

**WUR Data Management Protocol template**

The WUR Data Management Protocol template can be used as a basis for the Data Management Protocol of the chair group (WU)/business unit (WR). When using this template, fill in between the [...].

* This template (last revision 2022-02-01) is based on the [WUR data policy](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Data-policy.htm) requirements.
* A Data Management Protocol is a ‘living document’ and, as such, can be edited and updated at any time.
* You are free to add items to this template to better align with the requirements of your chair group/business unit, but the original items must be retained.
* Answers provided are examples and can be tailored to the Data Management practices within the chair group as long as compliance to the WUR data policy is taken into account.
* You are free to add/remove text under the items to fit the requirements of the chair group/business unit.
* Right-click [info] and select ‘open hyperlink’ to additional information in the appendix.
* Questions? Please, contact data@wur.nl or visit the [Data Management website](https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC.htm) for more information.

Data Management Protocol - [name chair group/business unit]

[DATE], [NAME AUTHOR(S)]
[VERSION X.X]

For questions about this document contact [NAME] (e.g. the data steward).

## Purpose [[info](#_1._Purpose_)]

The purpose of this Data Management Protocol is to set general Data Management practices within [chair group/business unit]. More specifically, these Data Management practices aim to prevent data loss and increase reusability of data by complying with the [Dutch Association of Universities (VSNU) Code of Conduct](https://www.vsnu.nl/files/documents/Netherlands%20Code%20of%20Conduct%20for%20Research%20Integrity%202018.pdf) and [WUR data policy](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Data-policy.htm). The WUR data policy is guided by, amongst others, the [FAIR principles](https://www.force11.org/group/fairgroup/fairprinciples) (Findable, Accessible, Interoperable, Reusable) and the motto to share data ‘as open as possible, as closed as necessary’. The WUR data policy requires:

* Chair groups to write and update a Data Management Protocol (group-level). This is not required for business units, but highly recommended.
* PhD candidates to have a Data Management Plan (project-level).
* Secure, safe and shareable storage of the research data during research.
* Archiving of data sets underlying publications (articles/reports/theses) for at least 10 years after research.
* Registration of archived data sets in Pure.

The Data Management practices outlined in this Data Management Protocol apply to all data produced within research projects performed at [chair group/business unit]. This includes data derived within MSc thesis projects, PhD thesis projects, postdoc projects and staff projects as well as other research projects.

## Roles and responsibilities [[info](#_2._Roles_and)]

[chair group/business unit] identifies the following roles and responsibilities within the context of the management of research data:

|  |  |
| --- | --- |
| **Who** | **Roles and responsibilities** |
| **Chair holder/Business Unit manager** | * The final responsibility for proper storage of the data lies with [chair holder/business unit manager].
 |
| **Data Steward** | * Initiates and (co)-creates the Data Management Protocol and provides advice on this matter to the management of the group.
* Updates the Data Management Protocol when necessary.
* Functions as a primary contact point to members of the group for questions about Data Management and refers them to (data management) support when necessary.
* Informs new employees/PhD candidates/MSc and BSc students of the Data Management Protocol.
* Communicates the WUR data policy to members of the group.
* Advises group members on their Data Management Plan.
* [add group specific tasks/responsibilities].
 |
| **(Principal) researcher** | * Supervises the writing of a Data Management Plan and data handling by a PhD candidate.
* Informs PhD candidates about the Data Management Protocol.
* Responsible for Data Management during the research project using storage solutions and software (e.g. provided by WUR and/or on the [whitelist](https://intranet.wur.nl/umbraco/en/practical-information/information-security/whitelist/)) that match the [classification](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Doing/Data-classification.htm) of the data.
* Final responsibility for Data Management during the research project of PhD candidates and/or students.
* Authorises others for read/write access to the data (folders and/or files) and periodically check these authorisations.
* When applicable, ensures careful handling any sensitive (e.g. personal) data during and after the research project.
* Makes sure all data, at the end of a project, is archived on [W-drive/Yoda].
* Archives data underlying (a) publication(s) after the research project for at least 10 years.
* Registers published data sets in Pure via data@wur.nl.
* [add group specific tasks/responsibilities].
 |
| **PhD candidate** | * Writes a Data Management Plan.
* Informs BSc/MSc students about the Data Management Protocol.
* Responsible for Data Management during the research project using storage solutions and software (e.g. provided by WUR and/or on the whitelist) that match the classification of the data.
* When applicable, ensures careful handling any sensitive (e.g. personal) data during and after the research project.
* Archives data underlying (a) publication(s) after the research project for at least 10 years.
* Registers published data sets in Pure via data@wur.nl.
* Makes sure all data is archived [on the W-drive/in Yoda] at the end of the project and before the thesis is send to the PhD committee.
* [add group specific tasks/responsibilities].
 |
| **BSc/MSc student** | * Uses storage solutions and software (e.g. provided by WUR and/or on the whitelist) that match the classification of the data.
* When applicable, ensures careful handling any sensitive (e.g. personal) data during and after the research project.
* Hands in their data to their supervisor when the project is finished. This only applies when [chair group/business unit] is leading in supervising the thesis.
* [add group specific tasks/responsibilities].
 |
| **Other** |  |

## Data ownership, sharing and accessibility [[info](#_3._Data_ownership,)]

WUR has ownership over research data created by its employees, PhD candidates, students and users of WUR research facilities. Sharing of and accessibility to the data created by [chair group/business unit] will be arranged on a case-to-case basis, depending whether restrictions apply. However, a contractual agreement with a third party defining data ownership, sharing, access and use of the data supersedes WUR ownership and the data policy. If none is available, an agreement has to be made with the third party, in which ownership, sharing and accessibility to the data are arranged. When data is created by a party other than WUR, the data ownership policy of that party should be consulted.

## Safe and shareable storage during research [[info](#_4._Safe_and)]

The WUR data policy requires secure and shared storage of research data. The classification of the data determines how secure the storage has to be. For high risk data, increased security measures are needed. Several secure and shared [storage solutions](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Doing/Storage-solutions.htm) are provided by WUR. Using these storage solutions ensures compliancy with the WUR data policy for the data collected at [chair group/business unit]. As such, data is stored in locations that are backed up automatically / synchronized (so NOT on hard disks, USBs and laptops). This prevents data loss and ensures that data can be accessed by authorised parties in case of emergency or departure from WUR.

|  |
| --- |
| **What data should be stored where?** |
| **Description of type of data** | **Description of storage location** |
| Raw data | e.g. [W:\xxx\xxx..., Git@WUR, Yoda, MS Teams etc.]. |
| Processed data  | e.g. [W:\xxx\xxx..., OneDrive for Business\*, MS Teams, M-drive\*, Yoda, Git@WUR etc.].\* only for working copies |
| Analysed data | e.g. [W:\xxx\xxx..., OneDrive for Business\*, MS Teams, M-drive\*, Yoda, Git@WUR etc.].\* only for working copies  |
| Data transfer and exchange | TransferSmall data files: institutional emailSmall and large data files: [SURFfilesender](https://www.surf.nl/en/surffilesender-send-large-files-securely-and-encrypted) Exchangee.g. [Teamsites, MS Teams, OneDrive for Business] |
| Source code and scripts | e.g. [Git@WUR]. |
| [add other data types or further specify data types if applicable] |  |

Upon termination of a WUR account, all files on the M:-drive and/or Drive for Business are automatically deleted, including permanent deletion of data stored there. Therefore, WUR policy on data storage stipulates that research data in a personal folder/personal cloud storage should also be stored in a department or project folder on the [e.g. W-drive/Yoda/MS Teams etc.]. Therefore, all data needs to be stored on the [e.g. W-drive/Yoda/MS Teams etc.] on a regular basis (e.g. every month).

## Data archiving and registration after research [[info](#_5._Data_archiving)]

|  |  |
| --- | --- |
| What data needs to be archived? | In compliance with the WUR data policy, all data underlying publications (articles/reports/theses) are archived to enable verification of the research and reusability of the data. Data underlying publications includes:* Raw data
* Processed/cleaned data
* Analysed data
* Source code
* Software developed during the research project
* Data documentation including metadata (i.e. a README.txt file)
* [add when applicable]
 |
| Where should the data be archived? | * Data/code/software underlying publications that can be made publicly available for reuse is deposited in an online repository.
* Data/code/software underlying publications that cannot be made publicly available for reuse (e.g. personal data, company interest, otherwise sensitive) is archived on the [W-drive/Yoda/Git@WUR]. The metadata, however, is deposited in a repository.
* Data/code/software that does not underly publications but can be made publicly available for reuse, is encouraged to be deposited in an online repository (and archived on the [W-drive/Yoda/ Git@WUR]).
* Data/code/software that does not underly publications and that cannot be made publicly available for reuse can be archived on the [W-drive/Yoda/Git@WUR], but this is not mandatory and decided upon per project.
 |
| In which format should the data be stored? | Data can be stored in any format suitable for analysing the data. However, as much as possible, data files should also be stored in open file formats (e.g. .txt, .csv, etc.) to facilitate accessibility and reusability. Open file formats will continue to be readable (for software) in the future. When this is not possible the software, the version and the provider of the software should be incorporated in the data documentation.  |
| Registration of the data set | Both data sets published in a data repository and archived on the W-drive are registered in Pure, by sending the persistent identifier or pathway and accompanying publication(s) to data@wur.nl. Data sets that do not underly publications are not required to be registered, but it is recommended. |
| Who has access to the data archived at WUR? | Data on the: * W-drive can only be changed or removed by [indicate person(s)] (e.g. the data steward, the secretary of the group, the supervisor).
* Yoda can only be changed or removed by [indicate person(s)] (e.g. the data steward).
 |

## Data documentation and metadata [[info](#_6._Data_documentation)]

Data (sets)/code/developed software should be accompanied by documentation in the form of a README.txt file. Documentation should cover [e.g. methodology, explanation variables, analytical and procedural information etc.] and includes metadata. Metadata should at least have the following components [e.g. title data set, author(s) and affiliation(s), keywords, licence, etc.]/At [chair group/business unit] the [indicate metadata standard] is applied to data sets. When publishing data sets in a repository, the metadata standard of the repository is applied to the data set.

## Data Management for PhD candidates/research projects [[info](#_7._Data_Management)]

In the project proposal of a PhD candidate or research project, Data Management practices should be outlined in a Data Management Plan. The Data Management Plan is discussed with the project supervisor(s). When desired, and usually mandatory when a funder is involved, the Data Management Plan can be send to data@wur.nl for review. In case of PhD students, the Data Management Plan needs to be submitted with the project proposal to the graduate school. In general, the Data Management Plan should be updated and maintained throughout the research project when changes in Data Management practices are made.

The Data Management Plan for a PhD candidate/research project can be written by using:

* If applicable, the **funder Data Management Plan template** or
* The **WUR Data Management Plan template** which is available in [DMPonline](https://dmp.wur.nl/?perform_check=false) and via [this page](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Planning/Data-Management-Plans_templates_examples.htm).

## Feel free to add (if applicable)

**Appendix: additional information** *(may be deleted after completion)*

## 1. Purpose A group may choose to have the Data Management Protocol also apply to (MSc/BSc) students.

## 2. Roles and responsibilities

Identifying persons who are (or can be) of assistance in Data Management practices helps to clarify the data collection process within the chair group/business unit. Identifying these roles are also important when employees/PhD candidates/students have to hand over the data at WUR in the event of leaving WUR. **In the table several (potential) roles and responsibilities have been provided. For the advice document on roles for data stewards, please see** [**here**](https://edepot.wur.nl/498268)**. For information about data classification, see the additional information at 4. Safe and shareable storage during research. Feel free to add roles.**

## 3. Data ownership, sharing and accessibility

Explain, in general, what the procedures/guidelines considering data ownership, sharing and accessibility are within the chair group/business unit when:

1. Data is collected solely by WUR (employees).
2. Data is collected from/with/on behalf of third parties (other than WUR).

**The answer provided is an example, but can be tailored.**

WUR is the owner of the research data and entitled to data(bases) created by any WUR staff member within the scope of their employment. This means that WUR researchers are not the owner nor right holders of the data(base).

[WUR ownership](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Data-policy/Data-ownership-Policy.htm) should be discussed in the case the funder of the project, i.e. a third party (either public or commercial), imposes ownership conditions. Preferably this discussion takes place before the project starts. E.g. partner funding can condition that the data will become under (shared) ownership of the partners. In this case a Data Sharing agreement (DSA) should be agreed upon before starting the project.

The party that has ownership over the data decides what others are allowed to do with it; how the data is shared and accessibility to the data. [WUR’s data ownership policy](https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC/Data-policy/Data-ownership-Policy.htm) stipulates that WUR has ownership over data collected by its employees. However, if you collect data from/with/on behalf of an external party, you may have other agreements (e.g. consortium agreement, data sharing agreement) with that party, and these generally overrule WUR’s data ownership policy. The [data sharing guidelines](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Data-policy/Data-Sharing-guidelines.htm) can help with this.

## 4. Safe and shareable storage during research

Describe the general procedures/guidelines for data storage during research within the chair group/business unit. If there are general pathways on the W-drive, these can be added as well.
**The answers provided are examples, but can be tailored.**

Ensure that storage practices within the chair group/business unit comply with the [WUR’s data policy](https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC/Data-policy/Storage.htm)  and the [Information Security policy](https://www.wur.nl/en/About-WUR/Information-security.htm) (e.g. [data classification](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Doing/Data-classification.htm)). Safe and shareable storage of data following these policies means storing research data (including code etc.) and data documentation during research on (a) [storage solution(s)](https://www.wur.nl/en/value-creation-cooperation/collaborating-with-wur-1/wdcc/data-management-wdcc/doing/storage-solutions.htm) provided by WUR (and thus managed by WUR IT). Note that WUR’s storage solutions are backed up automatically and data recovery is in place. Check the [whitelist](https://intranet.wur.nl/umbraco/en/practical-information/information-security/whitelist/) (intranet WUR, login required) if your data needs a storage solution or software with additional security measures.

## 5. Data archiving and registration after research

Describe the general practices for archiving and registering data within the chair group/business unit.
**The answers provided are examples, but can be tailored.**

WUR’s [data policy](https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC/Data-policy.htm) stipulates that research data underlying publications (articles, reports, theses) must be kept for at least ten years, if possible in a data repository. Repositories are online archiving services that preserve data safely and make them findable. Data can be archived publicly, and with restricted access. However, there could be legitimate reasons not to archive data in a repository, but on the W-drive (or archive the data with a third party owning the data): the data is sensitive (e.g. personal data, company interest involved etc.), WUR is not the owner, Intellectual Property Rights, the data volume is too big etc. The [data sharing guidelines](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Data-policy/Data-Sharing-guidelines.htm) and [infographic](https://edepot.wur.nl/543063) can help in setting the general practices within the chair group/business unit for sharing research data.

The data sets underlying publications that are archived should, also in compliance with the WUR data policy, be registered in Pure. Registration can be done by sending an email to data@wur.nl with the persistent identifier (e.g. DOI, accession number) or link/pathway to the data set. To link the data set to the accompanying publications, the publications involved and their links/DOIs need to be specified as well. Library staff will then ensure your research output is properly linked and visible in [Research@WUR](https://research.wur.nl/).

## 6. Data documentation and metadata

Describe the general procedures/guidelines how data should be documented within the chair group/business unit. Outline the metadata that will accompany the data within the chair group/business unit and whether there are metadata standards to be used. It is possible to make a distinction between BSc/MSc projects and other projects.

It is essential to systematically [document](https://www.wur.nl/en/value-creation-cooperation/collaborating-with-wur-1/wdcc/data-management-wdcc/doing/data-documentation.htm) data during research and when depositing a data set into an online repository. Documentation is information added to data to ensure that this data is understandable to yourself and to others, both during and after your research. Metadata or ‘data about the data’ (e.g. author(s) + affiliation(s), title of the data set, licence etc.) is also documentation, but in a structured form.

Data can be documented on the:

* study level: e.g. explain the study purpose and methodology used.
* data level: e.g. define the meanings of variables and codes in your files.

Using, for example:

* README.txt files: these often list the files in a data set and what these contain to make the data understandable and reusable. Find a README file template + explanation [here](https://library.wur.nl/WebQuery/edepot/534144).
* eLabJournal.
* exports from a (lab) notebook.

## 7. Data Management Plans for PhD candidates/research projects

Describe the guidelines for how Data Management Plans are implemented in the chair group/business unit. **The answer provided is an example, but can be tailored.**

The WUR data policy stipulates that every PhD candidate should have a Data Management Plan. The policy applies to WU, but not to WR. However, for WR we highly recommend Data Management Plans. Not only for PhD candidates (if applicable), but also for projects in general. Additionally, we encourage BSc/MSc students to write a Data Management Plan to create awareness regarding handling data throughout the research cycle.

A Data Management Plan is a ‘living’ document in which Data Management practices on the project level are described. Funders more and more require a Data Management Plan for which the template of the funder can be used. When no funder is involved or the funder has no template available, the WUR provides a templatein [DMPonline](https://dmp.wur.nl/) and via [this page](https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC/Planning/Data-Management-Plans_templates_examples.htm).