

## Field stations

Students at the University of Sydney studying Marine Science have the privilege to participate at field trips and intensive units at our field stations which are located at some of the most spectacular and remote places and feature state of the art facilities.

**Warrah at Broken Bay**, the School of Biological Sciences research station, is only a short drive from Sydney. It is located at Pearl Beach, near Woy Woy on the Central Coast. The field station itself is set in bushland and there are large areas of bush to explore both in the stations backyard and in the National Park across the road. There is a great rock platform and beach only minutes from the front door to study the local marine wildlife.

**Sydney Institute of Marine Science (SIMS)** is a consortium of the University of Sydney and other universities in NSW. These include the University of NSW, Macquarie University, University of Technology, Universities of Newcastle and Wollongong and state and federal marine agencies. It is the largest consortium of university Marine Science in Australia. Located on Sydney Harbour's North Shore at Chowder Bay, it offers an excellent opportunity to study Sydney Harbour, an urban marine environment, as well as open ocean research.

**One Tree Island Research Station** is situated on a spectacular coral cay in the centre of the Capricorn region of the Southern Great Barrier Reef, about 20 km east of Heron Island and about 100 km off the Queensland coast. It provides easy access to the flora and fauna of the Great Barrier Reef and a diversity of tropical habitats. A broad spectrum of excellent research in tropical biology, ecology, oceanography and geology is conducted at One Tree Island.



One Tree Island Research Station in the Capricornia region of the GBR



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## University of Sydney Institute of Marine Science - USIMS

Established in 2002 USIMS provides a focus for Marine Science at the university. It coordinates undergraduate and graduate teaching and research, promotes Marine Science within the university and externally, and fosters interdisciplinary research. Work experience programs and internships are also available through USIMS.

### Contact information:

If you would like to know more about studying Marine Science at the University of Sydney including a full list of undergraduate and postgraduate subjects, please visit our website at:

[www.usyd.edu.au/usims](http://www.usyd.edu.au/usims)

or come and see us.

USIMS is located in Room 308 in the Madsen Building (F09), Eastern Avenue, Camperdown Campus, University of Sydney, NSW, 2006.

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## Marine Science at Sydney



undergraduate



# Marine Science at Sydney

## Why study Marine Science?

Approximately 71% of the Earth's surface is covered by marine waters forming a Global Ocean. This large body of water indirectly or directly affects our everyday lives by taking up an enormous amount of solar energy and driving the different climates on our planet, changing the shape of our continents, and producing a staggering amount of food.

Australia, in particular, is an exciting place to study Marine Science due to its unique location. It is situated between the Indian Ocean to the west and the Pacific Ocean along the east coast. Tropical waters flow down from the north and located to the south are the cold, productive waters of the Southern Ocean. These different ocean systems create a wealth of marine environments of national and international significance.

Studying the diverse Australian marine environment with its organisms and communities is fascinating in itself, however, it also teaches us why it is so important to protect and conserve marine resources. The University of Sydney is well situated to explore these important issues and provides many opportunities for research which can lead to a variety of careers in Marine Science.



## Studying Marine Science at the University of Sydney

The University of Sydney has a long history of activities in Marine Science, with units of study dating back to the 1880's. Cutting edge research in the fields of Marine Science have developed since then with particular expertise related to the areas of biology and geosciences and more recently focusing on current issues related to climate change, paleoclimate and world ocean teleconnections.

Studying Marine Science at the University of Sydney provides the opportunity to access a wide range of teaching and research facilities in association with several centres, schools and field stations in temperate and tropical waters. By attracting a significant amount of funding annually, the University of Sydney offers a productive and challenging academic program for students who wish to study Marine Science.

### Bachelor programs

At the University of Sydney Marine Science can be studied as a subject within various generic Bachelor degree programs, such as Arts or Science, or in the combined degree Arts/Science.

There are three majors offered: **Marine Biology**, **Marine Geosciences**, and **Marine Science** which includes units of Marine Geosciences and Marine Biology.

### Marine Biology

Marine biologists study all subjects concerned with living organisms in the ocean, their nature, distribution, and interaction with other organisms and their environment. The School of Biological Sciences offers a number of units in Marine Biology, ecophysiology and ecology which are hands-on and include a practical component taught in the field.

### Marine Geosciences

Marine geologists focus on questions concerning the inner Earth, the Earth's crust and its movements, seafloor sediments, and the evolution of the Earth's ocean, continents and climate. The School of Geosciences offers units with a focus on marine geology or marine sedimentary processes and coastal management. Students studying these fascinating topics also have the opportunity to undertake fieldwork at the University's state of the art field stations.

## Other options

### Ocean Engineering / Ocean Technology

Ocean engineers design and build instruments that enable marine scientists to explore the marine environment to great depths and inaccessible places. They also study the marine environment from satellites and ships in order to safely extract resources from the sea. An undergraduate degree in engineering will open your path to specialise in ocean engineering activities such as developing ocean robots or assessing the safety of off-shore platforms.

### Postgraduate study

Research and coursework postgraduate programs can be undertaken at different levels and durations.

### Careers in Marine Science

There is a strong demand for Marine Science graduates in Australia. Career options are diverse and can include climate change modelling and disaster forecast, mitigation of ecological effects of human activities on the marine environment, marine conservation and the preservation of our coastal areas, location and extraction of renewable and non-renewable energies from the sea, and the discovery of new medical compounds from marine plants and animals.



Sydney Institute of Marine Science at Chowder Bay, Sydney Harbour