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# Daniel A. Dixon

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## Education

2005 - 2010	University of Maine	Orono, Maine, USA
<b>PhD Earth Science</b>		
Research Assistant		
2001 - 2005	University of Maine	Orono, Maine, USA
<b>MS Quaternary and Climate Studies</b>		
Research Assistant		
1997 - 2000	University of Southampton	Southampton, UK
<b>BSc Geology and Oceanography</b>		

## Professional Experience

2013 - Present	University of Maine	Orono, Maine, USA
<b>Conservation and Energy Compliance Specialist</b>		
<ul style="list-style-type: none"><li>• Sustainability Coordinator for the University of Maine</li><li>• Provide strategic direction and leadership for sustainability initiatives at the university</li><li>• Educate the campus community regarding environmental responsibility and stewardship</li><li>• Develop partnerships with internal and external groups to foster sustainability initiatives</li><li>• Compile data and provide reports on campus sustainability practices</li><li>• Supervise staff, student employees, graduate assistants and interns</li><li>• Liaison to the university community and the local, state and regional community concerning issues and advances in sustainability practices</li></ul>		
2013 - Present	University of Maine	Orono, Maine, USA
<b>Research Assistant Professor</b>		
<ul style="list-style-type: none"><li>• Prepare and submit climate change research proposals</li><li>• Author and co-author peer-reviewed scientific papers</li><li>• Lead and participate in Climate Change Institute research expeditions</li><li>• Provide guidance and advice for CCI graduate students</li><li>• Lecture graduate-level climate-related courses</li><li>• Educate the general public and K-12 students throughout Maine</li></ul>		
2010 - 2013	University of Maine	Orono, Maine, USA
<b>Post-Doctoral Research Fellow</b>		
<ul style="list-style-type: none"><li>• Lectured in graduate-level climate-related courses</li><li>• Mentored graduate and undergraduate students</li><li>• Submitted NSF proposals for climate research funding</li><li>• Authored and co-authored peer-reviewed scientific papers</li><li>• Educated the general public and K-12 students throughout Maine via outreach presentations</li><li>• Planned, prepared, and executed multiple Climate Change Institute research expeditions</li></ul>		

## Scientific Expeditions

2008 University of Maine Orono, Maine, USA

### **EAPSI – National Science Foundation East Asia and Pacific Summer Institutes**

- A summer of international research at the Antarctic Research Centre, Victoria University of Wellington and GNS Science, New Zealand
- Trained to operate the new inductively coupled plasma mass spectrometer at Victoria University of Wellington and process trace-level Antarctic snow samples
- Comparison and Interpretation of Glaciochemical Climate Records from United States and New Zealand East Antarctic ITASE Sites

2004 - 2007 University of Maine Orono, Maine, USA

### **University of Maine Sustainability Alliance – Founding Member**

- Weekly meetings with high-ranking University officials, in particular Janet Waldron
- Discussions centered around campus-related energy and climate issues
- Voted for the creation of a permanent Orono campus Sustainability Coordinator position
- Facilitated the University's participation in the Governor's Carbon Challenge
- Implemented a campus energy-use audit

2004 - 2006 University of Maine Orono, Maine, USA

### **Earth Sciences Representative for the Association of Graduate Students**

- Responsibilities included communicating important information between graduate students in the Earth Sciences department and the Graduate Student Association
- Voted on pressing issues relevant to the graduate school community
- AGS representative for the University of Maine Parking and Transportation Committee

2013 University of Maine Orono, Maine, USA

### **Tupungatito Expedition 2013 – Central Chilean Andes**

2012 University of Maine Orono, Maine, USA

### **Kuli Expedition 2012 – South Georgia and the South Sandwich Islands**

2012 University of Maine Orono, Maine, USA

### **Olympus Expedition 2012 – Olympic Peninsula, Washington**

2012 University of Maine Orono, Maine, USA

### **Tupungatito Expedition 2012 – Central Chilean Andes**

2011 University of Maine Orono, Maine, USA

### **Garrand Andes Expedition – Tupungatito, Chile**

2010 University of Maine Orono, Maine, USA

### **High-Elevation Ice Core Reconnaissance on Tupungatito Caldera Glacier**

2009 University of Maine Orono, Maine, USA

### **ALICE Expedition – Ice Core Drilling in the New Zealand Southern Alps**

2007 - 2008 University of Maine Orono, Maine, USA

### **US ITASE -07 Traverse Participant – Taylor Dome to South Pole**

2006 - 2007 University of Maine Orono, Maine, USA

### **US ITASE-06 Traverse Participant – Taylor Dome to South Pole**

2005 University of Maine Orono, Maine, USA

### **Abrupt Climate Change – Ice Cores from Southern Patagonia**

2003 - 2004	University of Maine	Orono, Maine, USA
<b>US ITASE-03 Co-Chief Scientist and Driller – Light Ground Traverse</b>		
2002 - 2003	University of Maine	Orono, Maine, USA
<b>US ITASE-02 Traverse Participant – Byrd to South Pole</b>		
2001 - 2002	University of Maine	Orono, Maine, USA
<b>US ITASE-01 Traverse Participant – Byrd to Base of Antarctic Peninsula</b>		
1999 - 2000	University of Southampton	Southampton, UK
<b>UNESCO-IOC Training Through Research-9 Cruise Participant</b>		

## Publications

Dixon, D.A., P.A. Mayewski, E.V. Korotkikh, M. Potocki and M.J. Handley. 2013. Antarctic Arsenic concentrations over the last 200 years: major features and trends. (in prep).

Dixon, D.A., P.A. Mayewski, K.A. Maasch, S.D. Birkel and S.B. Sneed. 2013. Reconstructing Southern Hemisphere climate: a multi-proxy approach. (in prep).

Dixon, D.A., P.A. Mayewski, E. Korotkikh, S.B. Sneed, M.J. Handley, D.S. Introne, T.A. Scambos. 2013. Variations in snow and firn chemistry along US ITASE traverses and the effect of surface glazing. *The Cryosphere*, 7, 2, 515-535. doi:10.5194/tc-7-515-2013.

Dixon, D.A., P.A. Mayewski, I. Goodwin, G.J. Marshall, R. Freeman, K.A. Maasch, and S.B. Sneed. 2012. An ice-core proxy for northerly air mass incursions into West Antarctica. *Int. J. Climatol.* **32**, 10, 1455-1465, doi:10.1002/joc.2371.

Dixon, D.A., P.A. Mayewski, E. Korotkikh, S.B. Sneed, M.J. Handley, D.S. Introne, and T.A. Scambos. 2011. A spatial framework for assessing current conditions and monitoring future change in the chemistry of the Antarctic atmosphere. *The Cryosphere Discuss.* **5**, 885-950, doi: 10.5194/tcd-5-885-2011.

Dixon, D., P.A. Mayewski, S. Kaspari, K. Kreutz, G. Hamilton, K. Maasch, S.B. Sneed and M.J. Handley. 2005. A 200-year sulfate record from sixteen Antarctic ice cores and associations with Southern Ocean sea ice extent. *Ann. Glaciol.*, **41**, 155-166.

Dixon, D., P.A. Mayewski, S. Kaspari, S. Sneed and M. Handley. 2004. A 200-year sub-annual record of the primary sources of sulfate in West Antarctica. *Ann. Glaciol.*, **39**, 545-556.

Dixon, D. 2000. Surficial clay mineral assemblages. In Kenyon, N.H., M.K. Ivanov, A.M. Akhmetzhanov and G.G. Akhmanov, eds. *Multidisciplinary study of geological processes on the North East Atlantic and Western Mediterranean margins*. IOC Technical Series, **56**, UNESCO, 2000, 42-75.

### CO AUTHOR:

Korotkikh, E.V., P.A. Mayewski, D.A. Dixon, M. Potocki, A.V. Kurbatov and M.J. Handley. 2013. Recent increase in Ba concentrations as recorded in a South Pole ice core. (in review).

Steig, E.J., Q. Ding, J.W.C. White, M. Küttel, S.B. Rupper, T.A. Neumann, P. Neff, A. Gallant, P.A. Mayewski, K.C. Taylor, G. Hoffmann, D.A. Dixon, S.W. Schoenemann, B. Markle, T.J. Fudge, D.P. Schneider, A.J. Schauer, R.P. Teel, B.H. Vaughn, L. Burgener, J. Williams and E. Korotkikh. 2013. Recent climate and ice-sheet changes in West Antarctica compared with the past 2,000 years. *Nature Geosci.* doi:10.1038/ngeo1778.

Mayewski, P.A., K.A. Maasch, D. Dixon, S.B. Sneed, R. Oglesby, E. Korotkikh, M. Potocki, B. Grigholm, K. Kreutz, A.V. Kurbatov, N. Spaulding, J.C. Stager, K.C. Taylor, E.J. Steig, J. White, N.A.N. Bertler, I. Goodwin, J.C. Simoes, R. Jana, S. Kraus and J. Fastook. 2012. West Antarctica's Sensitivity to Natural and Human-forced Climate Change Over the Holocene. *J. Quaternary Sci.* doi:10.1002/jqs.2593.

Stager, J.C., P.A. Mayewski, J. White, B.M. Chase, F.H. Neumann, M.E. Meadows, C.D. King, and D.A. Dixon. 2011. Precipitation variability in the winter rainfall zone of South Africa during the last 1400 yr linked to the austral westerlies. *Clim. Past Discuss.*, **7**, 4375-4399, doi:10.5194/cpd-7-4375-2011.

Sneed, S.B., P.A. Mayewski and D.A. Dixon. 2011. An emerging technique: multi-ice-core multi-parameter correlations with Antarctic sea-ice extent. *Ann. Glaciol.* **52**, 57, 347-354, doi: 10.3189/172756411795931822.

Eisen, O., M. Frezzotti, C. Genthon, E. Isaksson, O. Magand, M.R. vandenBroeke, D.A. Dixon, A. Ekaykin, P. Holmlund, T. Kameda, L. Karlof, S. Kaspari, V.Y. Lipenkov, H. Oerter, S. Takahashi, D.G. Vaughan. 2008. Ground-based measurements of spatial and temporal variability of snow accumulation in East Antarctica. *Rev. Geophys.*, **46**, RG2001, doi: 10.1029/2006RG000218.

Monaghan, A.J., D.H. Bromwich, R.L. Fogt, S.-H. Wang, P.A. Mayewski, D.A. Dixon, A. Ekaykin, M. Frezzotti, I. Goodwin, E. Isaksson, S.D. Kaspari, V.I. Morgan, H. Oerter, T.D. Van Ommen, C.J. Van der Veen, and J. Wen. 2006. Insignificant Change in Antarctic Snowfall Since the International Geophysical Year. *Science*, **313**, 827-831.

Schneider, D.P., E.J. Steig, T.D. van Ommen, D.A. Dixon, P.A. Mayewski, J.M. Jones, C.M. Bitz. 2006. Antarctic temperatures over the past two centuries from ice cores. *Geophys. Res. Lett.*, **33**, L16707, doi: 10.1029/2006GL02705.

Bertler, N., P.A. Mayewski, A. Aristarain, P. Barrett, S. Becagli, R. Bernardo, S. Bo, Xiao C., M. Curran, Qin D., D. Dixon, F. Ferron, H. Fischer, M. Frey, M. Frezzotti, F. Fundel, C. Genthon, R. Gragnani, G. Hamilton, M. Handley, S. Hong, E. Isaksson, Kang J., Ren J., K. Kamiyama, S. Kanamori, E. Karkas, L. Karlof, S. Kaspari, K. Kreutz, A. Kurbatov, E. Meyerson, Y. Ming, Zhang M., H. Motoyama, R. Mulvaney, H. Oerter, E. Osterberg, M. Proposito, A. Pyne, U. Ruth, J. Simoes, B. Smith, S. Sneed, K. Teinila, F. Traufetter, R. Udisti, A. Virkkula, O. Watanabe, B. Williamson, J.-G. Winther, Li Y., E. Wolff, Li Z., A. Zielinski. 2005. Snow chemistry across Antarctica. *Ann. Glaciol.*, **41**, 167-179.

Kaspari, S., P.A. Mayewski, D.A. Dixon, S.B. Sneed and M.J. Handley. 2005. Sources and transport pathways of marine aerosol species into West Antarctica. *Ann. Glaciol.*, **41**, 1-9.

Mayewski, P.A., K.A. Maasch, Y. Yan, S. Kang, E.A. Meyerson, S.B. Sneed, S.D. Kaspari, D.A. Dixon, E.C. Osterberg, V.I. Morgan, T. van Ommen, M.A.J. Curran. 2005. Solar Forcing of the Polar Atmosphere. *Ann. Glaciol.*, **41**, 147-154.

Steig, E.J., P.A. Mayewski, D.A. Dixon, M.M. Frey, S.D. Kaspari, D.P. Schneider, S.A. Arcone, G.S. Hamilton, V.B. Spikes, M. Albert, D. Meese, A.J. Gow, C.A. Shuman, J.C.W. White, S. Sneed, J. Flaherty, M. Wumkes. 2005. High-resolution ice cores from US ITASE (West Antarctica); development and validation of chronologies and estimation of precision and accuracy. *Ann. Glaciol.*, **41**, 77-84.

Kaspari, S., P.A. Mayewski, D.A. Dixon, V.B. Spikes, S.B. Sneed, M.J. Handley and G.S. Hamilton. 2004. Climate variability in West Antarctica derived from annual accumulation rate records from ITASE firn/ice cores. *Ann. Glaciol.*, **39**, 585-594.

## **Scientific Presentations**

### **2013 Twenty-First Harold W. Borns Symposium**

*Towards a Multi-Proxy Reconstruction of Southern Hemisphere Climate*

### **2012 XXXII SCAR Open Science Conference**

*Highly Enriched Modern Concentrations of Cd, Pb, Bi, As, and Li across Antarctica*

### **2012 Twentieth Harold W. Borns Symposium**

*Expanding possibilities: ERA-Interim, WRF, and ndown*

### **2011 Midwest Glaciology Meeting**

*200 years of Antarctic climate*

### **2011 Nineteenth Harold W. Borns Symposium**

*Reconstructing the last 200 years of Antarctic sea ice extent*

### **2010 XXXI SCAR Open Science Conference - Keynote**

*An ice core proxy for the strength of the Southern Hemisphere westerlies and associated cyclonic lows*

### **2010 Eighteenth Harold W. Borns Symposium**

*How do trace chemical species vary over the Antarctic on seasonal to centennial scales and what can be considered the natural background?*

- 2009 Seventeenth Harold W. Borns Symposium**  
*Behavior of the Southern Hemisphere Westerlies from the Mid Holocene to the Present*
- 2008 ITASE Synthesis Workshop, Castine, Maine**  
*20th century forcing of the Antarctic atmosphere*
- 2008 Climate Change 21 Interactive Forum and Environmental Festival**  
*Can Antarctic Climate Change Affect Maine?*
- 2008 American Geophysical Union Fall Meeting**  
*Spatial Concentration Fields of Trace Elements and Major Ions Over a Large and Highly Inaccessible Area of Antarctica*
- 2008 Sixteenth Harold W. Borns Symposium**  
*Reconstructing past Antarctic atmospheric conditions*
- 2007 Fifteenth J. Louis Agassiz Symposium**  
*An East Antarctic anthropogenic pollution signal from South Pole Station*
- 2006 West Antarctic Ice Sheet Initiative Thirteenth Annual Workshop**  
*Towards a suite of US ITASE West Antarctic paleoclimate records*
- 2006 Fourteenth J. Louis Agassiz Symposium**  
*Major ion, trace element and water isotope measurements from East and West Antarctica*
- 2006 XXIX SCAR Open Science Conference**  
*IC, ICPMS and oxygen isotope measurements from the 2002 and 2003 US ITASE traverses*
- 2005 Thirteenth J. Louis Agassiz Symposium**  
*Surface snow chemical and isotope measurements from the 2002 and 2003 US ITASE traverses*
- 2004 Twelfth J. Louis Agassiz Symposium**  
*Potential links between local sulfate sources and West Antarctic climate over the last 200+ years*
- 2004 West Antarctic Ice Sheet Initiative Eleventh Annual Workshop**  
*A 200-year sulfate record from 16 Antarctic ice cores and associations with Southern Ocean sea ice extent*
- 2004 XXVIII SCAR Open Science Conference**  
*Connections between West Antarctic ice core sulfate and climate over the last 200+ years*
- 2003 Midwest Glaciology Meeting**  
*A 200-year ultra-high resolution West Antarctic sulfate record from US ITASE ice cores*
- 2003 Seventh International Symposium on Antarctic Glaciology**  
*A 200-year sub-annual record of the primary sources of sulfate in West Antarctica*
- 2003 West Antarctic Ice Sheet Initiative Tenth Annual Workshop**  
*What can we learn from sub-annually resolved West Antarctic ice core sulfate?*
- 2002 Tenth J. Louis Agassiz Symposium**  
*Soluble ion signatures over West Antarctica from U.S. ITASE ice core chemistry*
- 2002 American Geophysical Union Spring Meeting**  
*Soluble ion characteristics over West Antarctica from U.S. ITASE ice cores*
- 2002 West Antarctic Ice Sheet Initiative Ninth Annual Workshop**  
*Ice core characteristics from the U.S. ITASE 1999 and 2000 West Antarctic traverses*
- 2001 Ninth J. Louis Agassiz Symposium**  
*Spatial soluble ion variability in snowpits along central West Antarctic US ITASE traverses*
- 2001 American Geophysical Union Spring Meeting**  
*Spatial soluble ion variability along a central West Antarctic snowpit transect*

**Professional  
Activities**

- Lecturing graduate level classes with a focus on recent climate change
- NSF communications conference – Science: Becoming the Messenger
- Climate Change Institute white paper: An Introduction to Global Climate Change
- Coordinator at CC21 climate conference at University of Maine
- Actively involved in K-12 school outreach programs aimed at educating school children about polar research and global climate change
- Slideshow narrative for the University of Maine PR department showcasing CCI research activities
- Interviewed about climate change and sustainability on public radio and television
- Live satellite link-ups from Antarctica to the Boston Museum of Science
- Teaching University of Maine graduate-level courses focusing on Matlab, NCL, and NCEP
- Taught Climate Change classes at the College of the Atlantic, Maine
- Multiple climate-related presentations and lectures at the Chinese Academy of Sciences, the Institute of Tibetan Plateau Research and other locations around Beijing and Lanzhou, China
- Built two class-1000 clean labs and fabricated various equipment for ultra-clean glaciochemical sample processing

**Further  
Qualifications**

- Three years of undergraduate-level engineering training
- Several years' experience as an auto mechanic
- Several years' experience as a computer engineer
- United States Antarctic Program Polar Service Medal
- Royal Yachting Association Competent Crew Certificate
- NSF Group Achievement Award for Light Ground Traverse, Antarctica