



**Forschungsdaten-
Service**

**U N I K A S S E L
V E R S I T Ä T**

Introduction to Research Data Management

Seasonal School on Data Management in Biodiversity and Environmental Science 2025

NFDI4Biodiversity & HeFDI & iDiv

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NFDI 4
BIODIVERSITY



HeFDI



iDiv

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Use of AI Tools

Parts of this presentation (e.g. outline development, draft formulations of learning objectives, translations, and citation formatting) were supported using OpenAI's ChatGPT (GPT-5, 2025). All contents were reviewed, edited, and finalized by the author.

Agenda

1. Never have I ever
2. Data lifecycle with core elements
 1. Planning
 2. Collecting, processing, documenting
 3. Storing and sharing
 4. Archiving and publishing
 5. Finding and using
3. Wrap up

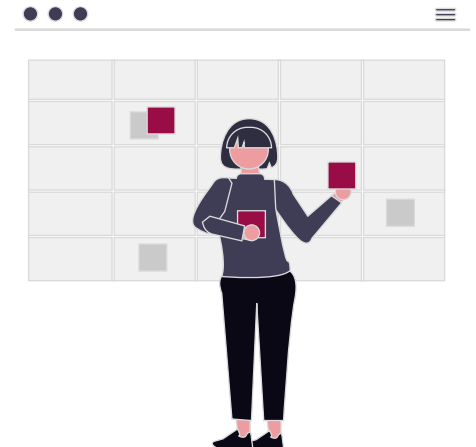
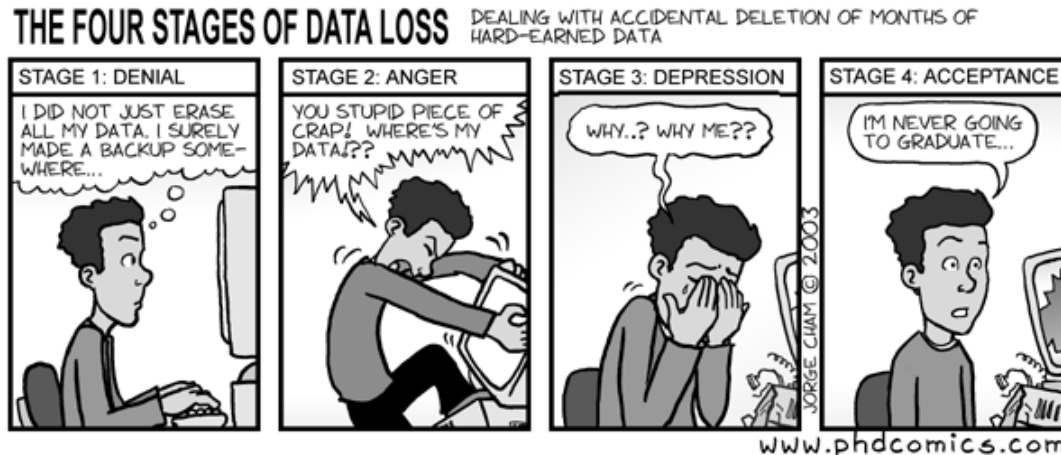


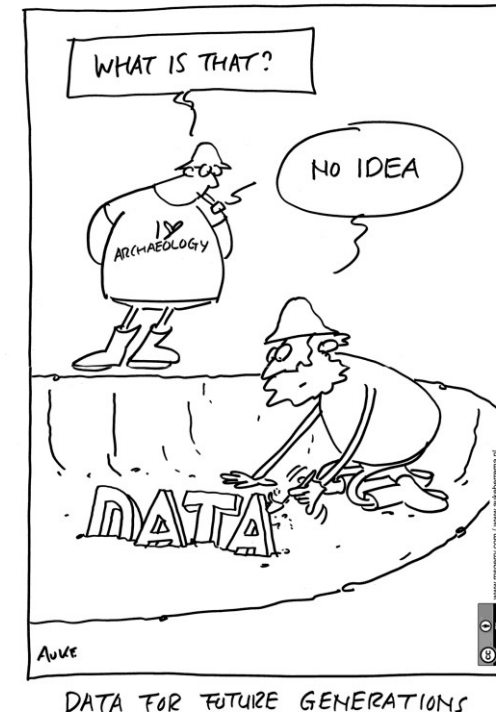
Illustration: unDraw (Katerina Limpitsouni), MIT license.

Never have I ever...

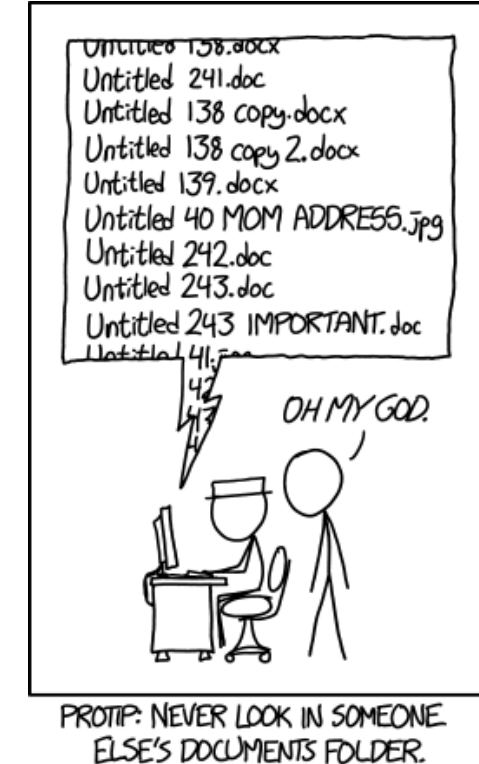
- Accidentally deleted data / documents
- Accidentally edited multiple versions of the same file in parallel
- Saved several versions with "final" in the name
- Assigned file names without a system
- Found files/data and couldn't assign them directly
- Searched for data / files



© Jorge Cham, PHD Comics (2007). *The Data Collection Continuum*. Used with permission.
<https://phdcomics.com/comics/archive.php?comid=382>



Herrema, A. (2014): FOSTER Cartoon: Data for Future Generations. FOSTER Project (EU-Funding 612425). Available at:
<https://web.archive.org/web/20240308101405/https://www.fosteropenscience.eu/content/cartoondata-future-generations>, CC-BY.



Munroe, R. (2015): *Documents*. XKCD. Available at:
<https://xkcd.com/1459/>, CC-BY-ND

Typical timewasters



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- "I can't find my files."
- "I don't know if I have the current version."
- "I forget what was meant in my notes."
- "I don't know if I'm even allowed to save / use it like that."



Why spend (more) time on RDM?

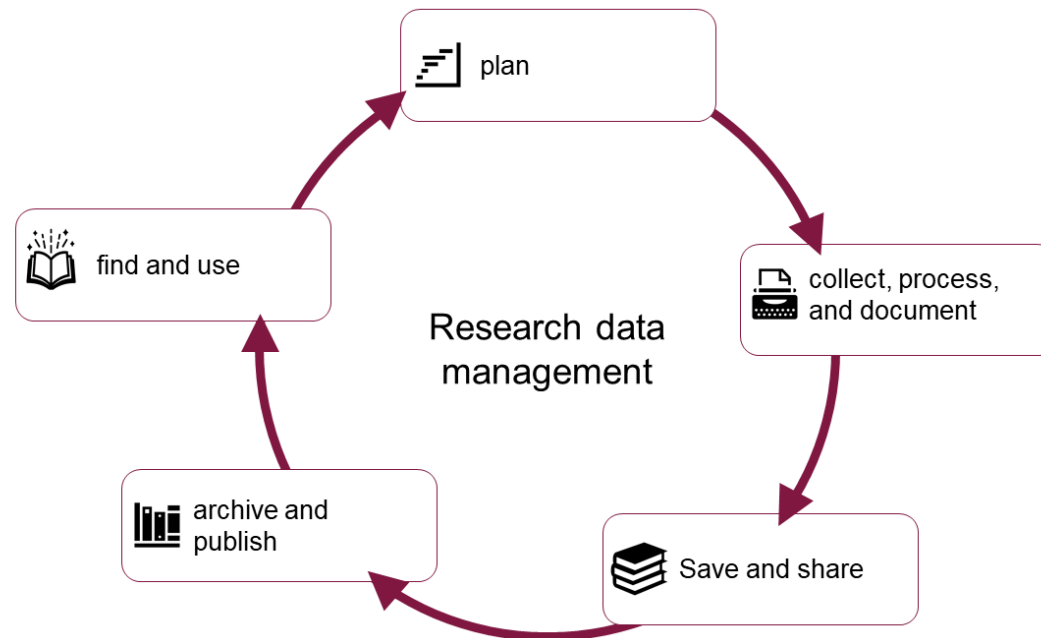
- **We want to...** find our data again, share it, back up our results.
- **We need...** order, documentation, legal clarity, trusted repositories.
- **This helps us to...** save time, ensure credibility, foster collaboration.



Adobe Stock (ID: 212877427), licensed to University of Kassel.

Research data management and the data life cycle

Research data management (RDM) includes all **aspects of data administration and data processing**, especially the planning of data collection procedures, the generation and processing of data, ensuring data integrity, documentation, sustainable storage, and making data available for reuse.



For each step there are mandatory



and optional



elements!

Where do obligations come from?

Example: Framework for RDM in Kassel I → Similar in most institutions

Principles for Ensuring Good Scientific and Artistic / Design Practice at the University of Kassel

- Implement the **DFG Code of Conduct**:
 - to comprehensively **document** collected data and results, presenting them transparently and traceably, including individual findings that do not support a hypothesis, and
 - to clearly **identify** the **sources** of data, organisms, materials, and software used, providing evidence for their reuse.

Guideline for Handling Research Data at the University of Kassel

- Supports Open Access publication of data and/or storage for usually 10 years.
- A data management plan must be maintained to document data management,
- and, if necessary, a record of processing activities (RPA) must be created (Art. 30 GDPR).

Statute for the Central Ethics Committee of the University of Kassel

- Consultation upon request after prior „Self-Assessment“.
- Statements on research ethics or safety-related concerns.


Doctoral regulations

Where do obligations come from? – Framework for research II

Institutional, Example University of Kassel

- [Principles for Ensuring Good Scientific and Artistic / Design Practice at the University of Kassel](#)
- [Guideline for Handling Research Data at the University of Kassel](#)
- [Statute for the Central Ethics Committee of the University of Kassel](#)
- [Doctoral regulations](#)

External /

- [FAIR, CARE, \(TRUST, ...\)](#)
- [Funders \(Website in German\)](#)
- [Publication venues](#) (Link to database with authors guidelines)
- [Subject-specific Recommendations on the Handling of Research Data](#) 
- Legal requirements ([DSGVO](#)/GDPR; Nagoya Protocol)

["Plant Sciences" and "Zoology" Review Boards on the handling of research data in biodiversity research \(2015\) \(in German only\)](#)

Institutional guidelines / principles





Exercise: Research whether your research institution* has published policies, recommendations for action, etc. and save them for reference!

Time: approx. 2-3 minutes

*Alternatively: your funding body or the platform on which you are planning your next publication

List of policies: https://www.forschungsdaten.org/index.php/Data_Policies

FAIR-Principles / FAIR Data 🌸

<u>F</u> indable	Findability of research data ⇒ Metadata (-standards), PIDs	
<u>A</u> ccessible	Accessibility of research data ⇒ Conditions of access and re-use	
<u>I</u> nteroperable	Technical reusability ⇒ Vocabulary, formats, software used, etc.	
<u>R</u> e-Useable	Analytical reusability ⇒ Comprehensibility and interpretability	

Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* The FAIR Guiding Principles for scientific data management and stewardship. *Sci Data* 3, 160018 (2016). <https://doi.org/10.1038/sdata.2016.18>

CARE Principles 🌸

Collective
Benefit

Opportunity for indigenous people to develop, integrate and innovate; Participation in value creation

Authority to
Control

Accessibility of research data
⇒ Conditions of access and reuse

Responsibility

Respectful relationships with indigenous people, including teaching data literacy, translations

Ethics

Rights and interests of indigenous people belong in the foreground, assessment by the indigenous people

Carroll, Stephanie Russo; Garba, Ibrahim; Figueroa-Rodríguez, Oscar L. u.a.: The CARE Principles for Indigenous Data Governance, in: Data Science Journal 19 (43), 2020, S. 1–12. Online: <https://doi.org/10.5334/dsj-2020-043>

Requirements of funders

Funding organization	Requirement	Delivery with application	Content	Updates required?
DFG	Information on the handling of research data	as an integral part of the application text	DFG-Checklist	reporting obligation at the end of the project
BMFTR (f.k.a. BMBF)	Plan required depending on funding line	yes (if required)	depending on funding program (e.g., Educational research: STAMP)	program-dependent
EC Horizon Europe	DMP	no (version 1 within the first 6 months of the project)	Contents of the Horizon Europe Template (FAIR principles)	in the event of significant changes, at the end of the project
VWStiftung	DMP	yes	" Basis DMP-Template " (or submission of the repository)	„living document“



Legal aspects in RDM

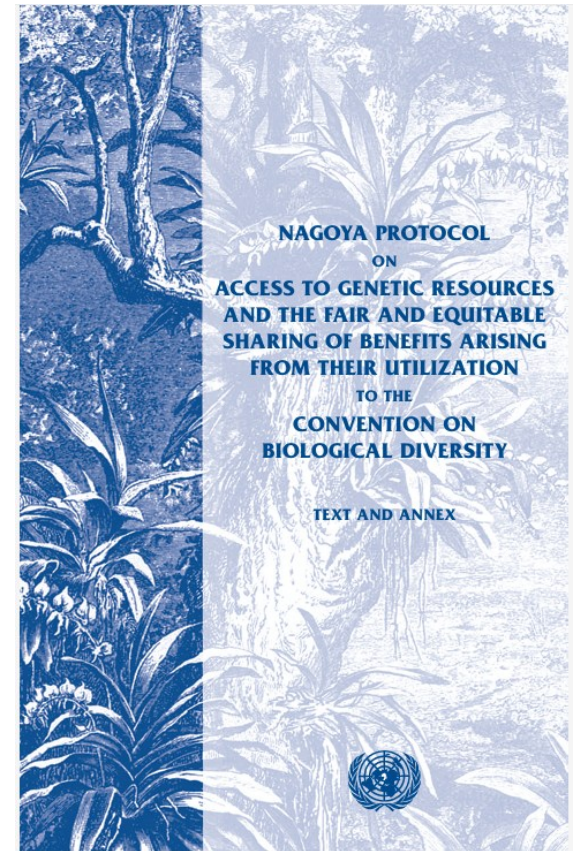
Copyright	Patent law	Personal rights	Data protection
Data security	Database guidelines	Software law	Licensing
Policies	Funding conditions	Labor and employment law	Contract law
Patent law	Competition law	International law	Basic law

Nagoya Protocol (Access & Benefit Sharing)

- **Legally binding** treaty under the Convention on Biological Diversity (CBD)
- Fair & equitable sharing of benefits from genetic resources & traditional knowledge
- EU implementation: Regulation (EU) No. 511/2014
- Germany: Federal Agency for Nature Conservation (BfN) as authority
- DFG Guidelines: due diligence, Prior Informed Consent (PIC), Mutually Agreed Terms (MAT)

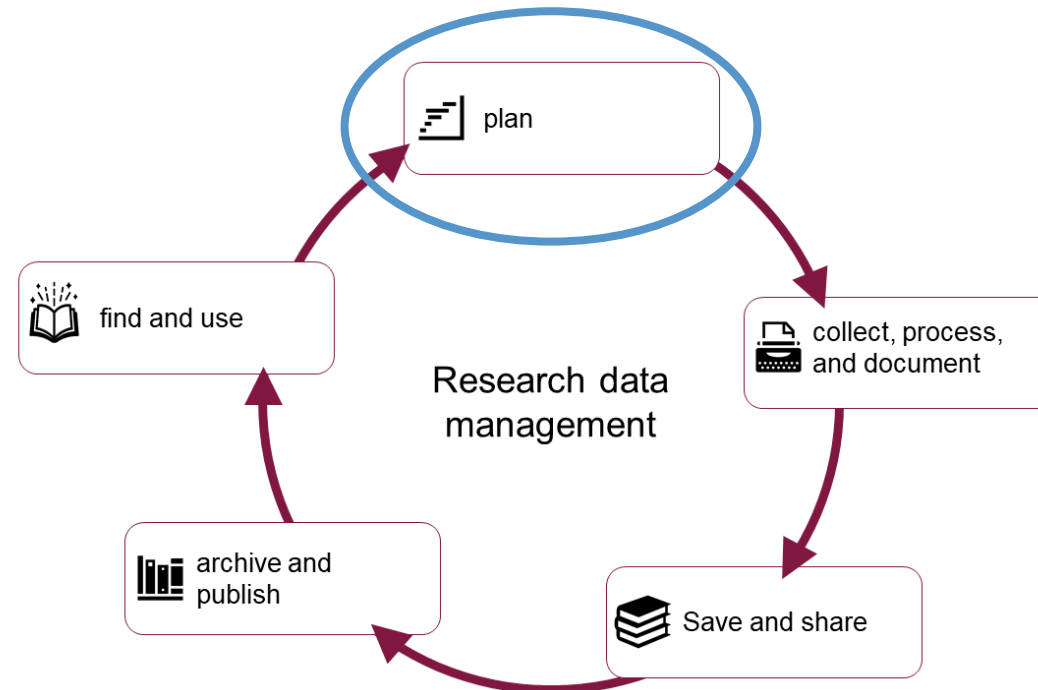
Practical relevance for researchers:

- Check if resources fall under Nagoya
- Obtain PIC & MAT if needed
- Keep documentation → publications & funding proposals



Convention on Biological Diversity (2011). *Nagoya Protocol – Cover page*. Secretariat of the CBD. Available at: <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>

Back to: Research data lifecycle



Planning RDM: Sometimes Mandatory

„Data management is documented by a **data management plan**, which is a part of every research project. It is updated regularly during the research process and sets out responsibilities, obligations, ownership/rights of use, and conventions for the practical management of data.“ - [Guideline for Handling Research Data at the University of Kassel](#)

What is it?

- **Guide** for the structured **handling** of research the **during** the project and **beyond written by you!**



What's the point?

- **Optimization** of research data management **in advance**
- **Recognizing challenges** at an early stage
 - Determine **requirements** (e.g. storage space) and react
 - Work **efficiently** and keep track of things
- Fulfilment of **requirements** (funding organisations, publishers)

Planning RDM

Think about this at the beginning of a project:

- **What** data is collected **and how**
- **Who** is **responsible** for the data
- **Who** owns the **rights** to the data
- What are the **discipline-specific standards**



- ✓ Document your considerations in a **data management plan** and **update** it as the project progresses

Datenmanagementplanung für Forschungsprojekte. Praktische Tipps und Best Practices [only in German]

<https://www.youtube.com/watch?v=EtJKQkrXQiY>

Planning RDM

There are various tools:


- Checklists
- Sample plans
- Special web applications
 - Guide through the process in the form of a questionnaire
 - Often adapted questionnaires for funders
 - In most cases, more or less finished DMPs can be exported





Example: GFBio Model Data Management Plan (DMP)

Version 1.0



Mau, Franziska; Timmermann, Britta; Astor, Tina, 2020, "GFBio Model Data Management Plan (DMP)", <https://doi.org/10.25625/W3YEEQ>, GRO.data, V1

Cite Dataset ▾ Learn about [Data Citation Standards](#).

Access Dataset ▾

Contact Owner Share

Dataset Metrics ⓘ

310 Downloads ⓘ

Description ⓘ

This model was developed by GFBio to give a general idea on which main elements should be included in a data management plan (DMP) for projects with biodiversity, ecological and environmental data, and what level of detail could be applied to certain aspects (e.g. information on data formats, storage and archival strategies, adherence to a certain data policy, data sharing considerations). (2020-07-16)


Subject ⓘ

Other

Keyword ⓘ


DMP, RDM, data management, FAIR data

License/Data Use Agreement

 CC0 1.0

Files Metadata Terms Versions

1 File





GFBioModelDMP_1.0.pdf


Adobe PDF - 521.5 KB

Published Jul 16, 2020

310 Downloads

MD5: b0a...c21 





DMPT

MANAGEMENT IN ONE PLACE

EMENT PLAN CREATION

. SUPPORT

ita Management Plan Tool

save your dynamic DMP.

Screenshot from <https://data.goettingen-research-online.de/dataset.xhtml?persistentId=doi:10.25625/W3YEEQ>, accessed 03.10.2025.

Citation Model DMP: Mau, Franziska; Timmermann, Britta; Astor, Tina, 2020, "GFBio Model Data Management Plan (DMP)", <https://doi.org/10.25625/W3YEEQ>, GRO.data, V1



Creating a DMP with GFBio DMPT

GFBio Model Data Management Plan (DMP)

Version 1.0



Mau, Franziska; Timmermann, Britta; Astor, Tina, 2020, "GFBio Model Data Management Plan (DMP)", <https://doi.org/10.25625/W3YEEQ>, GRO.data, V1

Cite Dataset ▾

Learn about [Data Citation Standards](#).

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CC0 1.0

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1 File



GFBioModelDMP_1.0.pdf

Adobe PDF - 521.5 KB

Published Jul 16, 2020

310 Downloads

MD5: b0a...c21



GFBio DMPT

BASIC QUESTIONS ABOUT DATA MANAGEMENT IN ONE PLACE

DYNAMIC DATA MANAGEMENT PLAN CREATION

PERSONAL SUPPORT

Click here to access the [Data Management Plan Tool](#)

Get a [free GFBio account](#) to save your dynamic DMP.

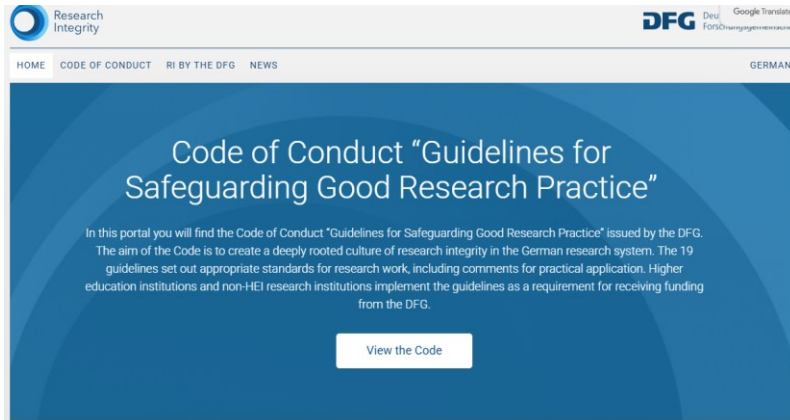
Screenshot from: <https://www.gfbio.org/plan/>, accessed 03.10.2025.

Screenshot from <https://data.goettingen-research-online.de/dataset.xhtml?persistentId=doi:10.25625/W3YEEQ>, accessed 03.10.2025.

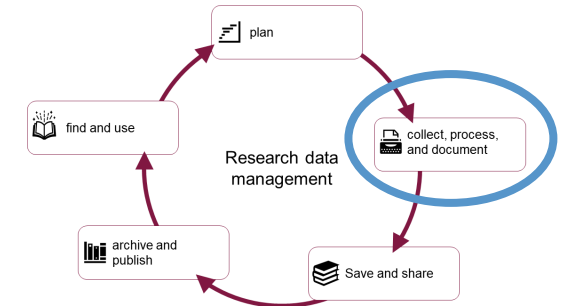
Citation Model DMP: Mau, Franziska; Timmermann, Britta; Astor, Tina, 2020, "GFBio Model Data Management Plan (DMP)", <https://doi.org/10.25625/W3YEEQ>, GRO.data, V1

With free feedback!

Collecting, processing, documenting data



Screenshot of <https://wissenschaftliche-integritaet.de/en/>, accessed 03.10.2025



“The **origin** of the data, organisms, materials and software used in the research process is **disclosed** and the **reuse** of data is clearly **indicated**; original sources are **cited**.” Guideline 7 Explanation

„Researchers **document all information relevant** to the production of a research result [...] this also includes [...] individual results that do not support the research hypothesis.” Guideline 12

“Where **subject-specific** recommendations exist for review and assessment, researchers create documentation in **accordance** with these guidelines.” Guideline 12

Collecting, processing, documenting data

✿ Concrete structure with very(!) much room for personal judgement and highly individual.

Example of documentation content:

- Description of the research project; project objectives
- Hypotheses
- Detailed information on data collection (methods, units, time periods, locations, technology used)
- Measures for data cleansing (code used for software, if applicable)
- Structure of the data and their relationship to each other
- Explanation of variables (names), labels and codes
- Differences between different versions
- Information on access and terms of use

Why documentation matters

https://youtu.be/FN2RM-CHkul?si=Cjq_FNty_Q-ihGNB

Keywords: Replicability and reproducibility!

Replicability: same methods, *new data* → similar results.

→ Focus on **repeating the *experiment***.

Reproducibility: same *data and code* → identical results.

→ Focus on **verifying the *analysis***.

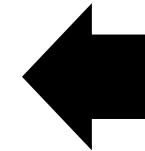
Both are key for **trust and transparency** in research - and good RDM supports both.

Mini Exercise: Metadata

Date 1 May 2022

Camera settings

Camera	Huawei
Camera modell	YAL-L21
Aperture number	F/1.8
Shutter speed	1/587 sec.
ISO speed	ISO-50
Focal length	5 mm
Maximum aperture	1.69
Measurement mode	multi-pattern
Flash light mode	without flash



- Sia, 2 years old
- Dog (*Canis lupus familiaris*)
- Mongrel, coat color beige
- Moderately obedient

- help to understand data.
- describe data in a structured way.
- are machine readable. This makes data findable in databases.
- Without metadata, research data is worthless because it is no longer understandable.
- Complete and correct metadata contributes to "Good Scientific Practice".

Data description with metadata

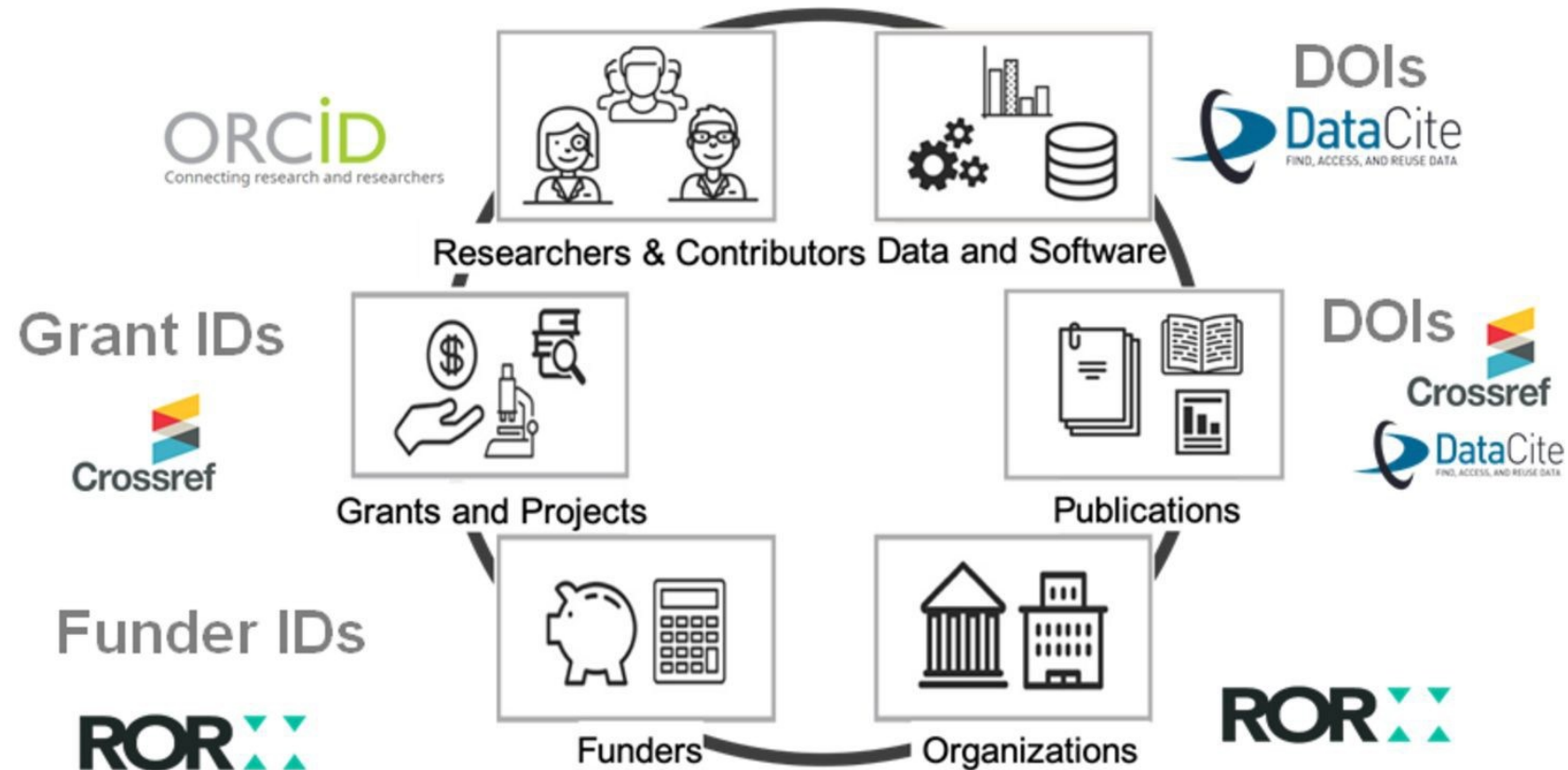
Overview of existing standards for example at:

- **Metadata Standard Catalog** <https://rdamsc.bath.ac.uk/>
- **RDA Metadata Standard Directory** <https://rd-alliance.github.io/metadata-directory/standards/>

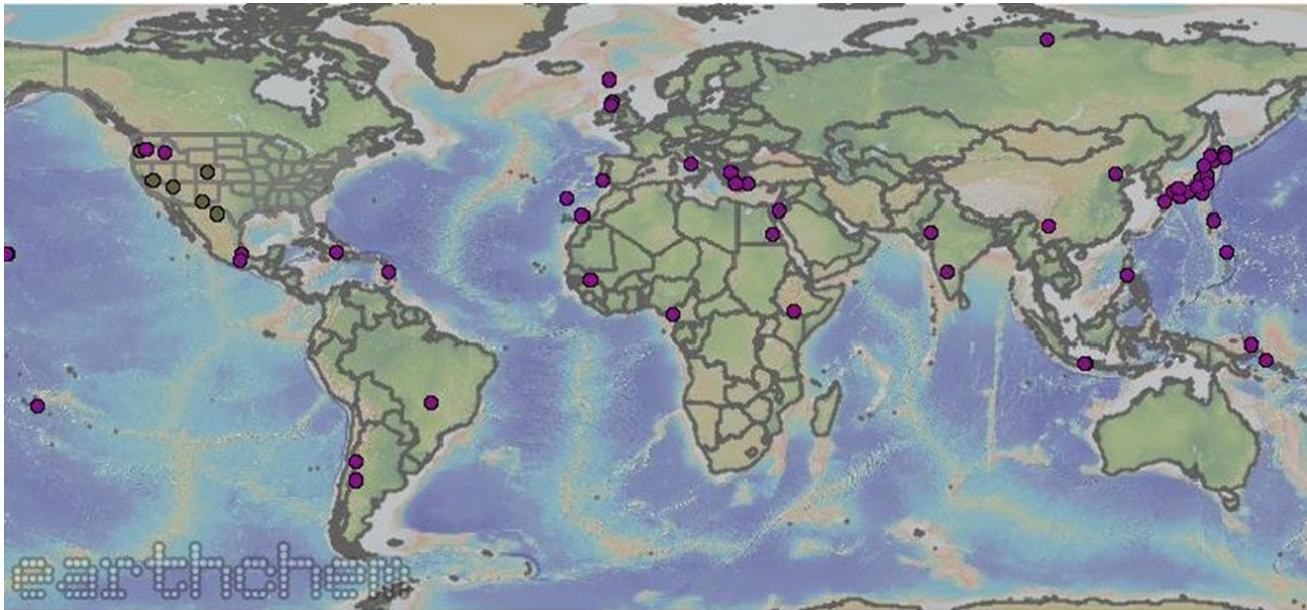
If there's no disciplin-specific standard, one can always refer to:

- **DataCite Metadata Schema, Publication and Citation of Research Data**
<https://schema.datacite.org/meta/kernel-4.4/>
- For us:
 - **Darwin Core** <https://rs.tdwg.org/dwc.htm>
 - Ecological Metadata Language (**EML**) <https://eml.ecoinformatics.org/>
 - Access to Biological Collection Data (**ABCD**) <https://abcd.tdwg.org/>
 - Minimum Information about any (x) Sequence (**MlxS**) <https://genomicsstandardsconsortium.github.io/mixs/>

Persistent identifiers



Why should I use PIDs?



World map showing locations of geological sample pieces from the IEDA EarthChem database with the sample name 'M1'. It is evident that there are many rock samples named 'M1', which have nothing in common with each other. (Based on <https://www.forschungsdaten.org/index.php/IGSN>, accessed April 18, 2024)

Thomas Müller

Works People Organizations Repositories

DataCite Commons

74,759 People

Andreas Thomas Müller
Andreas Th. Müller; Andreas Müller; Andreas Th. Muel
Andreas Mueller

<https://orcid.org/0000-0002-3961-4814>

Thomas Müller

<https://orcid.org/0000-0003-1225-1483>

Thomas Müller
Thomas Mueller

<https://orcid.org/0000-0002-8360-4189>

Armin Thomas Müller

Screenshots of the DataCite Commons page with a search for 'Thomas Müller' (<https://commons.datacite.org/>; accessed on December 9, 2024)

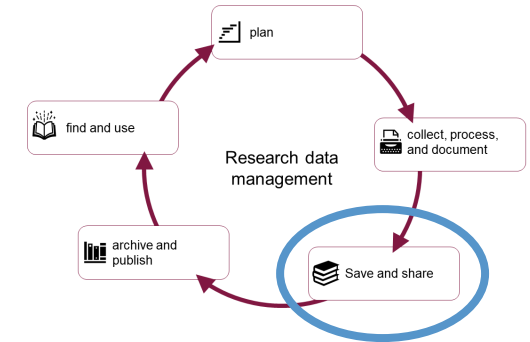
Store and share data ("active" data)



- In particular, the application of the GDPR and other agreements such as cooperation agreements, confidentiality or non-disclosure agreements
- Determine access rights



- Open, long-term stable file formats,
- Back-up strategy
- Long-lasting media
- Also: Tidying up, deleting what is no longer needed

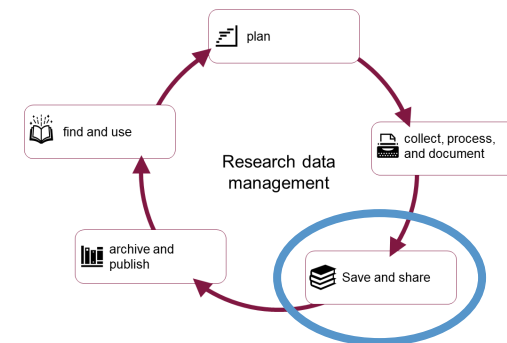


- Encryption
- Password management
- Deletion concepts

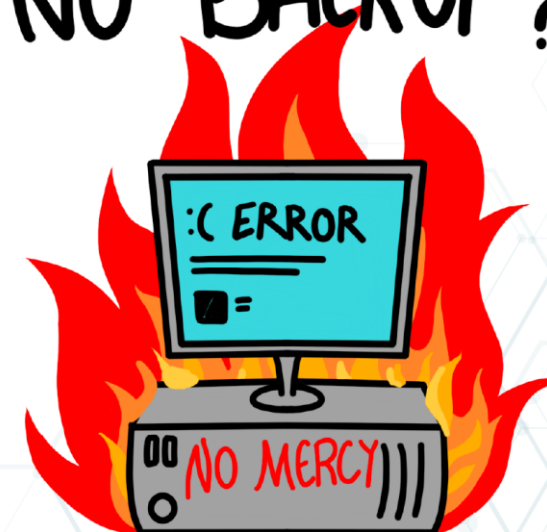
Storage, Backup, Security

Thought experiment: Your laptop / PC is now going up in smoke – do you have a backup copy of your data? No?!

→ **Homework:** After today's events, save 3 copies on at least 2 different data carriers, 1 of which is decentralized. Use institutional infrastructure, create a regular backup appointment in your calendar!



NO BACKUP?



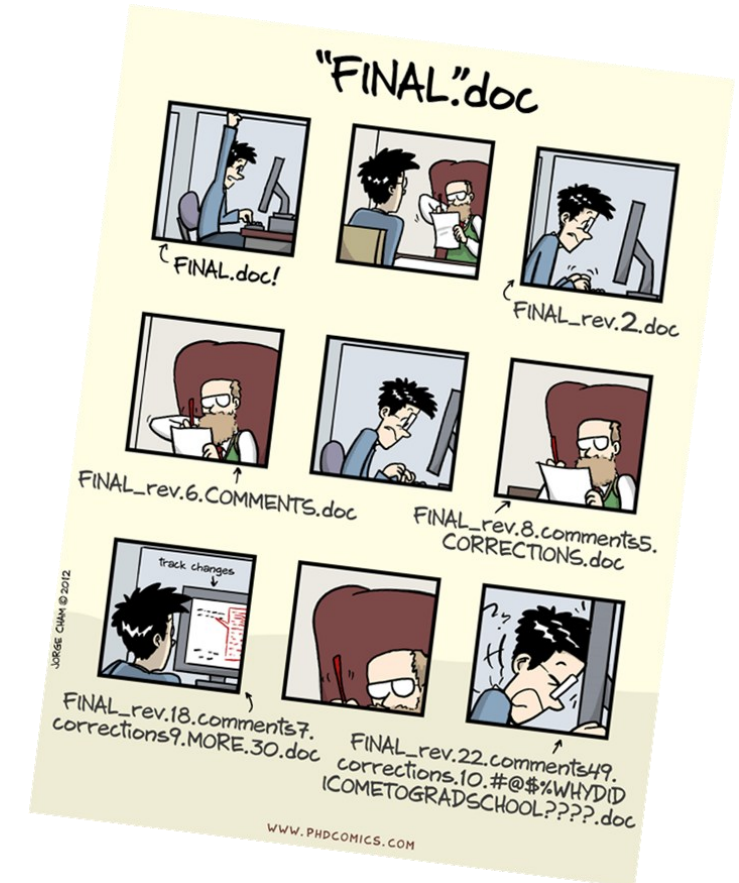
NFDI4Chem

Good practices

Simple versioning in the file name:

Based on the "v1-0-0" version, the following will be changed:

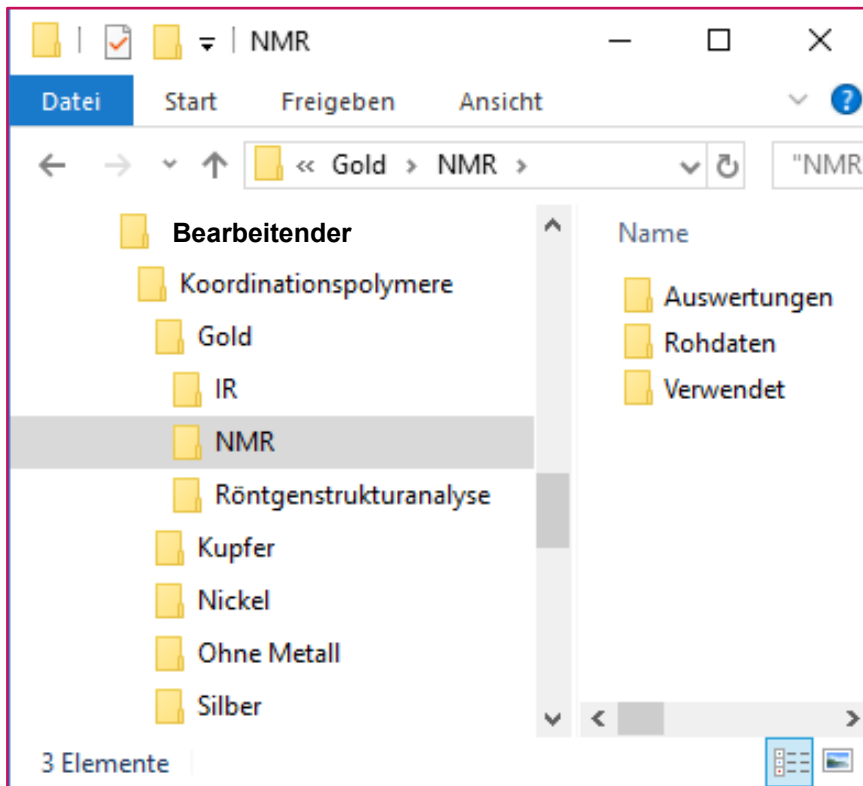
1. the first digit if multiple cases, variables, waves, or samples have been added or deleted
2. the second digit when data is corrected so that the analysis is influenced
3. the third digit if simple revisions are made without relevance to meaning



© Jorge Cham, *PHD Comics* (2012). *notFinal.doc*. Used with permission. <https://phdcomics.com/comics/archive.php?comid=1531>

Good practices

Folder structures for file organization



Screenshot: Birte Cordes

Choose a logical folder structure that reflects the workflow well.

It should be hierarchical, but as flat as possible, no more than three sub-levels.

Folder naming should be systematic, content-related and also be understandable for third parties.

Differentiation between backup, storage, publication

BACKUP

Protection against data loss

- Automatic backup of **all** data
- and **all** versions
- **Data being processed**
- for a **limited** period of time
- Access **only for data owners**

ARCHIVING

Backup for long-term storage (GAP: 10 years+)

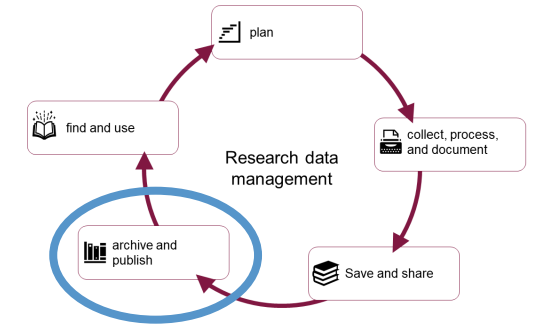
- **Selected data**
- physical preservation
- **Final versions only**
- As FAIR as possible
- Data access if necessary
- **Important: Archiving in repositories does not necessarily mean publication!**

PUBLICATION

Access for external parties

FAIR

- Unambiguous
- **Invariable**
- quotable



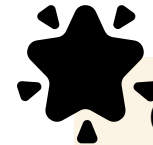
Mandatory or optional? – Storage / archiving

Retention obligations



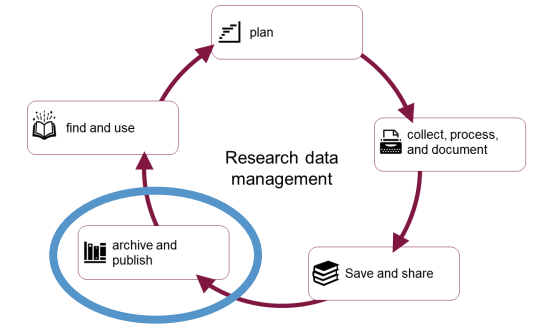
Mandatory

- According to GWP Data, on which publications are based, are generally archived in an accessible and identifiable manner for a period of 10 years (1)
 - Selection is allowed
 - There may be reasons against retention
- + Obligations by third-party funders, if applicable



Optional:

- Who should be able to continue working with the data?
 - Knowledge transfer in the working group
 - External partners if applicable
- Can / should (parts of) the data be published?
 - Good for the publication list!
 - Data can also be reused by others



(1) <https://wissenschaftliche-integritaet.de/en/code-of-conduct/archiving/>



Retention: fulfilling duties

Should any accusations arise, you need to be able to retrieve and comprehend the data to show that you acted correctly.



Where?

- Requirements from third-party funders?
- Is there a shared folder or storage system your group uses?
 - If not, it might be a good idea to set one up to ensure consistent access and organization.
- If not, consider storing the data in institutional repositories (access restrictions can be applied)

How?

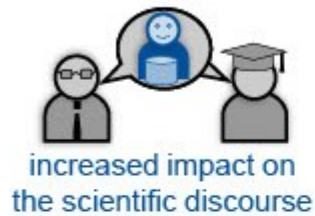
- With all the information needed to open and understand the data

Exception: Data protection

- If you have determined – for data protection reasons – that the data must be deleted after the end of the project, you are obligated to do so.
- Be sure to provide a written justification and document it in the data management plan!
- This includes data protection–compliant deletion.

Mandatory or optional? – Publication

Publishing high-quality data opens up opportunities!



increased impact on
the scientific discourse



special trust in the integrity
of your research



others follow your
example



additional citations when
others re-use your data



additional impact and recognition
(if data are relevant and of high quality)



gaining profile beyond
one's own disciplinary
community

further reading

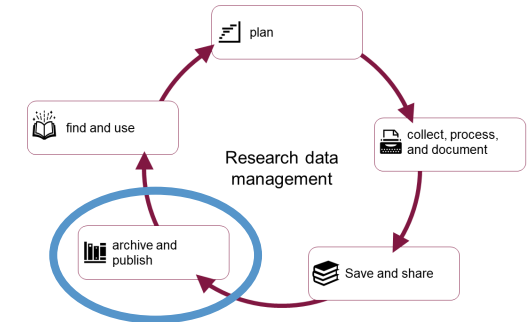
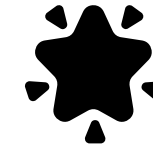
Max Planck PhNet: Incentives to adopt open science practices in your daily research. Online article, 30 June 2020.

go to website

further reading

open-access.net: Open Access and Research Data. Undated online article.

go to website



Access and publication



Supplement to article / book

PDF View Full Text Zusatzmaterialien

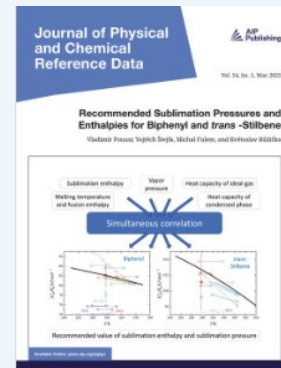
Zusatzmaterialien

2191-9186_a000684_esm1.pdf (148 KB)



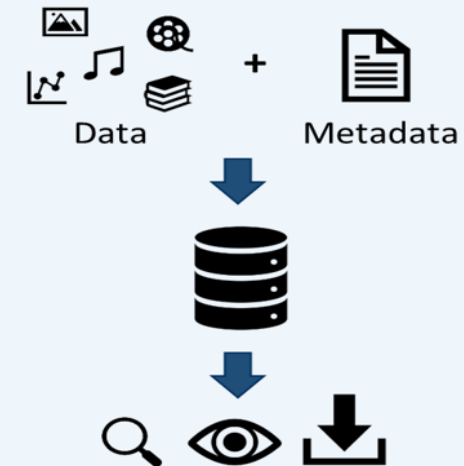
Data Journal

List of Data Journals

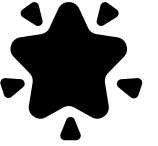


Overview Data Journals in Physics


Repository



1. Discipline specific (e.g. <https://www.hepdata.net/>)
2. Institutional (e.g. [DaKS](#))
3. Interdisciplinary (e.g. [Zenodo](#))



Finding a suitable repository

- Preferably subject-specific!
- Specifications or recommendations of the third-party funder?
 -  • DFG: <https://risources.dfg.de/>
 - Horizon Europe:
<https://open-research-europe.ec.europa.eu/for-authors/data-guidelines#approvedrepositories>
- Recommendations / advice from NFDI consortium? (<https://www.nfdi.de/konsortien/>)
- Directories / Search Engines:
 - <https://www.re3data.org/>
 - <https://v2.sherpa.ac.uk/opensoar/>
 - <https://repositoryfinder.datacite.org/>
- Ask the Research Data Service!

Further information:

- <https://www.forschungsdaten.info/themen/veroeffentlichen-und-archivieren/repositorien/>
- <https://www.eresearch.uni-goettingen.de/de/knowledge-base/howto/data-and-publication-repositories/>
- <https://youtu.be/N8EN6HHS-PU>

Generic repositories

Repository	Focus	URL
PANGAEA	Data publisher for Earth & environmental sciences	https://www.pangaea.de
Dryad	Open access repository for research data, biology & medicine	https://datadryad.org
Zenodo	General-purpose repository (all disciplines, incl. software)	https://zenodo.org

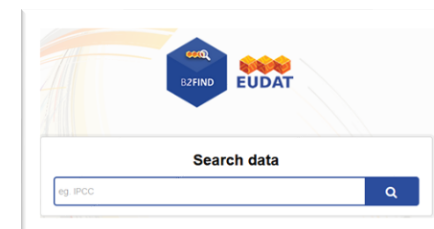
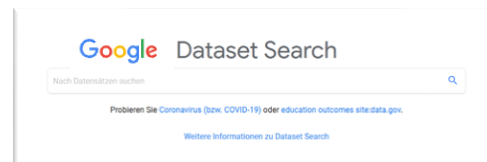
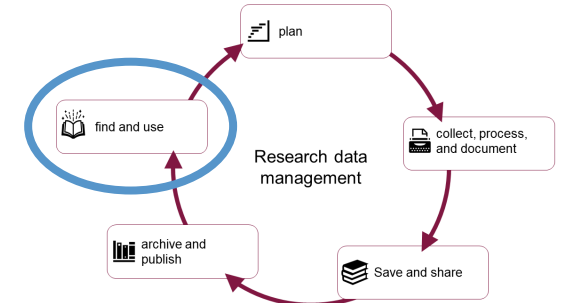
Biodiversity-specific repositories

Repository	Focus	URL
GBIF (Global Biodiversity Information Facility)	International infrastructure for biodiversity & species occurrence data	https://www.gbif.org
ENA (European Nucleotide Archive)	Nucleotide sequence data (DNA/RNA)	https://www.ebi.ac.uk/ena
GenBank	International nucleotide sequence database (part of INSDC)	https://www.ncbi.nlm.nih.gov/genbank
BOLD (Barcode of Life Data Systems)	DNA barcoding data	https://www.boldsystems.org
TRY	International plant trait database	https://www.try-db.org
MorphoBank	Morphological data, esp. for phylogenetic research	https://morphobank.org
Edaphobase	Soil organism data (operated by Senckenberg)	https://portal.edaphobase.org

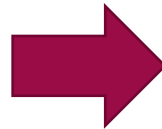
Find and use

Various approaches:

- Directly in repositories
- Data are cited or presented as supplementary material in publications
- By means of so-called metasearch engines or *harvester*
 - [Base](#)
 - [B2find \(EUDAT\)](#)
 - [geisDataSearch](#)
- [Datacite](#) metadata-search
- [Google Dataset Search](#)
- [NFDI4Ing Data Collections Explorer](#)



Uncertain?



HeFDI – The State Initiative for Hessian Research Data Infrastructures

- Cooperation between 11 universities and universities of applied sciences
- Establishment of both local service points and joint services
- What you see:
 - HeFDI Data School
 - HeFDI Code School
 - HeFDI Data Learning Materials (Selbstlerneinheit)
 - HeFDI Data Talks
 - HeFDI Forschungsdatentag / -woche
 - HeFDI Newsletter
 - DaKS, RDMO, *eLabFTW*
 - ...
- What you benefit from "invisibly":
 - HeFDI Open Consultation
 - HeFDI Open Curation
 - HeFDI Open Repo
 - ...



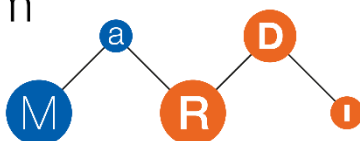
National Research Data Infrastructure



- 26 consortia + basic services + sections
- Data acquisition: structured and digital form
- Metadata standards
- Infrastructures for findability/reuse of data and software
 - Implementation of searchable databases (repositories for processed data; published and unpublished data)
- Training and further education offers in the field of RDM
- Demand-oriented ("community-driven")



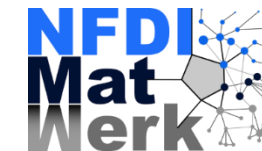
FAIRagro



**NFDI 4
BIOIMAGE**



**BERD
@NFDI**



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**NFDI 4
BIODIVERSITY**

**Data
PLANT**



FAIRagro



**NFDI 4
BIOIMAGE**

**NFDI 4
MICROBIOTA**



NFDI 4 Earth

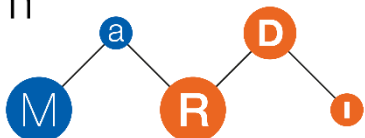


NFDI 4 ING



NFDI 4 Chem

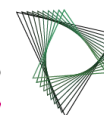
ENHANCE
YOUR
DATA.



NFDI 4 Cat
NFDI for Catalysis-Related Sciences



**nfdi 4
energy**



**BERD
@NFDI**



The Value of RDM

- **Enhances Reproducibility:** Ensures that experiments and analyses can be reliably repeated by you or others.
- **Protects Against Data Loss:** Structured backups and file standards guard your data from accidental deletion or corruption.
- **Boosts Efficiency & Productivity:** Clear organization and metadata save time when searching for files, re-running analyses, or onboarding new team members.
- **Facilitates Collaboration:** Shared conventions and documentation allow colleagues – local or remote – to understand and build on your work.
- **Enables Compliance & Funding Requirements:** Meets DFG, journal, and institutional mandates for data management plans and open data policies.
- **Increases Visibility & Impact:** Well-curated, FAIR-compliant datasets are easier to cite, reuse, and integrate, amplifying the reach of your research.
- **Supports Long-Term Reuse:** Future you – and future projects – can leverage existing data, avoiding duplicated efforts and reducing costs.

Discussion

What are your questions?

Which obligation is most important to you?

What are your current challenges?



Graphic: <https://undraw.co/search/you>