

DONALD CHARLES BARBER

Associate Professor of Geology

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PROFESSIONAL PREPARATION

2001	PhD	Geological Sciences	University of Colorado, Boulder, CO.
1995	MS	Geological Sciences	University of Maine, Orono, ME.
1991	BS	Geology	Duke University, Durham, NC.

ACADEMIC AND PROFESSIONAL APPOINTMENTS

2006-present **Associate Professor**, Department of Geology, and **Director** of the Environmental Studies Program, Bryn Mawr College.

2000-2006 **Assistant Professor**, Department of Geology, Bryn Mawr College.

1995-2000 **Graduate Research and Teaching Assistant**, University of Colorado, Institute of Arctic & Alpine Research and Department of Geological Sciences.

1993-1994 **Marine Geologic Consultant/Coastal Geologist/GIS Technician**, Maine Geological Survey; AquaTech Inc.; and Wright-Pierce Engineers, Maine.

1991-1993 **Graduate Research Assistant**, University of Maine; Department of Geological Sciences; support from NOAA Sea Grant College Program.

1985-1988 **Shipboard Research Technician**, Monterey Bay Aquarium Research Institute; University of Southern California; and Duke University Marine Lab.

RECENT PRESENTATIONS

Build, fortify, nourish – now what? Preservation of shoreline property in Monmouth Beach and Longport, New Jersey. Invited paper for session titled “Identifying America’s Most Vulnerable Oceanfront Communities: A Geological Perspective,” GSA Denver Annual Meeting, 28-31 October 2007; abstract published in *Geological Society of America Abstracts with Programs*, v. 39, no. 6, p. 241.

Comparing Iron Age softstone artifacts with samples from ancient quarries in southeast Arabia: XRD mineralogy and elemental abundances by ICP-MS. Paper presented in session titled “Sourcing techniques in archaeology,” GSA Denver Annual Meeting, 28-31 October 2007; abstract published in *Geological Society of America Abstracts with Programs*, v. 39, no. 6, p. 30.

The science behind global warming: How studies of past and present earth conditions help forecast the future. Invited presentation followed by panel discussion, Delaware Valley Regional Global Warming Conference, 19 May 2007, Yardley, PA.

The cold event 8,200 years ago: Cosmopolitan consequences of a provincial perturbation. Invited presentation for PACLIM 2007–Abrupt Climate Change: Causes and Ecosystem Responses. Pacific Climate Workshop, 13-16 May 2007. Asilomar State Conference Grounds, Pacific Grove, CA.

SELECTED PUBLICATIONS

Alley, R.B., J.T. Andrews, **D.C. Barber**, P.U. Clark, 2005. Why an ice shelf for Heinrich events? Comment on “Catastrophic ice shelf breakup as the source of Heinrich event icebergs” by C.L. Hulbe et al. *Paleoceanography* 20, PA1009, doi: 10.1029/2004PA001086.

- Kelley, J.T., **D.C. Barber**, D.F. Belknap, D.M. FitzGerald, S. van Heteren, S.M. Dickson, 2005. Sand budgets at geological, historical and contemporary time scales for a developed beach system, Saco Bay, Maine, USA. *Marine Geology*, 214, 117–142.
- Magee, P., **D.C. Barber**, M. Sobur, S. Jasim, 2005. Sourcing Iron Age softstone artefacts in southeastern Arabia: results from a programme of analysis using inductively coupled plasma-mass spectrometry/optical emission spectrometry (ICP-MS/OES). *Arabian archaeology and epigraphy*, 16, 129-143.
- Benson, L.V., **D.C. Barber**, J.T. Andrews, H. Taylor, R. Theriault, P. Lamothe, 2003. Rare-earth elements and Nd and Pb isotopes as source indicators for Labrador Sea clay-size sediments during Heinrich event 2. *Quaternary Science Reviews*, 22, 881-889.
- Farmer, G.L., **D.C. Barber**, J.T. Andrews, 2003. The Nd, Sr and Pb isotopic compositions of late Quaternary ice proximal sediments in the northern North Atlantic. *Earth and Planetary Science Letters*, 209, 227-243.
- Barber, D.C.**, A. Dyke, C. Hillaire-Marcel, A.E. Jennings, J.T. Andrews, M.W. Kerwin, G. Bilodeau, R. McNeely, J. Southon, M.D. Morehead, J.-M. Gagnon, 1999. Forcing of the cold event 8200 years ago by outburst drainage of Laurentide lakes. *Nature*, 400, p. 344-348.
- Andrews, J.T., **D.C. Barber**, A.E. Jennings, 1999. Errors in generating time-series and in dating events at Late Quaternary millennial (radiocarbon) timescales. *in: Clark, P.U., R. Webb and L. Keigwin, (eds.), Mechanisms of Global Climate Change at Millennial Time Scales. Amer. Geophys. Union Monograph* 112, pp. 23-33.

COURSES TAUGHT

GEOL 103 Earth Systems and the Environment	('01; '02; '03; '05; '06; '08)
GEOL 205 Sedimentary Materials and Environments	('00; '01; '02; '05; '08)
GEOL 206 Energy Resources and Policy	('08)
GEOL 209 Natural Hazards	('03; '04)
GEOL 270 Geoarchaeology	('05; '07)
GEOL 312 Quaternary Geology and Climate Change	('02; '06)
GEOL 314 Marine Geology	('01; '04; '07)
GEOL 350 Advanced Topics in Geology	('01; '05; 08)
GEOL 397 Senior Seminar in Environmental Studies	('02; '07)
GEOL 403 Supervised Research: Geology Thesis	('00; '02; '03; '04; '05; '07)
GEOL 425 Praxis III: Energy Sustainability	('08)

PROFESSIONAL SERVICE AND PEDAGOGICAL INNOVATIONS (AKA SYNERGISTIC ACTIVITIES)

Topical Session at 2004 Joint AGU/CGU Assembly proposed and convened, with Anne deVernal (Université du Québec à Montréal): Impact of ice surges and major drainage events on thermohaline circulation and climate: Geologic records and numerical simulations, 17-21 May, 2004, Montreal.

Peer Reviews for Journals: *Can. J. Earth Sci., Geology, GSA Bulletin, EPSL, Env. Management, J. Geosci. Educ., J. Quaternary Sci., Paleoceanography, Quaternary Res., Quaternary Sci. Reviews*

Broadening Participation of Underrepresented Groups: 14 Women Undergraduate, Graduate and Postdoctoral Research Advisees since 2001, including eight female undergraduate students who have published or presented work supervised by me: *1 journal paper* (Marta Sobur '05), *7 abstracts* at regional and national geology meetings (Zoe Ruge '08, Kaitlin Friedman '07, Stephanie Olen '07, Stephanie Nebel '05, Kira Diaz Tushman '04, Rebecca Kraft '03, Andrea Friedman, '01); and *1 published book* (Allison Hayes-Conroy '03).

Pedagogical Development Activities at Bryn Mawr College:

- Developed interdisciplinary lab exercises focused on a pond on the Bryn Mawr campus for Earth Systems and the Environment (GEOL 103) and Sedimentology (GEOL 205). Presented pedagogical results at NSF-sponsored session at 2004 GSA meeting in Denver; teachers can access the poster and detailed descriptions of the exercises on the *Cutting Edge/DLESE* "[Field Experiences](#)" website.
- Represented Bryn Mawr College at March 2005 Project Kaleidoscope leadership workshop on how [interdisciplinary initiatives](#) can enhance science and math education across the curriculum.
- Proposed, developed and taught interdisciplinary Geoarchaeology course (ARCH/ANTH/GEOL 270) w/ Prof. Peter Magee. Course anchors a new multi-department concentration in Geoarchaeology.
- Proposed, developed and taught math-based Natural Hazards course (GEOL 209) w/ Prof. Arlo Weil. Students learn about risk analysis, and the course fulfills the College Quantitative Skills requirement.

SUPERVISORS AND STUDENTS

Barber's MS advisors: D.F. Belknap, J.T. Kelley, *UMaine-Orono*; D. FitzGerald, *Boston University*.

Barber's PhD advisors: J.T. Andrews, G.L. Farmer, A.E. Jennings and J.P.M. Syvitski, *CU-Boulder*.

Recent Job Superiors: Profs. Maria Luisa Crawford and W. Bruce Saunders, *Bryn Mawr College*

Graduate Student and Postdoc Supervised by Don Barber:

Kristen Bollman, MA 2002, *current employment: Delaware Natural Resources & Environ. Control.*

Dr. Catherine Riihimaki, *Keck Teaching and Research Postdoctoral Fellow at Bryn Mawr College.*