



Biological Oceanography: Overview, Perspective and Characteristics

Joseph Moore*

Department of Oceanography, Yale University, New Haven, USA

DESCRIPTION

The study of the ocean incorporates chemical, geography, climatology, biology and other scientific disciplines. The sea and its marine life are currently under threat from climate change, pollutants and other issues, making it even more crucial. The analysis of the mechanical, physiological, and biological characteristics of the ocean, as well as the ocean's ancient past, present state, and potential future, is known as oceanography. The function of marine biologists may be more crucial than ever in an era when the ocean is endangered by pollution and global warming, coastlines are crumbling and whole diversity of marine wildlife are at risk of extinction. In fact, biological oceanography is currently one of the most important subfields in oceanography. It is the science of the organisms that live in the ocean and how they interact with it. It also entails making informed decisions regarding policies that influence ocean health with the aid of that knowledge to guide decision-makers.

Oceanographic knowledge has an impact on how people use the ocean for transport, nutrition, energy, water and a variety of other purposes. However, oceanography is more than just academic inquiry. It also entails making informed decisions regarding policies that influence ocean health with the aid of that knowledge to guide decision-makers. Oceanographers from all over the world are looking into a variety of topics that are just as diverse as the sea itself. For instance, groups of oceanographers are looking into how the feeding and migratory habits of whales that live in the coldest parts of the ocean are altering as a result of melting sea ice. Of course, oceanography includes more than just marine life. Geological oceanography, a subfield of oceanography, studies how the seafloor is formed and evolves over time. Geological oceanographers are beginning to map the ground and other underwater features using specialized GPS equipment.

There are two more major various branches of sea science in besides biological and geological oceanography. One is physiological oceanography, which examines how the seafloor, coastlines and atmosphere are related. The other is biochemical oceanography, which examines how weather, human activity, and other factors alter the chemical structure of saltwater. Water covers over 70% of the surface of the Earth. In the world's oceans, saltwater makes up around 97 percent of the liquid. There appears to be no limit to the can be and will be learned about the ocean due to the immensity of the sea and the constant developments in technology. Thus, we lack a basic turbulence physics theory, but there are a number of geophysical issues that need a theoretical solution. It is still unclear how exactly linear waves transition to quadratic waves and break apart. In contrast to frictional flow models over flat bottoms, boundary dynamics above slope terrain and wave breaking are distinct. The same is true of how meso-scale eddies interact and how this affects ocean heat transfer. Although the Sun, Earth's rotation, and tides are the main energy sources that propel the ocean, it is still unclear how these forces interact precisely. Extreme event occurrence requires more investigation than simple statistics analysis. Such issues present a challenge for physical oceanography as well as the effects on marine life and other fields of study. The ocean is susceptible to human-caused energy extraction as well as direct pollution from things like plastic waste disposal and overfishing as well as indirect pollution from things like artificial heating. Improved understanding of the benefits of physical activity oceanographic processes is required to refute ingrained misconceptions. Some claim that there is "a lot of energy" in the water motion. Even though tides have comparatively little energy, significantly less than what humans consume, they are still essential for a number of consequences, from the preservation of ocean division and overturn circulation to the most significant fishing nurseries in estuaries.

Correspondence to: Joseph Moore, Department of Oceanography, Yale University, New Haven, USA, Email: m.joseph@gmail.com

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