# ------- MELNHE Litterfall Data 2009 – 2017 ---------

# EDI Metadata Template (2017)[[1]](#footnote-1)

Data should be in csv text file. If starting with an Excel spreadsheet, please make sure it does not contain any formulas and comments on cells. If you need comments put them in their own column. If data were used in a database and major table linking is necessary to analyze, please de-normalize into a flat file, not just database table exports.

## Dataset Title

litterfall production from a multiple element limitation in northern hardwood ecosystems experiment.

## Short name or nickname you use to refer to this dataset:

Shoestring Litterfall

## Abstract

(include what, why, where, when, and how)

Laundry baskets place in northern hardwood ecosystems have been catching litter from 2009 to present. Applications of N and P began in June 2011 and continue at the rate of 30 kg N/ha/yr (as NH4NO3) and 10 kg P/ha/yr (as NaH2PO4).

## Investigators

(list in order as for a paper with e-mail addresses, organization and preferably ORCID ID, if you don’t have one, get it, it’s easy and free: <http://orcid.org/>) add table rows as needed

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| First Name | Last Name | Organization | e-mail address | ORCID ID (optional) |
| Ruth D. | Yanai | SUNY-ESF | [rdyanai@syr.edu](mailto:rdyanai@syr.edu) |  |
| Melany | Fisk | University of Miami, Ohio | [fiskmc@miamioh.edu](mailto:fiskmc@miamioh.edu) |  |
| Timothy | Fahey | Cornell University | [tjf5@cornell.edu](mailto:tjf5@cornell.edu) |  |

## Other personnel names and roles

(field crew, data entry etc. with e-mail addresses, organization and ORCID ID)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| First Name | Last Name | Organization | e-mail address | ORCID ID (optional) | Role in project |
| Alexander | Young | SUNY-ESF | [aryoung@syr.edu](mailto:aryoung@syr.edu) |  | Data preparation |
| Maddie | Morley | SUNY-ESF | [msm0997@gmail.com](mailto:msm0997@gmail.com) |  | 2016, 2017 Litter |
| Craig | See | U Minesota | [Crsee@umn.edu](mailto:Crsee@umn.edu) |  |  |
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## Keywords

(list and separate by comma, please check out these resources <http://vocab.lternet.edu>, ) Please determine one or two keywords that best describe your lab, station, and/or project (e.g., Trout Lake Station, NTL LTER, UW Center for Limnology).

## Funding of this work:

Add rows to table if several grants were involved, list only the main PI, start with main grant first:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PI First Name | PI Last Name | PI ORCID ID (optional) | Title of Grant | Funding Agency | Funding Identification Number |
| Ruth | Yanai |  | LTER: Long-term ecological research at the Hubbard Brook Experimental Forest (award to Cary Institute, the ESF subcontract to Ruth). | NSF- 2017-2023 | 1637685 |
| Ruth | Yanai |  | Nutrient co-limitation in young and mature northern hardwood forests, National Science Foundation | NSF- 2010-2017 | 0949324 |
| Ruth | Yanai |  | LTER: Long-term ecological research at Hubbard Brook Experimental Forest (awarded to Cornell University, ESF subcontract to Ruth) | NSF- 2011-2019 | 1633026. |
| Ruth | Yanai |  | LTER: Long-term ecological research at Hubbard Brook Experimental Forest, National Science Foundation, | NSF-2006-2010 | 0423259 |
| Ruth | Yanai |  | Biotic control of calcium supply: distinguishing sources to regrowing forests. National Science Foundation | NSF- 2003-2007 | 0235650 |
| Ruth | Yanai |  | Long-term ecological research at the Hubbard Brook Experimental Forest. National Science Foundation | NSF 1998-2004 | 1998-2004 |

## Timeframe

* Begin date: Fall 2005
* End date: Spring 2016
* Data collection ongoing/completed: ongoing

## Geographic location

* Verbal description:
* North bounding coordinates (decimals)
* South bounding coordinates (decimals)
* East bounding coordinates (decimals)
* West bounding coordinates (decimals)

## Taxonomic species or groups

White Ash – FRAM2

Bigtooth Aspen – POGR4

American Beech – TIAM

Non-Leaf – non-leaf parts

Northern Red Oak – QURU

Pin Cherry – PRPE2

Quaking Aspen – POTR5

Red Maple – ACRU

Sugar Mpaple – ACSA3

Striped Maple – ACPE

Unknown – unidentifiable leaf parts

White Birch – BEMI

Yellow Birch – BEAL

## Methods

(please be specific, include instrument descriptions, or point to a protocol online, if this is a data compilation please specify datasets used, preferably their DOI or URL plus general citation information)

We have 222 litter baskets laid out across 11 stands. Each stand contains 4 plots (numbered 1-4), each of which contains 5 baskets. The contents of each basket are collected each summer, fall, and spring into paper bags, excluding coarse woody debris to account for a years worth of litter production. These paper bags are either oven dried and weighed as a total litter mass weight, or are sorted into species, non-leaf, and unknown categories then weighed separately.

## Data Table

* Column name: exactly as it appears in the dataset. Please avoid special characters, dashes and spaces.
* Description: please be specific, it can be lengthy
* Unit: please avoid special characters and describe units in this pattern: gramspermetersquared
* Code explanation: if you use codes in your column, please explain in this way: e.g. LR=Little Rock Lake, A=Sample suspect, J=Nonstandard routine followed
* Data format: please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy
* If a code for ‘no data’ is used, please specify: e.g. -99999

Please add rows as needed

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Description | Unit or  code explanation or date format | Empty value code |
| Year | The year of collection for each litter basket | Year |  |
| Season | The season the datum was collected | Spring, Summer, Fall |  |
| Site | The geographic site the datum was collected. There are three sites: Hubbard Brook, Jeffers Brook, and Bartlett Experimental Forest | Three characters: BEF=Bartlett Experimental Forest  HB= Hubbard Brook  JB= Jeffers Brook |  |
| Stand | A local collection of 50 by 50 meter plots. Stands will have 4 or 5 plots depending on the presence of a calcium plot | C1:C9 are in Bartlett  HBM, HBO are in Hubbard Brook.  JBM, JBO are in Jeffers Brook. |  |
| Plot | A 50 by 50 meter forest patch that receives fertilization treatment (including control). Typically 4 plots per stand. Some stands (C1, C6, C8 have a 5th plot, Calcium)  HBO has 5 plots with two controls. | Values 1:4 correspond to a nutrient treatment.  A value of 5 corresponds to a calcium treatment plot.  HBO has plots 1,2,3,4, and 7 due to a blowdown |  |
| Basket | Each plot has 5 baskets, they are .234 m squared. Units are reported in grams per meter squared If a basket was tipped, or had a crack larger than a quarter it was not collected from. | Grams per meter squared |  |
| Treatment | The nutrient manipulation treatment a plot received: Nitrogen (ammonium nitrate), Phosphorus (monosodium phosphate), both N + P, and a control which receives no fertilizer added. Additionally, Ca was applied in the form of wollastonite. | Cont= Control  N = Nitrogen  P = Phosphorus  NP= a combined Nitrogen + Phosphorus  Ca = Calcium |  |
| Whole.mass | The combined mass of leaves found in one basket per collection period in grams per meter squared | Grams per meter squared | NA |
| FRAM2 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| POGR4 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| TIAM | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| FAGR | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| VILA11 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| QURU | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| PRPE2 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| ACRU | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| ACSA3 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| ACPE | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| BEMI | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| BEAL2 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| POTR5 | If a basket was sorted by species, this is the amount of that species | Grams per meter squared | NA |
| UNKNOWN | If a basket was sorted by species, this is the amount of unknown leaf species material | Grams per meter squared | NA |
| NON\_LEAF | If a basket was sorted by species, this is the amount of non\_leaf material | Grams per meter squared | NA |

## Notes and Comments

1. This document liberally borrows from similar documents at SBC and GCE [↑](#footnote-ref-1)