

Program of Study	Course credit hours must total at least 30 hours, which will consist of at least 24 hours of course work and at least 6 hours of thesis work. Thesis work may not exceed 15 hours. All students are required to take the following two courses: ERS 542 "Quaternary Environment/Climatic Change," and INT 500 "Climate, Culture, and the Biosphere." A minimum of 12 hours of course work (exclusive of thesis) must be at the graduate level (500 or above) unless petitioned. Graduate course work and thesis research, preparation, and completion will normally take no more than two academic years of resident study.	
Research Facilities	Extensive research laboratories including state-of-the-art stable isotope laboratory, climatology laboratory, sedimentology laboratory, geological laboratory, archaeology laboratory, zooarchaeology laboratory, palynology laboratory, and paleobotanical laboratory.	
Financial Aid	2-3 Research Assistants per year, \$12,500/academic year, plus tuition (18 credits total), plus half of health insurance.	
Students	There are small graduate student numbers with a student-faculty ratio of less than one student per faculty member. The university and the institute provide some travel support for conferences on a case-by-case basis. Students come from various backgrounds with undergraduate majors in Biology, Geology, Anthropology, Computer Science, History, Botany, Oceanography, and Marine Sciences. Preparation should include courses in the sciences.	
Applying	Application deadlines are February 1 for the Fall semester and November 1 for the Spring semester.	
Correspondence	The Graduate School 5755 Stodder Hall Room 42 The University of Maine Orono, ME 04469-5755 207-581-3291 graduate@maine.edu	Climate Change Institute Bryand Global Sciences Building The University of Maine Orono, ME 04469-5790 207-581-2190 gregory.zaro@umit.maine.edu

Graduate Faculty

Paul Andrew Mayewski, Ph.D. (Ohio State, 1973), honorary Ph.D. (Stockholm University, 2000), Director and Professor, Climate Change Institute and Professor of Earth Sciences. Climate change and atmospheric chemistry.

Daniel F. Belknap, Ph.D. (Delaware, 1979), Professor of Geological Sciences, Center for Marine Studies, Quaternary and Climate Studies, and Oceanography. Marine geology, quaternary stratigraphy, and sedimentology.

Harold W. Borns, Jr., Ph.D. (Boston University, 1959), Professor Emeritus of Geological Sciences and Quaternary and Climate Studies. Quaternary and glacial geology.

Fei Chai, Ph.D. (Duke, 1995), Associate Professor of Marine Sciences. Ecosystem modeling, tropical oceanography, El Niño, ocean carbon cycle.

Sudarshan S. Chawathe, Ph.D. (Stanford, 1999), Assistant Professor of Computer Science. Semistructured data, streaming data, peer-to-peer systems, autonomous environments, data exploration and mining, differencing, and change management.

George H. Denton, Ph.D. (Yale, 1965), Professor of Geological Sciences and Quaternary and Climate Studies. Paleoeology of lakes and glacial geology.

MAINE'S LAND GRANT AND SEA GRANT UNIVERSITY

A Member of the University of Maine System

Ann Dieffenbacher-Krall, Ph.D. (Maine 1998), Associate Research Professor of Quaternary and Climate Studies. Paleoecology

James L. Fastook, Ph.D. (Maine, 1976), Professor of Computer Sciences. Numerical modeling of glaciers and ice sheets.

Brenda Hall, Ph.D. (Maine, 1997), Associate Professor of Climate Change Institute and Earth Sciences. Glacial geology, geomorphology, geochronology.

Gordon S. Hamilton, Ph.D. (University of Cambridge, 1992), Research Associate Professor of Quaternary and Climate Studies. Polar glaciology, climate change, remote sensing, and satellite geodesy.

Roger Hooke, (California Inst. of Tech., 1965), Research Professor of Earth Sciences and Climate Change Institute. Geomorphology and glaciology.

Terence J. Hughes, Ph.D. (Northwestern, 1968), Professor of Geological Sciences and Quaternary and Climate Studies. Quaternary glaciology.

George L. Jacobson Jr., Ph.D. (Minnesota, 1975), Professor of Plant Biology and Quaternary and Climate Studies. Paleoecology and plant ecology.

Shaleen Jain, Ph.D. (Utah State, 2001), Assistant Professor of Civil and Environmental Engineering. Hydroclimatology, water resources plant ecology.

Joseph T. Kelley, Ph.D. (Lehigh, 1980), Professor of Earth Sciences. Marine geology, sea level change.

Thomas B. Kellogg, Ph.D. (Columbia, 1973), Professor of Geological Sciences. Paleooceanography.

Karl Kreutz, Ph.D. (New Hampshire, 1998), Associate Professor of Earth Sciences and Climate Change Institute. Isotope geochemistry, climate and environmental variability.

Andrei Kurbatov, Ph.D. (SUNY Buffalo, 2001), Assistant Research Professor of Quaternary and Climate Studies. Explosive volcanism, tephrochronology, glaciochemistry.

Kirk A. Maasch, Ph.D. (Yale, 1989), Professor of Geological Sciences and Quaternary and Climate Studies. Theory of climate.

Lisa K. Neuman, Ph.D. (Duke, 2001) Assistant Professor of Anthropology and Native American Studies. History of Native American Diaspora in the United States, the history of American Indian Education, and the relationship between urban Indians and tribal communities.

Steve A. Norton, Ph.D. (Harvard, 1967), Professor of Earth Sciences and Climate Change Institute. Paleolimnology, environmental chemistry, isotope geochemistry.

Brian Robinson, Ph.D. (Brown, 2001), Assistant Professor of Climate Change Institute. Prehistoric archaeology, Northeastern United States, Paleoindians.

Daniel H. Sandweiss, Ph.D. (Cornell, 1989), Professor of Anthropology and Quaternary and Climate Studies. Prehistoric and historic archaeology, coastal adaptations, climate change.

David Sanger, Ph.D. (Washington, 1967), Professor Emeritus of Anthropology and Quaternary and Climate Studies. Prehistoric archaeology, coastal adaptations, hunter-gatherers.

Jasmine Saros, Ph.D. (Leigh University, 1999), Associate Professor of Biological Sciences and Quaternary and Climate Studies. Paleoecology.

Molly Schauffler, Ph.D. (Maine, 2003), Research Assistant Professor of Climate Change Institute. Paleoecology, environmental science education.

David C. Smith, Ph.D. (Cornell, 1965), Professor Emeritus of History. Historical climates, climate research group.

Kristin Sobolik, Ph.D. (Texas A&M, 1991), Professor of Anthropology and Quaternary and Climate Studies. Archaeology, paleonutrition, desertic adaptations.

Marcella H. Sorg, Ph.D. (The Ohio State University, 1979), Adjunct Professor of Anthropology and Consultant to the Office of Chief Medical Examiner in Maine. Forensic Anthropology, taphonomy of human remains.

Gregory Zaro, Ph.D. (New Mexico, 2005), Assistant Professor of Anthropology and Quaternary and Climate Studies. Archaeology, historical ecology, agricultural intensification, Mesoamerican Andes.