



## CAREERS IN OCEANOGRAPHY

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### IS A CAREER IN OCEANOGRAPHY RIGHT FOR YOU?

Do you enjoy surfing or diving? Have you ever wondered why the ocean is salty? Are you curious about what the ocean is like under the surface? Do you know why we have tides? Do you like to go fishing? Have you ever wondered why the ocean is blue? If you answered "yes" to any of these questions, then come and explore a career in oceanography. Oceanographers apply the basic sciences to better understand the ocean.

### WHAT FIELDS OF OCEANOGRAPHY ARE THERE?

- ★ **Physical Oceanographers** study the water masses and currents of the ocean, how the water masses are formed, and the driving forces that energize and shape the water's motion as currents or waves.
- ★ **Chemical Oceanographers** examine the distribution of chemical compounds and the many chemical interactions that occur in the ocean and on the seafloor.
- ★ **Geological Oceanographers** investigate the formation and evolution of the seafloor.
- ★ **Biogeochemical Oceanographers** explore the biological, chemical and geological processes that take place in the ocean. They focus on cycles of essential nutrients, such as carbon and nitrogen.
- ★ **Biological Oceanographers** seek to understand the many diverse forms of marine life in the context of their communities and environment.
- ★ **Paleo-Oceanographers** puzzle out the history of our oceans by using computer models that attempt to recreate circulation, chemistry, biology, and geology of the prehistoric ocean.
- ★ **Marine biologists** study marine plants and animals, including their genetics, evolution, physiology, and geographic distribution patterns.
- ★ **Fisheries Oceanographers** work to maintain an abundant, healthy seafood supply by studying commercial fish and making recommendations on when, where and how much fishing to allow.
- ★ **Microbial Oceanographers** focus on the tiny organisms in the ocean (such as bacteria) and the roles they play in biological and biogeochemical cycles.
- ★ **Coastal Oceanographers** hang out close to shore. They are interested in the physical, chemical, geological and biological processes that affect coastal areas.





## WHAT KINDS OF JOBS CAN YOU GET AS AN OCEANOGRAPHER?

- ★ Job opportunities in marine science exist for individuals with all levels of education. Oceanographers work for **State and Federal government offices and laboratories, educational institutions, industries, magazines, book publishers, television, radio, legal firms, and environmental societies**. They work in research, education, problem solving, and regulatory and administrative roles.
- ★ Many researchers spend at least some time each year engaged in field work, collecting data and samples in **natural environments** on board small boats or large research vessels.
- ★ When not in the field, research scientists spend a significant amount of time in the **laboratory** running experiments or at the computer analyzing data or **developing models**. Those in academia spend time teaching and supervising students. All scientists spend time communicating with colleagues and the general public.
- ★ Many oceanographers have **administrative jobs**, either with academic institutions or federal or private agencies. These individuals spend more time in the office and communicating with others.

## WHAT ARE THE BASIC ACADEMIC REQUIREMENTS?

Most entry-level jobs require a bachelor's degree in a natural science. Some positions (especially those in research) require a master's degree. Typically, a doctorate is necessary to develop and lead research projects, or to teach at the college level.

A high school student should prepare for a career in oceanography by following a diversified college-preparatory curriculum that includes courses in biology, chemistry, physics, and mathematics. Courses in writing and computer science are also useful in this interdisciplinary field.

## WANT MORE INFORMATION?

Contact the Department of Oceanography at the University of Hawai'i at Mānoa. The department offers a Bachelor of Science degree in Global Environmental Science and both Master of Science and Doctorate degrees in Oceanography.



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