

Hubbard Brook Committee of Scientists Meeting

January 3-4, 2019

Cary Institute of Ecosystem Studies

Thursday Afternoon January 3

1:00–1:15 Welcome and Introductions

Evaluating the effects of multiple interacting disturbances in northern hardwood forests

(Organizer: John Battles)

This session will discuss the LTER synthesis topic: How will simultaneous and interactive effects of climate change, air pollution, plant succession, and invasive species alter the structure, function and biodiversity of forests of Hubbard Brook.

1:15–1:30 A framework for evaluating interacting disturbances (John Battles)

1:30–2:00 The ED2 modeling approach: Initial simulations of invasions by hemlock woolly adelgid and emerald ash borer (Jackie Matthes)

2:00–2:20 Emerald Ash Borer (Matt Ayres)

2:20–2:40 Interactive effects of acid rain legacies and beech bark disease (BBD) in northern hardwoods (Nat Cleavitt)

2:40–3:00 Spe-CN modeling approach (Gary Lovett)

3:00–3:15 Break

3:15–4:15 Discussion topics (Moderator: Tim Fahey)
1. Incorporate BBD into ED2 simulations
2. Leveraging results from alternative modeling approaches
3. Strategy for including climate change in future simulations
4. Priorities for model assimilation

4:15–5:00 Brainstorming ideas for future projects at the Hubbard Brook Ecosystem Study (Moderator: John Campbell)

5:00 onward Reception and Dinner at Cary Institute.

Friday January 4

8:30–12:00 Why is the nitrogen cycle misbehaving?
(Organizers: Gary Lovett, Peter Groffman, Christy Goodale)

8:30-8:35 Gary Lovett: *Introduction*

8:35-8:55 Scott Ollinger: *Stems, snags and soils: sources, sinks and simulations.*

8:55-9:10 Matt Vadeboncouer: *What do long-term soil data tell us about sinks and trends?*

9:10-9:25 Linda Pardo, Scott Bailey, and/or Mark Green: *What do hydrogeology studies tell us about sinks and trends?*

9:25-9:40 Charley Driscoll: *What do soil solution and stream data tell us about sinks and trends?*

9:40-10:00 Break

- 10:00- 10:15 Emily Bernhardt or Emma Rosi. *What do stream studies tell us about sinks and trends?*
- 10:15-10:30 Christy Goodale, Peter Groffman: *Can trends in denitrification could explain the low N loss?*
- 10:30-10:45 Peter Groffman: *N oligotrophication at Hubbard Brook: Is carbon starving our forests?*
- 10:45-11:00 Pam Templer: *Global trends in N oligotrophication.*
- 11:00-12:00 Full-group discussion. Discussion topics:
1. How close are we to being able to understand and model N export and predict its trend?
 2. Are there new techniques or approaches that show promise for understanding this problem?
 3. Are there new measurements that we should be making to help us understand/model this (e.g., coarse woody debris, wood N, foliar N)?
 4. What are the opportunities for collaborative papers or proposals?

12:00 - 1:00 Lunch

- 1:00–2:00 COS business meeting
1. Discussion: recruitment of new external advisor
 2. Future COS meeting topics
 3. Next steps for workplace safety at HBES
 4. Updates
 - USFS
 - HBRF
 - Data Management
 - Sample Archive
 - Others
- 2:00–2:30 Preparing for the NSF Mid-term Review (Gary Lovett and Peter Groffman)
- 2:30–3:00 Wrap up and adjourn