



UiT The Arctic
University of Norway

How to write a data management plan

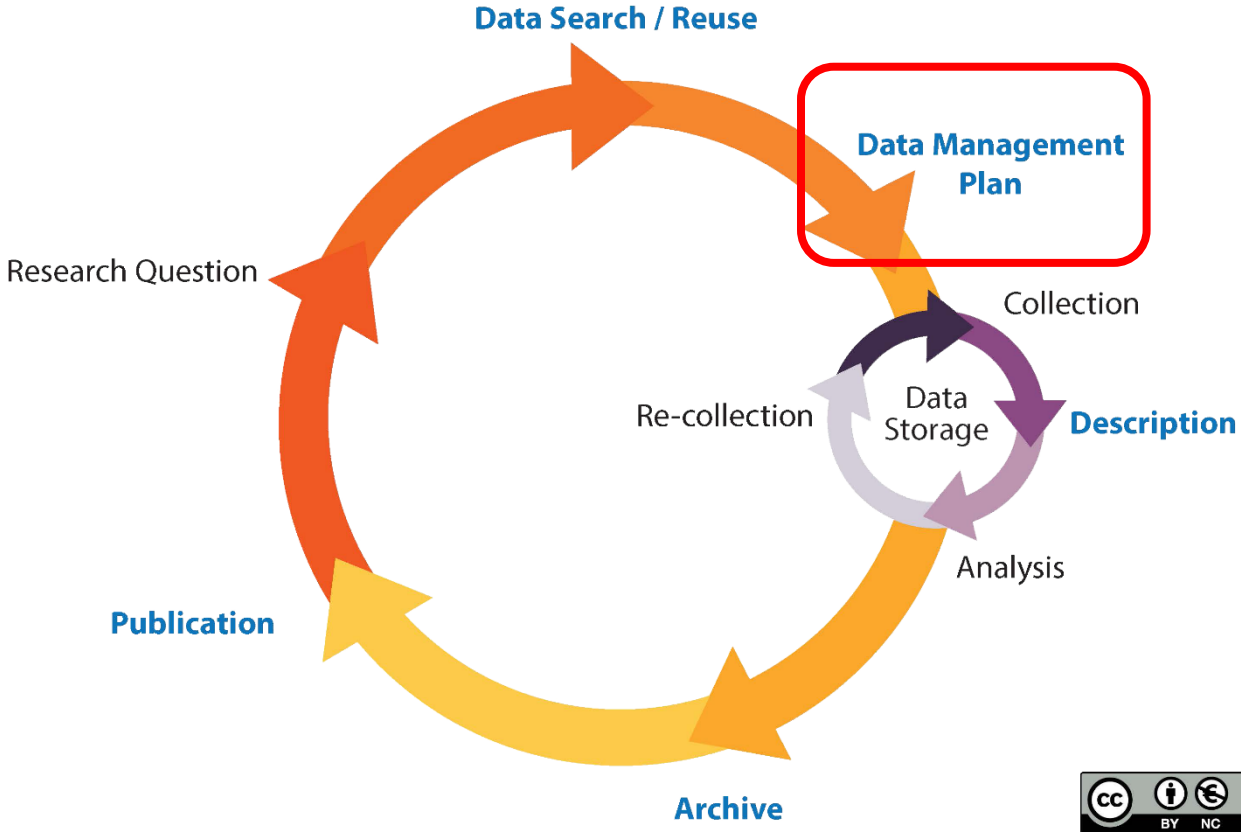
Adrian Verhoef, PhD

Aili Sarre

20.04.2023 - University Library



[Video about RDM lifecycle \(vimeo\)](#)



*Adapted original source:
The University of California, Santa Cruz,
Data Management LibGuide, Research Data Management Lifecycle, diagram,
viewed May 2, 2016 at <<http://guides.library.ucsc.edu/datamanagement>>*

The purpose of this webinar

- Understand why it is useful to create a proper Data Management Plan (DMP) early in the project
- Know how to make a good DMP that fulfills the requirements of both the funders and your own institution
- Know where to get help and feedback

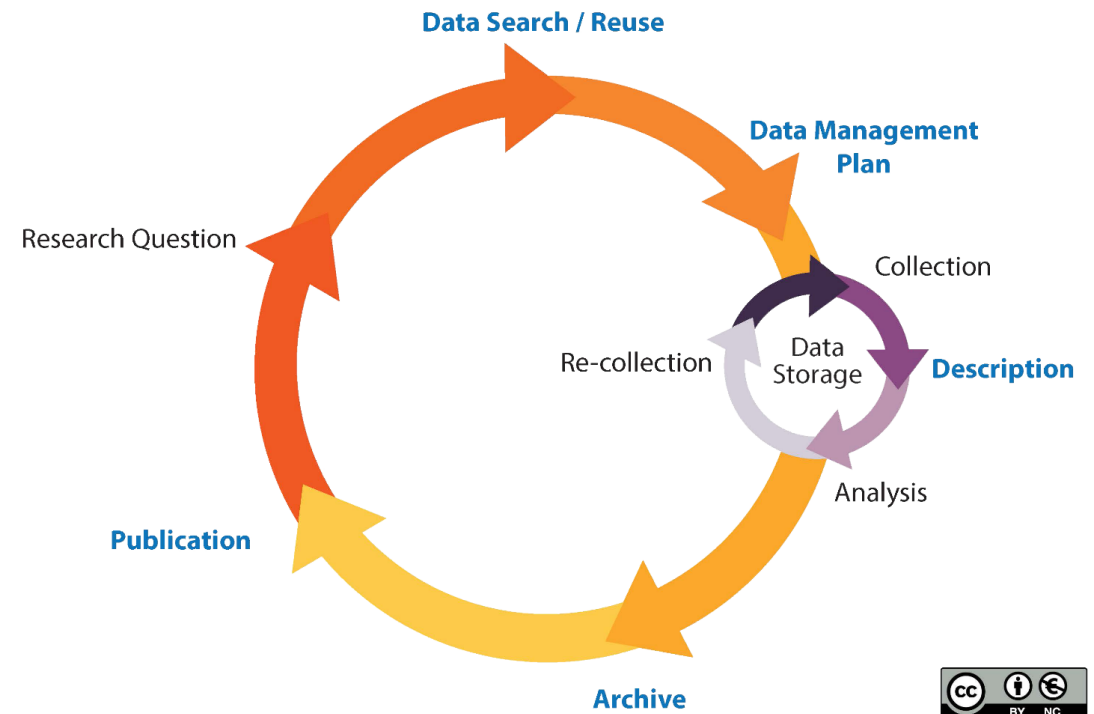
What is a DMP?

A data management plan (DMP) is a plan that documents how you are going to manage your research data during and after the project period.

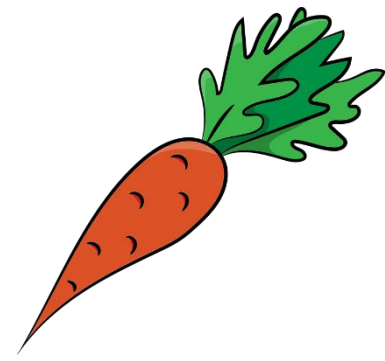
Covers all phases of the lifecycle

Dynamically active document:

- Created before project start
- Revised during the project



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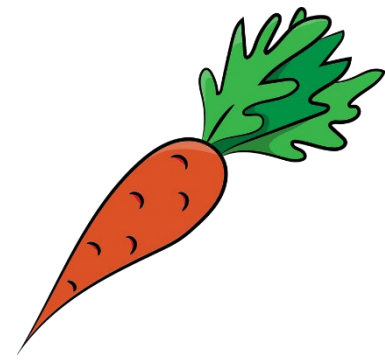


The DMP is helpful

First of all: **A DMP is a useful tool for you as a researcher**

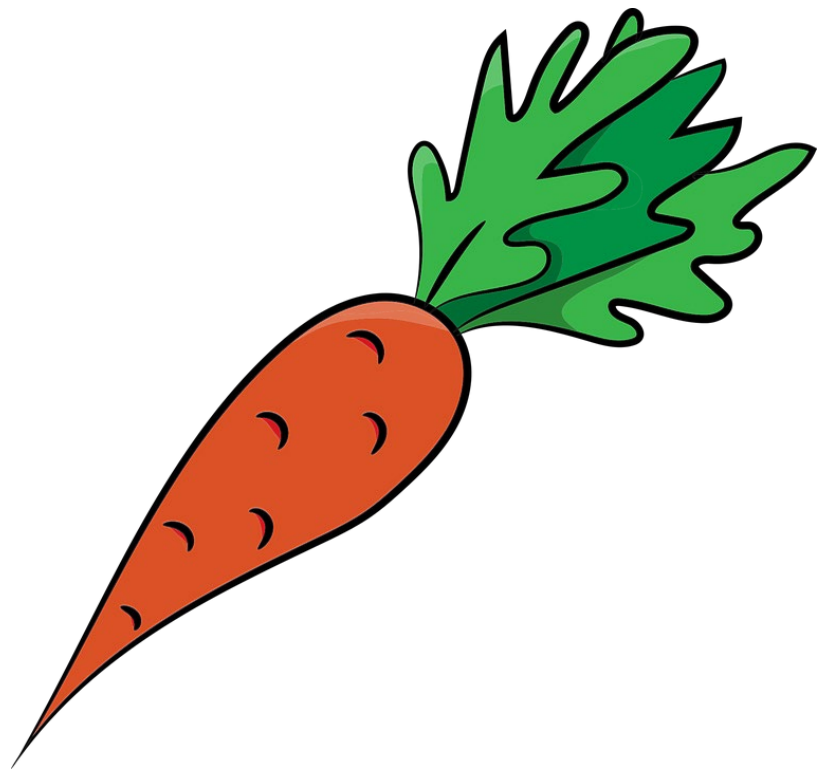
- Gives a good overview over all activities related to data management through entire project period
 - Better project management
 - Ensures project data quality
 - Ensures quality for future access and reuse
- Contributes to making costs related to data management visible
- Helps you to save time and extra work later on
 - How to choose right file formats
 - How to document and structure your data

The DMP will communicate your research



- Show your DMP – and get feedback and advice
 - Funders, supervisors, colleagues and peers, boss and employer
- Your DMP shows accountability
 - A good DMP positively influences your project proposal
 - Usual for funders to demand DMP, but not necessarily during application
- A good DMP makes it easier to archive according to **FAIR-principles**

And there are requirements



Requirements from UiT and funders



UiT

The researcher must set up a Data Management Plan at an early phase of the project

[Principles and guidelines for management of research data at UiT](#)

Research Council of Norway

An approved DMP must be in place when the contract is entered into for all projects that generate data

RCN: [Sharing research data](#)

European Commission

A first version of a DMP should be submitted within the first 6 months of the project

ERC Scientific Council's [DMP information document \(pdf\)](#)



Templates for DMPs

Create a data management plan

Sikt's Data Management Plan (DMP) is a tool that helps you with planning and securing good management of the data throughout the research process.

Project subject to notification to Sikt (NSD): [Sikt template](#)

Project funded by EU: [DMPonline template](#)

All other projects: [UiT template](#)

You may also check [Data Stewardship Wizard](#)



	<h3>Data Management Plan for employees at UiT</h3> <p>Note: This template is under development. Therefore, it is important that you download the template from Forskingsdataportalen UiT every time you create a new data management plan.</p> <p>For feedback you may send the completed plan to research-data@support.uit.no.</p> <p>(English template, version 20.11.2017)</p>
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The guidelines for research data management at UiT are found in the [Principles and guidelines for research data management at UiT](#) (henceforth: UiT guidelines). Note in particular the following key principles:

- As a general rule, UiT has ownership of all research data generated by employees at UiT (cf. section 2).
- Setting up a data management plan is mandatory for all research projects involving data (cf. section 4.2).
- Research data shall be archived either at UiT Open Research Data or in other appropriate and reliable archives, ensuring that UiT will have continuous access to use the data (cf. section 4.3).
- Research data shall be made openly available for further use provided that there are no legal, ethical, security or commercial reasons for not doing so (cf. section 1 and 4.4).
- Research data shall be provided with metadata that enables other researchers to search for and use the data (cf. section 4.6).

The UiT DMP template

The template asks you to answer questions that describe your planned data management in your project.

And includes guidance.

To be found in the [UiT Research Data Portal](#)

Responsibilities and rights
Who is responsible for follow-up and revision of this data management plan? <i>(Normally the principal investigator, according to section 4.1 of the UiT guidelines.)</i>
Who is responsible for each activity? <i>(May vary for collection, documentation, archiving etc.)</i>
How will responsibilities be distributed among possible external collaborators? Will there be a separate agreement on this? <i>(A separate agreement may be necessary e.g. for commercial collaboration.)</i>
Who has the right to manage the data? <i>(Usually several members of the project group, but not necessarily all members. Manage means collect, structure, revise, process, etc.)</i>
Who can access the data during the project period? <i>(Here, access means use (e.g. view or download), but not manage.)</i>
Who has ownership of the data? <i>(Normally UiT, unless ownership has been agreed on differently e.g. with external collaborators.)</i>
Collecting/generating data
What kind of data will be collected/generated (e.g. observations, simulations, interviews)? What are the sources (e.g. corpora or other raw data)?
What standards and methods will be used for data collection/generating?
When will the data be collected/generated?
What type of data will be collected/generated (e.g. text, image, numerical data, sound)?
Is there need for extra hardware or software?
Is there need for special expertise for collecting/generating data?

What should be included in a DMP?

All phases in the RDM lifecycle

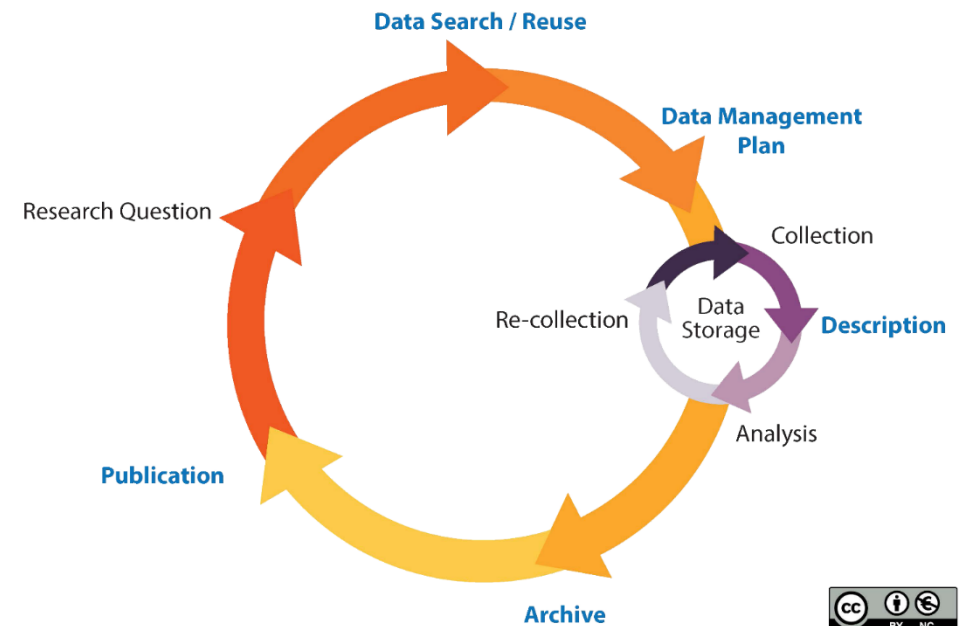
- Searching for and reusing data
- Collecting your data
- Secure and organized storage of your data
- Archiving and sharing

Other aspects:

- General information about the project
- Who is responsible for what, in the project
- Documentation and metadata
- Ethics and consent

Keep in mind:

- [UiTs guidelines for RDM](#)
- [FAIR Data Principles](#)



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The FAIR Data Principles

Findable

Metadata and data should be easy to find for both humans and computers.

Accessible

Easy to access – persistent url (urn)

Interoperable

The archive should use open standards so metadata and data may be accessed and combined across archives.

Reusable

Data can be replicated and/or re-used through documentation and user licenses

FAIR DATA PRINCIPLES



Image: <https://book.fosteropenscience.eu/>

General information about the research project

- Project name and number, project period
- Description of your project
 - Including subject, purpose of data collection and which analysis will be performed based on the data
- Relations
 - Part of a larger research project? Split into several subprojects?
- Funding
- Project leader and participants (name and institution)

Responsibilities

- Who is responsible for follow-up and revision of the DMP?
 - UiT guidelines: Normally the project leader
- PhD-project part of a larger research project:
 - The project leader is responsible for the DMP of the entire project
 - The PhD student shall also write their own DMP for their part of the project (§11.4 in PhD regulations for UiT)

Rights

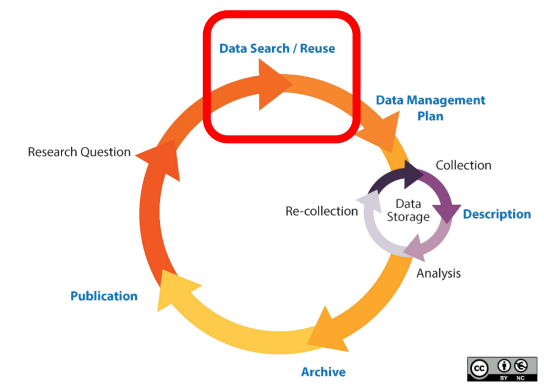
- Who has ownership of the data?
 - UiT guidelines: UiT - unless something else is agreed upon
- External collaborators?
 - Division of responsibilities and rights in an agreement?
- Who has right to manage the data? Collect, structure, revision, processing, etc.
 - Who can access the data during the project? Use (view or download), but not manage

Separate webinar: "[Ownership and rights to research data: policies and agreements](#)"

Planning phase: Data re-use

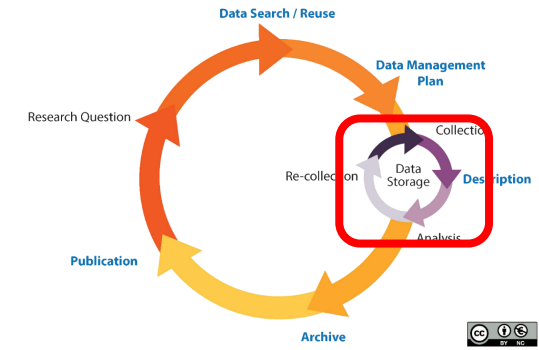
- Are there existing data in this subject and what are the possibilities for reuse?
- Places to search:
 - [DataCite](#)
 - [BASE](#)
 - [Google Dataset Search](#)
 - [Open Polar](#)
 - [Registry of research data repositories](#)

Separate webinar: «[How to search and cite research data](#)»



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Active phase: Data collecting



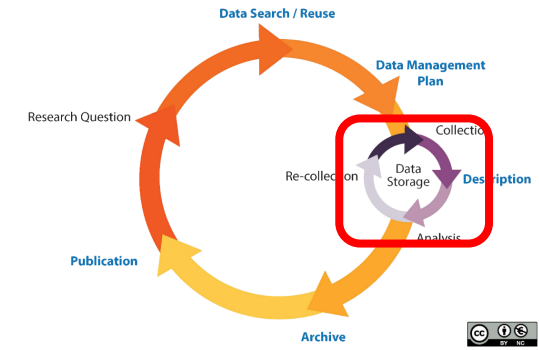
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- When will the data be collected/generated?
- What kind of data will be collected/generated?
 - E.g., observations, simulations, interviews
 - E.g., text, image, numerical data, sound, etc.
- What standards and methods will be used?
 - Description can be reused during publishing of related article and archiving of data
- Resource needs
 - Need for extra/specific hardware or software?
 - Need for special expertise?
 - In that case: Need for budget?

Active phase: Data storage

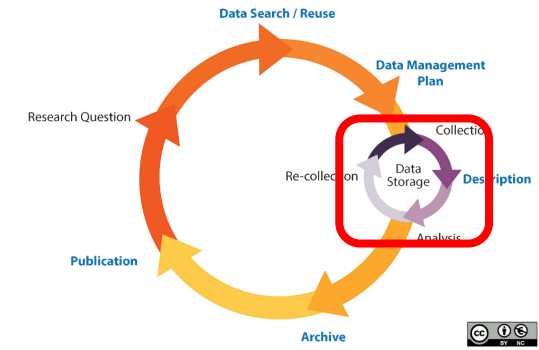
- What are the procedures for storage, backup and recovery, and where will this be done?
 - Do contact the IT Department for help
 - Do not use private PCs
 - Will you collect data on persons?
- What are the expected file sizes for the data?
- Do you have sufficient storage possibilities or need for extra services?
 - How is your budget?

Separate webinar: «[How to store research data](#)»



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Active phase: Data storage in the field

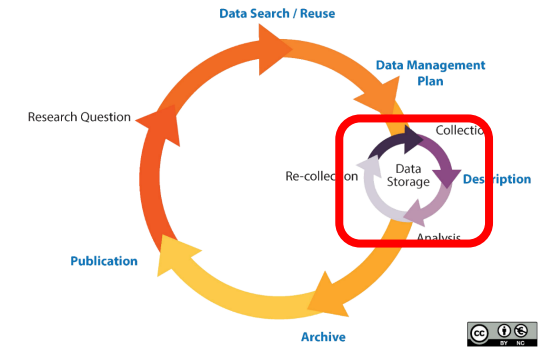


Adapted original source:
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- What are the procedures for safe data storage and backup in the field
- How will the data be safely transferred from the field to the main storage facility?
 - Sufficient storage and transfer possibilities?
- Recording something?
 - What medium will you use?
 - Approved for your kind of data?
- Will you collect person sensitive information (e.g., interview)?
 - Contact IT department for advice
 - E.g., encrypted USBs, active storage TSD

Separate webinar: «[How to store research data](#)»

Active phase: Documenting and organizing



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- How will the data be documented and described?
 - ReadMe file
 - Metadata (standards)
- What file formats will be used?
 - Persistent file formats
- How will you structure/organize your data?
 - What syntax will be used (folder structure and filename conventions)?

See [UiT Open Research Data deposit guide](#) for tips and templates

Separate webinar: «[How to structure and document research data](#)»



UiT Open Research Data

DataverseNO > UiT Open Research Data

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NMDC Node UiT



The Stein Rokkan Research Group for Quantitative Social and Political Science



UiT Tromsø Geophysical Observatory
Tromsø Geophysical Observatory



TROLLing (The Tromsø Repository of Language and Linguistics)



Search this dataverse...

 Find

[Advanced Search](#)


 **Dataverses (5)**

 **Datasets (644)**

 **Files (5,079)**

1 to 10 of 649 Results

 Sort ▾

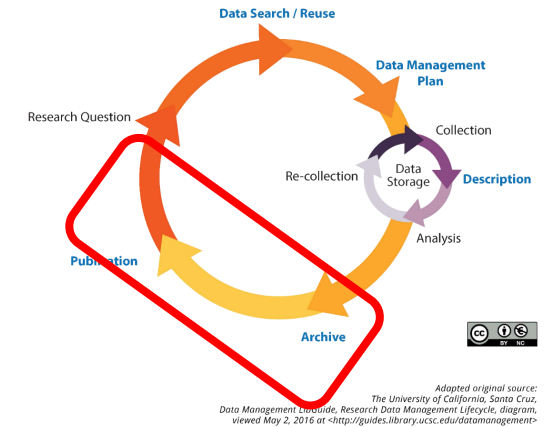
Metadata serving as basis for illustrations of Maximilian Hell's network in the book "Maximilian Hell (1720-1792) and the Ends of Jesuit Science in Enlightenment Europe" by Per Pippin Aspaas and László Kontler (Brill Academic Publishers, 2020) 

Archiving phase: Archiving and sharing (1)

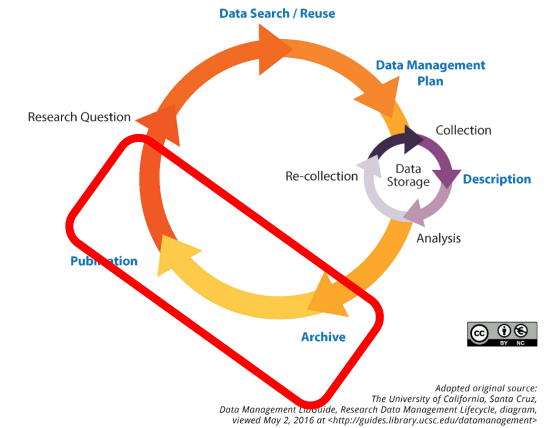
- Which data will be (long term) preserved?
- Will the data or a selection of the data be openly shared?
 - UiT guidelines: " *Research data shall be made openly available for further use provided that there are no legal, ethical, security or commercial reasons for not doing so.*"
 - If yes: which data? If no: what is the reason?
- Do the data need processing before they can be shared?
 - Anonymization, aggregation, conversion to persistent file formats
 - Raw data as well as processed data should be archived

Separate webinar: «[How to archive research data](#)»

Separate webinar: «[How to manage sensitive research data](#)»



Archiving phase: Archiving and sharing (2)



- Where will the data be archived?
 - UiT guidelines: suitable and reliable archives, so that UiT is guaranteed continuous access to use of the data
 - UiT Open Research Data or find a repository at re3data.org
- When will the data be made openly available?
 - UiT guidelines: As early as possible
- How will the data be licensed for reuse?
 - UiT guidelines: As few limitations on the data as possible (CC0)
- Are there other conditions, restrictions or embargo on use?

Separate webinar: «[Research data licensing](#)»

Data on persons

- Special [rules](#) for processing of personal data
- If you handle person sensitive data, you need approval of your project from [Sikt](#)
- Contact Sikt (NSD) or the library for help
- Research ethics on [UiT Research Data Portal](#)

Separate webinar: «[How to manage sensitive research data](#)»

Feedback on DMP?

University library can check if your DMP is in line with the guidelines and «best-practice» recommendations

Send your DMP to researchdata@hjelp.uit.no for feedback.

Request: Give us time to help you!
Don't send your DMP the evening before your deadline 😊



"Feedback" by [Got Credit](#) is licensed under [CCBY2.0](#)

Examples of DMPs

See [overview](#) under <http://uit.no/researchdata>

- > planning
- > data management plans

Other recommended reading:

[Practical Guide to the International Alignment of Research Data Management](#)

Examples

Natural Sciences

Example of a DMP with [quantitative non person identifying data](#) (biology)

Example of a DMP with [quantitative non person identifying data \(computational sciences\)](#)

Big data

Example of a DMP from [a large multidisciplinary research project with many collaboration partners](#)

Qualitative research

Eksempel på DHP med [anonymiserte intervju og survey data](#) (samfunnsvitenskap)

Eksempel på en DHP fra [kunstbasert forskning](#)

Medisin

Example of a DMP with [qualitative and quantitative research](#)

Example of a DMP with [sensitive data](#)

Databases with more DMP examples

Fictional research projects from CESSDA ERIC (social sciences)- [Qualitative data](#) and [Quantitative data](#)

Digital Curation Centre (DCC) - [Example DMPs and guidance \(multiple disciplines\)](#)

DMPOnline - [Public DMPs \(multiple disciplines\)](#)

DMPTool - [Public Plans \(multiple disciplines\)](#)

Publicly available Horizon 2020 [Data Management Plans \(multiple disciplines\)](#)

Liber [DMP Catalogue \(multiple disciplines\)](#)

Biological and Chemical Oceanography Data Management Office - [BCO-DMO](#)

- Choose a relevant project, scroll down to "More information" and choose *Data Management Plan*. Note that not every project provides a DMP.

More information and help

[UiT Research Data Portal](#)

- DMP template + examples
- Principles and guidelines for research data management
- Tips
- Overview of webinars/courses

Research data management training

<https://site.uit.no/rdmtraining/>

Email:

researchdata@hjelp.uit.no



"Help!" by [lydia_shiningbrightly](#) is licensed under [CC BY2.0](#)

Scheduled webinars - [uit.no/researchdata](https://www.uit.no/researchdata) > Education and Training

[Workshop: Data cleaning/Datavask OpenRefine](#)

[25. APRIL 2023](#)



[Kick-off-seminar datarøktternettverk \(data steward network\)](#)

[3. MAY 2023](#)



[Kick-off seminar data steward network](#)

[3. MAY 2023](#)



- New round of webinars in Norwegian and English in the autumn of 2023
 - Dates to be announced at www.uit.no/researchdata and <https://uit.no/tavla>
- Please contact us at: researchdata@hjelp.uit.no for any issues
 - Tailor-made seminar at your department/research group?



Evaluation

We are constantly working to improve the content of our webinars.
Feedback from you will be of great help to us.

Here: <http://skjema.uio.no/ubevalen>

Date: XX

Course code: Research data



researchdata@hjelp.uit.no

Adrian Verhoef

Aili Sarre