

# Scripps Institution of Oceanography

For more than a century, Scripps Institution of Oceanography has been dedicated to providing exceptional educational opportunities. Scripps' excellence in scientific research is accompanied by its leadership in education, with undergraduate and graduate courses in a variety of marine and earth science disciplines.

Scripps is one of the oldest, largest, and most important centers for marine and earth science research, education, and public service in the world. Its preeminence in marine and earth sciences is reflective of its excellent programs, distinguished faculty and research scientists, and outstanding facilities.

Scripps was founded in 1903 as an independent biological research laboratory and became an integral part of the University of California in 1912. At that time the laboratory was given the Scripps name in recognition of donors Ellen Browning Scripps and E. W. Scripps.

In all, Scripps occupies fifty-eight buildings on 170 acres along the Pacific coastline below the mesa on which the UC San Diego main campus is located. The institution enrolls more than 220 graduate students, and has over 1,200 staff. Annual expenditures exceed \$160 million.

Research at Scripps encompasses physical, chemical, biological, geological, and geophysical studies of the oceans. Among the hundreds of research programs that may be under way at any one time are studies of air-sea interaction, climate prediction, earthquakes, the physiology of marine animals, marine chemistry, beach erosion, the marine food chain, the ecology of marine organisms, the geological history of the ocean basins, and the multidisciplinary aspects of global change and the environment.

Scripps operates four ships and one floating instrument platform in support of oceanographic research programs conducted by Scripps researchers and oceanographers from other institutions throughout the world. Cruises range from local, limited-objective trips to far-reaching expeditions in the world's oceans. During a student's tenure at Scripps, he or she will have the opportunity to go to sea on Scripps' research vessels as well as on those from other oceanographic institutions.

Investigations supported by contracts and grants—primarily federal—cover a wide latitude of marine research. Scripps is organized into three research administrative sections: biology, earth sciences, and oceans and atmosphere. The three sections are composed of smaller disciplinary and multidisciplinary research units: the Center for Marine Biotechnology and Biomedicine; Climate, Atmospheric Science, and Physical Oceanography Division; Geosciences Research Division; Integrative Oceanography Division; Marine Biology Research Division; Marine Physical Laboratory; and the La

Jolla laboratory of the University of California's Cecil H. and Ida M. Green Institute of Geophysics and Planetary Physics. Other specialized groups include the Center for Marine Biodiversity and Conservation; Center for Observations, Modeling and Prediction at Scripps; and the Scripps Genome Center.

The California Sea Grant College Program, a systemwide program with thirty to fifty projects and approximately forty trainees supported on California campuses and in several specialized research units, is headquartered at Scripps. The Southwest Fisheries Science Center (SWFSC), located on the Scripps campus, is one of thirty major laboratories and centers operated by the National Marine Fisheries Service, a component of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. Also, the Inter-American Tropical Tuna Commission is collocated at SWFSC.

A ship operations and marine technical support unit provides essential services and facilities to all research units of the institution.

Birch Aquarium at Scripps provides a wide variety of educational courses in the marine sciences for students from primary grades to high school level. UCSD students may become involved in work-study programs or serve as volunteers or aquarist trainees. A limited number of students can be accommodated for a four-unit course in independent study by arrangement with a faculty member and the aquarium director. Aquarium staff also teach a UCSD graduate/undergraduate course called Communicating Ocean Sciences to Informal Audiences (COSIA) once each academic year. The aquarium facility's resources include natural habitat groupings of marine life from local and Gulf of California waters; many of these marine groups are on display in the aquarium. The museum exhibits present basic oceanography and earth science concepts and explain research undertaken at Scripps. The aquarium is open from 9:00 a.m. to 5:00 p.m. daily.

Scripps' educational program includes undergraduate and graduate education. Approximately ninety professors are complemented by an academic staff of more than 200 scientists. Scripps offers an undergraduate degree (B.S.) in earth sciences, a contiguous B.S./M.S. degree in earth sciences, and an interdisciplinary minor in marine science. Many Scripps scientists also teach courses in undergraduate programs such as biology, engineering, and environmental systems.

In addition, the Scripps Center for Marine Biodiversity and Conservation, in cooperation with UC San Diego's Extended Studies and Public Programs, has established a program leading to a master of advanced studies in marine biodiversity and conservation.

The Scripps graduate program has grown hand in hand with the research programs. Graduate students are typically admitted as candidates for a Ph.D. degree. All educational activities are located in the Scripps Department. Graduate educational programs are divided into three programs: Climate, Oceans, and Atmosphere (consisting of the Applied Ocean Science, Climate Sciences, and Physical oceanography curricular groups); Geosciences of the Earth, Oceans and Planets (consisting of the Geological Sciences, Geophysics, and Marine Chemistry and Geochemistry curricular groups);

and Ocean Biosciences (consisting of the Biological Oceanography and Marine Biology curricular groups).

Graduate students enter oceanography with extremely varied interests and backgrounds—ecologists, geologists, chemists, molecular biologists, physicists, engineers, and theorists from the United States and many foreign countries. One thing they have in common, however, is that they come to Scripps with a very strong understanding of science. Most students select positions as research assistants when they enter the program—a practice that not only gives them an early involvement with research, but also provides salaries. The student-faculty ratio at Scripps is about two to one; consequently, classes are small, and the student has the opportunity to work closely with his or her thesis advisor. Oceanography and earth sciences are interdisciplinary fields that allow for informal exchange and interaction on a variety of levels.

While at Scripps, students have for their use some of the nation's most sophisticated and complete special laboratories and facilities for oceanographic and earth science studies covering a wide range of disciplines from biology and physiology to geophysics and atmospheric sciences. Scripps offers facilities for detailed experimental studies, including two large experimental aquarium rooms. The Marine Science Development Center is equipped with a wide selection of materials and hardware for self-use or assistance by engineering staff who can provide full or assisted design and engineering capabilities in support of research projects for Scripps faculty, staff, and students. The Hydraulics Laboratory features a 90-foot stratified flow channel and a 150-foot wind-wave channel, and the Unified Laboratory Facility has scanning electron microscopes and other high-precision instruments. Among the many computer resources is access to the San Diego Supercomputer Center. The Scripps Library is the University of California's major collection of marine science materials, with outstanding collections in oceanography, marine biology, and marine technology. It also specializes in atmospheric sciences, fisheries, geology, geophysics, and zoology. The various marine life and geological specimens housed in Scripps' Oceanographic Collections comprise a vast and unique "library" available for scientific studies both within Scripps and at other institutions and are the world's largest university-based oceanographic collections. Two underwater research areas that are part of the UC Natural Reserve System are adjacent to the Scripps campus and the institution has a 1,084-foot research pier that enables a scientific diving program, small boat deployment, and research and data collection efforts.

In 2009, Scripps opened the Robert Paine Scripps Forum for Science, Society and the Environment, a stunning oceanfront facility serving the Scripps community and others for meetings, events, and conferences.

The combination of a large scientific staff and extensive facilities at Scripps provides an extraordinary opportunity for each student to enjoy close contact with existing oceanographic concepts and active participation in research.

See "[Scripps Institution of Oceanography](#)" in "[Courses, Curricula, and Programs of Instruction](#)" for

further details on study programs, requirements, degrees, and courses.

For additional information on the Scripps graduate program, write to

Graduate Student Information  
Scripps Institution of Oceanography  
University of California, San Diego  
9500 Gilman Dr. # 0208  
La Jolla, CA 92093-0208

For additional information on undergraduate and graduate programs at Scripps, see

<http://scrippseducation.ucsd.edu>.