

Broxton W. Bird, Ph.D

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The Ohio State University

Byrd Polar Research Center
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Columbus, OH 43210

Education

Ph.D., University of Pittsburgh, Pittsburgh, PA, Conferred: August 2009

Advisor: Dr. Mark B. Abbott

Dissertation: Millennial- to annual-scale Holocene climate change in the Alaskan Arctic and tropical Andes inferred from physical sedimentology and geochemical indicators preserved in finely-laminated alpine lake sediment archives.

M.Sc., California State University, Fullerton, CA, Conferred: May 2005

Advisor: Dr. Matthew E. Kirby

Thesis: A 9000-year record of long-term climate change and abrupt climate events from Dry Lake, southern California, USA.

B.A., Hamilton College, Clinton, NY, Conferred: May 1999

Advisor: Dr. Eugene W. Domack

Thesis: Modern Organic Carbon and Foraminifera Distribution in the Andvord Drift, Antarctic Peninsula: Basis for Paleoenvironmental Study.

Employment

2009 to Present, Byrd Postdoctoral Fellow, Byrd Polar Research Center, The Ohio State University, Columbus, OH

Mentor: Dr. Lonnie Thompson

Project Description: Reconstructing Asian monsoon variability of the last 2000 years using physical sedimentology and geochemical indicators preserved in high-resolution lake sediments from the Himalaya and Tibetan Plateau.

Peer Reviewed Publications

In Prep, Bird, B.W., Abbott, M.B., Vuille, M. Rodbell, D.T., Rosenmeier, M.F., and Stansell, N.D.

South American summer monsoon dynamics during the Medieval Climate Anomaly and Little Ice Age.

In Prep, Bird, B.W., Abbott, M.B., Vuille, M. Rodbell, D.T., Rosenmeier, M.F., *Tropical South American hydrologic variability during the Holocene: Evidence for precipitation partitioning between the Amazon basin and the Andes.*

2009, Bird, B.W., Kirby, M.E., Howat, I.M., Tulaczyk, S., *Geophysical Evidence for Holocene Lake-Level Change in Southern California (Dry Lake): Additional Support for a Regionally Wet Early Holocene and a mid-Holocene Climate Shift, Boreas*, DOI: 10.1111/j.1502-3885.2009.00114.x.

2009, Bird, B.W., Abbott, M.B., Finney, B.P., and Kutchno, B.G., *A 2000 year varve-based climate record from the central Brooks Range, Alaska*, Journal of Paleolimnology, special issue, vol. 41, n. 1, p. 25-41, DOI: 10.1007/s10933-008-9262-y.

2009, Rothenberg, S.E., Kirby, M.E., **Bird, B.W.**, DeRose, M.B., Lin, C-C., Feng, X.B., Ambrose, R.F., Jay, J.A., *The impact of over 100 years of wildfires on mercury levels and accumulation rates in two lakes in southern California, USA*, Environmental Earth Sciences, DOI: 10.1007/s12665-009-0238-7.

2009, Kaufman, D.S., Schneider, D.P., McKay, N.P., Ammann, C.M., Bradley, R.S., Briffa K.R., Miller, G.H., Otto-Bliesner, B.L., Overpeck, J.T., Vinther, B.M., Arctic Lakes 2k Project Members (Abbott, M., Axford, Y., **Bird, B.**, Birks, H.J.B., Bjune, A.E., Briner, J., Cook, T., Chipman, M., Francus, P., Gajewski, K., Geirsdóttir, Á., Hu, F.S., Kutchno, B., Lamoureux, S.,

- Loso, M., MacDonald, G., Peros, M., Porinchu, D., Schiff, C., Seppä, H., Thomas, E.), *Recent warming reverses long-term Arctic cooling*. Science, n. 325, p. 1236-1239.
- 2007, Kirby, M.E., Lund, S.P., Anderson, M.A., **Bird, B.W.**, *Insolation Forcing of Holocene Climate Change in Southern California: A Sediment Study From Lake Elsinore*, Journal of Paleolimnology, DOI: 10.1007/s10933-006-9085-7.
- 2006, Kirby, M.E., Lund, S.L., and **Bird, B.W.** *Mid-Wisconsin Sediment Record From Baldwin Lake Reveals Hemispheric Climate Dynamics (Southern CA, USA)*, Palaeogeography, Palaeoclimatology, Palaeoecology 241, p. 267-283, DOI: 10.1016/j.palaeo.2006.03.043.
- 2006, **Bird, B.W.** and Kirby, M.E. *An alpine lacustrine record of early Holocene North American Monsoon dynamics from Dry Lake, southern California (USA)*, Journal of Paleolimnology 35, 179-192.
- 2000, Rayne, T.W., Lehman, H.K., Ball, A.E., and **Bird, B. W.**, *Occurrence and distribution of atrazine and nitrate in water in central New York*, Northeastern Geology and Environmental Sciences 22, no. 2, p. 12.

Professional Meeting Abstracts

- 2009, **Bird, B.W.**, Abbott, M.B., Vuille, M., Rodbell, D.T., Tropical South American hydrologic variability during the Holocene: Evidence for precipitation partitioning between the Andes and the Amazon, AGU Annual Meeting.
- 2009, Rodbell, D.T., Abbott, M.B., **Bird, B.W.**, Stansell, N.S., High-resolution $\delta^{18}\text{O}$ record of middle-late Holocene hydrologic variability from the central Peruvian Andes, AGU Annual Meeting.
- 2008, **Bird, B.W.**, Abbott, M.B., Vuille, M., Rosenmeier, M.F., Rodbell, D.T., A ~2500 Year Sub-Decadal Oxygen-Isotope Record of Late Holocene Tropical South American Hydroclimate From Laguna Pumacocha, Peru, AGU Annual Meeting.
- 2007, **Bird, B.W.** and Abbott, M.B., Late Holocene Temperature Reconstruction Inferred From a Varved Glacial Lake in the central Brooks Range, Alaska, USA, AGU Annual Meeting.
- 2007, Kirby, M.E., **Bird, B.W.**, Howat, I.M., Tulaczyk, S., Geophysical evidence for Holocene lake-level change in southern California (Dry Lake), AGU Annual Meeting.
- 2007, Kirby, M.E., DeRose, M.B., **Bird, B.W.**, Floods, fires, and Humans: Assessing 150 years of rapid depositional events in a small alpine lake, Southern California, Annual Southern California Academy of Sciences Meeting.
- 2007, Kirby, M.E., Lund, S.P., Anderson, M.A., and **Bird, B.W.**, Insolation Forcing of Holocene Climate Change in Southern California, Annual Assoc. of American Geographers Meeting, San Francisco, CA.
- 2006, Kirby, Matthew E., Lund, Steve P., Anderson, Michael A., Patterson, William P., Anderson, William T., **Bird, Broxton W.**, and Schmidt, Jennifer R., *Establishing a baseline of past hydrologic variability in Southern California for better water management practices*, Managing Drought and Water Scarcity in Vulnerable Environments: Creating a Roadmap for Change in the United States (18–20 September 2006), Paper No. 2-28.
- 2005, **Bird, B. W.** and Kirby, M. E., *A 9000-year lacustrine record of long-term climate change and abrupt climate events from Dry Lake, southern California, USA*, Abstracts with Programs – Geological Society of America Annual Meeting.
- 2005, Kirby, M. E., Lund, S.P., and **Bird, B. W.**, *Sedimentological Evidence from Baldwin Lake (Southern CA, USA) for Mid-Wisconsin Hemispheric Climate Variability*, AGU Fall Meeting.
- 2005, Matthew E. Kirby, Steve P. Lund, William P. Patterson, Michael A. Anderson, **Bird, B. W.**, *Evidence for multi-scale environmental change during the Holocene in southern California (Lake Elsinore)*, Abstracts with Programs – Geological Society of America Annual Meeting.
- 2005, Matthew E. Kirby, Lund, S.P., Anderson, M., **Bird, B. W.**, Poulsen, C., *What Lakes in Southern California's Arid Environment Tell Us About Past and Future Climate Variability*, Arid

Zone Hydrology Session, CEA-CREST Conference.

2004, Bird, B.W. and Kirby, M.E., *Sedimentological evidence for a glacial response to the 8.2 ka event from Dry Lake, San Geronio Wilderness, southern California*, Geological Society of America, Annual Meeting Abstracts with Programs, v. 36, n. 5.

2004, Kirby, M.E., Lund, S.P., Poulsen, C.J., and **Bird, B.W.**, *Initial Drill Core Results from Lake Elsinore's Central Basin: Sedimentology and Chronology Spanning 11,000 Calendar Years*, Geological Society of America, Annual Meeting Abstracts with Programs, v. 36, n. 5.

2004, DeRose, M.B., Kirby, M.E., and **Bird, B.W.**, *Assessing the Potential for Paleoclimate Studies using Sediments from Crystal Lake, San Gabriel Mountains, Southern California*, Geological Society of America, Annual Meeting Abstracts with Programs, v. 36, n. 5.

1997, Ball, A.E., **Bird, B.W.**, and Rayne, T.W., *Occurrence of nitrate and atrazine in groundwater in southern Oneida County, New York*, Geological Society of America, Annual Meeting Abstracts with Programs - Geological Society of America 29, no. 6 (1997): 150.

Teaching

2009, Summer Session, University of Pittsburgh, Pittsburgh, PA, Intelligent Life in the Universe laboratory.

2006-2007, Fall Semesters, University of Pittsburgh, Pittsburgh, PA, Sedimentology and Stratigraphy laboratory.

2006, Spring Semester, University of Pittsburgh, Pittsburgh, PA, Hydrogeology laboratory.

2005, Fall Semester, University of Pittsburgh, Pittsburgh, PA, Environmental Geology recitation.

2003-2005, Cal-State Fullerton, Fullerton, CA, Introductory Geology laboratory.

2002-2003, Orme School, Mayer, AZ, 9th and 10th grade math.

Service

2009 to present, Referee for *The Holocene*.

2009 to present, Referee for *Quaternary Research*.

2008 to present, Referee for *Journal of Paleolimnology*.

Chaired Sessions at Professional Meetings

2009, American Geophysical Union annual meeting, *High-resolution records of Late Glacial and Holocene hydrologic variability from tropical South America*: Co-chaired with Nathan D. Stansell.

2009, Geological Society of America annual meeting, *Cenozoic Lakes*: Co-chaired with Elizabeth Gierlowski-Kordesch and Nathan D. Stansell.

Honors and Awards

2008, *Andrew Mellon Predoctoral Fellowship* to investigate tropical South American climate.

2005, *Marylin Brown Research Award* for excellence in sedimentology research and teaching.

2004, *GSA Paleolimnology Division Kerry Kelts Research Award* for innovative lake research.

1999, *Honorary Member of Sigma Xi* for excellence in scientific research.

1999, *Antarctic Service Award* for dedication to United States Antarctic Program.

1997, *Payne Hill Prize* for excellence in geological fieldwork.

Field Work

August 2009, Central Andes, Peru

October 2008, North Cascades, Washington State and Southern British Columbia, Canada

April-May 2008, Central and southern Andes, Peru

May-June 2007, Central Andes, Peru

January-February 2007, Grand Savannah, Venezuela

August 2006, Central Andes, Peru

June-July 2006, Central Brooks Range, Alaska

June-July 2005, Central Andes, Peru
September 2004, San Bernardino Mountains, Southern California
June-July 2004, Mount Shasta, Northern California
May 2004, San Bernardino Mountains, Southern California
September 2003, San Bernardino Mountains, Southern California
February-March 1999, West Antarctica, Nathaniel B. Palmer Research-Vessel Ice-Breaker
June-August 1997, Central New York
June 1996, Iceland
June-July 1995, Southwestern United States four corners region

Students Mentored

Brandon Bolt, Union College
Nicole Fontanella, University of Pittsburgh
Konstantin Ginzburg, University of Pittsburgh
Patricia Hredzak, University of Pittsburgh
Alan Mur, University of Pittsburgh
David Pompeani, University of Pittsburgh
John Swartz, University of Pittsburgh

Society Affiliations

American Geophysical Union
American Meteorological Society
Geological Society of America