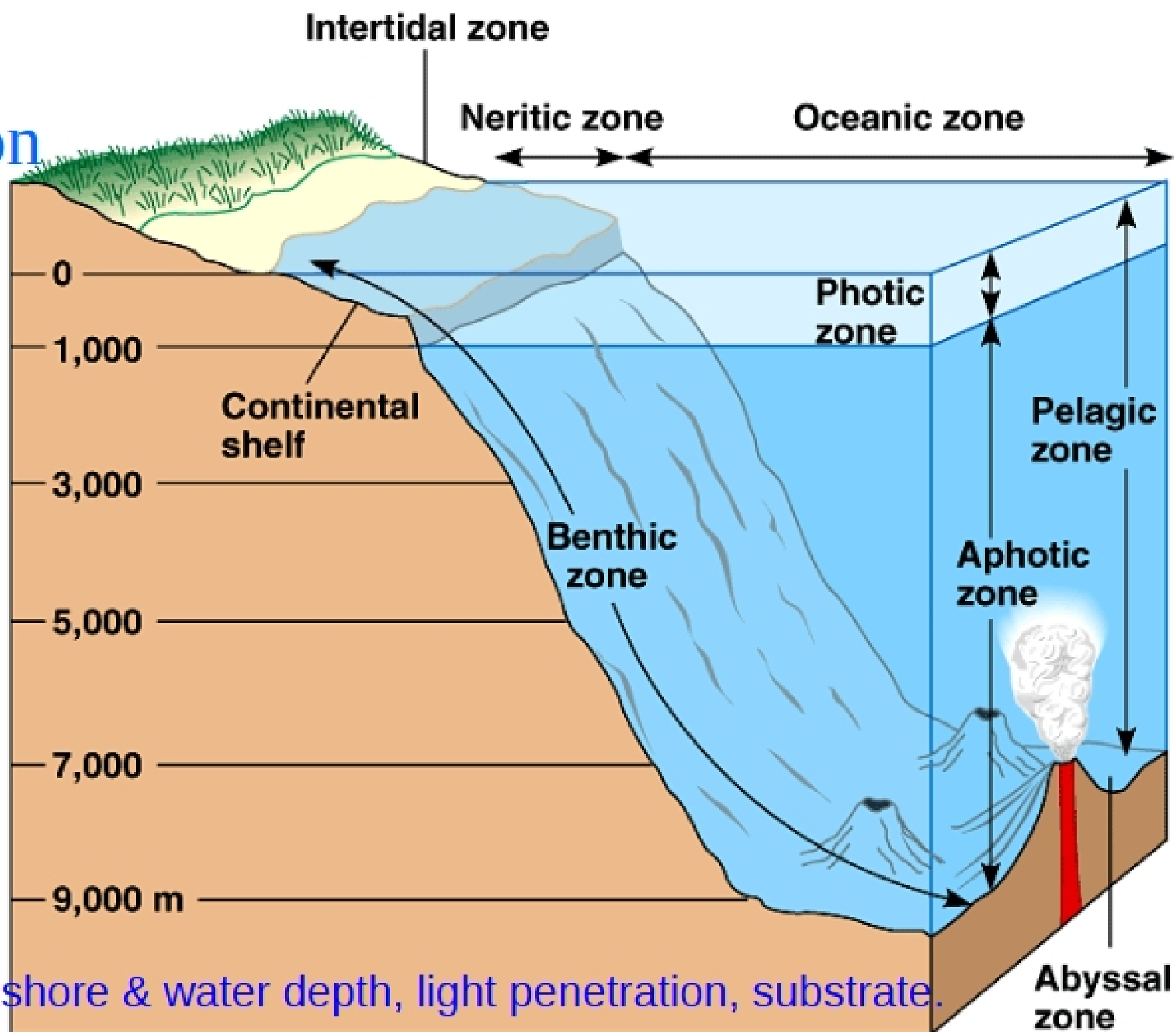


Fig. 50.22

Distance to shore & water depth, light penetration, substrate.