

# Oceanography

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## College of Fisheries and Ocean Sciences

Oceanography Department (<https://www.uaf.edu/cfos/academics/departments/oceanography/>)  
907-474-7289

## Department Overview

The Oceanography Department houses faculty and students who study the marine environment through interdisciplinary ocean systems science that encompasses physical, chemical, biological, geological, and fisheries oceanography. Research programs are based on new observations, time-series studies and modeling. Our research includes exploration of the Arctic Ocean, the Bering Sea and the Gulf of Alaska; ocean circulation patterns and their relationship to ocean-atmosphere-sea ice interactions; dynamics of internal waves; trophic (food web) dynamics and associated biogeochemistry; and a range of studies linking climate variation to the marine ecosystem.

Oceanography faculty and students conduct wide-ranging field research focused on high latitudes, not only in the Alaska region and the Arctic but also in the Antarctic/Southern Ocean, Greenland, the North Pacific, and elsewhere.

The Oceanography program offers graduate degrees at the M.S. and Ph.D. levels, and our faculty teach courses in the B.S. Fisheries and Marine Sciences and the undergraduate Minor in Marine Science.

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## B.S., Fisheries and Marine Sciences

The undergraduate program in the College of Fisheries and Ocean Sciences offers students a broad education and training in fisheries biology, ecology, marine biology, oceanography, and related fields. In addition to rigorous scientific coursework, students engage in internships or research projects with professionals from various organizations, including local, state, federal, tribal, university, and private sectors.

The B.S. degree in fisheries and marine sciences prepares graduates for careers as professionals in fisheries and aquatic management, research, conservation, education, policy, and industry organizations. Typically, graduates secure employment with governmental agencies, nongovernmental organizations, and academic institutions, both in Alaska and throughout North America. The program also provides a solid foundation for pursuing related graduate studies that will enable entry into careers in advanced research, management, administration, and teaching roles.

The undergraduate program is administered through the Troth Yeddha' Campus in Fairbanks, and all fisheries and marine sciences courses (excluding field courses) are offered via distance education to accommodate students in outlying areas.

Minimum Requirements for Fisheries and Marine Sciences Bachelor's Degree: 121 credits

Learn more about the bachelor's degree in fisheries and marine sciences (<https://uaf.edu/academics/programs/bachelors/fisheries-marine-sciences.php>), including an overview of the program, career opportunities, and more.

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## M.S., Ph.D., Oceanography

The M.S. and Ph.D. degrees are offered in several concentration areas of oceanography: physical, chemical, biological, geological and fisheries oceanography.

Oceanography is both interdisciplinary and multidisciplinary. The M.S. and Ph.D. degrees emphasize processes that influence the ocean as a system, including its circulation, chemical composition, biological productivity and geology. Students considering graduate study in oceanography should have a strong background in physics, chemistry, biology, geology or mathematics and a working familiarity with the other subjects.

Opportunities for laboratory and fieldwork are available through research facilities located in Fairbanks, the Seward Marine Center, the Kasitsna Bay Laboratory and Juneau. Facilities include the Ocean Acidification Research Center, the Alaska Stable Isotope Facility, seaside laboratories with running seawater systems, small boats, autonomous undersea vehicles and a variety of instrumentation for research in water circulation, marine particle dynamics, nutrient and trace metal chemistry, genomics, microbial/phytoplankton ecology, zooplankton ecology and other fields. The College operates the R/V Sikuliaq, a 261-foot ice-capable oceanographic research ship owned by the National Science Foundation. It also has a 40-foot vessel, the R/V Nanuq, that conducts coastal research out of Seward. Oceanography faculty and students are regular users of Sikuliaq, and other ships for high-latitude research, not only in the Alaska region and the Arctic but also in the Antarctic/Southern Ocean, Greenland, the North Pacific and elsewhere.

Minimum Requirements for Oceanography Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

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## Programs

### Degrees

- B.S., Fisheries and Marine Sciences (<https://catalog.uaf.edu/bachelors/fisheries-bs/>)
- M.S., Oceanography (<https://catalog.uaf.edu/masters/oceanography/>)
- Ph.D., Oceanography (<https://catalog.uaf.edu/phd/oceanography/>)