



## Marine Organisms Contribute Significantly to the Oxygen Cycle are Involved in the Regulation of the Earth's Climate.

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### Description

Marine biology is the scientific study of the biology of marine life, organisms in the sea. Given that in biology many phyla, families and genera have some species that live in the sea and others that live on land, marine biology classifies species based on the environment rather than on taxonomy. A large proportion of all life on Earth lives in the ocean. The exact size of this large proportion is unknown, since many ocean species are still to be discovered. The ocean is a complex three-dimensional world[1] covering approximately 71% of the Earth's surface. The habitats studied in marine biology include everything from the tiny layers of surface water in which organisms and abiotic items may be trapped in surface tension between the ocean and atmosphere, to the depths of the oceanic trenches, sometimes 10,000 meters or more beneath the surface of the ocean. Specific habitats include estuaries, coral reefs, kelp forests, seagrass meadows, the surrounds of seamounts and thermal vents, tidepools, muddy, sandy and rocky bottoms, and the open ocean (pelagic) zone, where solid objects are rare and the surface of the water is the only visible boundary. The organisms studied range from microscopic phytoplankton and zooplankton to huge cetaceans (whales) 25–32 meters (82–105 feet) in length. Marine ecology is the study of how marine organisms interact with each other and the environment.

Marine life is a vast resource, providing food, medicine, and raw materials, in addition to helping to support recreation and tourism all over the world. At a fundamental level, marine life helps determine the very nature of our planet. Marine organisms contribute significantly to the oxygen cycle, and are involved in the regulation of the Earth's climate.[2] Shorelines are in part shaped and protected by marine life, and some marine organisms even help create new land.[3] Many species are economically important to humans, including both finfish and shellfish. It is also becoming understood that the well-being of marine organisms and other organisms are linked in

fundamental ways. The human body of knowledge regarding the relationship between life in the sea and important cycles is rapidly growing, with new discoveries being made nearly every day. These cycles include those of matter (such as the carbon cycle) and of air (such as Earth's respiration, and movement of energy through ecosystems including the ocean). Large areas beneath the ocean surface still remain effectively unexplored.

### Marine Habitats

Marine habitats can be divided into coastal and open ocean habitats. Coastal habitats are found in the area that extends from the shoreline to the edge of the continental shelf. Most marine life is found in coastal habitats, even though the shelf area occupies only seven percent of the total ocean area. [4] Open ocean habitats are found in the deep ocean beyond the edge of the continental shelf. Alternatively, marine habitats can be divided into pelagic and demersal habitats. Pelagic habitats are found near the surface or in the open water column, away from the bottom of the ocean and affected by ocean currents, while demersal habitats are near or on the bottom. [5] Marine habitats can be modified by their inhabitants. Some marine organisms, like corals, kelp and sea grasses, are ecosystem engineers which reshape the marine environment to the point where they create further habitat for other organisms.

### Intertidal and near shore

Intertidal zones, the areas that are close to the shore, are constantly being exposed and covered by the ocean's tides. A huge array of life can be found within this zone. Shore habitats span from the upper intertidal zones to the area where land vegetation takes prominence. It can be underwater anywhere from daily to very infrequently. Many species here are scavengers, living off of sea life that is washed up on the shore. Many land animals also make much use of the shore and intertidal habitats. A subgroup of organisms in this habitat bores and grinds exposed rock through the process of bioerosion.

### References

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