

David W. Beilman - *Curriculum Vitae*

Marie Curie Research Fellow

¹⁴CHRONO Centre for Climate, the Environment & Chronology (¹⁴C-AMS)

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Education

Postdoctoral Research: Queen's University Belfast (2007-present). School of Geography, Archaeology & Palaeoecology. Mentor: Paula J. Reimer.

University of California Los Angeles (2006-2007). Departments of Ecology & Evolutionary Biology and Geography. Mentor: Glen M. MacDonald.

Ph.D. University of California Los Angeles (2006). Geography. Dissertation: Carbon accumulation and development of peatlands over the Holocene, West Siberia, Russia. Advisor: Glen M. MacDonald.

M.Sc. University of Alberta (2001). Environmental Biology & Ecology. Thesis: Localized permafrost dynamics in boreal western Canada: plant communities. Advisor: Dale H. Vitt (now at Southern Illinois University).

B.Sc. University of Alberta (1996). Environmental Biology (Specialization).

Publications

Manuscripts in Review or in Final Preparation

Beilman DW, MacDonald GM, Smith LC, and Reimer PJ. Carbon accumulation in peatlands of West Siberia over the last 2000 years. In review, *Global Biogeochemical Cycles*.

Beilman DW and MacDonald GM. Holocene peatland plant community change and *Sphagnum* transitions in West Siberia. In preparation, for *Quaternary Research*.

Beilman DW and Yu Z. Sensitivity of boreal peatland permafrost and carbon dynamics to Holocene climate variation in western Canada. In preparation, for *Ecosystems*.

Refereed Journal Articles

Beilman DW, Vitt DH, Bhatti JS, and Forest S. Peat carbon stocks in the southern Mackenzie River Basin: uncertainties revealed in a high-resolution case study. Accepted Nov. 2007, *Global Change Biology*.

MacDonald GM, Kremenetski KV, and **Beilman DW**. 2007. Climate change and the northern Eurasian treeline zone. In press, *Proceedings of the Royal Society B: Biological Sciences*.

Thormann MN, Rice A, and **Beilman DW**. 2007. Yeasts in peatlands: a review of richness and roles in peat decomposition. *Wetlands* 27: 761-773.

MacDonald GM, **Beilman DW**, Kremenetski KV, Sheng Y, Smith LC, and Velichko AA. 2006. Rapid early development of circumarctic peatlands and atmospheric CH₄ and CO₂ variations. *Science* 314:285-288.

- Smith, LC, MacDonald GM, Velichko AA, **Beilman DW**, Borisova OK, Frey KE, Kremenetski KV, and Sheng Y. 2004. Siberian peatlands a net carbon sink and global methane source since the early Holocene. *Science* 303: 353-356.
- Sheng Y, Smith LC, MacDonald GM, Kremenetski KV, Frey KE, Velichko AA, Lee M, **Beilman DW**, and Dubinin P. 2004. A high-resolution GIS-based inventory of the West Siberian peat carbon pool. *Global Biogeochemical Cycles* 18, GB3004, doi: 10.1029/2003GB002190.
- Nobel PS, De la Barrera E, **Beilman DW**, Doherty JH, and Zutta BR. 2002. Temperature limitations on cultivating edible cacti in California. *Madroño* 49(4): 228-236.
- Beilman DW**. 2001. Plant community and diversity change due to localized permafrost dynamics in bogs of western Canada. *Canadian Journal of Botany* 79: 983-993.
- Beilman DW**, Vitt DH, and Halsey LA. 2001. Localized permafrost peatlands in western Canada: definition, distributions and degradation. *Arctic, Antarctic and Alpine Research* 33: 70-77.

Other Refereed Contributions

- Beilman DW** and Robinson SD. 2003. Peatland permafrost thaw and landform type along a climatic gradient. *Proceedings of the 8th International Conference on Permafrost*, Zurich, Switzerland, Balkema Publishers, Vol. 1, p. 61-65.
- Beilman DW** and Yu Z. 2002. Differential response of peatland types to climate: modelling peat accumulation in continental western Canada. In Yu, Z., Bhatti JS, and Apps MJ (eds). *Proceedings of the International Workshop on Forested Peatlands: Knowledge Gaps, Uncertainty and Modeling Approaches*, 23-24 March 2001. Canadian Forest Service Information Report NOR-X-383. Pp. 86-89.

Other Contributions

- Beilman DW**, Crow S, Spears J, Lajtha K. 2004. *Soil Nutrient Status of a Disturbed Desert Ecosystem*. Marine Corps Air Ground Combat Center, Twentynine Palms, California. Report for US Army Corps of Engineers – CERL.
- Halsey LA, Vitt DH, **Beilman DW**, Crow S, Mihelcic S, and Wells R. 2003. *Alberta Wetland Inventory Standards Version 2.0*. Alberta Sustainable Resource Development, Resource Data Branch, Edmonton, AB. Pub. No. T/031.

Grants and Awards

Research Grants

- Pending Royal Society Research Grant. PIs: Beilman DW, Reimer PJ, and Hormes A. Long-term High Arctic Environmental Change: Mire Archives in Svalbard, Norway. £14,900 GBP (\$31,364 USD).
- Pending CAREER: Quaternary Climatic and Tectonic Signals from 3-D Paleo Lake Shorelines across the Tibetan Plateau. PI: Sheng Y. (UCLA). Submitted July 2007 to National Science Foundation (USA) BCS – Geography and Regional Science. Named Collaborator, **Beilman DW** portion \$35,000 USD (total: \$678,341 USD).
- 2007-09 European Commission, Marie Curie Actions, Grant 40974: European High Arctic Wetland Change (Svalbard). €220,142 (\$323,712 USD). PIs: **Beilman DW**, Reimer PJ, Hall VA, and Charman DJ.

- 2004-05 National Science Foundation Doctoral Dissertation Research Improvement Grant. \$12,000 USD. PIs: **Beilman DW** and MacDonald GM.
- 2003 Geological Society of America Graduate Research Grant.
- 2000 Northern Science Training Program of Canadian Circumpolar Institute.
- 2000 Challenge Grants in Biodiversity, Alberta Conservation Association.

University Awards

- 2005-06 UCLA Graduate Division Dissertation Year Fellowship
- 2004 UCLA European and Eurasian Studies Dissertation Fellowship
- 2003-05 UCLA Geography Travel Grants (3)
- 2003 UCLA Summer Research Mentorship (Quality of Graduate Education)
- 2002-04 UCLA Geography Teaching Assistantship
- 2002-04 UCLA Graduate Division Tuition Scholarship

Professional Presentations

Talks (12) or posters (4) delivered at professional meetings as first author

- July 2008 (upcoming) Ninth International Conference on Permafrost, Fairbanks, AK, USA
- April 2008 (upcoming) American Association of Geographers, Boston, MA, USA
- April 2007 American Association of Geographers, San Francisco, CA, USA
- Dec. 2006 American Geophysical Union, San Francisco, CA, USA
- Mar. 2006 American Association of Geographers, Chicago, IL, USA
- Nov. 2005 Bayesian Statistics and Age-modeling Workshop, Guanajuato, Mexico
- Dec. 2004 American Geophysical Union, San Francisco, CA, USA
- July 2004 The Science of Changing Climates, Edmonton, AB, Canada
- July 2003 International Quaternary Association. Reno, NV, USA
- Mar. 2002 Int'l Workshop on Northern Peatlands II: Permafrost. Montreal, PQ, Canada
- Aug. 2001 Western Siberian Peatlands and the Carbon Cycle. Noyabrsk, Russia
- May 2001 Society of Wetland Scientists, 22nd Annual Meeting, Chicago, IL, USA
- Mar. 2001 Int'l Workshop on Northern Peatlands I: Modelling. Edmonton, AB, Canada
- Feb. 2001 Partners in Conservation, Alberta Conservation Association, Nisku, AB, Canada
- Aug. 2000 Millennium Wetland Event, Quebec City, PQ, Canada
- Feb. 2000 Circumpolar Ecosystems 4, Churchill, MB, Canada
- Aug. 1999 Ecological Society of America, Spokane, WA, USA

Professional Employment

- Queen's University Belfast (May 2007 - present), Marie Curie Research Fellow, ¹⁴CHRONO Centre for Climate, Environment, and Chronology (¹⁴C-AMS), School of Geography, Archaeology, and Palaeoecology.
- UCLA (July 2006-April 2007). Los Angeles, CA, USA. Postdoctoral Researcher. Departments of Ecology & Evolutionary Biology and Geography.
- UCLA (2002-2005). UCLA Department of Geography. Research and Teaching Assistant.
- Oregon State University (Spring 2005 and Summer 2003). Corvallis, OR, USA. Summer Curricular Practical Training. Soil organo-mineral complexes and organic matter stabilization (2005). Soil nitrogen in a disturbed Mojave desert ecosystem (2003).

Natural Resources Canada – Canadian Forest Service (2000-01). Edmonton, AB, Canada.
Climate Change Group, Northern Forestry Centre. Boreal forest and peatland soil
carbon modeling.

University of Alberta (1998-2000). Research and Teaching Assistant.

University of Alberta (1996-97). Wetland resource inventory. Plant community and soil
surveys, landscape classification and mapping.

Teaching

Instructor, UCLA – Introductory Biogeography: Biodiversity in a Changing World (2005)

Teaching Assistant, UCLA – Biogeography, Physical Geography (2002-2004).

Teaching Assistant, University of Alberta – Introductory Biology, Introductory Ecology,
Vascular Plant Biology (1998-2000).

Recognition – University of Alberta, Faculty-nominated Teaching Award, Graduate Student's
Association. (1999).

Membership and Service

Member – American Association of Geographers (AAG), American Geophysical Union,
Geological Society of America, Society of Wetland Scientists

Reviewer – Ecosystems, Quaternary Research, Boreas

Session Organizer and Chair – Carbon and Water Cycles in the Changing Arctic: Past, Present,
Future, AAG Annual Meeting, April 2008 (upcoming). Quaternary Environment of
the Americas, Wetlands, AAG Annual Meeting, April 2007.

Recent Invited Talks: Department of Geography, National University of Ireland Galway (Nov
2007); ¹⁴CHRONO Centre, Queen's University Belfast (Feb. 2007); Purdue Climate
Change Research Center (Oct. 2006); Center for Accelerator Mass Spectroscopy,
Lawrence Livermore National Lab (Sept. 2006); Commencement Address, Department
of Geography, UCLA (June 2006).