

**ANNE E. GIBLIN**

The Ecosystems Center  
Marine Biological Laboratory  
Woods Hole, Massachusetts 02543  
(508) 289-7488

Education: Ph.D., Boston University Marine Program, Woods Hole, MA, 1982, Ecology  
B.S., Rensselaer Polytechnic Institute, Troy, NY, 1975, Biology

Awards: Phi Lambda Upsilon Chemical Honor Society  
Aldo Leopold Leadership Fellowship 2001  
*Estuaries* recognized for outstanding contributions to peer review 2005  
American Association for the Advancement of Science Fellow, Class of 2013  
Association for the Sciences of Limnology and Oceanography, Sustaining Fellow Class of 2019

Societies: American Association for the Advancement of Science  
Council Delegate for Biological Sciences 1995-1998  
American Institute of Biological Sciences  
American Society of Limnology and Oceanography  
American Association of Underwater Sciences  
American Chemical Society  
Ecological Society of America  
Estuarine Research Society:  
Governing Board 1988-1990; President-Elect 1997-1999, President 1999-2001,  
Past-President 2001-2003  
New England Estuarine Research Society  
Member-at-Large 1987-1989; President 1989-1991  
Oceanographic Society  
Sigma Xi

Professional Appointments:

Interim Director, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, June 2016-present  
Senior Scientist, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, 2003-present  
Graduate Faculty, University of Maine, School of Marine Science 2018-2023  
Professor MBL/Brown Joint Program 2007-2018  
Graduate Faculty, Graduate School of Oceanography, University of Rhode Island 2005-Present  
Associate Scientist, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, 1990-2003  
Adjunct Associate Professor, Boston University, Boston, MA, 1991-Present  
Assistant Scientist, Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, 1983-1989  
Postdoctoral Investigator, Woods Hole Oceanographic Institution, Woods Hole, MA, 1982-1983  
Coordinator, Summer Marine Ecology Course, Marine Biological Laboratory, Woods Hole, MA, Summer 1981  
Research Assistant, Boston University Marine Program, Woods Hole, MA, 1977 - 1981  
Teaching Fellow, Boston University Marine Program, Woods Hole, MA, 1975 - 1977  
Taught Freshman Chemistry Lab, Rensselaer Polytechnic Institute, Summer 1975

Publications:

Giblin, A. E., A. Bourg, I. Valiela and J. M. Teal. 1980. Uptake and losses of heavy metals in sewage sludge by a  
New England salt marsh. *American Jour* 0 1 364.83(s)3( )-2(o)6(f)-3(67vaA.0000 )-2(M 1 393223aSc 0 1 24>> BDC q0.00000





McKane, R. B., E. B. Rastetter, G. R. Shaver, K. J. Nadelhoffer, A. E. Giblin, J. A. Laundre and F. S. Chapin.  
1997b. Reconstruction and analysis of the historical changes in carbon storage in Arctic tundra. *Ecology* 78:  
1188-

Shaver, GR; Giblin, AE; Nadelhoffer, KJ; Thieler, KK; Downs, MR; Laundre, JA; Rastetter, EB. 2006. Carbon turnover in Alaskan tundra soils: Effects of organic matter quality, temperature, moisture and fertilizer. *Journal of Ecology*. 94 (4) 740-753.

Groffman, P.M., M.A. Altabet, J.K. Böhlke, K. Butterbach-Bahl, M. B. David, M. K. Firestone, A. E. Giblin, T. M. Kana, L-P Nielsen and M. A. Voytek. (2006) Methods for measuring denitrification: Diverse approaches to a difficult problem. *Ecological Applications* 16:2091-2122.

Shaver h0006) i( )-2(o)-g(d)-5(e)10(n)-3( )-2(f)-ix(m)-4(i5(o)6( )JTJETQq0.00000912



- Christopher J. Graves, Elizabeth Makrides, Victor Schmidt, Anne Giblin, Zoe Cardon, David Rand. 2016. Functional responses of salt marsh microbial communities to long-term nutrient enrichment. *Applied and Environmental Microbiology* 82:286262871. doi: 10.1128/AEM.03990-15.
- Longo, W.M., S. Theroux, A.E. Giblin, Y. Zheng, J.T. Dillon, Y. Huang. 2016. Temperature Calibration and phylogenetically distinct distributions for freshwater alkenones: Evidence from northern Alaska lakes. *Geochimica Cosmochimica Acta* 180:177-196.
- Bernhard, A.E., R. Sheffer, A.E. Giblin, B.J. Roberts, J. Marton. 2016. Population Dynamics and Community Composition of Ammonia Oxidizers in Salt Marshes after the Deepwater Horizon Oil Spill. *Frontiers of Microbiology*. 7:1-13.
- Brin, L.D., A.E. Giblin, J.J. Rich. 2016. Similar temperature responses suggest future climate warming will not alter partitioning between denitrification and anammox in temperate marine sediments. *Global Change Biology*. Doi: 10.1111/gcb.13370.
- Giblin, A. E. 2016. Mysteries in the marsh. In: Willig, M.R. and Walker, L.R.(eds) Long-Term Environmental Research: Changing the Nature of Scientists. Oxford University Press
- Gough, L. N.D. Bettez, K.A. Slavik, W.B. Bowden, A.E. Giblin, G.W. Kling, J.A. Laundre, G.R. Shaver. (2016). Effects of long-term nutrient additions on arctic, tundra, stream and lake ecosystems: Beyond NPP. *Oecologia* 182: 653-665.
- Daniels, W., J.M. Russell, A. E. Giblin; J. M. Welker, E. S. Klein; Yongsong Huang. (2017) Leaf wax hydrogen isotope fractionation from synthesis to sedimentation in the Arctic tundra, North Slope. *Geochimica Cosmochimica Acta* 213:216-236.
- Forbrich, I., A.E. Giblin, C.S. Hopkinson. (2018) Constraining carbon budgets from a salt marsh using five years of eddy co-variance measurements and long-term estimates of carbon burial from sediment cores. *J. Geophysical Research* 123:867-878.
- Liu, Xueyan, Koba, K., L.A. Koyama, S. E. Hobbie, M.S. Weiss, Y. Inagaki, G.R. Shaver, A.E. Giblin, S. Hobara, K.J. Nadelhoffer, M. Sommerkorn, E.B. Rastetter, G.W. Kling, J.A. Laundre, Y. Yano, A. Makabe, M. Yano, C. Liu (2018) Nitrate is an important nitrogen source for Arctic tundra plants. *Proc. Nat. Acad. Sci.* 115:3398-3403.
- Valiela, I. Jesús Pascual, Anne Giblin, Coralie Barth-Jensen, Paulina Martinetto, Marshall Otter, Thomas Stone, Jane Tucker, Megan Bartholomew, Inés G. Viana. (2018) External and local controls on land-sea coupling assessed by stable isotopic signatures of mangrove producers in estuaries of Pacific Panama. *Marine Environmental Research* 137: 133-144.
- Longo, W. M., Huang, Y., Yao, Y., Zhao, J., Giblin, A.E., Wang, X., Zech, R., Haberzettl, T., Jardillier, L., Tqpg{, J., Lkx, Z., Ktk&qqi qx, S., Cj w, G., DøApf tgc, W.J., Harada, N., Nagashima, K., Sato, M., Yonenobu, H., Yamada, K., Gotanda, K., Shinozuka, Y. 2018. Widespread occurrence of distinctive alkenones from Group I haptophytes in freshwater lakes: Implications for paleoclimatic and paleo-environmental reconstructions. *Earth and Planetary Science Letters* 429:239-250.
- Daniels, W.C., J.M. Russell, A.E. Giblin, Y. Huang. (2018) Leaf wax D/H ratios of Arctic plants are unaffected by continuous light in greenhouse experiments. *Organic Geochemistry* 125: 70-81.
- Howard, E. M., R. H.R. Stanley, I. Forbrich, A. E. Giblin, D. E.Lott III, K. L. Cahill. (2018) Using Noble Gases to Compare Parameterizations of Air-water Gas Exchange and to Constrain Oxygen Losses by Ebullition in a Shallow Aquatic Environment. *JGR Biogeosciences* 213:2711-2726.
- Bulsecò, A., Giblin, A.E., Tucker, J., Murphy, A., Sanderman, J., Hiller-Bittrolff, K., Bowen, J. 2019. Nitrate addition stimulates microbial decomposition of organic matter in salt marsh sediments. *Global Change Biology* 25:32224-3241
- Bernhard AE, Chelsky A, Giblin AE, Roberts BJ. 2019. Influence of Local and Regional Drivers on Spatial and Temporal Variation of Ammonia-Oxidizing Communities in Gulf of Mexico Salt Marshes. *Environmental Microbiology Letters* 11:25-834.
- Taylor, D.I., C.A. Oviatt, A.E. Giblin, J. Tucker, R. J. Diaz, K. Keay. 2020. Wastewater input reductions reverse historic hypereutrophication of Boston Harbor, USA. *Ambio* 49: 187-196 DOI: 10.1007/s13280-019-01174-1
- Bulsecò, A. J. Vineis, A. E. Murphy, A. C. Spivak, A. E. Giblin, J. Tucker, and J.L. Bowen (2020) Metagenomics coupled with biogeochemical rates measurements provide evidence that nitrate addition stimulates respiration in salt marsh sediments *Limnology and Oceanography* 65:S321-S339.
- Longo, W. M. . Yongsong Huang, J.M. Russell, C. Morrill, W.C. Daniels, A.E. Giblin, and J. Crowthe. 2020 Insolation and greenhouse gases drove Holocene winter and spring warming in Arctic Alaska. *Quaternary Science Reviews* 242:106438

- Schutte, C.A., J.M. Marton, A. E. Bernhard, A. E. Giblin, and B. J. Roberts. 2020. No evidence for long-term impacts of oil spill contamination on salt marsh soil nitrogen cycling processes. *Estuaries and Coasts* 43:865-879.
- Bowen, J.L, A.E. Giblin, A.E. Murphy, A.N. Bulseco, L.A. Deegan, D.S. Johnson, J.A. Nelson, T.J. Mozdzer, H.L. Sullivan. 2020. Not All Nitrogen Is Created Equal: Differential Effects of Nitrate and Ammonium Enrichment in Coastal Wetlands. *Bioscience* 70:1108-1119. <https://doi.org/10.1093/biosci/biaa140>
- Messenger, S; J. Lloret; J. Galloway; A.E.Giblin. 2021. Identifying and assessing effectiveness of alternative low-effort nitrogen footprint reductions in small research institutions. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/abd9f6>
- Bernhard, A.E., J. Beltz, A. E. Giblin, B. J. Roberts. 2021 Biogeography of Ammonia Oxidizers in New England and Gulf of Mexico Salt Marshes and the Potential Importance of Comammox. *ISME Communications* 1:9
- Giblin, A.E., R.W. Fulweiler, and C. S. Hopkinson. 2021. The role of marshes in coastal nutrient dynamics. In *Marshes, Function, Dynamics, and Stresses*, pp 113-154. Eds: D.M. FitzGerald and Z.J Hughes. Cambridge University Press, Cambridge, UK.
- Upreti, K. V.H. Rivera-Monroy, K. Maiti, A.E. Giblin, J.P. Geaghan. 2021. Emerging wetlands from River Diversions can sustain high rates of denitrification in a coastal delta. *J. Geophysical Research-Biogeosciences*. 126, e2020JG006217.
- Budy, P., C.A. Pennock, A.E. Giblin, C. Luecke, D.L. White, and G.W. Kling. Understanding the effects of climate change disturbance on pristine arctic lakes: multi-trophic level response to recovery to a twelve-year low level fertilization experiment. *Limnology and Oceanography*.

Submitted Papers:

- Daniels, W.C. J.M. Russell, C. Morrill, W.M. Longo, A.E. Giblin, P. Holland-Stergar, J. Welker, X. Wen, A. Hu and Y. Haug. Regional feedbacks strongly modulated Arctic Alaskan climate since the last ice age. (submitted to QRS).







Gregg Moore, Ph.D. 2002, Boston University  
 Ketil Koop-Jakobsen. MS. 2003, University of Roskilde, Denmark  
 Ruth Herrold, Ph.D. 2003, Boston University  
 Sarah Good, MS, 2004, Boston University  
 Jennifer Bowen, Ph.D. 2004, Boston University  
 Joanna York, Ph.D. 2006, Boston University  
 Gretchen Gettel, Ph.D. 2006, Cornell University  
 Mirta Teichberg, Ph.D. 2007, Boston University  
 Robinson Fulweiler, Ph.D. 2007, University of Rhode Island  
 Liza Fox, MS, 2007, Boston University Marine Program  
 Jennifer Culbertson, Ph.D. 2007, Boston University Marine Program  
 Sophia Fox, Ph.D. 2007, Boston University Marine Program  
 Emily Peacock, M.S. 2007, Boston University Marine Program  
 Ylva Olsen, Ph.D. 2008, Boston University Marine Program  
 Lindsey Brin, M.S. 2008, Boston University Marine Program  
 Nadine Stewart Lysiak, Ph.D. 2008, Boston University Marine Program  
 Erin Kinney, Ph.D. 2010, Boston University Marine Program  
 Luke Cole, Ph.D. 2010, U. of Virginia  
 Lindsey Fields, Ph.D. 2013, University of Rhode Island  
 Elise Heiss, Ph.D. 2014, Boston University  
 Anna Murphy, Ph.D. 2015, Virginia Institute of Marine Science  
 Stuart Waugh, Ph.D. SUNY, 2015, Stony Brook  
 William Longo, Ph.D. 2017, Brown University  
 Lillian Aoki, Ph.D. 2018, University of Virginia  
 Kiran Upreti, Ph.D. 2019 LSU  
 Sarah Foster, Ph.D. 2019, Boston University  
 Kenneth Czaplak, Ph.D. Virginia Institute of Marine Science  
 Rachel Presley, Ph.D. University of Maine, Orno  
 Claudia Mazur, Ph.D. Boston University  
 Katherine Haviland, Ph.D. Cornell University

#### External Examiner

John Amaral, 1992, Ph.D. University of Manitoba  
 Grace Ann Hung, 2005, MS, McGill University  
 Elizabeth Robertson, Ph.D. 2015, U. Southern Denmark

#### Reader or Co-Advisor for Undergraduate Senior Theses:

Philip Colarusso, 1986, Worcester Polytechnic Institute  
 Fiona Boyer, 1997, Stirling University, Scotland  
 Shana Rapaport, 1999, Brandeis University  
 Richard Ricard, 2000, Connecticut College  
 Jeremy Sinaikin, 2000, Brown University  
 Adena Greenbaum, 2001, Wellesley College  
 Kyle Witteinghill, 2002, Middlebury College  
 Sarah Foster, 2005, Hampshire College  
 Craig McGowen, 2007, Brown University  
 Nick Peng, 2010, Connecticut College  
 Julia Russell, 2014, Columbia University  
 Emily Stone, 2016, Clark University

#### Internal Committees and Activities:

Seminar Committee, Ecosystems Center, 1983-1984  
 Annual Report Committee, Ecosystems Center, 1983-1984  
 Chairman, Education Committee, Ecosystems Center, 1984-1986, 1989-1993  
 Chairman, Facilities Committee, Ecosystems Center, 1987-1989; 1992-1997  
 Chairman, Ad-Hoc Diving Safety Committee, MBL, 1985

Member, Diving Control Board, MBL, 1986-Present; Chair - 1993-Present  
Sewage Project Oversight Committee, Ecosystems Center, 1986-1990  
Member, Nominating Committee, MBL Corporation, 1986, 1991  
Member Year-round Scientist Council, MBL, 1989  
Member, Human Resources Manager Search Committee, MBL, 1988  
Member, Ad-Hoc Grievance Committee, MBL, 1989  
MBL Representative, Coastal Research Center, WHOI 1992-2000  
Member By-Laws Review Committee, MBL, 1989-1991  
Member Fellowship Committee, MBL 1991-1997  
Member Lakian Fellowship Committee 1993-4  
Member Review for the Marine Resources Center, 2002  
Member MBL Science Council 2005-2006  
Member MBL Safety Committee 2006-present