

Glossary

Abyssal plain. The deep-ocean floor, an expanse of low relief at depths of 4,000-6,000m.

Abyssopelagic Zone. The 4,000-6,000 m depth zone, seaward of the shelf-slope break.

Archaea. One of the two domains of prokaryotes; most, but not all, archaea grow in extreme environments.

Autotrophic algae. Algae capable of photosynthesis and growth using only dissolved inorganic nutrients.

Autotroph. Organism that can use CO₂ as its main source of carbon.

Bacillus [pl. bacilli] Cylindrical –shaped bacterium; also referred to as a rod.

Bacteria. One of the two domains of prokaryotes; all medically important prokaryotes are in the domain Eubacteria.

Bathypelagic zone. The 1,000-4,000 m depth zone seaward of the shelf-slope break.

Bioluminescence. Light emission, often as flashes, by many marine organisms.

Chemoautotrophs. Organisms that use inorganic chemicals as a source of energy and CO₂ as the major source of carbon.

Chemoheterotrophs. Organisms that use chemical energy and an organic source of carbon.

Chemolithoautotrophs. Organisms that obtain energy by degrading reduced inorganic compounds such as hydrogen gas [H₂], and use CO₂ as a source of carbon.

Chemolithotrophs. Organisms that obtain energy by degrading reduced inorganic chemicals such as hydrogen gas [H₂]; in general, chemolithotrophs are chemolithoautotrophs.

Chemoorganoheterotrophs. Organisms that obtain energy and carbon from organic compounds.

Chemoorganotrophs. Organisms that obtain energy by degrading organic compounds such as glucose; in general, chemoorganotrophs are chemoorganoheterotrophs.

Chemosynthesis. Primary production of organic matter, using various substances instead of light as an energy source; confined to a few groups of microorganisms.

Coccus. [pl. **cocci**] Spherical- shaped bacterial cell.

Comb jellies. Members of the phylum Ctenophora, a group of gelatinous forms feeding on smaller zooplankton.

Continental shelf. A broad expanse of ocean bottom sloping gently seaward from the shoreline to the shelf-slope break at a depth of 100-200m.

Continental slope. See Slope.

Copepod. Order of crustaceans found often in the plankton.

Counter shading. Condition of organisms in the water column that are dark colored on top but light colored on the bottom.

Counter illumination. Having bioluminescent organs that are concentrated on the ventral surface to increase the effect of counter shading [see also counter shading].

Density. [Seawater]. Grams of seawater per milliliter of fluid [g ml⁻¹L].

Density. [organisms]. Number of organisms present.

Deposit feeder. An organism that derives its nutrition by consuming some fraction of a soft sediment.

Detritus. Particulate material that enters into a marine or aquatic system; if derived from decaying organic matter it is organic detritus.

Dissolved organic matter. Dissolved molecules derived from degradation of dead organisms or excretion of molecules synthesized by organisms.

Diversity. A parameter describing, in combination, the species richness and the evenness of a collection of species. Diversity is often used as a synonym for species richness.

Ecosystem. An environment and the organisms that inhabit it.

Endosymbiotic. Being symbiotic and living within the body of an individual of the associated species

Epibenthic. [epifaunal or epifloral]. Living on the surface of the bottom.

Epipelagic zone. The 0-150 (200) m depth zone, seaward of the shelf-slope break.

Fecal pellets. See Pellets.

Grazer. A predator that consumes organisms far smaller than itself. (e.g., copepods graze on diatoms)

Heterotroph. Organism that obtains carbon from an organic compound such as glucose.

Holoplankton. Organisms spending all their life in the water column, not on or in the seabed.

Hydrothermal vents. Sites in the deep-ocean floor where hot, sulfur-rich water is released from geothermally heated rock.

Infaunal. Living within a soft sediment and being large enough to displace sedimentary grains.

Marine snow. Fragile organic aggregates, resulting from the collision of dissolved organic molecules or from the degradation of gelatinous substances such as larvacean houses; usually enriched with microorganisms.

Meroplankton. Organisms that spend part of their time in the plankton but also spend time in the benthos (e.g., planktonic larvae of benthic invertebrates)

Mesopelagic. The 200 -1,000 m depth zone, seaward of the shelf-slope break.

Methanogens. Group of Archaea that generate energy by oxidizing hydrogen gas, using CO₂ as a terminal electron acceptor; this process generates methane (CH₄).

Mutualism. An interaction between two species in which both derive some benefit.

Mutualistic. Conferring reciprocal benefit to individuals of two different associated species.

Nekton. Organisms with swimming abilities that permits them to move actively through the water column and to move against currents.

Neritic. Seawater environments landward of the shelf-slope break.

Niche. A general term referring to the range of environmental space occupied by a species.

Nutrients. The constituents required by organisms for maintenance and growth (we use this term in this book in application to plants)

Oceanic. Associated with seawater environments seaward of the shelf-slope break.

Organic. Deriving from living organisms.

Organic nutrients. Nutrients in the form of molecules synthesized by or originating from other organisms.

Outwelling. The outflow of nutrients from an estuary or salt marsh system to shelf waters.

Oxygen minimum layer. A depth zone, usually below the thermocline, in which dissolved oxygen is minimal.

Pelagic. Living in the water column seaward of the shelf-slope break.

Pellets. Compacted aggregations of particles resulting from either egestion (fecal pellets) or the burrow-constructing activities of marine organisms.

Peptidoglycan. Macromolecule found only in bacteria that provides rigidity to the bacterial cell wall. The basic structure of peptidoglycan is an alternating series of two major subunits *N*-acetylmuramic acid (NAM) and *N*-acetylglucosamine (NAG); chains of these alternating sub-units are cross-linked by peptide chains.

Photic zone. The depth zone in the ocean extending from the surface to that depth permitting photosynthesis.

Photosynthate. A substance synthesized in the process of photosynthesis.

Phytoplankton. The photosynthesizing organisms residing in the plankton.

Plankton. Organisms living suspended in the water column and incapable of moving against water currents.

Plate. Major section of the earth's crust, bounded by such features as midoceanic ridges.

Predator. An organism that consumes another living organism (carnivores and herbivores are both predators by this definition).

Respiration. Consumption of oxygen in the process of aerobic metabolism.

Seafloor spreading. The horizontal movement of oceanic crust.

Sessile. Immobile because of an attachment to a substratum.

Slope. A steep-sloping bottom extending seaward from the edge of the continental shelf and downward toward the rise.

Snow. See Marine snow.

Spirillum (pl. **spirilla**) Curved rod long enough to form spirals.

Spirochete. Type of long helical cell with flexible cell wall that is characterized by an axial filament.

Surface layer. The layer of the ocean extending from the surface to a depth above which the ocean is homogeneous due to wind mixing.

Suspension feeder. An organism that feeds by capturing particles suspended in the water column.

Vents. See Hydrothermal vents.

Water mass. A body of water that maintains its identity and can be characterized by such parameters as temperature and salinity.

Zonation. Occurrence of single species or groups of species in recognizable bands that might delineate a range of water depth or a range of height in the intertidal zone.

Zooplankton. Animal members of the plankton.