

**HUBBARD BROOK ECOSYSTEM STUDY  
55TH ANNUAL COOPERATORS' MEETING  
234 Mirror Lake Road  
North Woodstock, NH 03262**

<b>Wednesday, July 11, 2018</b>		
8:00	Lindsey Rustad, John Battles, Pam Templer	Welcome and Announcements
	<b>Session I</b>	<b>Streams and Forest Interactions. Moderator: Dana Warren</b>
8:10	Emily Bernhardt	The Legacies of Acid Rain and the Future of Watershed Nitrogen Cycling
8:15	Driscoll, Charles	Long-term trends in the concentrations and fluxes of nitrogen and organic carbon in soil solutions and streamwater at Hubbard Brook
8:25	Rosi, Emma	Investigating long-term trends in stream algal and invertebrate communities at Hubbard Brook
8:30	Keeton, William	Dynamic forest-stream interactions: experimental acceleration of linkages conferring late-successional stream functions and resistance to flood disturbance
	<b>Session II</b>	<b>Soil Organic Matter Dynamics. Moderator: Don Ross</b>
8:32	Johnson, Chris	Carbon pools and nitrogen dynamics in coarse woody debris at Hubbard Brook
8:42	Lang, Ashley	How do mycorrhizal fungi influence leaf litter decomposition in temperate forests?
8:47	Fuss, Colin	How a mineral soil sink for N might change with forest age
8:57	Possinger, Angela	Soil Organic Matter Stabilization via Mineral Interactions in Forest Soils with Varying Saturation Frequency
9:07		<b>Discussion, Sessions I and II</b>
9:13		<b>Introductions</b>
9:30		<b>Break</b>
	<b>Session III</b>	<b>Hydropedology and Biogeochemical Processes. Moderator: Madeline Schreiber</b>
10:10	Fraser, Olivia	A modern soils map for Hubbard Brook: Modelling hydropedology at the valleywide scale
10:20	Strahm, Brian	Lateral weathering gradients typify critical zone architecture in glaciated catchments
10:25	Bower, Jenny	Lateral Weathering Fluxes: Characterizing the Solid Phase
10:27	Benton, Joshua	Lateral Weathering Gradients: Characterizing Hydrologic Fluxes
10:29	Duston, Stephanie	Influence of organic acidity on the weathering engine of the critical zone.
10:31	Bailey, Scott	Acid neutralization and stream chemistry: Falls Brook Revisited
10:41	Pardo, Linda	The importance of HPUs for predicting nitrate export: why E podzols are the best
10:51		<b>Discussion, Session III</b>
	<b>Session IV</b>	<b>Nitrogen and Carbon Processes. Moderator: Linda Pardo</b>
10:56	Groffman, Peter	New perspectives on nitrogen gases at Hubbard Brook
11:06	Morse, Jen	Can simulated rain events induce soil nitrous oxide emissions in the forest floor?
11:11	Uribe, Angelina	Soil denitrification potential and N <sub>2</sub> flux two decades following experimental calcium additions
11:13	Stewart, Anthony	Measuring Soil Oxygen at Variable Depths to Inform Denitrification Measurements
11:15	Vietorisz, Corinne	Enzymatic activity of ectomycorrhizae across varying tree communities and soil compositions
11:17	Shanley, Jamie	Sleepers wakes up: hope of renewed funding for a long-term watershed
11:19	Ryan, Kevin	Assessing Sources of Dissolved Organic Carbon in Sleepers River
11:21		<b>Discussion, Session IV</b>
	<b>Session V</b>	<b>State of the Brook. Moderator: Amey Bailey</b>
11:26	Woodall, Christopher	The State of the Hubbard Brook Experimental Forest...The USDA perspective
11:36	Lavallee, Anthea	News from HBRF
11:41	Besley, John C.	What do Hubbard Brook researchers think about public engagement
11:51	Garlick, Sarah	Embedding Public Engagement with Science at Hubbard Brook: Insights from Year 1 of an NSF-funded Research-Practice Partnership

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12:01	Martin, Mary	Hubbard Brook Information Management - Annual update
12:11		<b>Announcements, Photo, Lunch</b>
	<b>Session VI</b>	<b>Multiple Element Limitation Experiment. Moderator: Ruth Yanai</b>
13:45	Yanai, Ruth	Back on a Shoestring: N and P Co-limitation at Bartlett, Hubbard Brook, and Jeffers Brook
13:55	Hong, Daniel	Timing of foliar N and P resorption, by species and treatment
14:00	Gabriel, Marissa	Can we detect foliar nutrient status from the air? Ground truthing NEON spectra in the MELNHE plots
14:05	Young, Alexander	Sugar maple leaf and twig traits depend on canopy height and nutrient addition
14:15	Libenson, Arianna	Going with the flow: is tree water use affected by nutrient availability?
14:17	Johnston, Mariann	The who's who of fungal actors in beech bark disease: <i>N. ditissima</i> vs. <i>N. faginata</i>
14:22	Wild, Adam	The after mast: effects of nutrients on sugar maple and beech seed production
14:27	Riner, Donna	The seeds are falling! The seeds are falling!
14:32	Bazany, Kathryn	Battle of the babies: what kills all those germinants?
14:37	Macpherson, Chase	Look closely (with a LiCor) and you can see the earth breathing
14:39	Rice, Alexandra	Filling the gaps in our soils data: It's the pits!
14:44		<b>Discussion, Session VI</b>
	<b>Session VII</b>	<b>Water, in its many forms. Moderator: Matt Vadeboncoeur</b>
14:49	Jacobs, Jennifer	2018 Hubbard Brook Winter Field Experiment: Snow observations in a northeastern U.S. forested region
14:59	Hunsaker, Adam	Cold Regions Operations and Assessment Research Instrumentation
15:01	Wilson, Geoff	Eight years of snow and soil conditions from the snow gradient plots
15:11	Brunelle, Shannon	Dead Wood Moisture Variability in a Sugar Maple Log
15:16	Green, Mark	New Evidence of Sub-Canopy Water Recycling
15:26	McGuire, Kevin	Wet stream length dynamics at Hubbard Brook
15:31		<b>Discussion, Session VII</b>
15:35		<b>Break</b>
	<b>Session VIII</b>	<b>Climate Change Across Seasons Experiment. Moderator: Nina Lany</b>
16:00	Templer, Pamela	Effects of warmer growing season temperatures and a reduced winter snowpack on aboveground productivity in a northern hardwood forest
16:10	Harrison, Jamie	Effects of warmer growing season temperatures and reduced winter snowpack on in situ net mineralization and nitrification in a northern hardwood forest
16:15	Reinmann, Andrew	Effects of warmer growing season temperatures and a reduced winter snowpack on soil and tree stem respiration in a northern hardwood forest
16:25	Bhatnagar, Jennifer	Effects of climate change across seasons on root and soil microbial communities
16:30	Rodenhouse, Nick	Insect Armageddon? Climate and microclimate effects on forest floor arthropods
16:40	Vadeboncoeur, Matthew	What's next for Hubbard Brook DroughtNet?
16:45	Sanders-DeMott, Rebecca	Determining the Influence of Winter on Ecosystem Carbon Metabolism across the Northeast US
16:50	Hicks Pries, Caitlin	Changing soil respiration dynamics with depth, season, and warming
16:55		<b>Discussion, Session VIII</b>
17:02		<b>Announcements</b>
18:00		<b>Dinner and Tent Dance</b>

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		<b>Thursday, July 12, 2018</b>
8:00		<b>Announcements</b>
	<b>Session IX</b>	<b>Ice Storm Experiment. Moderator: Lindsey Rustad</b>
8:05	Rustad, Lindsey	Cool New Results on Forest Response to a Suite of Experimental Ice Storms at the Hubbard Brook Experimental Forest
8:15	Campbell, John	Impacts of the experimental ice storm on carbon cycling
8:25	Fahey, Tim	Response of forest structure to simulated ice storm
8:35	Burns, Simone	DOM Response to Ice Storm Disturbance
8:40	Fakhraei, Habibollah	Modeling the Impacts of Ice Storms on Forested Ecosystems
8:50		<b>Discussion, Session IX</b>
	<b>Session X</b>	<b>Vegetation Dynamics. Moderator: Natalie Cleavitt</b>
8:55	Valipour, Mahnaz	Disturbances and the sustainability of a northern hardwood forest: Evaluation through modeling biomass and cycle of nutrients under different intensive timber harvesting regimes coupled with future climate change projections
9:05	Lovett, Gary	Predicting the impacts of invasive pests on forest carbon and nitrogen cycling
9:15	Ouimette, Andrew	Patterns and Drivers of Carbon Fluxes in Northeastern Temperate Forests
9:25	Lany, Nina	Causes of spatio-temporal variation in foliar chemistry in Watersheds 1 and 6
9:35	Studer, Liz	Above the Canopy: Using Drones to Quantify Phenology and Monitor the Decline of Ash in HBEF
9:40	Matthes, Jackie	Simulating Long-Term Vegetation Dynamics and Future Biotic Disturbance at Hubbard Brook
9:45	Schaberg, Paul	Using tree cores from Hubbard Brook to understand regional impacts of acid deposition on red spruce
9:50	Brydon-Williams, Rhys	Distribution, Presence, and Habitat of the Chaga fungus ( <i>Inonotus obliquus</i> ) within the White Mountains National Forest
9:52	Bergum, Molly	Understanding herbivory on two round-leaved orchid species
9:54		<b>Discussion, Session X</b>
9:50		<b>Break</b>
	<b>Session XI</b>	<b>Heterotroph Dynamics and Ecology. Moderator: Lynn Christensen</b>
10:20	Holmes, Richard	50 Years of Bird Population Change at Hubbard Brook, 1969-2018
10:30	Kovari, Stephen	Where's the Wildlife Going at Hubbard Brook?
10:40	Symes, Laurel	Spatial and temporal patterns in the vocalizations of Hubbard Brook songbirds
10:45	Ralston, Jessica	Bioacoustic monitoring of Bats in Hubbard Brook
10:50	Van Tatenhove, Aimee	How is a changing climate affecting animal ranges in the Hubbard Brook ecosystem?
11:00	Hallworth, Mike	Migration phenology influences the population growth rate of a long distance migratory songbird
11:10	Savides, Kim	Do ptilochronology, feather length, and feather quality highlight the importance of breeding season carry-over effects on the annual cycle of a migratory songbird, the Black-throated Blue Warbler?
11:15	Cotnoir, Alexander	Post-Fledging Behavior and Parental Care among Black-Throated Blue Warblers
11:17		<b>Discussion, Session XI</b>
	<b>Session XII</b>	<b>Calcium Addition Experiment. Moderator: Chris Johnson</b>
11:22	Battles, John	Restoring soil calcium continues to counter forest decline.
11:32	Cleavitt, Nat	Can sugar maple be saved: regeneration dynamics and restoration of soil calcium
11:42	LoRusso, Nicholas	Horizontal patterns of DOM in calcium treated and reference watersheds at the Hubbard Brook Experimental Forest
11:52	Taylor, Lyla	Acid rain and nitrate export limit carbon capture in Watershed 1

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12:02	Marinos, Richard	Soil and stream signals of a changing N cycle in the Ca-enriched watershed
12:12	Peralta Tapia, Andres	Understanding the hidden story of watershed 1
12:14		<b>Discussion, Session XII</b>
12:20		<b>Announcements</b>
12:30		<b>Lunch</b>
1:00-2:00		<b>Town Hall Discussion</b>

<b>2018 Working Group and Committee Meetings</b>			
<b>Time</b>	<b>Location</b>	<b>Committee/Group</b>	<b>Leader</b>
14:00-15:00	Meeting Room	PES@LTER Project Meeting	Sarah Garlick
14:00-15:00	Lunch Room	Archive Meeting	Linda Pardo
15:00-16:00	Lunch Room	Education & Outreach Committing	Sarah Garlick
15:00-16:00	Meeting Room	Information Oversight Committee	Mary Martin
15:00-16:00	Tent	MELNHE Working Group	Ruth Yanai
16:00-17:00	Lunch Room	Foliage Working Group	Linda Pardo
16:00-17:30	Meeting Room	Ice Storm Working Group	Lindsey Rustad