PROPERTIES OF OCEAN WATER - LIGHT

2.2 PROPERTIES OF SEAWATER

- Light and temperature in the sea vary with depth.
- The sun provides energy that heats surface waters and light that penetrates to particular depths.

ABSORPTION & EFFECTS

Light is absorbed based on its location along the visible light spectrum and water clarity.

Most visible light is absorbed in the first 100 m below sea level. Blue wavelengths by 300 m.

Many animals at depths below 100 meters tend to be red e.g. some squid, shrimp, rockfish.
Why do you think this might be the case?
EFFECTS OF LIGHT IN THE PHOTIC ZONE

- High phytoplankton productivity.
- Floating sea weeds
- Subtidal kelp
- Coral reefs
- Diurnal vertical migration
  e.g. dinoflagellates

→ Generally 65% of visible light is absorbed in the first meter, becomes more dim and colors harder to distinguish when snorkeling/diving.

https://www.uts.edu.au

LIFE IN THE APHOTIC ZONE

- Dependent on nutrients washing in from shore.
- Detrital snow raining down from photic zone.
- Cold, dark, higher pressure – unusual adaptations for animals to find food and mates.

BIOUMINESCENCE