



2008 Conference

November 12-13

New England Center, Durham, NH



The NERC is supported by a grant from the Research Coordinating Network Program of the National Science Foundation. We also thank the Northeastern States Research Cooperative (NSRC) for crucial support for many NERC research projects.

2008 NERC Conference

Program

All sessions will be in the Great Bay Room unless otherwise noted.

November 12 (Wednesday)

7:30 AM **Continental Breakfast**, Great Bay Foyer

8:30 Welcome. Gary Lovett, Chair, NERC Steering Committee

8:45– noon: Session 1. ***Long-term Effects of Invasive Species on Ecosystems.***

8:45 David Strayer, Cary Institute of Ecosystems Studies.
Effects of alien species on stream and river ecosystems in the Northeast

9:10 Norman Yan, York University
Managing invading species as if they were natural disasters: the example of the spiny water flea in Canadian waters

9:35 Joan Ehrenfeld, Rutgers University
Invasive plants and ecosystems: A matter of scale

10:00 BREAK

10:30 Peter Groffman, Cary Institute of Ecosystem Studies
Earthworms and ecosystems

10:55 Sandy Liebhold, USDA Forest Service
The onslaught of non-indigenous forest insects and pathogens and their consequences

11:20 Jennifer Pontius, USDA Forest Service
Remote sensing as a tool for invasive species management

11:45 Discussion

12:00- 1:30 PM: **Lunch**

1:30- 3:00 Session 2. ***Ecosystem Studies in the Northeast: I***

1:30 Celia Evans, Paul Smiths College

Beech bark disease and forest structure in managed and preserved forest stands in the northern Adirondacks

1:45 Mark B. Green, City College of New York

Exploration of hydrologic dynamics during the Colonial Era in the Northeastern United States

2:00 John M. Halstead, University of New Hampshire

Effects of civic engagement on land cover change

2:15 Sarah Nelson, University of Maine

Evaluating spatial patterns in mercury and methylmercury in northeastern lakes: landscape setting, chemical climate, and human influences

2:30 Jamie Shanley, U.S. Geological Survey

Mercury and organic matter interactions at three Northern Forest sites along a wetland gradient

2:45 Ruth Yanai, SUNY College of Environmental Science and Forestry

Estimating uncertainty in ecosystem budget calculations

3:00-3:30 Break

3:30 – 4:15 ***Poster Introductions***. Brief introductions of posters by poster presenters.

4:30 – 6:30 Session 3. ***Poster Session and Mixer***. Penobscot and Champlain Rooms

6:30 – 8:00 PM ***Dinner***

8:00 – 9:30 PM Session 4. ***The Next NERC***.

A facilitated discussion and brainstorming session on ideas for future directions for NERC.

November 13 (Thursday)

7:30 AM **Continental Breakfast**, Great Bay Foyer

8:30 AM - noon. Session 5. ***Ecosystems, Carbon and Climate: Connecting Research, Policy, and Management***.

8:30 Introduction

8:40 Steven Hamburg, Environmental Defense Fund
Why forest management has to be part of the low -carbon economy

9:05 Timothy J. Fahey, Cornell University
A regional perspective on forests and carbon

9:30 William Keeton, University of Vermont
Biomass development in late-successional northern hardwood-hemlock forests: implications for forest carbon sequestration and management

9:55 BREAK

10:25 John S. Gunn, Manomet Center for Conservation Sciences
Development of an efficient and credible forest carbon credit program for family forest landowners in Maine

10:50 Jennifer C. Jenkins, University of Vermont
Opportunities and constraints: Biomass fuel for home heating in the northeast US

11:15 Scott V. Ollinger, University of New Hampshire
Looking beyond the carbon cycle: Forest-climate feedbacks through coupled interactions between carbon, nitrogen and shortwave albedo.

11:40 Discussion

12:00 – 1:00 PM **Lunch**

1:00 – 2:30 Session 6. **NERC Business**

Elections, task group reports, new projects and initiatives

2:30 – 3:00 Break

3:00 – 5:00 Session 7. **Ecosystem Studies in the Northeast: II**

3:00 Matthew Frades, University of New Hampshire
Forest management, wood use, and climate change: Implications of a carbon model designed to generate decision-relevant information

3:15 John Clark, University of Pennsylvania
Soil carbon chronosequences from post-agricultural northern hardwood forests in western New England

3:30 Pamela Templer, Boston University
The fate of nitrogen inputs to terrestrial ecosystems: Results from enriched ¹⁵Nitrogen stable isotopic studies

3:45 Nora J. Casson, University of Western Ontario

Blame it on the rain: Rain induced bursts of nitrous oxide account for differences in dissolved nitrogen export from forested catchments

4:00 Madhura Kulkarni, Cornell University

Where did all the (Hubbard Brook) nitrogen go? Into thin air.

4:15 Douglas A. Burns, U.S. Geological Survey

Sources and transformations of nitrate in streams representing different land uses: Evidence from dual isotope analysis

4:30 James E. Bedison, University of Pennsylvania

Spatial patterns of nitrogen storage in Adirondack forest soils across a gradient of nitrogen deposition

4:45 **Wrap-up**

5:00 **Adjourn.**

POSTER PRESENTATIONS

1. L. Rustad, R. Cox, M. Deblois, J. Dukes, A. Richardson, M. Watson, N. Willard, the NERC CVC Group
US Forest Service Northern Research Station
NE Forests 2100: Understanding the impacts of climate change on northeastern forest ecosystems
2. Sarah Silverberg¹, Jana Albrechtova², Lara Gengarely¹, Mary Martin¹, Scott Ollinger¹, Annette Schloss¹
¹University of New Hampshire
²Charles University
GLOBE Carbon Cycle: Integrating the science of carbon cycling and climate change into K-12 classrooms
3. Danica Lombardozi, Jed Sparks
Cornell University, Department of Ecology and Evolutionary Biology
The effects of ozone on photosynthesis and stomatal conductance: Implications for carbon and water cycling
4. Martha Carlson, Barrett Rock
University of New Hampshire
Maple watch: Monitoring Acer saccharum's response to climate change stress
5. Jeanne E. Anderson, Mary E. Martin, Bobby H. Braswell, Julian Jenkins, Lucie Plourde, Scott Ollinger
University of New Hampshire
Remote satellite-based prediction of tree height relating waveform Lidar to multi-angle spectral imagery for northern temperate forests
6. Will Kessler, Barry Rock, Mary Martin, Rich Hallett, Tom Lee, Jana Albrechtova
University of New Hampshire
Spectral effects of the whole-watershed Ca addition at HBEF on red spruce stands, measured in laboratory and satellite data
7. Brenden McNeil, Lindsay Deel
West Virginia University, Department of Geology and Geography
Spectroscopic characterization of forest functional types: a leaf trait approach
8. Andrew D. Richardson¹, B. H. Braswell¹, David Y. Hollinger², Julian P. Jenkins¹, Scott V. Ollinger¹
¹University of New Hampshire
²USDA Forest Service Northern Research Station
Near surface remote sensing of spatial and temporal variation in canopy phenology

POSTER PRESENTATIONS

9. Mitchell A. Schull¹, Liang Xu¹, Arindam Samanta¹, Julian P. Jenkins², Lucie Plourde², Ranga B. Myneni¹, and Yuri Knyazikhin¹
¹Boston University
²University of New Hampshire
Classification of forest type from space using spectral invariant parameters
10. James E. Bedison¹, Brenden E. McNeil²
¹University of Pennsylvania, Department of Earth & Environmental Science
²University of West Virginia, Department of Geology and Geography
Is the growth of temperate forest trees enhanced along an ambient nitrogen deposition gradient?
11. Neil D. Bettez¹, Robert W. Howarth¹, Roxanne Marino¹, Eric A. Davidson²
¹Cornell University, Department of Ecology and Evolutionary Biology
²Woods Hole Research Center
Forest response to chronic low level N deposition along a roadside deposition gradient
12. Sheila F. Christopher¹, Shreeram Inamdar², Myron J. Mitchell³
¹Buffalo State College,
²University of Delaware
³SUNY College of Environmental Science and Forestry
The soil N source to stream runoff during springmelt is affected by soil freezing: A snow manipulation study in a forested watershed in the snow belt of western New York, USA
13. Quanying Du
Pennsylvania State University
Nitrogen deposition and how it influences root lifespan in temperate forest systems
14. April M. Melvin and Christine L. Goodale
Cornell University, Department of Ecology and Evolutionary Biology
Investigating interactions among carbon, nitrogen, and calcium cycles in an Adirondack forest
15. J.L. Campbell¹, L. E. Rustad¹, E. W. Boyer², S. F. Christopher³, C. T. Driscoll⁴, I.J. Fernandez⁵, P.M. Groffman⁶, D. Houle^{7,8}, J. Kiekbusch⁴, A.H. Magill⁹, M.J. Mitchell¹⁰, S.V. Ollinger⁹
¹US Forest Service
²The Pennsylvania State University, School of Forest Resources,
³Buffalo State College
⁴Syracuse University, Department of Civil and Environmental Engineering
⁵University of Maine, Department of Plant, Soil and Environmental Sciences
⁶Cary Institute of Ecosystem Studies
⁷Ministère des Ressources Naturelles et de la Faune du Québec and ⁸Ouranos
⁹University of New Hampshire, Complex Systems Research Center
¹⁰State University of New York, College of Environmental Science and Forestry

POSTER PRESENTATIONS

Consequences of climate change for biogeochemical cycling in forests of northeastern North America

16. Matthew A. Vadeboncoeur¹, Ruth D. Yanai², Mary A. Arthur³, Tomhas G. Siccama⁴, Timothy J. Fahey⁵, Steven P. Hamburg⁶, Colin B. Fuss⁷

¹University of New Hampshire

²SUNY - ESF

³University of Kentucky

⁴Yale University

⁵Cornell University

⁶Brown University

⁷Syracuse University

Changes in foliar and forest floor N:P ratios suggest a shift towards P limitation at Hubbard Brook

17. Dena M. Vallano, Jed P. Sparks

Cornell University

Foliar ¹⁵N patterns along a N deposition gradient: The influence of foliar uptake, soil solution $\delta^{15}N$, and mycorrhizal associations

18. Kathleen C. Weathers¹, Amanda M. Elliott¹, Catherine A. Shields², Gary M. Lovett¹, Scott V. Ollinger³

¹ Cary Institute of Ecosystem Studies, Millbrook, NY

² previously at Cary Institute of Ecosystem Studies, Millbrook, NY

³ University of New Hampshire, Durham, NH

Regional trends and local variation in atmospheric deposition: crossing national borders and complex terrain

19. Marissa Weiss, Christine Goodale

Cornell University

Nitrogen fertilization decreases decomposition in four northeastern forest soils

20. R.D. Yanai¹, J.B. Shanley², S.W. Bailey³, T.J. Fahey⁴, T.G. Siccama, R.A. Hallett³, R.B. Smith³, D.S. Ross⁵, H.M. Engelman¹, and B.B. Park⁶

¹SUNY College of Environmental Science and Forestry

² US Geological Survey

³ USDA Forest Service

⁴Cornell University

⁵University of Vermont

⁶Korea Forest Research Institute

Cross-site comparison of nutrient cycling in hardwood and softwood stands on contrasting soils

POSTER PRESENTATIONS

21. Minda Berbeco, Colin Orians
Tufts University
Carbon retention of woody debris in temperate forests
22. I.F. Creed¹, A.P. Rams¹, F.D. Beall², R.A. Bourbonniere³
¹ University of Western Ontario, Department of Biology
²Canadian Forest Service
³ Environment Canada, Water Science and Technology Directorate
Tracking catchment-scale shifts in the magnitude and partitioning of carbon export in response to changing climatic conditions
23. I.F. Creed¹, T. Malakoff¹, F.D. Beall², R.A. Bourbonniere³
¹ University of Western Ontario, Department of Biology
²Canadian Forest Service
³ Environment Canada, Water Science and Technology Directorate
Topographically regulated traps of dissolved organic carbon create hotspots of carbon dioxide efflux from forest soils
24. G. M. Gettel¹, W.W. Wolheim¹, T.K. Harms², C. Hopkinson²
¹University of New Hampshire, Complex Systems Research Center
²University of Georgia, Georgia Sea Grant College Program
The role of floodplain connections in controlling DOC quality and export in coastal urban sub-basins, Ipswich River Watershed, MA
25. Michael Preston, Shaun A. Watmough, M. Catherine Eimers
Trent University
The effect of climate on dissolved organic carbon production
26. Stephen D. Sebestyen, Randall K. Kolka
USDA Forest Service Northern Research Station
Stream dissolved organic carbon export decreases in response to experimental sulfate additions to a peatland catchment
27. Donald S. Ross¹, Scott W. Bailey²
¹University of Vermont, Department of Plant and Soil Science
²United States Forest Service
Persistence of charcoal in soils of the Cone Pond watershed and possible effects on soil chemistry.
28. Christina Tonitto¹, Christine L. Goodale¹, Scott V. Ollinger², Julian P. Jenkins²
¹Cornell University
²University of New Hampshire
Predicting long-term carbon storage in forest soils through coupled cycles of C, N and H₂O: development of the PnET-SOM model

POSTER PRESENTATIONS

29. K.L. Webster, J.W. McLaughlin
Ontario Ministry of Natural Resources, Ontario Forest Research Institute
Hydrochemical controls on dissolved carbon dynamics along a fen nutrient gradient in north-eastern Ontario
30. Nathaniel B. Morse, Wilfred M. Wollheim, Gretchen M. Gettel
University of New Hampshire
Are land use impacts on DOC and DON fluxes buffered by river networks?
31. H.D. O'Brien, S.A. Watmough, M.C. Eimers
Trent University
Spatial and temporal variation in phosphorus concentrations in small headwater streams
32. Danna B. Truslow, Jennifer B. Jacobs, Matthew Davis
University of New Hampshire
What keeps cold streams cold? A case study of the hydrology and temperature structure of a New England coastal stream
33. W.M. Wollheim¹, B.J. Peterson², S.M. Thomas², C.S. Hopkinson³, C.J. Vorosmarty⁴
¹University of New Hampshire
²Marine Biological Laboratory
³University of Georgia
⁴City College of New York
Hydrological variability determines nutrient removal by river networks
34. Robert J Stewart¹, Wilfred M Wollheim¹, Martin A Briggs², Michael N Gooseff³, Kate Morkeski⁴, Bruce J Peterson⁴, Charles Hopkinson⁵, Charles J Vorosmarty⁶
¹University of New Hampshire, Institute for the Study of Earth, Oceans and Space
²Colorado School of Mines, Department of Geology and Geological Engineering
³Pennsylvania State University, Department of Civil and Environmental Engineering
⁴Ecosystems Center, Marine Biological Laboratory
⁵University of Georgia, Department of Marine Sciences
⁶City College of New York, Department of Civil Engineering
Separation of river network scale nitrogen removal between surface and hyporheic transient storage compartments
35. Christian Doogan¹, Kevin J. McGuire^{1,2}, Scott W. Bailey², J. Steve Kahl¹, Robert H. Estabrook³.
¹Plymouth State University
²US Forest Service, Northern Research Station
³NH Department of Environmental Services
The role of landscape controls on stream chemistry variability and inorganic aluminum mobilization in the White Mountains of New Hampshire.

POSTER PRESENTATIONS

36. Kristina Vagos, Thomas Lee, John Litvaitis, Serita Frey
University of New Hampshire
Effects of soil feedback on the growth of invasive shrubs in early-successional habitats
37. Johanna Fickenscher, John Litvaitis
University of New Hampshire
Insect responses to invasive shrubs in early-successional habitats
38. James E. Panaccione, John A. Litvaitis
University of New Hampshire
Potential impacts of invasive shrubs on early successional avifauna
39. S.L. LaDeau¹, C.A. Calder², P. Doran³, A.M. Kilpatrick⁴, P.P. Marra⁵
¹Cary Institute of Ecosystem Studies
²Ohio State University
³The Nature Conservancy
⁴The Consortium for Conservation Medicine
⁵Smithsonian Migratory Bird Center
The ecological consequences of West Nile virus in the northeastern US
40. John T. Kelly^{1,2}, Stephen D. McCormick^{1,2}, Keith H. Nislow³
¹University of Massachusetts
²USGS Conte Anadromous Fish Research Center
³USDA Forest Service - Northern Research Station
Impacts of acid-aluminum on recovery and restoration of Atlantic salmon in New England
41. M.D. SanClements¹, I.J. Fernandez¹, S.A. Norton¹, A. Amirbahman, L.E. Rustad², T. Ohno¹
¹University of Maine
²USDA Forest Service
Distribution of phosphorus in acidic soils of temperate forests
42. Amy Sauer¹, Charles Driscoll¹, Melissa Duron², David Evers²
¹Syracuse University
²BioDiversity Research Institute
The production and transfer of methylmercury within terrestrial foodwebs across the northeastern landscape
43. Koji Tominaga¹, Julian Aherne¹, Shaun A. Watmough¹, Mattias Alveteg², B. Jack Cosby³
Charles T. Driscoll⁴, Jana Keikbusch⁴, Maximilian Posch⁵
¹Trent University ²Lund University
³University of Virginia
⁴Syracuse University
⁵Coordination Centre for Effects, PBL
Evaluation of process-oriented acidification models at Hubbard Brook

PRE- REGISTERED PARTICIPANTS

A list of participants and e-mail addresses will be provided at the conference