Ocean Zones and Lifestyles
Environmental Classification Methods

- Scientists classify Marine Environments based on:
  - Light
  - Temperature
  - Depth
  - Density
  - Latitude
  - Distance from shore
  - or a combination
Basic Divisions

- Most basic
  - **Pelagic Zone** – Water portion
  - **Benthic Zone** – bottom portion
- Each of these is further subdivided
Pelagic Subdivisions – two horizontal zones

- **Neritic Zone** – Water between low tide to edge of continental shelf
- **Oceanic Zone** - Open water beyond the edge of the continental shelf
Oceanic Zone is further divided

- **Photic Zones** – light penetrates these two
- **Epipelagic** - Top layer that light penetrates
- **Mesopelagic** – light reaches but not strongly enough to support life
- **Aphotic Zones** – no light penetrates
- **Bathypelagic** – deep water in open ocean
- **Abyssalpelagic** – deeper water in ocean trenches
- **Hadalpelagic** - deepest water in ocean trenches
Benthic Zone (bottom) divided based on depth

- From shore out:
  - **Supralittoral zone**
    - Water splashes but does not remain submerged
  - **Littoral zone**
    - Bottom between high and low tides
  - **Sublittoral zone**
    - Continental shelf close to shore
  - **Outer sublittoral zone**
    - Out to the edge of the shelf
  - **Bathyl Zone**
    - Along continental slope
  - **Abyssal zone**
    - Deep ocean bottom
  - **Hadal zone**
    - Deepest of the deep ocean
Lifestyles

- Classifying lifestyles sometimes better than organisms themselves
- Plankton
- Nekton
- Benthos
Plankton

- Group of plants and animals that exist adrift ocean currents
- Most small and microscopic
- **Neuston** - important subgroup
  - Those that float at the surface
  - Portuguese Man of War
Nekton

- Swimming organisms
  - Small invertebrates to whales
  - Most organisms that you think of
Benthos

- Organisms that live on or in the bottom

- **Epifauna**
  - Live on the sea floor
    - Crabs

- **Epiflora**
  - Plants
    - Eelgrass

- **Infauna**
  - Partially or completely buried in sea floor
    - Clams, sand dollars, worms