

HUBBARD BROOK ECOSYSTEM STUDY 47th ANNUAL COOPERATORS' MEETING

Wednesday, 7 JULY 2010

8:00 Lindsey Rustad Welcome

Session I:

Biogeochemistry

Moderator: Linda Pardo

8:10 Myron Mitchell Sulfur watershed budgets at Hubbard Brook: Atmospheric deposition versus climatic controls

8:20 Trevor Keenan Data model fusion for constraining C-Cycle uncertainty

8:30 Madhura Kulkarni Forests of the Northeast: The end of the line for reactive nitrogen?

8:40 Haley Wicklein Variation in foliar nitrogen and albedo in response to nitrogen fertilization and elevated carbon dioxide

8:50 Isaac Allen Pattern of particulate carbon and nitrogen in soil water in Watershed 6

9:00 Introductions & Stretch

9:20 Phil-Goo Kang Dynamics of dissolved organic matter (DOM) in differently characterized watersheds: evidences from stable isotopes, stoichiometry and optical approaches

9:30 Melany Fisk Changing fungal communities on decaying fine roots

9:40 – 10:10 BREAK

Session II:

Education and Vegetation

Moderator: Nat Cleavitt

10:10 Geoff Wilson Hubbard Brook education programs overview

10:20 Ina Ahern / Justin Bixby / John DeGennaro
GIS Mapping for Hubbard Brook: A Service Learning Project of the Plymouth Regional High School Environmental Science Class

10:30 Michele Pruyn What are the physiological limitations to the distribution of yellow birch (*Betula alleghaniensis*) along an elevation gradient in a northern hardwood forest?

10:40 Natalie S. van Doorn Advancing a neighborhood approach for forest dynamics.

10:50 Oliver Sonnentag Webcams and phenology at Bartlett

Session III:

Birds and Heterotrophs

Moderator: Richard Holmes

11:00 Richard Holmes Avian research update, long-term trends, and breeding phenology

11:10 Matthew Ayres Phenological patterns across trophic levels: trees, birds, and insect herbivores.

11:20 Sara Kaiser Direct and indirect effects of temperature on parental activity

11:30 Laura Stirling The role of song in mate choice and male reproductive success in the Black-throated Blue Warbler

QUICK STRETCH

11:45 Mike Hallworth Identifying carry-over effects and migratory connectivity along an elevational gradient using a neotropical migrant, the Ovenbird.

11:55 Benjamin Griffith Does competition dictate the distribution of two forest songbirds?

12:05 Nina Lany Temperature dependence of arthropod species interactions in a northern hardwood forest

12:15 Winsor Lowe Causes and consequences of dispersal in a stream salamander

12:25 Lindsey Rustad Announcements

LUNCH BREAK & PHOTO

Session IV:	The Shoestring Project: Nutrient co-limitation in young and old northern hardwood forests	Moderator: Ruth Yanai
1:45	Carrie Rose Levine	Biomass and species composition in young and old stands at Hubbard Brook, Jeffers Brook, and Bartlett
1:55	Braulio Quintero	Nutrient resorption of northern hardwoods at Bartlett Experimental Forest
2:05	Mariann Johnston	Vector analysis: Promises and pitfalls
2:15	JiYoung An	Herbs and seedlings in young and old stands at Hubbard Brook, Jeffers Brook and Bartlett
2:25	Kikang Bae	Soil respiration and belowground carbon allocation in young and old stands at Hubbard Brook, Jeffers Brook, and Bartlett.
2:35	Gavin Mackellar	Watching roots die: how much do they contribute to soil respiration?
2:45	Benjamin Rothfuss Dair	An ecosystem in a jar: soil respiration response to N&P additions and substrate quality.
2:55	Cole Adams / Lisa Lavalley	The search for isopods in young and old stands at Bartlett Experimental Forest.

QUICK STRETCH

Session V:	Soil and Stream Interactions	Moderator: Scott Bailey
3:10	Patricia Brousseau	A catchment scale analysis of spatial patterns of soil morphology and chemistry
3:20	Maggie Zimmer	Determining surface water sources using spatial and temporal stream chemistry patterns in Watershed 3
3:30	Rebecca Bourgault	Hydrogeology in Watershed 3: My background and role in upcoming research
3:40	Sam Werner	Landscape patterns of soil oxygen availability and trace gas dynamics in Watershed 3
3:50	Charles Driscoll	Carbon dioxide dynamics in Paradise Brook- preliminary results
4:00	Ben Engel	Revisiting water residence time in Watershed 3 using water isotopes
4:10	Lyndsey Rustad	Announcements
6:00	Dinner and Barn Dance	

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Thursday, 8 JULY 2010

8:15 Lindsey Rustad Announcements

Session VI:

Climate and Carbon

Moderator: Melany Fisk

- 8:20 Steven Hamburg Carbon implications of bioenergy from forest biomass – a political maelstrom
- 8:30 Matt Vadeboncoeur Large variation in stand-scale sustainability of forest biomass harvesting in central New Hampshire
- 8:40 Colin Fuss Elevational patterns of streamwater chemistry during snowmelt
- 8:50 Peter Groffman Snow depth, soil frost and nutrient loss in the northern hardwood forest
- 9:00 Gary Hawley Late spring frost damage to trees in the NuPert and snow removal plots

QUICK STRETCH

- 9:15 Annie Socci Nitrogen uptake by fine roots of mature sugar maple following two years of induced soil frost
- 9:25 Andrew Schiller The impact of winter climate change on soil arthropod populations in northern hardwood forests
- 9:35 John Campbell Streamflow responses to past and projected future changes in climate at Hubbard Brook

Session VII:

Calcium / Watershed 1

Moderator: Myron Mitchell

- 9:45 Afshin Pourmokhtarian Changes in elemental fluxes under climate change at Hubbard Brook over 21st. Century?
- 9:55 Don Buso Update on results of Watershed 1 calcium silicate application
- 10:05 Youngil Cho Acid neutralizing capacity production and immobilization of inorganic monomeric aluminum in Watershed 1 after the wollastonite treatment
- 10:15 Pamela Templer Impact of calcium addition on nitrogen uptake by sugar maple and American beech trees
- 10:25 Joshua Halman Effects of calcium and aluminum treatments on radial growth of sugar maple (*Acer saccharum*) and American beech (*Fagus grandifolia*) following the 1998 ice-storm
- 10:35 Paul Schaberg Calcium addition increased foliar stress tolerance and the capacity for carbon capture in red spruce during the cold season

10:45 – 11:05 BREAK

Session VIII:

Hydrology and Aquatic Ecosystems

Moderator: Gene Likens

- 11:05 Ruth Yanai Do ecosystem budgets have no error? How I learned to do Monte Carlo in Excel.
- 11:15 Mark Green Evaluation of precipitation monitoring efficiency with uncertainty analysis
- 11:25 Ian Halm Realtime data collection
- 11:35 Jamie Shanley Taking the pulse of headwater streams -- real time proxies for DOC and mercury
- 11:45 Gene Likens Long-term research and monitoring at Mirror Lake
- 11:55 Chris Barton Bedrock hydrology at HBEF: The role of fractures
- 12:05 Grzesiek Czapla Correlation of water signature with dissolved inorganic carbon using isotopes

12:15 Lyndsey Rustad Announcements

LUNCH

POSTERS

- Lucie Lepine How do albedo and nitrogen vary with stand age, treatment, and site status? A look at trends at the Hubbard Brook Experimental Forest Watersheds
- Gavin Mackellar Watching roots die: How much do they contribute to soil respiration?

WORKING GROUP AND COMMITTEE MEETINGS

6 July 2010 (Tuesday)

- noon – 3:00 pm HBRF Board of Trustees Meeting (Sleeper)
- 3:15 pm – 5:15 pm HBES Scientific Coordinating Committee (SCC) (Groffman)
- 5:30 pm – 7:30 pm HBRF annual reception and dinner (Sleeper)
- 7:30 pm Keynote address, Stephen W. Pacala, Director,
Princeton Environmental Institute (Sleeper)

7 July 2010 (Wednesday)

- 8:00 am ~ 4:00 pm Cooperators' Meeting Scientific Sessions
- 6:00 pm – late HBRF sponsored dinner and barn dance

8 July 2010 (Thursday)

- 8:15 am ~ 12:15 Cooperators' Meeting Scientific Sessions
- 12:30 pm – 1:30 pm HBRF Facilities Committee (Holmes)
- 1:30 pm – 3:00 pm Information Oversight Committee (IOC) (Likens)
- 1:30 pm Shoestring Project (Yanai)
Meet downstairs outside kitchen
- 3:00 pm – 4:30 pm Education Committee (EOC) (A. Bailey)

9 July 2010 (Friday)

- 8:30 am ~ 2:00 pm Committee of Scientists (COS) (Green & S. Bailey)
(Theme: Ecohydrology)

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