

Pamela H. Templer, PhD

Associate Professor

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EDUCATION

PhD in Ecology and Evolutionary Biology, Cornell University, Ithaca, NY	2001
BA in Environmental Studies and Biology (double major), University of California, Santa Cruz	1995

PROFESSIONAL EXPERIENCE

Associate Professor, Boston University	2012-present
Assistant Professor, Boston University	2005-2012
Co-Director, Boston University's Stable Isotope Laboratory	2007-present
Postdoctoral Fellow, University of California Berkeley	2001-2005
Graduate Student, Cornell University	1996-2001
Research Assistant, Institute of Ecosystem Studies	1996
Polgar Fellow, Hudson River Foundation	1995

PhD DISSERTATION

“Direct and indirect effects of tree species on forest nitrogen retention in the Catskill Mountains, NY.”
Advisers: Todd E. Dawson and Stuart Findlay. Cornell University and Institute of Ecosystem Studies.

HONORS AND AWARDS

National Science Foundation CAREER Grant	2012-2017
Elected member of Scientific Steering Committee, Hubbard Brook Experimental Forest	2010-2013
Andrew W. Mellon Foundation's Junior Faculty Research Grant	2007-2011
Invited member of Committee of Scientists at Hubbard Brook Experimental Forest	2006-ongoing
Selected participant for Young Scientists Global Change Conference, Trieste, Italy	2003
Teresa Heinz Environmental Scholars Award (PhD Dissertation Research Fellowship)	1999
President of Graduate Student Association. Department of Ecology and Evolutionary Biology, Cornell University	1998
National Science Foundation Graduate Research Fellowship	1996-2001
Polgar Fellowship, Hudson River Foundation	1995
Honors undergraduate senior thesis	1995
National Science Foundation – Research Experience for Undergraduates (REU) Program at the Institute of Ecosystem Studies. Selected participant	1994

TEACHING EXPERIENCE AT BOSTON UNIVERSITY

COURSES TAUGHT:

BI303	Ecology (Spring 2006)
BI306	Biology of Global Change (Fall 2006, Spring 2008, Fall 2008-2012)
BI/GE 530	Forest Ecology (Spring 2007 and 2009-2012)

GRADUATE STUDENTS:

Anne Socci (PhD, 2006-2011, Impact of winter climate change on nutrient and water uptake in a northern forest ecosystem)

Andrew Reinmann (PhD, 2008-present, Impact of winter climate change on above- and belowground carbon exchange in a northern hardwood forest)

Patrick Sorensen (PhD, spring 2011-present, Interactive effects of climate and tree species composition on soil microbial communities and ecosystem function)

Rebecca Sanders-Demott (PhD, beginning fall 2011)

Visiting PhD graduate students: Dries Huygens (University of Ghent, Belgium, October 2005); Lilia L. Roa Fuentes (National University of Mexico, June 2010); Christine Bollig (University of Bern, Switzerland, February-April 2011).

UNDERGRADUATE STUDENTS:

Mentor to more than 20 undergraduate research assistants and 13 students in Boston University's Undergraduate Research Opportunities Program (UROP), Summer Undergraduate Research Fellowship (SURF) and the National Science Foundation's Research Experience for Undergraduates (REU) program.

PUBLICATIONS

REFEREED ARTICLES (*Graduate student in Templer lab; **Undergraduate student in Templer lab)

Templer PH, RW Pinder, and CL Goodale. Effects of nitrogen deposition on greenhouse gas fluxes for forests and grasslands of North America (Invited). *Frontiers in Ecology and the Environment*, *in press*.

Comerford DP, PG Schaberg, **PH Templer**, AM Socci*, JL Campbell, and KF Wallin. Influence of experimental snow removal on root and canopy physiology of sugar maple trees in a northern hardwood forest. *Oecologia*, *in press*.

Groffman PM, LE Rustad, **PH Templer**, JL Campbell, LM Christenson, NK Lany, AM Socci, MA Vadeboncoeur, PG Schaberg and GF Wilson. Long-term integrated studies show complex and surprising effects of climate change in the northern hardwood forest. *BioScience*, *in press*.

Templer PH, MC Mack, FS Chapin III, LM Christenson, JE Compton, HD Crook, WS Currie, C Curtis, B Dail, CM D'Antonio, BA Emmett, H Epstein, CL Goodale, P Gundersen, SE Hobbie, K Holland, DU Hooper, BA Hungate, S Lamontagne, KJ Nadelhoffer, CW Osenberg, SS Perakis, P Schleppi, J Schimel, IK Schmidt, M Sommerkorn, J Spoelstra, A Tietema, WW Wessel, and DR Zak. 2012. Sinks for nitrogen inputs in terrestrial ecosystems: a meta-analysis of enriched ¹⁵N field tracer studies. *Ecology* 93: 1816-1829.

Templer PH. 2012. Changes in winter climate: soil frost, root injury, and fungal communities (Invited). *Plant and Soil* 35: 15-17

Templer PH, AF Schiller**, NW Fuller, AM Socci*, JL Campbell, JE Drake, and TH Kunz. 2012. Impact of a reduced winter snowpack on litter arthropod abundance and diversity in a northern hardwood forest ecosystem. *Biology and Fertility of Soils* 48:413-424.

Reinmann AB*, **PH Templer** and JL Campbell. 2012. Severe soil frost reduces losses of carbon and nitrogen from the forest floor during simulated snowmelt: a laboratory experiment. *Soil Biology & Biochemistry* 44:65-74.

Socci AM* and **PH Templer**. 2011. Temporal patterns of inorganic nitrogen uptake by mature trees in a northern forest using two common approaches. *Plant Ecology & Diversity* 4:141-152.

Templer PH and AB Reinmann*. 2011 Multi-factor global change experiments: what have we learned about terrestrial carbon storage and exchange? *New Phytologist* 192:797-800.

Brooks PD, P Grogan, **PH Templer**, P Groffman, M Oquist, and J Schimel. 2011. Carbon and nitrogen cycling in snow-covered environments. *Geography Compass* 5: 682-699.

Templer PH and KC Weathers. 2011. Use of mixed ion exchange resin and the denitrifier method to determine isotopic values of nitrate in atmospheric deposition and canopy throughfall. Atmospheric Environment 45: 2017-2020.

Templer PH and TM McCann**. 2010. Effects of the hemlock woolly adelgid on nitrogen losses from urban and rural northern forest ecosystems. Ecosystems 13:1215-1226.

Craine J, A Elmore, M Aidar, M Bustamante, T Dawson, E Hobbie, A Kahmen, M Mack, K McLauchlan, A Michelsen, G Nardoto, L Pardo, J Peñuelas, P Reich, E Schuur, W Stock, **PH Templer**, R Virginia, J Welker, and I Wright. 2009. Global patterns of foliar nitrogen isotopes and their relationships with climate, mycorrhizal fungi, foliar nutrient concentrations, and nitrogen availability. New Phytologist 183:980-992. (Co-authors in alphabetical order after Elmore)

Miller-Rushing AJ*, RB Primack, **PH Templer**, S Rathbone** and S Mukunda**. 2009. Long-term relationships among atmospheric CO₂, stomata, and intrinsic water use efficiency in individual trees. American Journal of Botany 96:1779-1786. *Graduate student with Prof. Richard Primack; **Undergraduate student.

Ewing HA, KC Weathers, **PH Templer**, TE Dawson, MK Firestone, AM Elliott and VKS Boukili. 2009. Fog water and ecosystem function: heterogeneity in a California redwood forest. Ecosystems 12:417-433.

Huygens D*, P Boeckx, **P Templer**, L Paulino, O Van Cleemput, C Oyarzun, C Müller and R Godoy. 2008. Mechanisms for retention of bioavailable nitrogen in volcanic rainforest soils. Nature Geoscience 1:543-548.

Templer PH, WL Silver, J Pett-Ridge, K DeAngelis and MK Firestone. 2008. Plant and microbial controls on nitrogen retention and loss in a humid tropical forest. Ecology 89: 3030-3040.

Templer PH, MA Arthur, GM Lovett and K Weathers. 2007. Plant and soil natural abundance $\delta^{15}\text{N}$: indicators of relative rates of nitrogen cycling in temperate forest ecosystems. Oecologia 153:399-406.

Pardo L, **PH Templer**, C Goodale, S Duke, P Groffman, MB Adams, P Boeckx, J Boogs, J Campbell, B Colman, J Compton, B Emmett, P Gundersen, J Kjonaas, G Lovett, M Mack, A Magill, M Mbila, M Mitchell, G McGee, S McNulty, K Nadelhoffer, S Ollinger, D Ross, H Rueth, L Rustad, P Schaberg, S Schiff, P Schleppe, J Spoelstra and Wessel W. 2006. Regional assessment of N saturation using foliar and root $\delta^{15}\text{N}$. Biogeochemistry 80:143-171.

Templer PH, G Lovett, K Weathers, S Findlay and T Dawson. 2005. Influence of tree species on forest nitrogen retention in the Catskill Mountains, New York, USA. Ecosystems 8:1-16.

Templer PH, P Groffman, A Flecker and A Power. 2005. Land use change and soil nutrient transformations in the Los Haitises region of the Dominican Republic. Soil Biology and Biochemistry 37:215-225.

Templer PH and TE Dawson. 2004. Nitrogen uptake by four tree species of the Catskill Mountains, NY: implications for forest N dynamics. Plant and Soil 262:251-261.

Templer PH, S Findlay and G Lovett. 2003. Soil microbial biomass and nitrogen transformations among five tree species of the Catskill Mountains, NY, USA. Soil Biology and Biochemistry 35:607-613.

Dawson TE, S Mambelli, AH Plamboeck, **PH Templer** and KP Tu. 2002. Stable isotopes in plant ecology. Annual Review of Ecology and Systematics 33:507-559. (Co-authors in alphabetical order)

Silver WL and **PH Templer**. 2002. A walk through the Amazon from a biogeochemical perspective. Book review of: Biogeochemistry of the Amazon Basin. Eds. McClain, M., R.L. Victoria and J.E. Richey. Oxford University Press, New York, 365 pages. Ecology 83:3237-3238.

Templer PH, S Findlay and C Wigand. 1998. Sediment chemistry associated with native and non-native emergent macrophytes of a Hudson River marsh ecosystem. Wetlands 18:70-78.

REPORTS, BOOK CHAPTERS AND POPULAR ARTICLES:

Sleeper D and **PH Templer**. A climate change call to arms. Don't let snowy predictions fool you. Winter is going away. Boston Globe Magazine Perspective, October 14, 2012.

Ewing HA, KC Weathers, AM Lindsey, **PH Templer**, TE Dawson, DC Bradbury, MK Firestone, and VKS Boukili. 2012. Fog and soil weathering as sources of nutrients in a California redwood forest. In RB Standiford, TJ Weller, DD Piirto, and JD Stuart (eds.), Proceedings of coast redwood forests in a changing California: a symposium for scientists and

managers: General Technical Report PSW-GTR-238. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture, p. 265-272.

Templer PH. 2005. Tree species effects on nitrogen cycling and retention: a synthesis of studies using ¹⁵N Tracers. *In* Tree Species Effects on Soils: Implications for Global Change. D. Binkley, O. Menyailo, eds. NATO Science Series, Kluwer Academic Publishers, Dordrecht.

Harris GP, SW Bigelow, JJ Cole, H Cyr, LL Janus, AP Kinzig, JF Kitchell, GE Likens, K.H. Reckhow, D Scavia, D Soto, L.M. Talbot, and **PH Templer.** 2003. The Role of Models in Ecosystem Management. *In* C.D. Canham, J.J. Cole, W.K. Lauenroth (eds.), Role of Models in Ecosystem Science. Princeton University Press. (Co-authors in alphabetical order)

RESEARCH GRANT SUPPORT

National Science Foundation “CAREER: Role of plant nutrient uptake in forest nutrient retention and carbon sequestration: an integrated research, teaching and outreach program.” \$755,640, total funds for entire award (03/01/12-02/28/17). **PH Templer**, PI.

Andrew W. Mellon Foundation “Impacts of winter dynamics on growing season plant nutrient uptake and forest productivity in a northeastern hardwood forest,” \$300,000, total funds for entire award (05/01/07-12/31/11). **PH Templer**, PI.

United States Department of Agriculture, Northeastern States Research Cooperative, “Effects of winter climate change on growing season sap flow and carbon exchange in the northern hardwood forest,” \$131,391, total funds for entire award (09/01/09-08/31/12). **PH Templer**, PI with M Friedl and N Phillips, Co-PI's. All funds allocated to **PH Templer** at Boston University.

National Science Foundation, “Collaborative Research: Winter climate change in a northern hardwood forest.” \$1.4M funds for entire award, P Groffman, Cary Institute, Lead PI with seven Co-PIs; \$114,828 allocated to **PH Templer**, Boston University, PI (04/01/10-03/31/13).

National Science Foundation, “Long-Term Ecological Research at the Hubbard Brook Experimental Forest.” \$5.4M total funds for entire award, T Fahey, Cornell University, PI with 20 Co-PIs; \$101,000 subaward to **PH Templer**, Co-PI (02/01/11-01/31/17).

United States Department of Agriculture, Northeastern States Research Cooperative, “Determination of atmospheric deposition and nitrogen saturation status in Class I wilderness areas of the northeastern United States,” \$63,730, total funds for entire award (06/01/06-05/31/11) **PH Templer**, PI, with K Weathers, Cary Institute, Co-PI. All funds allocated to Boston University.

National Science Foundation, “STATS4STEM.ORG: Enriching STEM education through real-world data sets, computing and statistical analysis.” \$149,743 total funds for entire award, E Simoneau, Boston Latin School (high school), PI; \$14,936 subaward to **PH Templer**, Co-PI (10/01/09-09/30/12).

United States Department of Agriculture, Northeastern States Research Cooperative, “Assessing the role of tree species and nitrogen deposition in mediating carbon storage in northern hardwood forests.” \$134,767 total funds for entire award. GM Lovett, Cary Institute, PI; \$5760 subaward to **PH Templer** (10/01/09-09/30/12).

Harvard University, Arnold Arboretum. “Impacts of the hemlock woolly adelgid and atmospheric nitrogen deposition on forest nitrogen saturation status,” \$5,000, total funds for entire award (05/22/06-05/21/07). **PH Templer**, PI.

COMPETITIVE FUNDING AND AWARDS TO GRADUATE STUDENTS IN MY LAB

Boston University, Research in Biogeoscience Award to **P Sorensen**. "Soil microbial activity affected by winter soil freezing," \$500 (05/31/12-04/30/13).

Environmental Protection Agency, Science to Achieve Results (STAR) Program awarded to **AW Reinmann**. "Impact of winter climate change on soil, canopy, and ecosystem carbon exchange in a northern deciduous forest," \$126,000 (09/01/11-08/31/14).

Boston University, competitive Dean's Fellowship awarded to **R Sanders-Demott**, \$19,800 (09/01/11-05/30/12).

Boston University, Research in Biogeoscience Award to **A Reinmann**. "Coupled response of above- and belowground carbon fluxes in a temperate deciduous forest to reduced winter snow pack," \$500 (05/31/11-04/30/12).

United States Department of Agriculture, Northeastern States Research Cooperative, Northern Forest Scholars Graduate Fellowship awarded to **AM Socci**. "Assessing the impacts of climate change-induced soil freezing on plant nutrient uptake and productivity in a northern hardwood forest," \$40,000 (09/01/07-12/31/09).

National Science Foundation Graduate Research Fellowship awarded to **AM Socci**. "Potential effects of climate change-induced soil freezing on plant nutrient uptake and productivity," \$118,326 for graduate tuition and stipend (06/01/07-05/31/11).

Boston University, competitive Dean's Fellowship awarded to **AM Socci**, \$16,500 (09/01/06-05/30/07).

PROFESSIONAL SERVICE AND ACTIVITIES

DEPARTMENTAL SERVICE AT BOSTON UNIVERSITY:

Chair, Graduate Committee	2012-ongoing
Member of Belamarich Award Committee to select Outstanding Doctoral Dissertation	Spring 2011
Member of Department of Biology Graduate Student Committee	Fall 2009-ongoing
Member of Marine Biology Faculty Search Committee (Biology)	Fall 2008, Spring 2009
Co-Director of Boston University Stable Isotope Laboratory	Spring 2007-ongoing
Member, Chairman's Advisory Committee	Fall 2006-2010
Member, Graduate Admissions Committee, Department of Biology	Fall 2005-2007
Coordinator of Spring 2006 Ecology, Behavior & Evolution Seminar Series	Spring 2006

UNIVERSITY SERVICE AT BOSTON UNIVERSITY:

Trustee Scholars Selection Committee (BU's top merit-based scholarship)	Spring 2011 & 2012
Member of Biogeoscience Research and Travel Award Committee for PhD students	Spring 2011 & 2012
Member of Advisory Committee for Global Ecology Education Masters Program	Spring 2011-ongoing
BioBugs (Biology Inquire and Outreach to High School Students)	Spring 2010 and 2011
Member of Marine Biogeochemistry Faculty Search Committee (Earth Sciences)	Spring 2008
Member, MMEDIC BA/MD Program Admissions Committee	Spring 2008
Member, Seven-Year BU BA/MD Program Admissions Committee	Spring 2007-2008
Faculty participant in "Freshman Fridays" orientation events for prospective students	Spring 2006-2010
Facilitator, Responsible Conduct of Research Program at Boston University	Fall 2005-2006

SERVICE OUTSIDE OF BOSTON UNIVERSITY:

Board of Trustees, Hubbard Brook Research Foundation	2012-ongoing
Co-Chair, National Atmospheric Deposition Program Sub-committee on Urban Atmospheric Monitoring	2012-ongoing
Editorial Review Board, Associate Editor for the journal <i>Biogeochemistry</i>	2011-ongoing
Elected member of Scientific Coordinating Committee, Hubbard Brook Exper Forest	2010-2013

Served on National Science Foundation Doctoral Dissertation Improvement Grant Panel 2009, 2010, & 2012

REVIEWER FOR THE FOLLOWING PEER REVIEWED JOURNALS AND PROPOSAL PANELS:

American Association for the Advancement of Science Program on Europe and Central Asia Proposal Review, Analytical Chemistry, Applied Soil Ecology, Atmospheric Environment, Biogeochemistry, Biological Invasions, Biology and Fertility of Soils, Canadian Journal of Forest Research, Ecological Applications, Ecological Monographs, Ecology, Ecosystems, European Journal of Soil Biology, Forest Ecology and Management, Functional Ecology, Global Biogeochemical Cycles, Global Change Biology, Journal of Arid Environments, Journal of Plant Nutrition and Soil Science, Journal of Plant Nutrition and Soil Science, Journal of Tropical Ecology, Kearney Foundation Proposal Review, National Science Foundation Ecosystem Studies and Globe Proposal Reviews, Nature Geoscience, New Phytologist, Oecologia, Plant and Soil, Plant Biology, Plant Ecology and Diversity, Rapid Communications in Mass Spectrometry, Soil Biology and Biochemistry, Soil Science Society of America Journal, and Tree Physiology.

INVITED LECTURES

Columbia University, Department of Ecology, Evolution & Envir Biology, New York, NY	October 2012
Brown University, Department of Ecology & Evolutionary Biology, Providence, RI	February 2012
Harvard University, Arnold Arboretum, Boston, MA	February 2012
Brookline High School, AP Environmental Science Class, Brookline, MA	December 2011
Cornell University, Program in Biogeochemistry, Ithaca, NY	November 2010
Wellesley College, Department of Biological Sciences, Wellesley, MA	March 2010
Plymouth State University, Department of Biology, Plymouth, NH	February 2010
Hubbard Brook Experimental Forest, Winter Ecology Course, North Woodstock, NH	January 2010
Massachusetts Institute of Technology (MIT), Cambridge, MA	November 2009
Boston College, Department of Biology, Chestnut Hill, MA	November 2009
Boston University, Program in Terrestrial Biogeosciences	October 2009
Marine Biological Laboratory, Woods Hole, MA	March 2009
Hubbard Brook Experimental Forest, REU Program, North Woodstock, NH	July 2008
University of New Hampshire (<i>Declined</i> , on maternity leave)	Fall 2007
Harvard Forest, Harvard University, Petersham, MA	May 2007
University of Connecticut, Storrs, Department of Ecology & Evolutionary Biology	March 2007
Boston University, Department of Biology, Women in Biology Series	October 2006
University of New Hampshire, Department of Plant Biology	April 2006
Marine Biological Lab, Woods Hole, MA	March 2006
Harvard University, Cambridge, MA	February 2006
Boston University, Department of Geography	October 2005
United States Department of Agriculture, Davis, CA	April 2004
University of Pennsylvania, Department of Biology	April 2004
Boston University, Department of Biology	February 2004
California State University Northridge, Department of Biology	February 2004
University of Granada, Spain. Department of Animal Biology and Ecology	November 2003
University of California Santa Barbara, Department of Ecology, Evolution and Marine Biology	February 2003

INVITED CONFERENCE LECTURES

Eastern CANUSA Forest Science Conference in Durham, NH. Keynote address.	November 2012
National Atmospheric Deposition Program, Annual Meeting in Portland, ME.	October 2012
EUROSOIL 2012 in Bari, Italy. "Influence of tree species on forest soils."	July 2012
American Geophysical Union, Annual Meeting in San Francisco, CA. "Controls on nitrogen losses from managed landscapes."	December 2011
National Atmospheric Deposition Program, Annual Meeting in Providence, RI.	October 2011
CLIMMANI/INTERFACE joint workshop. "Nutrient constraints on the net carbon Balance" in Keflavik, Iceland.	June 2011
Symposium at the University of California Davis, "From Sources to Scapes: Contributions of Light Stable Isotopes to Environmental Sciences" in Davis, CA.	December 2010
Soil Science Society of America Meeting in Pittsburg, PA.	November 2009
National Atmospheric Deposition Program, Annual Meeting in Saratoga Springs, NY. (<i>Declined</i>).	October 2009
Annual Meeting of the Ecological Society of Germany, Austria and Switzerland in Bayreuth, Germany.	September 2009

CONFERENCE ORGANIZING ACTIVITIES

- Principal organizer of working group titled "Advancing Understanding of Ecosystem Responses to Climate Change with Warming Experiments: What Have We Learned and What is Unknown?" John Wesley Powell Center for Synthesis and Analysis. Fort Collins, CO. May 2012.
- Invited Session Chair, National Atmospheric Deposition Program, Annual Meeting. Session titled "Cross-system interactions: linking the atmosphere to the biosphere." Renaissance Providence Hotel. Providence, RI. October 25-28, 2011.
- Principal organizer of Organized Oral Session at the 96th Annual Meeting of the Ecological Society of America. Session titled "Multi-factor global change experiments: what have we learned about terrestrial carbon storage and exchange?" Austin Convention Center. Austin, TX. August 9, 2011.
- Principal organizer of Organized Oral Session at the 94th Annual Meeting of the Ecological Society of America. Session titled "Effects of winter climate change and soil frost on carbon and nitrogen dynamics in terrestrial ecosystems." Albuquerque Convention Center, Albuquerque, NM, USA. August 7, 2009.
- Invited member of National Science Foundation, Long Term Ecological Research – All Scientists Meeting Planning Committee. Meeting held in Estes Park, CO. September 14-16, 2009.
- Principal organizer of Organized Oral Session at the 90th Annual Meeting of the Ecological Society of America. Session titled "Nitrogen cycling in terrestrial ecosystems: new insights from isotopes and experiments." Palais des congrès de Montréal, Montreal, Canada. August 5, 2005.
- Principal organizer of National Center for Ecological Analysis and Synthesis Working group on "The fate of nitrogen inputs to terrestrial ecosystems." Working group met in 2005 in Santa Barbara, CA, USA and had 25 participants from 7 countries.

CONFERENCE PRESENTATIONS SINCE ARRIVING AT BOSTON UNIVERSITY

CONTRIBUTED CONFERENCE LECTURES:

(*graduate students; **undergraduate students in Templer lab)

- Reinmann AB* and PH Templer. Effects of changes in winter snowpack on above- and belowground carbon fluxes in a mixed-hardwood forest. 97th Annual Meeting of the Ecological Society of America in Portland, OR. August 5-10, 2012.
- Rodriguez A, G Lovett, K Weathers, M Arthur, P Templer, C Goodale, and L Christenson. Heterotrophic respiration in northern hardwood forest soils after 14 years of N addition. 97th Annual Meeting of the Ecological Society of America in Portland, OR. August 5-10, 2012.
- Lovett GM, MA Arthur, KC Weathers, RD Fitzhugh and PH Templer. Nitrogen addition increases carbon storage in soils, but not in trees, in forests of the Catskill Mountains, New York, USA. BIOGEOMON 2012: the 7th International Symposium on Ecosystem Behavior in Northport, Maine. July 15-20, 2012.
- Templer PH. Interactive effects of climate change across seasons: A new warming experiment at Hubbard Brook. Hubbard Brook Annual Cooperators Meeting. North Woodstock, NH. July 11-12, 2012.
- Wallin KF, JL Campbell, DP Comerford, LS Maroja, PG Schaberg, AM Socci*, PH Templer and HD Yurchenco. 2012. Influence of a smaller winter snowpack and understory vegetation removal on the biodiversity ground dwelling insect and snail populations in a northern hardwood forest. Hubbard Brook Annual Cooperators Meeting. North Woodstock, NH. July 11-12, 2012.
- Schaberg P, DP Comerford, PH Templer, AM Socci*, JL Campbell, and KF Wallin. Experimental snow removal alters root and canopy physiology of sugar maple trees at the Hubbard Brook Experimental Forest. Hubbard Brook Annual Cooperators Meeting. North Woodstock, NH. July 11-12, 2012.
- Templer PH, NG Phillips, M Friedl, and AB Reinmann*. Effects of changes in the winter snowpack on water and carbon fluxes in a temperate hardwood forest. 30th Conference on Agricultural and Forest Meteorology/First Conference on Atmospheric Biogeosciences in Boston, MA. May 29-June 1, 2012. (Talk)
- Thomas RQ, S Zaehle, PH Templer, and CL Goodale. An inter-comparison of nitrogen limitation in global land surface models with carbon and nitrogen cycles (CLM-CN and O-CN). American Geophysical Union Annual Meeting. San Francisco, CA. December 5-9, 2011.
- Templer PH, N Phillips, and M Friedl. Effects of winter climate change on water and carbon dynamics in a northern hardwood forest. 96th Annual Meeting of the Ecological Society of America in Austin, TX. August 7-12, 2011.
- Reinmann AB* and PH Templer. Impacts of a reduced winter snowpack on soil respiration in a mixed-deciduous northern forest. 96th Annual Meeting of the Ecological Society of America in Austin, TX. August 7-12, 2011.
- Ewing HA, KC Weathers, PH Templer, TE Dawson, MK Firestone, AE Lindsay, and VKS Boukili. Fog gradients: inputs and edge effects from canopy to soil in a California redwood forest. Coast Redwood Forests in a Changing California in Santa Cruz, CA. June 21-June 23, 2011.
- Socci AM* and PH Templer. Impact of soil frost on above- and belowground nitrogen dynamics in sugar maple (*Acer saccharum* Marsh.) trees. Northeastern Ecosystem Research Cooperative Annual Meeting. Saratoga Springs, NY. November 8-10, 2010.
- Templer PH and AM Socci*. Winter climate change and the effect of soil frost on nitrogen uptake by mature trees in a northern hardwood forest of the United States. Ecological Society of America 95th Annual Meeting in Pittsburgh, PA, USA. August 1-6, 2010.

- Reinmann* AB, JL Campbell and PH Templer. Winter Climate Change and the Legacy Effect of Soil Frost on Carbon and Nitrogen Fluxes from Northern Forest Soils: A Microcosm Study. Ecological Society of America 95th Annual Meeting in Pittsburgh, PA, USA. August 1-6, 2010.
- Schiller A**, T Kunz, N Fuller and PH Templer. Impact of winter climate change on soil arthropod populations in northern hardwood forests. Hubbard Brook Experimental Forest Annual Cooperators Meeting. North Woodstock, NH. July 7-8, 2010.
- Socci AM* and PH Templer. Fine root nitrogen uptake by sugar maple following two years of induced soil frost. Hubbard Brook Experimental Forest Annual Cooperators Meeting. North Woodstock, NH. July 7-8, 2010.
- Campbell JL, PH Templer and AB Reinmann*. Evaluation of soil freezing on the quantity and source of carbon and nitrogen in leachate during snowmelt. 67th Eastern Snow Conference in Jiminy Peak Mountain Resort, Hancock, MA, June 8-10, 2010.
- Templer PH, J Campbell, AB Reinmann* and AM Socci*. Effects of winter climate change and soil frost on forest nutrient retention and productivity in northeastern U.S. forest ecosystems. Ecological Society of America Annual Meeting, Albuquerque Convention Center, Albuquerque, NM, USA. August 2-7, 2009.
- Reinmann A*, PH Templer and J Campbell. Effects of soil freezing on fluxes of carbon and nitrogen from northern forests during snowmelt: a microcosm study. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 7-8, 2009.
- Templer PH. Impacts of winter climate change on plant dynamics. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 7-8, 2009.
- Templer PH and M Mack. The fate of nitrogen inputs to terrestrial ecosystems: a cross-site analysis of enriched isotope studies. Northeastern Ecosystem Research Cooperative meeting. New England Center. Durham, NH, USA. November 12-13, 2008.
- PH Templer, LH Pardo, S Wheatley**, M Rolph**, C McLaurin**, T Siccama, and T Fahey. $\delta^{15}\text{N}$ Nitrogen in tree rings of temperate forest trees: Indicators of past disturbance. Ecological Society of America, Annual Meeting. Midwest Airlines Center, Milwaukee, WI, USA. August 3-8, 2008.
- Templer PH. Potential impacts of winter climate change on forest nutrient retention, phenology and productivity in northern forest ecosystems. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 8-9, 2008.
- Socci AM* and PH Templer. Comparing measures of nutrient uptake by fine roots of mature trees: Applications for climate change research. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 8-9, 2008.
- Boukili VKS, KC Weathers, HA Ewing, PH Templer, MK Firestone, TE Dawson. Variations in coastal redwood forest decomposition and productivity along an environmental gradient. Ecological Society of America Meeting, San Jose McEnergy Convention Center, San Jose, CA, August 5-10, 2007.
- Pett-Ridge J, PH Templer, E Dubinsky, WL Silver, and MK Firestone. Microbes on the redox ladder: Community and trace gas dynamics (H_2 , O_2 , CO_2 , N_2O , CH_4 , CO) in a highly variable wet tropical soil. Ecological Society of America Meeting, San Jose McEnergy Convention Center, San Jose, CA, August 5-10, 2007.
- Templer PH. Potential impacts of winter climate change on growing season plant nutrient uptake and productivity in northern forest ecosystems. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 10-11, 2007.

- Campbell J, S Ollinger, H Wicklein, A Bailey and PH Templer. Predicting soil frost responses to climate change and variability. Hubbard Brook Experimental Forest Annual Cooperators Meeting, Woodstock, NH, USA. July 10-11, 2007.
- Rolph** M, PH Templer and L Pardo. 2007. Tree ring $\delta^{15}\text{N}$: potential indicators of air pollution impacts on hardwood species of the northeastern United States. Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 10-11, 2007.
- Huygens D*, P Boeckx, R Godoy, PH Templer, L Paulino, C Oyarzún and O Van Cleemput. A ^{15}N Pulse Chase Study in a Remote South Chilean Pristine Forest Soil. ^{15}N Nitrogen Workshop. Towards a better efficiency in N use. Lleida, Spain. May 28-30, 2007.
- Pardo LH, PH Templer and T Fahey. Species differences in root and foliar $\delta^{15}\text{N}$: causes and implications. Ecological Society of America Annual Meeting, Cook Convention Center, Memphis, TN, USA. August 6-11, 2006.
- Templer PH and LH Pardo. Uptake of nitrogen by sugar maple and beech trees: does calcium availability matter? Hubbard Brook Experimental Forest Annual Cooperators Meeting. Woodstock, NH, USA. July 11, 2006.
- Pardo LH, PH Templer and T Fahey. Species differences in root and foliar $\delta^{15}\text{N}$: causes and implications. Biogeomon. University of California Santa Cruz, Santa Cruz, CA, USA. June 25-30, 2006.
- Templer PH, G Lovett, K Weathers, S Findlay, T Dawson and M Arthur. Effect of tree species and nitrogen fertilization on nitrogen retention in the Catskill Mountains, New York. Ecological Society of America Annual Meeting, Palais des congrès de Montréal, Montreal, Canada. August 7-12, 2005.

CONTRIBUTED CONFERENCE POSTERS:

(*graduate students; **undergraduate students in Templer lab)

- Oliva K, N Horowitz, H Yurchenco, PH Templer, KF Wallin, and LS Maroja. Effects of Winter Climate Change on Terrestrial Snails (*Zonitoides arboreus*) in a Northern Forest Ecosystem. 2012. First joint Evolution Congress. July 6-10, 2012. Ottawa, Canada.
- Reinmann AB* and Templer PH. Impacts of a reduced winter snowpack on soil and stem carbon dioxide fluxes in a temperate hardwood forest. 30th Conference on Agricultural and Forest Meteorology/First Conference on Atmospheric Biogeosciences in Boston, MA. May 29-June 1, 2012.
- Yurchenco H*, P Schaberg, PH Templer, L Maroja, and K Wallin. Effects of soil freezing on biodiversity of ground-dwelling insects and terrestrial snails in northern hardwood forests. North American Forest Insect Work Conference in Portland, OR. May 9-12, 2011. * *Master's student from University of Vermont working in my climate change plots at Hubbard Brook in NH.*
- Comerford D*, P Schaberg, PH Templer, and K Wallin. Effects of winter climate change on tree physiology and arthropod diversity in a northern hardwood forest. North American Forest Insect Work Conference in Portland, OR. May 9-12, 2011. * *Master's student from University of Vermont working in my climate change plots at Hubbard Brook in NH.*
- Templer PH and AM Succi*. Effect of soil frost on growing season plant nitrogen dynamics in a northern forest ecosystem. 1st Meeting of INTERFACE (Integrated Network for Terrestrial Ecosystem Research on Feedbacks to the Atmosphere and Climate): Integrating Earth System Models, Ecosystem Models, Experiments and Long-Term Data in Captiva Island, Florida. February 28-March 3, 2011.
- Succi AM* and PH Templer. Effect of soil frost on growing season nitrogen uptake by fine roots of mature trees in northern hardwood forests of the United States. From Sources to Scapes: Contributions of Light Stable Isotopes to Environmental Sciences. Davis, CA. December 16-17, 2010.

- Socci AM* and PH Templer. Effect of soil frost on growing season nitrogen uptake by fine roots of mature trees in northern hardwood forests of the United States. American Geophysical Union Annual Meeting. San Francisco, CA. December 13-17, 2010.
- Campbell JL, PH Templer and A Reinmann*. Effect of soil freezing on nitrogen and carbon in soil leachate during snowmelt. American Geophysical Union Annual Meeting. San Francisco, CA. December 13-17, 2010.
- Socci AM* and PH Templer. Nitrogen uptake by fine roots of mature sugar maple trees following soil freezing in a northern hardwood forest. GfÖ 2009. Annual conference of the Ecological Society of Germany, Austria and Switzerland. University of Bayreuth, Bayreuth, Germany. September 14-18, 2009.
- Templer PH, LH Pardo, S Wheatley**, M Rolph**, C McLaurin**, T Siccama and T Fahey. $\delta^{15}\text{N}$ Nitrogen in tree rings of temperate forest trees: indicators of past changes in the nitrogen cycle. American Geophysical Union annual meeting. Moscone Center, San Francisco, CA. December 15-19, 2008.
- Socci AM* and PH Templer. Potential impacts of climate change-induced soil freezing on plant nutrient uptake in sugar maple and red spruce. American Geophysical Union annual meeting. Moscone Center, San Francisco, CA. December 15-19, 2008.
- Ewing HA, KC Weathers, TE Dawson, PH Templer, MK Firestone, AM Elliott and VKS Boukili. Fog and Rain Water Influences on Tree Physiology and Ecosystem Function in a California Redwood Forest. American Geophysical Union annual meeting. Moscone Center, San Francisco, CA. December 15-19, 2008.
- Templer PH, H Ewing, K Weathers, T Dawson and M Firestone. Fog as a potential source of nitrogen for coastal redwood forest ecosystems. American Geophysical Union annual meeting. Moscone Center, San Francisco, CA, USA. December 11-15, 2006.
- Templer PH, M Rolph**, C McLaurin**, LH Pardo and T Siccama. Tree wood $\delta^{15}\text{N}$: indicators of past disturbance. Northeastern Ecosystem Research Cooperative meeting. New England Center. Durham, NH, USA. October 26-27, 2006.
- Templer PH and LH Pardo. Effect of calcium availability on nitrogen uptake by sugar maple and beech trees. International Union of Forestry Research Organizations (IUFRO). Meeting entitled: "Regional Forest Responses to Environmental Change." Traveling Workshop (Harvard Forest, Bartlett Experimental Forest, NH and Black Rock Forest, Newburgh, NY). October 6-13, 2006.
- Ellison A, A Barker Plotkin, P Bettman-Kerson, E Davidson, DR Foster, B Kloeppel, E LeBlanc, H Lux, B Mathewson, P Moorcroft, D Orwig, K Savage and PH Templer. Harvard Forest Hemlock Removal Experiment: Experimental design and initial response to treatments. YMCA of the Rockies Conference Center, Long Term Ecological Research All-Scientists Meeting, Estes Park, CO, USA. Sept. 20-23, 2006.
- Templer PH, T McCann**, H Lux and D Orwig. Combined impacts of the hemlock woolly Adelgid and atmospheric nitrogen deposition on forest nitrogen retention. Harvard Forest Symposium. Petersham, MA, USA. March 27, 2006.