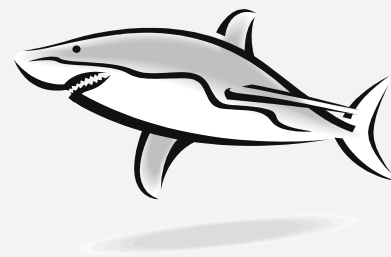


Florida Institute of Technology– Career Management Services

Career Profile: Marine Sciences

The field of marine biology -- the study of marine organisms, their behaviors, and their interactions with the environment -- is considered one of the most all-encompassing fields of oceanography. To understand marine organisms and their behaviors completely, marine biologists must have a basic understanding of other aspects or "disciplines" of oceanography, such as chemical oceanography, physical oceanography, and geological oceanography. Therefore, marine biologists and biological oceanographers study these other fields throughout their careers, enabling them to take a "big picture" approach to doing research.



Because there are so many topics one could study within the field of marine biology, many researchers select a particular interest and specialize in it. Specializations can be based on a particular species, organism, behavior, technique, or ecosystem. For example, marine biologists may choose to study a single species of clams, or all clams that are native to a climate or region. One area of specialization, the emerging field of marine biotechnology, offers great opportunity for marine biologists. Marine biotechnology research presents a wide range of possibilities and applications. One focus area is the biomedical field, where scientists develop and test drugs, many of which come from marine organisms. An example of an application of biotechnology research can be seen in industry or defense, where researchers have developed non-toxic coatings that prevent the build-up of fouling organisms, such as barnacles and zebra mussels. Such coatings are useful for ships and intake pipes used in power plants.

Probably the topic most often asked about within marine biology is research involving marine mammals, including cetaceans (whales and dolphins) and pinnipeds (sea lions, seals, and walruses). The reality is that research jobs involving marine mammals are extremely hard to come by for a number of reasons, including the popularity of the field, the fact that working with marine mammals is highly regulated (most research is done using tissue samples of sick, stranded, or dead animals and not on live, healthy animals), and because funding is very competitive.

Aquaculture, the farming of finfish, shellfish, and seaweeds, is another field that has been aided by marine biotechnology and molecular techniques. Aquaculture is gaining importance in this country as consumer demand for fish and shellfish becomes greater than can be met by traditional commercial fishing. At the same time, technological advances have made aquaculture more economically feasible. In one example, researchers developed a "triploid" oyster, whose meat remains firm and sweet throughout the entire spawning season (May to August). By extending the harvesting and marketing season of the oyster, its economic value increased.

The average starting salary for a bachelors degree in Marine Biology is \$40,000. With a masters degree the average starting salary is \$47,000.

For more information on a career in Marine Sciences contact the Career Management Services Office or your academic advisor.

Sources: Sea Grant Marine Careers: www.marinecareers.net



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