

**Hubbard Brook Ice Storm Experiment
2016 Practitioner Roundtable
REPORT**

EXECUTIVE SUMMARY

On December 19, 2016, the Hubbard Brook Research Foundation convened a group of forest practitioners, stakeholders, and scientists for a roundtable dialogue and field trip about the Hubbard Brook Ice Storm Experiment. Unlike many scientist–stakeholder meetings, this event was convened early on in the research process to allow time for project leaders to modify their research and/or communication plans based on stakeholder feedback. The overall goals of the meeting were to provide an opportunity for practitioners and stakeholders to learn about and witness the ice storm research as it is in progress, for scientists to learn about what aspects of the research are most relevant beyond the scientific community, and to share different perspectives on and concerns about ice storms.

The meeting revealed strong general interest in ice storms and in Hubbard Brook research. Practitioners and stakeholders emphasized that one of the most relevant outcomes of the project is quantifying the amount of coarse woody debris relative to the amount of ice. This information will be valuable for emergency managers and land managers in making rapid damage estimates, for preparing responses, and for assessing fuel loading in forests after a storm. Participants also noted that walking around in the ice storm experiment plots gave them a deeper, visual sense for the differences in impact between a ¼-inch and ½-inch ice storm. One participant expressed great surprise during the field trip when he observed that the damaged trees didn't fail where he would have predicted them to based on his training and experience. He was excited to follow up with the scientists to learn more about the tree damage. Finally, participants reminded the project leaders of the importance of safety messaging in public communications about ice storms. Ice storms are deadly, not just during the storms, but also after as people try to clear downed or bent trees and other debris.

As outcomes of this roundtable, the Ice Storm Experiment team will continue their research as planned, including measurements and documentation of coarse woody debris and tree damage with practitioner and stakeholder audiences in mind. Toward the end of the project, the team will prepare outreach materials and presentations for audiences identified during the meeting, including state agencies who coordinate emergency response, professional groups of arborists and consulting foresters, and electric utility providers.

PARTICIPANTS

Julia Chase	Assistant Chief of Field Services, NH Homeland Security and Emergency Management
Sarah Garlick*	Director of Science Policy and Outreach, Hubbard Brook Research Foundation (*Facilitator)
Ian Halm	Site Manager, Forester, Hubbard Brook Experimental Forest
John Jensenius	Warning Coordination Meteorologist, National Weather Service/NOAA
Scott Knapp	Arborist, New Hampshire Electric Co-op
Kenn Lamb	Manager of Engineering, New Hampshire Electric Co-op

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Anthea Lavallee	Executive Director, Hubbard Brook Research Foundation
Jeff Lougee	Director of Stewardship and Ecological Management, The Nature Conservancy, New Hampshire
Lindsey Rustad	Research Ecologist, USDA Forest Service, Northern Research Station
Paul Schaberg	Research Plant Physiologist, USDA Forest Service, Northern Research Station
Brad Simpkins	Director, Division of Forests and Lands, NH Department of Resources and Economic Development
Tom Wagner	Forest Supervisor, White Mountain National Forest
Gabe Winant	Ice Storm Experiment field manager, Hubbard Brook Experimental Forest

MEETING OVERVIEW

On December 19, 2016, the Hubbard Brook Research Foundation convened a group of thirteen forest practitioners, stakeholders, and scientists for a roundtable dialogue and field trip about the Hubbard Brook Ice Storm Experiment. The goal of the meeting was for the scientists to share their ice storm research while it is currently in progress (about halfway through a 3-year grant) and for scientists to hear feedback about what aspects of the work are most relevant to practitioners and stakeholders. The scientists were also interested in hearing if participants had questions about ice storms that might be able to be addressed with this research and if there were any blind spots apparent in the research design. Finally, the group discussed ideas for how to effectively communicate the results of this research at the end of the project to the practitioner and stakeholder networks represented at the meeting.

The meeting was held from 9:00 am to 2:00 pm at the Hubbard Brook Experimental Forest. The agenda included time for a presentation about the research by Lindsey Rustad, a field trip out to the Ice Storm Experiment plots on vintage snowcats, and two sessions of facilitated dialogue. Participants were asked to fill out an evaluation survey at the end of the day to assess the value of the meeting. Notes from the meeting were taken by Sarah Garlick, the convener and facilitator. To foster an environment of free and open dialogue, remarks were recorded without attribution.

NOTES FROM THE DAY

Debris management is key:

- How much debris are we going to get in a storm? Insights into this question can help emergency managers prepare towns for how to respond and help with applications for aid from FEMA. This information will also help land managers in charge of state and public lands with how to prepare for and respond to storms.
- Preliminary damage assessments for FEMA – if we could estimate how much debris is on the ground, we can calculate cost to handle. This would be extremely helpful.
- Fuel loading. Would be really nice to know how much debris to expect with amount of ice.

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- This research touches fuel loading, how to manage state lands, assisting communities with community parks, I see tremendous relevance.

Ice storms are dangerous:

- Not only are the storms themselves dangerous, but there are related hazards. The number of residential generators sold since the 1998 storm has increased — this is a big safety hazard in homes.
- Very important safety message to public about lines being down and dangers of bent trees.

Other potential data records:

- NH Homeland Security and Emergency Management and the National Weather Service both rely on information from power companies about ice storm damage.

Measuring ice storms:

- What's the trigger point for saying when an ice storm is going to be a big problem?
- I'm really interested in hearing more about the modeling work of your study and the return intervals of big storms. Ice storms are a big deal for us.
- I'd like to follow up on the National Weather Service criteria for warnings. This idea of a threshold thickness of ice that might be lower than the current NWS warnings.

Forest management:

- Vegetation management plans for the electric companies could change based on knowledge from this research. How species respond, etc.
- Long-range silvicultural prescriptions: should we be adapting our overall management for these issues?
- What do we do with stands that are all bent over?
- What do you do with downed trees?
- Thinking about the landscape scale and the possibility of larger and more frequent storms in the future. What are the attributes of conservation lands that will be able to absorb these disturbances in the future?
- Question: Is there information about susceptibility of stands affected by ice storms to pests? Answer: It is hard to do those studies at this scale.

Communication:

- Give first responders of communities some info from this project.
- Invite the Hubbard Brook team to give a presentation at a state Emergency Support Function (ESF) briefing.
- Audiences: cooperative research network of engineers at electric companies; Society of American Foresters, arborist groups