

GRETCHEN M. GETTEL

Water Systems Analysis Group
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EDUCATION

- Ph.D. 2006. Cornell University - Ecology and Evolutionary Biology (Program in Biogeochemistry and Biocomplexity)
Dissertation: "*Rates, importance, and controls on nitrogen fixation in oligotrophic, arctic lakes, Toolik Lake Alaska.*"
- M.S. 1998. University of Minnesota - Water Resources; minor in Statistics
Thesis: "*The effects of lake geomorphology, fish assemblages, and species richness on food web structure in arctic, Alaskan lakes.*"
- B.A. 1993. Boston University - Biology with Specialization in Marine Science; Senior Honors. Thesis (published) and Dean's List.

RESEARCH EXPERIENCE

- 7/2009 – present **Research Scientist II.** Complex Systems Research Center, University of New Hampshire (USA).
- 6/2008 – 6/2009 **Post-doctoral Research and Teaching.** Complex Systems Research Center, University of New Hampshire (USA). Drs. Charles Vörösmarty and Wil Wollheim
- 5/2005 – 5/2008 **Post-doctoral Research and Teaching.** Department of Natural Resources, University of New Hampshire. Dr. William McDowell.
- 1/2001 – 5/2001 **Visiting Researcher.** Guanare, Venezuela. Led team of students to perform mesocosm-scale experiment examining controls of nitrogen fixation in a tropical river.
- 9/1995 – 5/1998 **Graduate Research Assistant, University of Minnesota.** Organized and carried out landscape-scale surveys of ~90 lakes for biological and lake chemistry characteristics in arctic Alaska, Toolik Field Station.
- Summer 1995 **Research Assistant, Arctic LTER,** Toolik Field Station, Alaska. The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA (USA). Biogeochemistry of arctic lakes.
- 1/1994 – 6/1995 **Research Technician.** International Pacific Halibut Commission, Seattle, WA (USA). Age and growth of halibut determined by analysis of otoliths
- 1/1993 – 10/1993 **Research Assistant.** Fish response to estuarine eutrophication, Waquoit Bay. Linda Deegan, The Ecosystems Center, Woods Hole, MA (USA).

TEACHING EXPERIENCE

Spring 2008, Fall 2009	Primary Instructor , <i>Aquatic Ecosystems</i> , University of New Hampshire
Fall 2005 – present	Graduate committee member (4 Masters students), University of New Hampshire (USA)
Fall 2005, 2006, 2008	Co-instructor , <i>Water Quality Management and Topics in Ecology</i> , Department of Natural Resources, University of New Hampshire
Spring 2004	Workshop Leader , Graduate workshop on synthesis of trace gas emissions from corn ethanol and switchgrass, Cornell University
Fall 2002	Knight Writing in the Majors Instructor , <i>Ecology</i> Designed course to teach interactive class activities and in-depth writing assignments, Cornell University
2001 – 2004	Mentor . Mentored undergraduates in independent research projects as part of National Science Foundation, Research Experience for Undergraduates (REU) program
Fall 2001	Teaching Assistant . <i>Limnology</i> , Cornell University
Fall 1999	Teaching Assistant . <i>Ecosystems</i> , Cornell University

FELLOWSHIPS AND GRANTS AWARDED

Environmental Protection Agency, Impact of Climate Change on Nation's Water Quality – UNH subcontract (City University of New York) \$299,995 1/2009 – 12/2011

National Science Foundation, Doctoral Dissertation Improvement Grant. 2002-2004. "Why does N limitation occur in some arctic lakes? Understanding the controls of N fixation." \$17,800

Biogeochemistry Research Training Grant Fellowship. 1998 – 2001. Program in Biogeochemistry and Environmental Change. Tuition and Stipend, Cornell University.

Program in Biogeochemistry and Environmental Change. Four Grant Awards. Fall 1999, Spring 2000, Fall 2001, Spring 2003. Total Sum: \$13,500.

Cornell University Travel Grant, January 1999. American Society of Limnology and Oceanography meeting, Santa Fe New Mexico

INVITED TALKS

February 2008	University of Northern Arizona Flagstaff AZ (USA). "Controls of N ₂ fixation in oligotrophic arctic lakes."
August 2007	Ecology Society of America Annual Conference, Portland OR (Special session). "Fixing the nitrogen budget in oligotrophic arctic lakes: Reassessing the importance of benthic and pelagic nitrogen fixation."

INVITED TALKS continued

- June 2007 Large Lakes Observatory Duluth, MN (USA). "Rates, importance and controls of N₂ fixation in oligotrophic arctic lakes."
- May 2007 Smithsonian Environmental Research Center, Edgewater, MD (USA). "In-lake and landscape controls on benthic N₂ fixation and primary production in arctic lakes."

SERVICE, SCIENTIFIC LEADERSHIP AND AWARDS

- Panel Reviewer, National Science Foundation, Division of Environmental Biology. (2007, 2008)
- Reviewer for *Limnology and Oceanography*, *Biogeochemistry*, *JNABS*, *Water Resources Research*, *Biogeosciences*
- Profiled in *Science* "Random Samples" pages (2003; 299:1841) and Interviewed by *The Environment Show*, Northeast Public Radio (March 2002) for leadership role in reinstating Environmental Protection Agency STAR (Science to Achieve Results) Graduate Fellowship Program.
- Toolik Field Station Steering Committee, 2003, 2004
- Committee Chair, Seminar Series, Program in Biogeochemistry and Environmental Change, Cornell University, Fall 2001 – Fall 2003
- Ben Meadows Award for best student poster, North American Benthological Society conference, 2003. "The effects of the grazing catfish, *Ansistrus triradiatus* on benthic N₂ fixation in an N limited tropical stream."
- Founder and President, Biogeochemistry Graduate Student Association, Cornell University, Spring 2002 – Fall 2004
- Workshop leader in "Scientific Exchange", Retreat for Program in Biogeochemistry and Environmental Biocomplexity, Cornell University, Fall 2003

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- American Geophysical Union
American Society of Limnology and Oceanography
North American Benthological Society
Ecological Society of America

PUBLICATIONS

Gettel, G. M., A. E. Giblin, and R. W. Howarth. 2007. The effects of grazing by the snail, *Lymnaea elodes*, on benthic N₂ fixation and primary production in oligotrophic, arctic lakes. *Limnology and Oceanography* 52:2398-2409

Hobara, S., C. McCalley, K. Koba, A. E. Giblin, M. S. Weiss, **G. M. Gettel**, and G. R. Shaver. 2006. Nitrogen fixation in surface soils and vegetation in an arctic tundra watershed: A key source of atmospheric nitrogen. *Arct. Antarct. Alp. Res.* **38**: 363-372.

PUBLICATIONS continued

Hershey, A.E. S. Beaty, K. Fortino, M. Keyse, W. J. O'Brien, A. J. Ulseth, **G. M. Gettel**, P. Lienesch, C. Luecke, M. E. McDonald, C. Mayer, C. Richards, J. A. Schuldt, S. C. Whalen. 2006. Effect of landscape factors on fish distributions in arctic Alaskan lakes. *Freshwater Biology* 51(1):39-55

Weiss, M.S., S.E. Hobbie, **G. M. Gettel**. 2005. Contrasting responses of nitrogen-fixation in arctic lichens to experimental and ambient nitrogen and phosphorus availability. *Arctic and Alpine Research* 37(3):396-401

O'Brien, J.W. M. Barfield. N.D. Bettez. **G.M. Gettel**, A. E. Hershey, M. E. McDonald, M.C. Miller, H.Mooers, J. Pastor, C. Richards and J. Schuldt. 2004. Physical, chemical, and biotic impacts on arctic zooplankton communities and diversity. *Journal of Limnology and Oceanography* 49(4, part 2): 1250-1261

Hershey, A.E., **G.M. Gettel**, M.E. McDonald, M.C. Miller, H. Mooers, W.J. O'Brien, J. Pastor, C. Richards, and J.A. Schuldt. 1999. A geomorphic-trophic model for landscape control of trophic structure in arctic lakes. *Bioscience* 49: 887-897

Gettel, G.M., L. Deegan, C. Harvey. 1997. A comparison of whole and thin-sectioned otolith aging techniques and validation of annuli for arctic grayling. *Northwest Science* 71(3): 224- 232.