



 <https://arcticdata.io>
[@arcticdatactr](https://arcticdatacenter.org)
<https://search.dataone.org>

the **Arctic Data Center** and **DataONE**

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NSF Award #1546024



Polar Data and Systems Architecture Workshop
November 28-30, 2018



Troms Fylke



Rama



Detroit Publishing Co



Arctic Data Center Features and Services



Data Archive



Data Discovery Portal



Tools and Infrastructure



Support Services



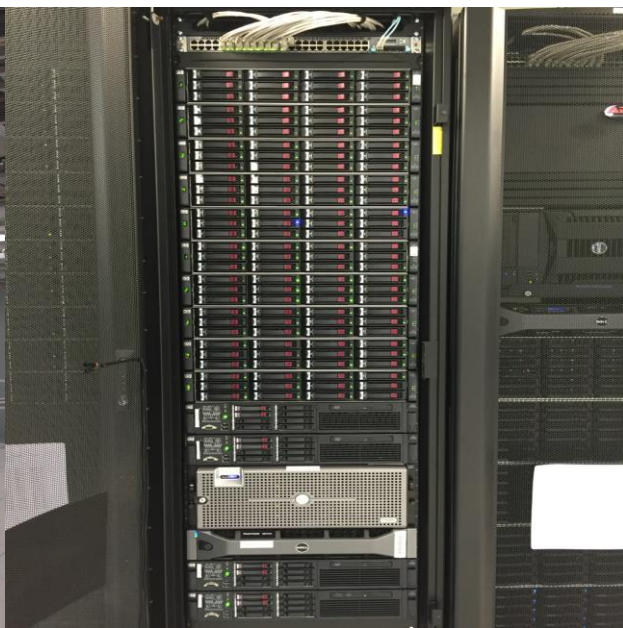
Training and Outreach



Data Rescue



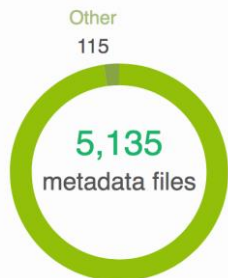
Data Archive



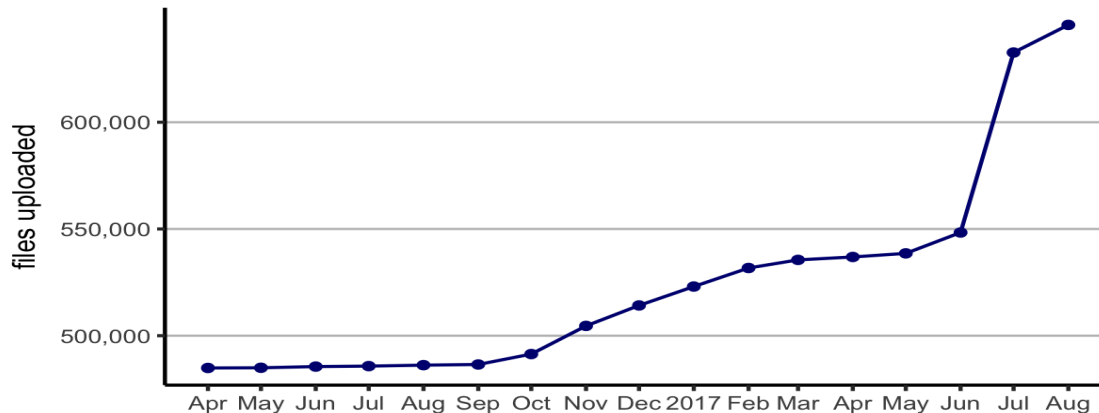
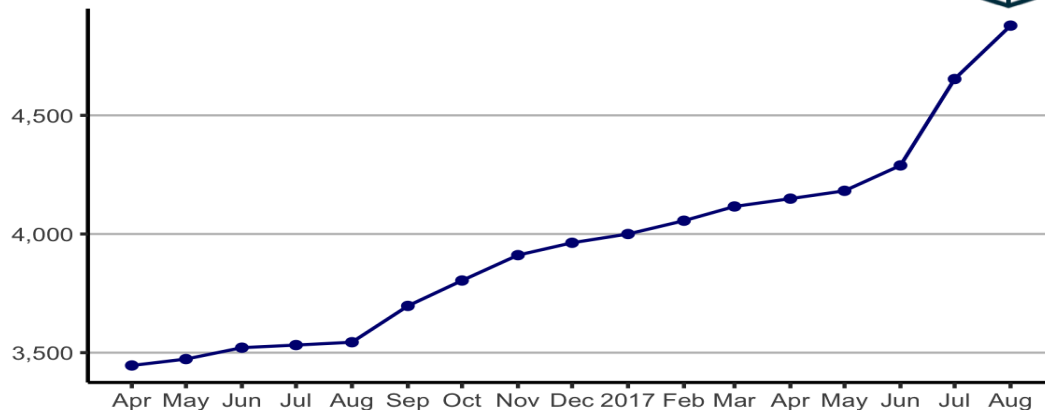
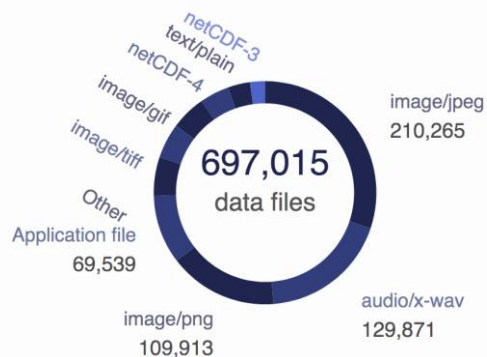


Data archive growth

4 to 27 TB



EML 2.1.1
5,020





Data Discovery Portal



NSF Arctic Data Center

Search

Search phrase

Filter by:

- Data attribute
 - density, length, etc.
- Creator
- Year
 - 1800 2018
- ☐ Data coverage
- ☐ Publish year
- Identifier
- Taxon
- Location
 - Geographic region

DATASETS 1 TO 25 OF 5,132

1 2 3 ... 206 Next

Sort by Most recent

Andrew Parsekian, Andrea Creighton, Benjamin Jones, Allen Bondurant, and Christopher Arp. 2018. **Arctic lake transient electromagnetic (TEM) soundings 2016-2017**. Arctic Data Center. doi:10.18739/A2599Z146.

Karen Junge. 2017. **Extreme summer melt: Assessing the habitability and physical structure of rotting first-year Arctic sea ice. Chukchi Sea, Alaska. 2015-2018**. Arctic Data Center. doi:10.18739/A2901ZF6N.

Lora Koenig and Lynn Montgomery. 2017. **Surface Mass Balance and Snow Depth on Sea Ice Working Group (SUMup) snow density, accumulation on land ice, and snow depth on sea ice datasets**. Arctic Data Center. um:uuid:3b1c4880-3917-4793-bbcc-2eac97c7e0e7.

Lora Koenig and Lynn Montgomery. 2018. **Surface Mass Balance and Snow Depth on Sea Ice Working Group (SUMup) accumulation on land ice subdataset, Greenland and Antarctica, 1987-2018**. Arctic Data Center. doi:10.18739/A2DR2P790.

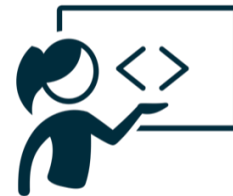
Lora Koenig and Lynn Montgomery. 2018. **Surface Mass Balance and Snow Depth on Sea Ice Working Group (SUMup) snow density subdataset, Greenland and Antarctica, 1950-2018**. Arctic Data Center. doi:10.18739/A2DR2P790.

Hide Map

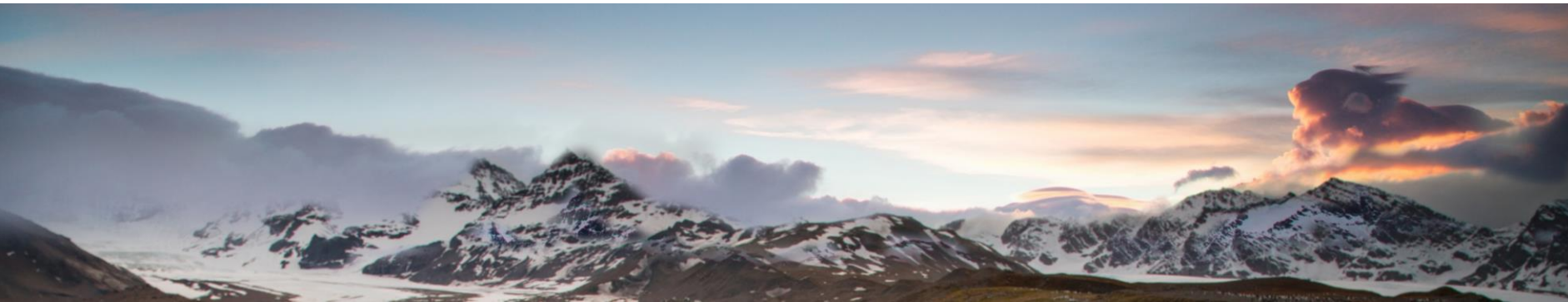
<https://github.com/NCEAS/metacatui>



Training and Outreach



- Training
 - Summer Training
 - Workshops
 - Internship Program
 - Data Fellows Program
 - Webinars





Data Rescue

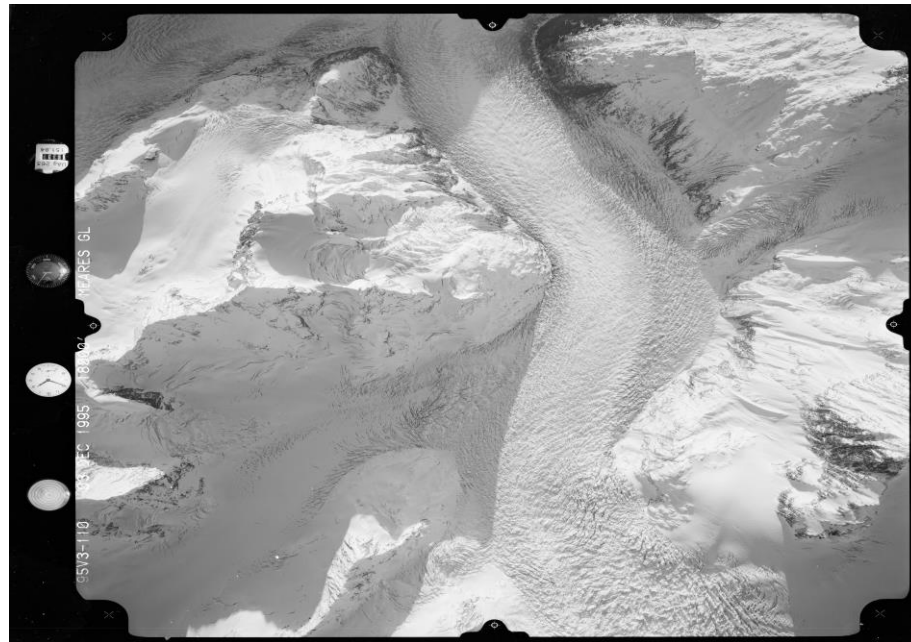




Data Recovery: Aerial Glacier Photos



- Austin Post's collection
- 1964 – 1997
- 2 - 6 rolls per year
- 100,000+ files = 4.9 TB
 - Glacier photos: TIFs, JPGs, TNs
 - Reconstructed flight paths, images of notes, image metadata, camera specs



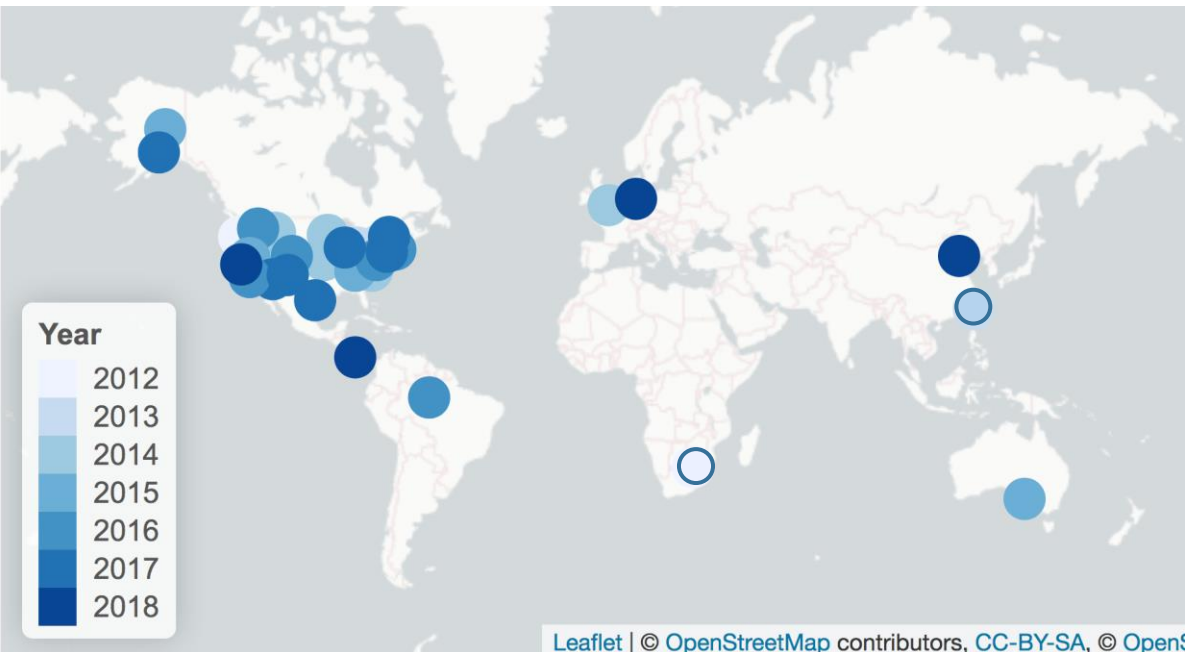
***Meares Glacier, Prince William Sound, AK
61.187448, -147.457573, taken from 18,000'
December 3, 1995, Roll 3, Frame 110
doi:10.18739/A2FF6Z (NAGAP_95V3_110.jpg)***

Data **ONE**

43 Members and Growing

Data Preservation and Services

Components for a flexible, scalable, sustainable network



Member Nodes ●

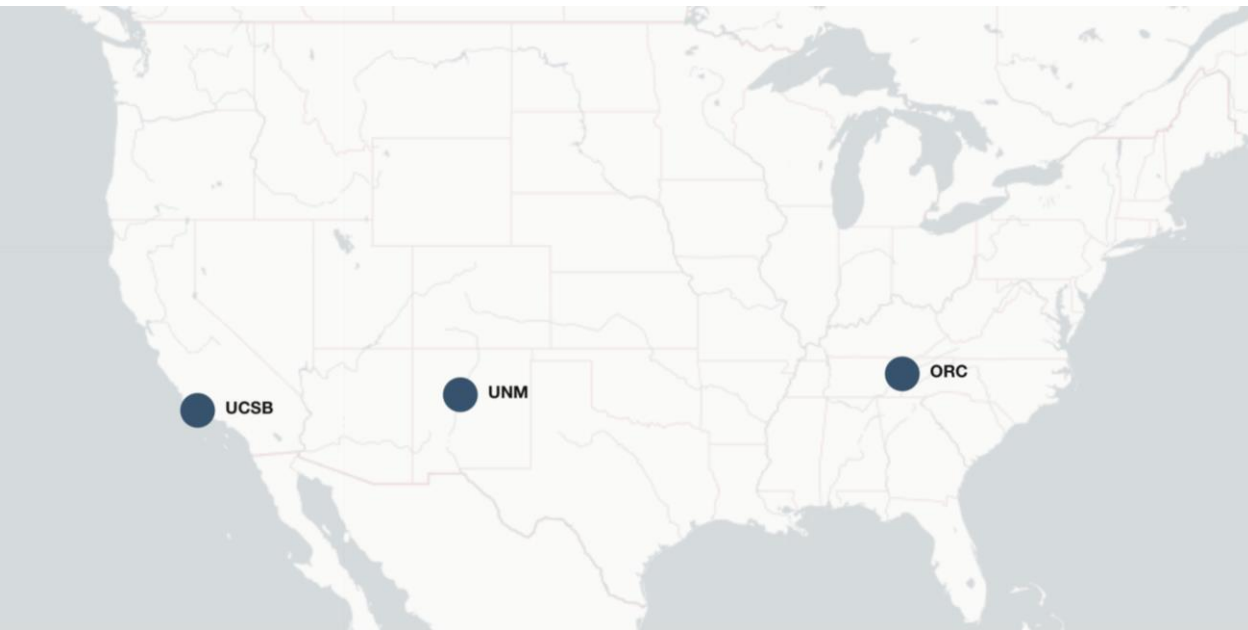
- diverse institutions
- serve local community
- provide resources for managing their data
- retain copies of data



Coordinating Nodes

- Federation-wide Services

Components for a flexible, scalable, sustainable network

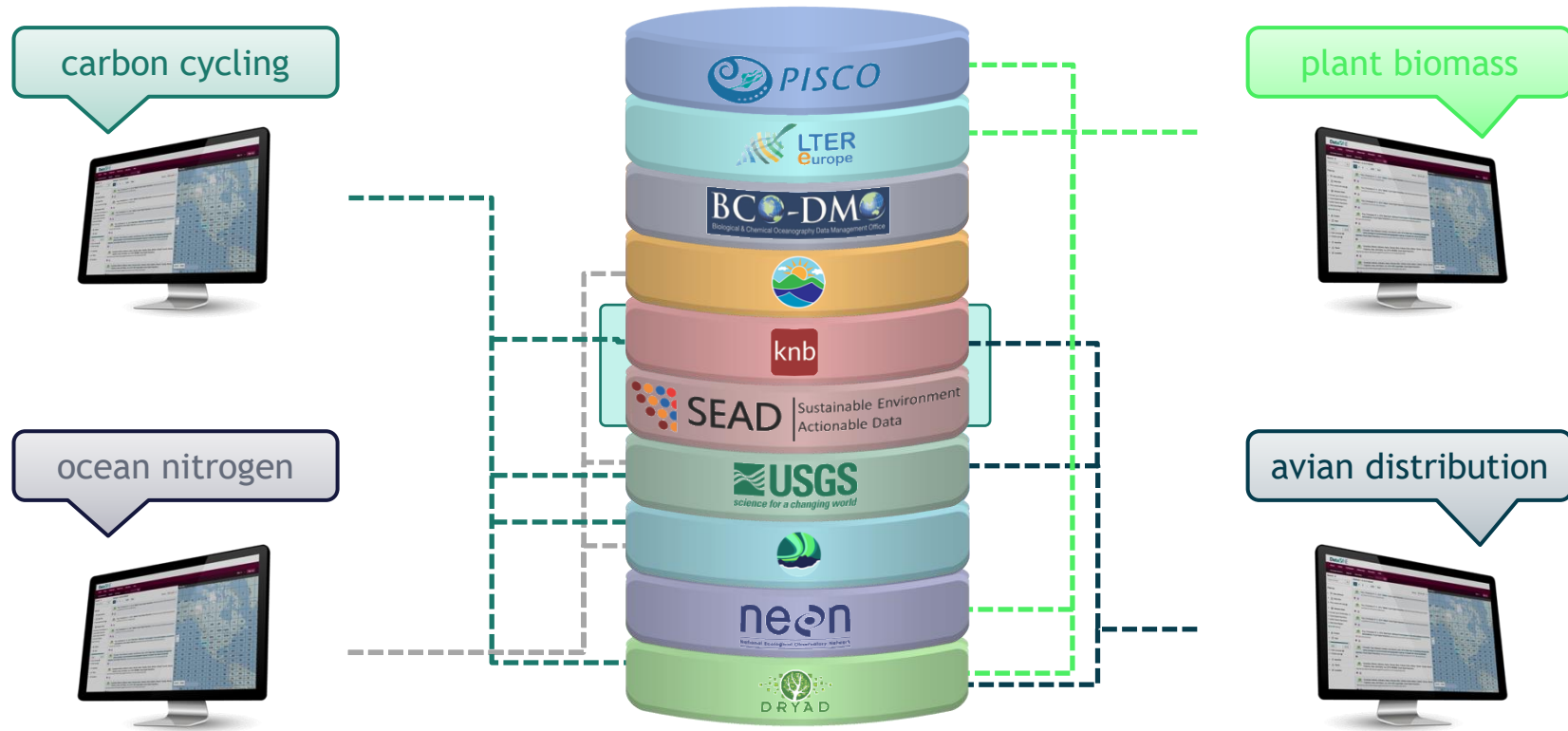


Coordinating Nodes ●

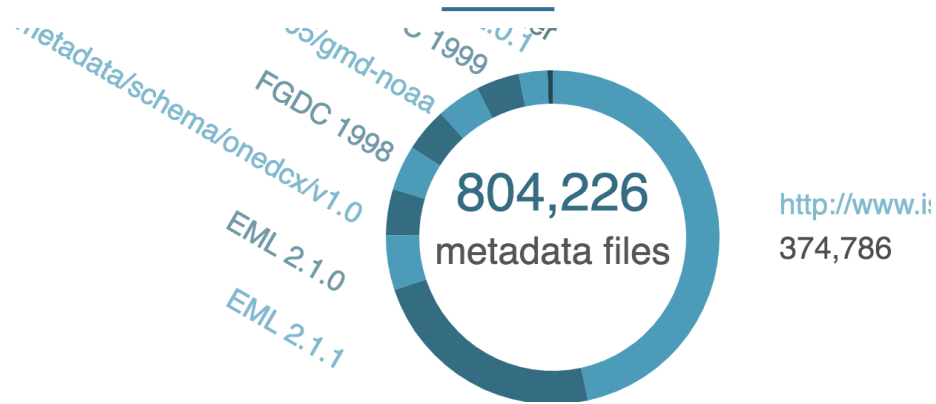
- retain complete metadata catalog
- indexing for search
- network-wide services
- ensure content availability (preservation)
- replication services



Data Discovery and Access from Multiple Repositories



Metadata Crosswalk and Open Search Index



Ecological Metadata Language



API Compatibility



- Read
- Authorize
- Write
- Replication



OAI-PMH



Sitemap

schema.org



Data Citation and Usage



Hajo Eicken, Rolf Gradinger, Thomas Heinrichs, Mark Johnson, Amy Lovecraft, et al. 2011.
Mooring Temperature/Conductivity & Temperature/Pressure data. Arctic Data Center.
doi:10.18739/A2CZ3244X.

“ Citations

0



Downloads

1.6K



Views

42



Copy Citation

41 Citations

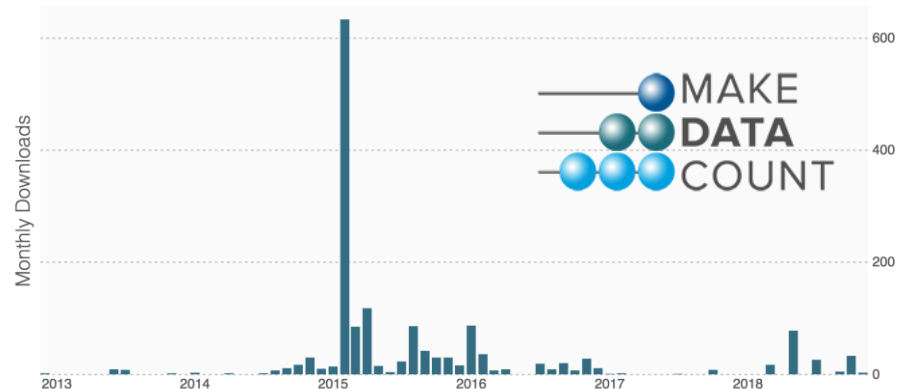
- Beyene Belay, Elisabeth Pötzelsberger, Kibruyesfa Sisay, Dessie Assefa, and Hubert Hasenauer. 2018. **The Carbon Dynamics of Dry Tropical Afromontane Forest Ecosystems in the Amhara Region of Ethiopia.** MDPI AG. <https://doi.org/10.3390/9010018>.
- Julia Chapman and Ryan McEwan. 2018. **The Role of Environmental Filtering in Structuring Appalachian Tree Communities: Topographic Influences on Functional Diversity Are Mediated through Soil Characteristics.** MDPI AG. <https://doi.org/10.3390/9010019>.
- Mengesteab Hailu Ubay, Tron Eid, and Ole Martin Bollandsås. 2018. **Variation in wood basic density within and between tree species and site conditions of exclosures in Tigray, northern Ethiopia.** Springer Nature. <https://doi.org/10.1007/s00468-018-1689-9>.
- Sylvanus Mensah, Ben du Toit, and Thomas Seifert. 2018. **Diversity–biomass relationship across forest layers: implications for niche complementarity and selection effects.** Springer Nature. <https://doi.org/10.1007/s00442-018-4144-0>.
- Aida Cuni-Sanchez, Marion Pfeifer, Rob Marchant, Patricia V. Pompeu, and Neil D. Burgess. 2018. **Harvesting fodder trees in montane forests in Kenya: species, techniques used and impacts.** Springer Nature. <https://doi.org/10.1007/s11056-018-9632-x>.
- Ornja H. Razafindratsima, Anecia Gentles, Andrea P. Drager, Jean-Claude A. Razafimahaimodison, Claude J. Razazampirenena, et al. 2018. **Consequences of Lemur Loss for Above-Ground Carbon Stocks in a Malagasy Rainforest.** Springer Nature America, Inc. <https://doi.org/10.1007/s10764-018-0042-x>.
- Phil Wilkes, Mathias Disney, Matheus Boni Vicari, Kim Calders, and Andrew Burt. 2018. **Estimating urban above ground biomass with multi-scale LIDAR.** Springer Nature. <https://doi.org/10.1186/s13021-018-0098-0>.

Views

Downloads

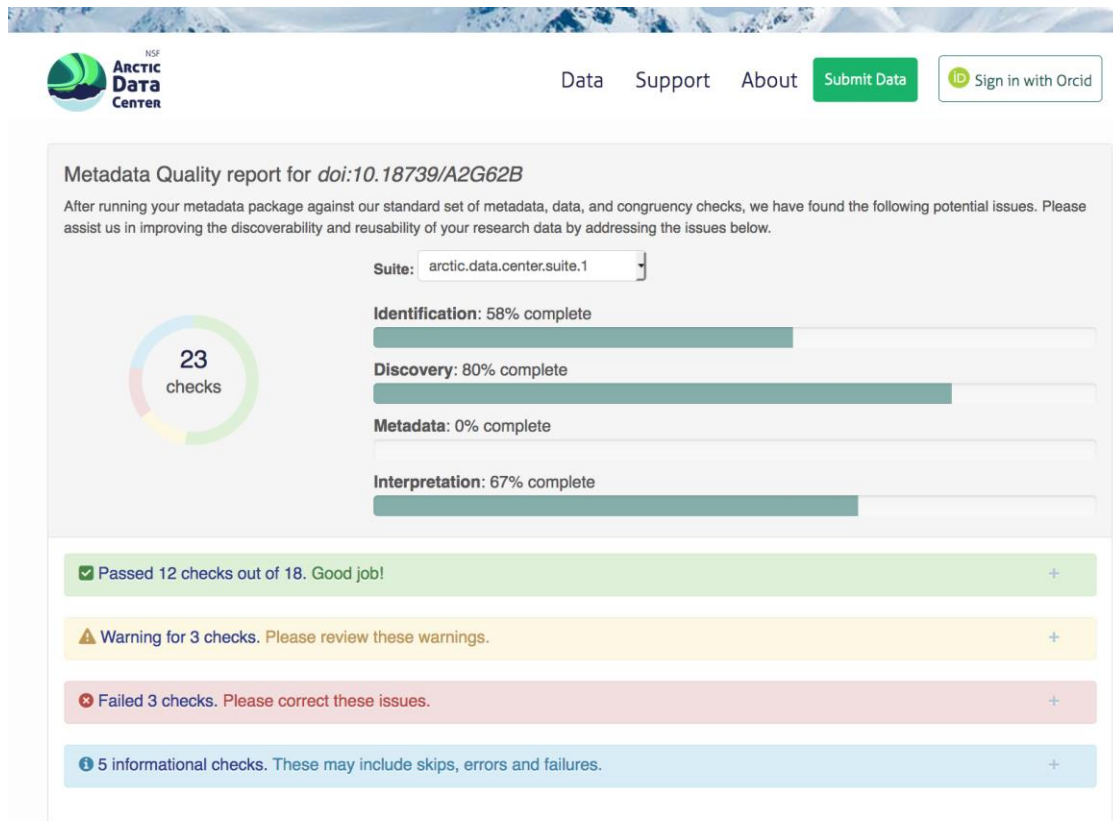
1606 Downloads
from Dec 2012 to Nov 2018

Zoom to year month all



Metadata Quality Improvement

Improve Metadata Quality at Level of Collection and Individual Data Set



Provenance Tracking and Management

Data Table, Image, and Other Data Details

4 sources



Source Data

Alkane.csv

Citation

[View »](#)

This data was generated by `</>`

DataDownload.R.

This data prov_hasDerivations the data you are currently viewing, **Total_Aromatic_Alkanes_PWS.csv** and the data you are currently viewing, **Total_Aromatic_Alkanes_PWS.csv**.

This data was used by `</>`

Total_PAH_and_Alkanes_GoA_Hydrocarbons_Clean.R.

This data was used as an input to create the data you are currently viewing, **Total_Aromatic_Alkanes_PWS.csv** and the data you are currently viewing, **Total_Aromatic_Alkanes_PWS.csv**.

Aromatic_Alkanes_PWS.csv

[Download](#)

Derived dataset from PAH, Alkane and Sample tables documenting samples collected after the Valdez oil spill in Prince William Sound, AK

Aromatic_Alkanes_PWS.csv

<https://cn.dataone.org/cn/v2/resolve/urn:uuid:44108e76-405d-4d58-b1b3-fb4b55e3fff9>

33 byte

Number of Header Lines

1

Record Delimiter

#x0A

Table Orientation

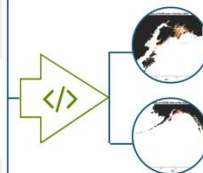
column

Table Text

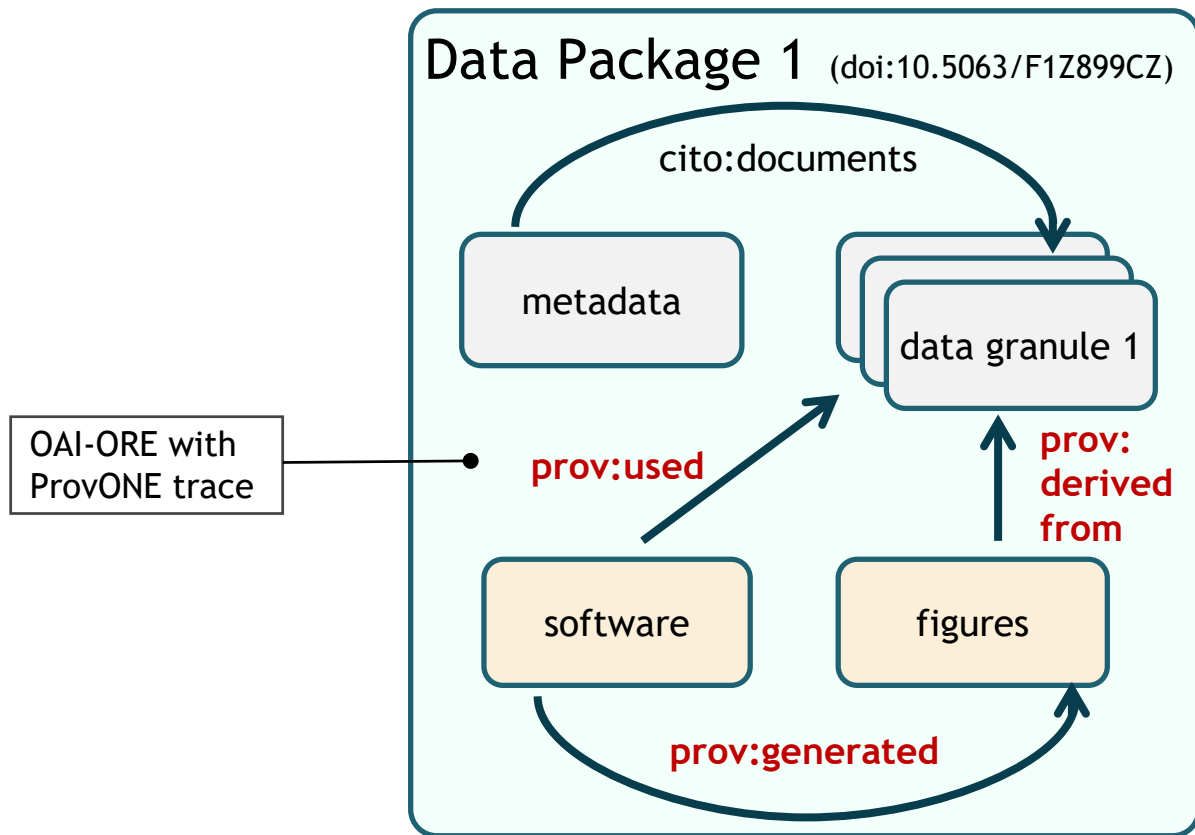
Record Delimiter

,

2 derivations



Data Package with Provenance



Semantic Measurement Search

Attribute Information

Variables

- site
- wet/dry
- post
- litter**
- deli surv
- cats
- Formica
- total ants

Name

litter

Leaf Litter Carbon Pool

+ Add tag

Label

Definition

Storage Type

Measurement Type

Add tag to litter attribute

Help others find this dataset by adding semantic tags

soil

Matches - Hover or mouse down for term definition

soil

Soil Layer Top Depth

soil litter

soil loss

soil order

Soil Layer Top Depth

Definition: Depth from soil surface to top of soil layer

from the **ECSO** ontology (GUID ECSO_00000056)

Has related synonym: soil litter



Tags

Harvesting schema.org linked data

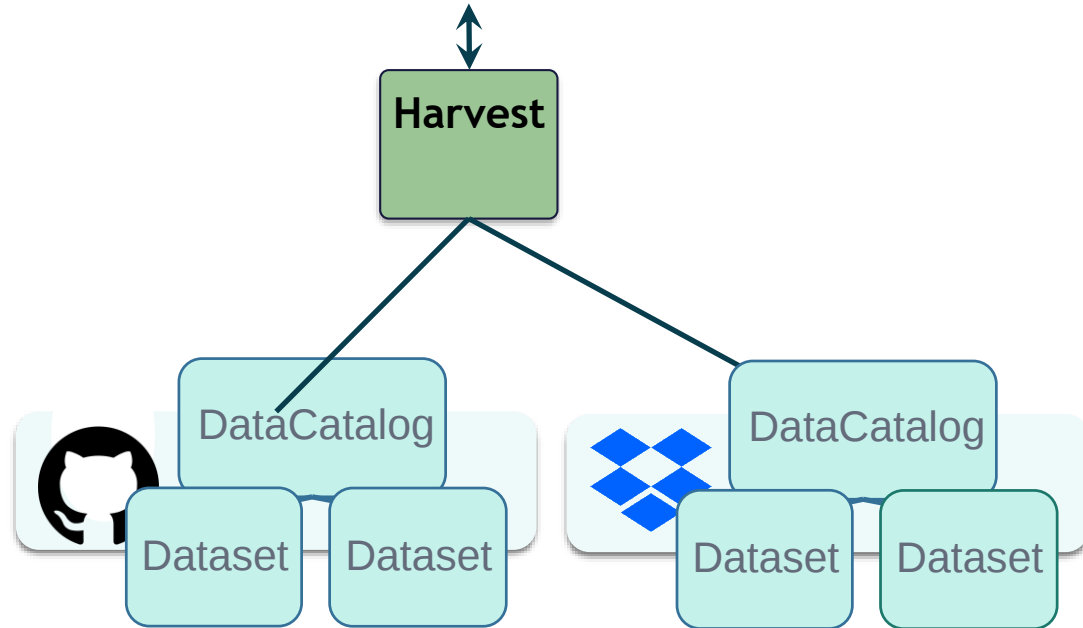
- Lightweight project repositories
- Github, Dropbox, ...
- Schema.org descriptions
- Leverage DataONE for
 - Discovery
 - Replication
 - Identifiers
 - Metrics



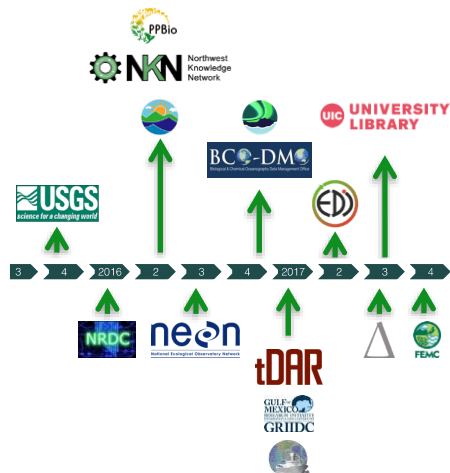
schema.org

GeoLink

DataONE



DataONE: Addressing Four Key Needs



Practical Tools for
Harmonizing
the Semantic
Heterogeneity of
Data

Discovery,
Acquisition and
Preservation
of Relevant Data

Attribute Information

Variables	Name	Label	Definition	Storage Type	Measurement Type
site	Leaf Litter Carbon Pool				
wetdry					
post					
filter					
deli surv					
cata					
Formica					
total ants					

Soil Layer Top Depth

Definition: Depth from soil surface to top of soil layer

from the **ECSSO** ontology (GUD ECSSO_0000009)

Has related synonym: soil litter

Soil Layer Top Depth

- soil litter
- soil loss
- soil order

Data Table, Image, and Other Data Details

4 sources

Source Data

Alkane.csv

Citation

View >>

This data was generated by <>

DataDownload.R.

This data prov_hasDerivations the data you are currently viewing, <>

Total_Aromatic_Alkanes_PWS.csv and the data you are currently viewing, <>

Total_Aromatic_Alkanes_PWS.csv.

This data was used by <>

Total_PAH_and_Alkanes_GoA_Hydrocarbons_Clean.R.

Data and Practical
Tools for
Reproducible
Science and
Provenance

An Empowered
and Engaged
Community

