

# Annual Report – FY2012

Research Activity for the period of July 1, 2011 to June 30, 2012





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## **Climate Change Institute – University of Maine**

## Introduction

#### **Mission Statement:**

The Climate Change Institute is a global leader in research and graduate education that integrates transformational field, laboratory and modeling activities to understand the physical, chemical, biological and social components of the climate system of the past and present and to predict future changes in climate and their impacts at local to global scales.

#### Legacy

Institute investigations span the last 2 million years, a time of numerous glacial/interglacial cycles and abrupt changes in climate. These investigations inform predictions for future climate change based upon an understanding of the full dynamic range of the natural climate system and the evolving dramatic influence of human activity. CCI has a legacy of major scientific contributions that include understanding the timing, causes, and mechanisms of natural and human forced climate change, and on the effects of climate changes on the physical, biological, chemical, ecological, social, and economic conditions of humans and the ecosystem.

CCI faculty have joint appointments in several academic units including: Anthropology, Biology and Ecology, Civil and Environmental Engineering, Computer Science, Earth Sciences, Marine Sciences, Mechanical Engineering and Plant Soil and Environmental Sciences. Institute research is supported by grants from a variety of sources including the National Science Foundation, the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the W.M. Keck Foundation, and endowments from the Bingham Trust, the Dan and Betty Churchill Exploration Fund, the Garrand Family, the Heinz Endowments and others.

Over the past 4 decades, the Climate Change Institute, initially named the Institute for Quaternary Studies, has earned an international reputation, recognizing the unique climate perspective it provides. Institute researchers have contributed substantially to the understanding of past, present, and future climate change as demonstrated by the numerous high profile honors received by our faculty and students.

## Expectation

The direction of the Climate Change Institute is vitally linked to the widely accepted realization that an understanding of climate change and its implications are absolutely critical to the future of society, ecosystems, economy, and governance. As a consequence the Climate Change Institute is and will continue to experience everbroadening interaction with other disciplines, University of Maine research and academic units, and local, national and international partners. It will also be faced with rapidly emerging opportunities for application of its findings and expertise to critical issues such as: climate change-induced hazards (e.g., floods, coastal erosion, drought, heat), adverse health threats (e.g., heat, moisture, disease, dust), other economic and social challenges (e.g., energy, food security, agriculture, urbanization), and climate change based decision-making by individuals, NGOs and governmental units. To meet these challenges and opportunities the Climate Change Institute has successfully competed for federal funds, but it also requires resource flexibility not typically available through federal agency programs that will allow the Institute to continue to grow as a research catalyst within the University of Maine, and to explore and contribute to new innovations in the understanding and application of climate change research in local to global settings.

## Maintaining and Advancing Institute Research (2010-2015)

The Climate Change Institute has a long tradition of multi- and inter-disciplinary research that can be divided into research themes. Following is a description of current Institute research themes (alphabetical order) and requirements needed to advance these themes over the next five years. The following information was developed through a process that included: a retreat for all members of the institute in 2010, iterations by Institute members through 2011, and updates through July 2012.

## Archeology and Anthropology

**Description**: Humans have been an integral part of the climate system since hominids first emerged, 6.5 Million years ago. As humans spread out of Africa and throughout the rest of the world, they influenced local and global environmental change through control and use of fire, development of agriculture, domestication of animals, and development of civilization. The cultural diversity seen in modern day social systems provides the framework for influencing not only our impact on climate change but also how we react and adapt to it. Successful decisions regarding climate change need to include the human component at all levels. The institute has focused research programs concerning human societies past and the present on issues surrounding human interaction with the environment in the Northeast, North and South America, and the Pacific Islands, as well as in zooarchaeology, taphonomy, and forensic anthropology.

*Future needs:* Climate Change Policy Expert – research to incorporate an understanding of the importance of the human dimension in enacting successful climate change policy.

#### **Atmospheric Climate Reconstruction and Glaciology**

**Description**: The instrumental climate record extends back in time ~100 years in the Northern Hemisphere and is shorter and sparser in the Southern Hemisphere. Yet to understand natural climate variability and assess human impact on modern climate requires significantly longer records. Ice cores provide robust sub-annually resolved records of past temperature, precipitation, atmospheric circulation, sea ice extent, volcanism, biomass burning, chemistry of the atmosphere, and much more. The Climate Change Institute is a world leader in the recovery, analysis, modeling and interpretation of ice cores covering the last several hundred to hundreds of thousands of years. Our global array of ice cores includes records recovered from Antarctica, Greenland, Himalayas, Tibetan Plateau, Alaska/Yukon Territory, Iceland, Tierra del Fuego, and New Zealand. CCI researchers have a prominent record of leadership in several highly successful ice core programs including: Greenland Ice Sheet Project Two (GISP2, 25 US institutions), International Trans Antarctic Scientific Expedition (ITASE, 21 nations), Asian Ice Core Array (AICA), Climate of Antarctica and South America (CASA) and Polar Tropical Connections (PTC).

*Future needs:* (1) Upgrades to existing analytical equipment (NSF grants pending), (2) additional tenure track faculty to conduct the ever-expanding array of field, laboratory innovation and interpretation related to this rapidly expanding field of research.

#### **Climate Prediction and Modeling**

**Description:** Institute modeling activities focus on physical, chemical, biological and human phenomena influenced by climate at multiple time and space scales. Our ability to expand observations of coupled dynamic systems that collectively constitute past, present and future global climate depends on numerical modeling of the global phenomena at local scales. We have developed and acquired a computational framework for 3D time-dependent modeling of the silicate earth, cryosphere and oceans at multiple time and space scale that are coupled to the changing climate via global and mesoscale circulation models. We seek to identify and investigate the non-linear interactions among the physical, chemical, biological and human components of the climate system with the goal of prediction of climate change at centennial and decadal scales.

*Future needs:* Faculty position in Earth Systems modeling with concentration in one of the following: 1) Atmospheric Dynamics; 2) Coupled Human and Natural Dynamical Systems; 3) Coupled Modeling of Cryosphere, Atmosphere and Oceans. Post-doctoral Research Associates (being sought through federal grants) with concentrations in: 1) Ocean and Atmospheric Mesoscale Modeling and 2) Societal Response to Past and Future Climate Change. One Research Assistant bridging the Computation-Science-STEM aspects of Earth System modeling and visualization.

## Climate Change Impacts, Policy and Sustainability

Description: Significant advances have been made in modeling future anthropogenic greenhouse gas emissions and human mitigation and adaptation responses, but these efforts can be improved in two ways. First, the cultural scope of their analytical frameworks needs to be expanded beyond an ecological-economic focus. Human behavior consists of social, political, and ideological (worldview) action in addition to ecological-economic behavior, and these realms have major implications for climate change responses. Cosmological views of climate and weather, for instance, affect such basic issues as whether people are willing to consider that climate can change, what agents they will consider responsible for such change (e.g., humans, deities), and the suite of responses they consider appropriate for mitigating and/or adapting to it. For another example: the political as well as the technological and economic structures of human communities affect their capacity to mitigate and adapt to climate change. The nation-states of the colonial and post-colonial world have quite different political structures and dynamics to those of First World nation-states, and these differences need to be incorporated in modeling global greenhouse gas emissions and devising mitigation and adaptational policies.

In addition to expanding the cultural scope of efforts to model climate-change futures and policies, the geocultural resolution of these models also needs improvement. The current resolution of IPCC models, for example, is the nation-state, aggregated into four blocs: the OECD90, Asia, REF, and ALM. But nation-states embrace multiple sub-cultures with varying levels of agency at the national level. In the case of some post-colonial nations, it is debatable whether the state can even be considered an agent. Future models will need a finer cross-cultural resolution in addition to an expansion of the realms of human behavior they incorporate.

*Future needs:* Tenure-track faculty member specializing in the anthropological dimensions of climate-change to be housed in the new PhD in Anthropology and Environmental Policy. 3) Modeling assistance.

## **Cyberinfrastructure**

**Description:** Analysis of climate data collected by satellite, airborne, undersea sub-soil surface platforms involves identification of periodic variations, and backgrounds, and trends. Unfortunately the threshold of climate variability is not always captured during the limited time that instrumental measurements have been available. How rapidly can the climate system change? What is the impact of these changes on sea level, global temperatures, and food security? The volume and variety of data available to climate scientists to help answer these and similar questions have grown dramatically in the past few decades. This growth, fueled by technological advances in instrumentation and increased exploration, holds the potential to significantly increase the rate of scientific discovery and understanding. However, this potential is frequently difficult or impossible to realize due to the challenges faced by scientists in integrating, analyzing, visualizing, and, in general, managing the vast and diverse datasets. Tools and techniques that were adequate in the recent past (often a collection spreadsheets and scripts in various formats and languages) are no longer able to cope with the increased volume and diversity of data. This difficulty in managing data leads to several related problems: (1) Scientists, who are often not experts in data management, often spend an inordinate amount of time and effort on data management tasks. (2) The rate at which data can be analyzed and used in support of scientific discovery is limited by the difficulties in processing. (3) Potential scientific breakthroughs that are discernible only after careful integration, analysis, and interactive exploration of large, diverse datasets (and qualitatively different from those derived from simpler, smaller datasets) are currently practically unrealizable. The primary goal of the cyberinfrastructure team at CCI is to develop methods to solve the above data management and related computing problems, making it easier for climate scientists to use the growing data resources, yielding scientific breakthroughs.

*Future needs:* (1) Tenure-track faculty with focus on scientific data management and related cyberinfrastructure; (2) Systems staff and/or tenure track faculty with expertise in software cyberinfrastructure for climate and related data to manage and teach students how to use freely available Climate models and GIS tools <u>http://freegis.org/NCL</u> and R in addition to p301 dx; (3) Upgrades to existing server and networking equipment and for ongoing software development and support (much of (3) is being sought through federal grants).

## Ecosystems and Environmental Change

**Description:** Ecosystems and the ecosystem services (e.g., food security, fiber, renewable energy, clean water, recreation, habitat, carbon sequestration) they provide are the foundation of our society and economy, and provide critical feedbacks to the climate system (e.g., GHGs, albedo). Research in the Institute has focused on the effects of both chemical and physical changes in our environment on ecosystem function. This research encompasses issues such as acid deposition, reactive nitrogen, biodiversity, eutrophication, mercury and heavy metals, as well as changing temperature and moisture regimes on both short-term (weather) and long-term (climate) timescales. A key component of this research has been long-term calibrated watershed studies that serve as ecological observatories of change, providing insights into climate change effects not possible with short-term experiments. This area of research is fundamental to effective climate change adaptation programs with direct linkages to policy and management decision-making.

*Future needs:* Contemporary ecosystem ecology and climate change adaptation are relative new areas of emerging emphasis in the Institute. As such, needs include: (1) growth in linkages with other University faculty doing relevant research not yet part of the Institute, (2) playing a leadership role in developing University and Institute strengths in ecosystem sciences and climate change, and (3) prioritizing faculty hires to move this framework to an implementation phase.

## Glacial Geology and Climate Reconstructions

**Description:** Glaciers are sensitive recorders of past climate and are useful for reconstructing past temperature and precipitation changes. The Glacial Geology research group has a field-based program that focuses on using glacial geology and geochronology to understand large-scale climate and glaciological problems, such as:

1) the origin of ice ages, 2) the cause of ice-age terminations, 3) the origin of abrupt climate change, and 4) the stability of ice sheets. Our research group has ongoing projects in Antarctica, Greenland, New Zealand, Patagonia, Peru, Maine, and the western United States.

*Future needs:* 1) Tenure-track faculty member who combines field-based mapping with state-of-the-art cosmogenic exposure-age techniques.

## Glaciology

**Description**: Ice sheets and glaciers are a significant component of Earth's climate system, and they play a major role in modulating global sea levels. Glaciological research in the Institute includes observational and modeling programs that focus on examining the dynamics and characteristics of modern ice sheets and outlet glaciers in Greenland and Antarctica as well as understanding past and future ice-sheet behavior. Recent institute work has highlighted the complex interaction between ice sheets and the ocean, and shown that ice sheets will potentially lead to a rapid rise in sea level during the 21st century.

*Future needs*: (1) Postdoctoral research associate in quantitative satellite remote sensing and data modeling (being sought through federal funding); (2) additional tenure-track faculty in glacier dynamics to position the institute to fully exploit numerous funding opportunities in cryospheric research.

#### Marine Geology

**Description**: The response of shorelines and the people who inhabit them to rising sea level and associated coastal processes is the major research focus of the Marine Geology group. Sea-level change over the past 20,000 years has been studied intensively from locations above and below the present shoreline, through mapping of the seafloor as well as lake bottoms. This research is used to influence state and national policies on coastal hazards and construction.

*Future needs:* 1) isotope/geochemist to interpret sediment record in cores in terms of climate change and human activities; 2) terrestrial lidar device to support existing projects and future proposals.

## Paleoecology and Paleolimnology

**Description:** Paleoecology focuses on the use of preserved fossil and chemical signatures in lake sediments to reconstruct past terrestrial and freshwater environments. Research at the Institute includes the use of chironomid and diatom fossils to reconstruct climate, acidification, and eutrophication. The use of paleoecological records to understand the effects of climate change on terrestrial and aquatic biota is also a component of research in this theme.

*Future needs:* CCI has a recognized strength in paleoecological research, but with the retirement of various paleoecology faculty, this cluster has shrunk to a single faculty member. The key advancement requirement in this area is a tenure-track terrestrial paleoecologist (a joint CCI-SBE search is currently underway). Faculty in this

research cluster will also work toward funding postdoctoral associates to strengthen and expand this research cluster.

## **Renewable Energy and Environmental Monitoring**

**Description:** An emerging need is the prediction of local climate change based on high-resolution data. The data must be of a quality and resolution that is suitable for input into fine grid regional climate models. At the same time that modeling of local impact of climate change is developing, plans for both mitigation and local actions can be developed. The future focus includes potential local changes to the human impact on climate though conservation and the deployment of renewable energy. Understanding energy usage and carbon production on a local scale can lead to the prioritizing of investment toward the most cost effective reduction of carbon equivalent emissions.

*Future needs:* 1) A network of flexible energy usage, climate monitoring and resource evaluation data nodes. 2) Expanded research capabilities in the meso-scale modeling of climate are required with a new faculty member in either the sciences or engineering.

## Maintaining and Advancing Graduate Student Opportunities

**Description:** Graduate students working in the Institute register for PhD/MSc degrees in related UMaine academic units. New PhD programs are now available in the Department of Anthropology and the Department of Earth Sciences (to be renamed the School for Earth and Climate Sciences in Fall 2012). The Climate Change Institute also offers a MSc degree program in Quaternary and Climate Studies. An Interdisciplinary PhD degree is also available through the Graduate School.

*Future needs:* CCI has a long tradition of support for graduate students through federal, foundation and private support. Continue to expand support opportunities for graduate student stipends and logistics support through federal, foundation, state and private avenues.

## Maintaining and Advancing Institute Infrastructure

**Description:** The Institute has a broad range of research facilities and equipment <u>http://climatechange.umaine.edu/about/facilities</u>. Recently CCI became a <u>WebEx</u> user. Cisco <u>WebEx</u> is a software and network solution that allows subscribed users to host small scale (up to 25 users) online videoconferences. Participants can meet online anytime, anywhere, using traditional telephone or voice, video and screen sharing (e.g., Power Point, Acrobat or Image Viewer) features of modern computer devices. Users require access to the internet and a reasonably modern device (personal computer, iPhone, iPad, Android smartphones) capable of running Java software. CCI acquired a webcam with built in microphone equipment for two rooms (in the Sawyer and Bryand Buildings). We are adding better quality microphones, projector and TV. Video conferencing solutions are emerging rapidly and standards will probably change, so minor adjustments to the equipment and software solutions are expected in the future.

#### Maintaining and Advancing Institute Outreach

**Description:** The Institute maintains a wide range of outreach activities including: The Institute's website, an interactive web exhibit and discussion guide, "A Journey to Reedy Glacier" (<u>http://climatechange.umaine.edu/ReedyJourney</u>), Science Day (a day of K-12 class visits to CCI labs), professional development meetings and workshops for K-12 STEM teachers, public lectures, media interviews, and climate change documents and books/pamphlets written for the public (eg., *Maine's Climate Future, Maine's Ice Age Trail, The Ice Chronicles, Journey Into Climate*).

*Future needs:* One half-time to full-time position to: (1) ensure climate-related professional development for STEM educators is aligned and synergistic with other STEM education efforts within the University and the State and Nation; (2) develop education and outreach goals and generate funding for activities to meet those goals; (3) coordinate education and outreach activities within the Institute and document the impacts.

## Examples of Highly Successful Challenges and Solutions Accomplished During FY 2012

Climate change is a rapidly evolving multi-discipline and CCI realizes that in order to maintain a leadership role in this field it is essential for CCI's research mission and involvement with students to evolve and to be nimble. CCI is particularly proud of some of its most recent evolution. In particular CCI has built highly competitive, cutting-edge new programs in climate modeling, cyberinfrastructure and technology to complement existing high profile capacity in physical, chemical, biological and social aspects of climate science.

The most recent evolution in climate modeling activity is built upon a strong collaboration with several other research units including British Antarctic Survey, University of Nebraska-Lincoln, University of Washington and Oak Ridge Laboratory. CCI is now a leader in the use of high-resolution (4km x 4km) climate modeling with emerging opportunities for understanding past, present and predicting future climate. As part of this effort CCI (notably Sean Birkel and Kirk Maasch) developed interactive software (CCI Climate Reanalyzer) that allows students (already utilized in a new course this past Spring) and researchers to access the broad, emerging range of climate reanalysis data. This software innovation is absolutely cutting edge as is CCI's utilization of this data in its modeling efforts focused on Maine, the polar regions, Asia, North and South America and new prospects in Africa.

The cyberinfrastructure activity has resulted in transformational approaches to data collection, statistical analysis tools and outreach opportunities. Noted accomplishments include p301 (a data handling tool) and 10green (a web based air quality tool). This research is based on collaboration between CCI and CCI cooperating faculty and graduate students in the School of Computing and Information Science with special thanks to Sudarshan Chawathe, Erik Albert, Mark Royer, Andrei Kurbatov, Sean Birkel and Bjorn Grigholm. Support for these CCI activities has come from the University of Maine, NSF and the Heinz Endowments.

The technology activity has resulted in transformational approaches to environmental sampling of ice cores. Through highly competitive WM Keck Foundation support CCI developed a new Laser Ice Facility, a new low cost kinematic GPS system and with LASST new chemical sensor tools.

CCI's rapidly evolving climate modeling, cyberinfrastructure and technology capability greatly enhances the scope of CCI research and the likelihood of success for current and future research proposals.

## Examples of Institute Wide Challenges, Solutions and Goals for Next Year (FY 2013)

**The newly funded Abrupt Climate Change IGERT** - CCI and our partner SPIA (School for Policy and International Affairs) recently received approval for an NSF IGERT program. The first of its kind related to abrupt climate change and an opportunity for CCI to advance climate science in the policy arena. As of Fall 2012 there will be 5-6 new PhD students and an IGERT program manager and by Fall 2013 there will be 12 new PhD students. This program will require significant input from CCI faculty associated with the IGERT, innovative use of existing space, and will offer many new opportunities in education and collaboration between University of Maine, NGOs, private organizations, and US and foreign agencies.

Space for staging CCI expeditions and new innovative activities - CCI mounts as many as 15-20 expeditions to remote parts of the world every year, but has no truly dedicated staging space. We currently use unfinished space in Bryand that would be far better suited to offices or conference facilities than storage, staging and construction space. Further CCI has been trying to develop space for construction of large pieces of equipment and for outreach activities. One recent example is an emerging collaboration with the UM VEMI (Virtual Environments and Multimodal Interaction Lab) team that would expand even more CCI's association with the School of Computing and information Science. We are discussing collaborating on a joint proposal to simulate field experiences in remote regions and time travel (based on our ice core data) as a research and outreach facility. This would require dedicated space to investigate and implement. A potential solution to this space issue might be to abandon our existing two modular home buildings which are in relatively poor condition and construct in their place (near Sawyer) a large open arched facility (minimum 40' x 120') constructed using AEWC composite materials. A new CCI specialized facility built using AEWC technology would showcase AEWC technology and CCI activities. Cost and carbon footprint will be minimized using AEWC technology. Enhanced collaboration with AEWC would also allow CCI to advance its plans for construction of remote field facilities.

**Tenure track positions in CCI related academic units** - CCI is extremely supportive of the new undergraduate and graduate climate related degree programs in Earth Sciences and Anthropology. In fact CCI faculty comprise more than half of the newly named School of Earth and Climate Sciences as their tenure home. With the foregoing UM will have placed itself firmly and notably not only in climate science research through CCI but will also do so by offering through its academic partners undergraduate and graduate degree programs in climate science. CCI has supported graduate students and their research for 40 years and currently supports ~45 graduate students through its research programs. With the new IGERT these numbers will expand and more importantly so will opportunities for undergraduate and graduate students at UM. Climate science will be a major signature program for UM at all levels of education, research and service making the institution uniquely attractive to prospective students. Both the Department of Anthropology and the new School of Earth and Climate Sciences will need increased faculty capacity as they evolve in the near future. CCI

plans to partner in these positions and ideally to see some of our well tested research faculty have the opportunity to compete for forthcoming tenure track positions continuing to leverage the CCI-academic unit faculty funding legacy and its success. In addition collaborations between CCI undergraduate and graduate students including the CCI-SPIA IGERT program with the relatively new Renewable Energy student programs should be investigated to even more uniquely expand UM's climate science and renewable energy engineering education and research holdings and attractiveness to potential students.

**Research Faculty** - CCI proposal writing and proposal success capacity is currently at near maximum as indicated by our federal grant success rate (88.61%), our rate of return on investment (10:1) and the number of our proposal submissions each year. Our chances for continuing this impressive record and doing even even better will require more tenure track and research faculty. CCI research and UM would benefit greatly by the option to enlist several new research faculty.

**CCI LLC (Living and Learning Center) for Undergraduates** – CCI, Misa Saros (UM Sustainability Officer) and Residential Life are finalizing a plan for a new LLC to open in Fall 2014, to include upper class students and possibly sophomores and to be called C3 (Climate Change Challenge LLC). It would be open to any UM students and include majors from any unit on campus following the multi- and inter-disciplinary approach CCI used in its highly successful public and university CC^21 (Climate Change for the 21<sup>st</sup> Century) workshop in 2008. CCI graduate students (with CCI faculty support) will mentor the C3 undergraduates allowing CCI graduate students who usually only have research responsibilities to gain experience in mentoring and teaching. C3 will provide yet another major climate science signature attraction for UM. CCI would appreciate support for the C3 LLC in the form of some base funds for C3 students to conduct local projects related to housing and energy efficiency. Examples might include installation of energy and water monitoring equipment in residential units occupied by C3 students.



#### RESEARCH THEMES

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	Physical & Chemical Climate Reconstruction	Glacial Geology & Climate Reconstruction	Paleoecology & Environmental Reconstruction	Anthropology & Archaeology	Glaciology	Marine Geology	Ecosystems & Environmental Change	Renewable Energy & Environmental Monitoring	Cyberinfrastructure	Climate Pr
T H E M E P R I N C I P A L	P. MAYEWSKI (P) K. KREUTZ (AP) D. MEESS (RP) N. BERTLER, (RASP) J. SIMOES (AdP) D. DIXCNI (PD) S. BIRKEL (PD)	G. DENTON (P), (FD) B. HALL (AP) H. BORNS, B. (PE), (HD) G. BROMLEY (RA) C. PORTER (RA)	J.SAROS (AP) A. DIEFERBACHER-KRALL (RASP) M.VANDERGOES (RASP) A. NURSE (RS) C. STAGER (AdjP) M. LAGERKLINT (RASP)	D. SANDWEISS (P) K. SOBOLIK (P) B. ROBINSON (AP) G. CZARO (ASP) M. SOBR (RAP) D. SANGER (PE) D. SAEFER (AdP) D. SEEFER (AdP) M. ZEDER (AdP) P. ROSCOE (CP) C. OCAMPO-RAEDER (CAP)	T. HUGHES (PE) G. OSWALD (RP) G. HAMUITON (AP) R. HOOKE (CP)	D. BELKNAP (CP) J. KELLEY (CP)	I.FERNANDEZ (CP) S. NORTON (CPE) B. OLES (RASP) M. SCHAUFFLER (RASP)	M. PETERSON (CP)	S.CHAWATHE (CAP) A.KURBATOV (RASP)	P. KOONS (P) K. MAASCH F. CHAI (CP) J. FASTOOR ( S. JAIN (CAP)
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	B. Grigholm, PhD - Earth Sciences B: Kolfman, PhD - Earth Sciences E: Korotskih, PhD - Earth Sciences N. Spaulding, PhD - Earth Sciences	G. Bromley, PhD: Earth Sciences J.Luis García, PhD: Earth Sciences A. Putram, PhD: Earth Sciences S. Allard, MS: Earth Sciences T. Koffman, MS: Earth Sciences K. Ladig, MS: Earth Sciences A. Lusas, MS: Earth Sciences	H. Amert, MS - Ecology & Env. Scs. C. Daggett, MS - Ecology & Env. Scs. X. Strock, MS - Ecology & Env. Scs. C. Wigdahl, PhD - Ecology & Env. Scs.	A. Maurico, IPD Quaternary S. Belina, M.S Quaternary A. Heller, M.S Quaternary D. Constantiant E. Colsan, M.S Quaternary L. Ort, M.S Quaternary K. Rademaker, IPhD	D.Breton, PhD - Physics S. Campbell, PhD - Earth Sciences M. Hall, MS - Earth Sciences W. Sneed, PhD - Earth Sciences N.Weitz, PhD - Physics	L. Sorrell, MS - Earth Sciences M. Mansfield, MS - Earth Sciences	A Burke, MS - Plant, Soli & Erw, Scs. A. Byrd, MS - Ecology & Erw, Scs. K. Ditzler, MS - Ecology & Erw, Scs. J. Raymond, MS - Plant, Soli & Erw, Scs. J. Raymond, MS - Plant, Soli & Erw, Scs. E. Roberston, MS - Ecology & Erw, Scs. C. Salvino, MS - Plant, Soli & Erw, Scs.	A. Demeo, IPHD - Ocean Engineering S. Winchenbach, IPhD - Ocean Engineering	E.Albert, PhD - Computer Science M. Royer, PhD - Computer Science	
					Legend					

P - Professor	CAP - Cooperating Associate Professor
AP - Associate Professor	CAsP - Cooperating Assistant Professor
AsP - Assistant Professor	CPE - Cooperating Professor Emeritus
PE - Professor Emeritus	PD - Post Doctoral Research Associate
PP - Presidential Professor	RS - Research Scientist
RP - Research Professor	RA - Research Associate
RAP - Research Associate Professor	AdP - Adjunct Professor
RAsP - Research Assistant Professor	AR - Artist in Residence
CP - Cooperating Professor	HD - Honorary Director
	ED - Former Director



## Summary of Accomplishments (FY2012)

## Research Grant Submissions FY2012

Research grant submissions for the Climate Change Institute totaled **\$27,422,385** for FY2012. This total reflects **110** submissions (includes new, supplemental, continuation, and pending submissions).

## New Research Grant Awards – FY2012

New research grants (includes new, supplemental and continuation awards) awarded to the Climate Change Institute total **\$14,151,264** (70 grants).

## Pending Research Grants – FY2012

Pending research grants for the Climate Change Institute total **\$9,659,172** (31 grants).

## Declined/Withdrawn Research Grants – FY2012

Research grants declined for the Climate Change Institute totaled **\$3,611,949** (9 grants) during FY2012.

## Percent Success Rate by all\* CCI Grant Writers for Research Grant Submissions – FY2012

Climate Change Institute faculty and staff were **88.61% successful** in obtaining grant awards during FY2012.

\* all refers to any CCI grant writer with or without CCI MEIF or CCI E&G support.

## Funds via E&G and MEIF – FY2012

E&G funding for CCI salaries\* (minus fringe) totals: \$645,193 E&G funding for CCI operating totals: \$16,780

MEIF funding for CCI salaries\* (minus fringe) totals: \$466,961 MEIF funding for CCI operating totals: \$28,350

TOTAL E&G and MEIF FUNDING: \$1,157,284

\*Note – The vast majority of these salaries support tenure track faculty who teach courses in academic departments.

## Return on Investment (ROI) for CCI – E&G and MEIF

FY2011 Research Grants	FY2012 Research Grants		
(includes only faculty supported by CCI E&G and CCI MEIF)	(includes only faculty supported by CCI E&G and CCI MEIF)		
FY2011 Research Grants Total \$10,845,220	FY2012 Research Grants Total \$11,777,888		
FY2011 E&G and MEIF \$1,122,177 Funding:	FY2012 E&G and MEIF \$1,157,284 Funding:		
<b>ROI</b> = CCI return on investment is <b>\$9.66</b> dollars per \$1 invested in CCI MEIF and CCI E&G	<b>ROI</b> = CCI return on investment is <b>\$10.18</b> dollars per \$1 invested in CCI MEIF and CCI E&G		

The average amount raised by each CCI grant writer (11) supported by CCI MEIF and/or CCI E&G was **\$1,070,717** in FY2012.

ROI for each CCI Research Faculty (2) supported by CCI MEIF and/or CCI E&G is 11.96.

One CCI Research Faculty is not supported by any CCI MEIF or CCI E&G and raised \$635,800.

## Major Awards and Recognition:

Four CCI faculty received major awards and recognition (see page 21 of this report for details) this year; maintaining CCI's high national and international standard of excellence.

## **Research Expeditions**:

CCI takes great pride in its international reputation for research expeditions. All CCI graduate students are involved in at least one research expedition, many several, during their graduate career. Students provide daily logs as part of CCI's outreach. CCI undertook 44 expeditions this past year for details: <a href="http://www.climatechange.umaine.edu/research/expeditions">http://www.climatechange.umaine.edu/research/expeditions</a>

## Mentoring

A total of 42 graduate students are associated with the Institute, 17 are PhD students; 25 are MS students.

## Summary of Faculty Publications – FY2012

PUBLICATION TYPE	FY2012	FY 2011	FY 2010
Publications/Abstracts/Books/Book Chapters/Journal Articles/Posters/Proceedings/Technical Reports	213	238	218
Presentations: International/National/Regional/State Local	138	138	140

## FULL ROSTER OF CLIMATE CHANGE INSTITUTE FACULTY/STAFF

Last Name	First Name	Position in Research Unit	Home (Institute/Acad Dept)
Addessi	Rebecca	Manager of Funded Accounts	Climate Change Institute
Belknap	Daniel	Cooperating Professor	Earth Sciences/Climate Change Institute
Bertler	Nancy	Research Assistant Professor	Climate Change Institute
Birkel	Sean	Postdoctoral Research Associate	Climate Change Institute
Borns	Harold	Professor Emeritus of Geological Sciences and Climate Change Institute	Earth Sciences/Climate Change Institute
Bromley	Gordon	Research Associate	Climate Change Institute
Chai	Fei	Cooperating Professor	School of Marine Sciences/Climate Change Institute
Chawathe	Sudarshan	Cooperating Associate Professor	Computer Science/Climate Change Institute
Davis	Ronald	Professor Emeritus of Biology and Quaternary Studies	Biological Sciences/Climate Change Institute
Denton	George	Professor of Geological Sciences	Earth Sciences/Climate Change Institute
Dieffenbacher-Krall	Ann	Assistant Research Professor	Climate Change Institute/Biological Sciences
Dixon	Daniel	Postdoctoral Research Associate	Climate Change Institute
Fastook	James	Cooperating Professor	Computer Science/Climate Change Institute
Fernandez	Ivan	Cooperating Professor	Dept. of Plant, Soil & Environmental Sciences/Climate Change Institute/
Hall	Brenda	Professor of Glacial and Quaternary Geology	Climate Change Institute/Earth Sciences
Hamilton	Gordon	Associate Professor	Climate Change Institute
Handley	Michael	Laboratory Manager - Inorganic Chemistry	Climate Change Institute/Sawyer Env. Chem. Research Lab.
Holweger	Paul	Research Assistant	Climate Change Institute
Hooke	Roger	Cooperating Professor	Climate Change Institute
Hughes	Terence	Professor Emeritus of Quaternary Studies	Earth Sciences/Climate Change Institute
Introne	Douglas	Stable Isotope Technician	Climate Change Institute
Jacobson	George	Professor Emeritus of Quaternary Studies	Botany/Climate Change Institute
Jain	Shaleen	Cooperating Associate Professor	Civil & Environmental Engineering/Climate Change
Kates	Robert	Presidential Professor of Sustainability Science	Institute Climate Change Institute/Senator George J. Mitchell Center for Environmental and Watershed Research
Keefer	David	Adjunct Professor	Climate Change Institute
Kelley	Alice	Research Assistant Professor	Earth Sciences/Climate Change Institute
Kelley	Joseph	Cooperating Professor	Earth Sciences/Climate Change Institute
Koons	Peter	Professor	Earth Sciences/Climate Change Institute
Kreutz	Karl	Professor	Climate Change Institute/Earth Sciences
Kurbatov	Andrei	Research Assistant Professor	Climate Change Institute
Lagerklint	Ingrid	Research Assistant Professor	Climate Change Institute
Lee	Betty	Financial & Outreach Manager	Climate Change Institute
Maasch	Kirk	Professor of Climate Change Institute and Earth Sciences	Climate Change Institute/Earth Sciences
Mayewski	Paul	Director/Professor of Climate Studies	Climate Change Institute/Earth Sciences
Meese	Debra	Research Professor	Climate Change Institute
McGill	Brian	Cooperating Associate Professor	Climate Change Institute/School of Biology & Ecology
Norton	Stephen	Cooperating Professor Emeritus	Earth Sciences/Climate Change Institute
Nurse	Andrea	Research Scientist	Climate Change Institute

## FULL ROSTER OF CLIMATE CHANGE INSTITUTE FACULTY/STAFF - continued

Last Name	First Name	Position in Research Unit	Home (Institute/Acad Dept)
Ocampo-Raeder	Constanza	Cooperating Assistant Professor	Anthropology/Climate Change Institute
Olsen	Brian	Research Assistant Professor	School of Biology & Ecology/Climate Change Institute
Oswald	Gordon	Research Professor	Climate Change Institute
Peterson	Michael	Cooperating Professor	Department of Mechanical Engineering/Climate Change Institute
Porter	Charles	Research Associate	Climate Change Institute
Putnam	Aaron	Research Associate	Climate Change Institute
Robinson	Brian	Associate Professor of Quaternary and Climate Studies	Anthropology/Climate Change Institute
Roscoe	Paul	Cooperating Professor	Anthropology/Climate Change Institute
Sandweiss	Daniel	Professor, Dean of Graduate School	Dean & Provost for Graduate Studies - Anthropology/Climate Change Institute
Sanger	David	Professor Emeritus of Anthropology and Quaternary Studies	Anthropology/Climate Change Institute
Saros	Jasmine	Associate Professor, Associate Director	Climate Change Institute/Biological Scs.
Sayre	W.G.	Adjunct Professor	Climate Change Institute
Schauffler	Molly	Research Assistant Professor	Climate Change Institute
Simoes	Jefferson	Adjunct Professor	Climate Change Institute
Smith	Bruce	Adjunct Professor	Climate Change Institute
Sneed	Sharon	Laboratory Coordinator	Climate Change Institute
Sobolik	Kristin	Professor, Associate Dean - CLAS	Anthropology/Climate Change Institute
Sorg	Marcella	Research Associate Professor	Climate Change Institute/Anthropology/Margaret Chase Smith Policy Center
Stager	J.Curt	Adjunct Professor	Climate Change Institute
Stone	Jeffery	Research Assistant Professor	Climate Change Institute
Vandergoes	Marcus	Research Assistant Professor	Climate Change Institute
West	Catherine	Assistant Professor	Anthropology/Climate Change Institute
Zaro	Gregory	Associate Professor of Anthropology & Climate Change	Anthropology/Climate Change Institute
Zeder	Melinda	Adjunct Professor	Climate Change Institute

## CLIMATE CHANGE INSTITUTE E&G & MEIF FUNDED POSITIONS

## Note: The Climate Change Institute faculty/staff roster numbers 62 people. Only those with CCI MEIF or CCI E&G support are listed here.

E&G		Grant Home
Faculty & Staff		
Dieffenbacher-Krall, Ann	Research Assistant Professor (25%)	CCI
Denton, George	Libra Professor, Climate Change Institute & Earth Sciences (74%)	CCI
Hall, Brenda	Professor, Climate Change Institute & Earth Sciences (70%)	CCI
Kreutz, Karl	Professor, Climate Change Institute & Earth Sciences (100%	CCI
Hamilton, Gordon	Associate Professor (43.49%)	CCI
Maasch, Kirk	Professor, Climate Change Institute & Earth Sciences (50%)	CCI
Robinson, Brian	Associate Professor, Climate Change Institute & Anthropology (65%)	CCI
Saros, Jasmine	Associate Professor, Climate Change Institute & Biological Sciences (49.2%)	CCI
Sobolik, Kristin	Professor, Climate Change Institute & Anthropology (50%)	ANT
Stone, Jeffery	Research Assistant Professor, Climate Change Institute (25%)	CCI
West, Catherine	Assistant Professor, Climate Change Institute and Anthropology (80.44%)	CCI
Zaro, Gregory	Associate Professor, Climate Change Institute and Anthropology (50%)	CCI
Staff (not grant writers)		
Addessi, Rebecca	Account Manager (100%)	
Lee, Betty	Financial & Outreach Manager (100%)	

MEIF		Grant Home
Faculty & Staff		
Birkel, Sean	Postdoctoral Research Associate (16.6%)	CCI
Dixon, Daniel	Postdoctoral Research Associate (25%)	CCI
Mayewski, Paul	Professor of Climate Change Institute (100%)	CCI
Koons, Peter	Professor, Climate Change Institute & Earth Sciences (24.04%)	ERS
Kurbatov, Andrei	Research Assistant Professor (50%)	CCI
Saros, Jasmine	Associate Professor, Climate Change Institute & Biological Sciences (50.8%)	CCI
Staff (not grant writers)		
Holweger, Paul	Research Assistant (100%)	
Handley, Michael	Laboratory Manager – Inorganic Chemistry (12.5%)	
Introne, Douglas	Stable Isotope Laboratory Manager (100%)	
Sneed, Sharon	Laboratory Manager (100%)	

## RESEARCH, SCHOLARSHIP, & CREATIVITY

#### Special Recognitions/Awards/Honors Received for Research, Scholarship, Creativity

Denton, George	The book titled "The Fate of Greenland" by Conkling, Alley, Broecker, and Denton (MIT Press, 2011) was given the PROSE Award by the National Association of Publishers for the best book in its field (earth sciences) published in 2011.
Mayewski, Paul	<ul> <li>2011 First iPad book containing spreadsheet viewing – Journey Into Climate (Mayewski and Morrison).</li> <li>2012 Still the only person at UM on the ISI Most Highly Cited com for geosciences and in top 30 all time most cited articles in the journals Holocene and Quaternary Research.</li> <li>2012 Top 5% on the list of The Faces of Climate Science - Most-cited Authors on Climate Science (ahead of colleagues at other prominent climate change institutions such as Penn State, Ohio State and Lamont) – http://www.eecg.utoronto.ca/~prall/climate/climate_author_photos.html</li> </ul>
Olsen, Brian	I was presented the Dr. Randy Alford Memorial Award for stimulating student curiosity of researching the environment by the Friends of Dr. Edith M. Patch this fall.
Zaro, Gregory D	Invitation to join Phi Kappa Phi national scholarly honors society

#### PUBLICATIONS: ABSTRACTS/BOOK CHAPTERS/JOURNAL ARTICLES/POSTERS/PROCEEDINGS/TECHNICAL REPORTS

Name	Туре	Status	Citation	Refereed	Category	GS	US
Belknap, Daniel F.	Journal Article	Published	Kelley, A.R., Kelley, J.T., Belknap, D.F., and Gontz, A.M., 2011, Coastal and terrestrial impact of the isostatically forced Late Quaternary drainage divide shift, Penobscot and Kennebec Rivers, Maine, USA: Journal of Coastal Research, v. 27, p. 1085-1093 <u>http://www.jcronline.org/</u>	Yes	Basic	0	0
Belknap, Daniel F.	Journal Article	Submitted	Brothers, L.L., Kelley, J.T., Belknap, D.F., Barnhardt, W.A., Andrews, B.D., Legere, C. and Clarke, J.H., 2012, Shallow stratigraphic control on pockmark distribution in north-temperate estuaries: Marine Geology <a href="http://www.journals.elsevier.com/marine-geology/">http://www.journals.elsevier.com/marine-geology/</a>	Yes	Basic	0	0
Belknap, Daniel F.	Abstract	Published	Kelley, A.R., Belknap, D.F., Heller, A.R., Collins, M.J. and Baeder, C.S., 2012, Pre-dam removal geomorphic monitoring on the Penobscot River, Maine: Geological Society of America Abstracts with Programs, v. 44, No. 2 (Northeast Section), Abstract 2-11, p. 40. <u>http://www.geosociety.org/meetings/searchabstracts.htm</u>	Yes	Applied	0	0
Belknap, Daniel F.	Abstract	Published	Kelley, J.T., Brothers, L.L., and Belknap, D.F., 2012, Northeast pockmark fields: shallow marine liquifaction landforms resulting from seismic events?: Geological Society of America Abstracts with Programs, v. 44, No. 2 (Northeast Section), Abstract 16-7, p. 62. http://www.geosociety.org/meetings/searchabstracts.htm	Yes	Basic	0	0
Belknap, Daniel F.	Abstract	Submitted	Belknap, D.F. and Kelley, J.T., 2012, Bedrock-controlled inner shelf off west-central Maine: Geological Society of America Abstracts with Programs, v. 44, No. 2 (Northeast Section), Abstract 45-2, p. 103 <u>http://www.geosociety.org/meetings/searchabstracts.htm</u>	Yes	Basic	0	0
Belknap, Daniel F.	Abstract	Submitted	Mansfield, M.E., Belknap, D.F. and Kelley, D.F., 2012, The critical leading edge of Gulf of Maine salt marshes – interface with freshwater wetlands: Geological Society of America Abstracts with Programs, v. 44, No. 2 (Northeast Section), Abstract 45-7, p. 104. http://www.geosociety.org/meetings/searchabstracts.htm	Yes	Basic	1	0
Belknap, Daniel F.	Proceedings	Published	Brothers, L.L., Kelley, J.T., Belknap, D.F., Barnhardt, W.A., and Koons, P.O., 2011, Pockmarks: Self-scouring seep features? Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, 2011. Paper Number 326. http://www.icgh.org/		Basic	0	0
Belknap, Daniel F.	Other	Published	Kelley, J.T., Dickson, S.M. and Belknap, D.F., 2011, Maine's history of sea-level changes. Maine Geological Survey website page. <u>http://www.maine.gov/doc/nrimc/mgs/explore/marine/facts/sealevel.htm</u>		Applied	0	0
Borns Jr., Harold W.	Journal Article	Submitted	Borns, H., Jr. "Changing geology and climate of St. Croix Island, Maine, in Pendery, S., ed. Saint Croix Island Maine: History Archaeology and Interpretation" Maine Historic Commission and the Maine Archaelogical Society, Occasional Publication in Maine Archeology #14, Augusta, Maine, p. 235-246.			0	0

Borns Jr., Harold W.	Journal Article	Submitted	Borns, W.W.Jr., Dieffenbaher-Krall, A.C., Birkel, Sr., Chase, G.E., Cwyman, L., Doner, L.A., Dorion, C.C., Fastook, J., Jacobsen, G.L.Jr., Nurse, A., and Sayles, C., in press, "A multi-proxy reconstruction of Younger Dryas climate, vegetation and ice dynamics in Northern maine: A case study", Journal of Quaternary Science			0	0
Borns Jr., Harold W.	Journal Article	Submitted	Borns, H.W., Jr., Hall, B.A., and Thompson W.A., in preparation. "The Pineo Ridge moraine complex, Maine: Its glacial dynamics and paleoclimate significance.			0	0
Borns Jr., Harold W.	Journal Article	Submitted	Borns, H.W., Jr., Warren, W., in preparation, "A new ice cap on the continental shelf off Western Ireland"			0	0
Chai, Fei	Journal Article	Published	Xiu, P., A. Palacz, F. Chai, E. Roy, and M. Wells (2011): Iron flux induced by Haida eddies in the Gulf of Alaska. Geophys. Res. Lett., VOL 38, L13607, doi:10.1029/2011GL047946.	Yes	Basic	1	0
Chai, Fei	Journal Article	Published	Nan, F., H. Xue, F. Chai, L. Shi, M. Shi, P. Guo (2011): Identification of Different Types of Kuroshio Intrusion into the South China Sea. Ocean Dynamics, 61:1291-1304.doi 10.1007/s10236-011-0426-3.	Yes	Basic	1	0
Chai, Fei	Journal Article	Published	Palacz, A., H. Xue, C. Armbrecht, C. Zhang, F. Chai (2011): Seasonal and interannual changes in the surface chlorophyll of the South China Sea. Journal of Geophysical Research, VOL. 116, C09015, doi:10.1029/2011JC007064	Yes	Basic	1	0
Chai, Fei	Journal Article	Published	Xiu, P. and F. Chai (2011): Modeled biogeochemical responses to mesoscale eddies in the South China Sea. Journal of Geophysical Research, doi:10.1029/2010JC006800	Yes	Basic	0	0
Chai, Fei	Journal Article	Published	Xiu, P, F. Chai, L. Shi, H. Xue, Y. Chao (2012): Modeling mesoscal eddy field in the Gulf of Alaska. Deep Sea Research I, 63, 102-117.	Yes	Basic	0	0
Chai, Fei	Journal Article	Published	Nan, F., H. Xue, P. Xiu, F. Chai, M. Shi, P. Guo (2011): Oceanic eddy formation and propagation southwest of Taiwan. Journal of Geophysical Research. Vol. 116, doi:10.1029/2011JC007386.	Yes	Basic	1	0
Chai, Fei	Journal Article	Published	Song, J., H. Xue, X. Bao, D. Wu, F. Chai, L. Shi, Z. Yao, Y. Wang, F. Nan, and K. Wan (2011): A spectral mixture model analysis of the Kuroshio variability and the water exchange between the Kuroshio and the East China Sea. Chinese J. of Oceanology and Limnology, 29, 446-459. DOI:10.1007/s00343-011-0114-7.	Yes	Basic	1	0
Chai, Fei	Journal Article	Submitted	Shi, L., F. Chai, H. Xue, Y. Wang, J. Farrara, and Y. Chao (submitted): Physical-Biological Modeling of the Prince William Sound. Continental Shelf Research.	Yes	Basic	1	0
Chai, Fei	Journal Article	Submitted	Xu, Y., F. Chai, K. Rose, and F. Chavez (submitted): Environmental influences on the interannual variation and spatial distribution of Peruvian anchovy population dynamics from 1991 to 2007: a three-dimensional modeling study. Ecological Modeling	Yes	Basic	1	0
Chawathe, Sudarshan S	Book Chapter	Accepted	Erik Albert and Sudarshan S. Chawathe, A REST Framework for Dynamic Client Environments. In REST: From Research to Practice. 2011. Springer ISBN 978-1-4419-8302-2 (to appear).	Yes		0	0
Denton, George	Journal Article	Published	Strelin, J.A., Denton, G.H., Vandergoes, M.J., Ninnemann, U.S., and Putnam, A.E., 2011, Radiocarbon chronology of the late-glacial Puerto Bandera moraines, Southern Patagonian Icefield, Argentina. Quaternary Science Reviews 30, 2551-2569.	Yes	Basic	1	0

Denton, George	Journal Article	Published	Kaplan, M.R., Strelin, J.A., Schaefer, J.M., Denton, G.H., Finkel, R.C., Schwartz, R., Putnam, A.E., Vandergoes, M.J., Goehring, B.M., and Travis, S., 2011, In-situ cosmogenic Be-10 production rate at Lago Argentino: Implications for late-glacial climate chronology. Earth and Planetary Science Letters 309, 21-32.	Yes	Basic	1	0
Denton, George	Journal Article	Published	Golledge, N.R., Mackintosh, A.N., Anderson, B.M., Buckley, K.M., Doughty, A.M., Barrell, D.J.A., Denton, G.H., Vandergoes, M.J., Andersen, B.G., and Schaefer, J.M., 2012, Last Glacial Maximum climate in New Zealand inferred from a modelled Southern Alps icefield. Quaternary Science Reviews 46, 30-45.	Yes	Basic	1	0
Denton, George	Journal Article	Accepted	Putnam, A.E., Schaefer, J.M., Denton, G.H., Barrell, D.J.A., Finkel, R.C., Andersen, B.G., Schwartz, R., Chinn, T.J.H., and Doughty A.M., 2011, Asynchronous glacier behavior in the European Alps and Southern Alps of New Zealand during the Holocene. Nature Geoscience, submitted.	Yes	Basic	2	0
Denton, George	Journal Article	Accepted	Birkel, S.D., Putnam, A.E., Denton, G.H., Koons, P.O., Fastook, J.L., Maasch, K.A., and Putnam, D.E., 2011, Climate inferences from a glaciological reconstruction of the late Pleistocene Wind River ice cap, Wind River Range, Wyoming. Arctic and Alpine Research, accepted.	Yes	Basic	2	0
Denton, George	Journal Article	Submitted	Doughty, A.M., Anderson, B.M., Mackintosh, A.N., Kaplan, M.R., Vandergoes, M.J., Chinn, T.J.H., Barrell, D.J.A., and Denton, G.H., Late-glacial climate in the Southern Alps of New Zealand inferred from glacial modelling. Quaternary Science Reviews, submitted.	Yes	Basic	1	0
Denton, George	Journal Article	Submitted	Putnam, A.E., Schaefer, J.M., Denton, G.H., Barrell, D.J.A., Birkel, S.D., Andersen, B.G., Kaplan, M.R., Finkel, R.C., Schwartz, R., and Doughty, A.M., 2011, The last local glacial maximum at 44 S documented by a 10Be moraine chronology at Lake Ohau, Southern Alps of New Zealand. Quaternary Science Reviews, submitted.	Yes	Basic	2	0
Denton, George	Journal Article	Accepted	Hall, B.L., Denton, G.H., Stone, J.O., and Conway, H., 2012, History of the grounded ice sheet in the Ross Sea sector of Antarctica during the last glacial maximum and the last termination. Proceedings of the Geological Society of London.	Yes	Basic	0	0
Denton, George	Journal Article	Submitted	Vandergoes, M.J., Hogg, A.G., Lowe, D.J., Newnham, R.M., Denton, G.H., Southon, J., Barrell, D.J.A., Wilson, C.J., McGlone, M.S., Allan, A.S., Almond, P.C., Petchey, F., Dabell, K., Dieffenbacher-Krall, A.C., and Blaauw, M., 2012, A revised age for the Kawakawa/Oruanui tephra, a key marker for the Last Glacial Maximum in New Zealand. Quaternary Science Reviews, submitted.	Yes	Basic	0	0
Denton, George	Proceedings	Published	Barrell, D.A., Andersen, B.G., and Denton, G.H., 2011, Glacial geomorphology of the central South Island, New Zealand. GNS-Science Monograph 27, 81p.+5 maps (sheets)+1 legend (sheet). Lower Hutt, New Zealand.	Yes	Basic	0	0
Dieffenbacher-Krall, Ann	Journal Article	Submitted	Vandergoes, M.J., A.G. Hogg, D.J. Lowe, R.M. Newnham, G.H. Denton, J. Southon, D.J.A. Barrell, M. Blaauw, C.J.N. Wilson, M.S. McGlone, A. Allan, P.C. Almond, F. Petchey, K. Dabell, and A.C. Dieffenbacher-Krall. Submitted. A revised age for the Kawakawa/Oruanui tephra, a key marker for the Last Glacial Maximum in New Zealand. Quaternary Science Reviews.	Yes		0	0

Dieffenbacher-Krall, Ann	Journal Article	Published	Cranston, P.S., E. Barley, G.E. Langley (nee Chase), A. Dieffenbacher-Krall, A. Longmuir, and J. Zloty. 2011. Propsilocerus Kieffer (Diptera: Chironomidae) from the Nearctic. Aquatic Insects 33: 343-350.	Yes	1	0
Dieffenbacher-Krall, Ann	Abstract	Published	Vandergoes, M., R. Newnham, A. Dieffenbacher-Krall, G. Denton, KG. Zink, L. Schwark, and J. Wilmshurst. 2011. Multiproxy paleotemperature reconstructions for the Last Glacial Maximum in Southern New Zealand. XVIII INQUA Congress, Bern Switzerland.		0	0
Fastook, James L.	Journal Article	Published	Early Mars climate near the Noachian–Hesperian boundary: Independent evidence for cold conditions from basal melting of the south polar ice sheet (Dorsa Argentea Formation) and implications for valley network formation, J L Fastook, J W Head, D R Marchant, F Forget, and J-B Madeleine, Icarus 219(1), pp 25-40 2012 http://dx.doi.org/10.1016/j.icarus.2012.02.013	Yes	0	0
Fastook, James L.	Abstract	Published	Thermal runaway instabilities: A possible mechanism for fast-flow in surging glaciers and ice streams, J L Fastook, Fall American Geophysics Union, San Francisco, CA 2011 http://fallmeeting.agu.org/2011/		0	0
Fastook, James L.	Abstract	Published	Mid-latitude Amazonian glaciation on Mars: Controls on accumulation and glacial flow patterns, J L Fastook and J W Head, Lunar and Planetary Science Conference XXXXIII, Houston TX 2012 http://www.lpi.usra.edu/meetings/lpsc2012/pdf/1296.pdf		0	0
Fernandez, Ivan	Journal Article	Submitted	Goodale, C.L., R. Q. Thomas, F. Dentener, M.B. Adams, J.S. Baron, B.A. Emmett, C. D. Evans, I. J. Fernandez, P. Gundersen, F. Hagedorn, G. M. Lovett, A. Kulmatiski, S. G. McNulty, A.M. Melvin, F. Moldan, S. V. Ollinger, P. Schleppi, and M. S. Weiss. Nitrogen deposition and forest carbon sequestration: a quantitative synthesis from plot to global scales. Global Change Biology (submitted).	Yes	0	0
Fernandez, Ivan	Journal Article	Accepted	Norton, Stephen A., Randall H. Perry, Jasmine Saros, George J. Jacobson, Ivan J. Fernandez, Jirí Kopácek, Michael D. SanClements, and Tiffany A. Wilson. 2011. The controls on phosphorus availability in a boreal lake ecosystem since deglaciation. J. Paleolim. 46:107-122.	Yes	2	0
Fernandez, Ivan	Journal Article	Published	Stone, Madeleine M., Marissa S. Weiss, Christine L. Goodale, Mary Beth Adams, Ivan J. Fernandez, Donovan P. German, and Steven D. Allison. 2011. Temperature sensitivity of soil enzyme kinetics under N-fertilization in two temperate forests. Global Change Biology 18:1173-1184.	Yes	2	0
Fernandez, Ivan	Journal Article	Published	Kerr, J.G., M. C. Eimers, I. F. Creed, M. B. Adams, F. Beall, D. Burns, J. L. Campbell, S. F. Christopher, T. A. Clair, F. Courchesne, L. Duchesne, I. Fernandez, D. Houle, D. S. Jeffries, G. E. Likens, M. J. Mitchell, J. Shanley, H. Yao. 2011. The effects of seasonal drying on sulphate dynamics in streams across southeastern Canada and the northeastern USA. Biogeochemistry DOI 10.1007/s10533-011-9664-1	Yes	0	0
Fernandez, Ivan	Journal Article	Submitted	Raymond, Jay E., Ivan J. Fernandez, Tsutomo Ohno, and Kevin Simon. 2012. Soil drainage class influences on soil carbon in a New England Forested Watershed. Soil Sci. Soc. Am. J. (submitted).	Yes	1	0

Fernandez, Ivan	Book Chapter	Accepted	Amirbahman, Aria and Ivan J. Fernandez. 2012. Mercury in Soils. In: Mercury in the Environment: Pattern and Process. Michael S. Bank (ed.). University of California Press, Berkeley, CA. pp. 99-118.	Yes		0	0
Hall, Brenda	Journal Article	Published	Antibus, D., Leff, L., Hall, B., Baeseman, J., and Blackwood, C., 2012. Molecular characterization of ancient algal mats from the McMurdo Dry Valleys, Antarctica. Antarctic Science 24, 139-146	Yes	Basic	1	0
Hall, Brenda	Journal Article	Published	Antibus, D., Leff, L., Hall, B., Baeseman, J., and Blackwood, C., 2012. Cultivable bacteria from ancient algal mats from the McMurdo Dry Valleys, Antarctica. Extremophiles 16, 105-114.	Yes	Basic	1	0
Hall, Brenda	Journal Article	Accepted	Hall, B., Denton, G., Stone, J., and Conway, H., 2012. History of the grounded ice sheet in the Ross Sea sector of Antarctica during the last glacial maximum and last termination. Geological Society of London.	Yes	Basic	0	0
Hall, Brenda	Journal Article	Accepted	Garcia, J.L., Kaplan, M., Hall, B., Schaefer, J., Vega, R., Schwartz, R., and Finkel, R., 2012. Glacier expansion in southern Patagonia throughout the Antarctic Cold Reversal. Geology.	Yes	Basic	1	0
Hall, Brenda	Journal Article	Submitted	Konfal, S., Wilson, T., and Hall, B., 2012. Paleoshoreline records of glacial isostatic adjustment in the Dry Valleys region, Antarctica. Geological Society of London.	Yes	Basic	1	0
Hall, Brenda	Journal Article	Submitted	Lorenzini, S., Baroni, C., Haneschi, I., Salvatore, C., Fallick, A., Zanchetta, G., Dallal, L., and Hall, B., 2012. Adelie penguin remains reveal Holocene environmental conditions of the western Ross Sea (Antarctica). Global and Planetary Change.	Yes	Basic	0	0
Hall, Brenda	Journal Article	Submitted	Marra, K., Soreghan, G., Elwood-Madden, M., Keiser, L., and Hall, B., 2012. Trends in grain size and reactive surface area in cold-arid vs semi-arid fluvial systems. Geology.	Yes	Basic	1	0
Hall, Brenda	Journal Article	Submitted	Stumpf, A., Elwood-Madden, M., Soreghan, G., Hall, B., Marra, K., and Keiser, L., 2012. Glacier meltwater stream chemistry in Wright and Taylor Valley, Antarctica: Significant roles of drift, dust, and biological processes in chemical weathering in a polar climate. Chemical Geology.	Yes	Basic	2	0
Hall, Brenda	Journal Article	Submitted	Bromley, G., Hall, B., Stone, J., and Conway, H., 2012. Late Pleistocene evolution of Scott Glacier, southern Transantarctic Mountains: Implications for the Antarctic contribution to deglacial sea level. Quaternary Science Reviews	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Konfal, S., Wilson, T., Bevis, M., Kendrick, E., and Hall, B., 2012. GPS and paleoshoreline record of solid earth deformation in Southern Victoria Land, Antarctica. SCAR Open Science Conference, Portland, Oregon.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Baroni, C., Lambert, D., Millar, C., Swaminathan, S., Lorenzini, S., Salvatore, C., and Hall, B., 2011. Ancient DNA sequences of Adelie penguins provide a window on Antarctic biota evolution since the late Pleistocene. 11th Annual Symposium on Antarctic Earth Sciences, Edinburgh, Scotland.	Yes	Basic	0	0
Hall, Brenda	Abstract	Published	Garcia, J.L., Kaplan, M., Hall, B., and Schaefer, J., 2011. Reconstructing the last glacial processes and environments in Torres del Paine, southern Chile, as inferred from local glacial landforms and sediments. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	1	0

Hall, Brenda	Abstract	Published	Garcia, J.L., Kaplan, M., Hall, B., and Schaefer, J., 2011. Evidence for an Antarctic signature in past glacial fluctuations in south Patagonia, Chile. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Hall, B., Kelly, M., Lowell, T., Baroni, C., Bennike, O., Honsaker, W., Levy, L., and Lusas, A., 2011. Late glacial and Holocene ice fluctuations, Scoresby Sund, East Greenland. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	2	0
Hall, Brenda	Abstract	Published	Hall, B., Porter, C., Denton, G., Lowell, T., and Bromley, G., 2011. Deglaciation of Cordillera Darwin, southern Chile, during the last termination. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Hall, B., Porter, C., and Denton, G., 2011. Holocene ice fluctuations at Ventisquero Marinelli, Cordillera Darwin, South America. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	0	0
Hall, Brenda	Abstract	Published	Hall, B., 2011. History of the Antarctic Ice Sheet in the Ross Sea sector at and since the last glacial maximum. 11th International Symposium on Antarctic Earth Sciences. Edinburgh, Scotland.	Yes	Basic	0	0
Hall, Brenda	Abstract	Published	Kelly, M., Lowell, T., Hall, B., and Schaefer, J., 2011. A comparison of late glacial-early Holocene fluctuations of the Greenland Ice Sheet outlet glaciers with nearby mountain glaciers in central east Greenland. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	0	0
Hall, Brenda	Abstract	Published	Koffman, T., Hall, B., and Denton, G., 2011. Reduced ice extent on the western Antarctic Peninsula at 700-970 years ago. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Koffman, T., Hall, B., and Denton, G., 2011. New radiocarbon dates from glacial deposits in Miers Valley constrain the past behavior of the Antarctic Ice Sheet. 18th Annual West Antarctic Ice Sheet Meeting, Loveland, CO.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Konfal, S., Wilson, T., and Hall, B., 2011. Record of glacial-isostatic crustal uplift in southern Victoria Land, Antarctica, from paleoshorelines and POLENET GPS data.11th International Symposium on Antarctic Earth Sciences, Edinburgh, Scotland.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Allard, S., Hall, B., and Denton, G., 2011. History of the Ross Sea ice sheet based on glacial and lake records from Marshall Valley, Antarctica. 18th Annual West Antarctic Ice Sheet meeting, Loveland, CO.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Levy, L., Kelly, M., Lowell, T., and Hall, B., 2011. Holocene fluctuations of Bregne Ice Cap, Scoresby Sund, eastern Greenland. American Geophysical Union, San Francisco, CA.	Yes	Basic	1	0
Hall, Brenda	Abstract	Published	Lowe., Kelly, M., Hall, B., Bennike, O., Honsaker, W., Levy, L., and Lusas, A., 2011. Late Holocene ice cap activity in East Greenland and implications for the Greenland ice sheet. International Quaternary Association Congress, Berne, Switzerland.	Yes	Basic	3	0
Hall, Brenda	Abstract	Published	Maurice, L.D., Day, C.C., Porter, C., Martin, K., Hall, B., and Henderson, G., 2011. Stalagmite delta 18-O from southern Chile (50S): five new samples covering the last 13 ka. Kr6, 6th International Conference: Climate Change - the Karst Record, Birmingham, UK	Yes	Basic	1	0

Hall, Brenda	Abstract	Published	Stumpf, A., Elwood-Madden, M., Soreghan, G., and Hall, B., 2011. Chemical weathering and geochemical modelling within glacial meltwater streams, Wright and Taylor Valleys, Antarctica. Geological Society of America Annual Meeting, abstract 196241.	Yes	Basic	1	0
Hamilton, Gordon	Journal Article	Published	Sneed, W.A. & G.S. Hamilton. 2011. Validation of a method for determining the depth of glacial melt ponds using satellite imagery. Annals of Glaciology, 59, 15-22.	Yes	Basic	1	0
Hamilton, Gordon	Journal Article	Published	Arcone, S.A., R.W. Jacobel & G.S. Hamilton. 2012. Unconformable stratigraphy in East Antarctica: Part I. Large firn cosets, recrystallized growth, and model evidence for intensi- fied accumulation. Journal of Glaciology, 58, 240-252, doi:10.3189/2011JoG11J044.	Yes	Basic	0	0
Hamilton, Gordon	Journal Article	Published	Arcone, S.A., R.W. Jacobel & G.S. Hamilton. 2012. Unconformable stratigraphy in East Antarctica: Part II. Englacial cosets and recrystallized layers. Journal of Glaciology, 58, 253-264, doi:10.3189/2011JoG11J045.	Yes	Basic	0	0
Hamilton, Gordon	Journal Article	Published	Spaulding, N.E., V.B. Spikes, G.S. Hamilton, P.A. Mayewski, N.W. Dunbar, R.P Harvey, J. Schutt & A.V. Kurbatov. 2012. Ice motion and mass balance at the Allan Hills blue-ice area, Antarctica, with implications for paleoclimate reconstructions. Journal of Glaciology, 58, 399-406, doi:10.3189/2011JoG11J176.	Yes	Basic	2	0
Hamilton, Gordon	Journal Article	Published	Straneo, F., D.A. Sutherland, D. Holland, C. Gladish, G.S. Hamilton, H.L. Johnson, E. Rignot, Y. Xu & M. Koppes. 2012. Characteristics of ocean waters reaching Greenland's glaciers. Annals of Glaciology, 53, 202-210, doi:10.3189/2010AoG60A059.	Yes	Basic	0	0
Hamilton, Gordon	Journal Article	Submitted	Khan, S.A., Kjær, K.H, Korsgaard, N.J, Wahr, J.M, Joughin, I.R., Bamber, J.L., Csatho, B.M., Van den Broeke, M., Stearns, L.A., Nielsen, K., Babonis, G., Hamilton, G.S., Hurkmans R., & L.H. Timm. 2012. Rapid dynamic thinning events during 1985-2010 on Upernavik Isstrom, West Greenland. Journal of Geophysical Research, in review.	Yes	Basic	0	0
Hamilton, Gordon	Journal Article	Submitted	Breton, D.B., B. Koffman, A.V. Kurbatov, K. Kreutz, & G.S. Hamilton, 2012. Quantifying Signal Dispersion in a Hybrid Ice Core Melting System for Geochemical and Microparticle Analysis. Environmental Science & Technology, in review.	Yes	Basic	2	0
Hamilton, Gordon	Technical Report	Published	Straneo, F., P. Heimback, O. Sergienko & G.S. Hamilton, 2012. Challenges to understand the dynamic response of Greenland's marine-terminating glaciers to oceanic and atmospheric forcing. White Paper, Greeland Ice Sheet-Oceans Interactions Working Group, US CLIVAR, 28pp.		Basic	0	0
Hooke, Roger	Journal Article	Published	Hooke, R. LeB., 2011, Glaciology: Encyclopedia of Science and Technology, McGraw-Hill, NY, p. xxx-xxx.		Basic	0	0
Hooke, Roger	Journal Article	Published	Hooke, R. LeB. 2011, Water: the key to landforms of the subglacial environment: Proceedings of the meeting of the Canadian Quaternary Association (GeoHydro2011) in Quebec City, Canada, August 28-31, 2011	Yes	Basic	0	0
Hooke, Roger	Journal Article	Submitted	Hooke, R. LeB., Martin-Duque, J.F., and Pedraza, J., 20xx, Land Transformation by humans: GSA Today (in Revision)	Yes	Basic	0	0
Hooke, Roger	Journal Article	Submitted	Hooke, R. LeB. and Winski, D., 20xx, Unroofing Maine: A comparison of four erosion laws over 400 my. GSA Bulletin (In review)	Yes	Basic	1	0

Hooke, Roger	Journal Article	Submitted	Drumlins: a product of a thermo-mechanical instability	Yes	Basic	1	0
Jain, Shaleen	Journal Article	Submitted	Kim, JS., W. Zhou, X. Wang, and S. Jain, El Niño Modoki and the Summer Precipitation Variability over South Korea: A diagnostic study. Journal of the Meteorological Society of Japan.	Yes		0	0
Kelley, Alice	Journal Article	Published	, A.R., Kelley, J.T., Belknap, D.F., and Gontz, A, 2011, Coastal and Terrestrial Impact of the ically Forced Late Quaternary Drainage Divide Shift, Penobscot and Kennebec Rivers, Maine, Journal of Coastal Research, 7:1085-1093.	Yes		1	0
Kelley, Alice	Journal Article	Accepted	, J.T., Belknap, D.F., Kelley, A.R., Claesson, S., 2012 (anticipated), A Site Model for Drowned trial Habitats with Associated Archeological Remains: Northwestern Gulf of Maine, USA, Marine 39	Yes		0	0
Kelley, Alice	Abstract	Published	, A.R., Belknap, D.F., Heller, A.R., Baeder, C.S., and Collins, Mathias, 2012, Pre-Dam Removal orphic Monitoring, Penobscot River, Maine, USA, Geological Society of America, Abstracts with ms - Northeastern 2012 ISSN 0016-7592 - Vol. 44, no. 2			0	0
Kelley, Alice	Other	Published	, Alice R., Caron, Lynn, and Doughty, Dale F., 2011, Surficial materials of the Brewer Lake ingle, Maine; Maine Geological Survey (Department of Conservation), Open-File Map 11-17, :24000	Yes		0	0
Kelley, Alice	Other	Published	, Alice R., and Caron, Lynn, 2011, Surficial geology of the Brewer Lake quadrangle, Maine; Geological Survey (Department of Conservation), Open-File Map 11-18, scale 1:24000	Yes		0	0
Kelley, Alice	Other	Accepted	, Alice R., and Caron, Lynn, 2012, Surficial materials of the Otter Chain Ponds quadrangle, ; Maine Geological Survey (Department of Conservation), scale 1:24000			0	0
Kelley, Alice	Other	Accepted	eiss, D. and Kelley, A.R., 2012 (anticipated), The Archaeological Record as a Paleoclimatic and invironmental Archive, Annual Review of Anthropology.	Yes		0	0
Kelley, Joseph	Book	Published	Pilkey, O.P., Kelley, J.T., Neal, W., Cooper, J.A.G., 2011, The Worlds Beaches, University of California Press, 283 p.	Yes	Pedagogic al	0	0
Kelley, Joseph	Journal Article	Published	Kelley, A., R., Kelley, J.T., Belknap, D.F., and Gontz, A.M., 2011, Isostatically forced, late Quaternary drainage divide shift, Penobscot and Kennebec Rivers, Maine, USA, Journal of Coastal Research, v. 27, p. 1085-1093, doi: 10.2012/JCOASTRES-D-10-00135.1	Yes	Basic	1	0
Kelley, Joseph	Journal Article	Submitted	Brothers, L.L., Kelley, J.T., Belknap, D.F., Barnhardt, W.A., Andrews, B., Legere, C., and Clarke, J.H., 2012, Estuarine pockmark field origins: high resolution geophysical and vibracore results northwestern Gulf of Maine and Bay of Fundy: Marine Geology (in review).	Yes	Basic	2	0
Kelley, Joseph	Journal Article	Accepted	Kelley, J.T., Belknap, D.F., Kelley, A.R., and Claesson, S., 2011, A site model for drowned terrestrial habitats with associated archeological remains: northwestern Gulf of Maine, Marine Geology, in press.	Yes	Basic	0	0
Kelley, Joseph	Journal Article	Submitted	Kelley, J.T., Walsh, J.A. and Belknap, D.F., Tidal flat-barrier spit interactions in a fetch-limited, macro-tidal embayment, Lubec, Maine, USA, Journal of Coastal Research (under review).	Yes	Basic	1	0
Kelley, Joseph	Journal Article	Accepted	Kelley, J.T., 2012, Can human actions appropriately mimic natural processes in the coastal zone? Geomorphology, accepted and under revision.	Yes	Applied	0	0

Kelley, Joseph	Abstract	Published	Kelley, J.T., and Kelley, A.R., 2011, Geophysical tools applied to archeological problems. INQUA Meeting, Bern, Switzerland, Invited Keynote talk. http://www.inqua2011.ch/?a=programme&subnavi=sessions&id=34 http://www.inqua2011.ch/?a=programme&subnavi=sessions&id=34	Yes	Basic	0	0
Kelley, Joseph	Abstract	Published	Belknap, D.F., Kelley, J.T., 2012, Bedrock-controlled inner shelf off west central Maine. Geological Society of America, GSA Abstracts with Programs, Paper 45-2, Vol., Hartford, March 20, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_199997.htm https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_199997.htm	Yes	Basic	0	0
Kelley, Joseph	Abstract	Published	Kelley, J.T., Belknap, Brothers, L.L., 2012, Northeast pockmark fields: shallow marine liquefaction landforms resulting from seismic events? Geological Society of America, GSA Abstracts with Programs, Paper 16-7, Vol. Hartford, MD, March 18, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200174.htm https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200174.htm	Yes	Basic	1	0
Kelley, Joseph	Abstract	Published	Sorrell, L.M., Kelley, J.T., and Kelley, A.R., 2012, Investigating historic sand inundation, Shetland, UK. Geological Society of America, GSA Abstracts with Programs paper 39-7, Vol. Hartford, MD, March 18, 2012, https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200360.htm https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200360.htm	Yes	Basic	1	0
Kelley, Joseph	Abstract	Published	Mansfield, M.E., Belknap, D.F., Kelley, J.T., 2012. The critical leading edge of Gulf of Maine salt marshes-interface with freshwater wetlands. Geological Society of America, GSA Abstracts with Programs, Paper 45-7, Vol. Hartford, MD, March 18, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200354.htm https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200354.htm	Yes	Basic	1	0
Kelley, Joseph	Abstract	Published	Wilson, K.R., 2012, Reeve, A.S., and Kelley, J.T., 2012, Interactions between sea-level rise and groundwater influence surficial salt marsh morphology in Maine. Geological Society of America, GSA Abstracts with Programs, Paper 26-2, Vol. Hartford, MD, March 18, 2012, https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200081.htm https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200081.htm	Yes	Basic	1	0
Kelley, Joseph	Abstract	Published	Kelley, J.T., Kelley, A.R. and Belknap, D.F., 2012, Bridging the land and sea: finding submerged archaeological sites. Bridging Gaps: Integrating Geosciences within Archaeological Research, Tubingen, Germany, May 10-12, 2012. (INVITED TALK) http://www.geo.uni-tuebingen.de/arbeitsgruppen/ur-und-fruehgeschichte-und-archaeologie-des- mittelalters/geoarchaeologie/bridging-gaps-2012/program.html	Yes	Basic	0	0
Koons, Peter	Journal Article	Published	Roy, S. G., Johnson, S.E., Koons, P. O., and Jin, ZH., 2012. Fractal analysis and thermal-elastic modeling of a subvolcanic magmatic breccia: the role of post-fragmentation partial melting and thermal fracture in clast size distributions, Geochem. Geophys. Geosyst., doi:10.1029/2011GC004018.	Yes		1	0
Koons, Peter	Journal Article	Accepted	Birkel, S.D, A.E. Putnam, G.H. Denton, P.O. Koons, J.L. Fastook, K.A. Maasch, D.E. Putnam, Climate Inferences from a Glaciological Reconstruction of the Late Pleistocene Wind River Ice Cap, Wind River Range, Wyoming; to Arctic, Antarctic, and Alpine Research;	Yes		1	0

Koons, Peter	Journal Article	Submitted	Gorman, A.R., M.G. Hill, A.R. Orpin, P.O. Koons, C.A. Landis, T.M.H. Allan, T. Johnstone, F.L. Gray, D. Wilson, E.C. Osterberg, Quaternary structure, morphology, and stratigraphy of the Otago and South Canterbury shelves from 20 years of high-resolution seismic profiling investigations. New Zealand Journal Geology and Geophysics, 2011,	Yes		6	0
Koons, Peter	Journal Article	Submitted	Winski, D., K. Kreutz, E. Osterberg, S. Campbell, R. Hooke, P.O. Koons, Wake, C., Modeling Surface energy balance on the Khiltna Glacier, Denali National Park, Central Alaskan Range, Submitted JGR;	Yes		1	0
Koons, Peter	Book Chapter	Accepted	Koons, P.O., Zeitler, P.K., Hallet, B., 2011;Landscape evolution and tectonics   Tectonic aneurysms and mountain building, In: OWEN LA (ed.), Tectonic Geomorphology, Treatise in Geomorphology, 5, Praxis-Springer, Berlin.	Yes		0	0
Koons, Peter	Abstract	Accepted	Brothers, L.L., Kelley, J.T., Belknap, D.F., Barnhardt, W.A., and Koons, P.O., 2011, Pockmarks: Self-scouring seep features? Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, 2011. Paper Number 326.			1	0
Kreutz, Karl	Journal Article	Published	Campbell, S., K.J. Kreutz, Osterberg, E.O., Arcone, S., Wake, C.P., Introne, D.S., Volkening, K., and Winski, D. (2012), Melt regimes, internal stratigraphy, and flow dynamics of three glaciers in the Alaska Range, Journal of Glaciology, 58(207), 99-109, doi: 10.3189/2012JoG10J238.	Yes	Basic	2	1
Kreutz, Karl	Journal Article	Published	Campbell, S., Kreutz, K.J., Osterberg, E., Arcone, S., Wake, C., Volkening, K., and Winski, D., (2012) Flow dynamics of an accumulation basin: A case study of the Upper Kahiltna Glacier on Mt. McKinley, Alaska, Journal of Glaciology, 58(207), 185-195, doi: 10.3189/2012JoG10J233.	Yes	Basic	2	1
Kreutz, Karl	Journal Article	Accepted	Winski, D., Kreutz, K.J., Osterberg, E.O., Campbell, S., and Wake, C., 2012, High Frequency Observations of Melt Effects on Snowpack Stratigraphy, Kahiltna Glacier, Central Alaska Range, Hydrological Processes, accepted.	Yes	Basic	2	0
Kreutz, Karl	Journal Article	Accepted	Gross, B., Kreutz, K.J., Osterberg, E., McConnell, J., Handley, M., Wake, C., and Yalcin, K., 2012, Constraining recent lead pollution sources in the North Pacific using ice core stable lead isotopes, Journal of Geophysical Research-Atmospheres, accepted.		Basic	2	0
Kreutz, Karl	Journal Article	Submitted	Winski, D., Kreutz, K.J., Osterberg, E.O., Campbell, S., and Wake, C., 2012, Modeling surface energy balance on the Kahiltna Glacier, Denali National Park, Central Alaska Range, Journal of Glaciology, submitted.	Yes	Basic	2	0
Kreutz, Karl	Journal Article	Submitted	Breton, D., Koffman, B., Kurbatov, A., Kreutz, K., and Hamilton, G., 2012, Quantifying Signal Dispersion in a Hybrid Ice Core Melting System for Geochemical and Microparticle Analysis, Environmental Science and Technology, submitted.	Yes	Basic	2	0
Kreutz, Karl	Book Chapter	Published	Kreutz, K.J., and Koffman, B. (2013) Ice core methods: Glaciochemistry, in Encyclopedia of Quaternary Science 2nd edition, S. Elias, ed., Elsevier Publishers, accepted.	Yes	Basic	1	0
Kurbatov, Andrei	Journal Article	Published	Spaulding, N., V. Spikes, G. Hamilton, P. Mayewski, N. Dunbar, R. Harvey, J. Schutt, and A. Kurbatov (2012). Ice motion and mass balance at the Allan Hills blue ice area, Antarctica, with implications for paleoclimate reconstructions. Journal of Glaciology 58(208), 399–406.	Yes	Basic	1	0
Kurbatov, Andrei	Journal Article	Published	Dunbar, N. W. and A. V. Kurbatov (2011). Tephrochronology of the Siple Dome ice core, West Antarctica: correlations and sources. Quaternary Science Reviews 30(13-14), 1602 – 1614.	Yes	Basic	0	0

Kurbatov, Andrei	Journal Article	Published	Korotkikh, E. V., P. A. Mayewski, M. J. Handley, S. B. Sneed, D. S. Introne, A. V. Kurbatov, N. W. Dunbar, and W. C. McIntosh (2011). The last interglacial as represented in the glaciochemical record from Mount Moulton Blue Ice Area, West Antarctica. Quaternary Science Reviews 30(15-16), 1940–1947.		Basic	2	0
Kurbatov, Andrei	Journal Article	Accepted	Kraus, S., A. Kurbatov, and M. Yates (2012). Geochemical signatures of tephras from Antarc- tic Peninsula volcanoes. Andean Geology	Yes		0	0
Kurbatov, Andrei	Abstract	Published	Potocki, M, P. A. Mayewski, A Kurbatov, M Handley, J. C. Simoes, and R. Jana (2011). Detailed glaciochemical records from a Northern Antarctic peninsula site - Detroit Plateau. In: Abstract PP43B–1822 presented at 2011 Fall Meeting, AGU, San Francisco, Calif. <u>http://www.agu.org/meetings/fm11/waisfm11.html</u>		Basic	1	0
Kurbatov, Andrei	Abstract	Published	Dunbar, N. W., A. V. Kurbatov, W. C. McIntosh, and B. Koffman (2011). Antarctic tephrochronology: From visible layers to cryptotephra. In: International Symposium on Antarctic Earth Sciences (ISAES X1). Edinburgh, Scotland, UK.		Basic	1	0
Kurbatov, Andrei	Abstract	Published	Spaulding, N., A. Kurbatov, P. Mayewski, M. Bender, J. Higgins, V. Spikes, D. Introne, and S. Sneed (2011). Exploration and Development of the Climate Archive of the Allan Hills, Antarctica. In: XVIII International Union for Quaternary Research. (INQUA) Conference. Bern, Switzerland http://www.inqua2011.ch/		Basic	1	0
Kurbatov, Andrei	Abstract	Published	Alencar, A., S. Correea, H. Evangelista, J. C. Simooes, R. Janna, A. Kurbatov, and P. A. Mayewski (2011). Primeiro registro de COV para a atmosfera do Plato Detroit, Peninsula Antartica. In: XIII Congresso Brasileiro de Geoquimica/III Simpoosio de Geoquimica dos Países do Mercosul.		Basic	0	0
Kurbatov, Andrei	Abstract	Published	Kreutz, K. J., B. G. Koffman, D. J. Breton, N. W. Dunbar, and A Kurbatov (2011). Seasonal to centennial-scale variability of microparticle concentration and size distribution in the WAIS Divide ice core over the past 2.4 ka. In: Abstract PP23B-1846 presented at 2011 Fall Meeting, AGU, San Francisco, Calif. http://www.agu.org/meetings/fm11/waisfm11.html		Basic	2	0
Kurbatov, Andrei	Abstract	Published	Koffman, B. G., K. J. Kreutz, D. Breton, N. W. Dunbar, and A. Kurbatov (2011). Depositional phasing of volcanic aerosols in the WAIS Divide ice core over the past 2400 years. In: Ab- stract V11D-2539 presented at 2011 Fall Meeting, AGU, San Francisco, Calif. http://www.agu.org/meetings/fm11/waisfm11.html		Basic	2	0
Kurbatov, Andrei	Other	Published	Kraus, S., A. V. Kurbatov, and M. Yates (2011). Geochemical signatures of tephras from Antarctic Peninsula volcanoes. In: 20 years Antarcic research station GARS O'Higgins		Basic	0	0
Maasch, Kirk	Journal Article	Published	Dixon DA, Mayewski PA, Goodwin ID, Marshall GJ, Freeman R, Maasch KA, Sneed SB, 2011. An ice core proxy for northerly air mass incursions into West Antarctica. International Journal of Climatology doi:10.1002/joc.2371.	Yes		2	0
Maasch, Kirk	Journal Article	Accepted	Birkel SD, Putnam AE, Denton G, Koons PO, Fastook JL, Maasch KA, Putnam DE. in press. Climate inferences from a glaciological reconstruction of the Late Pleistocene Wind River Ice Cap, Wind River Range, Wyoming. Arctic Antarctic and Alpine	Yes		1	0

Maasch, Kirk	Journal Article	Submitted	Mayewski PA, Maasch KA, Dixon DA, Sneed SB, Oglesby RJ, Korotkikh E, Potocki M, Grigholm B, Kreutz K, Kurbatov AV, Spaulding N, Stager JC, Taylor KC, Steig EJ, White J, Bertler NAN, Goodwin I, Simoes JC, Jana R, Kraus S, Fastook J. 2012. West Antarctica's Sensitivity to Natural and Human Forced Climate Change Through the Holocene. Quaternary Science Reviews	Yes	5	0
Maasch, Kirk	Book Chapter	Accepted	Climate Change and Cultural Dynamics: Lessons from the Past for the Future (David G. Anderson, Kirk A. Maasch, and Daniel H. Sandweiss.) In Humans and the Environment: New Archaeological Perspectives for the 21st Century, edited by Matthew Davies and Freda Nkirote. Oxford University Press, Oxford.	Yes	0	0
Mayewski, Paul	Book	Published	Mayewski, P.A. and Morrison, M.C., 2011, Journey Into Climate: Exploration, Adventure and the Unmasking of Human Innocence, A Dauntless Press, Santa Fe, New Mexico, 152 p., ISBN: 978-0-9836302-0-3; -1-0;-2-7.		0	0
Mayewski, Paul	Journal Article	Accepted	McCormick, M., Büntgen, U., Cane, M., Cook, E., Harper, J.K., Huybers, P., Litt, T., Manning, S.W., Mayewski, P.A., More, A.M., Nicolussi, K. and Tegel, W., in press 2012, A first multi- proxy evaluation of climate change under the Roman Empire and its successors: review of selected data and hypotheses of human impact, Journal of Interdisciplinary History.	Yes	0	0
Mayewski, Paul	Journal Article	Submitted	Ludlow, L.F., Leahy, P., Murphy, E., Hennessy, M., Taylor, Mayewski, P.A., Killen, J., Baillie North Atlantic Climate.	, Mand Kiely, G., in re	eview, V	Vol@anic forcing of Late I
Mayewski, Paul	Journal Article	Submitted	Mayewski, P.A., Maasch, K.A., Dixon, D., Sneed, S.B., Oglesby, R., Kurbatov, A.V., Korotkikh, E., Potocki, M., Grigholm, B., Kreutz, K., Taylor, K.C., Steig, E., White, J., Bertler, N.A.N., Goodwin, I., de Mello Monques, M., Tholn, I. U., Simoés, J.C., Jana, R. and Kras, S. in review, Past through recent changes in atmospheric circulation over Antarctica and the Southern Ocean and implications for future Southern Hemisphere climate change.	Yes	5	0
Mayewski, Paul	Journal Article	Published	Stager, J.C., Mayewski, P.A., White, J., Chase, B.M., Neumann, F., Meadows, M.E., King, C. a Australia during the last millennium linked to meridional shifts in the austral westerlies, Climat			l væriability in South Afri
Mayewski, Paul	Journal Article	Submitted	Goodwin, I.D., Browning, S., Mayewski, P.A., Lorrey, A., Cohen, T., Curran, M., van Ommen – A view of atmospheric circulation from down under.	, T.Yand Redwards, R., i	n revlev	w, The Medieval Climate
Mayewski, Paul	Journal Article	Published	Kaspari, S., Schwikowski, M., Gysel, M., Flanner, M.G., Kang, S. and Mayewski, P.A., 2011, Recent increase in black carbon concentrations from a Mt. Everest ice core spanning 1860- 2000AD, Geophys. Res. Letts., doi:10.1029/2010GL046096,2011.	Yes	0	0
Mayewski, Paul	Journal Article	Published	Bertler, N.A.N., Mayewski, P.A. and Carter, L., 2011, Cold conditions in Antarctica during the Little Ice Age – Implications for abrupt climate change mechanisms, Earth and Planetary Science Letters 308, 41-51.	Yes	0	0
Mayewski, Paul	Journal Article	Accepted	Mayewski, P.A., Kurbatov, A., Grigholm, B., Potocki, M., Dixon, D., Casassa, G., Zamora, R. and Morrison, M., 2011, A new South American ice coring site – Tupungatito (The Garrand Andes Expedition), Climate Change Institute Borns Symposium Mini Paper.		3	0
Mayewski, Paul	Journal Article	Accepted	Dixon, D.A., Mayewski, P.A., Korotkikh, E., Sneed, S.B., Handley, M.J., Introne, D.S. and Scambos, T.A., 2011, A spatial framework for assessing modern and monitoring future change in the chemistry of the atmosphere over Antarctica, The Cryosphere Discussions 5, 1-66.	Yes	3	0
Mayewski, Paul	Journal Article	Submitted	Steig,E.J., Ding,Q., White, J., Küttel, M., Rupper, S., Neff, P., Mayewski, P.A., Taylor, K., Hot Schoenemann, S., Fudge, T.J., Schauer, A.J., Vaughn, B., Schneider, D. P., Dixon, D.A., Korot glaciological change in West Antarctica.			

Mayewski, Paul	Journal Article	Accepted	Plummer, C.T., Curran, M., van Ommen, T., Rasmusen, S., Moy, A., Vance, T. and Mayewski, P.A., 2012, An independently dated 2000-year volcanic record from Law Dome, East Antarctica: Dating the Kuwae eruption, Climate of the Past Discussions 8, 1-23.	Yes		0	0
Mayewski, Paul	Journal Article	Accepted	Spaulding, N. E., Spikes, V.B., Hamilton, G.H., Mayewski, P.A., Dunbar, N.W., Harvey, R.P., Schutt, J. and Kurbatov, A.V., 2012, Ice motion and mass balance at the Allen Hills blue ice area, Antarctica, with implications for paleoclimate reconstructions, J. Glaciology 58, 399- 406.	Yes		0	0
Mayewski, Paul	Journal Article	Accepted	Pang, H., Hou, S., Kaspari, S., Mayewski, P.A., Masson-Delmotte, V., Jouzel, J., Li, Z., He, Y., Hong, S., and Qin, D., 2012, Atmospheric circulation change in the central Himalayas indicated by a high resolution ice core deuterium excess record, Climate Research.53, 1-12, doi:10.3354/cr0190.	Yes		0	0
Norton, Stephen	Journal Article	Submitted	Norton, S. A., Perry, R. H., Saros, J., Jacobson, G. L., Jr., Fernandez, I. J., Kopácek, J., Wilson, T. A., and SanClements, M., 2011, The controls on phosphorus availability in a boreal lake ecosystem since deglaciation. J. Paleolimnol., 46, 107-122.	Yes	Basic	1	0
Norton, Stephen	Journal Article	Submitted	Hongve, D., Haaland, S., Riise, R., Blakar, I., and Norton, S., 2012, Decline of Acid Rain Enhances Mercury Concentrations in Fish: Environ. Sci. Tech.	Yes	Applied	0	0
Norton, Stephen	Abstract	Submitted	Mineau, M. M., Simon, K. S., Ely D. T., Rancatti, R. L., Fernandez, I. J., Norton, S. A., and Valett, H. M., 2011, Effects of chronic nitrogen enrichment and acidification on coupled nitrogen and phosphorus cycling in streams: Insights from multiple spiraling techniques. Ann. Mtg., North American Benthological Society, Providence, RI.			1	0
Norton, Stephen	Abstract	Submitted	Schneider, S., Fernandez, I. J., Norton, S. A., Simon, K. S., 2011, Soil Exchangeable Cation Concentrations after Two Decades of Whole Watershed Manipulation at the Bear Brook Watershed in Maine. Gordon Research Conference. Colby College.		Applied	1	0
Norton, Stephen	Abstract	Submitted	Norton, S. A., 2011, DOC – Origin, some attributes, and transport of contaminants: 13th Nordic-Baltic IHSS Symposium on Natural Organic Matter in the Environment, Oscarsborg, Norway.		Basic	0	0
Norton, Stephen	Abstract	Submitted	Bacon, L. C., Amirbahman, A., Norton, S. A., and Mower, B. F., 2011, Elucidating Complex Relationships Among Factors Influencing Mercury Fish Tissue Contamination: Maine Water Conference, Augusta, Maine.		Applied	1	0
Ocampo-Raeder, Constanza	Journal Article	Published	"El Mar No Termina En La Arena" Heterogeneidad, identidad y genero en familias de pescadores artesanales de Mancora. Debate Agrario. Centro Peruano de Estudios Sociales, Lima: Perú.	Yes	Basic	0	0
Ocampo-Raeder, Constanza	Journal Article	Submitted	"Gossip and Spies in the Forest: Children's Role in Mediating Resource Management Activities in Local Environments" Journal: Human Organization	Yes	Basic	0	0
Ocampo-Raeder, Constanza	Journal Article	Submitted	"We Navigate the Pan-American Highway" Women's Contributions to the Communal Management of Ocean Resources in Northern Peru. Submitted to the Journal of Ecological Anthropology.	Yes	Basic	0	0
Ocampo-Raeder, Constanza	Journal Article	Submitted	Cultivating Resilience: Understanding Hybridity, Integration and Vulnerability in an Amazonian Swidden-Fallow Systems of Peru. Submitted to the Journal of Culture, Agriculture, Food, and Environment.	Yes	Basic	0	0

Olsen, Brian	Journal Article	Published	Greenberg, R., R. Danner, B.J. Olsen, and D. Luther. 2012. High summer temperature explains bill size variation in salt marsh sparrows. Ecography 35(2):146-152. DOI: 10.1111/j.1600-0587.2011.07002.x	Yes	Basic	1	0
Olsen, Brian	Journal Article	Published	Etterson, M.A., S.N. Ellis-Felege, D. Evers, G. Gauthier, J. A. Grzybowski, B.J. Mattsson, L.R. Nagy, B.J.Olsen, C.M. Pease, M. Post van der Burg, and A. Potvien. 2011. Modeling fecundity in birds: Conceptual overview, current models, and considerations for future developments. Ecological Modelling 222:2178-2190. DOI:10.1016/j.ecolmodel.2010.10.013.	Yes	Basic	1	1
Olsen, Brian	Journal Article	Accepted	Warner, S.E., W.G. Shriver, B.J. Olsen, R. Greenberg, and R. J. Taylor. In Revision. Feathers as indicators of mercury exposure in tidal marsh sparrows: Differences by age, feather type, and species. Archives of Environmental Contamination and Toxicology.	Yes	Basic	1	0
Olsen, Brian	Book Chapter	Published	Etterson, M.A., B.J. Olsen, R. Greenberg, and W.G. Shriver. 2011. Sources, sinks, and model accuracy IN Sources, Sinks, and Sustainability Across Landscapes (J. Liu, V. Hull, A. Morzillo, and John Wiens, eds.). Cambridge University Press, New York.	Yes	Basic	0	0
Olsen, Brian	Other	Published	Olsen, B.J. 2011. (Book Review) The Effect of Climate Change on Birds. Prairie Naturalist 43(3/4):133-134.			0	0
Oswald, Gordon	Journal Article	Published	Oswald, Gordon K.A., Gogineni, S.P."Mapping Basal Melt Under the Northern Greenland Ice Sheet." IEEE Transactions on Geoscience and Remote Sensing, VOL.50, No. 2, February 2012.	Yes		0	0
Peterson, Michael	Journal Article	Published	Mahaffey, Christie A., Michael Peterson, C. Wayne McIlwraith, Archetypes in Thoroughbred dirt racetracks regarding track design, clay mineralogy, and climate Sports Engineering (19 January 2012), pp. 1-7, doi:10.1007/s12283-012-0082-y	Yes	Applied	1	0
Peterson, Michael	Journal Article	Submitted	Lu, Xiaoyun, Elmira Kujundzic, Guy Mizrahi, Jay Wang, Keith Cobry, Michael Peterson, Jack Gilron, Alan R. Greenberg, "Ultrasonic Sensor Control of Flow Reversal in RO Desalination. Part 1: Mitigation of Calcium Sulfate Scaling", Journal of Membrane Science 15-JUN-2012 DOI: 10.1016/j.memsci.2012.05.027	Yes	Applied	4	0
Robinson, Brian S	Journal Article	Published	Robinson, Brian S. and Eugene Winter, 2011, A Wonderful Piece of Cooperative Work: Douglas F. Jordan's Contributions to Bull Brook. Archaeology of Eastern North America	Yes		0	0
Robinson, Brian S	Book Chapter	Published	Robinson, Brian S. 2011 Ritual and Archaeological Visibility in the Far Northeast of North America, for The Oxford Handbook of the Archaeology of Ritual and Religion. Edited by Timothy Insoll, pp. 655-676. Oxford University Press.			0	0
Robinson, Brian S	Technical Report	Submitted	CULTURAL RESOURCES OF THE SUNKHAZE MEADOWS NATIONAL WILDLIFE REFUGE PENOBSCOT COUNTY, MAINE. Submitted to US Fish and Wildlife Service, March 27, 2012			0	0
Robinson, Brian S	Technical Report	Submitted	Bull Brook Photograph Documentation: Peabody Essex Museum, Submitted to the Peabody Essex Museum as documentation for 700 historic slides and photographs. March 15, 2011			0	0
Roscoe, Paul B	Book	Published	Echoes of the Tambaran: Masculinity, History and the Subject in the Work of Donald F. Tuzin. Edited by David Lipset and Paul Roscoe. Canberra: ANU e-Press. [No Senior/Junior Editor]	Yes		0	0
Roscoe, Paul B	Journal Article	Submitted	Remembering the Dead: The Production of Honor in the Modern Nation-State	Yes		0	0
Roscoe, Paul B	Book Chapter	Published	Introduction: Donald F. Tuzin, An Anthropologist's Anthropologist. In Echoes of the Tambaran: Masculinity, History and the Subject in the Work of Donald F. Tuzin. David Lipset and Paul Roscoe, eds. Pp.1-21. Canberra: ANU e-Press.	Yes		0	0
Roscoe, Paul B	Book Chapter	Published	The Abelam 'Invasion' and the Rise of Ilahita Revisited. In Echoes of the Tambaran: Masculinity, History and the Subject in the Work of Donald F. Tuzin. David Lipset and Paul Roscoe, eds. Pp.25-43. Canberra: ANU e-Press.	Yes		0	0
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Roscoe, Paul B	Other	Published	Review of: Hillforts of the Ancient Andes: Colla Warfare, Society, and Landscape, by Elizabeth N. Arkush. Gainesville: University Press of Florida, 2010. H-Urban, H-Net Reviews. February, 2012. URL: http://www.h-net.org/reviews/showrev.php?id=33519 http://www.h-net.org/reviews/showrev.php?id=33519			0	0
Sandweiss, Dan	Book	Submitted	Barnes, M. and D.H. Sandweiss. 2012. Andean Past 10. Ithaca NY: Cornell University Latin American Studies Program.	Yes	Basic	0	0
Sandweiss, Dan	Journal Article	Accepted	Sandweiss, D.H. and A.R. Kelley. In press. Archaeological Contributions to Climate Change Research: The Archaeological Record as a Paleoclimatic and Paleoenvironmental Archive. In Annual Review of Anthropology, vol. 41.	Yes	Basic	0	0
Sandweiss, Dan	Book Chapter	Accepted	Sandweiss, D.H. In press. Early Occupation of the Central Andean Coast. In The Cambridge Prehistory, ed. By C. Renfrew and P. Bahn. Cambridge: University of Cambridge Press.	Yes	Basic	0	0
Sandweiss, Dan	Book Chapter	Published	Sandweiss, D.H. and J. Quilter. 2012. Collation, Correlation, and Causation in the Prehistory of Coastal Peru. In Surviving Sudden Environmental Change: Answers from Archaeology, ed. by P. Sheets and J. Cooper, pp. 117-141. Boulder: University of Colorado Press. http://www.upcolorado.com/book/Surviving Sudden Environmental Change ebook	Yes	Basic	0	0
Sandweiss, Dan	Book Chapter	Accepted	Sandweiss, D.H. In press. Los fechados radiocarbónicos como «artefactos diagnósticos» en los primeros sitios marítimos peruanos. Carbono-14 y la Arqueología Peruana (working title), ed. by V. Falcón. Lima Peru: Museo National de Arqueología, Antropología, e Historia.		Basic	0	0
Sandweiss, Dan	Newsletter	Accepted	Sandweiss, D.H. In press. Volunteer Profile. The SAA Archaeological Record.			0	0
Sandweiss, Dan	Newsletter	Accepted	Arroyo, B., Mendizábal, T., and Sandweiss, D.H. In press. The SAA's First Conferencia Intercontinental. The SAA Archaeological Record. (in English and Spanish).			0	0
Saros, Jasmine	Journal Article	Published	Holtgrieve, G.W, Schindler, D.E., Hobbs, W.O., Leavitt, P.R., Ward, E.J., Bunting, L., Chen, G., Finney, B.P., Gregory-Eaves, I., Holmgren, S., Lisac, M.J., Lisi, P.J., Nydick, K., Rogers, L.A., Saros, J.E., Selbie, D.T., Shapley, M.D., Walsh, P.B. & A.P. Wolfe. 2011. A coherent signature of anthropogenic nitrogen deposition to watersheds of the Northern Hemisphere. Science 334: 1545-1548.	Yes	Basic	0	0
Saros, Jasmine	Journal Article	Published	Ballantyne, A.P., Brahney, J., Fernandez, D., Lawrence, C.L., Saros, J.E. & J.C. Neff. 2011. Biogeochemical response of alpine lakes to a recent increase in dust deposition in the Southwestern U.S. Biogeosciences 8: 2689-2706.	Yes	Basic	0	0
Saros, Jasmine	Journal Article	Published	Fischer, J.M., Olson, M.H., Williamson, C.E., Everhart, J.C., Hogan, P.J., Mack, J.A., Rose, K.C., Saros, J.E., Stone, J.R. & R.D. Vinebrooke. 2011. Implications of climate change for Daphnia in alpine lakes: predictions from long-term dynamics, spatial distribution, and a short-term experiment. Hydrobiologia DOI 10.1007/s10750-011-0888-9.	Yes	Basic	2	0
Saros, Jasmine	Journal Article	Published	Osburn, C.L., Wigdahl, C.R., Fritz, S.C. & J.E. Saros. 2011. Dissolved organic matter composition and photoreactivity in prairie lakes of the U.S. Great Plains. Limnology & Oceanography 56: 2371-2390.	Yes	Basic	1	0
Saros, Jasmine	Journal Article	Published	Arnett, H.A., Saros, J.E. & M.A. Mast. 2012. A caveat regarding diatom-inferred nitrogen concentrations in oligotrophic lakes. Journal of Paleolimnology 47: 277-291.	Yes	Basic	1	0

Sar	ros, Jasmine	Journal Article	Published	Saros, J.E., Stone, J.R., Pederson, G.T., Slemmons, K.E.H., Spanbauer, T., Schliep, A., Cahl, D., Williamson, C.E. & D.R. Engstrom. In press. Climate-induced changes in lake ecosystem structure inferred from coupled neo- and paleo-ecological approaches. Ecology. http://dx.doi.org/10.1890/11-2218.1	Yes	Basic	4	0
Sar	ros, Jasmine	Journal Article	Accepted	Nanus, L., Clow, D.W., Saros. J.E., Stephens, V.C. & D.H. Campbell. In press. Mapping critical loads of nitrogen deposition for aquatic ecosystems in the Rocky Mountains, USA. Environmental Pollution.	Yes	Basic	0	0
Sar	ros, Jasmine	Journal Article	Submitted	Slemmons, K.E.H. & J.E. Saros. Release of nitrogen by melting alpine glaciers: Implications for phytoplankton diversity and productivity in alpine lakes. Submitted to Limnology & Oceanography.	Yes	Basic	1	0
Sar	ros, Jasmine	Journal Article	Submitted	Alexander P. Wolfe, William O. Hobbs, Hilary H. Birks, Jason P. Briner, Sofia U. Holmgren, Ólafur Ingólfsson, Sujay S. Kaushal, Gifford H. Miller, Mark Pagani, Jasmine E. Saros, and Rolf D. Vinebrooke. Stratigraphic expressions of the Holocene-Anthropocene transition revealed in sediments from remote lakes. Submitted to Earth Science Reviews.	Yes	Basic	0	0
Sar	ros, Jasmine	Journal Article	Submitted	Carrie E. H. Kissman, Craig E. Williamson, Kevin C. Rose, and Jasmine E. Saros. Response of phytoplankton community structure to climate change: indirect effects of dissolved organic matter through nutrients and trophic forcing by zooplankton in an alpine lake. Submitted to Limnology & Oceanography.	Yes	Basic	1	0
Sar	ros, Jasmine	Journal Article	Submitted	Strock, K.E.D., J.E. Saros, K. Simon, M. Kinnison & S. McGowan. Cascading Effects of White Perch (Morone americana) Introduction in Oligotrophic Lakes. Submitted to Canadian Journal of Fisheries & Aquatic Sciences.	Yes	Basic	1	0
Scł	nauffler, Molly	Journal Article	Accepted	Zoellick, B., Nelson, S.J., Schauffler, M., 2012. Participatory Science and Participatory Education: Bringing Both Views into Focus, Frontiers in Ecology and the Environment, (in press).	Yes		0	0
Sol	bolik, Kristin			Tito, Raul Y., Samuel L. Belknap III, Kristin D. Sobolik, Robert C. Ingraham, Lauren M.Cleeland, and Cecil M. Lewis, Jr.2011DNA from early Holocene American dog. AmericanJournal of PhysicalAnthropology145(4):653-657.				
Sol	bolik, Kristin		In review	Tito, Raul Y., Dan Kights, Jessica Metcalf, Alexandra J. Obregon-Tito, Lauren Cleeland, Fares         Najar, Bruce Roe, Karl Reinhard, Kristin Sobolik, Samuel Belknap, Morris Foster, Paul Spicer,         Rob Knight, Cecil M. Lewis, Jr.         Insights from Characterizing Extinct Human Gut         Microbiomes.         PLoSgenetics.				
Soi	rg, Marcella	Book Chapter	Accepted	Sorg, Marcella H., William D. Haglund, and Jamie A. Wren (2012, forthcoming) Research in Forensic Taphonomy. In Dirkmaat, D.C., Editor, A Companion to Forensic Anthropology. Blackwell Publishing.	Yes	Applied	0	1
Soi	rg, Marcella	Book Chapter	Accepted	Crist, Thomas, Marcella H. Sorg, Molly Crist and John Benson (2011, forthcoming) The Skeletons at St. Croix Island. In Pendery, Steven, Editor, St. Croix Island International Historic Site, Calais, Maine: History, Archaeology, and Interpretation. Occasional Publications in Maine Archaeology, No. 13.		Applied	0	0
Soi	rg, Marcella	Book Chapter	Accepted	Marden, Kerriann, Marcella H. Sorg, and William D. Haglund (2012, forthcoming) Taphonomy. In Elizabeth A. DiGangi and Megan K. Moore, Editors, Research Methods in Human Skeletal Biology. New York: Academic Press.	Yes	Applied	0	0

Sorg, Marcella	Abstract	Published	Sorg, Marcella H., William D. Haglund, and Jamie A. Wren (2012) Taphonomic Impacts of Small and Medium-Sized Scavengers in Northern New England. Proceedings of the Annual Meeting of the American Academy of Forensic Sciences, Volume 18:400. (extended abstract)	Yes	Applied	0	1
Sorg, Marcella	Abstract	Published	Brogdon, Gil, Marcella H. Sorg, et al. (2012) Multidisciplinary Combination of Traditional and New Techniques in the Determination of Identity: The Utility of the Sphenoid Sinus Rediscovered. Proceedings of the Annual Meeting of the American Academy of Forensic Sciences, Volume 18:422. (extended abstract)	Yes	Applied	0	1
Sorg, Marcella	Proceedings	Accepted	Sorg, Marcella H. (2011, forthcoming) Patterns and Trends of Drug Abuse in Maine: 2010. Epidemiologic Trends in Drug Abuse: Proceedings of the Community Epidemiology Work Group, Volume II, June 2011. U.S. Dept. of Health and Human Services, National Institutes of Health, Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse.	Yes	Applied	0	0
Sorg, Marcella	Proceedings	Accepted	Sorg, Marcella H. (2011) Drug Abuse Patterns and Trends in Maine – Update: January 2011. Epidemiologic Trends in Drug Abuse: Proceedings of the Community Epidemiology Work Group, Highlights and Executive Summary. U.S. Dept. of Health and Human Services, National Institutes of Health, Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse, pp. 79-80. (http://www.nida.nih.gov/pdf/cewg/CEWGJan2011_508.pdf)	Yes	Applied	0	0
Sorg, Marcella	Proceedings	Accepted	Sorg, Marcella H. (2011) Patterns and Trends of Drug Abuse in Maine: 2009. Epidemiologic Trends in Drug Abuse: Proceedings of the Community Epidemiology Work Group, Volume II, June 2010. U.S. Dept. of Health and Human Services, National Institutes of Health, Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse, pp 150- 158. (http://www.nida.hig.gov/pdf/cewg/CEWG-June-2010-VolII-508.pdf)	Yes	Applied	0	0
Sorg, Marcella	Other	Published	Sorg, Marcella H. and Andrew Collar (2011) Regional Taphonomy Project, DVD covering winter scavenging patterns. Digital Spirit Media, Waterville, ME.		Applied	0	0
West, Catherine	Journal Article	Published	2011 West, Catherine F. A Revised Radiocarbon Sequence for New Karluk and the Implications for Kodiak Island Prehistory. Arctic Anthropology 48(1): 80-92.	Yes		0	0
West, Catherine	Journal Article	Accepted	West, Catherine F., Stephen Wischniowski, and Christopher Johnston. Pacific cod (Gadus macrocephalus) as a Paleothermometer: Otolith Oxygen Isotope Reconstruction. Accepted with Revisions to the Journal of Archaeological Science.	Yes		0	0
West, Catherine	Book Chapter	Published	2011 West, Catherine F., Stephen Wischniowski, and Christopher Johnston. Little Ice Age Climate: Gadus macrocephalus otoliths as a measure of local variability. In The Archaeology of North Pacific Fisheries, edited by Madonna Moss and Aubrey Cannon, pp 31-44. University of Alaska Press, Fairbanks.	Yes		0	0
West, Catherine	Book Chapter	Published	2011 West, Catherine F. 2011. Bone and Antler Tools. In Is it a House? Archaeological Excavations at English Camp, San Juan Island, Washington, edited by Amanda K. Taylor and Julie K. Stein. University of Washington Press, Seattle.			0	0
Zaro, Gregory D	Journal Article	Published	Houk, Brett A. and Gregory Zaro (2011). Evidence for ritual engineering in the Late/Terminal Classic site plan of La Milpa, Belize. Latin American Antiquity 22:178-198.	Yes		0	0
Zaro, Gregory D	Journal Article	Published	Zaro, Gregory and Brett A. Houk (2012). The growth and decline of the ancient Maya city of La Milpa, Belize: New data and new perspectives from the southern plazas. Ancient Mesoamerica 23:XX-XX (Spring).	Yes		0	0

Zaro, Gregory D	Journal Article	Submitted	Zaro, Gregory, K. Nystrom, and D. Keefer (in review). Live long and prosper? Volcanism, floods, and farming in late prehispanic and early Spanish colonial Peru. Andean Past, submitted November 11, 2011.	Yes	0	0
Zaro, Gregory D	Journal Article	Submitted	Nystrom, Kenneth C. and G. Zaro (in review). Chiribaya mortuary behavior and socioeconomic organization at Quebrada Chuza, south coastal Peru. Andean Past, submitted January 30, 2012.	Yes	0	0
Zaro, Gregory D	Technical Report	Published	Moats, Lindsey R., Walter Beckwith, and Gregory Zaro (2012). The 2011 Excavations at Couryard 100. In The 2011 Season of the La Milpa Core Project, edited by Brett A. Houk, pp. 39-76. Occasional Papers, Number 13. Mesoamerican Archaeological Research Laboratory, The University of Texas at Austin.		2	0
Zaro, Gregory D	Technical Report	Published	Houk, Brett A. and Gregory Zaro (2012). The 2011 La Milpa Core Project Season Summary. In The 2011 Season of the La Milpa Core Project, edited by Brett A. Houk, pp. 1-14. Occasional Papers, Number 13. Mesoamerican Archaeological Research Laboratory, The University of Texas at Austin.		0	0

### PRESENTATIONS: INTERNATIONAL/NATIONAL/REGIONAL/STATE/LOCAL

Name	Date	Scope	Description	GS	US
Belknap, Daniel F.	03/20/2012	Regional	Belknap, D.F. and Kelley, J.T., 2012, Bedrock-controlled inner shelf off west-central Maine: Geological Society of America Abstracts with Programs, v. 44, No. 2 (Northeast Section), Abstract 45-2, p. 103 http://www.geosociety.org/meetings/searchabstracts.htm	0	0
Belknap, Daniel F.	4/6/2012	Local	Bedrock control of the central Maine coast http://climatechange.umaine.edu/research/overview	0	0
Chai, Fei	4/19/2012	International	Modeling Carbon Cycle in the Pacific Ocean.	0	0
Chai, Fei	4/20/2012	International	Adding optics to physical and biological models.	0	0
Chai, Fei	5/14/2012	International	Modeling Peru Upwelling Ecosystem, from Physics to Fish	0	0
Chai, Fei	5/24/2012	International	Modeling Carbon Cycle and Primary Productivity in the Pacific Ocean.	0	0
Chai, Fei	4/9/2012	International	Modeling Marine Ecosystems and Carbon Cyle	0	0
Chai, Fei	4/11/2012	International	Modeling Carbon Cycle and Ocean Acidification	0	0
Chai, Fei	2/7/2012	International	Modeling Biological Productivity and Carbon Cycle in the Pacific Ocean	0	0
Chai, Fei	2/8/2012	International	Incorporating Optics to Physical and Ecosystem Modeling	0	0
Chai, Fei	12/8/2011	International	Modeling Impact of Eddy on Biological Processes in the South China Sea and Gulf of Alaska	0	0
Chai, Fei	12/9/2011	International	Development and issues of iron fertilization experiments	0	0
Chai, Fei	9/20/2011		Modeling Biological Productivity and Carbon Cycle	0	0

Chai, Fei	7/29/2011	International	Adding optics to physical and biological models	0	0
Chai, Fei	7/6/2011		Modeling Carbon Cycle and Climate System	0	0
Denton, George	9/16/2011	International	The last termination in middle latitudes of the Southern Hemisphere. Given at the annual meeting of the Comer Science and Education Foundation in Soldiers Grove, Wisconsin	0	0
Denton, George	7/2011	International	I was a co-author for five presentations given at INQUA in Bern, Switerland	0	0
Denton, George	8/2011	International	North-South climate comparisons during the last termination. Given at the Chinese Academy of Sciences in Beijing, China.	0	0
Denton, George	8/2011	International	Glacial teminations. Given at the Chinese Academy of Sciences in Xi'an, China	0	0
Denton, George	2/2012	International	Glacial geomorphology of the central Southern Alps. Given at Te Papa National Museum, Wellington, New Zealand.	0	0
Fastook, James L.	9/26- 27/2011	International	SeaRISE Workshop, NASA-Goddard, Washington, DC: Presented results of the SeaRISE experiment	0	0
Fastook, James L.	12/5-9/2011	International	Thermal runaway instabilities: A possible mechanism for fast-flow in surging glaciers and ice streams http://fallmeeting.agu.org/2011/	0	0
Fastook, James L.	3/19- 23/2012	International	Mid-latitude Amazonian glaciation on Mars: Controls on accumulation and glacial flow patterns, J L Fastook and J W Head, Lunar and Planetary Science Conference XXXXIII, Houston TX 2012 http://www.lpi.usra.edu/meetings/lpsc2012/pdf/1296.pdf	0	0
Fernandez, Ivan	1/11/2012		Invited speaker, Maine Agricultural Trade Show, Climate Change in Maine and Adaptation Considerations. Augusta, Maine	0	0
Fernandez, Ivan			Soil drainage and forest type influences on soil organic carbon fractions in a New England forested watershed	1	0
Fernandez, Ivan			Phenology at the Bear Brook Watershed in Maine: foliar chemistry and morphology	1	0
Fernandez, Ivan			Drainage class influences on soil respiration in a New England forested watershed	1	0
Fernandez, Ivan			Phenology at the Bear Brook Watershed in Maine: foliar chemistry and morphology	1	0
Fernandez, Ivan			Soil base cation response to two decades of change at the Bear Brook Watershed in Maine	1	0
Fernandez, Ivan			Effects of chronic nitrogen enrichment and acidification on coupled nitrogen and phosphorus cycling in streams: Insights from multiple spiraling techniques.	1	0
Fernandez, Ivan			Biomass Harvesting and Forest Soils	0	0
Hall, Brenda	7/2011	International	History of the Antarctic Ice Sheet in the Ross Sea sector at and since the last glacial maximum.	0	0
Hall, Brenda	7/2011	Other/Special	History of the grounded ice sheet in the Ross Sea: New data from Scott and Reedy Glaciers.	0	0
Hall, Brenda	11/2011	Other/Special	Role of the Antarctic Ice Sheet in global sea-level and climate changes	0	0
Hall, Brenda	7/2011	International	Late glacial and Holocene ice fluctuations, Scoresby Sund, East Greenland	3	0
Hall, Brenda	7/2011	International	Deglaciation of Cordillera Darwin, southern Chile, during the last termination	0	0
Hall, Brenda	7/2011	International	Holocene ice fluctuations at Ventisquero Marinelli, Cordillera Darwin, southern South America	0	0

Hall, Brenda	8/2011	International	Holocene history of Istorvet Ice Cap, East Greenland	3	0
Hamilton, Gordon	9/8/2011	National	Challenges facing the US polar geodetic sciences community	0	0
Hamilton, Gordon	12/4/2011	National	Ice sheet - ocean interactions in NE Greenland	0	0
Hamilton, Gordon	6/12/2012	International	Seasonal variations in terminus position of outlet glaciers in Greenland: insights from 10 years of near-daily remote sensing observations	1	0
Hamilton, Gordon	6/25/2012	National	Glaciological research priorities and opportunities in the Transantarctic Mountains	0	0
Hooke, Roger	4/20/2012	National	Formation of overdeepenings Presentation to a select group of glaciologists and glacial geologists invited by the Swiss National Cooperative for the Disposal of Radioactive Waste to review sites being considered for a radioactive waste disposal facility, with particular concern for teh integrity of the site under the likelihood of renewed glaciation in the next million years	0	0
Jain, Shaleen	1/4/2012	International	Jain, S., R. C. Gupta, and P. D. Sardeshmukh, A derived distribution approach to water resources decision analysis based on probabilistic climate forecasts. International Environmetrics Society Meeting (TIES 2012), Hyderabad, India, January 3-6, 2012.	0	0
Jain, Shaleen	9/26/2011	State	Jain, S. and K. P. Bell, Towards a Generalizable Approach to Sustainability Science Research. 2011 Maine EPSCoR State Conference, Wells Conference Center, University of Maine, Orono, September 26, 2011. <u>http://www.umaine.edu/epscor/2011_state_conference.htm</u>	0	0
Kelley, Alice	7/25/2011	International	Applying Geophysical Tools to Archaeological Problems (with Joseph T. Kelley). Presented as the keynote presentation in the Geoarchaeology Session,	0	0
Kelley, Alice	3/14/2012	State	Pre-dam Geomorphic Monitoring, Penobscot River, Maine, USA (with Belknap, D.F., Heller, A.R., Baeder, C.S., and Collins, Mathias)	0	0
Kelley, Alice	3/18/2012	Regional	Pre-dam Removal Geomorphic Monitoring, Penobscot River, Maine (with Belknap, D., Heller, A.R., Baeder, C.S., and Collins, Mathias)	0	0
Kelley, Alice	5/11/2012	International	Geoarchaeology: A Matter of scale and context (with David Sanger)	0	0
Kelley, Joseph	7/25/2011	International	Kelley, J.T., and Kelley, A.R., 2011, Geophysical tools applied to archeological problems. INQUA Meeting, Bern, Switzerland, http://www.inqua2011.ch/?a=programme&subnavi=sessions&id=34	0	0
Kelley, Joseph	5/10- 12/2012	International	Kelley, J.T., Kelley, A.R. and Belknap, D.F., 2012, Bridging the land and sea: finding submerged archaeological sites. Bridging Gaps: Integrating Geosciences within Archaeological Research, Tubingen, Germany, May 10-12, 2012. (INVITED TALK) http://www.geo.uni-tuebingen.de/arbeitsgruppen/ur-und-fruehgeschichte-und-archaeologie-des- mittelalters/geoarchaeologie/bridging-gaps-2012/program.html	0	0
Kelley, Joseph	3/20/2012	Regional	Belknap, D.F., Kelley, J.T., 2012, Bedrock-controlled inner shelf off west central Maine. Geological Society of America, GSA Abstracts with Programs, Paper 45-2, Vol. , Hartford, March 20, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_199997.htm	0	0
Kelley, Joseph	3/20/2012	Regional	Kelley, J.T., Belknap, Brothers, L.L., 2012, Northeast pockmark fields: shallow marine liquefaction landforms resulting from seismic events? Geological Society of America, GSA Abstracts with Programs, Paper 16-7, Vol. Hartford, MD, March	1	0

			18, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200174.htm		
Kelley, Joseph	3/20/2012	Regional	Sorrell, L.M., Kelley, J.T., and Kelley, A.R., 2012, Investigating historic sand inundation, Shetland, UK. Geological Society of America, GSA Abstracts with Programs paper 39-7, Vol. Hartford, MD, March 18, 2012. https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200360.htm	1	0
Kelley, Joseph	3/18/2012	Regional	Mansfield, M.E., Belknap, D.F., Kelley, J.T., 2012. The critical leading edge of Gulf of Maine salt marshes-interface with freshwater wetlands. Geological Society of America, GSA Abstracts with Programs, Paper 45-7, Vol. Hartford, MD, March 18, 2012, https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200354.htm	1	0
Kelley, Joseph	3/18/2012	Regional	Wilson, K.R., 2012, Reeve, A.S., and Kelley, J.T., 2012, Interactions between sea-level rise and groundwater influence surficial salt marsh morphology in Maine. Geological Society of America, GSA Abstracts with Programs, Paper 26-2, Vol. Hartford, MD, March 18, 2012 https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200081.htm	1	0
Koons, Peter		International	Price, N.A., Johnson, S.E., & Gerbi, C.C., Koons, P.O., 2011. Structure of a shear zone at the base of the seismogenic zone, Norumbega fault system, Maine; Potential for comparison with upper-crustal fault structure. American Geophysical Union, Fall Meeting 2011, T33E-2463.	1	0
Koons, Peter			Roy, S., Johnson, S.E., Jin, Z., Koons, P., 2012. Fractal analysis and thermal-eastic modeling of a subvolcanic magmatic breccia. Geophysical research abstracts, European Geosciences Union General Assembly, vol. 14, EGU2012-664	1	0
Koons, Peter		National	P. Upton, P. Koons, B. Hooks, A. Barker, T. Pavlis. 2011, 3D geodynamic and geomorphic modelling of the Alaska/Aleutian Margin – STEEP and GeoPRISMS; GeoPRISMS Planning Workshop for the Alaska Primary Site, Portland, OR, September 22-24, 2011	1	0
Koons, Peter			P O Koons with P. Upton, B. Hooks, A. Barker, L. Wheeler, 2012, Geodynamics of Southeast Alaska, NSF-Continental Dynamics STEEP Workshop; Seattle; May 2012	3	0
Kreutz, Karl	3/5/12	International	Developing K-5 and public outreach products for Alaskan glaciology and sea level using the iOS platform	1	1
Kreutz, Karl	12/14/2011	International	Seasonal to centennial-scale variability of micro particle concentration and size distribution in the WAIS Divide ice core over the past 2.4 ka	2	0
Kurbatov, Andrei		International	Combined distribution of climate data and processing algorithms using R package system.	0	0
Maasch, Kirk	12/6/2011		A downscaled multi-domain WRF model climate forecast for the northeastern and central U.S. for 2050-2054 <u>http://www.agu.org/cgi-</u> <u>bin/SFgate/SFgate?language=English&amp;verbose=0&amp;listenv=table&amp;application=fm11&amp;convert=&amp;converthl=&amp;refinequery=</u> &formintern=&formextern=&transquery=birkel&_lines=&multiple=0&descriptor=%2fdata%2fepubs%2fwais%2findexes <u>%2ffm11%2ffm11%7c47</u>	0	0
Maasch, Kirk	1/25/2012	Regional	High-resolution simulations of climate change with the Weather Research & Forecasting Model (WRF)	0	0
Maasch, Kirk	3/21/2012	State	Regional Climate Modeling	0	0
Maasch, Kirk	5/16/2012	Regional	Maine's Climate: Past, Present, and Future	0	0
Mayewski, Paul	5/30/2012	International	Climate change and water resources in Central Asia	0	0

Mayewski, Paul	6/6/2011		Asian climate change	0	0
Mayewski, Paul	7/6/2011	International	Antarctica in the 21st century	0	0
Mayewski, Paul	9/17/2011	Local	Antarctic exploration	0	0
Mayewski, Paul	11/8/2011		American Defense University Africa Center, African climate change presentation to African ministers of state and high ranking military.	0	0
Mayewski, Paul	12/6/2011	International	British Antarctic Survey, Cambridge, UK, Antarctic climate modeling.	0	0
Mayewski, Paul	12/13/2011	International	State of Antarctic climate for NASA GISS	0	0
Mayewski, Paul	12/17/2011	Local	Journey Into Climate	0	0
Mayewski, Paul	3/15/2012	State	Climate and air quality - Lewiston, Maine, American Society of Civil Engineers Technical meeting	0	0
Mayewski, Paul	3/27/2012	State	Colby College - Climate change and air quality	0	0
Mayewski, Paul	5/11/2012		Climate change, Maine, energy and pollution	0	0
Mayewski, Paul	5/17/2012	Regional	Climate change, Marine Estuarine Research Institute, Blue Hill, Maine	0	0
Mayewski, Paul	5/20/2012	Regional	Climate change	0	0
Mayewski, Paul	6/17/2012	International	Journey Into Climate - Exploration and Discovery	0	0
Mayewski, Paul	6/19/2012	International	Journey Into Climate - The Age of Climate Decision	0	0
Ocampo-Raeder, Constanza	02/2012	State	"Children of the Rainforest: How Amazonian Children Help Manage Tropical Resources." Invited Guest Lecture: Human Ecology Lecture Series, February 2012, College of the Atlantic, Bar Harbor, ME.	0	0
Ocampo-Raeder, Constanza	11/2011	International	"Hybrid Lands: Tracing Vulnerability and Resilience in Amazonian Swidden-Fallow Systems. Paper presented at the Annual American Anthropological Association Meetings, November 2011, Montreal, Quebec.	0	0
Ocampo-Raeder, Constanza	9/2011	Local	"Swidden Fallow Agroforestry in Tropical Forests." Invited Guest Lecture: Department of Plant, Soil and Environmental Sciences, September 2011, University of Maine, Orono, ME.	0	0
Ocampo-Raeder, Constanza	9/2011	State	"Spanish is not my Mother Tongue Resilience among Indigenous Peoples of Latin America." Invited Guest Lecture: CHISPA Lecture Series for Hispanic Heritage Month, September 2011, Bangor, ME.	0	0
Ocampo-Raeder, Constanza	4/2011	Local	"We Don't Have a Word" Finding Sustainability in a Multicultural World." Invited Guest Lecture, Department of Resource Economics, April 2011, University of Maine, Orono, ME.	0	0
Ocampo-Raeder, Constanza	4/2011	State	"We Navigate the Panamerican Highway" Women's Contributions to the Communal Management of Ocean Resources in Northern Peru. Presented at the 19th Annual Born Symposium, April 2011, University of Maine, Orono, ME.	0	0
Ocampo-Raeder, Constanza	3/2011	National	"The Waterless Realms of the Human Seascape: Gender and Identity in the Communal Management of Ocean Resources in Northern Peru." Invited Lecture: UTSA Women History Month Lecture Series, March 2011, University of Texas at San Antonio, San Antonio, TX.	0	0
Olsen, Brian	10/2011	State	Olsen, B.J. and J.D. McCabe. Understanding a continental-scale behavior in an era of climate change.	1	0
Olsen, Brian	10/2011	State	Powell, M. and Olsen, B.J. Changing landscapes, changing climates, and the changing needs of Acadia's tidal-marsh- dependent birds.	1	0
Olsen, Brian	7/2011	National	Olsen, B.J., M.A. Etterson, R. Greenberg, and W.G. Shriver. On the back of an envelope model: A more mechanistic approach to predicting range shifts with climate change.	0	0

Olsen, Brian	7/2011	National	Byrd, A.J., B.J. Olsen, R. Holberton, and D. Evers. Common Loon (Gavia immer) settlement behavior and reproductive success in an era of climate change.	1	0
Olsen, Brian	7/2011	National	Robertson, E. and B.J. Olsen. The effect of waterfowl impoundments on sora and Virginia rail populations.	1	0
Olsen, Brian	3/2012	Regional	Byrd, A.J. and B.J. Olsen. Loon biogeography and viability in regards to climate change.	1	0
Olsen, Brian	3/2011	Regional	Evers, D. and B.J. Olsen. The effect of climate change on the Common Loon.	0	0
Peterson, Michael	11/ 6-10/11	International	A Sound Approach to_Scaling Mitigation in _RO Desalination	4	0
Robinson, Brian S	1/26/12	Local	Machias Bay Petroglyph Project_and the University of Maine Field School, Presented at Dirigo Pines, January 26, 2012,	0	0
Robinson, Brian S	11/16/11	International	Neuman, Lisa and Brian S. Robinson, Revealing Shell Midden Legacies in Coastal Maine, presented in symposium, Preserving traces, revealing tidemarks, exploring legacies: The persistent difference(s) of shell midden archaeology.	0	0
Robinson, Brian S	4/22/12	International	Ort, Jennifer and Brian S. Robinson. Organizational Structure at the Bull Brook site. Presented in the symposium Recent Advances in Paleoindian Research of the Northeast and Maritimes	0	0
Roscoe, Paul B	2/2012		Making Peace in the Central Highlands of New Guinea	0	0
Roscoe, Paul B	4/2012		The Bow and Arrow in New Guinea Warfare	0	0
Sandweiss, Dan	02/02/12	Local	The Prehistory of El Niño in Ancient Peru	0	0
Sandweiss, Dan	03/29/12	National	The Prehistory of El Niño: Implications on Climate Change.	0	0
Sandweiss, Dan	04/19/12	National	Prehistoric Sustainability on the Peruvian Coast (J. Quilter and D.H. Sandweiss)	0	0
Sandweiss, Dan	04/20/12	National	Terminal Pleistocene to Mid-Holocene Settlement and Subsistence on the Peruvian Coast.	0	0
Sandweiss, Dan	04/21/12	National	Functional Variability in Early Lithic Technologies of Southern Peru (K. Rademaker and D.H. Sandweiss)	1	0
Saros, Jasmine	11/2011	International	Saros, J.E. Merging neo- and paleolimnological approaches to reconstruct lake thermal structure using diatoms.	0	0
Saros, Jasmine	12/2011	International	Saros, J.E. & K.E.H. Slemmons. Nitrogen enrichment alters the structure and function of alpine lakes.	1	0
Saros, Jasmine	10/2011	National	Stone, J.R. & J.E. Saros. Coherent shifts in Holocene climate and thermal lake structure reconstructed from fossil diatom assemblages.	0	0
Saros, Jasmine	10/2011	International	Strock, K.E. & J.E. Saros. Interactive effects of climate change and declining sulfur deposition as drivers of synchronous changes in water clarity across lakes in Acadia National Park.	1	0
Saros, Jasmine	10/2011	International	Brentrup, J.A., K.C. Rose, T.H. Leach, C.E. Williamson, J.M. Fischer, J.E. Saros, B.R. Hargreaves & R.E. Moeller. Sentinel responses to extreme precipitation events in lakes: Changes in UV transparency.	2	0
Saros, Jasmine	10/2011	Regional	Saros, J.E., K.E. Strock, B. Gawley & A. Ellsworth. Declining water clarity in Acadia's lakes: Trends and possible causes.	1	0
Saros, Jasmine	8/2011	International	Rose, K.C., C.E. Williamson, J.E. Saros, and C.E.H. Kissman. Indicators of allochthony: New tools and techniques.	1	0
Saros, Jasmine	8/2011	International	Wigdahl, C.R. & J.E. Saros. How do ecological interactions alter drought reconstructions from prairie lakes?	1	0
Schauffler, Molly	2/20/12	Local	Data Literacy Project Progress report: Inquiry into teaching students how to make meaning from data.	0	0
Schauffler, Molly	4/5/12	Local	But what was your hypothesis? A science data literacy assessment for high school students highlights difficulties in connecting data to inquiry-based research questions	1	0
Sobolik, Kristin	2012	Local	<i>Mid-Career Assessment Strategies</i> . Panel Discussant. Center for Excellence in Teaching and Assessment, and ADVANCE Rising Tide Center, UMaine.		
Sobolik, Kristin	2012	Local	The Evolution of Humans and the Role of Climate Change. Senior College, UMaine Hutchinson Center, Belfast, ME		

Sobolik, Kristin	2011	International	Fostering Interdisciplinary Curricular and Faculty Development, Panel Discussant, Council of Colleges of Arts and Science Annual Meeting, Montreal, Canada. (with Adelia Williams and Kathleen Moore		
Sorg, Marcella	May, 2012	National	Sorg, Marcella H. (2012) Pharmaceutical Drug Abuse and Mortality Trends in Rural Populations (webinar) www.hsc.wvu.edu/icrc/Pages/News-Announcements	0	0
Sorg, Marcella	April, 2012	State	Marcella H. Sorg and Jamie A. Wren (2012) Economic Cost of Alcohol and Drug Abuse 2012: Preliminary Data.	0	0
Sorg, Marcella	April, 2012	Regional	Marcella H. Sorg (2012) Outdoor Scenes: Issues in Recovery and Estimating Postmortem Interval	0	0
Sorg, Marcella	February, 2012	National	Marcella H. Sorg, William D. Haglund, and Jamie A. Wren (2012) Taphonomic Impacts of Small and Medium-Sized Scavengers in Northern New England.	0	0
Sorg, Marcella	February, 2012	National	Brogdon, Gil, Marcella H. Sorg, et al. (2012) Multidisciplinary Combination of Traditional and New Techniques in the Determination of Identify: The Utility of the Sphenoid Sinus Rediscovered.	0	1
Sorg, Marcella	January, 2012	National	Sorg, Marcella H. (2012) Drug Abuse Patterns and Trends: Report from Maine.	0	0
Sorg, Marcella	November 2011	State	Marcella H. Sorg and Margaret Greenwald (2011) Pharmaceutical Drug Abuse in Maine	0	0
Sorg, Marcella	September, 2011	State	Marcella H. Sorg (2011) Decomposition Study: ERT Issues, Assessment, Procedures	0	0
Sorg, Marcella	August, 2011	National	Marcella H. Sorg (2011) Developing Biological Profiles for Decomposed and Skeletal Remains.	0	0
West, Catherine	4/2012	International	Catherine F. West and Torben C. Rick. A View from the Coast: Stable Isotope and Zooarchaeological Analyses of Canid and Human Diets. Invited talk presented in symposium entitled "Beyond Domestication: The Archaeology of the Human/Dog Relationship" organized by Jeremy Koster and Angela Perri for the 2012 Society for American Archaeology Meetings, Memphis, TN.	0	0
West, Catherine	10/2011	Local	Presentation for INT 500 at the University of Maine Climate Change Institute.	0	0
West, Catherine	2/2012	Local	"Climate and Human History": presented at the Hutchinson Center as part of the Senior College.	0	0
West, Catherine	4/2012	Local	Connecting Past and Present: Zooarchaeology and Conservation Biology in the Gulf of Alaska. Presented at the University of Maine Climate Change Institute annual Borns Symposium.	0	0
Zaro, Gregory D	April 2012	National	Moats, Lindsey, Gregory Zaro, and Brett A. Houk (2012). The La Milpa Terminal Classic Project: 2011 investigations of Terminal Classic construction and surface deposits at Courtyard 100. Paper presented at the 77th Annual Meeting of the Society for American Archaeology, Memphis, TN, April 19-22, 2012.	1	0
Zaro, Gregory D	April 2012	National	Houk, Brett A. and Gregory Zaro (2012). Cities on the edge of history. Paper presented at the 77th Annual Meeting of the Society for American Archaeology, Memphis, TN, April 19-22, 2012.	0	0
Zaro, Gregory D	April 2012	Local	The Growth and Decline of an Ancient Maya City	0	0
Zaro, Gregory D	March 2012	Other/Specia l	Community and Urban Studies Lecture, "Ancient Andean urbanism in a global context." Texas Tech University, Lubbock, TX, March 22, 2012.	0	0
Zaro, Gregory D	February 2012	National	Zaro, Gregory (2012). Agricultural landscapes past and present: Human signals of environmental change. Paper presented at the Association of American Geographers Annual Meeting, New York, NY, February 24, 2012.	0	0
Zaro, Gregory D	November 2011	Regional	Moats, Lindsey, Brett Houk, and Gregory Zaro (2011). Some initial thoughts on a problematic Terminal Classic Deposit from the Maya site of La Milpa, Belize. Paper presented at the 2nd Annual South-Central Conference on Mesoamerica. Trinity University, San Antonio, TX, November 5, 2011.	1	0

Zaro, Gregory D

September 2011

International

Zaro, Gregory (2011). Landesque capital and agro-ecological diversity in southern Peru. Invited presentation for Historical Ecology of Landesque Capital: An International and Interdisciplinary Workshop, organized by Thomas Håkansson and Mats Widgren. Uppsala, Sweden, September 21-23, 2011.

#### CONFERENCES/SYMPOSIA/MEETINGS ATTENDED: INTERNATIONAL/NATIONAL/REGIONAL/STATE/LOCAL

Name	Date	Scope	Conference	Location	GS	US
Belknap, Daniel F.	3/18-20/2012	Regional	Northeastern Section Geological Society of America Meeting http://www.geosociety.org/Sections/ne/2012mtg/	Hartford, CT	2	0
Belknap, Daniel F.	4/5-6/2012	Local	Climate Change Institute Borns Symposium http://climatechange.umaine.edu/research/overview	University of Maine, Orono, ME	3	0
Belknap, Daniel F.	4/13/2012	State	Geological Society of Maine Spring Meeting www.gsmmaine.org	University of Maine Presque Isle, Presque Isle, ME	3	3
Belknap, Daniel F.	6/6/2012	International	Research project science update and pre-cruise planning	University of Ulster, Coleraine, Northern Ireland	2	0
Denton, George	9/2011	International	Annual conference of the Comer Science and Education Foundation	Soldiers Grove, Wisconsin	2	0
Denton, George	2/2012	International	GNS-Science conference at Te Papa to introduce new glacial geomorphology map of the Southern Alps of New Zealand	Wellington, New Zealand	0	0
Dieffenbacher-Krall, Ann	4/7/2012	Regional	Research meeting: Decadal cycles in NAO proxies from Northwest Iceland lake and soil sediments	Portland, ME	0	1
Fastook, James L.	9/26-27/2011	International	SeaRISE Workshop, NASA-Goddard, Washington, DC: Presented results of the SeaRISE experiment	Washington DC	0	0
Fastook, James L.	12/5-9/2011	International	Fall American Geophysics Union	San Francisco, CA	0	0
Fastook, James L.	3/19-23/2012	International	43rd Lunar and Planetary Science Conference	Houston, TX	0	0
Fernandez, Ivan	10/ 2011	International	Soil Science Society of America Convention	San Antonio, Texas	1	0
Hall, Brenda	7/2011	International	International Quaternary Association Congress	Berne, Switzerland	2	0
Hall, Brenda	11/2011	International	Comer Abrupt Climate Change meeting	Soldiers Grove, WI	2	0
Hall, Brenda	J7/2011	International	11th International Symposium on Antarctic Earth Sciences	Edinburgh, Scotland	0	0
Hamilton, Gordon	October 7-9, 2011	National	NSF Workshop on Polar Science Facilities, Washington DC	Washington DC	0	0
Hamilton, Gordon	12/3-4/2011	National	NSF Workshop on Marine-Terminating Glaciers	San Francisco, CA	0	0
Hamilton, Gordon	6/11-14/2012	International	International Forum for Research into Ice Shelf Processes (FRISP)	Stockholm archipelago, Sweden	0	0

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Hamilton, Gordon	6/25-29/2012	National	NSF Planning Workshop for Transantarctic Mountains Science Camp (TAMCAMP)	Indianapolis, IN	0	0
Hooke, Roger	10/8-15/2012	National	Geological Society of America Annual Meeting	Minneapolis, MN	0	0
Hooke, Roger	4/23-27/2012	International	European Geosciences Union Annual Meeting	Vienna, Austria	0	0
Kelley, Alice	7/21-27/2011	International	International Union for Quaternary Research http://www.inqua2011.ch/	Bern, Switzerland	0	0
Kelley, Alice	3/14/2012	State	Maine Water Conference	Augusta, Maine	0	0
Kelley, Alice	3/18-20/2012	Regional	Geological Society of America NE Section Meeting	Hartford, CT	1	0
Kelley, Alice	5/10-13/2012	International	Bridging Gaps: Integrating Geosciences within Archaeological Research	Tubigen, Germany	0	0
Kelley, Joseph	International Quaternary Association Meeting	International	Biannual meeting http://www.inqua2011.ch/?a=programme&subnavi=sessions&id=34	Bern, Switzerland	0	0
Kelley, Joseph	5/10-12/2012	International	Bridging Gaps between Geology and archaeology http://www.geo.uni-tuebingen.de/arbeitsgruppen/ur-und-fruehgeschichte-und- archaeologie-des-mittelalters/geoarchaeologie/bridging-gaps- 2012/program.html	Tubingen, Germany	0	0
Kelley, Joseph	3/18-20/2012	Regional	Northeast Section, Geological Society of America https://gsa.confex.com/gsa/2012NE/finalprogram/abstract_200174.htm	Hartford, CT	3	0
Kreutz, Karl	10/1/2011	International	WAIS Divide science meeting	San Diego, CA	1	0
Kreutz, Karl	12/14/2011	International	American Geophysical Union Fall Meeting	San Francisco, CA	1	0
Kreutz, Karl	3/5/2012	International	Arctic Workshop	Winter Park, CO	0	0
Kreutz, Karl	3/21/2012	National	Ice Drilling Program Office	Arlington, VA	0	0
Kurbatov, Andrei	12/2011	International	American Geophysical Union Fall 2011 Meeting http://www.agu.org/meetings/	San Fransisco	0	0
Kurbatov, Andrei	7/21-27/2011	International	XVIII International Union for Quaternary Research (INQUA) Conference <a href="http://www.inqua2011.ch/">http://www.inqua2011.ch/</a>	Bern, Switzerland	1	0
Maasch, Kirk	3/21/2012		Maine Indoor Air Quality Conference	Augusta, ME	0	0
Olsen, Brian	7/2011	National	American Ornithologists' Union	Jacksonville, FL	2	0
Olsen, Brian	10/2011	National	Acadia National Park Science Symposium	Schoodic Education and Research Center, Winter Harbor, Maine	1	0
Olsen, Brian	1/2012	Other/Special	Annual Meeting of the Saltmarsh Habitat and Avian Research Program	University of Connecticut, Storrs, Connecticut	3	0
Olsen, Brian	2/2012	Other/Special	Annual Meeting of the Northeast Regional Migration Monitoring Networok	University of Maine, Orono, Maine	2	0

Roscoe, Paul B	2/2012	International	Association for Social Anthropologists in Oceania	Portland, OR	0	0
Roscoe, Paul B	4/ 2012	International	Society for American Archaeology	Memphis, TN	0	0
Sandweiss, Dan	10/15/11 to 10/16/11	Regional	Northeast Conference on Andean Archaeology and Ethnohistory http://caralperu.typepad.com/ncaae/	RS Peabody Museum, Phillips Academy, Andover MA	4	0
Sandweiss, Dan	11/07/11	Regional	NEBHE (New England Board of Higher Education): New England Works: A New England Leadership Summit on Bridging Higher Education and the Workforce. http://www.nebhe.org/events/economy2011/	Federal Reserve Bank. Boston MA	0	0
Sandweiss, Dan	12/07-10/11	National	Council of Graduate Schools Annual Meeting	Scottsdale AZ	0	0
Sandweiss, Dan	1/13-15/12	International	Society for American Archaeology's First Conferencia Intercontinental http://www.saa.org/ConferenciaIntercontinental/tabid/1438/Default.aspx	Panama City, Panama	1	0
Sandweiss, Dan	4/5-6/12	Local	Borns Symposium (Annual Climate Change Institute Meeting)	University of Maine, Orono ME	4	0
Sandweiss, Dan	4/18-22/12	National	Society for American Archaeology Annual Meeting http://www.saa.org/ConferenciaIntercontinental/tabid/1438/Default.aspx	Memphis TN	2	0
Schauffler, Molly	10/7/2011	State	Maine Science Teachers Association Annual conference	Gardiner HS	0	0
West, Catherine	April 2012	International	Society for American Archaeology annual meeting	Memphis, TN	0	0
West, Catherine	March 2012	National	Alaska Anthropological Association annual meeting	Seattle, WA	0	0
West, Catherine	April 2012	Local	Borns Symposium	University of Maine, Climate Change Institute	0	0
West, Catherine	April 2012	Local	Center for Undergraduate Research showcase	University of Maine	0	1
Zaro, Gregory D	April 2012	Local	Borns Symposium	Stodder Hall, University of Maine, Orono, ME	0	0
Zaro, Gregory D	2/2012	National	Association of American Geographers Annual Meeting	New York, NY	0	0
Zaro, Gregory D	10/ 2011	Regional	Northeast Conference on Andean Archaeology and Ethnohistory	Andover, MA	0	0
Zaro, Gregory D	9/2011	International	Historical Ecology of Landesque Capital: an International and Interdisciplinary Workshop	Uppsala, Sweden (via video conference)	0	0

# **RESEARCH EXPEDITIONS AND FIELD TRIPS**

Name	Date	Description	GS	US
Belknap, Daniel F.	June 15-30, 2011	National Environmental Research Council (UK). Sea Level Minima seismic cruise, Celtic and Irish Seas, Research Vessel Celtic Voyager, with co-PI's from University of Ulster, Coleraine, Northern Ireland, and Irish Geological Survey. [Note: not included in DFB 2010-11 report]	1	1
Belknap, Daniel F.	June 6-22, 2012	National Environmental Research Council (UK). Sea Level Minima coring cruise, Celtic and Irish Seas, Research Vessel Celtic Explorer, with co-PI's from University of Ulster, Coleraine, Northern Ireland, British Geological Survey, Durham University (UK), and Irish Geological Survey.	2	0
Denton, George	August 2011	Expedition to western China to map and collect exposure-dating samples from moraines in the Tienshen Mountains and samples for radiocarbon dating from wood remains in the deserts south of the Tienshen Mountains. The purpose of the trip was to compare the	1	0

		climate fluctuations in central Asia with those nearly directly south in New Zealand.		
Denton, George	January 2012	Research in Antarctica under an NSF grant of which I am Co-Principal Investigator. Fieldwork was carried out in the foothills of the Royal Society Range of the Transantarctic Mountains. The purpose of the project is to reconstruct the history of recession of the Antarctic Ice Sheet since the last glacial maximum	3	2
Denton, George	February and March, 2012	Fieldwork in the Southern Alps of New Zealand under a new NSF grant. The purpose purpose is to map and date the recession of mountain glaciers during the last termination in order to test a hypothesis set forward by us in Science in 2010.	2	0
Denton, George	April and early May of 2012	NSF-supported field research in the Cordillera Darwin of southernmost Chile. The purpose was to set up long-term research here for graduate and undergraduate students.	1	0
Dieffenbacher-Krall, Ann	10/00/2011	Collected peat cores from Great Duck Island, Maine in cooperation with the U.S. Fish & Wildlife Service and College of the Atlantic.	0	0
Dieffenbacher-Krall, Ann	06/15-30/2012	Site evaluation and collection of samples for NSF funded research, four lakes, northwest Iceland.	0	0
Hall, Brenda	August 2011	Glacial geologic/paleoclimate research in East Greenland.	3	0
Hall, Brenda	Nov-Dec 2011	Glacial geologic field work at Shackleton Glacier, Antarctica	2	0
Hall, Brenda	Jan-Feb 2012	Glacial geologic field work in the Royal Society Range, Antarctica	3	2
Hall, Brenda	April 2012	Glacial geologic field work in Cordillera Darwin, Chile	0	0
Hamilton, Gordon	August 4-11, 2011	Glaciological fieldwork in East Greenland	1	0
Hamilton, Gordon	August 23-31, 2011	Glaciological research in East Greenland	1	0
Hamilton, Gordon	Oct 11-16, 2011	Glaciological research in East Greenland	1	0
Hamilton, Gordon	Nov 1-26, 2011	Glaciological fieldwork in Antarctica	1	0
Hamilton, Gordon	,	Glaciological fieldwork in Antarctica	0	0
Hamilton, Gordon	March 1-7, 2012	Glaciological research in East Greenland and Iceland	0	0
Kelley, Alice	July 28-31, 2012	Last Glacial Maximum - Lateglacial - Neoglacial / Western Swiss Transect	0	0
Kelley, Alice	May 10, 2012	Field Trip to Paleolithic Caves, Swabia, Germany	0	0
Kelley, Alice	5/22 to 6/52012	Research Expedition, Shetland	0	0
Kelley, Joseph	8-28-31, 2011	Field trip to active glaciers in SW Switzerland with a review of the history of study of Swiss Glaciers. Led by Dr. Christian Schlichter	0	0
Kelley, Joseph	5-18, 2012	Filed trip to Neanderthal and early Homo sapiens caves in the Swabian Alps. Led by Nick Conard.	0	0
Kelley, Joseph	6-12-6-19-2012	Oceanographic cruise around Ireland and coring in the Irish Sea	0	0
Kelley, Joseph	5/22-6/4/2012	Field work and geological excursions around the Scottish Highlands, Orkney Islands and Shetland Islands	0	0
Kurbatov, Andrei	Jan 4- Feb 24, 2012	Tupungatito volcano, Chile. Collected ice core from 5600 meters		
Mayewski, Paul	1/4-2/15/2012	Tupungatito, Chilean Andes 19,000'		
- /				

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Ocampo-Raeder, Constanza	June-August 2011	Ethnographic field work in the northern Peruvian coast (Piura) examining traditional resource management of artisanal fishing families.	0	0
Olsen, Brian	Summer 2011	Common Loon research in Washington, Idaho, Montana, New Hampshire, and Maine	1	0
Olsen, Brian	Summer 2011	Virginia Rail and Sora research in the Penobscot Valley and Moosehorn National Wildlife Refuge	1	2
Olsen, Brian	Summer 2011	Song and savannah sparrow research on Great Duck Island, Maine	1	1
Olsen, Brian	Fall 2011	Migratory bird research in Acadia National Park and nearby islands	2	0
Olsen, Brian	Summer 11&12	Tidal marsh bird research in Scarborough Marsh, Maine	2	6
Olsen, Brian	Summer 11&12	Tidal marsh bird surveys in wetlands from Maine to Virginia	1	3
Olsen, Brian	Summer 11&12	Song sparrow research in Jackson Hole, Wyoming	2	2
Olsen, Brian	Summer 11&12	Song sparrow research in Orono and Bangor, Maine	2	1
Olsen, Brian	Summer 2012	Nelson's and saltmarsh sparrow sampling up river gradients in Downeast and Midcoast Maine	3	0
Robinson, Brian S	June, 3-29, 2012	Summer Field School in Archaeology in Machias Maine. working with the Passamaquoddy Petroglyph Foundation	1	12
Saros, Jasmine	June 2011	Field expedition to Kangerlussuaq region, southwest Greenland. Co-leader of crew of 6. Lake sampling and in-situ experiments.	1	0
Saros, Jasmine	July 2011	Field expedition to the Beartooth Mountains, Montana. Co-leader of crew of 10. Lake sampling and in-situ experiments.	5	1
Saros, Jasmine	August 2011	Field expedition to Isle Royale National Park, Lake Superior. Leader of crew of 4. Lake sampling, in-situ experiments, and lake sediment coring.	1	0
West, Catherine	May 2012	I will travel to Washington, D.C. to visit collaborators and complete a research project for publication. This will involve visiting the Smithsonian Institution's National Museum of Natural History and the Museum Support Center to work with the archaeological collections stored there. This is paid for by my NSF ADVANCE grant.	0	0
West, Catherine	June 2012	I will travel to the University of Alabama (Tuscaloosa) to forge a new collaboration with Dr. Fred Andrus and to have Dr. Andrus train me to use a specific piece of equipment. This equipment will be used to sample archaeological samples for stable isotope analysis. This is paid for by my NSF ADVANCE grant.	0	0
Zaro, Gregory D	May-July, 2012	La Milpa Terminal Classic Project, Belize	1	0

## **OTHER INDICATORS**

Name	Description
Belknap, Daniel F.	Frequent requests by e-mail and phone to answer research-related questions by professionals and general public.
	Pro bono research with ground-penetrating radar at two historical archaeology sites, Damariscottta and Newcastle, ME, for local archaeologist Tim Dinsmore.

#### MEDIA PRESENTATIONS CREATED

Name	Туре	Description	GS	US
Kelley, Joseph	Television	One hour interview on Public Access television on Beach erosion in Saco Bay, Channel 3	0	0
Kurbatov, Andrei	podcast	Podcast by Ashley Suitter Societal Implications of Industrial Emissions Preserved in Global Ice Archives. http://cci.um.maine.edu/2MBIA/media/podcast/AshleySuitter.mp3	0	1
Mayewski, Paul Mayewski, Paul	Radio interview On-line magazine	Radio David Neally's "Maine Green Advantage" 103.1 Radio Bangor 1.5 hour interview re climate change Physorg.com - the importance of collaborations between the fields of history and science, particularly climate science. Mayewski noted for a collaboration with a Harvard historian, which was considered the first of its kind.	0 0	0 0
Mayewski, Paul Mayewski, Paul	Brochure Newspapers	Brochure by travel company Into the Arctic Brochure distributed by Travel Dynamics focused on Mayewski lecture series. Bangor Daily News and Castine Patriot recognition of Seligman Crystal Award	0 0	0 0
Mayewski, Paul	On-line magazine	"Wired Science" Meteorite story	0	0
Mayewski, Paul	Magazine	hard copy and on-line "Superconsciousness" interview	0	0
Mayewski, Paul	Magazine	Magazine "Edible Geography" article about Mayewski	0	0
Mayewski, Paul	On-line magazine	On-line magazine "Innovation Watch" article about Mayewski 2002 book	0	0
Mayewski, Paul	On-line newspaper	"Global Post interview re flooding in Brazil	0	0
Mayewski, Paul	Film	CCTV (China TV) interview re Asian climate change.	0	0
Mayewski, Paul	Radio	Voice of Africa Radio interview, African climate change.	0	0
Mayewski, Paul	Radio	Bangor, Maine WKIT/WZEN Dan Morgan Radio Show, climate change interview.	0	0
Mayewski, Paul	News story meetings	NBC and CBS to discuss future potential stories	0	0
Mayewski, Paul	TV	Local TV station Dushanbe, Tajikistan to discuss emerging project in region	0	0

#### SERVICE: TO PROFESSION/DEPARTMENT/COLLEGE/UNIVERSITY SYSTEM/STATE GOVERNMENT AGENCIES/ GENERAL PUBLIC & LOCAL COMMUNITIES/PRE K-12 EDUCATION

#### To Profession:

Name	Туре	Description
Belknap, Daniel F.	Advisory Board	Wells National Estuarine Research Reserve, Laudholm Farm, Wells, ME. Member of Reserve Management Authority. Quarterly meetings and frequent e-mail interactions on policy and management.
Belknap, Daniel F.	Advisory Board	Elkhorn Slough National Estuarine Research Reserve, Moss Landing, CA. Member of Technical Advisory Committee, review of marsh paleoecology, historical ecology, and proposed restoration efforts. Review of written materials and three 2-hour phone conferences in 2011-2012.

Belknap, Daniel F.	Editorship	Newsletter Editor, Geological Society of Maine, 1999 to present. Three times per year newsletter, also coordinate and compile abstracts for student talks at Spring Meeting. Ex officio member of GSM Executive Board.
Chai, Fei	Advisory Board	International Advisory Committee for the State Key Lab at the Xiamen University, China
Chai, Fei	Advisory Board	International Advisory Committee For a 973 Research Project at the Ocean University of China.
Chai, Fei	Conference Section Chair	International Symposium on Boundary Current Dynamics: its connection with open-ocean and coastal processes and responses to global climate change. Qingdao, China.
Chai, Fei	Conference Section Chair	8th Cross-Strait Conference on Marine Research in Taiwan.
Chai, Fei	Editorial Board	Biogeosciences.
Chai, Fei	Editorial Board	Acta Oceanologica Sinica.
Chai, Fei	Program Committee Member	The in situ iron studies (ISIS) Consortium
Chawathe, Sudarshan S.	Professional Association Officer	1/2005-present. IEEE Intelligent Transportation Systems Society (ITSS). Member of the Board of Governors.
Chawathe, Sudarshan S	Award Committee Member	2/2007-present. IEEE Intelligent Transportation Systems Society (ITSS). Member, Dissertation Award Committee.
Chawathe, Sudarshan S	Professional Association Committee	10/2008present. ITSS Award Selection Committee for IEEE ITSS Best Practice Award for Engineers.
Chawathe, Sudarshan S	Editorship	Associate Editor, IEEE Transactions on Intelligent Transportation Systems.
Fernandez, Ivan	Professional Association Committee	Nyle C. Brady Frontiers of Soil Science Lectureship Committee (S711.16), Soil Science Society of America (2010 – 2011) - Committee Chair in 2011
Fernandez, Ivan	Panel Chair	Member – US Environmental Protection Agency Advisory Council on Clean Air Compliance Analysis (COUNCIL): Chair of the Ecological Effects Subcommittee (2010-2013) Panel Reviews to Congress on Section 812 Study of the Clean Air Act and on the Black Carbon report to Congress.
Fernandez, Ivan	Conference Chair/Co- Chair	Co-host of the international conference BIOGEOMON 2012, to be held at Point Lookout, Maine: July 16-20, 2012.
Fernandez, Ivan	General/Other	Member - Planning Committee for Acadia National Park Science Symposium (2011)
Fernandez, Ivan	General/Other	Soil Science Society of America Graduate School Workshop Committee (2010 – 2011), Chair in 2011, led workshops at the international meetings both years.
Fernandez, Ivan	General/Other	Member – USDA Forest Service Planning Committee - Symposium on the Effects of Forest Management and Intensive Harvesting on Nutrient Cycling. 2012. Durham, New Hampshire.
Fernandez, Ivan	General/Other	Member - Natural Resource Conservation Service Cooperative Soil Survey Working Group on the Future of Soil Survey. 2012-present.
Fernandez, Ivan	Grant Review Board Member	Invited Member - National Science Foundation Spring 2012 Long Term Research in Environmental Biology (LTREB) Panel.

Fernandez, Ivan	General/Other	Member - State of Maine Board of Certification for Geologists and Soil Scientists (1993 - present)
Hall, Brenda	Conference Chair/Co- Chair	Organized and co-chaired session at the International Quaternary Association congress in Berne, Switzerland
Hall, Brenda	General/Other	Reviewer for numerous papers in scientific journals (~20 per year).
Hall, Brenda	General/Other	Reviewer for NSF proposals
Hall, Brenda	Advisory Board	US representative for the earth sciences to SCAR (Scientific Committee on Antarctic Research)
Hamilton, Gordon	Advisory Board	National Science Foundation: WISSARD advisory board
Hamilton, Gordon	Advisory Board	NASA: Operation IceBridge advisory board
Hamilton, Gordon	Editorship	American Geophysical Union: Editor, Journal of Geophysical Research
Hamilton, Gordon	Grant Review Board Member	NASA Review Panel for Earth Ventures 2
Hamilton, Gordon	Advisory Board	US CLIVAR working group on Greenland Ice Sheet - Ocean Interactions
Kelley, Alice	Professional Association Committee	President, Geological Society of Maine
Kelley, Joseph	Editorial Board	Journal of Coastal Research
Kelley, Joseph	Advisory Board	Coastal Education Research Foundation Board of Directors
Kelley, Joseph	Advisory Board	Program for the Study of Developed Shorelines Fellow, Western Carolina University
Kreutz, Karl	Panel Chair	U.S. Ice Core Working Group
Kreutz, Karl	Advisory Board	Ice Drilling Program Office
Kreutz, Karl	Editorial Board	Scientific Reports (Nature Publishing Group)
Maasch, Kirk	Program Committee Member	University Corporation for Atmospheric Research, Member's Nominating Committee
Mayewski, Paul	General/Other	Leader - International Trans Antarctic Scientific Expedition (ITASE) - 21 countries
Mayewski, Paul	General/Other	Leader - Polar Tropical Climate Interactions international SCAR committee
Mayewski, Paul	General/Other	Co-leader - Steering Committee for the 3rd Pamir Expedition joint US-German-Japan-China, Tajikistan
Ocampo-Raeder, Constanza	Conference Section Chair	American Anthropological Association Panel. Co-chaired and organized panel on Hybridity for Annual conference held in Montreal.
Olsen, Brian	General/Other	"Sparrows of the Salt Marsh" list-serve moderator, 72 members ('09 – present)
Olsen, Brian	General/Other	"Coastal Wetlands International Working Group" list-serve moderator, 31 members from four continents ('10 - present)
Olsen, Brian	Professional Association Committee	This spring and summer I was invited by the President-elect of the American Ornithologists' Union (an international professional society) to join a six-person committee (which has since grown to ten members) responsible for drafting a plan to merge the nine competing ornithological societies in North America into a single viable "Society for Ornithology".

Olsen, Brian	Professional Association Committee	Co-chair of the Education and Outreach subcommittee for the international Society of Ornithology planning committee (August 2011 - May 2012)
Olsen, Brian	Professional Association Committee	Member of the Conservation Subcommittee for the Society for Ornithology planning committee (August 2011 - May 2012)
Roscoe, Paul B	General/Other	GutAchter (external adviser) on final candidates for faculty hire at the Universitaet Goettingen, Germany
Roscoe, Paul B	General/Other	External Examiner, qualifying exams for Michael Price, PhD candidate, Department of Anthropology, Stanford University
Sandweiss, Dan	Editorship	Founding Editor, Andean Past (Cornell Latin American Studies Program)
Sandweiss, Dan	Editorial Board	Editorial Board Member, Chungará Revista de Antropología Chilena
Sandweiss, Dan	Editorial Board	Editorial Board Member, Latin American Antiquity (published by the Society for American Archaeology)
Sandweiss, Dan	Editorial Board	Revista Peruana de Biología
Sandweiss, Dan	Conference Chair/Co- Chair	Special Advisor to the Board - Organizer of the First SAA Intercontinental Conference, Society for American Archaeology (January 13-15, 2012), Panama City, Panama.
Sandweiss, Dan	Conference Chair/Co- Chair	Organizer, 30th Northeast Conference on Andean Archaeology and Ethnohistory (October 15-16, 2011), RS Peabody Museum of Archaeology, Phillips Academy, Andover ME (I founded this series as a graduate student in 1982).
Sandweiss, Dan	Professional Association Committee	Selection Committee, Award for Excellence in Latin American and Caribbean Archaeology, Society for American Archaeology
Sandweiss, Dan	Professional Association Committee	Publications Committee, Society for American Archaeology
Sandweiss, Dan	Professional Association Committee	Committee on the Americas Advisory Council, Society for American Archaeology
Sandweiss, Dan	Advisory Board	R.S. Peabody Museum of Archaeology, Phillips Academy, Andover MA.
Sandweiss, Dan	General/Other	Recommendation letter for Michael Waters, Texas A&M University, for the Society for American Archaeology's Fryxell Award
Sandweiss, Dan	General/Other	Recommendation letter for Michael Waters, Texas A&M University, for A&M's Association of Former Students Distinguished Achievement Award
Sandweiss, Dan	General/Other	I operate an Andean Studies email information distribution list.
Saros, Jasmine	Editorial Board	Associate editor of the journal Hydrobiologia
Saros, Jasmine	Conference Section Chair	Formed a new working group, Climate Sentinels, for the Global Lakes Ecological Observatory Network
Sorg, Marcella	Program Committee Member	FBI Scientific Working Group on Anthropology, Taphonomy
West, Catherine	Editorship	I am currently editing a special section of the "Journal of Island and Coastal Archaeology" that focuses on the use of stable isotope analysis in various archaeological contexts. I proposed the section to the journal editors, solicited papers and suggested reviewers, and am responsible for writing the introduction to the special section.

## <u>To Department</u>:

<b>Name</b> Belknap, Daniel F.	<b>Description</b> Chair, ERS Peer Review Committee Member, Climate Change Institute Peer Review Committee
Chai, Fei	Help with the SMS open house activities, meet and talk to potential students and parents.
Chawathe, Sudarshan S.	Committees of the School of Computing and Information Science (SCIS), University of Maine. * Curriculum * CS graduate (chair; graduate coordinator) * Labs * Web and Marketing * PEER committee Climate Change Institute: * PEER committee
Denton, George	Policy Advisory Committee for the Climate Change Institute.
Dieffenbacher-Krall, Ann	Director - Paleoecology Research Laboratory Building manager - Sawyer
Fastook, James L.	Graduate and Peer Committees and alternate Graduate Coordinator
Fernandez, Ivan	Peer Committee Graduate Faculty Building Manager, Potato Storage Building
Hall, Brenda	Graduate Committee - Earth Sciences Peer-Review Committee - Earth Sciences Field Trip Committee - Climate Change Institute Graduate Committee - Climate Change Institute
Hamilton, Gordon	Peer review committee (Climate Change Institute) Website committee (Climate Change Institute)
Hooke, Roger	Taught one 2 or 3 - credit course (ERS 552) Participated (with several faculty and students) in a sustainability seminar in ERS Served on several graduate student committees Was available for consultation with graduate students
Kelley, Alice	All of the above was pro bono Undergraduate Coordinator
Koons, Peter	Undergraduate Adviser; Chair CCI Policy Advisory Committee
Kreutz, Karl	CCI graduate committee ERS undergraduate advisor ERS strategic planning committee CCI Churchill Fund committee chair ERS peer review committee

Kurbatov, Andrei	Actively involved in incorporating research results of the Climate Change Institute into development of cyberinfrastructure that will simplify public access to published CCI results and data sets. see p301dx web site : http://cs.umaine.edu/ chaw/p301/
Maasch, Kirk	Climate Change Institute Policy Advisory Committee Department of Earth Sciences Peer Review Committee Department of Earth Sciences Graduate Committee
Mayewski, Paul	Director, Climate Change Institute
Norton, Stephen	Serving on PhD committees
Ocampo-Raeder, Constanza	Chair of Graduate Program in Environmental Anthropology Graduate Board Representative
Olsen, Brian	Graduate Committee Member (Fall 2011 & Spring 2012) Chair, Animal Graduate Student Award Committee (Spring 2012)
Robinson, Brian S	Serves on Policy Advisory Committee to the Anthropology Department and advisory to the Anthropology Club. Served on the Search Committee for the Arctic/Subarctic position and Anthropology and Climate Change.
Roscoe, Paul B	Since September 1st, 2011, Chair of the Anthropology Department.
Sandweiss, Dan	For Climate Change Institute: Co-chair, Churchill Exploration Fund Selection Committee Member, Policy Advisory Committee
Saros, Jasmine	Associate Director, Climate Change Institute; Chair, Terrestrial Paleoecologist Faculty Search Committee; Member, Stream Ecologist Faculty Search Committee
Schauffler, Molly	Respond to inquiries about climate education and resources Connect CCI graduate students with science teachers
West, Catherine	I provide service to the Department of Anthropology in the following ways: I advise 13 undergraduate students, 1 Capstone project, and am the second reader on 3 Capstone projects. I have represented the Department of Anthropology at the University's Accepted Student Day twice and participated in the University of Maine Open House. I provided a tour of the zooarchaeology lab for President Ferguson in September, 2011, and for visiting speaker Dr. Vaughn Bryant from Texas A&M. I have invited a speaker to campus (archaeologist Dr. Torben Rick) as part of the Climate Change Institute's lecture series. I also helped to host visiting speaker Dr. Kathleen Morrison from the University of Chicago, attended talks and dinner with visiting speakers for the department's Geoarchaeology course, and met with candidates/attended the talks for the candidates for the position in Native American studies.
Zaro, Gregory D	Graduate Coordinator, PhD in Anthropology and Environmental Policy Graduate Coordinator, MS in Quaternary and Climate Studies Graduate Committee Member, PhD in Anthropology and Environmental Policy Graduate Committee Chair, MS in Quaternary and Climate Studies

## <u>To College</u>:

Name	Description
Chawathe, Sudarshan S.	2009-04present. CLAS instructional technology committee.
	2009-01present. CLAS Committee on Admissions, Advising, and Retention.
	2010-01present: CLAS committee on Digital Curation certificate program.
	11/2005-present. Support for Science Students, University of Maine. Member, Faculty Advisory Board. Advising a residential education and support program for students studying science.
	2/2007–5/2007. College of Liberal Arts and Sciences, University of Maine. Member, Chair Search Committee.
	9/2006-present. College of Liberal Arts and Sciences, University of Maine Member, Faculty Awards Committee.
	9/2010present: CLAS Academic Council.
	5/2010present. Working with Charlsye Smith Diaz and Dylan Dyer of the English department to design and implement a Web-based grading and assessment application for their large courses.
Fastook, James L.	Committee to select director of School of Computing and Information Sciences
Fernandez, Ivan	Maine Agricultural and Forest Experiment Station Research Council (2005-present)
Kreutz, Karl	SECRL advisory board
Norton, Stephen	Gave seminar in Forestry (Robert Wagner's class) with Professor Ivan Fernandez.
Ocampo-Raeder, Constanza	Associate Curator for Hudson Museum
Olsen, Brian	Honors College Council
Robinson, Brian S	CLAS Admissions, Advising and Retention Committee
Roscoe, Paul B	Dean's Council (for tenure decisions, etc) McBride Professor Selection Committee
Schauffler, Molly	Promote STEM careers and STEM education through the Science program development at the Hutchinson Center.
West, Catherine	I provide service to the College of Liberal Arts and Sciences by representing the Department of Anthropology at Accepted Student Day and the University of Maine Open House. In addition, I served as a judge for the Center for Undergraduate Research showcase and served as an advisor for a poster presented at the showcase.

<u>To University:</u> Name	Description
Belknap, Daniel F.	Member, University Research Council
Chai, Fei	serve on University Research Committee
Chawathe, Sudarshan S.	<ul> <li>2/2012present: UPCC.</li> <li>9/2006-present. University Club, University of Maine Member, Executive Committee. (Vice-president, 20082009; President 20092010)</li> <li>9/2008present. Volunteer for Maine Hello.</li> </ul>
Dieffenbacher-Krall, Ann	Served as discussion facilitator for NSF-required undergraduate training in Research Ethics program, June 2012. Conducted tours of facilities for President Ferguson. Conducted tours of facilities for five candidates for tenure-track position (SBE&CCI)

Fernandez, Ivan	University of Maine Research Council (2006-2010) Chair: Faculty Subcommittee on Faculty Salary Incentives Program (2007- 2010) Search Committee, Grants and Contracts Specialist, ORSP University of Maine Representative to the National Park Service North Atlantic Coastal Cooperative Ecosystem Studies Unit (2005-present) Advisory Board: Environmental Chemistry Laboratory (2004-present) Presidential Outstanding Teaching Award Committee Search Committee: Faculty position in Ecology shared between School of Biology and Ecology and the Climate Change Institute Performance review committee for Dean Humphrey, College of Engineering Reviewer: Kevin Simon promotion and tenure application Member Project Advisory Team: Signs of the Seasons: A Maine Phenology Project
Hall, Brenda	Faculty research grants committee
Hamilton, Gordon	Faculty Senate
Kelley, Alice	Cooperating Curator, Hudson Museum
Kelley, Joseph	Hudson Museum Board of Advisors Geddes-Simpson Award Committee
Kreutz, Karl	UMaine Multiuser Equipment Initiative review panel; 2012 Windstorm Challenge judge
Kurbatov, Andrei	10green web site : http://www.10green.org
Maasch, Kirk	UMaine Academic Representative to University Corporation for Atmospheric Research (UCAR) Member, Hudson Museum Advisory Board
Mayewski, Paul	Adjunct Curator, Hudson Museum, University of Maine
Ocampo-Raeder, Constanza	Honors Council Member Engineers without Borders Member (UMaine Chapter) Adviser to Sustainable Food System Program Adviser to Ecology and Environmental Studies Program Curriculum Development Contributor to CETA teaching workshops
Olsen, Brian	Admitted Student Open House Presentations (Feb. 6th & April 2nd)
Robinson, Brian S	The MAPI Archaeological Field School represents a University outreach program.
Roscoe, Paul B	Associate Curator, Hudson Museum Faculty Affiliate, SPIA
Sandweiss, Dan	Chief Cooperating Curator, Hudson Museum Board of Cooperating Curators Chair, Provost's International Advisory Team Co-Chair, Cultural Affairs/Distinguished Lecture Series Committee Co-Chair, Project 24-7 Administrative Team President, UMaine chapter of Phi Kappa Phi Honor Society Member, AVPEM (Assistant Vice President for Enrollment Management) Search Committee (Round 3) Member, EMEC (Enrollment Management Executive Committee) Member, RiSE (Research in STEM Education) Center Advisory Board

	Member, Provost's Tenure & Promotion Advisory Committee Member, University Research Council Member, Provost's Executive Staff Member, Provosts Council Member, Collins Center for the Arts Advisory Board (ex officio) Member, SPIA (School of Policy and International Affairs) Advisory Board (ex officio) Etc.
Saros, Jasmine	Co-organizer of the Distinguished Climate Scholars Seminar Series, with four speakers brought to campus during the 2011-2012 academic year; Faculty representative on the Campus Planning Committee
West, Catherine	I serve on the Cultural Affairs Committee (a 3-year term), which provides funding to support cultural activities on campus and to bring distinguished speakers to campus.
Zaro, Gregory D	Graduate Executive Committee-NSFA rep., UMaine Graduate School Graduate Board Member, UMaine Graduate School Hudson Museum Cooperating Curator

To University System:	
Name	Description
Chawathe, Sudarshan S.	01/2011present: Information Security Governance Council.
West, Catherine	I gave a presentation as part of the "Climate and Human History" Senior College series at the University's Hutchinson Center.

#### To State Government Agencies:

Name	Description
Fernandez, Ivan	Maine State Board of Certification for Geologists and Soil Scientists – Augusta, Maine (1992 to present)
	Ongoing collaboration with Maine DEP, Maine CDC, Maine DOC, and others in Maine climate change adaptation initiatives
Koons, Peter	Advise MGS on seismic issues
Sorg, Marcella	Provide state epidemiology indicators of substance abuse on a regular basis to the Office of Substance Abuse, the Maine Drug Enforcement Agency, and the
	Department of Attorney General. Provide faculty services to Evidence Response Team, Maine State Police

# To General Public/Local Community:

Name	Description			
Belknap, Daniel F.	Approximately 6 e-mail and phone questions answered concerning local geologic questions.			
Borns Jr., Harold W.	Served on a research proposal review panel - Education Division of NSF 7 public lectures around Maine on the US Antarctic Program and Ice Age history of Maine 1 week course on Maine's Ice Age Trail: Down East at the Humboldt Field Research Station, Steuben Maine			
Fernandez, Ivan	I continue to participate in, and represent the University in this activity, regarding the Maine Stakeholder Climate Change Adaptation Process. This follows on the Maine Climate Future assessment I co-led with George Jacobsoon. The Stakeholder Adaptation process is led by Maine DEP, with an initial report delivered to the Legislature in February, 2010. That process continues. Northeastern Association of Graduate Schools Dissertation Awards Committee			
Hall, Brenda	Contact with public through email.			
Hamilton, Gordon	Presentations to local groups (e.g., Waterville Rotary, Kennebunk Town Energy Committee)			
Kelley, Joseph	Board Member, Penobscot Valley Chapter of Maine Audubon Society Talk at Bangor Public Library on Sea Level change 10-13-11 Public Access Channel 3 Biddeford, 1 hr interview on Saco Bay erosion			
Kreutz, Karl	Numerous public lectures in 2011/12; Maine Audubon board of trustees			
Mayewski, Paul	Board Member - Marine Estuarine Research Institute (Blue Hill, Maine)			
Olsen, Brian Robinson, Brian S	Schoodic Environmental Research Center Public Seminar Series – October 2011. "An Ephemeral Process in a Shifting Landscape: The importance of Maine's coast to the future of migratory, boreal birds". Acadia National Park, Winter Harbor, Maine. Orono Bog Boardwalk - May 2012. "Sparrows of the Bog". Orono, Maine. Board member of the Maluhsi-hikon Petroglyph Foundation Education Committee of the Wilson Museum, Castine, final year of two year term.			
Sandweiss, Dan	Board member, Bangor Foreign Policy Forum			
Schauffler, Molly	Serve as Vice President of the Belfast Bay Watershed Coalition Serve as Secretary for the Josselyn Botanical Society Advisory Board member for the Maine Community Foundation, Waldo County Fund Advisory Board member for Signs of the Seasons (Maine Phenology Network).			
Sorg, Marcella	Serve on the Board of the Freeman Forest, Orono, ME			
West, Catherine	I gave a presentation as part of the "Climate and Human History" Senior College series at the University's Hutchinson Center.			
Zaro, Gregory D	Lecture: The growth and decline of an ancient Maya city. Presentation to the Dirigo Pines Retirement Community. Orono, ME, March 20, 2012.			

# To Pre-K - 12 Education:

Name	Description
Chai, Fei	visited and gave a lecture at the Keji High School in Xiamen, China.

Chawathe, Sudarshan S.	12/1999–present. Intel Science Talent Search Science Service. Judge 2000–present; evaluator 1999–2000. Judging the week-long Science Talent Institute and evaluating entries for the Science Service's Intel Science Talent Search (formerly, the Westinghouse Competition). 10/2006present. "Classbooks": A Web-based data management system for tracking student reading and outcomes, currently used in a 1st grade class at the Palmyra school, Maine, (MSAD 48).
Dieffenbacher-Krall, Ann	Conducted field experience and lab demonstrations for upper elementary class, Stillwater Montessori School, 10/13/11.
Fernandez, Ivan	We have received National Science Foundation funding for research that includes funds for several initiatives to involve K-12 science teachers and students in both the research and the development of curricula.
Hall, Brenda	Numerous emails/letters to K-12 students from/about Antarctica Visit to K-12 classroom
Hamilton, Gordon	Presentations and classroom visits to Orono High School, Old Town High School
Koons, Peter	Organized or Participated in workshops on Climate science, supercomputing for K12 teachers
Kreutz, Karl	Numerous K-12 school visits in 2011/12
Olsen, Brian	Classroom demonstration of "active learning in a lecture setting" for 8 high school teachers Expert witness for a mock trial over the teaching of intelligent design in public schools conducted by Ms. Nevin's Leonard Middle School class in Old Town.
Robinson, Brian S	Science day.
Schauffler, Molly	Write letters of support and collaboration with teachers for funding requests Advisory Board for Island Institute STORMS Project (Elementary school weather monitoring) Develop and delivered 20 Data Literacy workshops to science and mathematics teachers in Belfast/Searsport, Ellsworth, Bucksport, Bangor, and Newport

## Service – Manuscripts/Proposal Reviewed

Name	Manuscripts	Proposals	Description
Belknap, Daniel F.	2	1	Reviewed 1 journal article for Geological Society of America Bulletin Reviewed 1 journal article for Geophysical research Letters Reviewed 1 NSF proposal - Ocean Sciences division
Chawathe, Sudarshan S.	5	12	numbers are approximate don't have all records handy; the manuscripts reviewed is almost certainly an underestimate.
Denton, George	6	5	Peer-review journals and NSF proposals

Fastook, James L. Fernandez, Ivan	8		Annals of Glaciology: (2) "Sensitivity experiments for the Antarctic ice sheet with varied sub-ice-shelf melting rates" "Sensitivity experiments for the Antarctic ice sheet with varied sub-ice-shelf melting rates" Journal of Geophysical Research - Earth Surface (2) "Sensitivity Analysis of Pine Island Glacier ice flow using ISSM and DAKOTA." by Larour et al. "The effects of various geothermal heat flux models on the present-day Greenland Ice Sheet" by Rogozhina et al Geophysical Research Letters (2) "Persistent and increasing ice stream activity during the growth of a continental ice sheet" by Tarasov and Stokes. "Impact of bedrock description on modeling ice sheet dynamics" by Gael Durand, Olivier Gagliardini, Lionel Favier, Thomas Zwinger, and Emmanuel Le Meur Journal of Glaciology: (2) "A well-posed model of transient ice flow near an ice divide using a spatially limited domain" "Dynamic inland propagation of thinning due to ice loss at the margins of the Greenland ice sheet" I periodically review manuscripts for a wide range of journals in natural and environmental sciences as well as proposals for the National
,			Science Foundation, the US Department of Agriculture and the US Environmental Protection Agency.
Hall, Brenda	20	8	I review manuscripts for a wide variety of journals, including Quaternary Science Reviews, Marine Ecology Progress Series, Quaternary Research, Earth and Planetary Science Letters, Geografiska Annaler, Antarctic Science, Geology, and the Geological Society of London. I review for the National Science Foundation and occasionally for the New Zealand Antarctic Research Programme and the Italian Antarctic Program
Hamilton, Gordon	18	11	Manuscript reviews for Nature (1), Nature Geoscience (1), Journal of Glaciology (2), Annals of Glaciology (5), Remote Sensing of the Environment (1), The Cryosphere (3), Geophysical Research Letters (4). Book manuscript technical review for University Press of New England (1) Proposal reviews for NSF (5), NASA (2), UK NERC (1), Norwegian Research Council (3)
Hooke, Roger	7		3 for Journal of Glaciology 2 for Earth Surface Processes and Landforms 1 for American Journal of Science 1 for Journal of Flood Engineering
Kelley, Joseph	7	3	NSF (1), Sea Grant (1), Royal Geographical Society (2) Bulletin Geological Society America (1) Journal of Coastal Research (3) Geomorphology (1) Quaternary International (1) Geomorphology (1)

Koons, Peter	2	1	<ul> <li>(1) NSF proposals for Progams including: Continental Dynamics Tectonics MRI Geophysics.</li> <li>2) manuscripts from: GEOLOGY Tectonics Tectonics</li> </ul>
Kreutz, Karl	6	5	Albani et al. (Geophysical Research Letters) Blankenship and Young (NSF) Aciego (NSF) Wang et al. (Geophysical Research Letters) Beaudon et al. (Journal of Geophysical Research) Van Ommen et al. (Australian National Science Foundation) Vimeux et al. (French Agencie Nationale del la Researche) Wolff et al. (U.K. NERC) Fletcher (Wiley) Vance et al. (Journal of Climate) Schneider and Noone (Geophysical Research Letters)
Kurbatov, Andrei	2	0	One manuscript for Earth-Science Reviews and another one for Journal of Geophysical Research Atmospheres
Maasch, Kirk	3	0	Environmental Modelling & Software, Geophysical Research Letters, Wiley
Ocampo-Raeder, Constanza	4		I currently review anthropological manuscripts for five journals: Human Ecology, Human Organization, The Journal of Ecotourism, City and Society, and Nature and Society.
Olsen, Brian	2	0	Journal reviewer for Evolutionary Ecology Research (1) and Conservation Biology (1)
Robinson, Brian S	2		Two manuscript reviewed for Archaeology of Eastern North America
Roscoe, Paul B	2		MS for Anthropological Quarterly MS for Journal of Conflict Resolution
Sandweiss, Dan	15	9	Manuscripts reviewed: Chungara - 1 Current Anthropology - 1 Geoarchaeology - 1 Intersecciones en Antropología (Argentina) - 1 Journal of Archaeological Research - 1 Journal of Archaeological Science - 2 Journal of Field Archaeology - 1 Journal of Island & Coastal Archaeology - 1 Proceedings of the National Academy of Sciences - 2 Quaternary International - 2 Quaternary Research - 2 Proposals reviewed: American Philosophical Society Lewis & Clark Fund - 1 CUNY Collaborative Incentive Research Grant (CIRG) Program - 1 Dumbarton Oaks Fellowship Proposals - 2 National Geographic Society - 2 National Science Foundation - 3
West, Catherine	2	0	I reviewed an article submission for the Journal of Archaeological Science and a book submission for the University of Utah Press.
Zaro, Gregory D	1		Reviewer for Ancient Mesoamerica (scholarly journal)

#### Service – Television/Radio/Newspaper Interviews

<b>Name</b> Chai, Fei	Description 2
Denton, George	The American Museum of Natural History is completing the documentary on our New Zealand research project that will be shown on the great walls of the museum for all visitors, beginning some time during this coming summer. The documentary features two graduate students (Aaron Putnam and Tobias Koffman) conducting thesis research in the Southern Alps of New Zealand.
Hamilton, Gordon	Boston Herald (http://bostonherald.com/news/regional/view.bg?articleid=1061119129&srvc=news&position=2), March 22, 2012
Kreutz, Karl	BDN, WABI, WLBZ, Fox ABC, Guardian stories, NSF science 360 videos, Nature magazine, National Park Service
Mayewski, Paul	See Media presentations section of this report
Olsen, Brian	"Loon lakes". Jessica Bloch. UMaine Today Magazine. Winter 2011. http://umainetoday.umaine.edu/past- issues/winter-2011/student-focus/ "Climate change and bird migration in Maine". Laura Poppick. Maine Climate News. September 2011. "Bills help saltmarsh sparrows shed heat". Chris Peterson. Birdnote on National Public Radio. 9 Sep 2011. http://www.birdnote.org/birdnote.cfm?id=2053 "Hot birds have large beaks". Amy Enchelmeyer. Discovery News. 28 July 2011. http://news.discovery.com/animals/bird-beaks-cooling-110728.html Interviewed by the Island Institute's "Working Waterfront"
Sandweiss, Dan	Science Magazine - 1
Sorg, Marcella	John Richardson, Portland Press Herald Jay Field, Maine Public Broadcasting
West, Catherine	I gave an interview to the Kodiak Daily Mirror in Kodiak, Alaska. I do my archaeological research on Kodiak Island, Alaska, and the Kodiak Daily Mirror featured a piece on my work.

## SPECIAL PUBLIC SERVICE RECOGNITION/AWARDS/HONORS RECEIVED

Name Denton, George	Description The book entitled "Fate of Greenland" by Conkling, Alley, Broecker, and Denton (MIT Press, 2011) received the PROSE award from the Association of American Publishers for the best book in its category (earth sciences) published in the United States in 2011. This is the American Publishers annual award for professional and scholarly excellence in
	2011. Aaron E. Putnam received the Outstanding PhD Student Award from the College of Natural Sciences, Forestry, and Agriculture for the academic year of 2011/2012.
Kelley, Joseph	World Beaches book favorably reviewed by New York Times (Cornelia Dean), 8-15-2011 http://www.nytimes.com/2011/08/16/science/16scibks.html World Beaches number 6 best geology book 2012, Library Journal Reviewshttp://reviews.libraryjournal.com/2012/02/books/nonfic/sci- tech/best-sellers-geology-march-1-2012/
Olsen, Brian	The 2011 Dr. Randy Alford Memorial Award for stimulating student curiosity for researching the environment (presented by the Friends of Dr. Edith M. Patch)
Sandweiss, Dan	Society for American Archaeology Galardón de Reconocimiento Presidencial (Panama, January 15, 2012)/Presidential Recognition Award (Memphis, April 20, 2012).

## Other: (e.g. special contacts)

Name Denton, George	<b>Description</b> Served as a member of the advisory committed for the climate research of the Comer Science and Education Foundation.
Hooke, Roger	Edited English in two papers written by a Chinese geoscientist
Norton, Stephen	Co-organizer (with Professor Ivan Fernandez) of an International conference in July 2012.
Olsen, Brian	Member of the Consulting Scientific Board for the Schoodic Bird Ecology Lab at the Schoodic Education and Research Center, Acadia National Park, Winterport, Maine.
Sorg, Marcella	Consulted by the National Drug Information Center for data about Maine drug abuse