

# Aquatic Biomes

- 75% of the Earth's surface is covered with water.
- Most of that is salty (marine biomes).
- Freshwater biomes are confined to rivers, ponds, streams and most lakes.

## Marine Biomes

- The oceans contain the largest amount of biomass of any biome on Earth.
  - Most of this biomass is microscopic.
- photic zone**- portion of the marine biome shallow enough for light to penetrate.
- aphotic zone**- deeper water that never receives sunlight

## A Mixing of Waters

- Estuary**- A coastal body of water partially surrounded by land, in which freshwater and salt water mix.
- Nutrient rich and photic.
- Estuaries provide an abundant supply of food and shelter, many fishes, clams, and other commercially important organisms live there.



## The effects of the tides

- Twice a day , the gravitational pull of the sun and moon causes the fall and rise of ocean tides.
- Intertidal zone**- portion of the shoreline that falls between the high and low tides.
- Snails, seastars, and other intertidal animals of rocky shores have body parts that act as suction cups for hanging on to the wave beaten rocks.

- Mussels and barnacles secrete a strong glue that helps them remain anchored.



- If the shore is sandy, wave action keeps the bottom in constant motion.

- Clams, worms, snails, crabs and other organisms that live along the sandy shore survive by burrowing



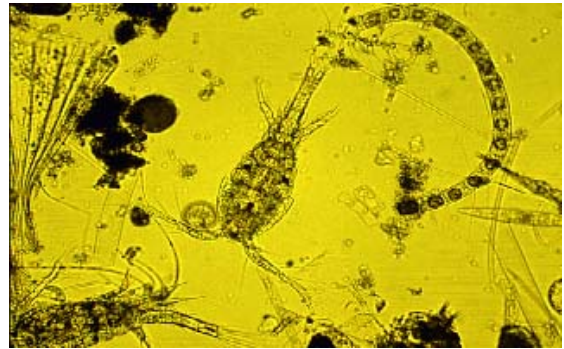
## In the light

- Shallow-water region that surrounds most continents and islands.
- Also includes open oceans that cover the Earth's surface.
- Most the organisms that live there are plankton.

**Plankton**- small organisms that live in the waters of the photic zone. Include autotrophs & heterotrophs.

*i.e.*- diatoms, copepods, etc.

## Plankton



## In the dark

- Almost 90% of the ocean is more than a kilometer deep.
- Blacker than night, food is scarce, and the water exerts 100s of PSI.

**What adaptations might help these organisms survive?**

## Bioluminescence



Angler Fish

## Freshwater Biomes

**Benthic zone**- bottom

**Pelagic zone**- open water

**Littoral zone**- waters edge

**Artificial eutrophication**- body of water which is nutrient rich supporting abundant growth of algae.

- Lowers dissolved oxygen.
- Caused by nonpoint pollution (nitrates & phosphates)



•**Wetlands** are areas covered with water that supports many types of plants.

•They can be saturated or flooded and include areas known as marshes, bogs, and swamps.

•They are home to many different types of organisms, from herbivores to crustaceans.

•Unfortunately, humans have destroyed them, but many are now protected in many places.

