



Western Norway
University of
Applied Sciences

The Data Management Plan

It's for your own good

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Bergen
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The Research Council of Norway's requirements for data management plans and data sharing

- › Data management plans are obligatory for all projects that manage data and receive funding from the Research Council
- › Data sharing: As open as possible, as closed as necessary
 - › RCN: “Data sets shall not be made openly available if doing so may threaten individual or national security, conflict with applicable data protection regulations or other legal provisions.”
- › It's easier to share your data and enable reuse if you plan carefully
 - › Make sure you have the permissions you need
 - › ... and that personally identifiable data can be left out without compromising integrity
- › If you can't share your data, planning is even more important
 - › Secure storage, access control, etc.



Why share your data?

- › RCN: “Better access to research data enhances the quality of research, both because results can be validated and verified in a better way, and because datasets can be used in new ways and in combination with other datasets. Open access to research data also contributes to fewer duplications and unnecessary duplication of effort and will facilitate more interdisciplinary research.”
- › And yes, you have to. Unless you can't.
- › There are some advantages for you as a researcher:
 - › Increased number of citations (also due to data reuse)
 - › Enhanced collaboration opportunities
 - › Transparency makes things better when you commit errors

Classification of data

- › Green – no personal data
- › Yellow – general but not sensitive person-identifiable information. Unpublished research data
- › Red – sensitive personal information. Health data,
- › Black – sensitive information that can cause considerable harm if it becomes known to unauthorised people
- › **Classification of data does not only determine whether data can be shared openly, but also how it can be stored throughout its lifecycle**

Open
- green -

Open or freely accessible (green)

Internal
- yellow -

Internal (Yellow)

Confidential
- red -

Confidential (Red)

Strictly
confidential
- black -

Strictly confidential (Black)

Personal information



Internal (Yellow)

- › Anything that can be used to identify a particular person
- › Directly:
 - › Name, ID, address, phone number, pictures, audio recordings
- › Indirectly:
 - › Combinations of background information (eg. gender + age + occupation + location)

Sensitive personal information etc.



Confidential (Red)

- › Information about race, ethnicity
- › Political, philosophical or religious attitudes and convictions
- › Union membership
- › Genetics, biometrics
- › Medical information
- › Sexuality

Strictly confidential information



Strictly confidential (Black)

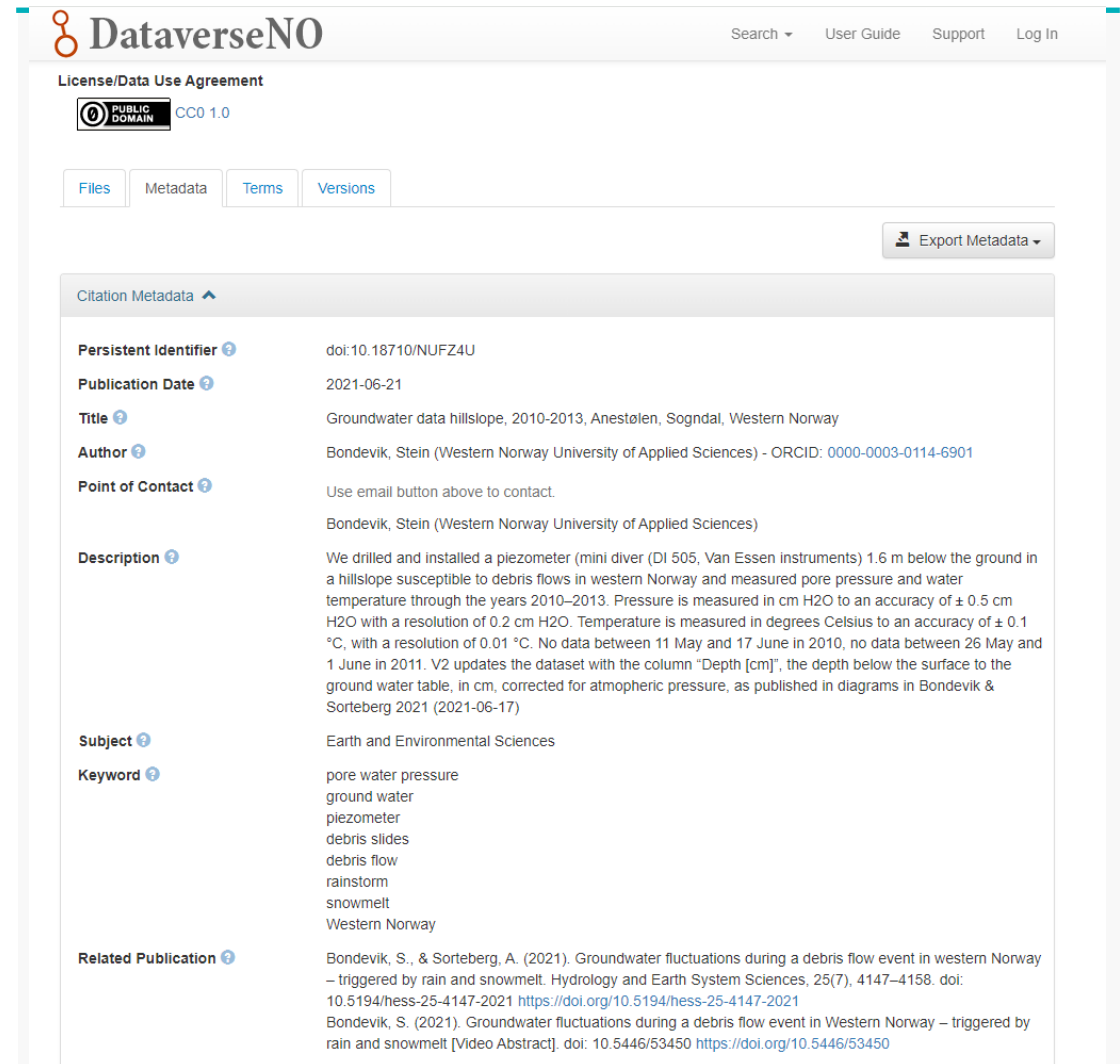
- > If you need to know, you've probably already been told

A goal: Sharing findable, accessible, interoperable and reusable data

- › The FAIR principles – <https://go-fair.org>
- › The principles apply to both data and metadata
- › A (lofty) goal is to make (meta)data **machine-actionable** – i.e. the possibility to be found, accessed and reused by computer systems without human intervention
- › Standardised and open protocols and formats are key
- › ... as are documentation and rich metadata
 - › Documentation is important for human reuse as well!
- › Data can be FAIR even if it isn't shared openly (and openly shared data is not necessarily FAIR)
- › Making yellow data green is (in some cases) easy

DataverseNO as a FAIR repository

- › Findable:
 - › Persistent identifier – DOI
 - › Rich metadata
 - › Indexed in searchable resources
- › Accessible
 - › Available over an open protocol (http)
- › Interoperable
- › Reusable
- › ^ The last two depend on some effort from the researcher: Use open formats and languages, document your data
- › DataverseNO is purely Open



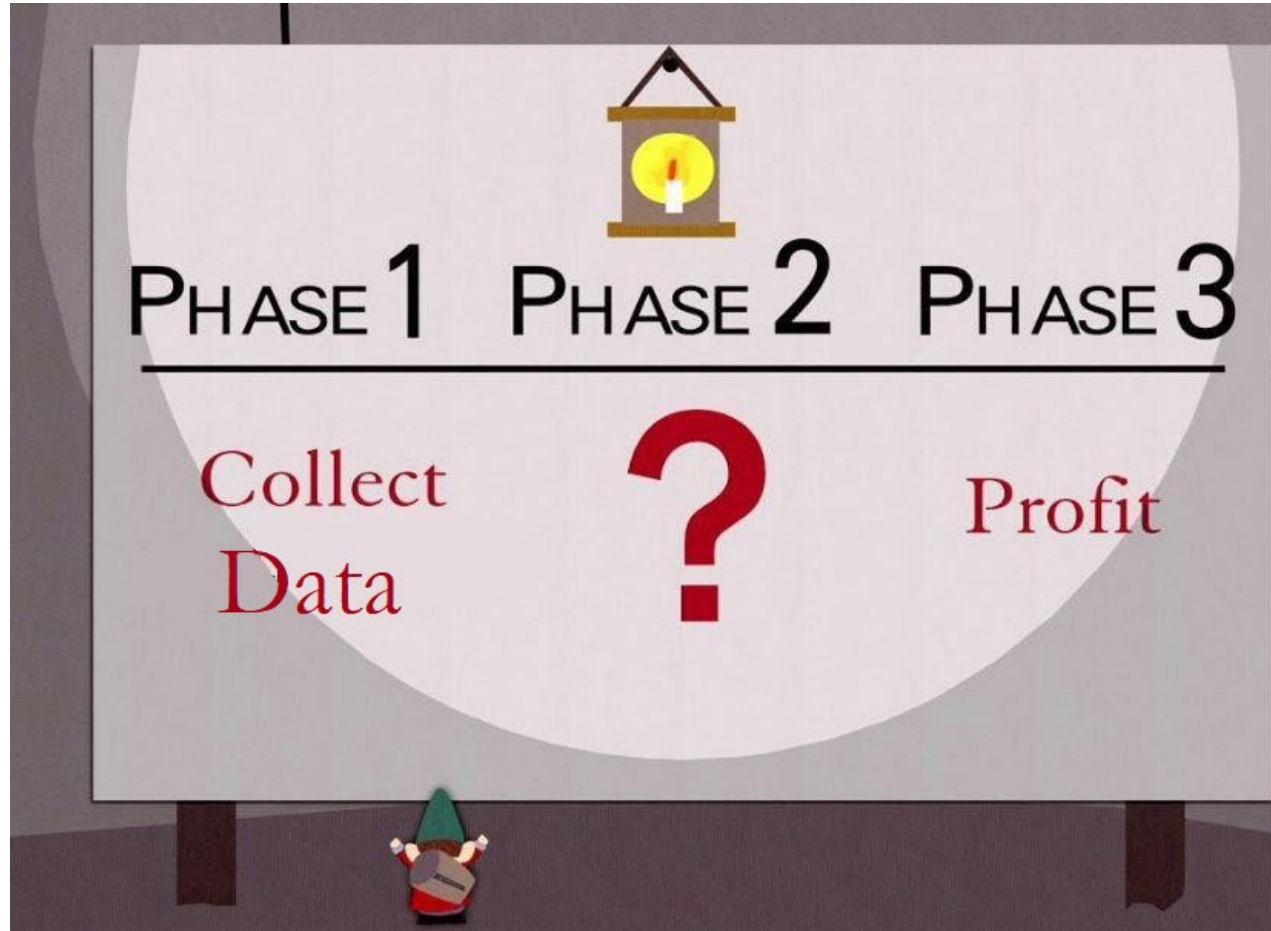
The screenshot displays the DataverseNO interface for a specific dataset. At the top, the logo and name 'DataverseNO' are visible, along with navigation links for 'Search', 'User Guide', 'Support', and 'Log In'. Below the header, there is a 'License/Data Use Agreement' section showing the 'CC0 1.0' license. A navigation bar includes tabs for 'Files', 'Metadata', 'Terms', and 'Versions', with an 'Export Metadata' button on the right. The main content area is titled 'Citation Metadata' and lists the following information:

- Persistent Identifier:** doi:10.18710/NUFZ4U
- Publication Date:** 2021-06-21
- Title:** Groundwater data hillslope, 2010-2013, Anestøten, Sogndal, Western Norway
- Author:** Bondevik, Stein (Western Norway University of Applied Sciences) - ORCID: 0000-0003-0114-6901
- Point of Contact:** Use email button above to contact.
Bondevik, Stein (Western Norway University of Applied Sciences)
- Description:** We drilled and installed a piezometer (mini diver (DI 505, Van Essen instruments) 1.6 m below the ground in a hillslope susceptible to debris flows in western Norway and measured pore pressure and water temperature through the years 2010–2013. Pressure is measured in cm H₂O to an accuracy of ± 0.5 cm H₂O with a resolution of 0.2 cm H₂O. Temperature is measured in degrees Celsius to an accuracy of ± 0.1 °C, with a resolution of 0.01 °C. No data between 11 May and 17 June in 2010, no data between 26 May and 1 June in 2011. V2 updates the dataset with the column "Depth [cm]", the depth below the surface to the ground water table, in cm, corrected for atmospheric pressure, as published in diagrams in Bondevik & Sorteberg 2021 (2021-06-17)
- Subject:** Earth and Environmental Sciences
- Keyword:** pore water pressure, ground water, piezometer, debris slides, debris flow, rainstorm, snowmelt, Western Norway
- Related Publication:** Bondevik, S., & Sorteberg, A. (2021). Groundwater fluctuations during a debris flow event in western Norway – triggered by rain and snowmelt. *Hydrology and Earth System Sciences*, 25(7), 4147–4158. doi: 10.5194/hess-25-4147-2021 <https://doi.org/10.5194/hess-25-4147-2021>
Bondevik, S. (2021). Groundwater fluctuations during a debris flow event in Western Norway – triggered by rain and snowmelt [Video Abstract]. doi: 10.5446/53450 <https://doi.org/10.5446/53450>

The DMP – what is it?

- › A document describing how research data is to be managed throughout its lifecycle
- › Both a formal requirement and a **living document**, to be updated and revised
- › A tool, not a goal in itself
 - › Making a DMP that you can understand and make use of is probably more important than making one that conforms to the Research Council's expectations
- › Sikt's DMP tool is intended for personal data

The research data lifecycle



Requirements for DMPs

Sikt:

- › Who is responsible for taking care of the data during and after the project, and what resources are needed.
- › How you will ensure that the data is well organised and adequately documented.
- › The volume and type of data set is generated/used.
- › How you will ensure that your data is ethically and legally compatible.
- › Where you will securely keep the data during the project's lifetime.
- › Plan for long-term preservation and making your data available to others.

Science Europe:

- › Data description and collection or re-use of existing data
- › Documentation and data quality
- › Storage and backup during the research process
- › Legal and ethical requirements, codes of conduct
- › Data sharing and long-term preservation
- › Data management responsibilities and resources

Let's make a DMP!

- › Go to <https://minforskning.sikt.no/> and log in
- › Make a project (or enter one)

- › Click “Notify processing of personal data” if you need to get a privacy assessment or just a reminder of what personal data is – which could be useful!
- › “Create a data management plan”

The image shows two screenshots of the Sikt web application. The top screenshot displays the 'Projects' page with a header bar containing the Sikt logo, a notification bell, and user information (English, Kjetil Sletteland). Below the header, the word 'Projects' is followed by a '+ New project' button and an information icon. A table lists a project titled 'Demo' with a 'Created' date of '22.01.2024'. The bottom screenshot shows the 'Demo' project details page. It includes the Sikt header, a breadcrumb 'Projects / Demo', the title 'Demo', and a description: 'Project for demonstration purposes' and 'Subject areas: Other.'. Below this are three action buttons: 'Edit', 'Share', and 'Changes'. Two prominent purple buttons are visible: 'Notify processing of personal data' with the subtext 'Get an assessment to determine if the processing of personal data meets the privacy requirements.' and 'Create a data management plan' with the subtext 'Plan for secure data management throughout the research process.'. At the bottom, there is a link for 'Archive data'.

Start

- › First page is for general info about the project
- › The DMP tool tracks changes, which is nice
- › You can hit the question marks for descriptions of fields
- › **Purpose:**
 - › “Describe the research questions, issues and hypotheses that are addressed in the project and state how the data collection / generation can shed light on these issues.”
- › **Utility:**
 - › “Describe the potential user groups for your data. This may be a subject area or discipline, occupational groups, researchers within specific fields, institutions, organizations, etc.”

The screenshot shows the Sikt DMP tool interface. At the top, there is a header with the Sikt logo and user information (English, Kjetil Sletteland). Below the header, there is a breadcrumb trail: "Data management plan / Demo". A toolbar contains buttons for "Export", "Changes", "Delete", "Undo", and "Save". A dropdown menu is open over the "Changes" button, showing a list of recent changes with columns for date, time, and user name (Kjetil Sletteland). The main content area is divided into two columns. The left column contains a sidebar with navigation options: "Project info", "Research re", "Funding", "Contributors", "Ethical and legal issues", "Related resources", and "Data packages". The right column contains the main form fields: "Project duration" (with date pickers set to 24.1.2024), "Purpose" (with the text "Purpose is to make a data management plan."), and "Utility" (with the text "Hopefully!"). A "Next" button is located at the bottom of the form.

2, 4 ...

Sikt English Kjetil Sletteland

Data management plan / Demo

Export Changes Delete Undo Save

Project information
Research responsibility
Funding
Contributors
Ethical and legal issues
Related resources
Data packages

Research responsibility

Institution responsible for the research

hvl

- Høgskulen på Vestlandet
- Fakultet for helse- og sosialvitenskap / Institutt for helse og funksjon
- Fakultet for helse- og sosialvitenskap / Institutt for helse- og omsorgsvitenskap
- Fakultet for helse- og sosialvitenskap / Institutt for velferd og deltaking
- Fakultet for ingeniør- og naturvitenskap / Institutt for bio- og kjemiingeniørfag
- Fakultet for ingeniør- og naturvitenskap / Institutt for brannikkerheit og HMS
- Fakultet for ingeniør- og naturvitenskap / Institutt for byggfag
- Fakultet for ingeniør- og naturvitenskap / Institutt for data- og realfag
- Fakultet for ingeniør- og naturvitenskap / Institutt for elektrofag

- > You can also list additional contributing institutions and unlisted institutions
- > I'll skip funding
- > Contributors can have multiple roles

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Data management plan / Demo

Export Changes Delete Undo Save

Project information
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Ethical and legal issues
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Contributors

+ Add

Next

Sikt English Kjetil Sletteland

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Add

Name

Email

Role

- select...
- Contact Person
- Data Collector
- Data Curator
- Data Manager
- Project Leader
- Project Member
- Researcher

5, 6

Sikt English ▾ Kjetil Sletteland ▾

Data management plan / Demo

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Ethical and legal issues

Ethical guidelines ?

Each research institution must ensure that research at their institution is in accordance with recognised research ethical norms. It is therefore important that researchers are familiar with, and comply with, relevant and recognised research ethical guidelines. Note that in interdisciplinary projects it may be relevant to refer to guidelines for several subject areas. For more information about the ethical responsibilities of research and research institutions, see the [Research Ethics Act](#).

- General guidelines for research ethics [↗](#)
- Science and Technology [↗](#)
- Social Sciences, Humanities, Law and Theology [↗](#)
- Internet Research [↗](#)

Medical and health research

- Guidelines for the use of genetic studies of humans [↗](#)
- Payment to participants [↗](#)
- Declaration of Helsinki [↗](#)
- The Vancouver Recommendations [↗](#)
- Guidelines for the inclusion of women [↗](#)
- Clinical trial of drugs [↗](#)
- Guidelines for research ethical and scientifically assessment of qualitative research projects [↗](#)
- Guidelines for the inclusion of adults with impaired or absent capacity to consent [↗](#)
- Oviedo Convention [↗](#)
- Health Research Act [↗](#)

Intellectual property rights ?

Comment ?

Next

Sikt English ▾ Kjetil Sletteland ▾

Data management plan / Demo

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Related resources = references, links

Provide links to related resources. A related resource can, for example, be a link to a research article, a related project, or a related data set.

+ Add + Import

Next



Data packages

New data package

Type ?

New data, or primary data, is data collected by the researcher or project conducting the study. Reused data, or secondary data, refers to pre-existing data and information collected by others and for other purposes.

Primary data Secondary data

Name
The data we collect

Description

Data type
 Dataset Image
 Video Sound
 Text Other

Language ?

Keywords ?

A careful selection of keywords means that other researchers are more likely to find, read and cite your research results when data are archived. Optimizing your data for search engines will make your data more findable. Keywords can be used to indicate topic or subject area and/or data collection methods

data x searchable keywords x

write and click a

write and click a Add

Cancel Add

Just when you thought you were done

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Data packages

Here you create and describe at least one data packages associated with your project. If you are going to collect heterogeneous and/or large amounts of data it may be useful to plan for multiple data collections. For smaller projects with homogeneous data it may be sufficient to plan for one data package.

The data we collect Primary data

Language: Norwegian Bokmål.
Data type: Dataset, Text.
Keywords: data, searchable keywords, write and click add.

The data we swipe from others for reuse Secondary data

Other data
Language: British English.
Data type: Text.
Keywords: other data.

+ Add

Next



Confidentiality // Classification of data

The screenshot shows the Sikt DMP tool interface. The top navigation bar includes the Sikt logo, language selection (English), and user information (Kjetil Sletteland). The main content area is titled 'Confidentiality' and contains several sections:

- Data about people:** A toggle switch set to 'Yes'.
- Categories of personal data:** Radio buttons for 'Anonyme' (selected), 'Alminnelige', and 'Særlige/straffedommer'.
- Sample size:** An empty text input field.
- Are there any other reasons why your data needs extra protection?:** A toggle switch set to 'No'.
- Security class:** A blue information box explaining the classification process and listing four classes: Open (Green), Internal (Yellow), Confidential (Red), and Strictly Confidential (Black). Below this box are four buttons: 'Open' (with a 'Recommended' badge), 'Internal' (highlighted in yellow), 'Confidential', and 'Strictly Confidential'.
- Comment:** An empty text input field.
- Next:** A blue button at the bottom.

← They forgot to translate a bit, but the help text is available in English

- › Remember the security classes from slide 4? The DMP tool makes recommendations based on your selection.
- › You can still select a different class than the one recommended
- › If your data is confidential, you need to use Secure Storage of Research Data (SILAF)



Collection devices available will depend on the class selected on the previous screen

> Green

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Confidentiality
Collection
Files and metadata
Storage and transfer
Archiving
THE DATA WE SWIPE FROM OT...
Confidentiality
Source
Files and metadata
Storage and transfer
Archiving

Collection

Data collection period 24.1.2024 24.1.2024

Collection devices

- Camera (photo and video), institution
- Camera (photo and video), private
- Sound recorder/dictaphone, institution
- Sound recorder/recorder, private
- Smartphone / tablet, institution
- Smartphone / tablet, private
- Questionnaire - electronic
- Questionnaire - paper-based
- UiO Nettskjema

Suggested guidelines 03.07.2020

Data quality

Method

- Interview
- Focus Group
- Observation
- Recording
- Transcription
- Summary
- Simulation
- Other
- Self-administered questionnaire
- Self-administered writings or diaries
- Experiment
- Content coding
- Compilation/Synthesis
- Aggregation
- Measurements and tests

Description

Next

> Red

Sikt English Kjetil Sletteland

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Confidentiality
Source
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Archiving

Collection

Data collection period 24.1.2024 1.1.2024

Collection devices

- Camera (photo and video), institution
- Camera (photo and video), private
- Sound recorder/dictaphone, institution **Allowed, on conditions**
- Sound recorder/recorder, private
- Smartphone / tablet, institution
- Smartphone / tablet, private
- Questionnaire - electronic
- Questionnaire - paper-based
- UiO Nettskjema

Suggested guidelines 03.07.2020

Data quality

Method

- Interview
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- Measurements and tests

Description

Next



Files and metadata

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Files and metadata

Size ? 100 MB

0 100 MB 1 GB 10 GB 100 GB 1 TB 10 TB 100 TB 1 PB

Comment
If you need to store large amounts of data, you should probably contact IT!

Format ?
CSV X

Software ?
SurveyXact for collection, probably nvivo or something for processing

Comment

Metadata standard ?
Dublin Core

Naming conventions ?

Other measures ?

Next

- › Many of these are important to think through!
- › Do you have big files? Lots of files?
- › Which format do you store your files in?
 - › Best use something that can be converted to an open format
- › Metadata standard?! If you use DataverseNO, you can export to several, so let's select Dublin Core
- › Naming conventions
 - › If you have lots of files, use a consistent naming scheme and a hierarchical folder structure

Storage and transfer

- › Recommended options will depend on level of confidentiality

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[Data management plan](#) / Demo

[Export](#) [Changes](#) [Delete](#) [Undo](#) [Save](#)

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Storage and transfer

Storage

- External hard drive (etc.), institution
- External hard drive (etc.), private
- PC – Common/shared area, institution
- PC - local disk, institution
- PC - local disk, private
- SAFE (Secure Access to Research Data and E-infrastructure)
- Cloud service, institutional agreement
- Cloud service, private
- Smartphone / tablet, institution
- Smartphone / tablet, private
- TSD (Services for Sensitive Data)

Suggested guidelines 03.07.2020

Transfer

- Email, institution
- Email, private
- Messaging applications, institution
- Messaging applications, private
- Smartphone, institution
- Smartphone, private
- Unit FileSender

Suggested guidelines 03.07.2020

Comment

We'll just use OneDrive

[Next](#)

Archiving

Sikt English Kjetil Sletteland

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Archiving


According to the [National strategy on access to and sharing of research data](#) and the [Research Council's Policy for Open Access to Research Data](#), all research data must be made available to all relevant users under equal conditions, so long as there are no legal, ethical or security reasons not to do so. Research data can be made available in secure archives for research data, either centrally at your own institution, in national archives, or in subject-specific archives.

Will the data be archived?
 Yes No

Degree of openness
 Open
 Restricted
 Closed

Embargo

License

Archive
 

Costs

Comment

Sikt English Kjetil Sletteland

Archiving guide

Show only archives that offer

Persistent identifiers (PID)
 Quality management
 Embargo

Disciplines

Humanities
 Social Science
 Mathematics and Natural Science
 Technology
 Medical Sciences
 Agricultural and Fisheries Science

Degree of openness
 Open
 Restricted
 Closed

Security class

20 results
Data from [re3data.org](#)

Sikt Research Data Archive PID [↗](#)
Sikt archives research data on people and society to make sure the data can be shared and is made available for reuse. We continuously enrich our data collections to provide a richer basis for research. Sikt's main focus is quantitative data matrices on individuals, organisations, administrative, political, and geographical actors. The archive specialise in survey data, which undergoes extensive curation at the variable level and detailed metadata is produced and published in Norwegian and English.

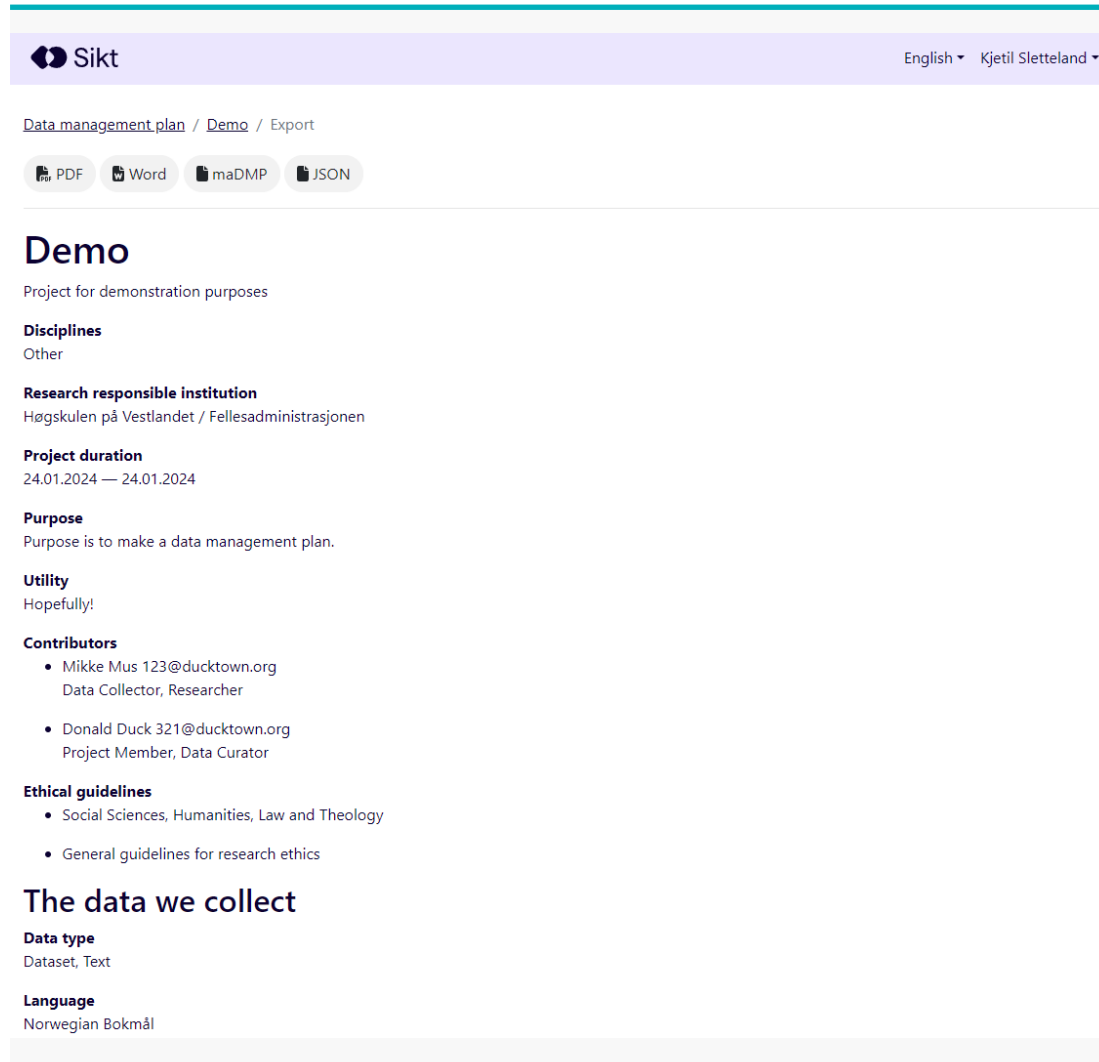
Norwegian Marine Data Center PID Certification [↗](#)
The Norwegian Marine Data Centre (NMD) at the Institute of Marine Research was established as a national data centre dedicated to the professional processing and long-term storage of marine environmental and fisheries data and production of data products. The Institute of Marine Research continuously collects large amounts of data from all Norwegian seas. Data are collected using vessels, observation buoys, manual measurements, gliders – amongst others. NMD maintains the largest collection of marine environmental and fisheries data in Norway.

DataverseNO PID Certification [↗](#)
DataverseNO (<https://dataverse.no>) is a curated, FAIR-aligned national generic repository for open research data from all academic disciplines. DataverseNO commits to facilitate that published data remain accessible and (re)usable in a long-term perspective. The repository is owned and operated by UiT The Arctic University of Norway. DataverseNO accepts submissions from researchers primarily from Norwegian research institutions. Datasets in DataverseNO are grouped into institutional collections as well as special collections. The technical infrastructure of the repository is based on the open source application Dataverse (<https://dataverse.org>), which is developed by an international developer and user community led by Harvard University.

CLARINO Bergen Center repository PID Certification [↗](#)
CLARINO Bergen Center repository is the repository of CLARINO, the Norwegian infrastructure project. Its goal is to implement the Norwegian part of CLARIN. The ultimate aim is to make existing and future language resources easily accessible for researchers and to bring eScience to humanities disciplines. The repository includes INESS the Norwegian Infrastructure for the Exploration of Syntax and Semantics. This infrastructure provides access to treebanks, which are databases of syntactically and semantically annotated sentences.



Repeat for each data package, and click Export



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Data management plan / Demo / Export

PDF Word maDMP JSON

Demo

Project for demonstration purposes

Disciplines
Other

Research responsible institution
Høgskulen på Vestlandet / Fellesadministrasjonen

Project duration
24.01.2024 — 24.01.2024

Purpose
Purpose is to make a data management plan.

Utility
Hopefully!

Contributors

- Mikke Mus 123@ducktown.org
Data Collector, Researcher
- Donald Duck 321@ducktown.org
Project Member, Data Curator

Ethical guidelines

- Social Sciences, Humanities, Law and Theology
- General guidelines for research ethics

The data we collect

Data type
Dataset, Text

Language
Norwegian Bokmål

- › Even though you can export in a (hopefully) computer actionable JSON or maDMP format, the RCN needs the DMP in a PDF or Word .docx for now
- › DMPs should be published. Zenodo?
- › Update it when needed



That's hopefully all