KARL J. KREUTZ

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EMPLOYMENT/EDUCATION

University of Maine

2011- *Professor,* Climate Change Institute & School of Earth and Climate Sciences
2006-2010 *Associate Professor*
2000-2005 *Assistant Professor*
2000- *Director*, Stable Isotope Laboratory

Woods Hole Oceanographic Institution

1998-2000 *Postdoctoral Scholar*, Department of Marine Chemistry and Geochemistry and Department of Geology and Geophysics
Advisors: Drs. E.R. Sholkovitz and L.D. Keigwin

University of New Hampshire

1998 Ph.D. Earth Science (Geochemical Systems)
Ice Core Glaciochemical Records of Late Holocene Climatic Variability in West Antarctica
Advisor: Dr. P.A. Mayewski

University of Maine

1994 M.S. Geological Sciences
Paleoceanographic Conditions of the Late Wisconsin Marine Submergence in Eastern Coastal Maine: Stable Isotopic Evidence
Advisor: Dr. H.W. Borns, Jr.

State University of New York at Buffalo

1992 B.A. Geological Sciences

AWARDS, HONORS, AND FELLOWSHIPS

2013 UMaine Center for Undergraduate Research Faculty Fellow
2011 UMaine Graduate Mentor Award
2008 Grand Island Distinguished Alumni Award
2003 UMaine Research Honor Roll
1998 Woods Hole Oceanographic Institution Postdoctoral Fellowship
1998 U.S. Geological Survey Postdoctoral Fellowship
1998 Sigma Xi Award for Excellence in Dissertation Research
1997 University of New Hampshire Dissertation Fellowship
1996 NASA Graduate Fellowship
1993 NSF Experimental Program to Stimulate Competitive Research (EPSCoR) Fellowship

PROFESSIONAL AFFILIATIONS

1998- The Geochemical Society
1998- Sigma Xi
1997- American Association for the Advancement of Science
1997- Union of Concerned Scientists
1995- International Glaciological Society
1994- American Quaternary Association
1994- American Geophysical Union

TEACHING EXPERIENCE

University of Maine

2017-	ERS425/525: How to Build a Habitable Planet
2012-	ERS 191: Energy in the Earth System
2009-2014	ERS 369: Energy Resources and Climate Change
2009-	ERS 201: Global Environmental Change
2003-2009	ERS 200: Earth Systems
2002-	ERS 527: Isotope Geology
2001-	ERS 321/602: Stable Isotope Geochemistry, Paleoclimate, Glaciology, Climate Dynamics, Habitable Planet seminars
2000-2008	ERS 315: Principles of Stratigraphy and Sedimentology

University of New Hampshire

1996-1998	Teaching Assistant; Natural Climate Variability

University of Maine

1993	Teaching Assistant; Introductory Geology

University of Buffalo

1992	Teaching Assistant; Summer Geology Field Course, Western U.S.

INVITED LECTURES/SYMPOSIA

2014	Cold and Arid Regions Environmental and Engineering Research Institute, and Chinese Academy of Sciences, Lanzhou/Beijing, China
2014	UNAVCO Field Education workshop, Boulder, CO
2014	Maine Audubon Board of Trustees
2013	Colby College, Maine
2011	Laboratorie de Glaciologie et de Geophysique de l'Environement (LGGE), Grenoble, France
2010	Lamont-Doherty Earth Observatory, Dust Records in a Changing World Workshop
2010	Colby College, Maine
2010	University of Milano Biocca, Italy
2009	AGU Fall Meeting, San Francisco
2009	NSF Conversations from Antarctica
2008	AGU Fall Meeting, San Francisco
2004	AGU Spring Meeting, Montreal
2002	UMaine Dept. of Chemistry
	CORONA Conference, Isle of Shoals
	U.S. Geological Survey
2000	Cambridge University (U.K.)
	University of Maine
1999	University of California San Diego
	Massachusetts Institute of Technology
	NSF/PAGES Swiss Climate Summer School, *The Dynamics of the Earth System: Processes and Records of Past Climate Change*, Hasliberg, Switzerland
1998	NSF/NATO Summer School, *Greenland Ice Cores and North Atlantic Climate*, Thule, Greenland
	NATO Advanced Study Institute, *Numerical Modeling of the Global Atmosphere,* Brunig, Italy
	Woods Hole Oceanographic Institution
1997	Dartmouth College
	AIRNET Conference, Keene State College
	Northern New England Junior Science and Humanities Conference
1996	AIRNET Conference, Notre Dame College
1995	NASA Summer School for Earth Sciences, *Processes of Global Change*, Pasadena, California
	NATO Advanced Study Institute, *The Stratosphere and its Role in the Climate System*, Montreal, Quebec

PROFESSIONAL SERVICE

2015	co-convener/session chair, Northeast GSA meeting, "Holocene paleoclimate perspectives on

	present-day Arctic change"
2014	co-convener/session chair, AGU Fall meeting, "Holocene climate archives from across the Arctic: Detailed paleoclimate perspectives on present-day polar change"
2014-	Center for Undergraduate Research Advisory Committee
2013-	Graduate Coordinator, Climate Change Institute
2011	co-convener/session chair, AGU Fall meeting, "Pleistocene-Holocene climate variability in the North Pacific realm"
2010-	Editorial Board Member, *Scientific Reports* (Nature Publishing Group)
2009-2015	Chair, U.S. Ice Core Working Group (advisory to NSF)
2009-2015	Member, Senior Advisory Board, Ice Drilling Program Office (advisory to NSF)
2009-	Member, Maine Audubon Board of Trustees
2009-	Member, PAGES Arctic 2kyr Working Group
2005-2009	Member, U.S. Ice Core Working Group (stable isotope representative)
2008-	University Research Council Hi-Tech Equipment Committee
2007-2010	Elected member, UMaine Faculty Senate; Research and Scholarship, and Library Committees
2008	co-convener/session chair, AGU Fall meeting, "Tropical Pacific Paleoceanography during the Late Quaternary"
2007	co-convener/session chair, AGU Fall meeting, "Low to High Latitude North Pacific Climate During the Holocene"
2004	co-convener/session chair, EGU 1st General Assembly session, "Climatic and environmental records from mid and low latitude ice cores"
2004-	Member, Churchill Exploration Fund committee
2002-	Chair, UMaine ICP-MS Facility advisory board
2005-	Member, UMaine Sawyer Environmental Chemistry Research Laboratory advisory board
2000-	Served on several ERS and CCI search committees, CCI graduate committee, ERS and CCI planning committees
1996-	GSA Partners for Education Program (PEP)
1996	NSF Electronic Emissary Program
1994-	Several (>50) presentations to K-12 classes and civic organizations

Panel reviewer for National Science Foundation (NSF) and German Research Foundation (DFG); proposal reviews for NSF, European Science Foundation, DFG, Natural Environment Research Council (U.K.), National Geographic, Agence Nationale De La Recherche (France), Canadian Science Foundation, Netherlands Organization for Scientific Research, Australian Antarctic Program, US-Israel Binational Science Foundation, Swiss National Science Foundation, Austrian Science Fund, Czech Science Foundation, Netherlands Organization for Scientific Research

Manuscript reviewer for *Science*, *Nature*, *Journal of Geophysical Research, Tellus*, *Geophysical Research Letters, Journal of Glaciology, Quaternary Science Reviews, Annals of Glaciology*, *Climate of the Past*, *Climate Dynamics*, *Environmental Science and Technology*, *Journal of Climate, Geology, Applied Geochemistry, Geochimica et Cosmochimica Acta*, *Hydrological Processes*, *Polar Research*, Kluwer Publishers, *Scientific Reports*

ADVISING

In progress:
William Kochtitzky (advisor, MS expected 2018)
Aaron Chesler (co-advisor, PhD expected 2020)
Kimberly Miner (advisor, PhD expected 2018)
Dominic Winski (committee member, Dartmouth College, PhD expected 2018)
Allie Balter (committee member, MS expected 2019)
Steven Bernsen (committee member, PhD expected 2020)
Mariah Radue (committee member, MS expected 2018)

Completed:
Courtney King (committee member, PhD 2017)
Benjamin Partan (advisor, MS 2016)
Justin Leavitt (advisor, Capstone 2016)

Bjorn Grighom (committee member, PhD 2016)
Peter Neff (external examiner, Victoria University, New Zealand, PhD 2015)
Nina Whitney (advisor, MS 2015)
Abigail Bradford (advisor, capstone 2015)
Seth Campbell (advisor, PhD 2014)
Tobias Koffman (committee member, PhD 2014)
Scott Braddock (committee member, MS 2014)
Jennifer Lennon (committee member, MS 2014)
Joshua Plourde (advisor, capstone 2013)
Bess Koffman (advisor, PhD 2013)
Krista Slemmons (committee member, PhD 2013)
Matthew Kohler (advisor, Honors thesis 2013)
Margaret Jackson (committee member, MS 2013)
Elizabeth Dengler (committee member, MS 2013)
Tobias Koffman (committee member, MS 2013)
Eric Kelsey (committee member, University of New Hampshire, PhD 2013)
Emile Boudon (external examiner, University of Oulu, Finland, PhD 2012)
Dominic Winski (advisor, MS 2011)
Isabel Moreno (external examiner, University of Grenoble, France, PhD 2011)
Kathryn Ladig (committee member, MS 2011)
Seth Campbell (advisor, MS 2010)
Daniel Dixon (committee member, PhD 2011)
Shelly Griffin (advisor, Capstone 2009)
Stuart Ryan (external advisor, Bates College, BS 2009)
Elena Korotkikh (committee member, MS 2009)
Erich Osterberg (postdoctoral advisor, 2008)
Benjamin Gross (advisor, MS 2008)
Alan Wanamaker (advisor, PhD 2007)
Bjorn Grighom (committee member, MS 2007)
Erich Osterberg (committee member, PhD 2007)
Bruce Williamson (advisor, MS 2006)
Daniel Dixon (committee member, MS 2004)
Susan Kaspari (committee member, MS 2003, PhD 2007)
Kaplan Yalcin (committee member, University of New Hampshire, PhD 2005)
Lee Pruett (advisor, MS 2003)
Thomas Whittaker (committee member, MS 2004)
V. Blue Spikes (committee member, PhD 2003)
Dylan Andrews (Capstone advisor, 2001)

FIELD RESEARCH EXPERIENCE

2017	Mt. Logan, St. Elias Mountains, Canada
2016	Eclipse Icefield, St. Elias Mountains, Canada
2015	Cordillera Darwin, Argentina
2014	Denali National Park, Alaska
2013	Denali National Park, Alaska
2012	Denali National Park, Alaska
2010	Denali National Park, Alaska
2008	Denali National Park, Alaska
2005	Dry Valleys, Antarctica
2004	Dry Valleys, Antarctica
2004	Greenland
2003	Dry Valleys, Antarctica
2003	Eclipse Icefield (St. Elias Mountains)
2002	Eclipse Icefield (St. Elias Mountains)
2001	Central Asia (Altai Mountains)
2001	Ecuador (Andes Mountains)

2000	Central Asia (Tien Shan Mountains)
1998	Nepal (Khumbu Himalaya)
1998	Central Asia (Tien Shan Mountains)
1998	Iceland (Eyjafjallajökull Ice Cap)
1996	West Antarctica (Siple Dome)
1995	West Antarctica (Marie Byrd Land)
1994	West Antarctica (Siple Dome)
1992-1994	Eastern coastal Maine, UMaine Graduate Research

FUNDING – NATIONAL SCIENCE FOUNDATION

EAGER: Exploration of the Denali basal ice core archive, NSF AGS-1806422, $95,794, PI, 2018-2019.

Acquisition of LA-ICP-QQQ-MS equipment for in situ trace element and isotopic research and training at the University of Maine, NSF-EAR 1626194 Instruments and Facilities, $298,269, co-PI, 2017-2010.

Collaborative Research: Influence of natural ice microstructure on rheology in general shear: in-situ studies in the Alaska Range, NSF-PLR-1503924 Arctic Natural Sciences, $420,937, co-PI, 2016-2019.

Collaborative Research: SPICE core chronology and climate records using chemical and microparticle measurements, NSF-PLR-1443397 Antarctic Glaciology, $389,306, PI, 2015-2018.

Geophysical reconnaissance to expand ice core hydroclimate reconstructions in the Northeast Pacific, NSF-AGS-1502783 Paleoperspectives on Climate Change, $214,890, PI, 2015-2017.

Collaborative Research: Reconstructing central Alaskan precipitation variability and atmospheric circulation during the past millennium, NSF-AGS-1203838 Paleoperspectives on Climate Change, $364,771, PI, 2012-2016.

Roosevelt Island Climate Evolution Project (RICE): US Deep Ice Core Glaciochemistry Contribution (2011- 2014), NSF-PLR-1042883 Antarctic Glaciology, $815,937, co-PI, 2011-2014.

Collaborative Research: Construction of a continuous, high resolution and absolutely-dated marine chronology from the Gulf of Maine during the last millennium, NSF-OCE-1003423 Paleoperspectives on Climate Change, $200,051, PI, 2010-2015.

Collaborative Research: Microparticle/tephra analysis of the WAIS Divide ice core, NSF-PLR-0636740 Antarctic Glaciology, $591,434, PI, 2007-2011.

Collaborative Research: Asian Ice Core Array (AICA): Reconstruction of Past Physical and Chemical Climate Over Asia, NSF-AGS-0754644 Paleoclimate, $415,336, co-PI, 2008-2011.

Collaborative Research: Drillsite Reconnaissance and Snow Chemistry Survey in Denali National Park, NSF-PLR-0714004 Arctic Natural Sciences, $95,200, PI, 2007-2010.

Collaborative Research: 2000+ Year Detailed, Calibrated Climate Reconstruction from a South Pole Ice Core Set in an Antarctic – Global Scale Context, NSF-PLR-0636506 Antarctic Glaciology, $203,858, co-PI, 2007-2010.

Dry Valleys Late Holocene Climate Variability, NSF-PLR-0228052 Antarctic Glaciology, $440,342, PI, 2003-2008.

A new Mt. Logan ice core record – change in climate and chemistry of the atmosphere for the North Pacific, NSF-PLR-0240878 Arctic Natural Sciences, $375,000, co-PI, 2002-2005.

Aquaculture-Based Calibration of the *M. edulis* Isotope Paleothermometer, NSF-AGS-0222351 Paleoclimate, $233,570, PI, 2002-2005.

Acquisition of a high resolution ICP-MS for Environmental Research and Training in Maine, NSF-EAR-0215724 Major Research Instrumentation, $350,308, PI, 2002-2005.

Paleoclimate from Mt. Everest Ice Cores, NSF-AGS-0139491 Earth Systems History, $397,005, co-PI, 2001-2004.

Collaborative Research: A Glaciochemical Record of Natural and Anthropogenic Environmental Change in the Northwestern North American Arctic, NSF-PLR-0136005 Arctic Natural Sciences, $129,763, PI, 2002-2006.

Paleoclimate and Glaciological Reconstructions in Central Asia Through the Collection and Analysis of Ice Cores and Instrumental Data from the Tien Shan, NSF-AGS-0096323 Earth Systems History, $252,226; DOE, $181,674, PI, 1999-2002.

FUNDING – OTHER SOURCES

InTeGrate (Interdisciplinary Teaching about Earth for a Sustainable Future), National Science Foundation STEP-center award to SERC/Carleton College (C. Manduca, PI); $15,000 award to Kreutz to co-develop Systems Thinking module, 2014-2016.

Cordillera Darwin glacier and paleoclimate assessment, National Geographic Society, PI, $11,952, 2014-2015.

Equipment upgrades for stable isotope analysis at UMaine, University of Maine Multiuser Equipment Initiative, PI, $41,030, 2012-2015.

Improving inquiry-based scientific writing in ERS201 (Global Environmental Change), Maine Physical Sciences Partnership, PI, $25,000, 2012-2015.

Major advances in the field of climate change reconstruction using ice cores, W.M. Keck Foundation, co-PI, $1,600,000, 2008-2011.

Determining the Sources of Salt Pollution in Maine Ground Water Using Isotopic and Elemental Characterization, MAFES/USDA, $27,400, co-PI, 2002-2005.

Isotope Hydrology in High-Elevation Ecuador Watersheds. University of Maine Faculty Research Fund Award, $8,700, PI, 2001-2002.

Long-term Dynamics of the Southern Monsoons, Glaciers, and Water Resources in South-Eastern Tibet, National Geographic Society, $25,000, Co-PI, 2001-2002.

Isotopic, Ionic, and Elemental Measurements on 1999 Snowpit Samples Collected from the Inilchek Glacier, Central Tien Shan, U.S. Geological Survey, $15,000, PI, 1999.

Trace Element Analysis of Upper Fremont Glacier (Wyoming) Ice Core Samples: A Pilot Study, U.S. Geological Survey, $3,000, PI, 1999.

Ice Core Reconnaissance in the Central Tien Shan, Kyrgyzstan, DOE, $25,000, PI, 1998.

PUBLICATIONS (PEER REVIEWED)

Winski, D., E. Osterberg, D. Ferris, K.J. Kreutz, C. Wake, S. Campbell, R. Hawley, S. Roy, S. Birkel, D. Introne, and M. Handley, 2017, Industrial-age doubling of snow accumulation in the Alaska Range linked to tropical ocean warming, *Scientific Reports*, *7*(1), doi:10.1038/s41598-017-18022-5.

Miner, K.R., J. Blais, C. Bogdal, S. Villa, M. Schwikowski, P. Pavlova, C. Steilin, C. Gerbi, and K.J. Kreutz, 2017, Legacy organochloride pollutants in glacial watersheds: a review, *Environmental Science Processes and Impacts*, doi:10.1039/c7em00393e.

Koffman, B., K. J. Kreutz, and K. Trenbath, 2017, Integrating scientific argumentation to improve undergraduate writing and learning in a global environmental change course, *Journal of Geoscience Education*, *65*, 231-239.

Osterberg, E. C., D. A. Winski, K. J. Kreutz, C. P. Wake, D. G. Ferris, S. Campbell, D. Introne, M. Handley, and S. Birkel, 2017, The 1200 year composite ice core record of Aleutian Low intensification, *Geophysical Research Letters*, 44(14), 7447-7454, doi:10.1002/2017gl073697.

Casey, K. A., S. D. Kaspari, S. M. Skiles, K. Kreutz, and M. J. Handley, 2017, The spectral and chemical measurement of pollutants on snow near South Pole, Antarctica, *Journal of Geophysical Research: Atmospheres*, *122*(12), 6592-6610, doi:10.1002/2016jd026418.

Koffman, B., E. Dowd, E. Osterberg, D. Ferris, L. Hartman, S. Wheatley, A. V. Kurbatov, G. Wong, B. R. Markle, N. W. Dunbar, K. J. Kreutz, and M. Yates, 2017, Rapid transport of ash and sulfate from the 2011 Puyehue-Cordon Caulle (Chile) eruption to West Antarctica, *Journal of Geophysical Research*, 122, 10.1002/2017JD026893.

Whitney, N., A. D. Wanamaker Jr, K. J. Kreutz and D. Introne, 2017, Spatial and temporal variability in the $\delta^{18}O_w$ and salinity compositions of Gulf of Maine coastal surface waters, *Continental Shelf Research*, 137, 163-171.

Grigholm, B., P.A. Mayewski, V. Aizen, K.J. Kreutz, E. Aizen, S. Kang, K.A. Maasch, S.B. Sneed, 2017, A twentieth century major soluble ion record of dust and anthropogenic pollutants from Inilchek Glacier, Tien Shan, *Journal of Geophysical Research-Atmospheres*, 122, 1884-1900, soi:10,1002/2016JD025407.

Grigholm, B., P.A. Mayewski, V. Aizen, K.J. Kreutz, C.P. Wake, E. Aizen, S. Kang, K.A. Maasch, M.J. Handley, and S.B. Sneed, 2016, Mid-twentieth century increases in anthropogenic Pb, Cd, and Cu in central Asia set in hemispheric perspective using Tien Shan ice core, *Atmospheric Environment*, 131, 17-28, 0.1016/j.atmosenv.2016.01.030.

WAIS Divide project members (C. Buizert, B. Adrian, J. Ahn, M. Albert, R.B. Alley, D. Baggenstos, T. K. Bauska, R.C. Bay, B.B. Bencivengo, C.R. Bentley, E.J. Brook, N.J. Chellman, G.D. Clow, J. Cole-Dai, H. Conway, E. Cravens, K.M. Cuffey, N.W. Dunbar, J.S. Edwards, J.M. Fegyveresi, D.G. Ferris, J.J. Fitzpatrick, T. J. Fudge, C.J. Gibson, V.Gkinis, J.J. Goetz, S. Gregory, G.M. Hargreaves, N. Iverson, J. Johnson, T.R. Jones, M.L. Kalk, M.J. Kippenhan, B.G. Koffman, K.J. Kreutz, T.W. Kuhl, D.A. Lebar, J.E. Lee, S.A. Marcott, B.R. Markle, O.J. Maselli, J.R. McConnell, K.C. McGwire, L.E. Mitchell, N.B. Mortensen, P.D. Neff, K.Nishiizumi, R.M. Nunn, A.J. Orsi, D.R. Pasteris, J.B. Pedro, E.C. Pettit, P.B. Price, J.C. Priscu, R.H. Rhodes, J.L. Rosen, A.J. Schauer, S.W. Schoenemann, P.J. Sendelbach, J.P. Severinghaus, A.J. Shturmakov, M. Sigl, K.R. Slawny, J.M. Souney, T.A. Sowers, M.K. Spencer, E.J. Steig, K.C. Taylor, M.S. Twickler, B.H. Vaughn, D.E. Voigt, E.D. Waddington, K.C. Welten, A.W. Wendricks, J.W.C. White, M. Winstrup, G.J. Wong, and T.E. Woodruff), 2015, Precise interpolar phasing of abrupt climate change during the last ice age, *Nature*, 520 (7549), 661-665.

Zdanowicz, C., D. Fisher, J. Bourgeois, M. Demuth, J. Zheng, P. Mayewski, K. Kreutz, E. Osterberg, K. Yalcin, C. Wake, E. J. Steig, D. Froese and K. Goto-Azuma, 2014, Ice Cores from the St. Elias Mountains, Yukon, Canada: Their Significance for Climate, Atmospheric Composition and Volcanism in the North Pacific Region, *Arctic,* 67(5), 35-57.

Osterberg, E.O., P.A. Mayewski, D.A. Fisher, K.J. Kreutz, K.A. Maasch, S. Sneed, and E. Kelsey, 2014, Mount Logan ice core record of tropical and solar influences on Aleutian Low variability: 500–1998 A.D., *Journal of Geophysical Research*, 119(19), 11,189–11,204, DOI: 10.1002/2014JD021847.

Koffman, B.G., K. J. Kreutz, D. J. Breton, E. J. Kane, D. A. Winski, S. D. Birkel, A. V. Kurbatov, and M. J.

Handley, 2014, Centennial-scale variability of the Southern Hemisphere westerly wind belt in the eastern Pacific over the past two millennia, *Climate of the Past*, *10*(3), 1125-1144, doi:10.5194/cp-10-1125-2014.

Koffman, B.G., M. Handley, E. Osterberg, M. Wells, and K.J. Kreutz, 2014, Dependence of ice-core relative trace-element concentration on acidification, *Journal of Glaciology, 60(219),* 1-10, doi:10.3189/2014JoG13J137.

Koffman, B.G., Kreutz, K.J., Breton, D.J., Kane, E.J., Winski, D.A., Birkel, S.D., Kurbatov, A.V., and Handley, M.J., 2013, Centennial-scale shifts in the position of the Southern Hemisphere westerly wind belt over the past millennium, *Climate of the Past Discussion*, *9*, 2135-3174.

Koffman, B.G., Kreutz, K.J., Kurbatov, A.V., and Dunbar, N.W., 2013, Impact of known local and tropical volcanic eruptions of the past millennium on the WAIS Divide microparticle record, *Geophysical Research Letters*, 40, 1-5, doi:10.1002/grl.50822.

Kreutz, K.J., and Koffman, B., 2013, Glaciochemistry. In Elias, S.A. (ed.) *The Encyclopedia of Quaternary Science* Vol. 2, pp. 326-333.

Campbell, S., Roy, S., Kreutz, K., Arcone, S., Osterberg, E., and Koons, P., 2013, Strain-rate estimates for crevasse formation at an alpine ice divide: Mount Hunter, Alaska, *Annals of Glaciology*, 54(63), 200-208.

Mayewski, P.A., Maasch, K., Dixon, D., Sneed, S., Oglesby, R., Korotkikh, E., Potocki, M., Grigholm, B., Kreutz, K., Kurbatov, A., Spaulding, N., Stager, C., Taylor, K., Steig, E., White, J., Bertler, N.A.N., Goodwin, I., Simoes, J., Jana, R., Kraus, S., Fastook, J., 2013, West Antarctica's sensitivity to natural and human forced climate change over the Holocene, *Journal of Quaternary Science*, 28(1), 40-48.

Breton, D., Koffman, B., Kurbatov, A., Kreutz, K., and Hamilton, G., 2012, Quantifying signal dispersion in a hybrid ice core melting system for geochemical and microparticle analysis, *Environmental Science and Technology*, 46(21), 11,922-11,928.

Winski, D., Kreutz, K.J., Osterberg, E.O., Campbell, S., and Wake, C., 2012, High Frequency observations of melt effects on snowpack stratigraphy, Kahiltna Glacier, Central Alaska Range, *Hydrological Processes*, 26(17), 2573-2582.

Kelsey, E.P., Wake, C.P., Yalcin, K., and Kreutz, K.J., 2012, Eclipse ice core accumulation and stable isotope variability as an indicator of North Pacific climate, *Journal of Climate*, 25, 6426-6440.

Ahn, J., Brook, E., Schmittner, A., and Kreutz, K.J., 2012, Abrupt change in atmospheric CO_2 during the last ice age, *Geophysical Research Letters*, 39, L18711, doi:10.1029/2012GL053018.

Gross, B., Kreutz, K.J., Osterberg, E., McConnell, J., Handley, M., Wake, C., and Yalcin, K., 2012, Constraining recent lead pollution sources in the North Pacific using ice core stable lead isotopes, *Journal of Geophysical Research-Atmospheres*, 117, D16307, doi:10.1029/2011JD017270.

Campbell, S., K.J. Kreutz, Osterberg, E.O., Arcone, S., Wake, C.P., Introne, D.S., Volkening, K., and Winski, D. 2012b, Melt regimes, internal stratigraphy, and flow dynamics of three glaciers in the Alaska Range, *Journal of Glaciology*, 58(207), 99-109, doi: 10.3189/2012JoG10J238.

Campbell, S., Kreutz, K.J., Osterberg, E., Arcone, S., Wake, C., Volkening, K., and Winski, D., 2012a, Flow dynamics of an accumulation basin: A case study of the Upper Kahiltna Glacier on Mt. McKinley, Alaska, *Journal of Glaciology*, 58(207), 185-195, doi: 10.3189/2012JoG10J233.

Wanamaker, A., K.J. Kreutz, B. Schöne, and D. Introne, 2011, Gulf of Maine shells reveal changes in seawater temperature seasonality during the Medieval Climate Anomaly and the Little Ice Age, *Paleogeography, Paleoclimatology, Paleoecology*, 302, 43-51.

Schöne, B., A. Wanamaker, J. Fiebig, J. Thebault, and K.J. Kreutz, 2011, Annually resolved $\delta^{13}C$ chronologies of

long-lived bivalve mollusks (Arctica Islandica) reveal oceanic carbon dynamics in the temperate North Atlantic during recent centuries, *Paleogeography, Paleoclimatology, Paleoecology*, 302, 31-42.

Kelsey, E., C. Wake, K.J. Kreutz, and E. Osterberg, 2010, Ice layers as an indicator of summer warmth and atmospheric blocking in Alaska, *Journal of Glaciology*, 56 (198), 715-722.

Arcone, S.A., and Kreutz, K.J., 2009, GPR reflection profiles of Clark and Commonwealth Glaciers in the Dry Valleys, Antarctica, *Annals of Glaciology*, 50(51), 112-120.

Fisher, D., E. O. Osterberg, A. Dyke, D. Dahl-Jensen, M. Demuth, C. Zdanowicz, J. Bourgeois, R. Koerner, P. Mayewski, C. P. Wake, K. J. Kreutz, E. Steig, J. Zheng, K. Yalcin, K. Goto-Azuma, B. Luckman, and S. Rupper, 2008, The Mt. Logan Holocene-Wisconsinan isotope record: Tropical Pacific-Yukon connections, *Holocene*, 18(5), 667-677.

Mann, J.L., Shuman, C.A., Kelly, W.R., and Kreutz, K.J., 2008, Measurement of $\delta^{34}S$ in two high-elevation snowpits by multiple-collector thermal ionization mass spectrometry (MC-TIMS) using a ^{33}S-^{36}S double spike, *Geochimica et Cosmochimica Acta*, 72, 3907-3927.

Wanamaker, A.D., Kreutz, K.J., Wilson, T., Borns, H.W. Jr., Introne, D., and Feindel, S., 2008, Experimentally derived Mg/Ca and Sr/Ca ratios in juvenile bivalve calcite in M. edulis: implications for paleotempearture reconstruction, *Geo-Marine Letters*, DOI 10.1007/s00367-008-0112-8.

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