

HUBBARD BROOK MONTHLY March 2021 issue

Recent Publications

Clark, JS, R Andrus, M Aubry-Kientz *et al.* Continent-wide tree fecundity driven by indirect climate effects. 2021. *Nature Communications*.

<https://doi.org/10.1038/s41467-020-20836-3>

Lowe, WH, TE Martin, DK Skelly, HA Woods. 2021. Metamorphosis in an Era of Increasing Climate Variability. *Trends in Ecology & Evolution*.

<https://doi.org/10.1016/j.tree.2020.11.012>

If your publication is missing from this list, please let us know:

sciencelinks@hubbardbrookfoundation.org

Hubbard Brook in the News

Snow Future

[Adirondack Explorer](#)

Crisis After Crisis During Pandemic Field Day Experiments*

by Catalina Mejia, Cornell University

[The Journal of Stories in Science](#)

Alicia Brunner Follows the Birds*

Interview with Alicia Brunner, Cornell University

[Northern Woodlands](#)

Towards an Inclusive Environment*

by San Sánchez, Hunter College

[Re-Earth Initiative](#)

*These pieces are outreach projects by participants in the first cohort of HBRF's new [Young Voices of Science](#) program. Keep an eye on your inbox for a special newsletter highlighting their work!

Hubbard Brook Data Report

In the list of new datasets below, note that the MELNHE Sapflow dataset has been published to EDI with a temporary embargo on access to the data file, pending acceptance of a submitted paper. The EDI repository makes this possible, to accommodate investigators who need to demonstrate data availability to a publisher (citation plus DOI), but do not want full public access until their paper has been accepted.

You may want to take advantage of this—the best time to pull together your data package is when you are working on your manuscript and have all the important information readily at hand! Your Hubbard Brook Information Manager will help you prepare your data package, and will coordinate with EDI to apply a data embargo, if desirable. Details can be found here: <https://environmentaldatainitiative.org/2021/03/01/edi-supports-temporary-data-embargoes-upon-request/>

Contact mary.martin@unh.edu to begin preparing your data for the EDI Repository.

New and updated datasets:

The sap flow data for the MELNHE study has been an ongoing effort from 2013 to 2018, focusing on the effects of alleviating nutrient limitation. This dataset includes over 280,000 sap flow measurements (in the form of temperature differences between 2 probes). With this extensive dataset we are able to determine if N, P, N+P, or Ca nutrient additions

influence tree water use which is an important factor in hydrological models. In our paper we utilized published sap flow measurements from other studies for comparisons and appreciate this opportunity to expand the public's access to ecological data for papers like ours.

- Rice, A.M., M.T. Johnston, A.J. Libenson, and R.D. Yanai. 2021. Temperature differences in hardwood trees using thermal dissipation probes in Hubbard Brook Experimental Forest, NH and Bartlett Experimental Forest, NH ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/a5d384c93682910d7246bb5bcbbcae9a>

Nitrogen mineralization is a key link in the ecosystem nitrogen cycle, completing the recycling of nitrogen from detritus back to the form that is available for plant uptake. In situ measurements of this process are tedious and rare, but are an important component of the long-term record at Hubbard Brook, with the first measurements made in the 1970s. This new dataset is a compendium of all the in situ nitrogen mineralization and nitrification measurements that have been made at Hubbard Brook since the 1990s as part of a series of winter climate change and ice storm experiments. We hope they will be useful to other researchers at Hubbard Brook and at other sites around the world.

- Groffman, P.M., J. Morse, J. Duran, J. Weitzman, and L. Rustad. 2021. Hubbard Brook Experimental Forest: In-situ Nitrogen Mineralization and Nitrification measurements for 4 winter climate change projects ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/65e14d57866b129a12e9d99f0f16f886>

LAI data for Watershed 1, Bear Brook (West of Watershed 6) and the throughfall plots are now available in the three following datasets. These values have been revised from LAI included in earlier versions of the Hubbard Brook Fine Litterfall dataset.

- Fahey, T. and N. Cleavitt. 2021. Hubbard Brook Experimental Forest: Leaf Area Index (LAI) Watershed 1 ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/773e1a11a9b8a2a43e89e20ff27bcd2e>
- Fahey, T. and N. Cleavitt. 2021. Hubbard Brook Experimental Forest: Leaf Area Index (LAI) Bear Brook Watershed (West of Watershed 6) ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/e6ca833db8b6a4931ab9fafb91191d38>
- Fahey, T. and N. Cleavitt. 2021. Hubbard Brook Experimental Forest: Leaf Area Index (LAI) Throughfall Plots ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/d561072b72ef8cce6d7c123cbe3b4f12>

Outreach and Education Update

On March 8, HBRF co-hosted the Climate and Clean Energy Youth Forum, along with Stonyfield Organic, the Revers Center for Energy at the Tuck School of Business at Dartmouth, ReVision Energy, the League of Conservation Voters, and Sustainable Futures Consulting. The event featured Hubbard Brook PIs and students from environmental fields (including *Young Voices of Science* participants) interacting with members of the Biden-Harris administration and the NH Congressional delegation about climate and clean energy policies.

<https://www.nhyouthclimatetownhall.com/>

On March 9, Nat Cleavitt presented on "Lichens, Mosses, and Liverworts" for the Squam Lakes Natural Science Center's Virtual Pub Night. A recording is available at the following link:

<https://youtu.be/b56RzQHhIXE>

On March 25, Sarah Garlick and Nat Cleavitt led a Hubbard Brook Roundtable about the regeneration of northern hardwoods in the Northern Forest. Hubbard Brookers Scott Bailey, John Battles, Anthea Lavallee, Jackie Matthes, Sarah Thorne, and Chris Woodall participated, along with 19 representatives from federal and state forest management, cooperative extension, consulting forestry, forestland conservation, timber investment management organizations, and applied silvicultural research. A group of Cornell University undergraduates—Alex Ding, Zoe Economos, Raeana Kiss, and Isabella Kong—

helped to organize and produce the engagement event, including conducting pre-roundtable interviews with 21 participants. A full report from the event is forthcoming.

HBRF is part of a working group of the Northeast Climate Change Education Collaborative that has developed "How to Talk about Climate Justice and Climate Change in New England:" a 10-hour, online professional development workshop for educators, guides, interpreters, and other professionals. The workshop will support a cohort of 20 participants and will take place over four sessions during the month of April. Sarah Garlick will serve as faculty from HBRF. As part of the workshop, participants will develop individual projects that help implement principles of climate justice and evidence-based climate change communication into their workplace. HBRF's collaborating partners for this program are Mass Audubon, Shelburne Farms, Audubon Vermont, College of the Atlantic, and Lake Champlain Sea Grant.

Hubbard Brook DEI Committee Updates

All members of the LTER community who self-identify as a member of a group that is underrepresented in the network, their site, or their professional spaces are invited to join a monthly conversation group via Zoom. The next session will take place on **April 13** and will feature Dr. Nico Vega of Konza LTER who will focus on grasslands. Register at the following link:

https://ucsb.zoom.us/meeting/register/tZMldeGsqTgoGNd4K6Q23y_xN-nwM0m_8RIT

The LTER DEI Committee's highlighted diversity, equity, inclusion, accessibility resource of the month is: "You are welcome here: A practical guide to diversity, equity, and inclusion for undergraduates embarking on an ecological research experience"

<https://onlinelibrary.wiley.com/doi/10.1002/ece3.7321>

Save the Date

The upcoming Quarterly Project Meeting (formerly known as the COS Meeting) will be held over Zoom from **10am - 2:30pm EDT on Wednesday, April 7**. The overall topic is the LTER Renewal proposal, led by Peter Groffman and Pam Templer.

HBRF has been supporting a public engagement program called "Sense of Place," led by a group of community organizations in the White Mountains and convened by the White Mountain National Forest's Saco Ranger District. The program involves a series of online community conversations about public lands and recreation in the eastern White Mountains. The next event is **Wednesday, April 7 at 6:30pm**: Outdoor Recreation Management in the White Mountains: Challenges and Solutions. Sign up for free on eventbrite:

<https://www.eventbrite.com/e/sense-of-place-outdoor-recreation-management-in-the-white-mountains-tickets-146492863097>

Announcements

Peter Groffman and Charley Driscoll have 2 years of funding available for a postdoctoral researcher, beginning July 1, 2021. The work will involve a mixture of modeling and measurements focused on how changes in atmospheric deposition, climate, and processing of organic carbon are acting to affect nitrogen cycling and availability to plants. The researcher could be based at the City University of New York Advanced Science Research Center in New York, NY, at the Cary Institute in Millbrook, NY, or at Syracuse University in Syracuse, NY. For more information, visit the following link:

<https://www.rfcuny.org/careers/postings?pvnid=RC-2103-003934>

Jackie Matthes is a 2021 ESA Early Career Fellow: "Elected for contributions to the understanding of how feedbacks between climate change, land-use change, and ecosystem processes influence carbon cycling across a variety of systems, and her exceptional mentorship and teaching at the graduate and undergraduate level."

Congratulations, Jackie!

<https://www.esa.org/blog/2021/03/25/ecological-society-of-america-announces-2021-fellows/>

Thanks for reading!