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Share, archive and reuse research data

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University Library

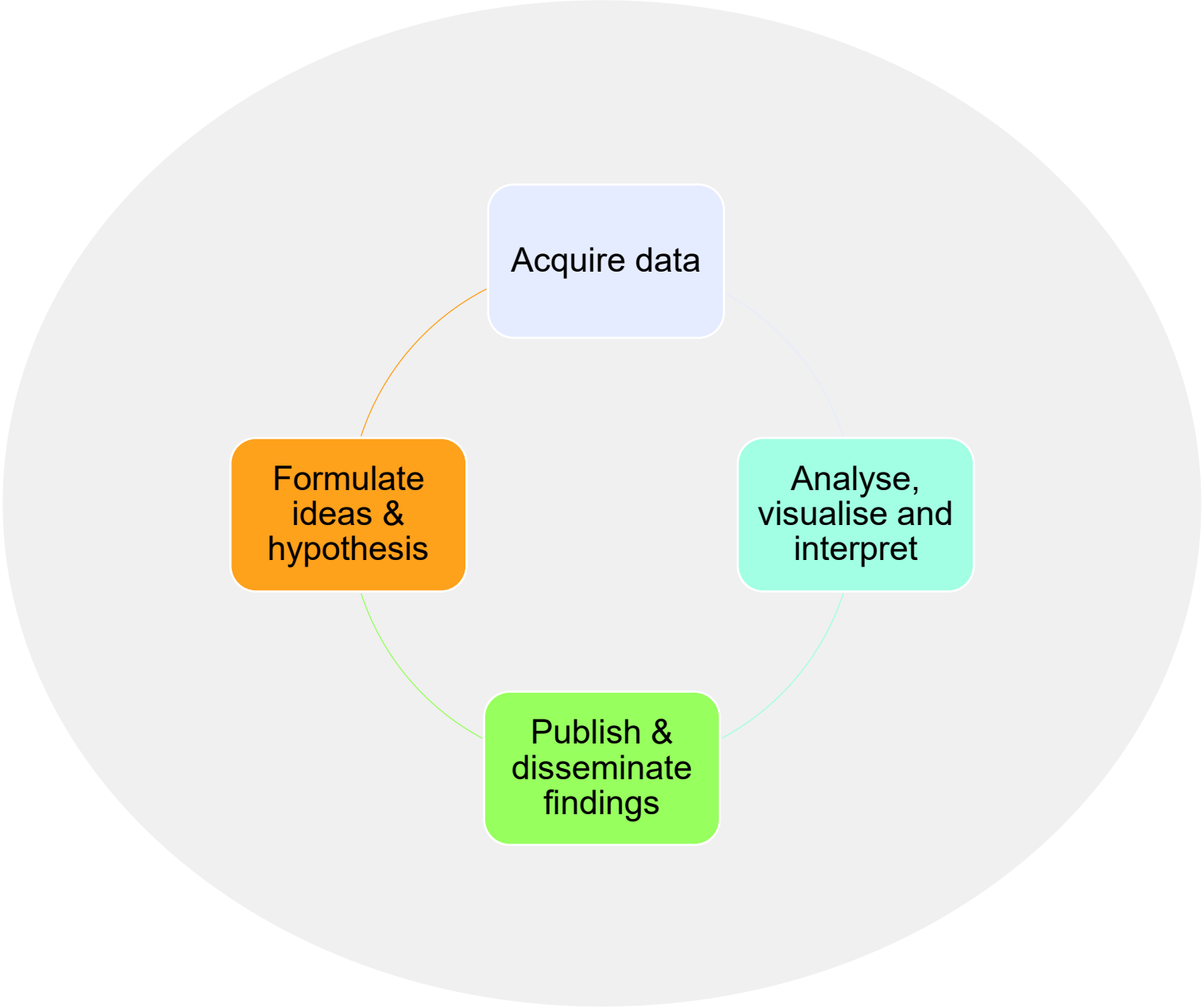
April 17th 2024, RDM module 2.


Foto: UiO Anders Lien

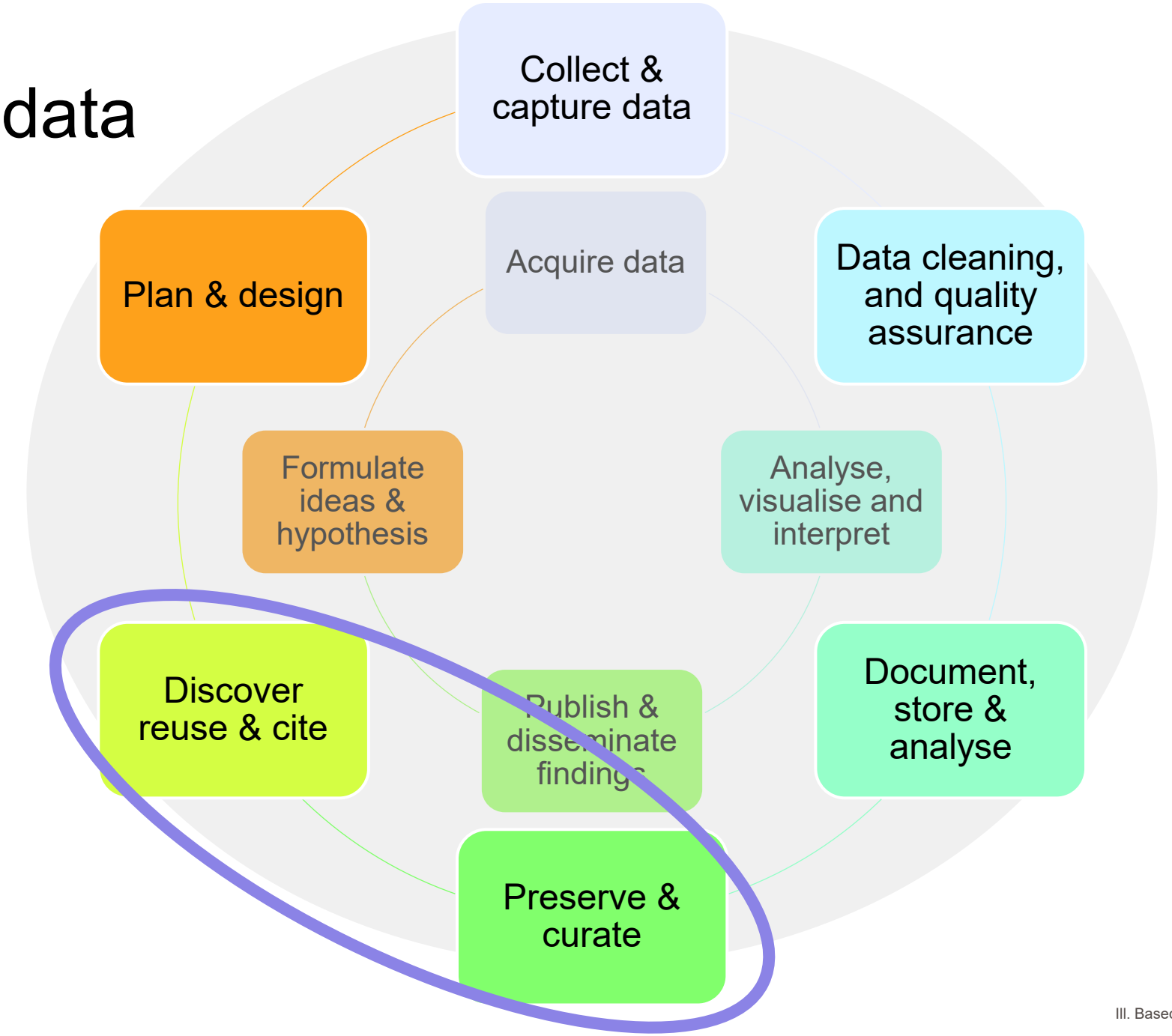
Agenda:

- Where to find (and archive) data?
- Searching for data
- Findability and interoperability
- Different licenses
- Archiving data
- Data citation

Research


Acquire data
Analyse, visualise and interpret
Publish & disseminate findings
Formulate ideas & hypothesis

Research data



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Ill. Based on Corti et. Al, 2014 adapted by L. Kvale 2023

Activity

1: What are your data?

2: What experience do you have reusing and/or archiving data?

3: What are your reasons to share data?

Where to find (and archive) data?

Domain-specific data repositories

HEPData

CLARINO

DRYAD

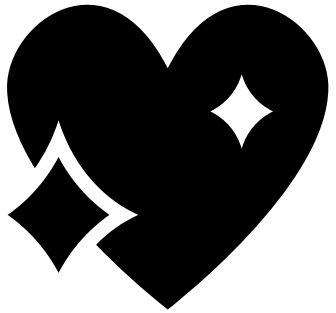
General-purpose data repositories

Archiving of Code

+

zenodo

=



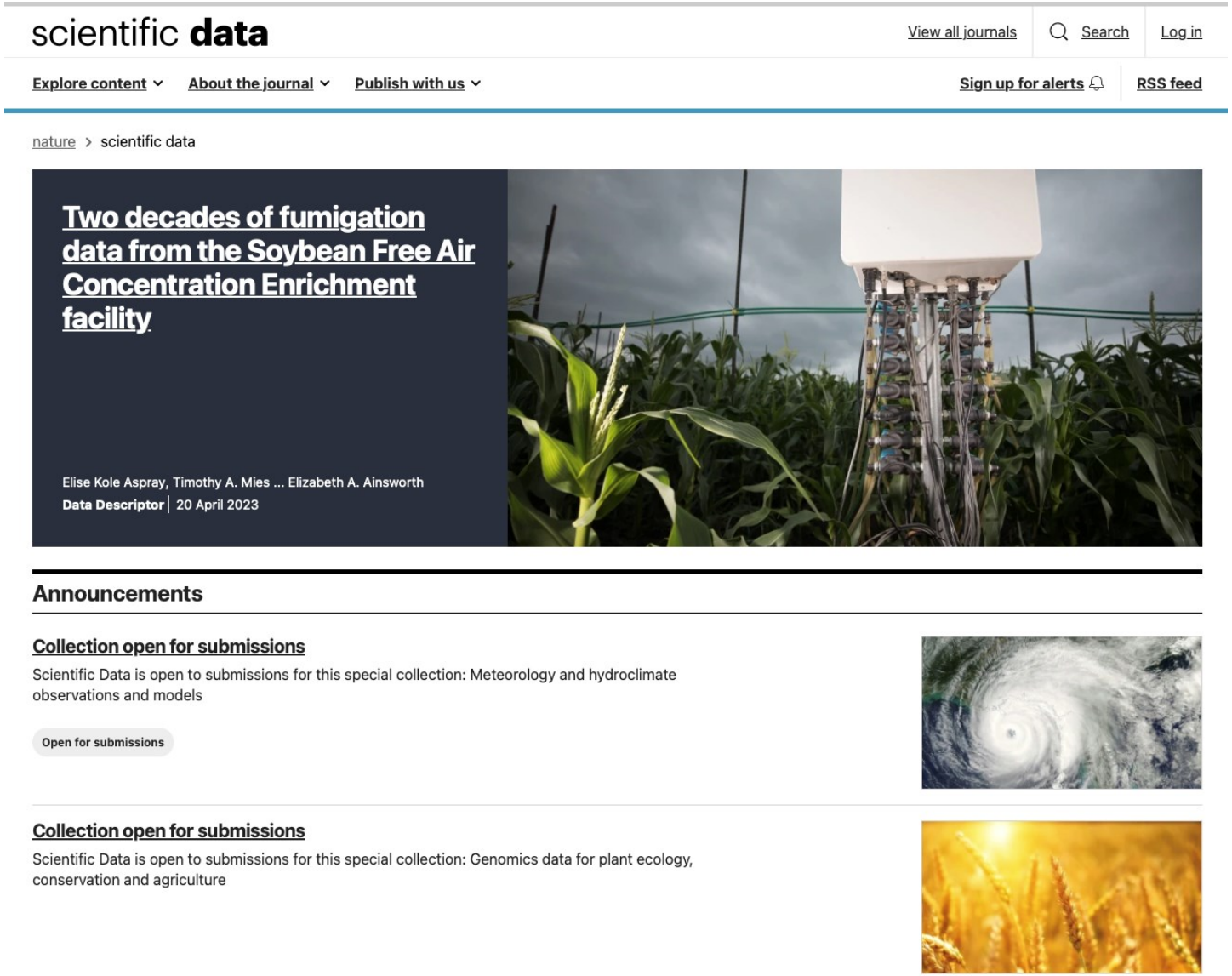
https://docs.github.com/en/repositories/archiving-a-github-repository/referencing-and-citing-content

National or institutional data archives

DataverseNO

Sikt
NORSK SENTER FOR FORSKNINGSDATA

NIRD RESEARCH DATA ARCHIVE



Data journals

Data in Brief
Open access

Geoscience Data Journal
Open Access
RMetS

Research Data Journal for the Humanities and Social Sciences
BRILL | cessda

https://www.nature.com/sdata/
https://www.sciencedirect.com/journal/data-in-brief
https://rmets.onlinelibrary.wiley.com/journal/20496060
https://brill.com/view/journals/rdj/rdj-overview.xml

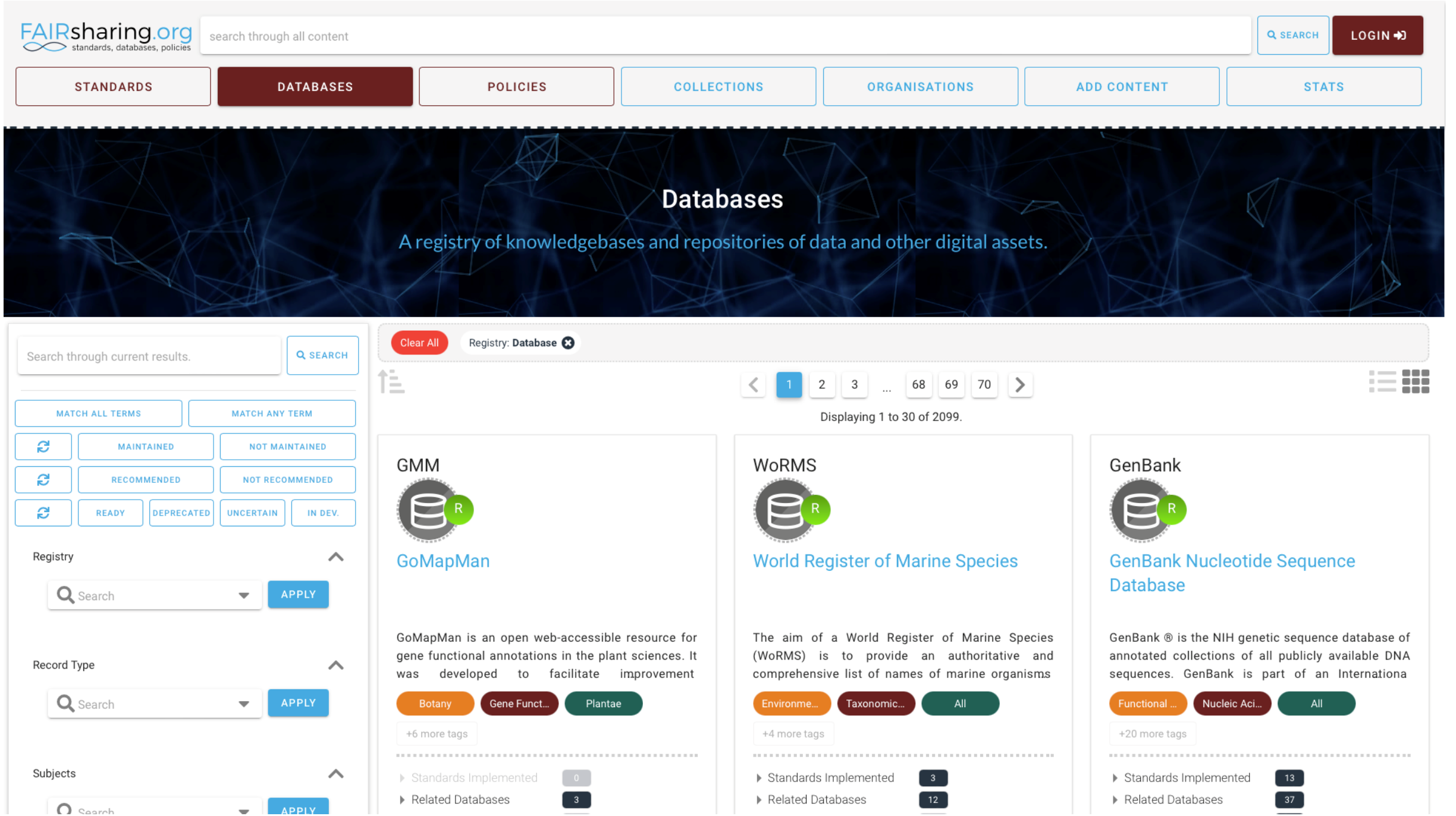
Finding data repositories – re3data.org

https://www.re3data.org/

Browse by subject

Graphical Text

click to zoom into subjects or to select a bottommost subject in the hierachy as filter for the re3data search page
shift + click on a top subject to select it as filter



https://fairsharing.org/search?fairsharingRegistry=Database

Activity

1: Browse *re3data.org* and/or *FAIRsharing.org* and select a relevant repository.

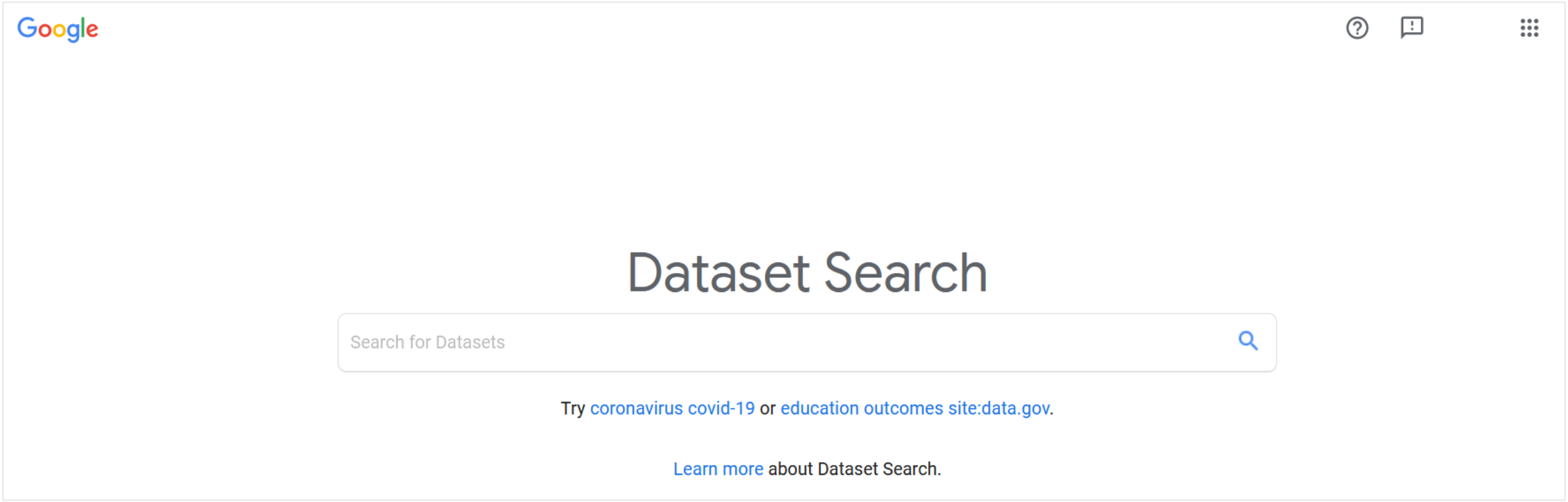
2: How would you assess the quality and sustainability of this repository?

3: Have you ever published or thought about publishing a data paper?

https://www.re3data.org/
https://fairsharing.org/

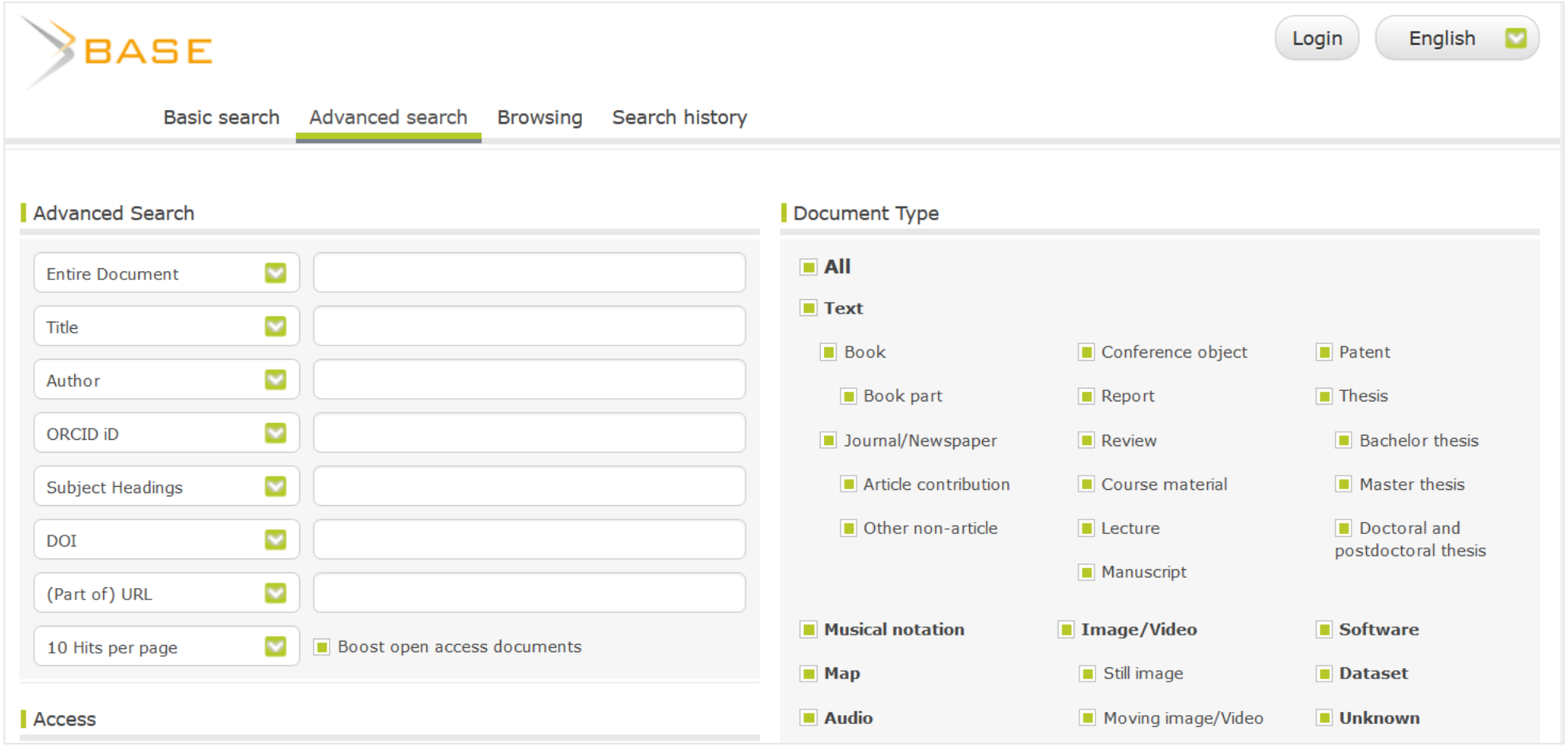
Searching for data

Search engines



https://datasetsearch.research.google.com/

Search engines



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https://www.base-search.net/Search/Advanced

Activity

1: Which key words would you choose to find data in your field?

2: Test the BASE dataset search with your keywords

3: Test the *advanced search functions* work (datatypes and formats)

4: Select one dataset to assess

https://www.base-search.net/Search/Advanced
https://www.phdontrack.net/review-and-write/search-techniques/#toc8

Dataset assessment

Documentation and quality:

- **What** information was collected? (content)
- **Who** collected the data and when? (provenience)
- **Why** were the data created? (purpose)
- **How** were the data **collected**? (methodology)
- **How** were the data **processed and** "**cleaned**", are there any **missing data**?
- What **quality assurance procedures** were used?

Access the data:

- Is it free? Do I need to register? Is the access restricted?
- Do I need to apply to get access?

Data format:

- Is the format of the files correct for your analyses?
- Do you need to transform the files or the dataset?

https://www.cessda.eu/Training/Training-Resources/Library/Data-Management-Expert-Guide/7.-Discover/The-process-of-data-discovery

Findability and Interoperability

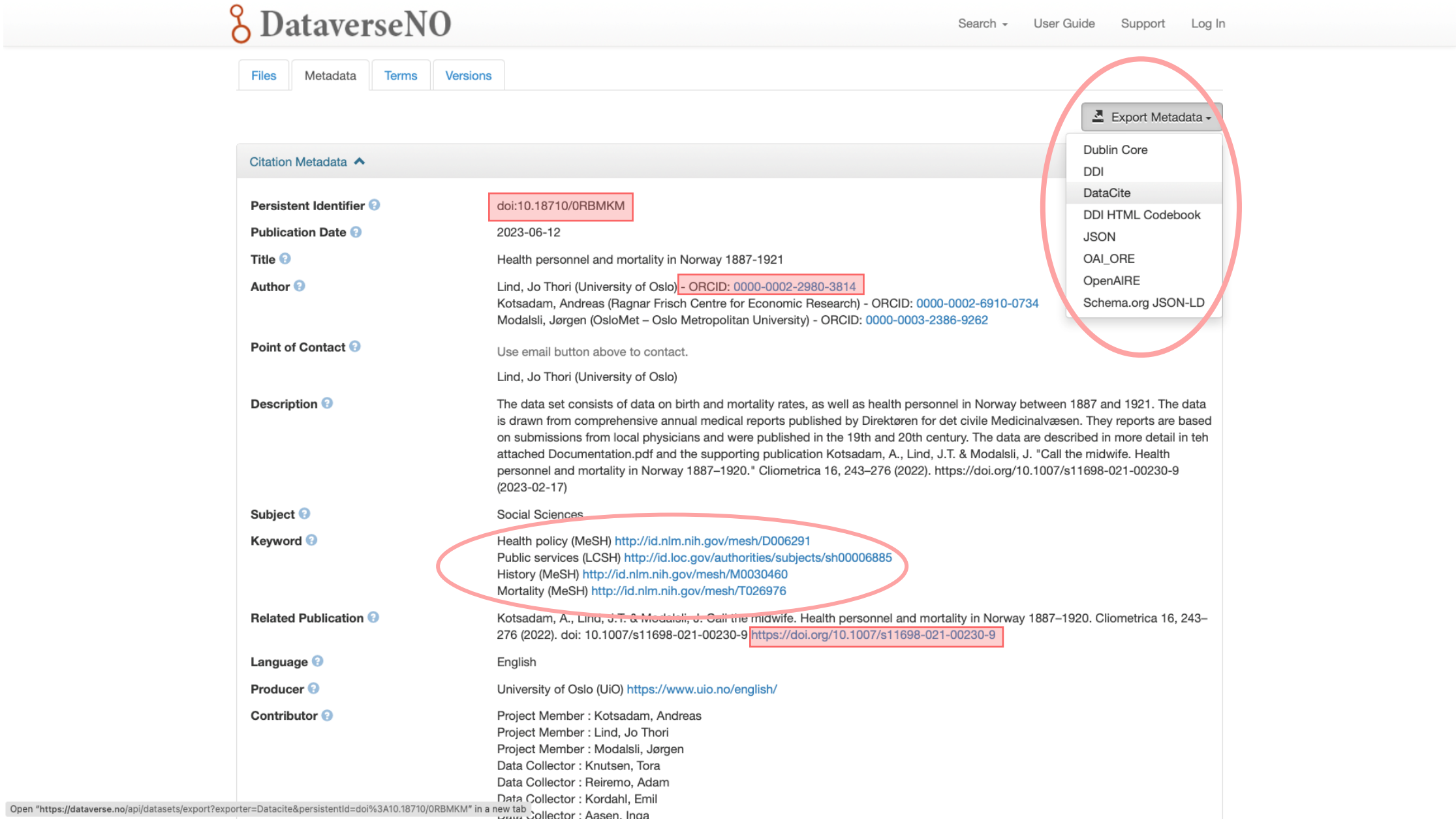
Metadata
File name: 2019-10-11_ScreenShot.png
Source: https://kart.finn.no
Year: 1937
Location: Oslo, Blindern
Location_GPS: 59.93760º N, 10.72122º Ø
59° 56′ 15.4″N, 10° 43′ 16.4″Ø
Altitude: 76m

METADATA

- "**Data about data**"
  - Descriptive metadata
  - Administrative metadata
  - Structural metadata
- Descriptions that facilitate **cataloguing data and data discovery**
- Intended **for human and machine-reading**
- **Help to explain** the purpose, origin, time, location, creator(s), term of use, and access conditions of research data
- Metadata standards are commonly **defined by data repositories**.
- Your discipline might have **standards for metadata**, if not **use a general metadata** standard for optimized **interoperability.**

https://www.niso.org/publications/understanding-metadata-2017

PIDs and metadata harvesting



PIDs and metadata harvesting

This XML file does not appear to have any style information associated with it. The document tree is shown below.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  </titles>
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    reports published by Direktøren for det civile Medicinalvæsen. They reports are based on submissions from local physicians and were published in the 19th and 20th century. The data are described in more detail in teh
    attached Documentation.pdf and the supporting publication Kotsadam, A., Lind, J.T. & Modalsli, J. "Call the midwife. Health personnel and mortality in Norway 1887–1920." Cliometrica 16, 243–276 (2022).
    https://doi.org/10.1007/s11698-021-00230-9</description>
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    </contributor>
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</resource>
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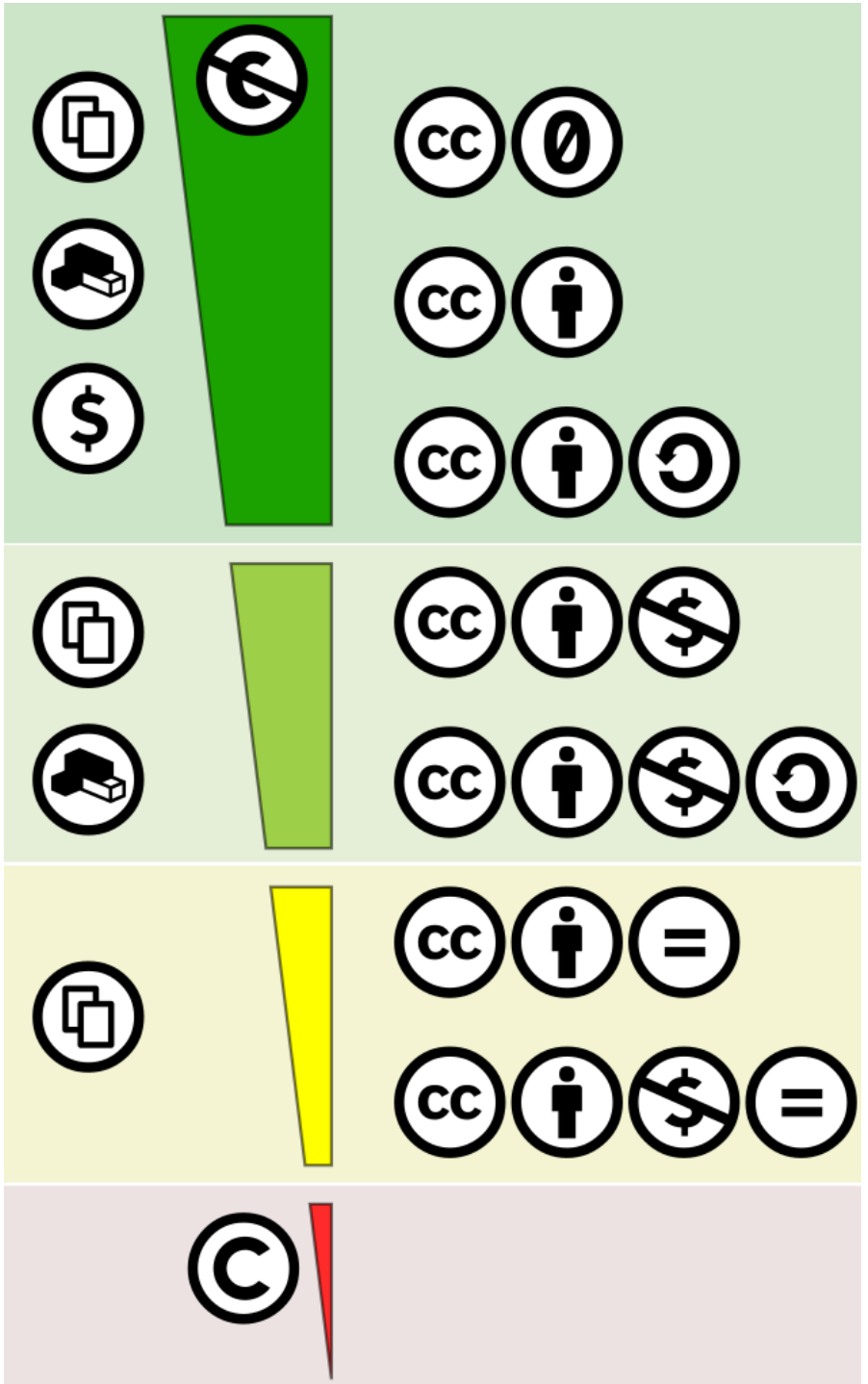
Different Licenses

creative commons



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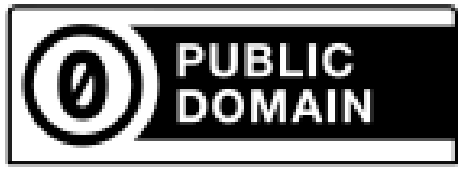
"Creative Commons License Spectrum" by Shaddim (CC BY)



- is a public dedication tool, which allows creators to give up their copyright and put their works into the worldwide public domain.

DataverseNO

Search ▾ User Guide Support Log In

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University of Oslo

(University of Oslo)

DataverseNO > University of Oslo >

Replication Data for: Devonian–Carboniferous extension and Eurekan inversion along an inherited WNW–ESE-striking fault system in Billefjorden, Svalbard

Version 1.0

Koehl, Jean-Baptiste; Allaart, Lis; Noormets, Riko, 2023, "Replication Data for: Devonian–Carboniferous extension and Eurekan inversion along an inherited WNW–ESE-striking fault system in Billefjorden, Svalbard", https://doi.org/10.18710/UCRW4L, DataverseNO, V1

Cite Dataset ▾ Learn about Data Citation Standards.

Access Dataset ▾

Contact Owner | Share

Dataset Metrics

0 Downloads

Description	High-resolution version of the figures in the following manuscript: "Devonian–Carboniferous extension and Eurekan inversion along an inherited WNW–ESE-striking fault system in Billefjorden, Svalbard". High-resolution versions of the figures are necessary to identify individual structures presented and discussed in the text. (2022-10-21)
Subject	Earth and Environmental Sciences
Keyword	Fault, Devonian, Carboniferous, Svalbard, Billefjorden, Eurekan, Late- to post-Caledonian extension, Fold, Timanian Orogeny
Related Publication	Norwegian Journal of Geology, submitted for review.
License/Data Use Agreement	PUBLIC DOMAIN CC0 1.0

Files | Metadata | Terms | Versions

Dataset Terms ▲

License/Data Use Agreement

Our Community Norms as well as good scientific practices expect that proper credit is given via citation. Please use the data citation shown on the dataset page.

PUBLIC DOMAIN CC0 1.0

- Credit must be given to the creator

Veined octopus eating a crab

More details

Summary [edit]

Description	**English:** Veined Octopus - *Amphioctopus marginatus* eating a Crab.
Date	15 July 2009, 03:23:29
Source	Flickr
Author	Silke Baron

Licensing [edit]

File history

Click on a date/time to view the file as it appeared at that time.

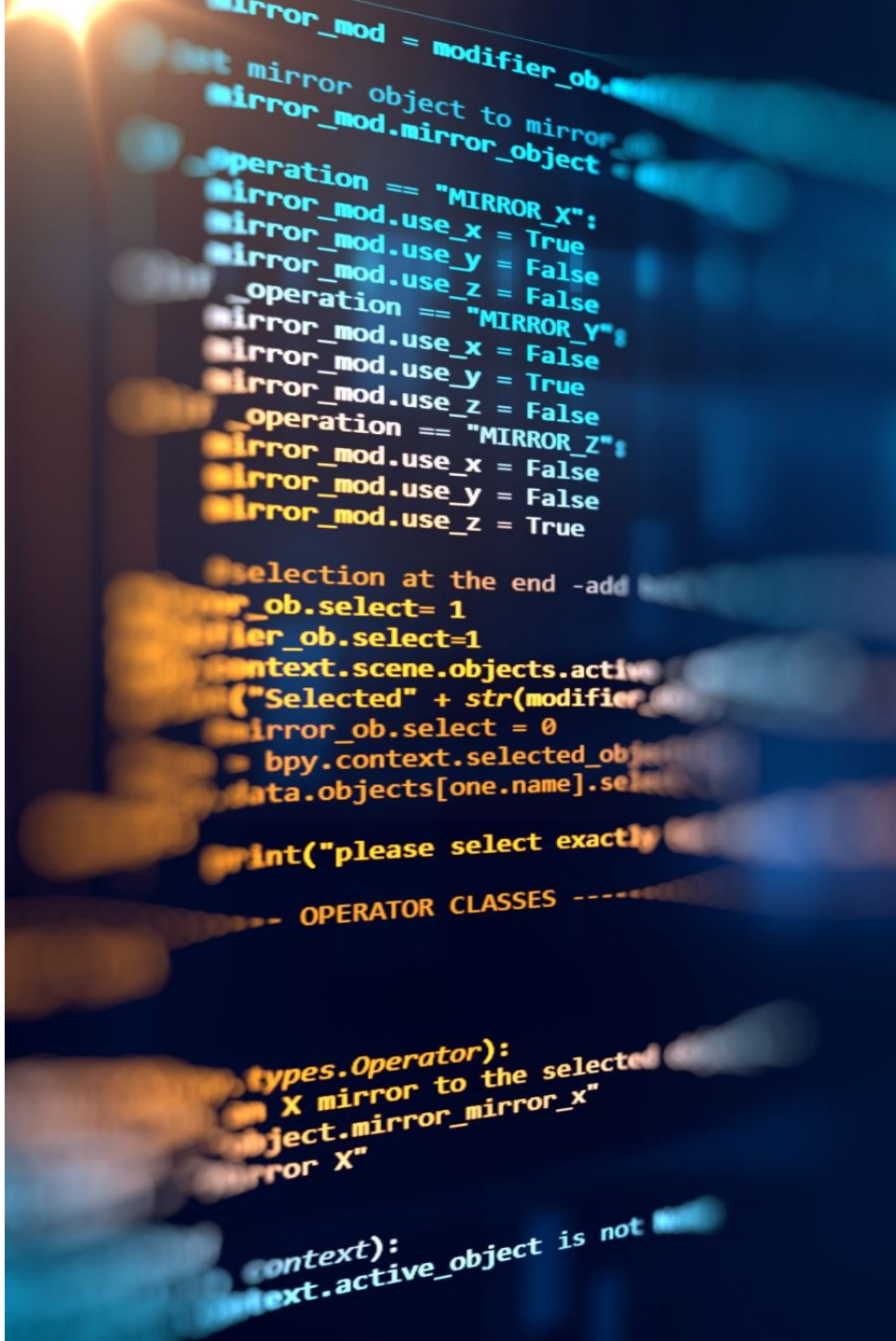
	Date/Time	Thumbnail	Dimensions	User	Comment
current	**11:41, 6 July 2010**		2,567 × 1,917 (1.69 MB)	Flickr upload bot (talk | contribs)	Uploaded from http://flickr.com/photo/37707866@N00/3776717505 using Flickr upload bot

Reusable code

In a project:

- Continue to use existing license.
- Look for the license in the readme-file.
- If you don't find a license, ask the maintainer.
- Follow community practices.

More information at The Turing Way:
https://book.the-turing-way.org/reproducible-research/licensing



Activity

1: Continue assessments of the dataset: are you allowed to use the data and how? (**license)**

2: Consider how would you license your data?

Test **Creative Commons Generator**: https://creativecommons.org/choose/?lang=en
Or **Choose a license**: https://choosealicense.com/

Choice of license

1. What is protected in the research data?
2. Does a collaboration or funding agreement dictate terms of licensing?
3. Will the repository dictate licensing terms?
4. Should the same licence apply to all the research data?
5. Is attribution necessary or desirable?
6. How will the licence be communicated?
7. Will derivatives and re-use be permitted?
8. Is commercial use envisaged?

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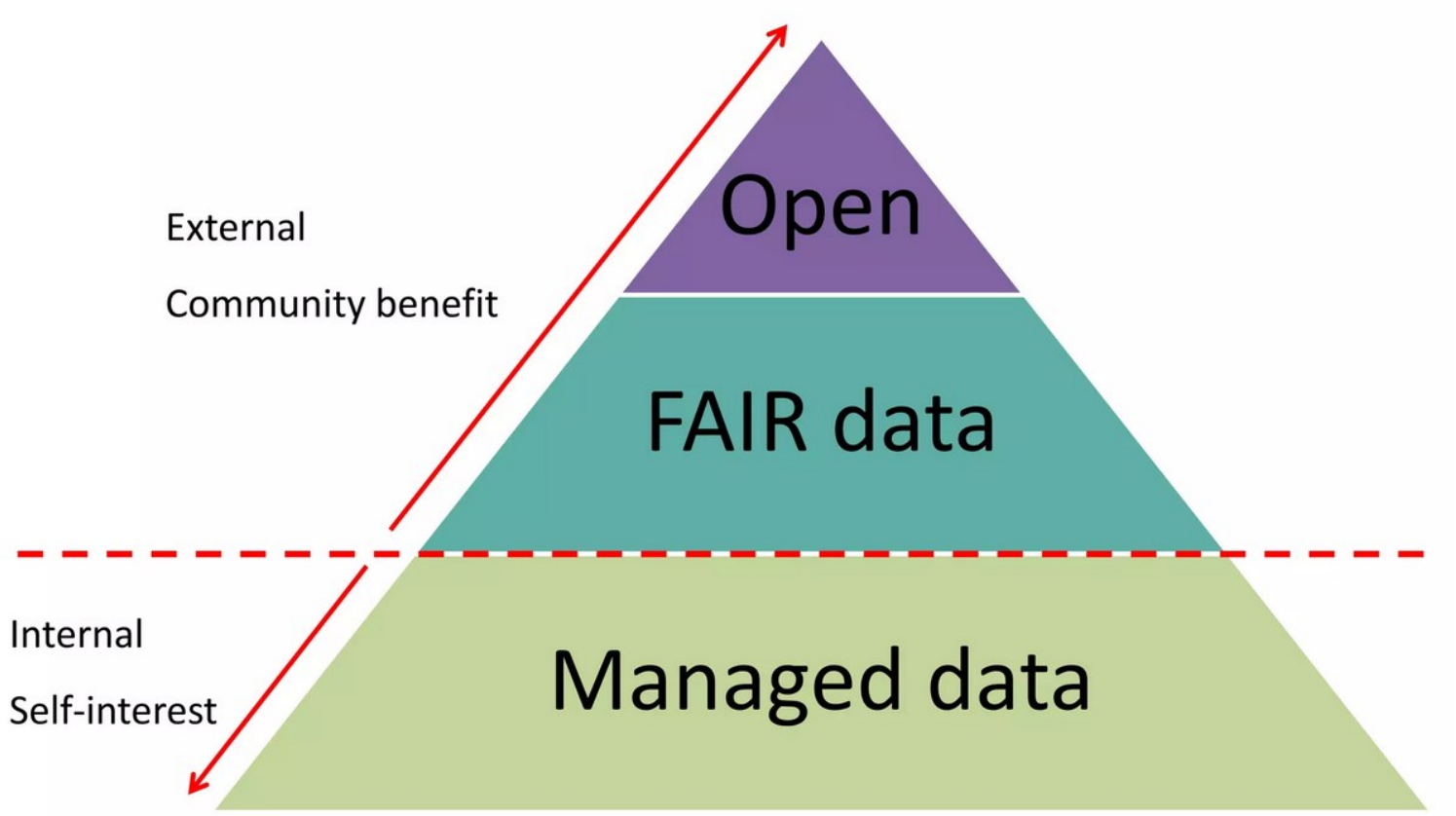
Source: 10.5281/zenodo.3332807

As **open** as possible, as **closed** as necessary



Source: https://www.slideshare.net/sjDCC/open-fair-data-and-rdm

Activity

1: Should the **data you work with** be openly available?

2: Does the data contain **personal or confidential data?**

3: Should the **metadata** be openly available?

Archiving data

Select a repository which…

- is **domain specific** if this exist in your field
- is **certified as a trusted** repository.
- supports **persistent identifiers**.
- offers **curation**.
- offers an **informative landing page with metadata**.
- attaches a **licence**.
- provide **usage statistics**.
- **matches your** specific data **needs** (formats, size, openness)
- **provides guidance** on how to cite deposited data.

https://www.ub.uio.no/english/writing-publishing/data-archiving/selecting-archive.html

What should the documentation contain?

GENERAL INFORMATION

SHARING/ACCESS INFORMATION

DATA & FILE OVERVIEW

METHODOLOGICAL INFORMATION

DATA-SPECIFIC INFORMATION

README.txt-file

DataverseNO-template: https://zenodo.org/records/7828073 (v.2.3)
Deposit guide: https://site.uit.no/dataverseno/deposit/prepare/#readmefile

DataverseNO

- **National** archive for **general** research data from **all disciplines**
- Is for **Open data only,** DataverseNO can only be used for **green data**
- **UiO** has its own **collection**
- Data are **curated** by the UiO Library
- **Deposit guide**: https://site.uit.no/dataverseno/deposit/prepare/

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https://dataverse.no/dataverse/uio

University of Oslo

(University of Oslo)

Dataverses (0)

Datasets (47)

Files (1,447)

Publication Year

2024 (5)
2023 (21)
2022 (7)
2021 (7)
2020 (5)

More...

Subject

Earth and Environmental Sciences (26)
Medicine, Health and Life Sciences (8)
Social Sciences (8)
Arts and Humanities (7)
Physics (5)

More...

Keyword Term

Svalbard (11)

1 to 10 of 47 Results

Sort ▾

Effect of DOM quality and origin on uptake and accumulation of a lipid-soluble contaminant in a mucous-feeding ascidian (Ciona) compared to a cirri-trapping bivalve (Mytilus)

Feb 19, 2024

Schultze, Sabrina, 2024, "Effect of DOM quality and origin on uptake and accumulation of a lipid-soluble contaminant in a mucous-feeding ascidian (Ciona) compared to a cirri-trapping bivalve (Mytilus)", https://doi.org/10.18710/EFDUXJ, DataverseNO, V1

This is an experimental dataset within the field ecotoxicology. The target of the experiment was to find out whether terrestrial derived dissolved organic matter is a better contaminant vector for lipophilic contaminant to filter feeders than other types of dissolved organic matt...

Replication data for, "A multiple life history trait-based and time-resolved assessment of imidacloprid effects and recovery in the widely distributed collembolan Folsomia quadrioculata"

Feb 15, 2024

Sengupta, Sagnik, 2024, "Replication data for, "A multiple life history trait-based and time-resolved assessment of imidacloprid effects and recovery in the widely distributed collembolan Folsomia quadrioculata"", https://doi.org/10.18710/YH76VY, DataverseNO, V1

This data was collected as a part of the MULTICLIM project (https://www.mn.uio.no/ibv/english/research/sections/aqua/research-projects/144612/). In this study, we determined the sublethal effects of short-term imidacloprid exposure and post-exposure recovery in the collembolan Fo...

Replication Data for: Acoustic wave-induced stroboscopic optical mechanotyping of adherent cells

Feb 2, 2024

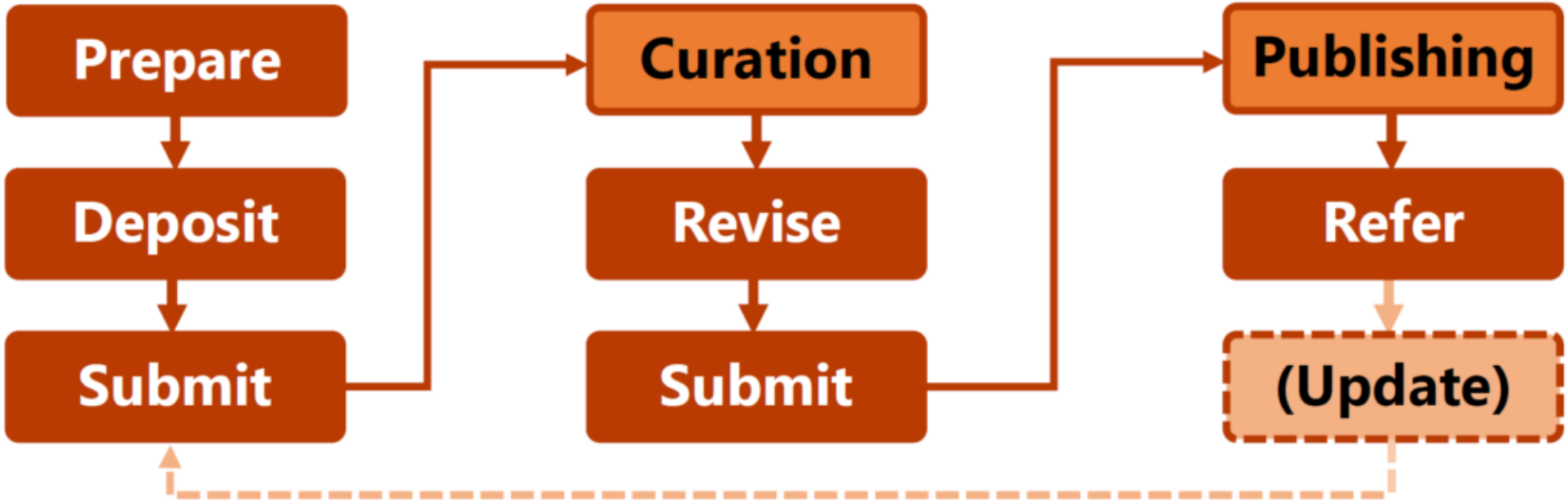
What is curation in DataverseNO?

= Checking if your dataset meets requirements of DataverseNO.

- You will be sent a curation report with recommendations for improvements.
- The curator assists in quality checking descriptions, documentation, metadata and formats so that the data can be available in the long-term and thereby also fulfills the FAIR principles.
- Curation does not involve peer review of the dataset's content.

https://www.ub.uio.no/english/writing-publishing/data-archiving/dataverse-uio.html

What is curation in DataverseNO?



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https://site.uit.no/dataverseno/deposit/

Data citation

As the Supplementary files and materials:

Data Availability Statement

Data can be found in the **supplementary files**.

Supplementary Materials

The following supporting information can be downloaded at: **https://www.mdpi.com/article/10.3390/bioengineering10070811/s1**, Code S1: Audio signal generation and manipulation Max/MSP patch—the standalone application can be downloaded at **https://doi.org/10.5281/zenodo.7747414** 4 June 2023; Code S2: Actin Analyzer, an image processing and feature extraction algorithm developed in Python, can be downloaded at **https://github.com/donghodk/actin-analyzer** 4 June 2023; Figure S1: Cell proliferation analysis using EdU proliferation kit; Figure S2: Algorithm test using Gaussian blur filter of filament lengths and thicknesses; Figure S3: Algorithm test using Gaussian blur filter of filament angle; Figure S4: Algorithm test comparing several algorithm parameters with extracted features overlaid on the original microscopic image; Raw Data S1: Pseudonumber sequences can be found at **https://doi.org/10.5281/zenodo.7923984** 4 June 2023; Raw Data S2: Raw microscopic images can be found at **https://doi.org/10.18710/ALOBQK** 4 June 2023; Table S1: A summary of the feature extraction data sets.

https://www.mdpi.com/2306-5354/10/7/811#app1-bioengineering-10-00811

In the data availability statement:

Data availability statement

The tweet IDs for the data used in this study are openly available in DataverseNO at https://doi.org/10.18710/G1CIXA.

References

Anderson, Ben. 2009. "Affective Atmospheres." *Emotion, Space and Society* 2 (2): 77–81. https://doi.org/10.1016/j.emospa.2009.08.005.

Beck, U. 2011. "Cosmopolitanism as Imagined Communities of Global Risk." *American Behavioral Scientist* 55 (10): 1346–1361. https://doi.org/10.1177/0002764211409739.

Beck, Ulrich. 2000. "Risk Society Revisited: Theory, Politics and Research Programmes." In *The Risk Society and Beyond: Critical Issues for Social Theory*, edited by Barbara Adam, Ulrich Beck, and

https://www.duo.uio.no/bitstream/handle/10852/105264/FINAL%2BARTICLE.PDF?sequence=1&isAllowed=y

In the methods section
- and then in the reference list:

Most participants granted permission to share the whole or parts of the data with directly identifiable information such as names removed. They all had the opportunity to review data they contributed ahead of publication and to indicate if there were parts they did not want published. The data, including the XML codebook, Python script, interview guides, transcripts, survey, and consent forms can be accessed through Zenodo.[46]

46. Data from a three-phase Delphi study used to investigate Knowledge Infrastructure for Research Data in Norway, KIRDN_Data, 2020, http://doi.org/10.5281/zenodo.3673053.

https://crl.acrl.org/index.php/crl/article/view/24914/32763

Citation styles

Vancouver:
#. Author names. Title of resource [medium type]. Host institution name: Physical location; Year of publication. [Date accessed]. Available from: Identifier

Harvard:
Author names. Year. Title of resource. [medium type]. Host institution name, Physical location. Date of access. Identifier

APA:
Author/Rightsholder, A. A. (Year). *Title of publication or data set* (Version number if available) [Data File]. Retrieved from (or available from) http://xxxx

From: https://guides.library.ucsc.edu/citedata and https://support.datacite.org/docs/data-citation

Citing unpublished data

Identifiable

Anonymous: NN, 2018, “Cognitive representation of spontaneous motion in a second language”, https://doi.org/10.18710/N8KO4O, DataverseNO, DRAFT VERSION.

Not-published: Ji, Yinglin, 2018, “Cognitive representation of spontaneous motion in a second language”, https://doi.org/10.18710/N8KO4O, DataverseNO, DRAFT VERSION.

Published: Ji, Yinglin, 2018, "Cognitive representation of spontaneous motion in a second language", https://doi.org/10.18710/N8KO4O, DataverseNO, V1

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University of Oslo

(University of Oslo)

Supporting Data for: Towards Sound Innovation Engines Using Pattern-Producing Networks and Audio Graphs

Version 1.1

Jónsson, Björn Þór; Glette, Kyrre; Erdem, Çağrı; Fasciani, Stefano, 2024, "Supporting Data for: Towards Sound Innovation Engines Using Pattern-Producing Networks and Audio Graphs", https://doi.org/10.18710/BAX9N5, DataverseNO, V1

Description Data accompanying the article Towards Sound Innovation Engines Using Pattern-Producing Networks and Audio Graphs. The Innovation Engine algorithm is used to evolve sounds, where Quality Diversity search is guided by the YAMNet classifier to discover sounds. (2023-11-07)
This study proposes the application of a system for generative sound synthesis that automates the discovery of inspiring sounds using Quality Diversity algorithms and a discriminative model inspired by the Innovation Engine algorithm. The approach addresses the challenges composers face in creating and refining new tools to achieve their musical goals. By promoting diversity and fostering serendipitous discoveries, the proposed approach expands the composer's palette and makes the entirety of the sonic domain more accessible. The study presents generated sound objects through an online explorer and as rendered sound files, as well as an experimental application showcasing the creative potential of the discovered sounds. Our proposed approach offers a promising direction for sonic design that embraces automation, serendipity, and creativity. (2023-11-08)

Subject Arts and Humanities; Computer and Information Science

Keyword Sound Synthesis, Quality Diversity Search, Innovation Engines

Related Publication Towards Sound Innovation Engines Using Pattern-Producing Networks and Audio Graphs.

Solvang, Øystein; Stein, Jonas; Brattland, Camilla, 2020, "Covid-19 Municipal Level (Norway) Social Science Dataset", https://doi.org/10.18710/NMKI2B, DataverseNO, V2

Cite Dataset

EndNote XML
RIS
BibTeX

Learn about Data Citation Standards.

The dataset is a cross-sectional dataset covering social and public health data pertaining Norwegian municipalities. The dataset was compiled from public register data and media related fatalities is current as of ultimo July 2020. Data on other variables is from 2018, 2

Activity

1: Discuss data citation practices and availability statements

2: Have you encountered requirements for data sharing from journals?

Summary

- ✓ a repository is the best place to archive data
- ✓ data are often found through publications
- ✓ search services for data are useful
- ✓ cite the data in the publication (in the reference list)

Need help with research data?

Send an email to research-data@uio.no

More resources?

Research data management

Norwegian

Welcome to UiO's data management pages maintained by the research data group at Digital Scholarship Center.

- Data management plans (DMPs)
- Data classification and storage
- Data organization
- Data documentation and metadata
- Data sharing and publishing
- Finding and reusing data

https://www.uio.no/english/for-employees/support/research/research-data-management/

Norwegian version of this page

Digital Scholarship Centre

At the Digital Scholarship Centre (DSC) you get guidance on how you can make the best possible use of digital tools and methods in your research and communication activities.

Open Access →
Information about open access publishing, publisher agreements, self-archiving, requirements, and guidelines.

Open and reproducible research →
Make your research more transparent and reproducible.

Research Data Management →
Managing your data both during and after a research project.

Text-mining →
Information about digital tools for searching, mining, and analysing textual data.

Systematic search →
Information about systematic literature searching, how to get started, and how to get help.

Visualisation →
Use of visual methods to explore, communicate and understand data.

Carpentry@UiO →
Offers workshops in foundational digital skills such as coding and data management.

Reference management →
Styles, tools, and information on reference management.

Open and reproducible research

Learn about how to make your research more open and reproducible and get involved in initiatives and communities that are interested in sharing and improving research at UiO.

More and more researchers and students across disciplines are implementing open research practices, preregistering their hypotheses, methods, and analysis plans and sharing research materials, data and analysis scripts. Digital Scholarship Center can help you learn about and implement these practices in your own research as well as advise on the policies and requirements from funders.

Open Science Lunch →

Every last Thursday of the month we meet at noon to discuss topics related to open research.

ReproducibiliTea@UiO →

Join us for a Journal Club where we read and discuss papers on open research and meta-science.

Norwegian Reproducibility Network →

Join a broader community that aims to promote and enable rigorous, robust and transparent research practices in Norway

Courses and workshops →

Click here for the list of upcoming and previous courses and workshops on open and reproducible research at UiO.

https://www.ub.uio.no/english/libraries/dsc/open-repro-research/

Open Science Lunch

Each last Thursday of the month at 12:00 we invite you to join us for a lunch seminar to hear about how to make your research more open. We will discuss research transparency and visibility, open publishing, data sharing, and more!

Time and place: Apr. 25, 2024 12:00 PM – 1:00 PM, Zoom

Researcher Assessment

Join us for this Open Science Lunch to learn about the work on reforming research assessment in Norway and hear about experiences from implementing the CoARA commitments.

https://www.ub.uio.no/english/courses-events/events/open-science-lunch/

UNIVERSITETET
I OSLO

ReproducibiliTea

Journal Club

JOIN IN AND DISCUSS WITH FELLOW STUDENTS AND RESEARCHERS

OPEN RESEARCH, REPRODUCIBILITY and RESEARCH IMPROVEMENT

Join us

Everyone is welcome to join us - whether you are an enthusiast of open and reproducible research, a skeptic, or a cautious explorer. Currently, all meetings are hybrid with the possibility of joining on-site at Blindern or via Zoom. Grab a cup of tea (coffee?) and join us!

Subscribe to our mailing list →

https://www.ub.uio.no/english/libraries/dsc/open-repro-research/reproducibilitea/

Carpentry@UiO

Carpentry@UiO is a community of people who are passionate about learning, teaching, and sharing best practices and digital skills for making the research process more reproducible and effective. If you want to get involved, or join one of our workshops, check us out!

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The Unix Shell

Shell speeds up repetitive and tedious processes. It is also essential skills needed to use high-performance computing (HPC) resources.

Version Control with Git

Git helps you to keep track of what you've done, for a better collaboration and for yourself in future. In the workshop we use GitHub as well.

Programming in Python

Python is now widely used in scientific computing with various powerful packages. Carpentry@UiO runs workshops for participants with no programming experience ("Plotting and Programming in Python" lesson) and for participants at intermediate level ("Programming with Python" lesson, episodes 10-12).

R for Reproducible Scientific Analysis

R is commonly used for statistical analysis, but it is also a powerful programming language. Workshops on R focuses on teaching best practices for scientific computing: breaking down analyses into modular units, task automation, and encapsulation. Workshops on R may use lessons from Data Carpentry instead.

Using Databases and SQL

Databases include powerful tools for search and analysis, and can handle large, complex data sets. The lesson will show how to use a database to explore research data by using SQL.

https://www.ub.uio.no/english/courses-events/courses/other/Carpentry/

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Learn, teach, and share digital skills and best practices

Be a part of an interdisciplinary community

Make use of and contribute to community-built teaching materials

https://www.ub.uio.no/english/libraries/dsc/carpentry-uio/index.html

Det senteret for digitalforskerstøttes nyhetsbrev,
en del av Universitetsbiblioteket i Oslo

The Digital Scholarship Centre's Newsletter,
part of the University of Oslo Library

DSC NEWS

Senter for digitalforskerstøtte
Digital Scholarship Centre

https://sympa.uio.no/ub.uio.no/subscribe/dsc-news/subscribe

Give us your feedback!

https://nettskjema.no/a/409161

Thank you!

Live Kvale, Heidi Sjursen Konestabo, Agata Bochynska, Ivana Malovic
Digital Scholarship Center, University of Oslo Library
17.04.2024

Questions?
Contact us at research-data@uio.no