



# **Annual Faculty Activity Report**

Report to the Office of the Vice President for Research  
Research Activities – Fiscal Year 2008

**Research Activity for the period of July 1, 2007 to June 30, 2008**

# Climate Change Institute

## Annual Faculty Activity Report

*Research Activity for the period of July 1, 2007 to June 30, 2008*

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## FULL ROSTER OF CLIMATE CHANGE INSTITUTE FACULTY/STAFF

LastName	FirstName	Position in Research Unit	Home (Institute/Acad Dept)
Belknap	Daniel	Cooperating Professor	Earth Sciences/Climate Change Institute
Bertler	Nancy	Research Assistant Professor	Climate Change Institute
Borns	Harold	Professor Emeritus of Geological Sciences and Climate Change Institute	Earth Sciences/Climate Change Institute
Chai	Fei	Cooperating Associate Professor	School of Marine Sciences/Climate Change Institute
Chawathe	Sudarshan	Cooperating Assistant Professor	Computer Science/Climate Change Institute
Davis	Ronald	Professor Emeritus of Biology and Quaternary Studies	Biological Sciences/Climate Change Institute
de Bruyn	Markus	Postdoctoral Research Associate	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
Fastook	James	Cooperating Professor	Computer Science/Climate Change Institute
Hamilton	Gordon	Research Associate Professor	Climate Change Institute
Hall	Brenda	Associate Professor of Glacial and Quaternary Geology	Climate Change Institute/Earth Sciences Climate Change Institute/Sawyer Env. Chem. Research Lab.
Handley	Michael	Laboratory Manager - Inorganic Chemistry	Climate Change Institute
Hooke	Roger	Cooperating Professor	Climate Change Institute
Hughes	Terence	Professor of Quaternary Studies	Earth Sciences/Climate Change Institute
Introne	Douglas	Stable Isotope Technician	Climate Change Institute
Jacobson	George	Professor of Quaternary Studies	Botany/Climate Change Institute
Jain	Shaleen	Cooperating Assistant Professor	Civil & Environmental Engineering/Climate Change Institute
Kelley	Alice	Research Assistant Professor	Earth Sciences/Climate Change Institute
Kelley	Joseph	Cooperating Professor	Earth Sciences/Climate Change Institute
Kellogg	Thomas	Professor of Quaternary Studies	Earth Sciences/Climate Change Institute
Koons	Peter	Associate Professor	Earth Sciences/Climate Change Institute
Kreutz	Karl	Associate Professor	Climate Change Institute/Earth Sciences
Kurbatov	Andrei	Assistant Research Professor	Climate Change Institute
Lagerklint	Ingrid	Research Assistant Professor	Climate Change Institute
Lee	Betty	Financial & Outreach Manager	Climate Change Institute
Mayewski	Paul	Director/Professor of Climate Studies	Climate Change Institute/Earth Sciences
Maasch	Kirk	Professor of Climate Change Institute and Earth Sciences	Climate Change Institute/Earth Sciences
Meese	Debra	Research Professor	Climate Change Institute
Norton	Stephen	Cooperating Professor	Earth Sciences/Climate Change Institute
Nurse	Andrea	Research Scientist	Climate Change Institute
Ocampo-Raeder	Verionica	Cooperating Assistant Professor	Anthropology/Climate Change Institute
Oswald	Gordon	Research Professor	Climate Change Institute
Porter	Charles	Research Associate	Climate Change Institute
Robinson	Brian	Assistant Professor of Quaternary and Climate Studies	Anthropology/Climate Change Institute
Roscoe	Paul	Cooperating Professor	Anthropology/Climate Change Institute
Sandweiss	Daniel	Professor	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	Climate Change Institute/Biological Scs.
Seymour	Deborah	Administrative Assistant I	Climate Change Institute
Schauffler	Molly	Research Assistant Professor	Climate Change Institute
Sobolik	Kristin	Professor/Associate Director	Anthropology/Climate Change Institute
Smith	David	Bird and Bird Professor Emeritus of History	Climate Change Institute/History Climate Change Institute/Chemical & Biological Engineering
Smorodin	Vladimir	Research Professor	Climate Change Institute/Chemical & Biological Engineering
Stager	J.Curt	Research Associate	Climate Change Institute
Vandergoes	Marcus	Assistant Research Professor	Climate Change Institute
Will	Richard	Adjunct Professor	Climate Change Institute
Zielinski	Ann	Research and Administrative Coordinator	Climate Change Institute

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

**Note: The Climate Change Institute faculty/staff roster numbers 48 people. Only those with CCI MEIF or CCI E&G support are listed here.**

<b>E&amp;G</b>		<b>Grant Home</b>
<b>Faculty &amp; Staff</b>		
Denton, George	Libra Professor, Climate Change Institute & Earth Sciences (74%)	CCI
Hall, Brenda	Associate Professor, Climate Change Institute & Earth Sciences (70%)	CCI
Hughes, Terence	Professor, Climate Change Institute & Earth Sciences (55%)	CCI
Jacobson, George	Professor, Climate Change Institute & Biological Sciences (56%)	CCI
Kellogg, Thomas	Professor, Climate Change Institute & Earth Sciences (50%)	ERS
Kreutz, Karl	Associate Professor, Climate Change Institute & Earth Sciences (100%)	CCI
Maasch, Kirk	Professor, Climate Change Institute & Earth Sciences (50%)	CCI
Robinson, Brian	Assistant 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
Zaro, Gregory	Assistant Professor, Climate Change Institute and Anthropology (50%)	CCI
<b>Staff (not grant writers)</b>		
Addessi, Rebecca	Account Manager (100%)	
Lee, Betty	Financial & Outreach Manager (100%)	
Seymour, Deborah	Administrative Assistant (100%)	

<b>MEIF</b>		<b>Grant Home</b>
<b>Faculty &amp; Staff</b>		
Dieffenbacher-Krall, Ann	Assistant Research Professor (32.36%)	CCI
Hamilton, Gordon	Associate Research Professor (44.79%)	CCI
Mayewski, Paul	Professor of Climate Change Institute (100%)	CCI
Koons, Peter	Associate Professor, Climate Change Institute & Earth Sciences (24.04%)	ERS
Kurbatov, Andrei	Assistant Research Professor (69.51%)	CCI
Saros, Jasmine	Associate Professor, Climate Change Institute & Biological Sciences (50.8%)	CCI
Sneed, Sharon	Ion Chromatography Laboratory Manager (100%)	CCI
<b>Staff (not grant writers)</b>		
Holweger, Paul	Research Assistant (100%)	
Introne, Douglas	Stable Isotope Laboratory Manager (100%)	
Zielinski, Ann	Research and Administrative Coordinator (100%)	

**Research Grant Submissions – submitted in FY2007 – 2008 – to cover period 2006 - 2010**

Research grant submissions for the Climate Change Institute totaled **\$21,208,399** for fiscal year 2007-2008. This total reflects 81 submissions (includes new, supplemental, continuation, and pre-proposal submissions).

**All Research Grant Awards– FY2007 - 2008**

Research funded grant awards for the Climate Change Institute totaled **\$5,672,932** for fiscal year 2007-2008.

**New Research Grant Submission Awards – FY2007 – 2008 – Total Funds for FY2007-2008**

Research grant submissions awarded for the Climate Change Institute totals **\$2,650,892** (32 grants). 46.72% of all research grant awards for FY2007-2008 comprise of new research grant submissions.

**Research Grants Submissions Pending – FY2007 – 2008**

Research grant submissions pending for the Climate Change Institute totals **\$12,357,578** (32 grants) covering FY2008 – FY2011.

**Research Grant Submissions Declined – FY2007 – 2008**

Research grant awards declined for the Climate Change Institute totaled **\$6,099,869** (17 grants) during FY2007-2008 intended to cover period FY2008 – FY2011.

**Percent Success Rate by all CCI Grant Writers for Research Grant Submissions – FY2007 – 2008**

Climate Change Institute faculty and staff were **65.31%** successful in obtaining grant awards during FY2007 – 2008.

**Funds via E&G and MEIF – FY2007-2008 (minus fringe)**

E&G funding for salaries (minus fringe) totals: \$610,758

E&G funding for operating totals: \$5,877

MEIF funding for salaries (minus fringe) totals: \$432,456

MEIF funding for operating totals: \$28,350

TOTAL E&G and MEIF FUNDING: \$1,077,441

**Return on Investment (ROI) for all dollars by CCI – E&G and MEIF (minus fringe)**

Total of All Research Grant Awards – FY2007 – 2008 = \$5,672,932

Total E&G and MEIF Funding: \$1,077,441

**ROI = CCI return on investment is \$5.265 dollars per \$1 invested in MEIF and EandG**

The table below includes all Climate Change Institute grant writers who receive E&G and or MEIF funds through CCI.

<b>CCI Faculty/Staff</b>	<b>Grant Award Total FY2007/2008</b>	<b>Number of Grants</b>
Denton, George	\$98,464	2
Hall, Brenda	\$144,703	3
Hamilton, Gordon	\$543,432	4
Hughes, Terence	\$214,590	1
Koons, Peter	\$1,323,892	3
Kreutz, Karl	\$255,129	2
Mayewski, Paul	\$865,948	5
Saros, Jasmine	\$434,047	9
<b># of Grant Writers = 9</b>		
<b>TOTAL</b>	<b>\$3,880,205</b>	<b>29</b>



The average amount raised by each CCI grant writer (9) supported by MEIF and/or E&G was **\$485,025** in FY2007-2008.

## Major Awards:

10 this year (4 last 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 22 expeditions this past year. For details of several see:

<http://climatechange.umaine.edu/Research/Expeditions/index.html>

## Mentoring

Two postdoctoral fellows (L. Stearns and L. Corrigan) are currently supported by CCI grants and mentored by our faculty.

A total of 34 graduate students are supported by the Institute, 14 are PhD students. Research grants support 22 of the graduate students.

## Summary of Faculty Publications – FY2007-2008

<b>PUBLICATION TYPE</b>	<b>FY 2007-2008</b>	<b>FY2006-2007</b>
<b>Peer Reviewed Publications – Journal Articles</b>	<b>45</b>	<b>41</b>
<b>Peer Reviewed Publications Journal Articles - In Press</b>	<b>20</b>	<b>68</b>
<b>Peer Reviewed Publications Journal Articles – Submitted</b>	<b>19</b>	<b>40</b>
<b>Abstracts – Conference Proceedings</b>	<b>52</b>	<b>69</b>
<b>Book Chapters Published and in press</b>	<b>14</b>	<b>9</b>
<b>Books</b>	<b>4</b>	<b>1</b>
<b>Technical Publications (Non Peer Reviewed)</b>	<b>3</b>	<b>2</b>
<b>Other Publications</b>	<b>12</b>	<b>14</b>
<b>Presentations</b>	<b>152</b>	<b>108</b>
<b>Media and Other Indicator Presentations</b>	<b>11</b>	

## **Special Recognition/Awards/Honors received for research, scholarship, creativity:**

Chawathe, S. I am the junior most member to serve as Vice President of the IEEE Intelligent Transportation Systems Society. IEEE societies are major components of the IEEE, which has close to 400,000 members worldwide.

Dieffenbacher-Krall, A. Springer Scientific Press has renewed its invitation for me to author-edit a book about my research in northern Maine. The invitation resulted from the fact that my and Andrea Nurse's 2005 article in Journal of Paleolimnology received the most "views" of any paper published in the journal that year. I am currently developing a book concept.

Dieffenbacher-Krall, A. Featured on UMaine home page, week of 5/23/2008: Research Spotlight, "Chironomids Give a Whole New Meaning to the Phrase 'Life is Short'".

Kelley, J. Invited to tour Moroccan coast and develop web site on world's beaches with Santa Aguila Foundation.

Kelley, J. Invited to be keynote speaker at International Geological Correlation Program meeting in Northern Ireland.

Kelley, J. Plenary session speaker at Northeast Climate Change meeting of federal agency officials.

Kelley, J. Led National Park service officials on field trip of Acadia National Park.

Mayewski, P.

1) In 2007 invited to speak at the ECAD (Explorers Club Annual Dinner) as an honoree to an audience in the Waldorf Astoria of ~1500 people (black tie). Dan Rather was moderator.

(2) In 2007 awarded the Lowell Thomas Medal by the Explorers Club for distinguished exploration. Previous medalists have included: E.O. Wilson, Edmund Hillary, Edward Viesturs, Brad and Barbara Washburn, Rita Coldwell, Buzz Aldrin, Robert Ballard, Scott Carpenter, Walter Schirra, Isaac Asimov, Carl Sagan.

(3) Nominated by UM for the Medal of Science.

(4) In 2008 elected AAAS Fellow, American Association for the Advancement of Science.

(5) In 2008 given Distinguished Alumni Award, State University of New York at Buffalo. SUNY@B has 190,000 graduates and fewer than 100 have received this award in the university's history.

(6) In 2007 invited to deliver the once per year S.T. Lee Lecture in Antarctic Studies at several venues in New Zealand.

(7) Honorary Research Associate Victoria University of Wellington (2001-present).

(8) Chair International Trans Antarctic Scientific Expedition (ITASE – 20 nations) (1992-present).

(9) Field Leader US ITASE oversnow traverses (1999-2008) – first multi-disciplinary scientific expedition to the South Pole (>8000km traverse – 11 US institutions involved), plus first team ever to traverse to South Pole twice (2003 and 2007), and from different directions (across East and West Antarctica).

(10) World record for Antarctic oversnow traverse distance completed through a combination of travel by foot, ski, snowmobile, tractor; >20,000km.

(11) Accorded unofficial status of one Maine's most prominent explorers along with Robert E. Peary and Donald Baxter MacMillan during several introductions preceding public lectures.

(12) The only member of UM to achieve the ISI Most Highly Cited status for publications.

Roscoe, P. CLAS Research and Creative Achievement Award

Roscoe, P. Elected member of Phi Kappa Phi

Sandweiss, D. Presidential Recognition Award from the Society for American Archaeology, presented at the Annual Meeting, Vancouver BC, March 28, 2008.

Smorodin, V. Nomination in “Outstanding Scientists of XXI Century” by the International Biographical Center, Cambridge, UK, 2007.

### **Peer Reviewed Publications - Journal Articles**

Alexander, M., A. Capotondi, A. Miller, F. Chai, R. Brodeur, and C. Deser (2008), Decadal variability in the northeast Pacific in a physical-ecosystem model: Role of mixed layer depth and trophic interactions, *J. Geophys. Res.*, 113, C02017, doi:10.1029/2007JC004359.

Anderson, M. W., + 11 co-authors, 2007, Attitude changes of Undergraduate University students in a general education course: *Journal of General Education*, 56, #2.

Anderson, D.G., Maasch, K.A., Sandweiss, D.H., and Mayewski, P.A., 2007, Climate and culture change: Exploring Holocene transitions, in *Climate Change and Cultural Dynamics: A Global Perspective on Mid-Holocene Transitions*, eds. Anderson, D.A., Maasch, K.A., and Sandweiss, D.H., Elsevier Press.

Baker, I., R.W. Obbard, D. Iliescu and D. Meese, 2007, <sup>3</sup>Microstructural Characterization of Firn<sup>2</sup>, *Hydrological Processes*, 21, 1624-1629.

Brothers, L.L., Belknap, D.F., Kelley, J.T., and Jantzen, C.D., 2008, Sediment transport and dispersal in a cool temperate estuary and embayment, Saco River estuary, Maine, USA. *Marine Geology* v. 251, p. 183-194.

Buesseler, K. O., S. C. Doney, D. M. Karl, P. W. Boyd, K. Caldeira, F. Chai, K. H. Coale, H. J. W. de Baar, P. G. Falkowski, K. S. Johnson, R. S. Lampitt, A. F. Michaels, S. W. A. Naqvi, V. Smetacek, S. Takeda, A. J. Watson (2008): Ocean Iron Fertilization--Moving Forward in a Sea of Uncertainty. *Science*, 11 January 2008: Vol. 319. no. 5860, p. 162?. DOI: 10.1126/science.1154305.

Chai, F., M-S Jiang, Y. Chao, R.C. Dugdale, F. Chavez, and R.T. Barber (2007): Modeling Responses of Diatom Productivity and Biogenic Silica Export to Iron Enrichment in the Equatorial Pacific Ocean. *Global Biogeochemical Cycle*, Vol. 21, GB3S90, doi:10.1029/2006GB002804.

Daly, J.F., Belknap, D.F., Kelley, J.T. and Bell, T., 2007, Late Holocene sea-level change around Newfoundland: *Canadian Journal of Earth Sciences*, v. 44, p. 1453-1465.

Dawson, A.G., Hickey, K., Mayewski, P.A., and Nesje, A., 2007 in press, Greenland (GISP2) ice core historical indicators of rapid North Atlantic climate changes during the 14th century without NAO forcing, *Holocene* 17 (4) 427-434.

Dieffenbacher-Krall, A.C., M.V. Vandergoes, and G.H. Denton. 2007. An inference model for mean summer air temperatures in the Southern Alps, New Zealand, using subfossil chironomids. *Quaternary Science Reviews* 26: 2487-2504.

Dugdale, R.C., F.P. Wilkerson, F. Chai, and R. Feely (2007): Size fractionated nitrogen uptake measurements in the Equatorial Pacific and confirmation of the low Si-HNLC condition. *Global Biogeochemical Cycles*, Vol. 21, No. 2, GB2005, 10.1029/2006GB002722.

Felton, A.A., ... J.C. Stager, *et al.* 2007. Paleolimnological evidence for the onset and termination of glacial aridity from Lake Tanganyika, East Africa. *Palaeo-3* doi:10.1016/j.palaeo.2007.04.003

Firestone, R.B., West, A., Kennett, J.P., Becker, L., Bunch, T.E., Revay, Zs., Schultz, P.H., Belgya, T., Dickenson, O.J., Erlandson, J.M., Goodyear, A.C., Harris, R.S., Howard, G.A., Kennett, D.J., Kloosterman, J.B., Lechler, P., Montgomery, J., Porada, R., Darrah, T., Que Hee, S.S., Smith, A.R., Stich, A., Topping, W., Wittke, J.H., Wolbach, W.S., and Mayewski, P.A., in review, Evidence for an extraterrestrial impact, 12, 900 years ago that contributed to the megafaunal extinctions and the Younger Dryas cooling, *Proceedings of the National Academy of Sciences (PNAS)*.

Fujii, M., E. Boss, and F. Chai (2007): The value of adding optics to ecosystem models: a case study. *Biogeosciences* 4, 1585-1631.

Fujii, M. and F. Chai (2007): Modeling carbon and silicon cycling in the equatorial Pacific. *Deep Sea Res. II* 54, 496-520.

Gill, R. B., P. A. Mayewski, J. Nyberg, G. H. Haug, and L. C. Peterson, 2008, Drought and the Maya Collapse. *Ancient Mesoamerica* 18:283–302.

Gow, A.J. and D.A. Meese, 2007, The Distribution and Timing of Tephra Deposition at Siple Dome, Antarctica: Possible Climatic and Rheological Implications, *Journal of Glaciology* 53(183) 585-596.

Gow, A.J. and D.A. Meese, 2007, Physical Properties, Crystalline Textures and C-axis Fabrics of Siple Dome (Antarctica) Ice Core, *Journal of Glaciology*, 53(183): 573-584.

Hooke, R.L. and J. L. Fastook, "Thermal conditions at the bed of the Laurentide ice sheet in Maine during deglaciation: implications for esker formation," *Journal of Glaciology*, vol. 53, n. 183, pp. 646-658, 2007.

Khan, S.A., J. Wahr, L.A. Stearns, G.S. Hamilton, T. van Dam, K. Larson & O. Francis. 2007 Elastic uplift in southeast Greenland due to rapid ice volume loss. *Geophysical Research Letters*, vol. 34, L21701, doi:10.1029/2007GL031468.

Kaspari, S., P. Mayewski, S. Kang, S. Sneed, S. Hou, R. Hooke, K. Kreutz, D. Introne, M. Handley, K. Maasch, D. Qin, and J. Ren, 2007, Reduction in northward incursions of the South Asian monsoon since ~1400 AD inferred from a Mt. Everest ice core, *Geophys. Res. Lett.*, 34, L16701, doi:10.1029/2007GL030440

Kaspari, S., Hooke, R., Mayewski, P.A., Kang, S., Qin, D., and Hou, S., in press, Changes in the snow accumulation rate at Mt. Everest based on ice core annual layering and a numerical model, *Jour. Glaciology*

Kopáček, J., Marešová, M., Hejzlar, J., and Norton. S A., 2007, Natural inactivation of phosphorus by aluminum in pre-industrial lake sediments: *Limnol. Oceanogr.*, 52, 1147-1155.

Lake, B., Coolidge, K., Norton, S. A., and Amirbahman, A., 2007, Factors contributing to the internal loading of phosphorus from anoxic sediments in six Maine, USA, lakes: *Science. Tot. Environ.*, 373, 534-541.

Marchant, D.R., W. M. Phillips, J. M. Schaefer, G. Winckler, J. L. Fastook, D. E. Shean, D. E. Kowalewski, J. W. Head, and A.R. Lewis, "Establishing a chronology for the world's oldest glacier ice," 10th International Symposium on Antarctic Earth Sciences 10th International Symposium on Antarctic Earth Sciences, U.S. Geological Survey and The National Academies, pp. 1-4, USGS OFR-2007, 2007.

McCabe, A.M., Cooper, J.A. G., and Kelley, J.T., 2007, Relative Sea Level Changes From Northeastern Ireland During The Last Glacial Termination" *Journal of the Geological Society* v. 164, p. 1-5.

- McCormick, M., Dutton, P. and Mayewski, P.A., 2007, Volcanoes and the climate forcing of Carolingian Europe, A.D. 750 to 950, *Speculum* 82, 865-895.
- Norton, S. A., 2007, Atmospheric Metal Pollutants – Archives, Methods, and History: Water, Air, Soil Poll. Focus., 93-98.
- Norton, S. A., Wilson, T., Handley, M., and Osterberg, E. C., 2007, Atmospheric deposition of cadmium in the northeastern USA: Applied geochemistry.
- Pfeiffer-Hoyt, A. S., M.A. McManus, P.T. Raimondi, Y. Chao, and F. Chai (2007): Dispersal of barnacle larvae along the central California coast: A modeling study. *Limnol. Oceanogr.*,52(4), 2007, 1559-1569.
- Oswald, G.K.A. and Gogineni., S.P; Recovery of subglacial water extent from Greenland radar survey data. *Journal of Glaciology*; Vol. 54, No. 184, 2008
- Osterberg, E.C., Mayewski, P.A., Fisher, D.A., Kreutz, K.L., Handley, M.J., Sneed, S.B., Zdanowicz, C. and Zheng, J., 2008, Asian Pb emissions in the North American free troposphere from the 13,000 year Mt. Logan ice core, *Geophysical Research Letters* 35, L05810, doi:10.1029/2007GL032680.
- Roscoe, P. 2007 Intelligence, Coalitional Killing, and the Antecedents of War. *American Anthropologist* 109:485-495.
- Rosfjord, C. H., Webster, K. E., Kahl, J. S., Norton, S. A., Fernandez, I. J., and Herlihy, A., 2007, Alteration of base cation biogeochemistry by widespread increases in chloride in northeastern U.S. lakes: *Environ. Sci. Technol.*, 41, 7688-7693.
- Schauffler, M., S.J. Nelson, J.S. Kahl, G.L. Jacobson, T.A. Haines, W.A. Patterson and K.B. Johnson, 2007. Paleocological Assessment of Watershed History in PRIMENet Watersheds at Acadia National Park, USA. *Environmental Monitoring and Assessment* 126(1-3): 39-53.
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- Stager, J.C., A. Ruzmaikin, D. Conway, P. Verburg, and P.J. Mason. 2007. Solar variability, ENSO, and the levels of Lake Victoria, East Africa. *J. Geophys. Res.* 112: D15106, doi: 10.1029/2006JD008362.

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Vandergoes, M.V., A.C. Dieffenbacher-Krall, R.M. Newnham, G.H. Denton, M. Blaauw. 2008. Cooling and changing seasonality in the Southern Alps, New Zealand during the Antarctic Cold Reversal. *Quaternary Science Reviews* 27: 589-601.

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Wanamaker, A.D., Jr., Kreutz, K.J., Schöne, B.R., Pettigrew, N.R., Borns, H.W., Jr., Introne, D.S., Belknap, D.F., Maasch, K.A. and Feindel, S., 2007, Coupled North Atlantic Slope Water forcing on Gulf of Maine temperatures over the past millennium: *Climate Dynamics*, *Clim Dyn* DOI 10.1007/s00382-007-0344-8, 12 pp. Published Online Dec. 4, 2007.

Williamson, B.R., Kreutz, K.J., Mayewski, P.A., Bertler, N.A.N., Sneed, S., Handley, M., and Introne, D., 2007, A coastal transect of the McMurdo Dry Valleys (Antarctica) snow and firn: marine and terrestrial influences on glaciochemistry, *Journal of Glaciology* 53 (183), 681-693.

Zeng, D., S. Chawathe, and F. Wang.. Protecting transportation infrastructure. *IEEE Intelligent Systems*, 22(5):811, September/October 2007.

Zhang, W.Z., H.S. Hong, S.P. Shang, D.W. Chen, and F. Chai (2007): A two-way nested coupled tide-surge model for the Taiwan Strait. *Continental Shelf Research*, doi: 10.1016/j.csr.2007.01.018.

### **Peer Reviewed Publications – Journal Articles – In Press/Accepted**

AGCS (P.A. Mayewski, M. Meredith, C. Summerhayes, J. Turner, S. Aoki, Barrett, P. N.A.N. Bertler, T. Bracegirdle, D. Bromwich, H. Campbell, G. Casassa, A. N. Garabato, W.B. Lyons, K.A. Maasch, A. Worby, C. Xiao), in press, *State of the Antarctic and Southern Ocean Climate System (SASOCS)*, *Reviews of Geophysics*.

Aizen, V. B., Mayewski, P.A., Aizen, E., Joswiak, D., Kaspari, S., Surazakov, A., Grigholm, B., and Finaev, A., 2008, Stable isotope and chemical time series from Fedchenko Glacier firn core, Pamir, *J. Glaciol.*

Bragdon, B., Smorodin, V., and A. Nohe. “Concerning Dynamics of Rafts and Caveolae in Model and Real Bio-Membrane Systems”. *Biophysical Journal*, 2008 (in preparation/press).



Brothers, L.L., Belknap, D.F., Kelley, J.T. and Jantzen, C.D., 2008 in press, Sediment transport and dispersion in a cool-temperate estuary and embayment, Saco River estuary, Maine, USA: *Marine Geology*, v. p. preprint available online at doi:10.1016/j.margeo.2008.02.004.

Dugmore, A.J., Borthwick, D.M., Church, M.J., Dawson, A., Edwards, K.J., Keller, C., Mayewski, P.A., McGovern, T.H., Mairs, K.-A., and Sveinbjarnardóttir, G., in press, The role of climate in settlement and landscape change in the North Atlantic islands: an assessment of cumulative deviations in high-resolution proxy climate records, *Human Ecology*.

Fisher, D., Osterberg, E., Dyke, A., Dahl-Jensen, D., Demuth, M., Zdanowicz, C., Bourgeois, J., Koerner, R.M., Mayewski, P.A., Wake, C., Kreutz, K., Steig, E., Zheng, J., Yalcin, K., Goto-Azuma, K., Luckman, B., and Rupper, S., in press, The Mt. Logan Holocene-Late Wisconsin Isotope Record: Tropical Pacific-Yukon Connections, *Holocene*.

Friedrichs, M.A.M., J. A. Dusenberry, L. A. Anderson, R. Armstrong, F. Chai, J. R. Christian, S. C. Doney, J. Dunne, M. Fujii, R. Hood, D. McGillicuddy, J. K. Moore, M. Schartau, Y. H. Spitz, J. D. Wiggert (2007): Assessment of skill and portability in regional marine biogeochemical models: the role of multiple planktonic groups. *Journal of Geophysical Research*, 112, C08001, doi:10.1029/2006JC003852.

Goss, H. V. and Norton, S. A., in press, Contrasting chemical response to artificial acidification of three acid-sensitive streams in Maine, USA.: *Sci. Tot. Environ.*

Hamilton, G.S., L.A. Stearns, P. Elosegui, J.L. Davis & M. Langer. 2008 Tidal modulation of ice flow on Kangerdlugssuaq Glacier, East Greenland, observed using high-rate GPS measurements. *Geophysical Research Letters*, submitted May 2007.

Kelley, A.R., Kelley, J.T., Belknap, D.F., and Gontz, A.M., 2008 in press, Isostatically forced Holocene drainage divide shifts, Penobscot and Kennebec Rivers, Maine: *The Holocene*.

Kopáček, J., Hejzlar, J., and Norton, S. A., in press, Proton production by transformations of aluminium and iron in lakes: *Water Research*.

Mayewski, P.A., M.P. Meredith, C. P. Summerhayes, J. Turner, A. Worby, P.J. Barrett, G. Casassa, N.A.N. Bertler, T. Bracegirdle, A. C. Naveira Garabato, D. Bromwich, H. Campbell, G.H. Hamilton, W.B. Lyons, K.A. Maasch, S. Aoki, C. Xiao, 2008, State of the Antarctic and Southern Ocean Climate System (SASOCS), *Reviews of Geophysics*, in press.

Meyerson, E.A., Mayewski, P.A., Sneed, S.B., Kurbatov, A.V., Kreutz, K.J., Zielinski, G.A., Taylor, K.C., Steig, E.J., Yan, Y. and Maasch, K.A., 2006. Examination of major

Holocene climate change events in ice cores from West Antarctica (Siple Dome), East Antarctica (Taylor Dome) and Greenland (GISP2), *The Holocene*, in press.

McNally, L.K., III, K.A. Maasch, K.J. Zuill, 2008, The Use of Ships' Protests for Reconstruction of Synoptic-scale Weather and Tropical Storm Identification in the Late 18th Century, *Weather*, in press.

Neumann, F., C Stager, L. Scott, H.J.T. Venter, and C. Weyhenmeyer. 2008. Holocene vegetation and climate records from Lake Sibaya, KwaZulu-Natal (South Africa). *Rev. Palaeobot. Palynol.* (in press)

Norton, S. A., Coolidge, K., Amirbahman, A., Kopáček, J., and Bouchard, R. J., 2008, Speciation of Al, Fe, and P in recent sediment of three Maine lakes, USA: *Sci. Tot. Environ.*

Roscoe, P. The Comparative Method. *Compass: The Online Journal of Religious Studies*. [Revised and condensed version of 2006 publication; invited by editor.]

Smorodin, V. "Nanoscale Particulate Dynamics in the Knudsen Transition Regime and the Fuchs "Boundary Sphere" Method", *Atmospheric Research*, 2008 (in press).

Smorodin, V.Y. "Coagulation of Charged Nanoparticles". *Journal of Aerosol Science*, 2008 (in press).

Zaro, Gregory, Heather Builth, Claudia Rivera, Jimena Roldan, and Graciela Suvires (in press). Landscape evolution and human agency: archaeological case studies from drylands in western South America and Australia. *Chungará Revista de Antropología Chilena*.

### **Peer-Reviewed Publications – Journal Articles –Submitted**

Dunbar N. W., Kurbatov A.V., Zielinski G.A., (2008 submitted), Complete Tephrochronology of the Siple Dome Ice Core: Correlations and Sources, *JVGR*

Fastook, J.L., James W. Head, David R. Marchant, and Francois Forget, "Tropical Mountain Glaciers on Mars: Altitude-Dependence of Ice Accumulation, Accumulation Conditions, Formation Times, Glacier Dynamics, and Implications for Planetary Spin-Axis/Orbital History", *Icarus*

Hughes, T. Thermal Convection and the Origin of Ice Streams

Grigholm, B., Mayewski, P.A., Kang, S., Kaspari, S., Sneed, S., Zhang, Y., Zhang, Q., Cong, Z., in review, Glaciochemical records from a Tibetan Ice Core: Proxy for Surface Pressure, Scalar Wind Velocity and Teleconnection with the PDO

Hughes, T. Variations in Ice-Bed Coupling Beneath and Beyond Ice Streams

Grigholm, B. Mayewski, P.A., Kurbatov, A., Sneed, S., Handley, M., and Introne, D., in review, Fresh snow chemistry from the Marinelli Glacier in the cordillera Darwin, Tierra del Fuego.

Jain, S. What a difference a century makes: Understanding the changing hydrologic regime and storage requirements in the Upper Colorado River basin. *Geophysical Research Letters*.

(1) Kang, S., Qin, D., Kaspari, S., Zhang, Y., Mayewski, P.A., Ren, J., and Hou, S., in review, Climatological significance of seasonal dD records from the Mt. Nyainqentanglha ice core, southern Tibetan Plateau.

Kaspari, S., Mayewski, P.A., Handley, M., Osterberg, E., Kang, S., Hou, S., and Qin, D., in review, Recent increases in atmospheric concentrations of Bi, U, Cs, S, and Ca from a 350-Year Mt. Everest ice core record.

Kaspari, S., Mayewski, P.A., Handley, M., Kang, S., Hou, S., Sneed, S., Maasch, K., and Qin, D., in review, A high resolution record of atmospheric dust composition and variability since AD1650 from a Mt. Everest ice core.

Nettles, M., T.B. Larsen, P. Elosegui, G.S. Hamilton, L.A. Stearns, A.P Ahlstrom, J.L. Davis, M.L. Andersen, J. de Juan, S.A. Khan, L. Stenseng, G. Ekstrom & R. Forsberg. 2008 Step-wise changes in glacier flow speed coincide with calving events and glacial earthquakes at Helheim Glacier, East Greenland. *Science*, submitted May 2008.

Ocampo-Raeder, V. C. 2006 "El Impacto de la Agricultura Indigena en la Biodiversidad del Bosque Tropical Humedo" in *Debate Agrario*. Lima: Peru.

Ocampo-Raeder, V.C. 2008 "Buying Culture: The Subsistence Dimension of Market Based Activities in the Peruvian Amazon." Submitted to *Human Ecology*.

Pang, H., Hou, S., Kaspari, S., Mayewski, P., Masson-Delmotte, V., Jouzel, J., Qin, D., He, Y., and Hong, S., in review, Change of atmospheric circulation in the late 1960s indicated by a Himalayan ice core deuterium excess record.

Roscoe, P. n.d. Hot Air and Symbolic Capital: The German-English-Dutch Airship Expedition to New Guinea. *The Journal of the Royal Anthropological Institute*. Revision and resubmission requested and in process.

Roscoe, P. n.d. Settlement Fortification in Village and Tribal Society: Evidence from Contact-era New Guinea. Submitted to *The Journal of Anthropological Archaeology*.

Stearns, L.A., B.L. Smith & G.S. Hamilton. 2008 Acceleration of Byrd Glacier, East Antarctica, linked to rapid drainage of subglacial lakes. *Nature Geoscience*, submitted June 2008.

Wilson, T. A., Norton, S. A., Lake, B., Amirbahman, A., in press, Sediment geochemistry of Al, Fe, and P for two oligotrophic Maine lakes during a period of acidification and recovery: *Sci. Tot. Environ.* (194)

Zaro, Gregory (submitted, May 2008). Agriculture and the delineation of process and change in the archaeological record. *Journal of Archaeological Method and Theory*.

### **Peer Reviewed Publications -Book Chapters**

Anderson, D.G., K.A. Maasch, D.H. Sandweiss, and P.A. Mayewski , 2007. Global Climate Change in the Mid-Holocene. In *Climatic Change and Cultural Dynamics: A Global Perspective on Holocene Transitions*, ed. by D.G. Anderson, K.A. Maasch, and D.H. Sandweiss. San Diego: Academic Press.

Leach, P.A. and Belknap, D.F., 2007, Marine Geophysics and Vibracoring Applied to the Search for Submerged Prehistory in Damariscotta River, Maine, USA. In: L. Wilson, P. Dickinson and J. Jeandron, eds., *Reconstructing Human-Landscape Interactions*, Cambridge Scholars Publishing, Newcastle, UK, Chapter 8, p. 141-158. ISBN 1-84718-188-0.

Mayewski, P.A., 2007, Venturing to the Ends of the Earth - Exploring our planet's polar regions—chroniclers of the past and portents of the future, *Explores Club Journal*3, 1, 22-31.

Sandweiss, D.H., K.A. Maasch, C.F.T. Andrus, E.J. Reitz, M. Riedinger-Whitmore, J.B. Richardson III, and H.B. Rollins, 2007. Mid-Holocene Climate and Culture Change in Coastal Peru. In *Climatic Change and Cultural Dynamics: A Global Perspective on Holocene Transitions*, ed. by D.G. Anderson, K.A. Maasch, and D.H. Sandweiss. San Diego: Academic Press.

Sanger, D., H. Almquist, A.C. Dieffenbacher-Krall. 2007. Mid-Holocene cultural adaptations to Central Maine. In: D.Anderson et al., eds. *Climate Change and Cultural Dynamics: A Global Perspective on Holocene Transitions*. Academic Press, pp. 435-456.

### **Books - Published**

Anderson, D.G., K.A. Maasch, and D.H. Sandweiss, editors (2007). *Climatic Change and Cultural Dynamics: A Global Persepctive on Holocene Transitions*. Amsterdam: Academic Press/Elsevier. xxv + 575 pp.

Barnes, M. and D.H. Sandweiss, editors (2007). *Andean Past 8*. Ithaca, NY: Cornell University Latin American Studies Program. x + 497 pp.

Hughes, T. *Holistic Ice Sheet Modeling: A First-Order Approach*.

### **Books – Accepted**

Sandweiss, D.H. and J. Quilter, editors (In press). *El Niño, Catastrophism, and Culture Change in Ancient America*. Washington, DC: Dumbarton Oaks.

### **Book Chapter – Published**

Anderson, D.G., K.A. Maasch, D.H. Sandweiss, and P.A. Mayewski (2007). Global Climate Change in the Mid-Holocene. In *Climatic Change and Cultural Dynamics: A Global Perspective on Holocene Transitions*, ed. by D.G. Anderson, K.A. Maasch, and D.H. Sandweiss. pp. 1-23. Amsterdam: Academic Press/Elsevier.

Andrus, C.F.T., D.H. Sandweiss, and E.J. Reitz. *Climate Change and Archaeology: The Holocene History of El Niño on the Coast of Peru*. In *Case Studies in Environmental Archaeology*. Ed by E.J. Reitz, C.M. Scarry, and S.J. Scudder, pp. 143-157. Second Edition. London: Springer Science Business Media.

Reitz, E.J., C.F.T. Andrus, and D.H. Sandweiss (2008). Ancient Fisheries and Marine Ecology of Coastal Perú. In *Human Impacts on Marine Environments*, ed. by T. Rick and J. Erlandson, pp. 125-145. Berkeley: University of California Press.

Sandweiss, D.H. (2008). Early Fishing in Western South America. In *Handbook of South American Archaeology*, ed. by Helaine Silverman and William H. Isbell, pp. 145-156. New York: Springer.

Sandweiss, D.H. and J.B. Richardson III (2008). Andean Environments. In *Handbook of South American Archaeology*, ed. by Helaine Silverman and William H. Isbell, pp. 93-104. New York: Springer.

Sandweiss, D.H., K.A. Maasch, C.F.T. Andrus, E.J. Reitz, M. Riedinger-Whitmore, J.B. Richardson III, and H.B. Rollins (2007). Mid-Holocene Climate and Culture Change in Coastal Peru. In *Climatic Change and Cultural Dynamics: A Global Perspective on Holocene Transitions*, ed. by D.G. Anderson, K.A. Maasch, and D.H. Sandweiss, pp. 25-50. Amsterdam: Academic Press/Elsevier.

### **Book Chapters In Press/Accepted**

Bidwell, Allison, and V. Constanza Ocampo-Raeder 2007 “A Montana lodge and the case for a broadly defined ecotourism” Editor. Amanda Stronza. In *Ecotourism, Lessons from Around the World*.

Maasch, K.A., 2007. El Niño and interannual variability of climate in the western hemisphere, In “El Niño, Catastrophes, and Culture Change in Ancient America”, eds. Quilter, J. and Sandweiss, D., Dunbarton Oaks Pre-Columbian Symposium, in press.

Richardson, J.B. III and D.H. Sandweiss (In press). Climate Change, El Niño and the Rise of Complex Society on the Peruvian Coast during the Middle Holocene. In *El Niño, Catastrophism, and Culture Change in Ancient America*, ed. By DH. Sandweiss and J. Quilter. Washington DC: Dumbarton Oaks.

Roscoe, P. 2008 The Anthropology of War. In *The Encyclopedia of Life Support Systems, Anthropology*. UNESCO Online Encyclopedia. Michael Harkin, ed. Oxford, UK: UNESCO, Eolss Publishers. [10,636 words.]

Roscoe, P. n.d. Catastrophe and the Emergence of Political Complexity: Some Models from Social Anthropology. To appear in *Climate and Catastrophe*, Jeffrey Quilter and Daniel Sandweiss, eds. Washington, DC: Dumbarton Oaks, in press.

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 Nacional de Arqueología, Antropología, e Historia.

Sandweiss, D.H. (In press). Early Fishing and Inland Monuments: Challenging the Maritime Foundations of Andean Civilization? In *Foundations of Andean Civilization: Papers in Honor of Michael E. Moseley*, ed. By . Marcus, C. Stanish, and R. Williams. Los Angeles: Cotler Institute of Archaeology.

Sandweiss, D.H. and J. Quilter (In press). Climate, Catastrophe, and Culture in the Ancient Americas. In *El Niño, Catastrophism, and Culture Change in Ancient America*, ed. By DH. Sandweiss and J. Quilter. Washington DC: Dumbarton Oaks.

### **Peer Reviewed – Abstracts - Published**

Allen, Evan S., Tanner, Benjamin R., Wilson, Kristin R., and Kelley, Joseph T., 2008, C/N Ratios and n-Alkanes Used as a Fingerprint for Salt Pool Deposits in Maine Salt Marshes. *Geological Society of America Abstracts with Programs* v 40.

Altabet, M A, Chai, F, U; Gangopadhyay, A; High Resolution Model Simulation of the Suboxic Zones of the Eastern Tropical Pacific. 2008 Ocean Sciences Meeting, March 2008.

Belknap, D.F., 2008, Postglacial stratigraphic evolution of the Damariscotta River estuary, Maine, through basin isolation and stepwise transgression: Geological Society of America Abstracts with Programs, NE Section Meeting, v. 40, no. 2, p. 77.

Bragdon, B. C., Horton, L.G., Jeanos, A.S., Smorodin, V.Y., Beamer, W.G., Rosen, C.J. and A.Nohe. "Alterations of Membrane Domains Dynamics in Bone Stem Cells of Mice with Allelic Gene Differentiation". In: Proc. Of The Joint Biophysical Society Annual Meeting, Long Beach, CA, USA, February 2-6, 2008.

Brothers, L.L., Belknap, D.F. and Kelley, J.T., 2008, Methane source bed characterization in a nearshore pockmark field, Belfast Bay, ME: Geological Society of America Abstracts with Programs, NE Section Meeting, v. 40, no. 2, p. 6.

Chai, F; Dugdale, R; Brzezinski, M; Chao, Y; Nelson, D.; Silicon and Nitrogen Cycling in the Equatorial Pacific: A Model Data Comparison Study. 2008 Ocean Sciences Meeting, March 2008.

Chai, F., G. Liu, H. Xue, L. Shi, Y. Chao (2007): Variability of carbon cycle and productivity in the China Seas during 1960-2006: a three-dimensional physical-biogeochemical modeling study. The Fourth International Ocean-Atmosphere Conference (COAA 2007). Qingdao, China. July 2007.

Chavez, F P; Chai, F; Chao, Y; Foley, D; Barber, R T; Breaking New Ground Using Remote Sensing and Modeling in Operational Forecasting of Fisheries. 2008 Ocean Sciences Meeting, March 2008.

Davis, J.L., P. Elosegui, G.S. Hamilton, L.A. Stearns, M.L. Andersen & T.B. Larsen. 2007 Mechanisms for Tidally Induced Glacier Deformation and Flow Variations, East Greenland. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract G33B-1234.

Dugdale, R. F. Chai, R. Feely, D. Nelson, C. Measures, M. Brzezinski, F. Wilkerson (2007): Ecosystem functions in the equatorial Pacific. Surface ocean CO<sub>2</sub> variability and vulnerability workshop. UNESCO, Paris, France. 2007.

Dugdale, R; Parker, A; Chai, F; Brzezinski, M; Wilkerson, F, Dynamics of Steady State in Equatorial Pacific Upwelling Productivity: Comparison of Si and N Kinetics from Lab and Field. 2008 Ocean Sciences Meeting, March 2008.

Elosegui, P., J.L. Davis, G.S. Hamilton, L.A. Stearns, Nettles, M., T.B. Larsen, A.P Ahlstrom, J.L. Davis, M.L. Andersen, J. de Juan, S.A. Khan, L. Stenseng, G. Ekstrom & R. Forsberg. 2007 Geodetic Measurements and Analysis of Glacier Kinematics in East Greenland. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract G33C-02 INVITED.

Jeanos, A.S., Bragdon, B. C., Horton, L.G., Jeanos, A.S., Smorodin, V.Y., Rosen, C.J., Beamer, W.G., and A.Nohe. "Effect of Receptor Dynamics on the Cell Surface of Bone Stem Cells on Cell Differentiation Studied in Genetic Mouse Models Displaying Alterations in Peak Bone Density". In: Proc. Of The Joint Biophysical Society Annual Meeting, Long Beach, CA, USA, February 2-6, 2008.

Khan, S.A., J. Wahr, L.A. Stearns, G.S. Hamilton, T. van Dam, K. Larson & O. Francis. 2007 Elastic and viscoelastic crustal deformations in Greenland due to ice mass changes. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract G43B-1197.

Khan, S. A., J. Wahr, T. Dam, K.M. Larson, O. Francis, L.A. Stearns & G.S. Hamilton. 2008 Rapid uplift in Greenland due to ongoing ice mass changes. Geophysical Research Abstracts, Vol. 10, EGU2008-A-05245.

Kelley, A. R., Belknap, D.F., Maasch, K., 2008, Paleogeography of Quebrada Jaguay. Abstracts of the Society for American Archaeology, Vancouver., B.C., Canada, pp. 302.

Kelley, A.R., Belknap, D.F., Maasch, KA., Rademaker, K. and Reid, D., 2008, Paleogeography of Quebrada Jaguay: Symposium: Quebrada Jaguay: Maritime Adaptations and the Paleoindian to Archaic Occupation of Southern Peru, Program, Society for American Archaeology Annual Meeting, v. 12, no. 1, p. 29. Vancouver, BC, March 27-29.

Kelley, J.T., 2008, Sea-level rise in New England, Maritime Canada and Northern Ireland: A review of the records and causes. Invited Keynote Speaker, IGCP-495, Jordanstown, Northern Ireland, UK.

Kelley, J.T., Brothers, L.L, 2007, Camp Ellis, Maine: A Small Beach Community with a Big Problem/Jetty. Geological Society of America Abstracts with Programs National Meeting Denver. Invited Pardee Session.

Liu, G, Chai, F, Xue, H, Thomas, A; Spatial and Temporal Variation of Phytoplankton Biomass in the Gulf of Maine: Observations and Numerical Investigations. 2008 Ocean Sciences Meeting, March 2008.

Masahiko Fujii, M F, Emmanuel Boss, Fei Chai; The Value of Adding Optics to Ecosystem Models: A Case Study. 2008 Ocean Sciences Meeting, March 2008

Nettles, M., T.B. Larsen, P. Elosegui, G.S. Hamilton, L.A. Stearns, A.P Ahlstrom, J.L. Davis, M.L. Andersen, J. de Juan, S.A. Khan, L. Stenseng, G. Ekstrom & R. Forsberg. 2007 Regional rumble: a seismological study of glacial earthquakes in Greenland. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract G23A-02.

Nettles, M., T.B. Larsen, P. Elosegui, G.S. Hamilton, L.A. Stearns, A.P Ahlstrom, J.L. Davis, M.L. Andersen, J. de Juan, S.A. Khan, L. Stenseng, G. Ekstrom & R. Forsberg.



2007 Short-time-scale variations in flow speed and behavior, Helheim Glacier, East Greenland. *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract C13A-08.

Palacz, A P, Measures, C I, Chai, F, University of Maine; Modeling Iron, Aluminum and Carbon Cycle in the Eastern Equatorial Pacific Ocean. 2008 Ocean Sciences Meeting, March 2008

Pawlowski, L, Chai, F, Shi, L; Chao, Y; Chavez, F P; Temporal and Spatial Variation of Nutrients and Plankton Productivity in the California Current System: A Model Data Comparison Study. 2008 Ocean Sciences Meeting, March 2008

Ryazanov, V. and V. Smorodin. "Non-Equilibrium Charge Distribution in Bipolar Aerosol Ensembles". In: *The Abstracts Book of the Intl. Colloidal Conference*, Moscow, Russia, June, 2008.

Sanger, D., A. Dieffenbacher-Krall, and A. Kelley. May 2008. Holocene water levels and canoe travel. Canadian Archaeological Association Meeting, Peterborough, Ontario.

Smorodin, V. "Revising the Fuchs Boundary Sphere Method". In: *The Abstracts Book of the 17<sup>th</sup> International Conference on Nucleation and Atmospheric Aerosols (ICNAA 2007)*, Dublin, Ireland, September, 2007.

Smorodin, V. "Critical Analysis of the Fuchs "Boundary Sphere" Method". In: *The Abstracts Book of the European Aerosol Conference (EAC 2007)*, Salzburg, Austria, September 10-14, 2007.

Smorodin, V. "Atmosphere in the Earth Environment-Climate System in Global Climate Change. From Problems towards Conceptual Solutions". In: *The Abstracts Book of the CCI 2007 Agassiz Symposium*, Orono, ME, USA.

Smorodin, V., Nohe, A., and N. Petersen. "Experimental Studying Size Distributions of LC-Domains and Wetting Parameters of Heterogeneous Langmuir-Blodgett Films from Alveolar Surfactants", In: *The Abstracts Book of Chemical Biophysics 2007*, Toronto, Canada, April 2007.

Smorodin, V. "Interfacial Phenomena in Heterophilic Disperse Systems". In: *The Abstracts Book of the Portuguese Colloidal Conference*. Coimbra, Portugal, July 11-13, 2007.

Smorodin, V. and N. Fukuta. "The Fuchs "Boundary Sphere" Method in the Theory of Droplet Growth". In: *Abstracts of the Intl. Conference on Cloud Physics 2008*, American Meteorological Society, Cancun, Mexico, June, 2008

Smorodin, V. and A. Nohe. "A New Method to Deliver Nanoparticles/Proteins into the Nuclei of Living Cells". In: *The Abstracts Book of the Intl. Colloidal Conference*, Moscow, Russia, June, 2008.

Smorodin, V. "Percolation Concept of Zeta Potential and Electro-Osmosis in Capillary Disperse Media". In: The Abstracts Book of the Intl. Colloidal Conference, Moscow, Russia, June, 2008.

Smorodin, V. "Interfacial Processes in Heterophilic Disperse Systems". In: The Abstracts Book of the Intl. Colloidal Conference, Moscow, Russia, June, 2008.

Stearns, L.A. & G.S. Hamilton. 2007 New States of Behavior: Current Status of Outlet Glaciers in Southeast Greenland and the Potential for Similar Changes Elsewhere. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract C13A-06, INVITED.

Stearns, L.A. & G.S. Hamilton. 2008. Thinning and Acceleration of East Antarctic Outlet Glaciers. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract C41C-08.

Theriault, H.J., Belknap, D.F. and Kelley, J.T., 2008, Stratigraphic analysis and rates of Maine's coastal wetland transgression due to rising sea level: Geological Society of America Abstracts with Programs, NE Section Meeting, v. 40, no. 2, p. 77.

Vandergoes, M., A. Dieffenbacher-Krall, G. Denton, R. Newnham, M. McGlone, and J. Wilmshurst. August 2007. Late-glacial climate change in southern New Zealand: regional pollen and chironomid temperature reconstructions from the Southern Alps between 18-9 ka. XVII INQUA Congress, Cairns, Australia.

Vandergoes, M., A. Dieffenbacher-Krall, G. Denton, and R. Newnham. 2007. Climate variability in south Westland, New Zealand from 30,000 to 15,000 cal yr BP. Geological Society of New Zealand and New Zealand Geophysical Society Joint Conference, Tauranga, New Zealand, November 26, 2007.

Vandergoes, M., C. Woodward, A. Dieffenbacher-Krall, N. Whitehouse. August 2007. Interpreting climate reconstructions from pollen and chironomids: similarities, mismatches, and what does it all mean? XVII INQUA Congress, Cairns, Australia.

Vandergoes, M., A. Dieffenbacher-Krall, C. Woodward, J. Shulmeister. Towards an expanded chironomid temperature inference model for New Zealand. AUS-INTIMATE Meeting, Onekaka, June 12-13, 2008.

Wilson, K.R., Kelley, J.T. and Belknap, D.F., 2007, The role of salt pools in the dynamic surficial mosaic of north-temperate salt marsh environments: Geological Society of America Abstracts with Programs, Annual Meeting, v. 39, no. 6, p. 182.

### **Peer Review Abstracts – Accepted**

Kelley, Alice R., Belknap, Daniel F., Sandweiss, Daniel, Maash, Kirk, Rademaker, Kurt, and Reid, David Quebrada Jaguay, Peru - A Shell Midden Site Distant From the Coast

IGCP Working Group IGCP project 495 (Quaternary Land-Ocean Interactions: Driving Mechanisms and Coastal Responses), Meeting, Jordanstown, Northern Ireland. June 22-25

Simoes J.C., Alencar A.S., Aquino F.E., Arevalo M., Handley M.J., Introne D., Jana R., Kurbatov A., Mayewski P.A., Travassos J.M., Passos H.R., Reis L.F.M. (2008), Detroit Plateau: A new ice core site in the Antarctic Peninsula, SCAR meeting, St.Petersburg, Russia, July.

### **Peer Reviewed Abstracts – Submitted**

Dunbar, N.W., W.C. McIntosh, A.V. Kurbatov (2008) Integrated tephrochronology of the West Antarctic region- Implications for a potential tephra record in the West Antarctic Ice Sheet (WAIS) Divide Ice Core, Goldschmidt 2008 conference, July 13 - 18, Vancouver, Canada (submitted).

Dunbar, N.W., W.C. McIntosh, A.V. Kurbatov, and T.I. Wilch (2007), Integrated tephrochronology of the West Antarctic region- implications for a potential tephra record in the West Antarctic Ice Sheet (WAIS) Divide Ice Core, 10th International Symposium on Antarctic Earth Science (ISAES 2007), University of California, Santa Barbara, California (USA), 26 Aug-1 Sep 2007.

Koffman B., Kreutz K., Handley M., Wells M., Kurbatov A. & Mayewski P.(2008) A Snowpit Record of Atmospheric Fe Deposition in West Antarctica at the WAIS Divide Site, Goldschmidt 2008 conference, July 13 - 18, Vancouver, Canada (submitted).

Mikesell, T. D., K. van Wijk, A.V. Kurbatov, and P.A. Mayewski, Ice Core Tomography with Laser Ultrasonics. Extended abstract for 2007 Symposium on Environmental Sensing, Oct. 25-26, 2007, Boise State University, Boise, Idaho.

Vandergoes, M., and A. Dieffenbacher-Krall, August 2007. Last Glacial Maximum climate change in Southern New Zealand: Pollen and chironomid temperature reconstructions from south Westland between 30-15 ka. XVII INQUA Congress, Cairns, Australia.

Xu, Y., Chai, F., Chao, Y., Rose, K., Chavez, F., Seasonal and Interannual variability of Peruvian anchovy growth and population dynamics. A Model Study. 2008 Ocean Sciences Meeting, March 2008.

### **Technical report – Peer-Reviewed – Published**

Kelley, A.R. and Kelley, J.T., 2008, Surficial Geology of the Old Town, ME 7.5' Quadrangle. Maine Geological Survey, Augusta, ME, 1:24000, 1 sheet.

Kelley, J.T., and Kelley, A.R., 2007. A bluff management plan for Acadia National Park, Maine.

Kelley, J.T. Report to U.S.Minerals Management Service: Evaluation of sand and gravel resources of the Wells, ME Inner Shelf Embayment

### **Other – Peer-Reviewed – Accepted**

Oglesby, R.J., Maasch, K.A., 2009. Paleoclimate Modeling: Quaternary, In Encyclopedia of Paleoclimatology and Ancient Environments

Zaro, Gregory (in press). Book review, Journal of Anthropological Research: The Model-Based Archaeology of Socionatural Systems. Timothy A. Kohler and Sander E. van der Leeuw (eds). Santa Fe:SAR Press, 290 pp.

### **Other – Peer Reviewed - Published**

Dieffenbacher-Krall, A.C., M.J. Vandergoes, C.A. Woodward, and I.K.G. Boothroyd. 2008. Guide to Identification and Ecology of New Zealand Subfossil Chironomids Found in Lake Sediment. Climate Change Institute, University of Maine, Orono, ME.  
<http://www.climatechange.umaine.edu/Research/facilities/perl/nzguide.html>

Maasch, K.A., 2007. Barry Saltzman, In New Dictionary of Scientific Biography Charles Scribner's Sons.

Roscoe, P. Mountain Arapesh. Online publication of my article in Encyclopedia of World Cultures: Volume II, Oceania. Terence Hays, ed. Pp.215-218. Boston: Hall (1991).  
<http://www.everyculture.com/Oceania/Mountain-Arapesh>

Roscoe, P. Tongareva. Online publication of my article in Encyclopedia of World Cultures: Volume II, Oceania. Terence Hays, ed. Pp.339-342. Boston: Hall.  
<http://www.everyculture.com/Oceania/Tongareva>

Roscoe, P. Yangoru Boiken. Online publication of my article in Encyclopedia of World Cultures: Volume II, Oceania. Terence Hays, ed. Pp.388-391. Boston: Hall.  
<http://www.everyculture.com/Oceania/Yangoru-Boiken>

### **Other - Published**

Kurabatov, A. Hal Borns Symposium, Orono, Maine USA May 8 - 9, 2008 Update on CASA (Climate of Antarctica and Southern America) initiative.

Sandweiss, D.H. and D. Lindsay. Archaeopolitics: Steady Progress in Building Protections for International Antiquities. The Archaeological Record 7(4): 8.

### **Other – In Preparation**

Smorodin, V. Preparing for publishing a monograph: “Interfacial Phenomena in Heterophilic Disperse Systems” (to be published in 2008).

### **Peer-Reviewed Proceedings**

Chawathe, S. Using dead drops to improve data dissemination in very sparse equipped traffic. In Proceedings of the IEEE Intelligent Vehicles Symposium (IV), Eindhoven, Netherlands, June 2008.

Chawathe, S. Marker-based localizing for indoor navigation. In Proceedings of the 10th International IEEE Conference on Intelligent Transportation Systems (ITSC), Seattle, Washington, October 2007.

### **Presentations:**

#### **International Presentations**

Chai, F., March 2008. Silicon and Nitrogen Cycling in the Equatorial Pacific: A Model Data Comparison Study.

Chai, F., October 2007. Variability of the carbon cycle and productivity in the China Seas during 1960-2006: A three-dimensional physical-biogeochemical modeling study.

Chai, F., July 2007. Variability of carbon cycle and productivity in the China Seas during 1960-2006: a three-dimensional physical-biogeochemical modeling study

Chai, F., May 2008. Modeling Consequences of Carbon Cycle and Biological Productivity to Iron Fertilization in the Equatorial Pacific.

Chai, F., January 2008. Modeling Carbon Cycle and Biological Productivity in the China Seas.

Chawathe, S. October 2007. Marker-based localizing for indoor navigation. 10th International IEEE Conference on Intelligent Transportation Systems (ITSC), Seattle, Washington, October 2007.

Chawathe, S. June 2008. Using dead drops to improve data dissemination in very sparse equipped traffic. The IEEE Intelligent Vehicles Symposium (IV), Eindhoven, Netherlands, June 2008.

Fastook, J.L. Sept 2007. West Antarctic Ice Sheet Meeting, Sterling, VA. "Boundary conditions for a full-momentum solver: 1) The dilemma of sliding and 2) how do we do embedded models?"

Fastook, J.L., J.W. Head, and D.R. Marchant. . March 2008. 110. Lunar and Planetary Science XXXIX, Houston, TX, "Dichotomy Boundary Glaciation Models: Implications for Timing and Glacial Processes".

Fastook, J.L., J.W. Head, and D.R. Marchant. December 2007. Fall AGU, "Tropical Mountain Glaciers on Mars: Altitude-Dependence of Ice Accumulation, Accumulation Conditions, Formation Times, Glacier Dynamics, and Implications for Planetary Spin-Axis/Orbital History"

Goose, Bell, Yang, and Fastook, J.L. December 2007. Fall AGU, "Allerod Collapse of the Newfoundland Ice Cap, northwestern Atlantic Ocean"

Hamilton, G. 3/14/2008. GPS Geodesy of Polar Glaciers and Ice Sheets; UNAVCO Science Workshop, Boulder CO.

Jain, S. August 2007. Late 20th century trends in western North American hydroclimatic extremes: Implications for Water Resources and Adaptive Environmental Management. Second International Conference on Earth System Modelling (ICESM), Hamburg, Germany

<http://www.cosis.net/abstracts/ICESM2007/00333/ICESM2007-J-00333-1.pdf?PHPSESSID=6e3fb3a85f28625002d80f50e025a19f>

Jain, S. December 2007. Assessing the low-frequency variability in ensemble simulations of western North American hydroclimate for 20th and 21st century. American Geophysical Union Fall Meeting, San Francisco, Dec 2007.

<http://www.agu.org/cgi-bin/SFgate/SFgate?&listenv=table&multiple=1&range=1&directget=1&application=fm07&database=%2Fdata%2Fepubs%2Fwais%2Findexes%2Ffm07%2Ffm07&maxhits=200&=%22GC43A-0947%22>

Jain., S. December 2007. Seasonal-to-Interannual Predictability of western North American Hydroclimate: The Utility of Multimodel Ensembles. American Geophysical Union Fall Meeting, San Francisco.

<http://www.agu.org/cgi-bin/SFgate/SFgate?&listenv=table&multiple=1&range=1&directget=1&application=fm07&database=%2Fdata%2Fepubs%2Fwais%2Findexes%2Ffm07%2Ffm07&maxhits=200&=%22H13E-1616%22>

Jain, S. April 2008. Sustainability considerations for western North American hydrosystems: Use-inspired research to understand nonstationary climate, flow regulation, and ecological flows needs. Sackler Colloquium: Linking Knowledge with Action for Sustainable Development, National Academy of Sciences, Washington DC.

[http://www.nasonline.org/site/PageServer?pagename=SACKLER\\_sustainable\\_development](http://www.nasonline.org/site/PageServer?pagename=SACKLER_sustainable_development)

Kelley, A.R. March 29, 2008. Paleogeography at Quebrada Jaguay (Symposium - Quebrada Jaguay: An Early Fishing Site in Southern Peru)

Kelley, A.R. June 23, 2008. Quebrada Jaguay: A Shell Midden Distant from the Coast

Kelley, J.T. June 22-25, 2008. Sea-level change in Northeast North America and Northwest Europe, a summary.

Kelley, J.T. and Brothers L.L. November, 2007 Camp Ellis, Maine: A Small Beach Community with a Big Problem/Jetty. Geological Society of America Abstracts with Programs National Meeting Denver. Invited Pardee Session.

Marchant, D.R., Phillips, Schaefer, Fastook, J.L. and Landis. December 2007. Fall AGU, "Debris-Covered Glaciers in Antarctica: Analogs for Viscous-Flow Features on Mars"

Ocampo-Raeder, V.C. March 2008. "Human Seascapes: Traditional Fishing and Conservation policies in Northern Peru" Society for Applied Anthropology Annual Meetings, Memphis.

Reid, D., D.H. Sandweiss, B. Ojeda, and K. Rademaker. March 29, 2008 Settlement Patterns of the Quebrada Jaguay Region. In Symposium "Quebrada Jaguay: Maritime Adaptations and the Paleoindian to Archaic Occupation of Southern Peru." Society for American Archaeology Annual Meeting, March 2008, Vancouver, Canada.

Robinson, Fastook, J.L., and Bart. December 2007 Fall AGU, San Francisco, CA, "Numerical Modeling of West Antarctic Ice Sheet grounding-line stability under the influence of changing continental shelf physiography."

Sandweiss, D.H. March 29, 2008. Quebrada Jaguay: An Early Fishing Site in Southern Peru. In Symposium "Quebrada Jaguay: Maritime Adaptations and the Paleoindian to Archaic Occupation of Southern Peru." Society for American Archaeology Annual Meeting, March 2008, Vancouver, Canada.

Sandweiss, D.H. August 4, 2007. Discussion (in Spanish). Session on Manejo de Recursos/Resource Management In Conference on "Perspectivas Comparativas sobre la Arqueología de la Costa de Sudamérica" (Comparative Perspectives on the Archaeology of the South American Coast), Lima, Peru.

Sandweiss, D.H. (in Spanish). August 3, 2007. "La prehistoria de la pesca en el Perú antiguo: de Quebrada Jaguay a Lo Demás" (The Prehistory of Fishing in Ancient Peru: From Quebrada Jaguay to Lo Demás). Museo de Arqueología y Antropología de San Marcos (Universidad Nacional Mayor de San Marcos). Lima, Peru.

Smorodin, V. The Chemical Biophysics Symposium, Toronto, Canada, April 17-19, 2008

Smorodin, V. The International Conference on Nucleation and Atmospheric Aerosols, Dublin, Ireland, September 2007

Smorodin, V. The International Colloidal Conference, Coimbra, Portugal, July 2007

Smorodin, V. The Rebinder's Memorial Conference, Inst. of Physical Chemistry, Russian Academy of Sciences, Moscow, Russia, July 14, 2007.

Smorodin, V. The European Aerosol Conference, Salzburg, Austria, 2007

Smorodin, V. The Intl. Conference on Cloud Physics 2008, American Meteorological Society, Cancun, Mexico, June, 2008 The Chemical Biophysics Symposium, Toronto, Canada, April 17-19, 2008

Smorodin, V. Invited Lecture "Interfacial Phenomena in Heterophilic Disperse Systems". The Intl. Conference on Colloidal Chemistry, ICC2008, Moscow, Russia. June, 2008: "Interfacial Phenomena in Heterophilic Disperse Systems".

Smorodin, V. Oral Talk "A New Method to Deliver Nanoparticles/Proteins into the Nuclei of Living Cells" (in co-authorship with A. Nohe). The Intl. Conference on Colloidal Chemistry, ICC2008, Moscow, Russia. June, 2008.

### **National Presentations**

Belknap, D.F., 2008. Postglacial stratigraphic evolution of the Damariscotta River estuary, Maine, through basin isolation and stepwise transgression: Geological Society of America Abstracts with Programs, NE Section Meeting, v. 40, no. 2, p. 77. Buffalo, NY March 27-29, 2008.

Hamilton, G. 2/05/2008. Recent research in Greenland and Antarctica; NASA Workshop on Polar Glaciology, Boulder CO.

Hamilton, G. 3/28/2008. Subglacial lakes and rapid acceleration of Byrd Glacier; 14th Annual Midwest Glaciology Meeting, Burlington VT.

Kelley, J.T. June 9-10, 2008. National Park Service, Geologic Resource Evaluation, Acadia National Park-Cape Cod National Seashore, Field Trip Leader, Speaker, June 9-10, 2008, Schoodic Educational Research and Education Center.

Maasch, K.A. and D.H. Sandweiss. October 30, 2007. The Prehistory of El Niño in Ancient Peru. Anthropology of Global Change: Challenges for the Discipline in the 21st Century Seminar, University of Tennessee, Knoxville TN.



Maasch, K. March 6, 2008. Recent climate change: Natural and human induced / An invited lecture given in a symposia - panel discussion on global warming at the 2008 meeting of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA  
[http://www.pittcon.org/archive/2008/technical/is08\\_miller.html](http://www.pittcon.org/archive/2008/technical/is08_miller.html)

Mayewski, P. 22 August 2007. US ITASE Planning Meeting.

Mayewski, P. 15 October 2007. Catastrophe Modeling Workshop, Wall Street, New York City.

Mayewski, P. 24 September 2007. Abrupt Climate Change to NOAA.

Roscoe, P. October 2007. The Art of Conflict in New Guinea. Public Lecture, Wake Forest Anthropology Museum, North Carolina.

Roscoe, P. Dec 2007. The Evolution of Complexity among New Guinea's Contact-era Hunters and Gatherers. Presentation to the Physical Anthropology Labs, Harvard University.

Roscoe, P. Feb 2008. Comments on Robert Carneiro's "Evolutionism in Cultural Anthropology". Presentation to the Society for Anthropological Sciences, New Orleans.

Sandweiss, D.H. October 29, 2007. Túcume: A Late Prehispanic Pyramid Center in Northern Peru. Anthropology of Global Change: Challenges for the Discipline in the 21st Century Seminar, University of Tennessee, Knoxville TN.

Smorodin, V. Invited Talk and Discussion of Basic Problems in Atmospheric Science and Advanced Technology at Dept. of Meteorology, University of Utah, Salt Lake City, UT (Host: Prof. N. Fukuta), April, 2007.

Smorodin, V. Invited Talk (Seminar) at Department of Atmospheric Sciences (Division of Environmental Sciences), the Brookhaven National Laboratory, Upton, NY.: "Aerosol Problems in a Context of Global Climate Change: From Nano- to Global Scale", (Host: Dr. Steve Schwartz, BNL), November 8, 2007

Smorodin, V. Joint Meeting and Talk at the Clarkson Center for Environment, Host: Prof. Phil Hopke, Director of the Center, Clarkson University, Potsdam, NY, USA, April 2007

Zaro, Gregory (March 30, 2008). Integrating Human and Non-human Processes to Understand Long-term Socio-ecological Change along the Peruvian South Coast. Paper presented at the 73rd Annual meeting of the Society for American Archaeology, Vancouver, British Columbia. Paper was presented as part of an invited symposium titled

‘Archaeological Contributions to Understanding Socio-Ecological Systems’, organized by Kate Spielmann, Arizona State University.

### **Regional or State Presentations**

Dieffenbacher-Krall, A. 07/28/2007. Climate change and Maine lakes. Invited keynote address to Annual Meeting of Maine Volunteer Lake Monitoring Program, Hallowell, ME.

Jain, S. May 2008. Sustainability considerations for western North American hydrosystems: Use-inspired research to understand nonstationary climate, flow regulation, and ecological flows needs. 2008 Hal Borns Symposium, Climate Change Institute, University of Maine.

<http://www.climatechange.umaine.edu/grad/Seminar/agassizprogram08.html>

Kelley, A. R. October 10 & 11, 2008. Ground-Penetrating Radar at Los Morteros: More than Meets the Eye Presented at NE Regional Andean Conference on Archaeology and Ethnohistory, Ithaca, NY

Kelley, A.R. May 1, 2008. Humans and Landscapes (Earth Science Teacher's Workshop)

Kelley, A.R., D. Sandweiss, J.T. Kelley, D.F. Belknap, K. Rademaker, D. Reid, A.K. Kelley, T.F. Kelley. October 13, 2007. Ground-Penetrating Radar at Los Morteros, Peru: More than Meets the Eye. 26th Annual Northeast Conference on Andean Archaeology and Ethnohistory, Ithaca College, Ithaca, NY.

Kelley, J.T. March 25, 2008. Saving the Mississippi Delta, Maine Audubon Society, Fields Pond Nature Center.

Kelley, J.T. June 3, 2008. Sea level rise in the Northeast: threats to bluffs, marches and beaches. Northeast Climate Change Workshop, Amherst, MA June 3, 2008

Maasch, K. Oct. 29, 2007. Holocene climate variability / Invited lecture on climate change given at the University of Tennessee, Knoxville, TN

Maasch, K. Oct. 30, 2007. The prehistory of El Niño in ancient peru / Invited lecture on climate change given along with Dan Sandweiss at the University of Tennessee, Knoxville, TN

Maasch, K. Feb. 21, 2008. Modeling long-term climate change / Invited lecture on climate modeling given at the University of Nebraska, Lincoln, NE

Mayewski, P. 29 June 2007. UM Communication Conference.

Mayewski, P. 30 August 2007. Impact of Philanthropy.

Mayewski, P. 24 October 2007. United Nations Association of Maine.

Mayewski, P. 4 April 2008. Climate Change, University at Buffalo.

Mayewski, P. 17 April 2008. Climate Change - Boston Area UM Alumni.

Mayewski, P. 26 April 2008. Climate Change - Washington DC.

Mayewski, P. 31 May 2008. Climate Change - UM Class of '68.

Ocampo-Raeder, V.C. April 2008. "Paying (NOT) to See Wolves: Environmental Education in an Ecotourism Project in the Madison Valley, Montana" Department of Recreation, Parks and Tourism Sciences, Texas A&M University, College Station:Texas

Ocampo-Raeder, V.C. April 2008. "Cultivating Game: ESE eja Management of Ecological Links in the Amazon" Department of Wildlife Ecology, IGERT Program, Texas A&M University, College Station:Texas.

Ocampo-Raeder, V.C. October 2007. "World Lessons: Ecotourism in the United States" TAC Maine Conference. Center for Tourism (CenTro), Portland, Maine.

Schauffler, M. 15 Sept 2007. New England Environmental Education Association Annual Meeting (Panel discussion: How can we better teach about global climate change?)

Schauffler, M. 5 Oct 2007. Maine Science Teachers Association Annual meeting: Workshop: Working with online environmental data to answer questions about environmental change

Smorodin, V. Invited Talk at the Inst. of Molecular Biophysics, Bar Harbor, ME "Novel Model and Theory of Domains in Lipid Bilayers", December 7, 2007.

Smorodin, V. Organizing a Technical Meeting and a Seminar at the Central Maine Power: "Weather technology for preventing the power lines icing caused by winter freezing rains in Maine" (together with Prof. N. Fukuta, University of Utah, SLC), Augusta, ME, USA, January 24, 2008

### **Local Presentations**

Borns, Jr., H.W., 12 public lectures on Maine's Ice Age Trail: Down East to historical societies, high schools, etc.

Chawathe, S. May 8, 2008. Exploration and Visualization of Climate-Change Datasets with P301dx. The 16th Annual Harold W. Borns, Jr. Symposium. Climate Change Institute, University of Maine.

Hughes, T. May 8, 2008. Thermal Convection and the Origin of Ice Streams.

Kelley, A.R. March 20, 2008. Ground-Penetrating Radar at Los Morteros: More than meets the Eye (Old Town High School Honors Seminar)

Kelley, A.R. April 30, 2008.. Economic Minerals (Science Day for Area Schools)

Kelley, J.T. August 17, 2007. The Maine Coast and rising sea level, Friends of Taunton Bay, August 17, 2007

Kelley, A.R., D. Sandweiss, J.T. Kelley, D.F. Belknap, K. Rademaker, D. Reid, A.K. Kelley, T.F. Kelley. May 10, 2007. Ground-Penetrating Radar at Los Morteros, Peru:More than Meets the Eye. 15th J. Louis Agassiz Symposium, Climate Change Institute, University of Maine.

Maasch, K. Feb. 2, 2008. What we know about climate change / An invited lecture given at Hancock County Focuses on Climate Change Forum at the Unitarian Universalist Church of Ellsworth

Maasch, K. May 9, 2008. High-resolution regional model simulations of climate change in the northeastern United States / Presented current research on climate modeling at the Climate Change Institute's annual symposium.

<http://www.climatechange.umaine.edu/grad/Seminar/program.pdf>

Mayewski, P. 19 July 2007. Climate Change Vinalhaven Land Trust Maine

Mayewski, P. 26 July 2007. Climate Change, Portsmouth Library, NH

Mayewski, P. 19 September 2007. Climate Change, Castine Maine men's Club.

Mayewski, P. 2 October 2007. Climate Change, Univ Maine Fort Kent.

Mayewski, P. 3 March 2008. Climate Change, Preti-Flaherty Law Firm, Portland.

Mayewski, P. 12 March 2008. Climate Change - Maine Maritime Academy.

Mayewski, P. 22 April 2008. Climate Change - UM Earth Day.

Mayewski, P. 22 April 2008. Climate Change - Earth Day, Saco Maine.

Ocampo-Raeder, V.C. December 2007. "Human Seascapes: The Fishing Tradition of Northern Coastal Peru" Climate Change Institute, University of Maine.

Ocampo-Raeder, V.C. April 2008. "Cultivating Peccaries: Ese Eja Management of Ecological Links in the Amazon" Society for Conservation Biology, University of Maine: Maine.

Ocampo-Raeder, V.C. May 2008. "When the Rainbows Bring the Crayfish: Traditional Management of River Resources in a Western Andean Valley of Southern Peru" Climate Change Institute Borns Symposium, University of Maine: Maine.

Reid, D., K. Rademaker, T. Kelley, D. Sandweiss, D.F. Belknap. May 10, 2007. Peruvian Beach Ridges: Records of Human Activity and Climate Change. 15th J. Louis Agassiz Symposium, Climate Change Institute, University of Maine.

Sandweiss, D.H. November 19, 2007. Archeological Past/Cultural Continuity: The Case of Peru. Bangor Foreign Policy Forum, Bangor, ME.

Smorodin, V. The Agassiz Conference, Climate Change Institute, Orono, ME, USA, May 14-15, 2007

Zaro, Gregory (May 8, 2008). Problem-oriented research, desertification, and the human dimension of long-term socio-environmental change. Paper presented at the 16th Annual meeting of the Borns Symposium, Climate Change Institute, University of Maine, Orono, ME.

### **Conferences/symposia/meetings attended:**

#### **International:**

Chawathe, S. October 2007. The 10th International IEEE Conference on Intelligent Transportation Systems (ITSC).

Chawathe, S. June 2008. The IEEE Intelligent Vehicles Symposium (IV).Eindhoven, Netherlands.

Fastook, J.L. September 2007. West Antarctic Ice Sheet Meeting  
<http://neptune.gsfc.nasa.gov/wais/Sterling>, VA

Fastook, J.L. December 2007. Fall American Geophysical Union Meeting  
<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=75>San Francisco, CA

Fastook, J.L. March 2008. 39th Lunar and Planetary Science Conference  
<http://www.lpi.usra.edu/meetings/lpsc2008/>Houston, TX

Fei, Chai. March 2008. 2008 Ocean Sciences Meeting, Orlando, Florida, USA.

Fei, Chai. July 2007. The Fourth International Ocean-Atmosphere Conference (COAA 2007) Qingdao, China.

Fei, Chai. October 2007. PICES Annual Meeting Victoria, Canada.

Fei, Chai. January 2008. A Joint Workshop between Xiamen University and Hong Kong on Marine Environmental Research, Hong Kong, China.

Fei, Chai. May 2008. London Convention Scientific Group Meeting on Ocean Iron Fertilization, Guayaquil, Ecuador.

Hamilton, G. March 10-14, 2008. UNAVCO Science Workshop Boulder CO.

Kelley, A.R. March 26-29, 2008. Society for American Archaeology Annual Meeting Vancouver, BC, Canada

Kelley, J.T. November, 2007. Geological Society of America, Annual Meeting Denver, CO

Kelley, J.T. June 22-25, 2008. International Geological Correlation Program 495/INQUA, NW Europe Sea level Group, Holocene land-ocean interactions: driving mechanisms and coastal responses Belfast, Northern Ireland

Kurbatov, A. October 4-5, 2007. WAIS Divide ice core Project Science Meeting, <http://www.waisdivide.unh.edu/>. Kings Beach, California USA

Ocampo-Raeder, V.C. March 2008. Society for Applied Anthropology, Memphis

Sandweiss, D. March 26-30, 2008. Society for American Archaeology 73rd Annual Meeting Vancouver, BC, Canada

Sandweiss, D. December 5-9, 2007. Council of Graduate Schools Annual Meeting Seattle, WA

Sandweiss, D. August 1-4, 2007. Coastal South America Archaeology Conference Lima, Peru

**National:**

Hamilton, G. February 2-5, 2008. NASA Workshop on Polar Glaciology, Boulder CO.

Hamilton, G. March 27-28, 2008. Midwest Glaciology Meeting, Burlington VT.

Maasch, K. March 1-7, 2008. 9th meeting of the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy  
<http://www.pittcon.org/archive/2008/index.html>

Roscoe, P. Feb. 2008. Conference, New Orleans.

Zaro, G. March 26-30, 2008. Society for American Archaeology Vancouver, British Columbia, Canada

**State:**

Belknap, D.F., June 22, 2008. State of Maine's Beaches Conference, Southern ME Community College, S. Portland, ME.

Belknap, D.F., April 11, 2008. Geological Society of Maine spring meeting - student presentations. DFB abstract coordinator, Bowdoin College, Brunswick, ME.

Belknap, D.F., April 28, 2008. Marine Science for Maine People, Maine Marine Science Symposium, Orono, ME.

Dieffenbacher-Krall, A. 07/28/2008. Annual Meeting of Maine Volunteer Lake Monitoring Program, Hallowell, ME

Hamilton, G. April 25, 2008. Maine Space Grant Consortium Annual Meeting, Orono ME

Kelley, A.R. October 19, 2008. Geological Society of Maine Fall Meeting Poland Spring, Maine

Kelley, J.T. May, 2008. Borns Symposium Orono, ME

Schauffler, M. 25-26 June 2007. No Questions Left Behind: Center for Science and Mathematics bi-annual science and mathematics teaching conference, University of Maine Fred Hutchinson Center.

Schauffler, M. 5 October 2007. Maine Science Teachers Association annual meeting, Gardiner HS, Gardiner ME.

## **Regional**

Belknap, D.F., March, 27-29, 2008. Northeast Section Meeting Geological Society of America, Buffalo, NY.

Kelley, A.R. October 10 & 11, 2008. Northeast Regional Andean Conference on Archaeology and Ethnohistory Ithaca NY

Kelley, J.T. June 3, 2008. Northeast Climate Change Amherst, MA

Kelley, J.T. June 9-10, 2008. Geologic Resource Evaluation, Acadia National Park-Cape Cod National Seashore, National Park Service Gouldsboro, ME

Sandweiss, D. April 10-12, 2008. Northeast Association of Graduate Schools Annual Meeting New York, NY

Sandweiss, D. October 13-14, 2007. 26th Annual Northeast Conference on Andean Archaeology and Ethnohistory

<http://www.ithaca.edu/andean/news.php>

Schauffler, M. 15 Sept 2007. New England Environmental Educators Association Conference, Smithfield, ME

Zaro, G. October 13-14, 2007. NE conference of Andean Archaeology and Ethnohistory Ithaca, New York, USA

## **Local**

Chawathe, S. May 8--9, 2008. The 16th Annual Harold W. Borns, Jr. Symposium (previously called the Agassiz Symposium). 16th Annual Harold W. Borns, Jr. Symposium Climate Change Institute, University of Maine.

Hughes, T. May 8-9, 2008. Harold W. Borns, Jr. Symposium, University of Maine.

Kurbatov, A. May 8 - 9, 2008. Hal Borns Symposium  
<http://www.climatechange.umaine.edu/grad/events.html> Orono, ME

Maasch, K. May 8-9, 2008. 16th Hal Borns Symposium, University of Maine  
<http://www.climatechange.umaine.edu/grad/events.html>

Ocampo-Raeder, V.C. May 2008. Borns Symposium (Climate Change Institute), University of Maine

Zaro, G. May 8-9, 2008. 16th Annual Borns Symposium, Climate Change Institute, UMaine Orono, Maine, USA



## **Research Expeditions and Field Trips**

Belknap, Daniel, F., July, August, September and 12/01/07. Salt marsh research for theses of Kristin Wilson and Holly Theriault. Multiple trips for coring, ground-penetrating radar, and surficial samples. Coastal Maine from Wells to Lubec.

Belknap, Daniel, F., 7/30-8/02/07. Vibracoring research cruise, R/V Argo Maine, Penobscot Bay, ME in support of Laura L. Brothers Ph.D. research.

Belknap, Daniel, F., 9/28-9/29/07. Co-leader of UM Climate Change Institute annual field trip. Southern Maine coast and interior.

Chawathe, S. February 12, 2008. Climate Change Institute's Field Trip and Meeting.

Chawathe, S. September 28--30, 2007. Climate Change Institute's Annual Field Excursion. Wells, Maine.

Dieffenbacher-Krall, A. 9/22/2007. Collection of sediment cores and surface samples from Toothaker Pond, ME, in cooperation with Toothaker Pond Association and Maine Department of Environmental Protection.

Hamilton, G. October 2007 - January 2008. East Antarctica/South Pole : International Trans Antarctic Scientific Expedition (ITASE).

Hamilton, G. July-August 2007. Helheim Glacier, East Greenland

Kelley, A.R. September 27 & 28, 2008. Climate Change Institute Annual Field Trip

Kelley, A.R. June 22-25, 2008. International Geological Congress - UK Sea Level Conference

Kelley, J.T. June 22-25, 2008. Field trip along the Northern Ireland coast to see sea level rise evidence.

Kelley, J.T. June 9-10, 2008. Field trip to evaluate National Park resources.

Kelley, J.T. June 11-18, 2007. Field trip to see sand dune mines, Morocco.

Kurbatov, A. November -December, 2007 Detroit Plateau, Antarctic Peninsula Recovery of 133 meters ice core as part of International Polar Year project with Chile and Brazil

Mayewski, P. 20 Oct - 31 December 2007. Led expedition overland to South Pole.

Ocampo-Raeder, V.C. June and December 2007. Peruvian Amazon, research in human ecology.

Ocampo-Raeder, V.C. August 2007. Northern Peruvian Coast, research in human ecology of traditional fishing folk.

Ocampo-Raeder, V.C. August and December 2007. Western Andean Valley, research in human ecology of crayfish management.

Sandweiss, D. July 1-August 14, 2007. Field work in Peru on Holocene upwelling on Peru coast; and on climate and cultural change in north central Peru.

Zaro, G. June-August, 2007. Historical Ecology and Agriculture along the Tambo-Ilo Coast of Southern Peru.

Zaro, G. May 20-June 18, 2008. La Milpa Archaeological Project, Belize, Central America: Preliminary Excavations at a Late Classic period Maya City.

Zaro, G. June 18-August 2, 2008. Agriculture and Desertification at the Cola de Zorro Archaeological Site of Southern Peru.

### **Other Indicators:**

Ocampo-Raeder, V.C. Attended and presented at the Society for Applied Anthropology annual conference (Memphis). Presented paper on traditional fishing villages in Northern Peru (March).

Ocampo-Raeder, V.C. Invited Guest Lecture at Texas A&M Department of Tourism, Parks, and Recreation. Presented paper on Wolf Management in working Cattle Ranches in Montana (April).

Ocampo-Raeder, V.C. Invited Guest Lecture at Texas A&M Department of Wildlife Ecology as part of IGERT Guest lecture series. Presented paper on White-lipped Peccary Management by the Indigenous Ese eja People in the South Eastern Peruvian Amazon (April).

Ocampo-Raeder, V.C. Invited Guest Lecture at University of Maine Conservation Biology Society. Presented paper on Anthropogenic Forests in the Peruvian Amazon.

### **Media Presentations Created**

Kurbatov, A. Web site CASA Climate of the Antarctica and Southern America Joint Brazilian-Chilean-US Project <http://www.casa.aq>

Mayewski, P. Radio. Earth and Sky National Public Radio.

Mayewski, P. TV. Climate Change Overview CBS 60 Minutes.

Mayewski, P. Magazine. Bangor Metro Profile.

Mayewski, P. Magazine. Superconsciousness Profile.

Schauffler, M. Website. Maine Environmental Monitoring and Assessment Program Index: an annotated and searchable index of environmental monitoring programs in Maine with links to sources of data. [www.memapindex.org](http://www.memapindex.org)

### **Creative Activities:**

Sandweiss, D. Inclusion of work in public collection. April 2008 forward. 1 photograph of Quebrada Jaguay (early fishing site in Peru) selected to be exhibited in the Human Path Gallery, in the "Bridge of life" Museum of Biodiversity, designed by the architect Frank Gehry and located in Panama City, Panama.  
<http://www.biomuseopanama.org/en/>

### **Service – To Profession**

Belknap, D.F., Editorial Board, Editor: Geological Society of Maine Newsletter - 1999 to present Editorial Board:, JOURNAL OF COASTAL RESEARCH 1990 - present.

Belknap, D.F., Grant Review Board Member, Service on science review panel, National Science Foundation, Marine Geology and Geophysics, May 11-15, 2008. Review of 32 proposals, including Discussant of 8, Scribe of 6.

Belknap, D.F., College/University Program Review, NEASC University external review committee, Chair of Standard 2 – Evaluations and Assessments Professional Association Officer Elected Vice President Northeastern Section Geological Society of America - 2008

Chai, Fei, Conference Chair/Co-Chair, PICES Working Group on Ocean Iron Fertilization in the North Pacific

Chai, Fei, Advisory Board, International Advisory Committee for the State Key Lab at the Xiamen University

Chai, Fei, Program Committee Member, London Convention Scientific Group on Ocean Iron Fertilization

Chai, Fei, Conference Section Chair, The Fourth International Ocean-Atmosphere Conference

Chawathe, S. Program Committee Member The 28th ACM SIGMOD International Conference on Management of Data (SIGMOD 2008).

Chawathe, S. Program Committee Member The 19th International Conference on Database and Expert Systems Applications (DEXA 2008).

Chawathe, S. Program Committee Member The International Workshop on RFID Data Management (RFDM 2008).

Chawathe, S. Program Committee Chair Program Chair, the 10th IEEE International Conference on Intelligent Transportation Systems (ITSC 2007).

Chawathe, S. Program Committee Member The 18th International Conference on Database and Expert Systems Applications (DEXA), September 2007.

Chawathe, S. Professional Association Officer 1/2007-12/2008. IEEE Intelligent Transportation Systems Society (ITSS). Vice President for Financial Activities.

Chawathe, S. Professional Association Officer 1/2005–present. IEEE Intelligent Transportation Systems Society (ITSS). Member of the Board of Governors.

Chawathe, S. Award Committee Member 2/2007–present. IEEE Intelligent Transportation Systems Society (ITSS). Member, Dissertation Award Committee.

Chawathe, S. Professional Association Officer 1/2008--present. IEEE Maine Section. Chair, Communication and Computer Societies' joint chapter.

Chawathe, S. Professional Association Officer 1/2006–12/2007. IEEE Maine section. Membership Chair, Communication and Computer Societies' joint chapter.

Dieffenbacher-Krall, A. Grant Review Board Member, Panelist, Paleo-Perspectives on Climate Change, National Science Foundation, April 22-24, 2008.

Fastook, J.L. Conference Section Chair. March 2008 International 39th Lunar and Planetary Science Conference, Houston, TX, "MARS: ICE ON THE GROUND AND IN THE GROUND"

Fastook, J.L. External reviewer and interviewer for final candidates for senior lecturer position in ice sheet modeling at Department of Physical Geography and Quaternary Geology, Stockholm University.

Hamilton, G. Editorship. Journal of Geophysical Research (Earth Surface).

Jain, S. Editorial Board. Journal of the American Water Resources Association.

Jain, S. Editorial Board. International Journal of Ecological Economics and Statistics

Jain, S. Grant Review Board Member. Environmental Sustainability Program, National Science Foundation (Member, Review Panel).

Jain, S. Conference Section Chair. Session Chair, Multimodel Ensemble Forecasts for Climate and Streamflow. American Geophysical Union Fall Meeting, December 2007, San Francisco, Calif.

Kelley, J.T. Editorial Board Journal of Coastal Research

Kellogg, T. Geological Society of America campus representative to Univ. of Maine

Kellogg, T. Accreditation Team Member 1/16/08 - Evaluation of Asst. Prof. Heather Sloan at Lehman College for promotion to Associate Professor

Mayewski, P. Chair, International Trans Antarctic Scientific Expedition Project Office Director, Chair.

Mayewski, P. Antarctica and the Global Climate System Committee, Member for SCAR (Scientific Committee for Antarctic Research) .

Mayewski, P. Co-editor “Antarctica Climate Change and the Environment” for SCAR

Mayewski, P. Organizer and first author: “State of the Antarctic and Southern Ocean Climate System (SASOCS)” for SCAR.

Mayewski, P. Grant Review Board Member~10/year for Journal of Geophysical Research, Nature, Science, Holocene, Journal of Glaciology, Annals of Glaciology, National Geographic, US National Science Foundation, European Science Foundation, Rolex Award.

Norton, S. Grant Review Board Member. Board of Directors, Metals in the Human Environment, National Science and Engineering Research Council, Canada (2008-2010).

Norton, S. Editorial Board. Board of Editors, Environmental Monitoring and Assessment (1993- present)

Sandweiss, D. Founding Editor, Andean Past (Cornell Latin American Studies Program)

Sandweiss, D. Editorial Board Member, Chungará Revista de Antropología Chilena

Sandweiss, D. Editorial Board Member, Society for American Archaeology Press

Sandweiss, D. Editorial Board Member, *Latin American Antiquity* (published by the Society for American Archaeology)

Sandweiss, D. Contributing Editor, *Review of Archaeology*

Sandweiss, D. Committee Chair, Committee on the Americas, Society for American Archaeology

Sandweiss, D. Recommendation letter for C. Fred T. Andrus for the University of Alabama College of Arts and Sciences Leadership Board Faculty Fellow Award.

Sandweiss, D. Recommendation letter for Michael Malpass for Dana Professorship in Social Sciences, Ithaca College, NY.

Sandweiss, D. Tenure review letter for Kevin Vaughan, Purdue University Department of Anthropology.

Sandweiss, D. Chair and Organizar, Symposium on Quebrada Jaguay: Maritime Adaptations and the Paleoindian to Archaic Occupation of Southern Peru. 73rd Annual Meeting of the Society for American Archaeology, Vancouver, BC, Canada.

Sandweiss, D. I operate an Andean Studies email information distribution list.

Schauffler, M. Advisory Board member for NSF Grant (PI Maine Math & Science Alliance) to develop technology-based genetics education activities.

Smorodin, V. Chairing at the Chemical Biophysics Symposium, Toronto, ON, Canada, April 20-22, 2007

Zaro, G. Manuscript reviewer for Chungará, *Revista de Antropología Chilena* (peer-reviewed journal)

Zaro, G. Manuscript reviewer for *Journal of Archaeological Science* (peer-reviewed journal)

### **Service – To Department**

Belknap, D.F., Earth Sciences: Peer Review and Policy Advisory Committee.

Belknap, D.F., Chair: Introductory Courses Instructor replacement ad hoc committee.

Belknap, D.F., Climate Change Institute: Organizer: 16'th Annual CCI – Harold W. Borns Jr. Symposium.

Belknap, D.F., Policy Advisory Committee.

Chai, Fei, Peer Committee Member.

Chawathe, S. Computer Science Department Committees, University of Maine.

Chawathe, S. Member, Graduate Committee.

Chawathe, S. Member, Curriculum Committee.

Chawathe, S. Member, Policy Advisory Committee.

Chawathe, S. Member, Stillman Scholarship Committee.

Dieffenbacher-Krall, A. Building manager, Sawyer Research Center, since 2007.

Fastook, J.L. Graduate Committee, Peer Committee

Hamilton, G. Chair, Policy and Advisory Committee; Climate Change Institute

Hamilton, G. Chair, Ad Hoc Committee on Website; Climate Change Institute

Kelley, J.T. Department Chair

Kellogg, T. Member, Earth Sciences Graduate Committee

Maasch, K. Department of Earth Sciences Graduate Committee

Maasch, K. Climate Change Institute Peer Committee, chair

Mayewski, P. Director, Climate Change Institute

Ocampo-Raeder, V.C. Curriculum development

Roscoe, P. Chair of PAC

Roscoe, P. Chair of James Acheson's peer review committee

Roscoe, P. Member of Lisa Neuman's peer review committee

Roscoe, P. Presentation to Anthropology Club

Roscoe, P. Drafted proposal for Anthropology's PhD Intent to Plan; attended multiple meetings related to same

Sandweiss, D. (for Anthropology Dept.). Chair Peer review committee for Brian Robinson

Sandweiss, D. (for Climate Change Institute) Co-chair, Churchill Exploration Fund Selection Committee

Sandweiss, D. (for Climate Change Institute) Member, Peer review committees for Gordon Hamilton, Constanza Ocampo-Raeder

Schauffler, M. Represent the Center for Science and Mathematics Education Research Center and the Climate Change Institute at education meetings and conferences.

Smorodin, V. Organizing a seminar of Prof. Norihiko Fukuta (Dept. of Meteorology, University of Utah, Salt Lake City, UT) "Global Warming, " at the Climate Change Institute, University of Maine, January 25, 2008 (as a Host Professor)

Zaro, G. (1) Graduate Coordinator, Quaternary and Climate Studies

Zaro, G. (2) Graduate Board Member

### **Service – To College**

Chawathe, S. 1/2005–present. Support for Science Students, University of Maine. Member, Faculty Advisory Board. Advising a residential education and support program for students studying science.

Chawathe, S. 2/2007–5/2007. College of Liberal Arts and Sciences, University of Maine. Member, Chair Search Committee.

Chawathe, S. 9/2006–present. College of Liberal Arts and Sciences, University of Maine. Member, Faculty Awards Committee. 2/2007–5/2007.

Fastook, J.L. Climate Change Institute Peer and PAC, Computer Science Chair Search

Ocampo-Raeder, V.C. Center for Student Innovation: Collaborating in developing a curriculum for courses relating to market-based conservation enterprises.

Sandweiss, D. Member, McBride Professorship Committee

Sandweiss, D. Member, Bailey Professorship Committee

### **Service – To University**

Belknap, D.F., Faculty Senate.



Belknap, D.F., Provost's Faculty Advisory Committee.

Belknap, D.F., NEASC University external review committee, Chair of Standard 2 – Evaluations and Assessments.

Chai, F., Faculty Senate.

Chawathe, S. 9/2006–present. University Club, University of Maine. Member, Executive Committee.

Dieffenbacher-Krall, A. Tour of lab and equipment for biology course “Paleoecology”, January 2008

Hamilton, G. Faculty representative, UMaine Sustainability Alliance

Hamilton, G. Faculty representative, UMaine Green Loan Fund

Jain, S. Faculty Representative, President's Council on Disabilities

Jain, S. Proposal Review Panel, UMaine Environmental Solutions Initiative

Jain, S. Member, UMaine Climate Change Report Committee (Chairs: G. Jacobson and I. Fernandez)

Kelley, J.T. Hudson Museum Board of Cooperating Curators, Hudson Museum, University of Maine, 2006-present.

Kelley, J.T. Sea Grant program personnel review

Maasch, K. Member, Hudson Museum Advisory Board

Norton, S. Advisory Board, Master of Science in Teaching Program

Ocampo-Raeder, V.C. Environmental Solutions Initiative: Collaborating in the strategic development of an environmentally and socially responsible management plan for Penobscot County.

Ocampo-Raeder, V.C. Center for Tourism Research and Outreach (CenTRO): Collaborating in development of an outreach program for the promotion of sustainable tourism operations in Maine.

Roscoe, P. Member of Steering Committee for Climate-Change/Engineering EPSCOR proposal

Roscoe, P. Co-PI on Climate-Change/Anthropology's IGERT proposal

Sandweiss, D. Co-Chair, Cultural Affairs/Distinguished Lecture Series Committee

Sandweiss, D. Chief Cooperating Curator, Hudson Museum Board of Cooperating Curators

Sandweiss, D. Co-Chair, Dean of the College of Education and Human Development Search Committee

Sandweiss, D. Chair, Provost's International Advisory Team

Sandweiss, D. Chair, Dean Robert Dana Review Committee

Sandweiss, D. Member, Castle Professorship Selection Committee (College of Engineering)

Sandweiss, D. Member, Long Professorship Selection Committee (College of Engineering)

Sandweiss, D. Member, University Research Council

Sandweiss, D. Member, Provosts Council

Sandweiss, D. Member, Deans Council

Sandweiss, D. Member, NEASC Executive Committee

Sandweiss, D. Member, 3000/75 Committee

Sandweiss, D. Member, Growth Model Committee

Sandweiss, D. Member, Academic Affairs Budget Advisory Group

Zaro, G. Graduate Board--Graduate Student Environment Committee

### **Service – To University System**

Sandweiss, D. Member, Post-tenure review study committee

### **Service - To State Government Agencies**

Belknap, D.F., Member of Wells National Estuarine Research Reserve Management Authority by Gubernatorial Appointment. Meetings quarterly, started January 24, 2000 (in Wells). (Service to State).

Chai, F., Working Group for the Climate Change Assessment for the State of Maine.

Kelley, J.T. StateMap Advisory Committee

Kelley, J.T. Maine Geological Survey

Schauffler, M. Assist outreach staff from Maine DEP, DMR, and Acadia National Park with educational activities and linking with teachers

### **Service – To General Public/Local Community**

Dieffenbacher-Krall, A. Collected lake sediment cores from Toothaker Pond for Toothaker Pond Association 9/22/07.

Dieffenbacher-Krall, A. Tour of Paleoecology lab and general lecture to 2 undergraduate classes from College of the Atlantic 9/19/07.

Hamilton, G. Board of Directors, Maine Global Climate Change, Inc.

Kelley, J.T. Wells Harbor Dredge Scientific Oversight Committee, 1998-present.

Kellogg, T. 4-6 contacts with the public each year, answering questions on fossils.

Norton, S. Environment and Energy Committee, Bucksport, Maine (2007- )

Sandweiss, D. Board member, Bangor Foreign Policy Forum

Schauffler, M. Helped found the Belfast Bay Watershed Coalition and link them with K-12 teachers in the community for environmental research projects. Help citizens interested in monitoring to set up and carry out monitoring projects. Help organize annual migratory Bird Day activities in Belfast.

Smorodin, V. Initiating a seminar and a discussion of the technical project on preventing the power lines icing and blackouts caused by winter freezing rains, the Central Maine Power, Augusta, ME, January 24, 2008.

Zaro, G. (1) I gave a public lecture at Dover-Foxcroft Public Library, April 16, 2008

### **Service – To Pre-K-12 Education**

Chai, F., Gave two lectures for "The Global Change Workshop of Teachers".

Chawathe, 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).

Chawathe, S. 10/2006--present. "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, A. Tour for ~200 middle and highschool students 5/1/08

Dieffenbacher-Krall, A. Tour and field demonstration for 12 4-6 graders, Stillwater Montessori School 5/22/08.

Hamilton G. Multiple presentations in local schools;

Hamilton, G. 4 school/youth group visits hosted in our lab.

Kelley, J.T. Co-Hosted Stones, Bones, Bugs and Ice, a Tour of Earth Science, Anthropology and Climate Change for local middle-high school students, May 1, 2008.

Schauffler, M. Support teachers with scientific guidance and equipment to undertake local research and monitoring projects with students.

### **Service – Manuscripts/Proposal Reviewed**

Belknap, D.F.

Proposals Reviewed: 2

NSF Proposals (any other information is confidential).

Chawathe, S.

Manuscripts Reviewed: 15

Proposals Reviewed: 2 [numbers are approximate... don't have all records handy; the manuscripts reviewed is almost certainly an underestimate.]

Dieffenbacher-Krall, A.

Manuscripts Reviewed: 2

Two manuscripts reviewed for journal *Hydrobiologia* regarding plant microfossil taphonomy and a sediment collection device.

Fastook, J.L.

Manuscripts Reviewed: 3

Proposals Reviewed: 2

Journal of Geophysical Research: 1

Computers and Geosciences: 1

Geophysical Research Letters: 1

National Science Foundation: 2

Hamilton, G.

Manuscripts Reviewed: 7

Proposals Reviewed: 4

Proposal reviews for NASA, NSF, UK Natural Environment Research Council

Manuscript reviews for Science, Journal of Glaciology, Annals of Glaciology, Arctic and Alpine Research, Journal of Geophysical Research

Jain, S.

Manuscripts Reviewed: 5

Proposals Reviewed: 5

Manuscripts: Journal of Hydrometeorology, Journal of Hydrologic Engineering, Journal of Water Resources Planning and Management, Journal of the American Water Resources Association, Geophysical Research Letters

Proposals: National Science Foundation: Environmental Sustainability Panel (4)

UMaine Environmental Solutions Initiative (1)

Kurbatov, A.

AGU one manuscript was reviewed

Kelley, J.T.

Manuscripts Reviewed: 10

Proposals Reviewed: 3

Papers for Geological Society of America Bulletin (2), Geology, Quaternary Research (2), Journal of Geology, Journal of Coastal Research (4),

1 book review for publisher,

1 DOE proposal, 1 Army Corps of Engineers proposal, 1 CICEET proposal

Maasch, K.

Manuscripts Reviewed: 4

Four manuscripts (2 Paleoceanography, 2 Geophysical Research Letters)

Norton, S.

Manuscripts Reviewed: 20

Proposals Reviewed: 5

For the National Science Foundation and various journals

Roscoe, P.

Manuscripts Reviewed: 2

MS submissions to journals: Oceania; Journal of Asian-Pacific Issues

Sandweiss, D.

Manuscripts Reviewed: 16

Proposals Reviewed: 4

Manuscripts reviewed:

Chungara: 1  
Current Anthropology: 1  
Ethics in Science and Environmental Politics Essay contest mss: 2  
Journal of Archaeological Science: 1  
Proceedings of the National Academy of Sciences: 3  
Quaternary Science Reviews: 1  
Science: 1  
Society for American Archaeology Press Book Prospecti: 6

Proposals reviewed:  
National Geographic Society: 2  
National Science Foundation: 2

Smorodin, V.  
Reviewing the papers for a Journal of Chemical Physics, 2007

Zaro, G.  
Manuscripts Reviewed: 3  
Proposals Reviewed: 0  
(1) Title: Difficulties in rejecting a local ancestry with mtDNA haplogroup data, an example from the south central Andes (Journal of Archaeological Science)  
(2) Title: Agricultural slope management and soil erosion at La Laguna, Tlaxcala, Mexico. (Journal of Archaeological Science)  
(3) Title: The impact of ENSO in Atacama and the Australian arid zone: Explanatory time-series analysis of archaeological records (Chungara, Revista de Antropologia Chilena)

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

Belknap, D.F., 2 (I can't find my notes on the details).

Chai, F., Science Magazine, Chemical & Engineering News, UMaine Today.

Hamilton, G.  
Bangor Daily News; Portland Press Herald; Associated Press; Rolling Stone.

Kelley, J.T.  
Bangor Daily News (2)  
USA Today (2)  
New York Times  
Portland Press herald (2)  
Channel 5 Bangor (TV)

Kurbatov, A.  
Chilean TV Interview on CASA initiative

Mayewski, P.A.  
CBS 60 Minutes  
Earth and Sky National Public Radio  
Bangor Metro  
Superconsciousness  
207 MSNBC  
various others

### **Service – Other**

Belknap, D.F., Invited Panelist Maine Sea Grant Symposium “Maine Science for Maine People” April 28, 2008, Orono, ME.

Belknap, D.F., More than 50 e-mail and telephone contacts with citizens and agencies with questions on geology and coastal issues.

Hamilton, G. Featured in the documentary film "A Matter of Degrees" (2008)

### **Special Public Service Recognition/Awards/Honors Received**

Kelley, J.T. Invited Speaker at International Meeting in Ireland, June, 2008

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

Zaro, G. (1) Coordinated guest lecturer Dr. Cecil Lewis (Oklahoma University) to present his research to UMaine on ancient and modern DNA and its implications for Peopling of South America. Dr. Lewis also participated in a meeting of INT500: Climate, Culture, and the Biosphere with an emphasis on Peopling of South America.

(2) Coordinated guest lecturer Dr. Jonathan Sandor (Iowa State University) to present his research to UMaine on long-term impacts of agricultural practices on soil chemistry in New Mexico and Peru. Dr. Sandor also participated in a meeting of ANT420: Human Impacts on Ancient Environments.

## Goals for Next Year

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. CCI has been a leader in developing the scientific basis for this realization. As a consequence CCI must and will continue to experience an ever-broadening climate change agenda based within CCI and upon interaction with other disciplines, University of Maine research and academic units, the public, and national and international partners.

CCI is already faced with rapidly emerging opportunities for application of its findings to critical issues such as climate change induced: hazards (eg., flood, coastal erosion, drought, heat), renewable energy (eg., off shore wind power), adverse health (eg., heat, moisture, disease, dust, species in jeopardy), poverty (local to global), sustainability challenges (eg., energy, agriculture, urbanization), and individual to private to governmental decision making.

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 its most universal (local to global) context.

To make these critical contributions to society CCI pursues a multi-prong approach that includes the following mechanistic themes:

- (1) Catalyst for Change
- (2) Bridge Builder
- (3) Leveraging Solutions
- (4) Cutting Edge Approaches
- (5) On the Ground Solutions

We address these mechanistic themes by building on our strengths and creating new partnerships within the University, throughout the State, and globally.

We plan to create new partnerships centered on the necessity to and our ability to understand and predict climate change through innovative new mechanisms. Key unknowns exist in the prediction of climate change such as: the potential for sea level rise, the potential for abrupt climate change, the characteristics of change on regional to local scales, and the development of innovative, efficient monitoring of human impact on climate down to weather scales. New information and technologies are required to address these unknowns.

To build on our existing strengths and develop new partnerships within the University we will pursue our new association with LAAST prompted through the recent CCI-LAAST WM Keck Foundation award. We will also vigorously pursue partnerships centered on



enhanced climate prediction capability through the use of regional climate models and new innovative meteorological monitoring technology. A prime example of the application of these activities relates to the critical issue of Maine's potential for generating off shore wind power. CCI has already established initial partnerships with AEWC, UM Engineering, MMA, and COA to pursue this goal.

To build on our existing strengths and develop new partnerships within the State and throughout the public at large we will continue our long tradition of outreach in the form of public presentations, media appearances, and website information. As an example, on 23-24 October 2008 the University of Maine and CCI will host: Climate "Change<sup>21</sup> – Choices for the 21<sup>st</sup> Century: An Interactive Public Forum – Environmental Festival". This meeting is intended to attract a broad range of attendees including students, public, policy makers, researchers, business people. CC<sup>21</sup> will be used to leverage the role of CCI and other UM climate change associated research, demonstrate UM's commitment to a green campus, demonstrate the State's forward environmental approaches, and make the public aware of the immense opportunities for Maine and Earth's future.

To build on our existing strengths and develop new partnerships globally we will continue our world-class reputation of organizing, leading, and bringing to successful completion major multi-disciplinary, multi-national research efforts. CCI is currently involved in several such endeavors that join CCI researchers with researchers in Asia, Antarctica, Australasia, South America under the banner of several high profile research programs (eg., ITASE, AICA, CADIP). CCI researchers are at the forefront of major scientific discoveries related to climate change and are producing major syntheses that contribute to state of the art understanding of the role of the Arctic and Antarctic in the global climate system.

## **Challenges and Solutions**

The Climate Change Institute is seeking funding flexibility through an endowment of \$10 million plus additional funds for purchase of equipment and R&D. Through such funds the Institute would be able to accelerate its internationally respected status by exploring and carefully integrating substantive new areas of climate change that will strengthen its role in the University of Maine and as a global leader in climate change research. We were successful through the concerted efforts of a very strong science team, VP Eckardt, President Kennedy, and many others in the University in our bid with WM Keck Foundation in support of the development of cutting edge technologies. These funds will allow us to make dramatic inroads into ice core processing and new environmental sensing technologies. We are still actively in search of funds to expand our climate modeling capabilities and our new, highly innovative radar technologies. The radar technology we are exploring could answer critical questions being asked by countries that are well advanced of the United States in research related to offshore wind power.

We are still in search of endowed funds that would be used for new researchers, graduate students, and exploration funds. We are working closely with VP Beers and the Development Office and Pres. Orcutt and the UM Foundation. With VP Beers we have developed proposals to individuals and organizations, undertaken visits to potential

endowers, and instituted the first UM Alumni Excursion to the Antarctic to be undertaken early in 2008. With the UM Foundation we have continued to strengthen our association with individuals contributing through the Foundation to CCI.

## **Long-term Priorities**

We have several long-term priorities that we are actively pursuing:

- (1) Maintain our world-class multi-disciplinary research and graduate student support through continuation of federal support (NSF, NOAA, NASA).
- (2) Maintain our core faculty strengths and expand into new climate change research arenas.
- (3) Pursue a CCI endowment for CCI of \$10 million as part of the UM Capital Campaign in support of new researchers, graduate students, and expeditions.
- (4) Develop business partnerships through activities such as regional climate modeling and radar technology.

The Climate Change Institute has established a strong, internationally renowned reputation for its contributions to the understanding of past, modern, and future climate change. As a consequence we now understand that climate and environmental change is an inescapable reality that must be addressed.

Successful outcomes of investment in the Institute will allow the Institute to maintain and enhance its pivotal role in climate change, intensify the University's commitment to the goal of environmental sustainability, catalyze research strengths within the University, increase the opportunity for even greater support from federal funding agencies because of a broader range of Institute expertise and application, enhance the value of climate change products for the world thereby elevating even more the international profile of the University, and position the Institute for excellence in the 21<sup>st</sup> Century.