

## Careers in Oceanography

### What is an Oceanographer?

An oceanographer is a global scientist that studies a wide variety of topics. One might be a biologist, chemist, physicist, geologist, engineer, mathematician, computer scientist, meteorologist or YOU!

Oceanographers are a group of people that work together worldwide to expand the knowledge of the global ocean and educate others about ocean processes.

### What does an Oceanographer do?

Unlike the marine biologists who focus their attentions on critters of the sea, oceanographers are busy answering questions about the processes of the ocean. For instance, as a chemical oceanographer you might study how seawater and sediments form, how pollutants and waste disposal impact the ocean, or how the ocean affects climate. As a physical oceanographer, you would be likely to study the ocean from a 'big picture' perspective, often using satellites (remote sensing) to understand how and where water moves. You might also have an interest in how the ocean interacts with the land and atmosphere to influence weather patterns. As a marine geologist or geophysicist, you may study the formation of beaches, map the Earth's interior, or drilling into the ocean's floor to discover the ocean's history or sea level rise and

earthquakes. A biological oceanographer is interested in how plants and animals develop, relate to one another, adapt and interact with the ocean environment. The newest area of biological oceanography is marine molecular biology. These oceanographers are interested in recovering resources for biotechnology, making sure that responses to pollution problems are the best and most environmentally sound, as well as developing methods to restock our oceans supplies and the best aquaculture techniques are available and used.

### Who do Oceanographer's work with?

Oceanographer's work with policy makers, social scientists, educators, and businesses to develop effective ways of managing and maintaining our ocean resources. Through continued research, new technology, and combined efforts, we are learning how the oceans affect life and the future of our planet.

### What makes a good oceanographer?

Oceanographers must share an excitement, curiosity and sense of adventure in exploring planet Earth's largest environment. It is really beneficial to develop good communication skills and to work effectively as a team member. Not to mention enjoying a challenge and being persevering even when times become

difficult. In preparing to be an oceanographer it is helpful to be flexible and explore all your options in this ever growing field of study. If you are thinking about being an oceanographer, prepare before you go to college. Take as many math, science, and computer classes in school as you can. This will prepare you for a variety of jobs. Generally the more math you take, the higher the salary you will have. Your goal in high school should be to have at least 4 math and 4 science credits. Be a volunteer and shadow in as many places as you can. There are a lot of summer programs available in the sciences. To find programs, contact the National Marine Educators Association (408) 648-4837, and the nearest Sea Grant office in your area. After you graduate from high school, get an undergraduate degree in one of the basic sciences, and then pursue a master's or doctoral degree to successfully enter a career as a professional oceanographer.

Persevere in following your dream. Be committed to hard work, dedication, and the will to succeed.

### **What are the job opportunities in Oceanography?**

The career opportunities that are available will depend on market demand and competition. Currently, the greatest demand in oceanography is for chemical and physical oceanographers and ocean engineers. The future looks bright in the fields of remote sensing, mathematical modeling, computer programming, aquaculture, biotechnology, engineering

and education. If you are committed to exploring a career in oceanography, stay current on the job market, access electronic bulletins, join professional organizations, and pursue your dream aggressively.

### **Where are oceanographers found working?**

Oceanographers are found in every geographic region in the world. In the United States, most are found primarily along the Pacific, Atlantic and Gulf coasts and on the Great Lakes

An oceanographer can work in a variety of different settings, and offices. For example, you may be in a small boat along the coastline for a day, in a laboratory setting for several days, or on a research vessel for several months. You may be on the water, in the water, under the water, and studying the areas from the shoreline where the water meets the land. Being an oceanographer is not a nine to five job, or always in formal environments.

Scientists are found in academic institutions. They teach classes, advise graduate students, supervise laboratory assistants, and engineers who design and build their instruments, and serve on committees for their departments and institutions. This allows them great freedom in deciding which projects, and activities to pursue.

Other scientists work in legislative offices, coastal zone management, international relations, the Armed Services, all federal agencies concerned with the ocean environment, consulting agencies

and other private industries.

Finally, scientists are found in public education and recreation. Many scientists are active in with veterinarians, in science journalism, aquariums, marine sanctuaries, and parks. Others are found in museums, and other science centers.

Be encouraged to know that the long hours and the hard work are extremely rewarding.

**References:**

Marine Science Careers - A Sea Grant Guide to Ocean Opportunities. Sea Grant Communications Office, Kingman Farm, University of New Hampshire, Durham, NH 03824-3512

Greely, Teresa, and Lori Huthmacher, 1997. Oceanographic Careers Presentation for Eckerd College.

Careers in Oceanography and Marine Related Fields. 1995. The Oceanographic Society. 4052 Timber Ridge Drive, Virginia Beach, VA 23455

The National Science Foundation. Office of Legislative and Public Affairs, Room 1245, Wilson Boulevard, Arlington, VA 22230

