

# CLIMATE CHANGE INSTITUTE

<b>Program of Study</b>	<p>For the MS Degree in Quaternary and Climate Studies. 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 three courses: 1) ERS542 (Atmosphere, Ocean, Ice, and Climate Change); 2) ANT510/BIO510 (Climate, Culture, and the Biosphere), and 3) INT500 (Interdisciplinary Applications of Climate Science). In addition, all UMaine students enrolled in research masters (thesis) programs must receive one credit of Responsible Conduct of Research (RCR) training prior to completing the degree, preferably prior to commencing research. 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.</p> <p>The graduate certificate in Interdisciplinary Climate Studies has 9 credits of required courses: 1) ERS542 (Atmosphere, Ocean, Ice, and Climate Change); 2) ANT510/BIO510 (Climate, Culture, and the Biosphere), and 3) INT500 (Interdisciplinary Applications of Climate Science).</p>		
<b>Research Facilities</b>	<p>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.</p>		
<b>Financial Aid</b>	<p>2-3 Research Assistantships are available on a competitive basis each year.</p>		
<b>Students</b>	<p>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, Earth Science, Anthropology, Computer Science, Physics, History, Botany, Oceanography, and Marine Sciences. Preparation should include courses in the physical and/or social sciences.</p>		
<b>Applying</b>	<p>Application deadlines are February 1 for the Fall semester and November 1 for the Spring semester, though application for Fall entry is strongly encouraged.</p>		
<b>Correspondence</b>	<table><tr><td>The Graduate School 5775 Stodder Hall Room 42 The University of Maine Orono, ME 04469-5775 207-581-3291 <a href="mailto:graduate@maine.edu">graduate@maine.edu</a></td><td>Climate Change Institute Bryand Global Sciences Building The University of Maine Orono, ME 04469-5790 207-581-2190 <a href="mailto:karl.kreutz@maine.edu">karl.kreutz@maine.edu</a></td></tr></table>	The Graduate School 5775 Stodder Hall Room 42 The University of Maine Orono, ME 04469-5775 207-581-3291 <a href="mailto:graduate@maine.edu">graduate@maine.edu</a>	Climate Change Institute Bryand Global Sciences Building The University of Maine Orono, ME 04469-5790 207-581-2190 <a href="mailto:karl.kreutz@maine.edu">karl.kreutz@maine.edu</a>
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## Graduate Faculty

**Daniel F. Belknap**, Ph.D. (Delaware, 1979), Professor, School of Earth and Climate Sciences, School of Marine Sciences, and Climate Change Institute. Marine geology, quaternary stratigraphy, and sedimentology.

**Harold W. Borns, Jr.**, Ph.D. (Boston University, 1959), Emeritus Professor, School of Earth and Climate Sciences, School of Marine Sciences, and Climate Change Institute. Quaternary and glacial geology.

**Fei Chai**, Ph.D. (Duke, 1995), Professor, School of Marine Sciences and Climate Change Institute. Ecosystem modeling, tropical oceanography, El Niño, ocean carbon cycle.

**Sudarshan S. Chawathe**, Ph.D. (Stanford, 1999), Associate Professor, Department of Computer Science and Climate Change Institute. 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, School of Earth and Climate Sciences and Climate Change Institute. Glacial geology.

**Ann Dieffenbacher-Krall**, Ph.D. (Maine 1998), Associate Research Professor, School of Biology and Ecology and Climate Change Institute. Paleoecology

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

**Ivan Fernandez**, Ph.D. (Maine, 1981), Professor, School of Food and Agriculture, and Climate Change Institute. Forest soils, Biogeochemistry, and climate change.

**Jacquelyn Gill**, Ph.D. (Wisconsin, 2012), Assistant Professor, School of Biology and Ecology, and Climate Change Institute. Paleoecology and plant ecology.

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

**Gordon S. Hamilton**, Ph.D. (University of Cambridge, 1992), Associate Professor, School of Earth and Climate Sciences and Climate Change Institute. Polar glaciology, climate change, remote sensing, and satellite geodesy.

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

**Terence J. Hughes**, Ph.D. (Northwestern, 1968), Professor Emeritus, School of Earth and Climate Sciences and Climate Change Institute. Quaternary glaciology.

**George L. Jacobson Jr.**, Ph.D. (Minnesota, 1975), Professor Emeritus, School of Biology and Ecology and Climate Change Institute. Paleoecology and plant ecology.

**Shaleen Jain**, Ph.D. (Utah State, 2001), Associate Professor, Department of Civil and Environmental Engineering and Climate Change Institute. Hydroclimatology, water resources plant ecology.

**Alice Kelley**, Ph.D. (Maine, 2006), Research Assistant Professor, School of Earth and Climate Sciences, and Climate Change Institute. Geoarcheology, surficial geology, geomorphology.

**Joseph T. Kelley**, Ph.D. (Lehigh, 1980), Professor, School of Earth and Climate Sciences and Climate Change Institute. Marine geology, sea level change.

**Karl Kreutz**, Ph.D. (New Hampshire, 1998), Professor, School of Earth and Climate Sciences and Climate Change Institute. Paleoclimatology, glaciology, geochemistry.

**Andrei Kurbatov**, Ph.D. (SUNY Buffalo, 2001), Assistant Research Professor, School of Earth and Climate Sciences and Climate Change Institute. Explosive volcanism, tephrochronology, glaciochemistry.

**Kirk A. Maasch**, Ph.D. (Yale, 1989), Professor, School of Earth and Climate Sciences and Climate Change Institute. Theory of climate.

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

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

**Brian Olsen**, Ph.D. (Virginia Tech, 2007), Assistant Professor, School of Biology and Ecology, and Climate Change Institute. Ornithology.

**Michael Peterson**, Ph.D. (Northwestern, 1980), Professor, Mechanical Engineering, and Climate Change Institute. Tidal energy.

**Aaron Putnam**, Ph.D. (Maine, 2010), Assistant Professor of Earth and Climate Sciences. Glacial geomorphology and geochronology, climate dynamics.

**Brian Robinson**, Ph.D. (Brown, 2001), Associate Professor, Department of Anthropology and Climate Change Institute. Prehistoric archaeology, Northeastern United States, paleoindians.

**Paul Roscoe**, Ph.D., Professor, Department of Anthropology, and Climate Change Institute. War, cultural ecology, and political evolution.

**Daniel H. Sandweiss**, Ph.D. (Cornell, 1989), Professor, Department of Anthropology and Climate Change Institute. Prehistoric and historic archaeology, coastal adaptations, climate change.

**Jasmine Saros**, Ph.D. (Leigh University, 1999), Associate Professor, School of Biology and Ecology and Climate Change Institute. Paleoecology.

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

**Marcella H. Sorg**, Ph.D. (The Ohio State University, 1979), Research Associate Professor, Department of Anthropology, Climate Change Institute, and Consultant to the Office of Chief Medical Examiner in Maine. Forensic Anthropology, taphonomy of human remains.

**Gregory Zaro**, Ph.D. (New Mexico, 2005), Associate Professor, Department of Anthropology and Climate Change Institute. Archaeology, historical ecology, agricultural intensification, urbanism, Mesoamerica Andes, Eastern Adriatic.