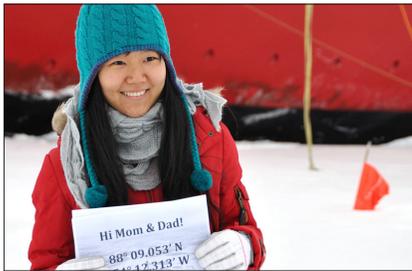


Ocean Mapping



UNH Facts

- UNH's Center for Coastal and Ocean Mapping (CCOM) is one of only two national centers for ocean mapping and education. CCOM offers Category A Certification by the International Federation of Surveyors / International Hydrographic Organization / International Cartographic Association Advisory Board by CCOM.
- The Center for Coastal Mapping / Joint Hydrographic Center (JHC) is a national center of expertise in ocean mapping and hydrographic sciences. The JHC is a formal cooperative partnership between UNH and NOAA, whose aim is to create a national center for expertise in ocean mapping and hydrographic sciences.

www.ccom.unh.edu

Ocean Mapping at UNH

SINCE ITS FOUNDING, the objective of the Center for Coastal and Ocean Mapping (CCOM) has been to develop tools and offer training that helps hydrographic organizations meet the challenges posed by the rapid transition from the sparse measurements of depth by traditional sounding techniques (lead lines and single-beam sonars) to the massive amounts of data now collected by the new generation of multibeam echo sounders, phase differencing sonars, and bathymetric lidar systems.

To meet this goal, the Center promotes and fosters the education of a new generation of hydrographers and ocean-mapping scientists to meet the growing needs of both government agencies and the private sector. CCOM, which resides within UNH's School of Marine Science and Ocean Engineering, offers Master of Science (M.S.) and Ph.D. degrees and a graduate certificate in ocean mapping.

Programs of Study

M.S. in Ocean Engineering with ocean mapping option

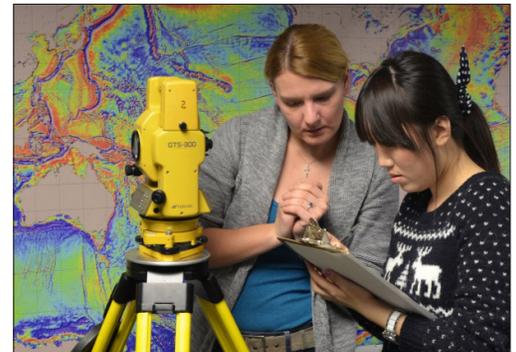
M.S. in Earth Sciences with ocean mapping option (thesis and non-thesis available)

Ph.D. in Ocean Engineering

Ph.D. in Earth Sciences

Graduate Certificate in Ocean Mapping (one-year program).

FIG/IHO Category A Certification



Research Areas

Research at the Center focuses on improving sensors used for hydrographic mapping (including sonar, lidar and AUVs) as well as developing new approaches and tools for processing and visualization of data, and exploring uses of these technologies throughout the water column and in benthic communities.

An initial goal of the Center was to find ways to process the massive amounts of data generated by multibeam and sidescan sonar systems so that it was ready for chart production as rapidly as the data were collected. Having far surpassed this goal, CCOM has turned its attention to the opportunities provided by this huge flow of information to create a wide range of products that meet needs — like marine habitat assessments, gas seep detection, fisheries management, disaster mitigation, and national security — beyond safe navigation.

The Center's state-of-the-art facilities include a telepresence console, a "geowall" high-resolution display system, an acoustic test tank and the R/V Gulf Surveyor, a 48-foot aluminum hull catamaran custom-built for hydrographic research and commissioned in 2016.

For information on programs and how to apply, visit CCOM Graduate Education at <http://ccom.unh.edu/education> UNH Graduate School at <http://www.gradschool.unh.edu>

The CCOM/JHC expertise in multibeam sonar allows researchers to employ hydrographic multibeam sonars for water column mapping, shown at right, and to use fisheries multibeam sonars for seafloor characterization. With the Simrad ME70 multibeam sonar, water column modes are used to provide high fidelity information about both the water column and the seafloor.

