HUBBARD BROOK MONTHLY January 2021 issue

Recent Publications

Sahu, SK, KS Bakar, J Zhan, JL Campbell, RD Yanai. 2021. Spatio-temporal Bayesian modeling of precipitation using rain gauge data from the Hubbard Brook Experimental Forest, New Hampshire, USA. *Joint Statistical Meetings Proceedings, Statistical Computing Section. American Statistical Association. pp.77-9.*

Taylor, LL, CT Driscoll, PM Groffman, GH Rau, JD Blum, DJ Beerling. 2021. Increased carbon capture by a silicate-treated forested watershed affected by acid deposition. *Biogeosciences*.
https://doi.org/10.5194/bg-18-169-2021

Thom, D, AR Taylor, R Seidl, W Thuiller, J Wang, M Robideau, WS Keeton. 2021. Forest structure, not climate, is the primary driver of functional diversity in northeastern North America. *Science of the Total Environment*.
https://doi.org/10.1016/j.scitotenv.2020.143070

Valipour, M, CE Johnson, JJ Battles, JL Campbell, TJ Fahey, H Fakhraei, CT Driscoll. 2021. Simulation of the effects of forest harvesting under changing climate to inform long-term sustainable forest management using a biogeochemical model. *Science of the Total Environment*.
https://doi.org/10.1016/j.scitotenv.2020.144881

If your publication is missing from this list, please let us know:
sciencelinks@hubbardbrookfoundation.org

Hubbard Brook Data Report

New datasets and updated long-term data can be found at the links below. To view the complete data catalog, visit https://hubbardbrook.org/hubbard-brook-data-catalog. Please contact mary.martin@unh.edu to begin the process of preparing your Hubbard Brook research data for submission to Environmental Data Initiative Repository.

The Hubbard Brook Phenology dataset has been updated through 2020. The data are now reformatted in a way that should make data use a bit easier. The HB phenology dataset has limitations due to the week long time step between each observation but it serves as a basic reference for the timing of leaf out and leaf drop with the benefit of continuity of observation criteria and observers. An interpolation of dates for missing phases due to rapid change over the course of the week is available upon request from nina.lany@usda.gov.

- USDA Forest Service, Northern Research Station. 2021. Hubbard Brook Experimental Forest: Routine Seasonal Phenology Measurements, 1989 - present ver 12. Environmental Data Initiative.
  https://doi.org/10.6073/pasta/f2c18a955c24eadaec1fa0d915a7b527

A revision to the Bird Audio dataset now included vocalizations by species and samples of ambient sound at Hubbard Brook.

- Symes, L.B., K.D. Kittelberger, S.M. Stone, R.T. Holmes, J.S. Ralston, I.P. Casteneda Ruvalcaba, M.S. Webster, and M.P. Ayres. 2021. Calling activity of Birds in the White Mountain National Forest: Audio Recordings (2016 and 2018) ver 2. Environmental Data Initiative.
  https://doi.org/10.6073/pasta/7538bf950949fa86e10efb986d699c10

The flux tower data are now gap-filled to provide a more complete record of water, energy, and CO2 fluxes from 2017 to 2020. We are excited to support others using the data, so please reach out to the dataset authors you have any questions.

- Kelsey, E., M. Green, D. Evans, and E. Wright. 2021. Hubbard Brook Experimental Forest: Flux Tower Data ver 3. Environmental Data Initiative. https://doi.org/10.6073/pasta/b737e7997457e873dd332a36c8314be0

This long term dataset spans several decades at one of the most acidic ponds on the White Mountain National Forest. Across the Pemi valley from HBEF, it has been studied by a number of Hubbard Brook researchers in regional gradient analyses and cross site comparisons.

- Buso, D.C. and S.W. Bailey. 2021. Cone Pond, Thornton, NH water chemistry ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/d786872624d2a98a7bacc060213b26a2

Mammals present at Hubbard Brook and around Mirror Lake have been observed by researchers for years. The list of species was originally published in 'Organisms of the Hubbard Brook Valley' by Dick Holmes and Gene Likens in 1999. That list has now been updated by Dick Holmes and others. Some notable additions include several species of bats identified by echolocation calls by Hannah ter Hofstede and her associates and the North American River Otter recorded on video cameras by Lynn Christenson. The Hubbard Brook mammal list is now available as a dataset in EDI.

- Holmes, R., H. ter Hofstede, L. Christenson, and G. Likens. 2021. Mammal species recorded within the Hubbard Brook Experimental Forest and vicinity (1963-2020; updated January 2021). ver 2. Environmental Data Initiative. https://doi.org/10.6073/pasta/c84aa617a5372b4a9e96e39381282092

Phenological indices derived from the phenocams at Hubbard Brook have been published in this large dataset available from the ORNL DAAC repository. From imagery collected over several years, time series characterizing vegetation color, including canopy greenness, plus greenness rising and greenness falling transition dates, were summarized over 1- and 3-day intervals. You can keep a remote eye on the Hubbard Brook source of these data by viewing a current image here on the Phenocam website: https://phenocam.sr.unh.edu/webcam/sites/hubbardbrook/

- Seyednasrollah, B., A.M. Young, K. Hufkens, T. Milliman, M.A. Friedl, S. Frolking, A.D. Richardson, et al. 2019. PhenoCam Dataset v2.0: Vegetation Phenology from Digital Camera Imagery, 2000-2018. ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/1674

In this EDI package, you will find files associated with the development of the Hubbard Brook foliar nitrogen map, including input files used to derive the relationship between spectra and foliar nitrogen, the output raster file as GeoTIFF, and other supporting files. An additional three forthcoming EDI packages will contain the full hyperspectral data cubes, georegistered and atmospherically corrected, for the August 2012, February 2013 and March 2013 flights.

- Ollinger, S. and L. Lepine. 2021. Hubbard Brook Experimental Forest: Hyperspectral Foliar N map and associated field data, 2012 ver 1. Environmental Data Initiative. https://doi.org/10.6073/pasta/39436325cebb0407ea68c6b87012f968

Outreach and Education Update

Hubbard Brook is hosting the LTER community Instagram account through February 7. Follow along here:
https://www.instagram.com/lter_community/

Save the Date

The National Center for Ecological Analysis and Synthesis (NCEAS) is hosting a free virtual seminar series this winter and spring on "Advancing Ecology and Environmental Data Science for a More Just and Equitable Future." The first speaker, Gillian Bowser, will discuss "Environmental Justice and Ecological Blindspots" on **Thursday, February 4**

from 3-4pm EST. More information on the seminar series can be found here: https://www.nceas.ucsb.edu/equity-justice-seminar

Sarah Garlick and John Besley are leading a workshop for the AAAS Communicating Science Seminar this **Friday, February 5**. This is a free event held every year in advance of the AAAS annual meeting. Interested participants can learn more and sign up here: https://www.aaas.org/page/2021-communicating-science-seminar

The LTER Diversity Committee's Community Building Working Group would like to invite 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 to join a monthly conversation group via Zoom. Each month the group will highlight the work of underrepresented researchers from a different region within the network and discuss a topic of general interest in a safe, professional, but casual setting. The meetings will kick off on **Tuesday, February 9th, 2021 at 3pm EST,** by highlighting work from our colleagues in the Southwest, Dr. Anny Chung and Dr. Laureano Gherardi, and by talking about mentorship and the ways that we have found (or not found) the support and guidance we need to navigate mostly male, white, straight, cis, able-bodied spaces in ecology and the academy.
Please register here for this and other upcoming seminars:
https://ucsb.zoom.us/meeting/register/tZMldeGsqTgoGNd4K6Q23y_xN-nwM0m_8RIT
And learn more about the group here:
https://lternet.edu/stories/community-building-seminars-2021/

Lindsey Rustad, Nikki Lindt, and Jenny Bower will be presenting on "Soundscapes Beneath the Forest Floor: Soil, Water, and Rock Interactions" via Zoom on **Tuesday, February 9 from 6-8pm EST** as part of the Squam Lakes Association and Squam Lakes Conservation Society's Virtual Science Pub series. Register here:
https://us02web.zoom.us/meeting/register/tZcvfumoqTkoHtMnNtkZd3e7jJklFxF7BNJx

The Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) is hosting a webinar series on experimental catchment research at sites across the globe. The series will be held **Wednesday at 1pm EST from February 10 – March 31** and will feature short- and longer-format talks and discussions on research catchments, and their value to science and society. Mark Green, Peter Groffman, Bill McDowell, and Jeff Pu all have presentation slots. Please attend and share your ideas on cross-site syntheses!
https://zoom.us/webinar/register/6116111629183/WN_SwIag2TITeK3L7vqxgSj7g

Nat Cleavitt is giving a talk on sugar maple regeneration in New Hampshire via Zoom on **Wednesday, February 24 from 4-5pm EST**. The event, "Sugar Baby Blues?" is part of the Forest Society's "Cold is Cool" series. More information, including how to register, can be found here:
https://forestsociety.org/event/sugar-baby-blues-sugar-maple-regeneration-nh-dr-natalie-cleavitt-part-cold-cool-series

Announcements

Listserv Reminder: To communicate with the entire Hubbard Brook community, hubbardbrook@lists.sr.unh.edu has the broadest reach (Committee of Scientists members, graduate students, lab/field staff, and other "friends of Hubbard Brook").

We also maintain grad-only and COS-only lists for more targeted communication (hubbardbrookGRAD and hubbardbrookCOS; both at lists.sr.unh.edu). When mailing to the listserv, please limit additional recipients (it is best to contact them through a separate email).

You can view the archive of listserv messages here:
https://lists.sr.unh.edu/pipermail/hubbardbrook/

Request additions to the listserv by contacting: mary.martin@unh.edu.

Thanks for reading!