

Data Licences, Use-Tracking, Repositories

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Intellectual Property (IP)



“Intellectual property refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.”

-World Intellectual Property Organization

Fact and Copyright

- ▶ Facts cannot be protected by copyright!
 - For example, temperature at Blindern is
- ▶ “Databases” / Data collection can be copyright protected
 - If it contains additional value / documentation / annotations

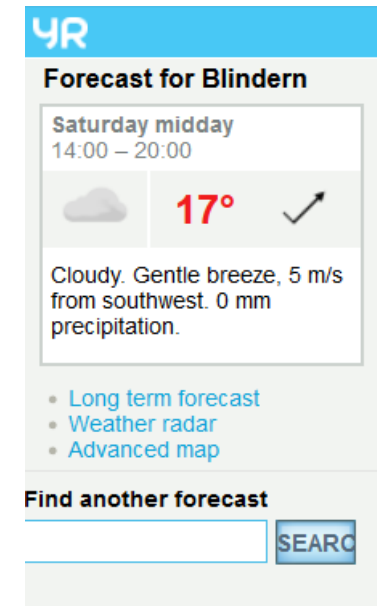


Photo Attribution:
<http://www.romakerlaw.com/blog/wp-content/uploads/2015/07/doctelportal.jpg>

A Few Terms in the Start

➤ **Data Licence:**

A **licence** is an official permission or permit to do, use, or own something (as well as the document of that permission or permit). (Cambridge English Dictionary)

➤ **Attribution:**

Credit given to an entity (person, institution, company) for an action. Can be legally required (by a licence) or voluntary.

➤ **Data Policy:**

a specified course of action adopted for the sake of expediency, facility, etc.

❑ Voluntary attribution can be combined with a licence.

Why Use a Data Licence?

For data provider:

- Legally binding.
- Needs to be issued by data owner (institute, sponsor, ...)
- Specifies exactly what is allowed to be done with the data.
- Can require attribution (of data provider).

For data user:

- Certain that data use is lawful.
- Knows the exact conditions for data use.

- ☐ Essential part of «Reusable» in FAIR.
- ☐ Data ownership needs to be confirmed!!!
- ☐ Usually not the principal investigator

Identifying Ownership and Control

- ▶ Funder agreement
- ▶ Institutional intellectual property policy
- ▶ Private company data use agreement
- ▶ Attached license
- ▶ For NRC and EU projects:
data owned by contract partner (RPO / institute).



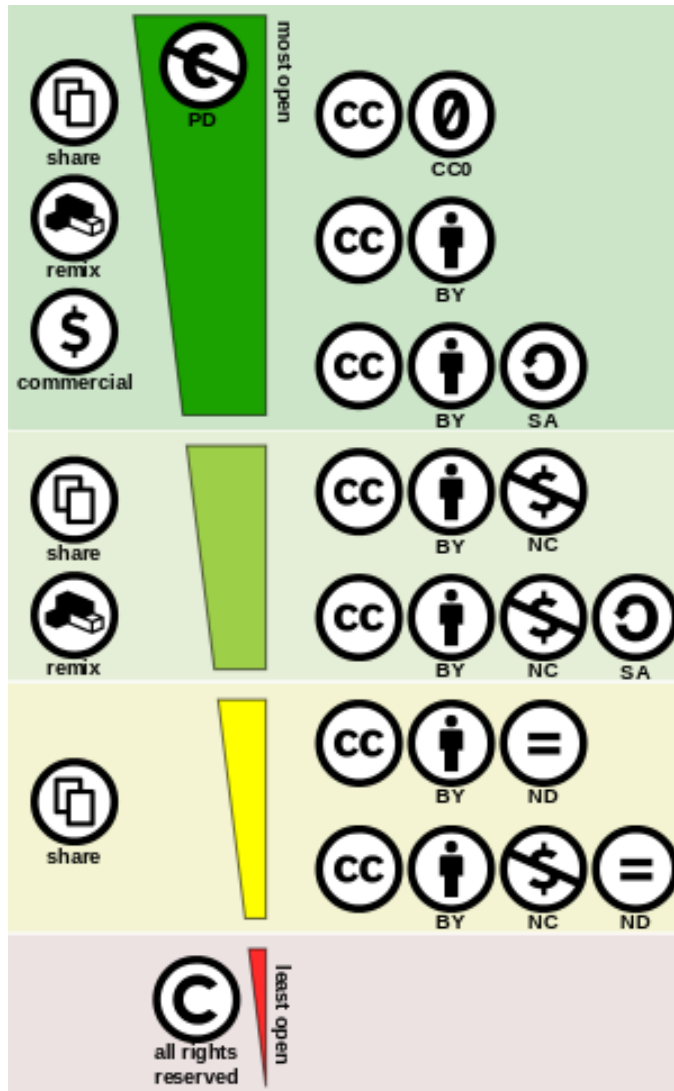
Photo Attribution: <http://cdn.gobankingrates.com/wp-content/uploads/nashville-housing-market-overview-300x238.jpg>

Creative Commons (CC) Licences



- Invented for sharing content with others.
- Giving both sides legal certainty (liability waived, use conditions specified).
- Original version of December 2002.
- Latest version 4.0 of November 2013
- Mature and widely used.
- <https://creativecommons.org/>

CC licence spectrum



most open

least open

Commonly used are 7 CC licences (combination of conditions)

Most open: **CC0** (public domain waiver)

Least open: „all rights reserved“ (copyright owner hold all rights for own use)

- **CC-BY-NC-ND**: share only, credits required, non commercial use, no modification
- **CC BY-NC**: credits required, allows to share and remix, non-commercial only
- **CC BY-SA**: credits required, allows to share and remix, same legal conditions
- **CC BY 4.0** (Attribution 4.0 International): latest version of CC licences, applicable to most jurisdictions: allows to
 - to copy and redistribute the material in any medium or format,
 - Remix, transform, and build upon the material for any purpose, even commercially.

Norwegian Licence for Open Government Data (NLOD)

- Developed in parallel with CC licences.
- Refers to Norwegian law.
- Recommended for Norwegian public data.
- Latest published version (landing page):
<https://data.norge.no/nlod/en>
- Latest version compatible with, for practical purposes identical with, CC-BY 4.0.

The full slide deck may be downloaded from:

<http://www.dataone.org/education-modules>

Suggested citation:

DataONE Education Module: Metadata. DataONE. Retrieved

Nov12, 2016. From

http://www.dataone.org/sites/all/documents/L07_Metadata.pptx

Copyright license information:



No rights reserved; you may enhance and reuse for your own purposes. We do ask that you provide appropriate citation and attribution to DataONE.

Licence Metadata

- Depends on metadata schema.
- Use controlled vocabulary:
<https://spdx.org/licenses/>
- State PID of vocabulary used, PID of term if available
- Make sure to include metadata of entities involved in creating data for attribution, including PID.
- For DataCite, only “Creators” receive attribution.

Data Policies, WMO Global Atmosphere Watch

Example

“For scientific purposes, access to GAW data is unlimited and provided without charge. By their use you accept that an offer of co-authorship will be made through personal contact with the data providers or owners whenever substantial use is made of their data. In all cases, an acknowledgment must be made to the data providers or owners and to the data centre when these data are used within a publication.”

- “Fair-use” data policy
- Grey-zone “substantial use”: co-authorship if article wouldn’t be possible without that data
- Don’t underestimate the value of and the work needed for good data.
- Data providers depend on attribution!!!
- In this case, it is always a good idea to contact data providers to reach agreement. Data providers often have additional information despite metadata.

How to Cite Data

Similar to citing a published article or book

- Provide information necessary to identify and locate the work cited

Broadly-applicable data citation Standards have not yet been established; use standards adopted by relevant academic journal, data repository, or professional organization

- ❑ Data needs to be identified by persistent identifier (PID)
- ❑ Many journals require data used in article to be accessible by PID / **DOI**.
- ❑ Use repository that issues DOI.
- ❑ DataCite example:
Creator (PublicationYear). Title. Version. Publisher. ResourceType.
Identifier

What are examples of Persistent Identifiers?

A **persistent identifier** should be included in the citation:

- [DOI \(Digital Object Identifier\)](#)
 - Globally unique, alphanumeric string assigned by a registration agency to identify content and provide a persistent link to its location.
 - May be assigned to any item of intellectual property that is defined by structured metadata
 - Examples: 10.1234/NP5678, 10.5678/ISBN-0-7645-4889-4; 10.2224/2004-10-ISO-DOI
- Researcher identifier: [ORCID](#) (Open Researcher & Contributor ID)
 - Central registry of unique identifiers for individual researchers to address author name ambiguity
 - Transparent linking mechanism between ORCID and other author ID schemes
- [Research Organization Registry \(ROR\)](#)
- [Persistent Identifiers for eResearch](#) (ePIC)

Several Uses of PIDs

Primary identifiers (DOIs, or other PIDs):

- Identifies all parts of a dataset
- Granularity homogeneous and fixed per repository.
- Basis for data use tracking.
- Granularity determines properties possible to resolve in data use tracking (platform, PI, funding agency, framework, ...).

Data collection identifiers:

- Identifying a collection of data resources or derived products.
- Facilitates easy way of quoting data.
- Linking back to original data items contained in collection. Follows [RDA Recommendation on Research Data Collections](#). Can be resolved for data use tracking.

Examples of information needed in a citation

Author/Principal Investigator/Data Creator

Release Date/Year of Publication – year of release, for a completed dataset

Title of Data Source – formal title of the dataset

Version/Edition Number – the version of the dataset used in the study

Format of the Data – physical format of the data

3rd Party Data Producer – refers to data accessed from a 3rd party repository

Archive and/or Distributor – the location that holds the dataset

- ☐ A well-chosen repository creates the citation metadata for you (from the metadata you provided)

DataCite: Metrics on Data Use

DataCite Statistics Support

Registrations by Members Registrations by Clients Registrations by Prefixes **Resolutions by Month**

March 2019

#	Prefix	Total attempted	Successful	Failed	Total unique DOIs	Unique DOI: successes	Unique DOI: failures	Top 10 DOIs: successes	Top 10 DOIs: failures
1	10.18754 ETHZ.HOPEPSY	197	196	1	112	111	1	1. 10.18754/JFP59.5 meta (15) 2. 10.18754/JFP58.9 meta (7) 3. 10.18754/JFP57.13 meta (6) 4. 10.18754/JFP58.2 meta (5) 5. 10.18754/JFP57.6 meta (4) 6. 10.18754/JFP57.7 meta (4) 7. 10.18754/JFP59.3 meta (4) 8. 10.18754/JFP59.4 meta (4) 9. 10.18754/JFP57.14 meta (4) 10. 10.18754/JFP55.2 meta (3)	1. 10.18754/JFP56.5% 20HTTPS://DOAJ.ORG/ARTICLE/6316F680AF384EDF959B813212D943D2 meta (1)
2	10.25557 RADS.IGPP	593	67	526	365	45	320	1. 10.25557/0031-2991.2018.01.77-89 meta (9) 2. 10.25557/0031-2991.2018.02.4-10 meta (3) 3. 10.25557/0031-2991.2018.02.46-52 meta (3) 4. 10.25557/0031-2991.2018.02.39-45 meta (3)	1. 10.25557/0031-2991.2018.04.277-280 meta (10) 2. 10.25557/2310-043.52018.04.90-96 meta (9) 3. 10.25557/2073-799.8.2018.07.30-37 meta (9) 4. 10.25557/2073-799

Currently:

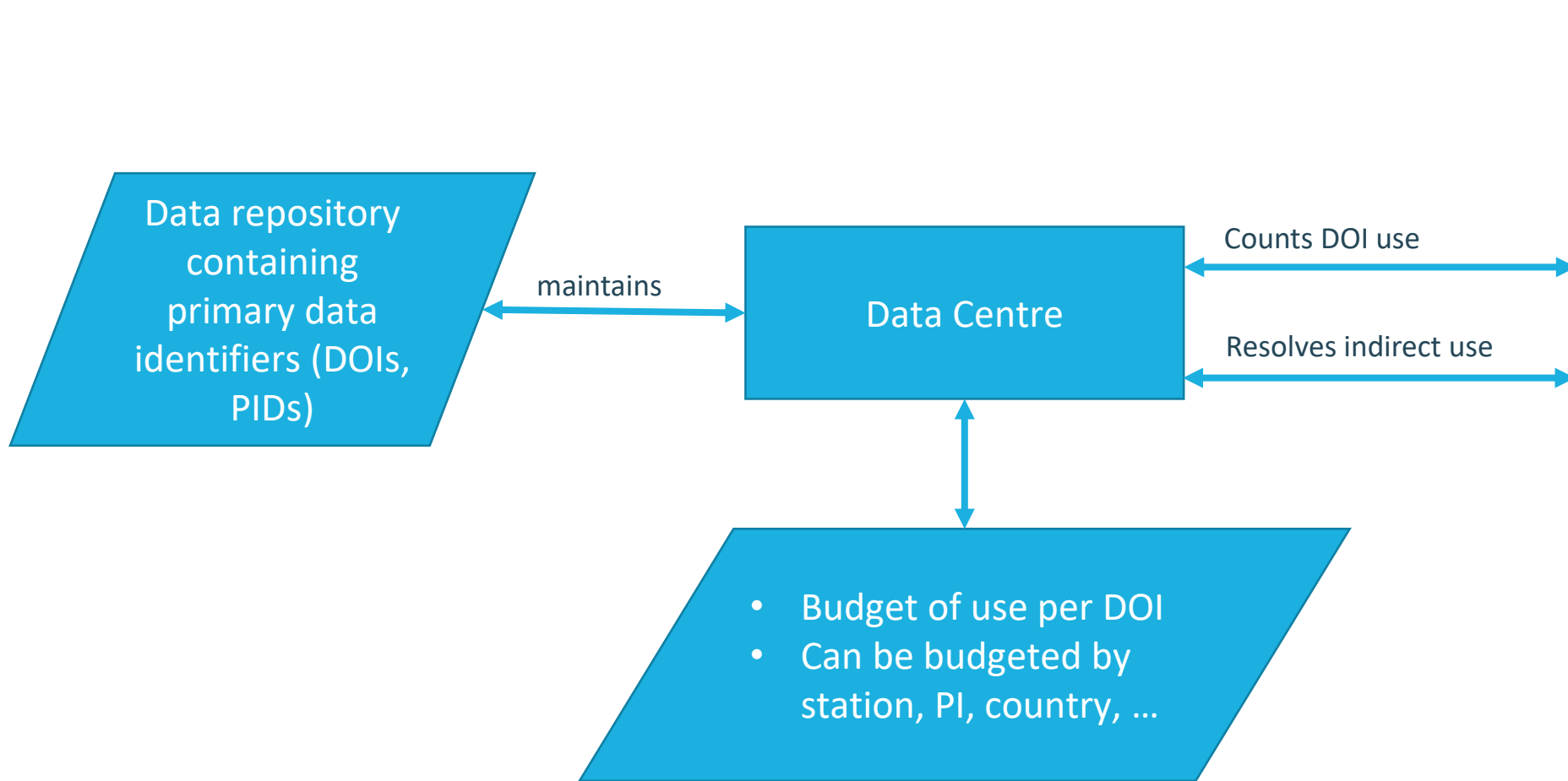
- Statistics how often DOIs were resolved

Future:

- Statistics by author, funding agency, ...
- Accessible by API

- ☐ Only counts DOI resolutions.
- ☐ Statistics on data citations still pending

Metrics on Data Use, Future



Which Repository to Choose

➤ Data Type

- **Primary Data:** original dataset that hasn't been published before. Requires domain specific metadata. Often domain specific repository.
- **Secondary Data:** dataset assembled / produced from other dataset(s). Requires provenance to be included. Can be generic repository.

➤ Domain:

- Each domain has domain specific metadata (discovery, use)
- Domain specific repositories have expertise in “their” vocabulary, metadata standards, observation methods, quality control

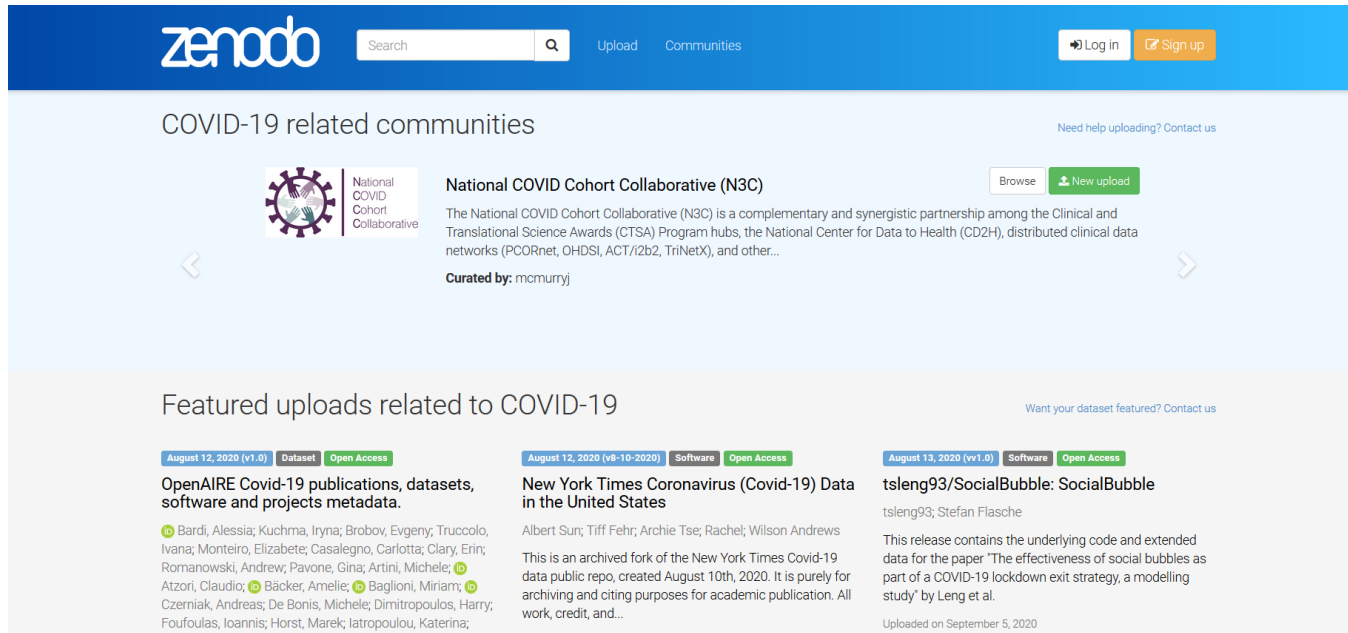
- ☐ Choosing the right repository solves issues for you.
- ☐ Domain specific repo has better FAIRness.

Generic Data Publishers: Figshare

The screenshot shows the Figshare website interface. At the top, there is a 'figshare' logo, a 'Browse' button, a search bar with the text 'Search on figshare...', and 'Log in' and 'Sign up' links. Below the header, the 'Earth and Environmental Sciences' category is selected, with a '+ Follow' button. A list of sub-categories is displayed, including Atmospheric Sciences, Biological Oceanography, Chemical Oceanography, Climate Science, Conservation and Biodiversity, Earth Sciences not elsewhere classified, Ecology, Environmental Management, Environmental Monitoring, Environmental Science, Environmental Sciences not elsewhere classified, Geology, Geophysics, Hydrogeology, Hydrology, Invasive Species Ecology, Landscape Ecology, Marine Geoscience, Natural Hazards, Oceanography, Palaeontology (incl. Palynology), Physical Oceanography, Soil Science, Solid Earth Sciences, and Wildlife and Habitat Management. Below the category list, there are tabs for 'ALL' and 'SEARCH', and a 'sort Posted date' dropdown. A grid of eight research publications is shown, each with a thumbnail image and a title. The publications are: 1. 'Collection: BF3-OEt2-Promoted Propargyl Alcohol Rearrangement[1,5]-Hydri...' by Shuang Zhao, 20/05/2019. 2. 'BF3-OEt2-Promoted Propargyl Alcohol Rearrangement[1,5]-Hydri...' by Shuang Zhao, 20/05/2019. 3. 'Improving Spectral Clustering Using the Asymptotic Value of the Normal...' by David P. Hofmeyr, 20/05/2019. 4. 'Collection: Neutral Heteroleptic Lanthanide Complexes for Unravell...' by Karine Baudet, 20/05/2019. 5. 'Neutral Heteroleptic Lanthanide Complexes for Unravelling Host-Gu...' by Karine Baudet, 20/05/2019. 6. 'Conosolvency of Elastin-like Polypeptides in Water/Alcohol Solu...' by Carolyn E. Mills, 20/05/2019. 7. 'Collection: Conosolvency of Elastin-like Polypeptides in Water/A...' by Carolyn E. Mills, 20/05/2019. 8. 'Collection: Electrodisolution Inhibition of Gold Nanorods with Ox...' by Charlotte Flatebo, 20/05/2019.

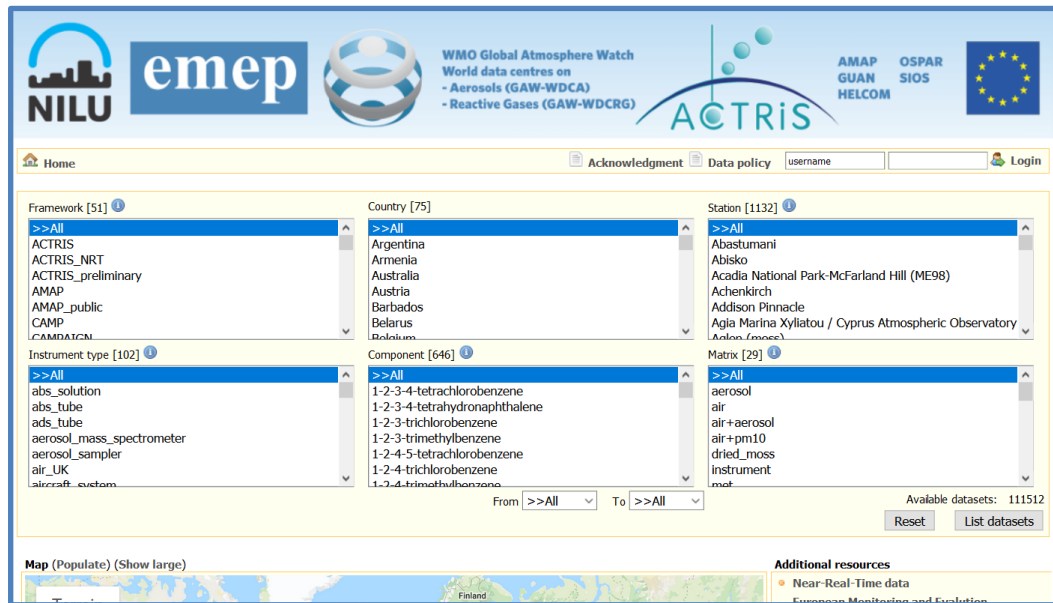
- Commercial
- Generic
- Archiving
- Identification (DOI)
- Semantic search (limits re-usability)
- Suited for secondary datasets

Generic Data Publishers: Zenodo



- <https://zenodo.org/>
- Operated by CERN.
- Recommended by EU commission.
- Generic
- Archiving
- Identification (DOI)
- Semantic search (limits re-usability).
- Suited for secondary datasets.

Domain Archive: Atmospheric Observations



WMO Global Atmosphere Watch (GAW) topic data centres:

- Precipitation chemistry
- Ozone & UV
- Greenhouse Gases
- Reactive gases
- Aerosol
- Radiation
- Remote Sensing

- **Better Re-Usability**
- Archiving
- Identification (DOI)
- Structured search, high re-usability, specially for expert user
- Easy to narrow search exactly to targeted data.
- NorDataNet offers topical archives optimised for data types, their (use) metadata, and their user community

Domain Archive: NorDataNet Archives

Norwegian Marine Data Centre

<https://www.nmdc.no>

Bokmål English

Søk



Arrangement Om NMDC Nyheter Datapolitikk Datasets

Publisert 11.05.2020 - Oppdatert 11.05.2020

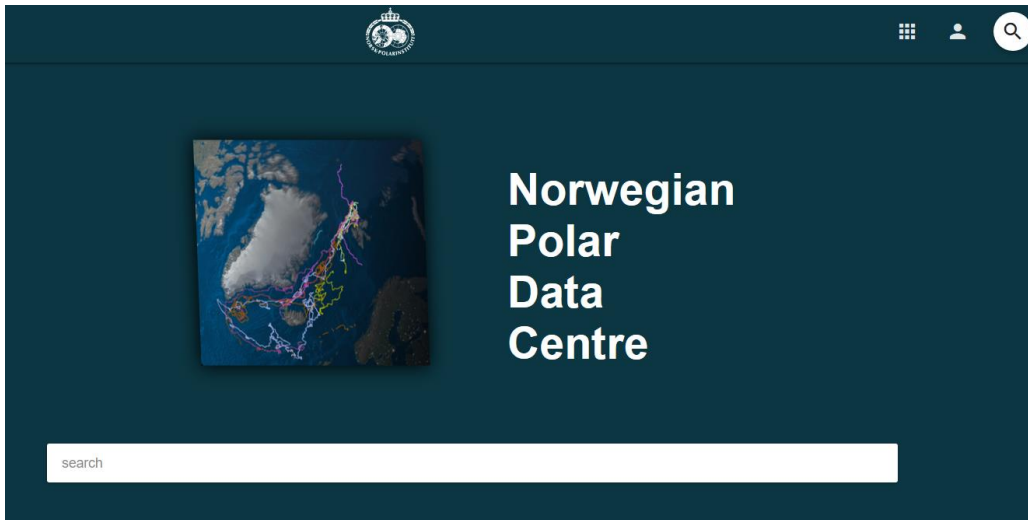
Brakerundersøkelse NMDC

Forskningsrådet har bestilt en brukerundersøkelse i forbindelse med evalueringsprosessen av «Nasjonal satsning for forskningsinfrastruktur». På Hi er Norwegian Marine Data Centre (NMDC) et av infrastrukturprosjektene som har fått støtte fra Forskningsrådet og som vi nå ønsker å gjennomføre en brukerundersøkelse av.

Les mer

Datasets

Her finner du datasett fra alle samarbeidspartnere i NMDC. Det er mulig å søke etter datasett på tekst, posisjon og tidspunkt.



Norwegian Polar Data Centre

search

NorDataNet Nansen Legacy Tools

<https://www.nordatanet.no/cgi-bin/darwinsheet/?setup=aen>

Nansen Legacy Excel Template Generator

Check the boxes next to the terms you want to include in your template and click the **Create template** button.

[Darwin Core Terms: A quick reference guide](#)

[Back to main page](#)

Create template

REQUIRED

- ☒ Event Date
- ☒ Event ID
- ☒ Event Remarks
- ☒ Event Time
- ☒ Parent Event ID
- ☒ PI email
- ☒ PI institution
- ☒ Principal investigator (PI)
- ☒ Recorded By
- ☒ Sample Location
- ☒ Sample Type
- ☒ Sampling Protocol

EVENT

- ☐ Bottle Number
- ☐ End Date
- ☐ Gear Type

RECOMMENDED

- ☐ Bottom Depth (m)
- ☐ Cruise number
- ☐ Decimal Latitude
- ☐ Decimal Longitude
- ☐ Station Name

STORAGE

- ☐ Fixative
- ☐ Storage temp


DESCRIPTION

- ☐ Colour
- ☐ Description
- ☐ Filtered volume (mL)
- ☐ Sample volume (mL)
- ☐ Smell

TRAWL OR NET OR TRAP

Validation info:

Smell



Arctic Data Centre

Search

HOME FIND DATA SUPPORT ABOUT NEWS LOGIN

Find data

Collections allows the user to search in subsets of the existing catalogue. The collections are primarily old data management services that have been incorporated in this. ADC is the full collection of this service, NMAP is the [NORMAP](#) e-infrastructure collection and CC is the [CryoClim](#) collection.

- [Full text search](#)

Combine search keywords: e.g "radiosonde AND humidity"

Start Date: yyyy-mm-dd

End Date: yyyy-mm-dd

Data Collection Period

Bounding Box

top left longitude

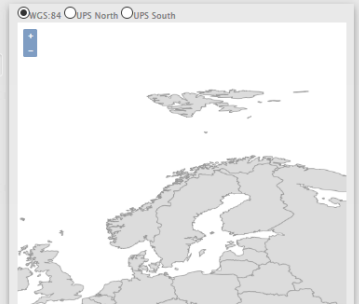
top left latitude

bottom right longitude

bottom right latitude

Institutions

Click on the map to draw a selection box. Boxes in UPS are transformed into 4-edge polygons



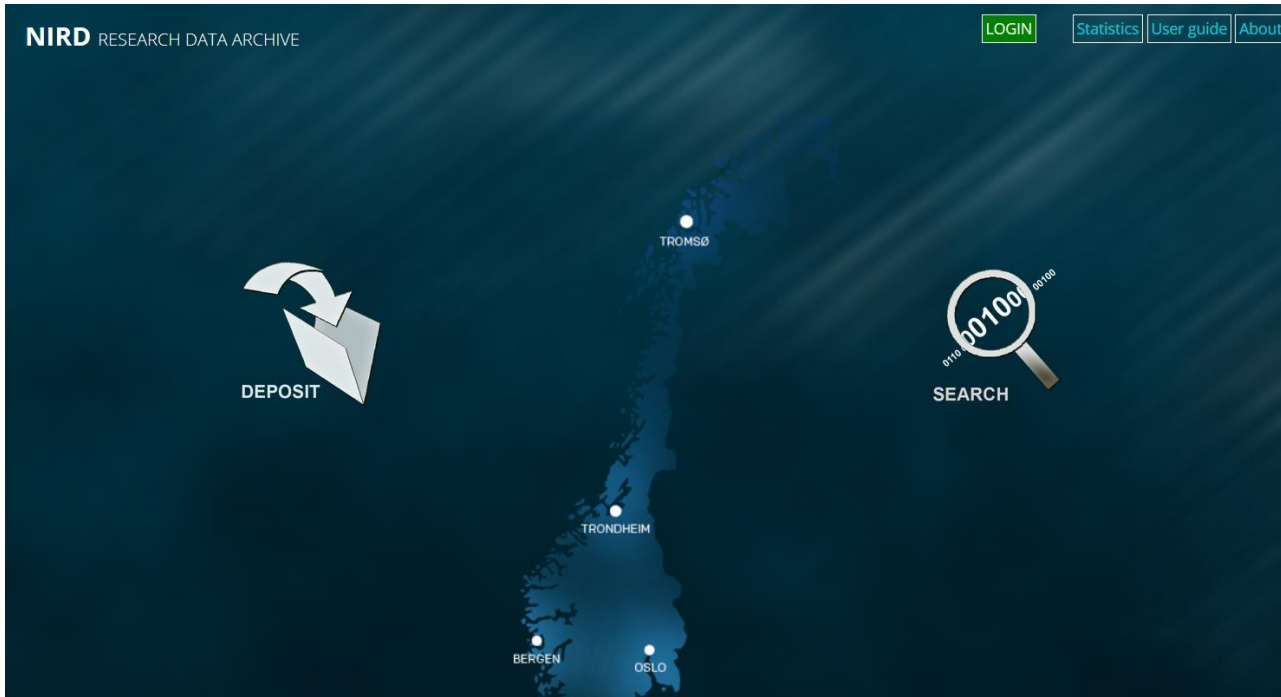
Arctic Data Centre

<https://adc.met.no/>

Norwegian Polar Data Centre

<https://data.npolar.no/home/>

NIRD Research Data Arvive



- <https://archive.sigma2.no/>
- General purpose archive
- Identification (DOI)
- Suited for large datasets as generated by geoscientific models
- Well-suited for model data.
- Recommended by UiO.
- Metadata entered manually
- Agnostic to data file content.

