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Editorial

Marine Geology Focuses on the Features and Evolution of the Oceans

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DESCRIPTION

However, the ecological and climatic effects may be felt for about a year These and other facts about the world's seas are known are mainly due to advances in oceanography, which is the L., study of all things related to the ocean. The science of oceanography is divided into four main components: marine geology, chemical oceanography, physical oceanography, and marine ecology. Marine geology focuses on the features and evolution of the oceans. Physical oceanography, chemical oceanography, and marine ecology are all closely related fields with overlapping concerns. In addition to tangible properties such as temperature, physical oceanography studies include the movement of ocean waters and their interactions with Earth's atmosphere. In contrast, chemical oceanography focuses on the composition of seawater and its chemical relationships with marine organisms, while marine ecology, which is also called biological oceanography, is the study of those organisms. Modem oceanic exploration is conducted from platforms above water: ships, buoys, aircraft, or satellites. Modern investigations began during the Age of Sail, but newer vessels designed to withstand the actions of weather and waves are more accurate in their underwater measurements. Perhaps tomorrow's vessels will be stationed on the ocean floor—a location that is increasingly being viewed as an area to harvest. Ocean basins are rich in minerals such as iron and manganese. Amazingly, the ocean contains very nearly every element found on Earth. Deep-submergence research vehicles have located mineral deposits, as well as never-before-seen biological communities, at seafloor spreading centres. The ocean is a trove of significant resources. It is a source of food for humans and many organisms that live in marine ecosystems. After desalinization, ocean water is made useful for agricultural purposes, irrigating fields in places with little access to freshwater. Additionally, the oceans figure prominently in trade and transportation. Companies pump oil from hundreds of offshore wells in their quest to supply a world full of consumers hungry for petroleum. Offshore drilling is not without its danger to marine ecosystems, as evidenced by zoio's Deep-water Horizon disaster in the Gulf of Mexico. Thankfully, there also is clean energy to be had from the sea, as tides and waves are converted to electricity. However, human activities are exerting an ever-increasing influence over the world's oceans. Atmospheric carbon dioxide, which is often transferred to the oceans, continues to increase. Phytoplankton and other organisms in the oceans, along with chemical processes in the water, absorb tremendous amounts of carbon dioxide. As carbon emissions from human activities increase, there is a question of whether the ocean will be able to absorb more in the future. Additionally, man-made pollutants alter oceanic processes by blocking light from reaching photosynthetic organisms and those that rely on vision, change the chemical composition of seawater in coastal and runoff areas, and introduce potentially harmful com-pounds to marine life. Despite centuries of research, the ocean remains one of the few places on Earth that has not been completely explored and described. Oceanographers continue to provide insight into formerly unknown aspects of oceanography. Perhaps no oceanographer was so famous as Jacques Yves Cousteau, whose name has become synonymous with deep-sea exploration.

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