



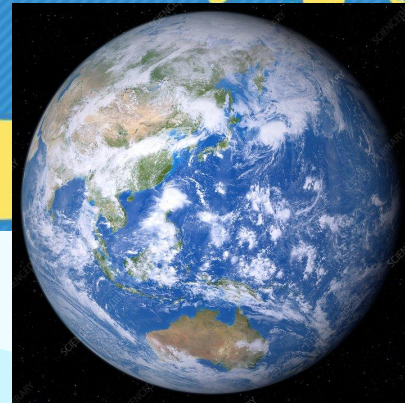
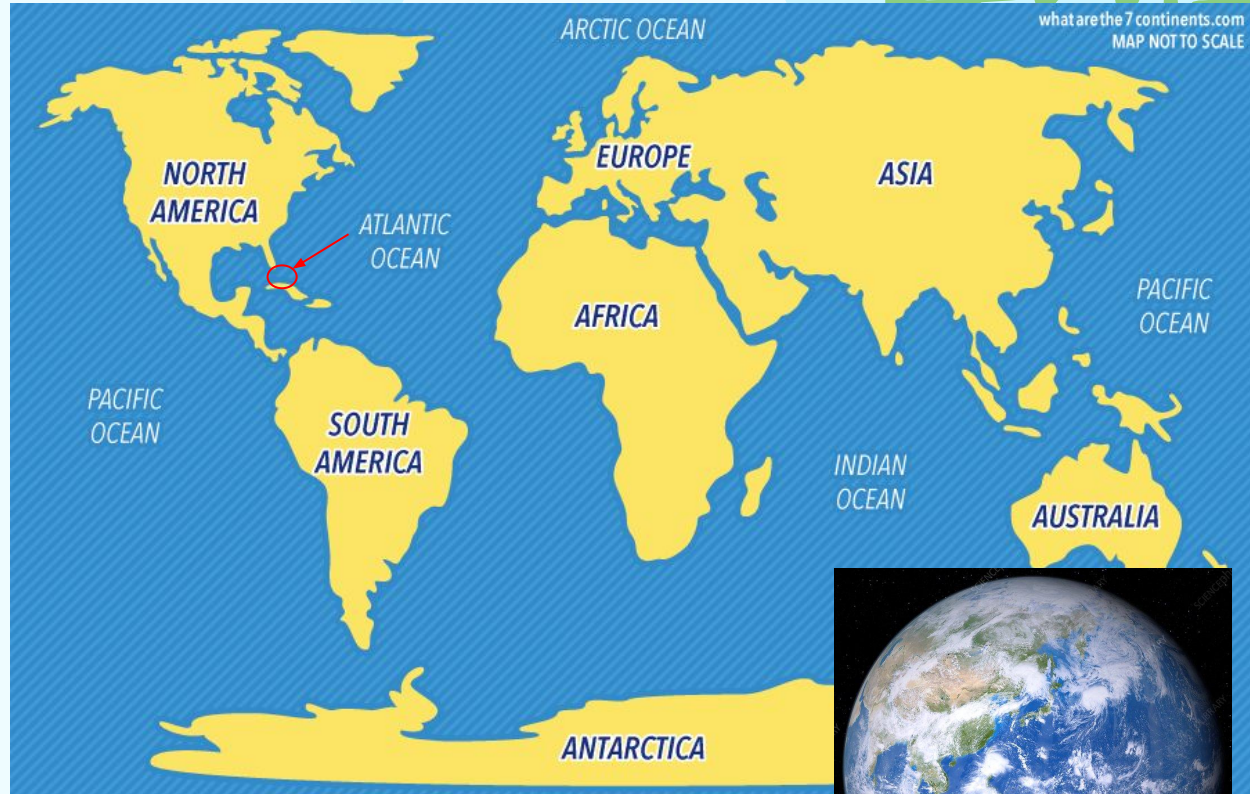
Oceans and Biodiversity

Ocean

Saltwater, covers over 70% of earth's surface

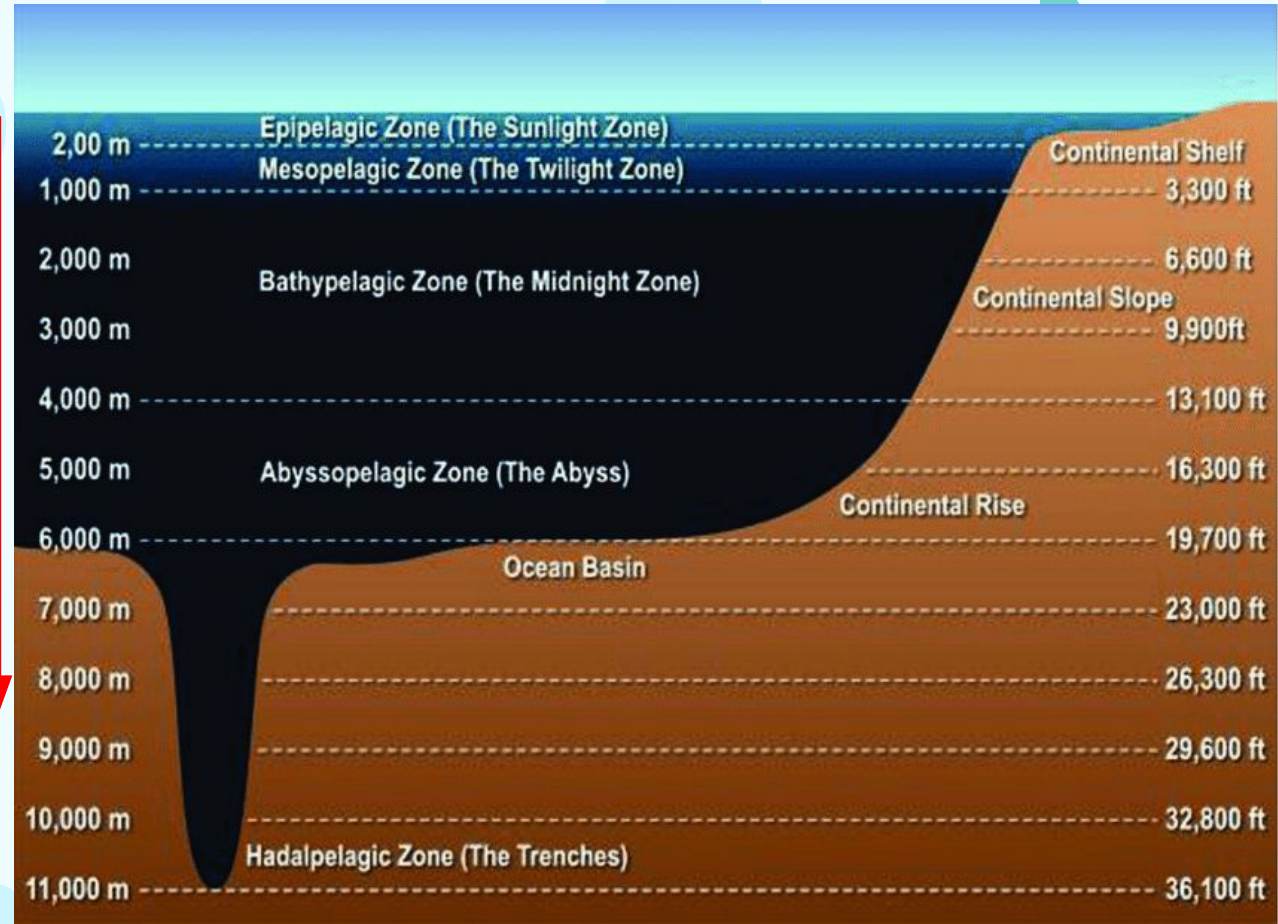
4 distinct regions

- Pacific
- Atlantic
- Indian
- Artic



Just like how land has mountains and canyons, the ocean has trenches.

The ocean has names for different zones depending on the depth.



Finding Nemo Zones:



The Epipelagic Zone

- From the surface of the water to about 660 feet
- Contains about half of all ocean life!
- These species that live in this zone get their energy from the sun and they need to constantly be moving
- This zone is filled with animals that we generally associate with the ocean—many fish species, dolphins, turtles, octopus, sharks, and more!



The Mesopelagic Zone

- From 660 feet to 3,300 feet
- Can also be called the twilight zone because the sunlight can hardly reach these depths- no photosynthetic organisms
- This zone is the first sign of bioluminescence on life
- Can have fish, shrimp, squids, eels, jellyfish and more!

Bioluminescence: Light emitted by an organism- Think of fireflies!



Vampire Squid

The Bathypelagic Zone

- From 3,300 feet to 13,100 feet
- Also called “the midnight zone” because there is no light here
- This zone has a constant temp of 39°F
- The pressure of this zone reaches over 5,850 pounds per square inch
- More bioluminescent animals live here and sperm whales can even dive down here for food!



Anglerfish

The Abyssopelagic Zone

- From 13,100 feet to 19,700 feet
- Very hard for species to live at these depths with the pressure and lack of sunlight and oxygen
- Include invertebrates, animals without a backbone, such as basket stars and tiny squids

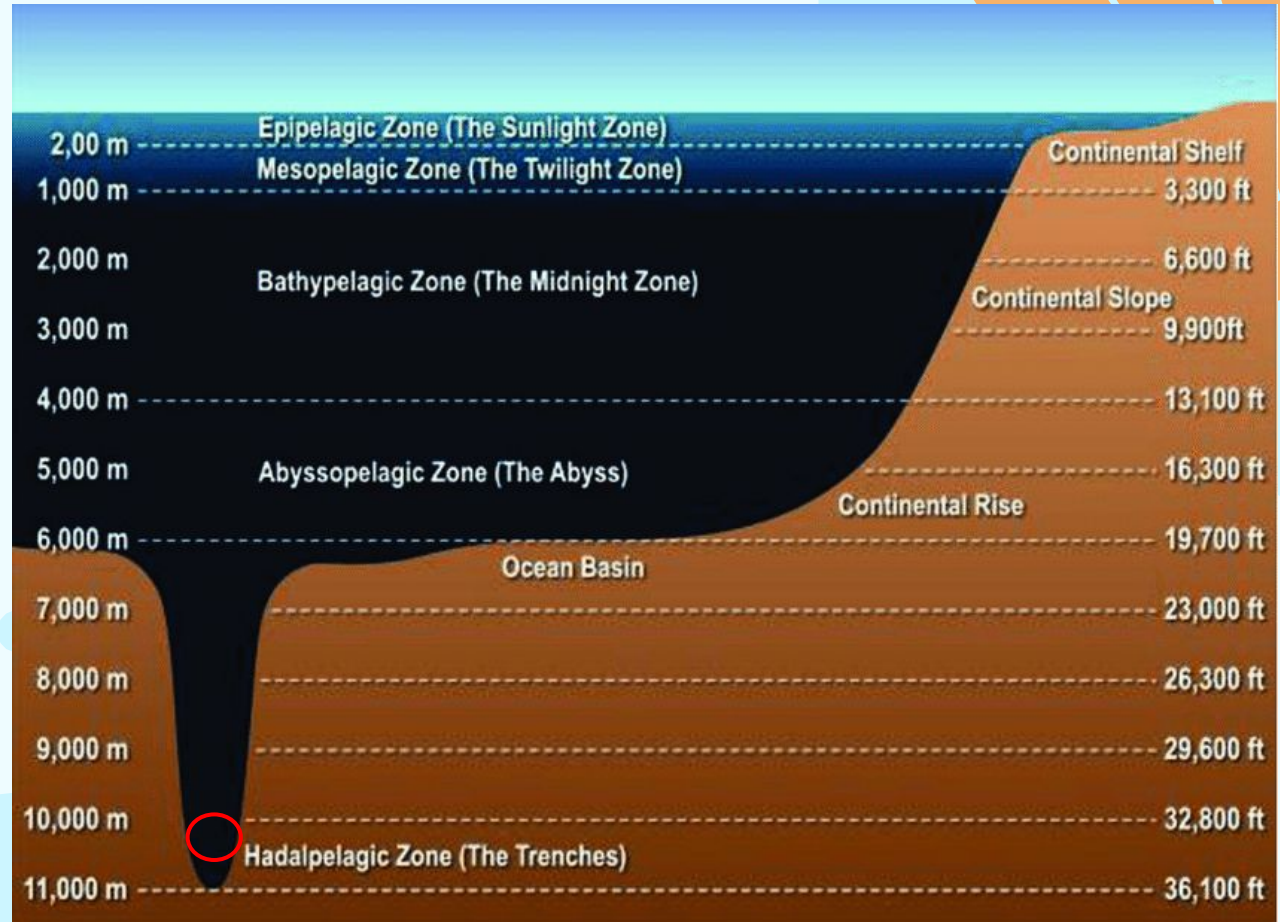


Basket Star

The Hadalpelagic Zone

The lowest depth recorded is located in the Mariana Trench at 10,927 m (7 miles) and is named “Challenger Deep”

The first people to explore it did so in 1960!



Video of
Mariana
Trench
Exploration





Characteristics of the Deep

- Bioluminesce
- Blind/No Eyes
- Camouflage/ Transparent
 - Most deep sea creatures can't see red
- “Deep Sea Gigantism”

Examples of Deep Sea Gigantism



Giant
Oarfish:
Longest
26 feet!

Examples of Deep Sea Gigantism



Giant Isopod:
Largest 20
inches!



Examples of Deep Sea Gigantism



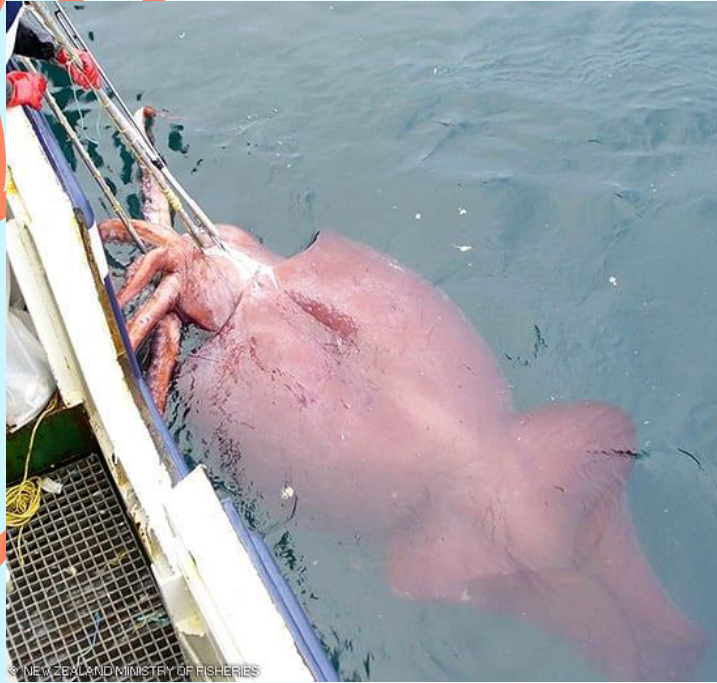
Japanese Spider Crab:

- 12 feet claw to claw
- Up to 46 lbs

Examples of Deep Sea Gigantism

Colossal Squid:

- Up to 46 feet!
- Over 1,000 lbs



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More Cool Ocean Species



Sea Stars

- Can regrow a limb if chopped off or can regrow a whole other body from the cut off limb!



Sea Horses

- Male sea horses will be the pregnant ones!



Gulper Eel

- Mouth can “balloon” up and look like a pelican when open



Giant Sea Cucumbers

- Expel organs when threatened



Hagfish

- Produces slime that clogs the gills of predators



Blobfish

- “Ugliest fish”



Immortal Jellyfish

- When they get too old, they decide to be young again



Mantis Shrimp

- Punch as fast as a bullet



“Water Bear”

- Can survive in space!





**We still don't
know
everything!**