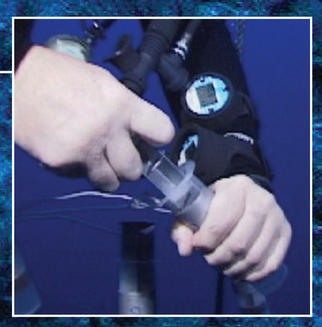
Exploration & Human Health

The deep coral reef is home to millions of undiscovered ocean species. Numerous deep water species are providing clues into combating cancer, HIV, arthritis, and other human conditions. Today, advanced diving technologies are enabling scientists to explore depths of 200 to 600 feet (60 to 183 meters) in pursuit of new discoveries. This area is upwards of 10x's the depth of more conventional SCUBA. The careful observation, dexterity, and reaction time of humans is necessary for the thorough study of these habitats.

The deep, vertical habitat extends from the shallow reef crest into the abyss. To learn more about Exploration & Human Health and the mesophotic coral reef environment, visit the 'in Bahama deep' website, www.oceanopportunity.com/BahamaDeep.html

This photo was taken at a depth of more than 200 feet (60 meters) in the Exumas, Bahamas during a scientific expedition funded by the National Institute for Undersea Science and Technology (NIUST), NOAA's Undersea Research Program (NURP), and hosted through the Perry Institute for Marine Science/NOAA's Caribbean Marine Research Center. Photo © M. Lombardi 2002.

Science



Samples are collected at a depth of 300 feet (91 meters). Evaluating the biomedical and biotechnological potential of marine samples is a critical component in drug discovery for the betterment of humanity. Further surveying, modeling, and monitoring the deep reef are necessary steps to better understand, preserve, and protect the valuable natural resources that the ocean holds.

Technology

Scientific applications of 'technical diving' afford efficient access to the innerspace environment. New diving technologies allow scientists to explore for up to 8 hours on a single dive, and allow fairly routine excursions to be made to 300 feet (91 meters), or more. In time, the evolution of these advanced technologies will enable scientists to examine depths approaching the continental shelf.

Society

An alien sponge species located on the deep reef provides clues in the discovery of new medicines. More than 1.3 million new cancer cases occur in the US each year, and an estimated 55,000 will die this year, as a result of cancer. Compounds have successfully been derived from marine organisms that have the potential to be used for anti-inflammatory agents, and as life-saving treatments for breast and colon cancer, prostate cancer, arthritis, and AIDS. The process of discovery begins with exploration. Earth's last frontier is awaiting…

And the sea shall grant each man new hope.

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