

CLASSIFICATION OF MARINE ENVIRONMENT

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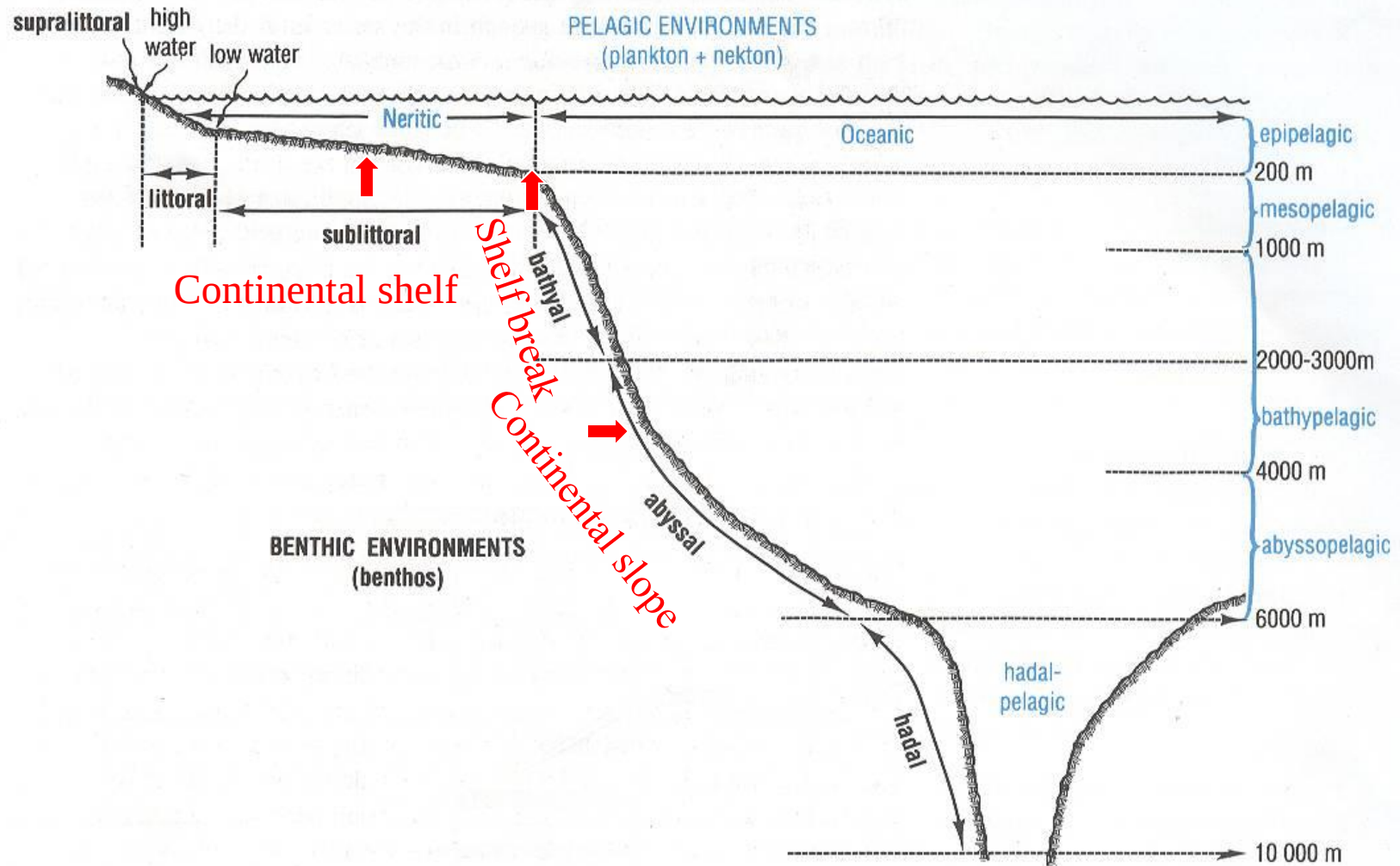
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CLASSIFICATION OF MARINE ENVIRONMENT

- The world's oceans can be subdivided into a number of marine environments
- The most basic divisions are the pelagic and benthic
- The pelagic environment is that of the water column, from the surface to the greatest depths
- The benthic environment is the seafloor and includes such areas as shores, littoral or intertidal, coral reefs and deep seabed.

ECOLOGICAL DIVISIONS OF THE OCEANS



PELAGIC ENVIRONMENT

- **Pelagic environment:** is further separates into, the **neritic zone** and **oceanic environment**
- **Neritic:** that are the environment with shallow water with moderate exposure to sunlight (<200 m). seaward from the low tide line, the continental shelf out to the shelf break
- **Oceanic environment:** beyond the continental shelf (200km from the shore towards the open ocean)

PELAGIC ENVIRONMENT

Epipelagic : 0-200m

Mesopelagic : 200-1000m

Bathypelagic : 1000-4000m

Abyssopelagic : 4000-6000m

Hadal Pelagic : 6000-10,000

BENTHIC ENVIRONMENT

Supralittoral: The supralittoral zone, also known as the splash zone, spray zone or the supratidal zone, is the area above the spring high tide line, on coastline and estuaries, that is regularly splashed, but not submerged by ocean water. Seawater penetrates these elevated areas only during storms with high tides.

Littoral zone (intertidal zone): Area where land and ocean meet and overlap

Sublittoral: Lying between the low tide line and the edge of the continental shelf or ranging in depth to about 100 fathoms or 200 meters (660 feet).

Bathyl: The bathyal zone is above the abyssal zone, at a depth of 3,300 to 13,000 feet.

Abyssal: The **abyssal zone** is the abyssopelagic layer of pelagic that contains the very deep benthic communities near the bottom of oceans. At depths of 4,000 to 6,000 meters

Hadal: This zone is found from a depth of around 6,000 meters (20,000 ft) to the bottom of the ocean.

BENTHIC ENVIRONMENT

Continental shelf:

The term "continental shelf" is used by geologists generally to mean that part of the continental margin which is between the shoreline and the shelf break or, where there is no noticeable slope, between the shoreline and the point where the depth of the superjacent water is approximately between 100 and 200 metres.

Shelf break:

The part of the edge of a continent between the shoreline and the continental slope. It is covered by shallow ocean waters and has a very gentle slope.

Continental slope:

The sloping region between a continental shelf and a continental rise. A continental slope is typically about 20 km (12.4 mi) wide, consists of muds and silts, and is often crosscut by submarine canyons.

BENTHIC ENVIRONMENT

Sub-neritic: seafloor 0-200m deep

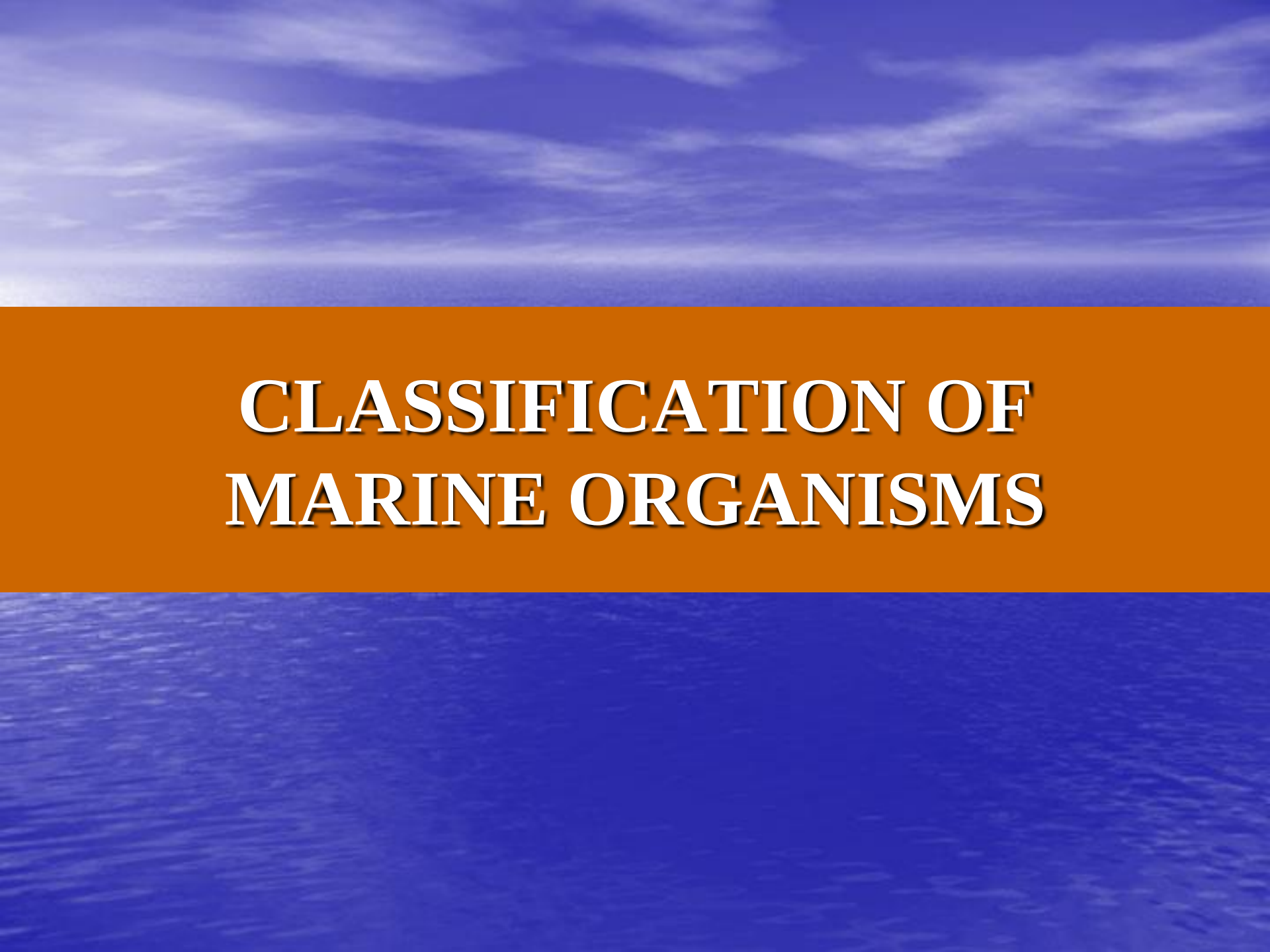
Sub-oceanic: seafloor below 200m deep

ANOTHER CLASSIFICATION

Euphotic: 0-100m, Upper part of ocean, near the surface where the light is strong, supports photosynthesis

Disphotic: 100-1000m, barely lit

Aphotic: below 1000m, truly dark



CLASSIFICATION OF MARINE ORGANISMS

CLASSIFICATION OF MARINE ORGANISMS

Marine organisms can be classified according to which of the marine environments they inhabit

- **Neritic species:** Organisms found in coastal waters
- **Oceanic species:** Organisms found in offshore waters

CLASSIFICATION OF MARINE ORGANISMS

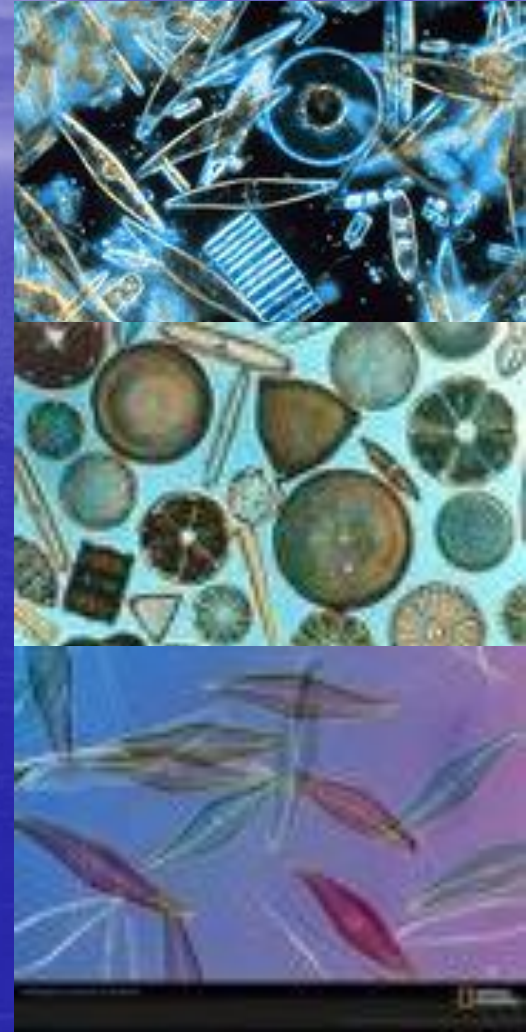
Marine environment is inhabited by a wide variety of organisms

Most organisms live within the sunlight surface waters (photosynthesis)

Classification of marine organisms

- Plankton-Floaters

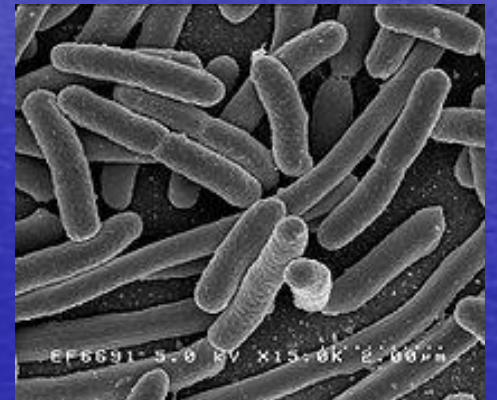
Algae (phytoplankton)



CLASSIFICATION OF MARINE ORGANISMS

- zooplankton
- Bacteria
- Nekton

All animals capable of moving independently of the ocean currents



CLASSIFICATION OF MARINE ORGANISMS

Benthos

- Bottom dwellers
- A great number of species exist on the shallow coastal floor
- Most live in perpetual darkness in deep water

