

DATA MANAGEMENT PROTOCOL

for the FNP group

Version 2.0/October 2021

1. Introduction

The aim of this Data Management Protocol (DMPro) is to explain the guidelines on the storage and traceability of data in research carried out at the FNP group¹ with the ultimate goal: to be able to trace the ‘data journey’ from raw data to the published forms. That means that each step of the research process, from data collection, data processing, final analyses and reporting, needs to be documented and stored in a secure centralized location. This is important, because:

- It helps you to find and understand your own data,
- Minimises the risk of data loss,
- Ensures your data are preserved for the years to come,
- Facilitates the collaboration with other researchers,
- Increases the visibility of your research,
- Meets formal requirements of funders, journals and WUR,
- Increases transparency, reproducibility and verifiability.

2. Data management responsibilities

The scope of the guidelines provided by this data management protocol is defined by all data produced within projects performed at the Forest and Nature Conservation Policy group (FNP). Data at FNP is produced

1. in BSc and MSc thesis projects,
2. in PhD and postdoc projects,
3. in other projects in which staff, postdocs, PhDs, MSc and BSc students of FNP are involved.

A data set for each finalized (sub)project should be stored on a safe place. (Sub)Project is here defined as a publication (in any form, i.e. (thesis) report, article, book chapter, ...), or contribution to a publication (in any form, i.e. article, book chapter, ...). A (sub)project can be part of a larger project (e.g. an EU project covering several publications) or an independent project.

The FNP researcher is responsible for the data storage of all data used in the project (unless this is safeguarded in a different way, e.g. storage of the data by individual contributors). In case the FNP researcher is not the main coordinator but one of the contributors (e.g. in a paper with a first author not being from FNP), the FNP researcher is responsible for the data storage of the data FNP provided for the publication (unless this is safeguarded in a different way, e.g. storage of all data in one place).

¹ For FNP-BSc/MSc-thesis students and FNP-PhD students a separate document is available

The data created at the FNP group within ongoing research projects will be owned by the FNP group. Sharing of data will be arranged on a case-by-case basis, requiring consent of the head of the department.

3. Data management plan

In some cases, a project requires the development of a specific Data Management Plan (DMPlan). This is a document, written before the start of or at the beginning of a research project, in which various aspects of data management during and after the project are outlined. It makes you think carefully about the processes of collecting, storing, describing and preserving your research data. FNP makes use of DMPonline (dmp.wur.nl); an online tool for researchers to create, edit and share a DMPlan. This tool offers a range of funder DMPlan templates (e.g. from NWO, ERC and ZonMw). DMPonline is available to WUR researchers and enables you to easily:

- write your plan and update it throughout the lifecycle of your project,
- share your plan with internal and external collaborators,
- share your plan with the Data Desk to request feedback,
- and download your plan in a variety of formats.

The DMPlan of an FNP project will follow the guidelines as described in this FNP [Data Management Protocol](#) (DMPro), unless funders request differently.

4. What exactly to store?

Background of this document is the policy of Wageningen University that all data underlying a publication needs to be archived for a period of 10 years. The Netherlands Code of Scientific Practice (VSNU 2018) requests that research data must be managed and stored securely, to allow verification and reuse, for the period appropriate to the discipline. Wageningen University & Research acknowledges this VSNU code, which means also FNP researchers are required to keep their data available for this period.

Often the rule of thumb is used, that data underlying a publication AND any data that you may reuse in the future, is to be stored. Not to be stored are, a.o., data from failed experiments, easy to reproduce data, and data that will not be used in the future. The flow-chart in Appendix 1 may be of help.

The following data has to be stored for every publication:

- a) The raw data,
- b) The processed data,
- c) The publication.

5. Where to store your data?

WUR policy requires secure and shared storage. As such, it is strongly advised NOT to store your data on a location that does not get automatically backed up (e.g. the hard disk of your computer/laptop, an external hard drive, a USB stick) and/or cannot be accessed by the FNP group if necessary (e.g. during illness or departure from WUR). Secure and shared storage is provided by WUR via several ways.

5.1. Short term

Short-term storage of data refers to the storage of files when the publication is not yet finalized (e.g. raw data files are already available). For the short-term storage, there are the following options:

- **Personal folder (M:-drive)**
Every account has a personal folder (default size: 50 GB) which is only accessible to the account holder. You can access your personal folder outside of the WUR network via MyWorkspace or VPN.
- **Department or project folder (W:-drive)**
This is a group folder. The data on it is compartmentalized, and is accessible to certain groups of users on a pre-defined accessibility scale. The contact person for the W:-drive is the secretary of the group. She will be able to allocate you a folder where your data is accessible to only you, other persons you want to provide access (and the contact person).
- **Yoda**
Yoda is a research data management service that enables you and your research partners to securely deposit, share, publish and preserve large amounts of research data during all stages of a research project. It allows you to store data in a simple filing structure like that on the W:-drive or Onedrive, while also allowing more detailed metadata and sharing management.
- **Microsoft Teams**
Teams is a unified communication and collaboration platform that combines chat, video meetings and file storage (including collaboration on files). You can easily invite other users (internal or external) to participate on your Team.
There are two ways to access and use Teams:
 1. Access Teams from the web browser on any device via <https://portal.office.com>;
 2. Use Teams locally and download it from the WUR Software Center.
- **Team sites**
Team sites are online-based platforms where you can share and edit data files for internal and external collaboration. The standard size is 10 GB. A team site is accessible from any location and includes an array of advanced features, including version management, discussion fora, a central agenda etc. You can easily invite other users to participate on your team site. Wageningen University & Research employees can request access for those without a WUR account by requesting an external guest-account.
- **OneDrive for Business**
OneDrive for Business is a personal cloud service, with a storage capacity of 1000 GB

for each WUR account holder. With OneDrive for Business you can access your files from anywhere and from multiple devices. It is also possible to give others access to files.

What storage solutions tick the boxes?

	W: drive	M: drive	Teams	OneDrive for Business	External hard drive, USB, Laptop C:
1	X	X	X	X	X
2	X		X	X	
3			X	X	
4	X	X	X	X	
5			X	X	X
6	X	X	X	X	
7	X		X		
8	X				X

- | | |
|--|---|
| 1. relatively cheap | 5. work offline possible (sync to local disk) |
| 2. sharing within WUR | 6. any device, anywhere, anytime |
| 3. sharing with external parties | 7. durable; long life span |
| 4. no risk of breaking or theft, files can be restored | 8. suitable for Bulk storage (TB) |



All storage solutions are extendable (in case you need more storage capacity), fully supported by our IT department, and reliable and secure (with automatic back-up).

Upon termination of your WUR account, all files on the M:-drive and/or OneDrive are automatically deleted. Therefore, WUR policy on data storage stipulates that research data in a personal folder should also be stored in a department or project folder, in our case, the W:-drive. Therefore, all data needs to be stored on the W:-drive on a regular basis (i.e. for different stages of the project). Every research project will have a folder on the W:-drive, which is accessible only to the researcher and the secretariat. No other person has access to the folder, unless a request is made to the secretariat.

5.2. Long term

FNP policy is that, as soon as a publication has been finalized, this part is to be stored on our FNP archive drive, which is only accessible for the data steward of FNP and the secretariat. Hence, as soon as the publication is finalized, you have to provide your data, following the prescribed format (see section 4) to the secretariat. As soon as the data is correctly and securely stored, you can clean this part of your own W:-drive folder.

The data will be stored for at least 10 years in two locations:

1. Internal: the FNP archive.

This archive guarantees continuity of access to research data in the event that your personal folder is deleted (due to change of job, etc.), complying with WUR

policy for storage of research data. Access to the data is restricted to the secretariat and the data-manager of FNP.

2. External:

In one of the following archives in case of open/public data:

- a. DANS, one of the Dutch national data archives.
- b. A discipline-specific archive (WUR approved, to be discussed with the FNP data steward)
- c. A journal-associated archive

In case of confidential/secret data:

- d. As a data archive for secret data is in development, there is at this moment not yet an external archive available; therefore, storage on W:-drive will be continued.

By depositing a dataset in an open data repository, it is not only protected against corruption and loss, but also becomes findable and citable via a DOI. Therefore, it is advisable to use open data repositories when applicable.

Storage of the publication data in the two locations has to be done in close cooperation with the FNP data manager and FNP secretariat. Wageningen Data Competence Center will also support in the file preparation and storage at external archives. In this process, your data set will also be registered in PURE, and will become visible as research output.

6. How to store your data

Designing a logical folder structure and consistently applying descriptive file names over time makes your research process more efficient. Some best practices are provided below.

6.1. File names and versions

Giving your data files a descriptive name - and consistently applying your naming strategy over time - will help you locate specific data later on. You might consider using some of the following information in your file names:

- Author/creator/research
- Project title
- Content
- Date
- Kind of data (preferably: YYYYMMDD, for chronological organization)
- Version

Try to keep names short. You shouldn't try to use all the above aspects in the file name. Moreover, if you want to separate the different elements of your file name, do not use spaces or characters like ?\!@*%{[<> in the file name because some software programs

don't recognize file names with these characters. Instead, use underscore (file_name), dashes (file-name) or camel case (FileName).

Start your file name with the element you want to sort by, and go from generic to more specific. In case you use numbering, make use of leading zeros (e.g. 01, 02, ... and not 1, 2, 3).

For version control, it is practical to indicate this with the “v” before the number of the version. An example could be that you work on your proposal: Proposal_v01.docx (indicating the first version of your proposal).

Be aware that storing files with the same name at different locations can lead to confusion. Therefore, develop a file naming practice that allows you to distinguish between files. Always make sure you clearly indicate versions.

6.2. File formats

When you collect data, you will choose software to store and analyse your data. If you want to exchange data with others or if you want to use data at a later stage these proprietary formats may cause problems. Software versions also change, and if your colleagues don't have a license for your chosen software, the files are useless to them.

Therefore, when choosing a file format consider the following:

- Consider whether you could use an **open standard**. For open formats all format details are public, everyone can read them. Open file formats can be easily exchanged, but they will lack some of the specific functionality that is proprietary to a software product.
- Some proprietary formats have become ad-hoc standards in certain files like PDF or ESRI Shapefiles. For example, the ESRI shapefile is a vector data format for geospatial data. It is a (mostly) open specification for data interoperability among ESRI and other GIS software products (ArcGis). Even though some ad-hoc standards are too big to fail, other ad-hoc standards have changed. For example Adobe Flash has been widely used for moving image, but it is now becoming obsolete and Adobe is not developing further. When choosing an ad-hoc standard be aware that it may change.
- Data repositories give lists of recommended file formats that you should use when you want to publish data through them. These lists can help select the format for data exchange during your work. As we make use of DANS for storing the final Research Data, we included the lists of preferred formats in **Appendix 2**.

6.3. Organizing files and folders

It's important to have a logical folder hierarchy that allows you to understand where to find your files and avoid duplication. For the short-term storage, every researcher is free to choose their own folder hierarchy, but is strongly advised to have a look at the FNP





group level procedures on storing data on the long term. These procedures will be described below.

To be stored for every publication at the FNP-group:













Every article has a separate folder, which you could label as “[type of publication]_name”. The following files are to be stored for this article:

- a. Raw data files (such as transcripts of interviews, excel/SPSS raw data from web-surveys, GIS-files, etc.), in a folder “RawData”.
In case you have more than one file linked to the same type of raw data, you have three options:
 1. Label all files differently (e.g. you have 3 interviews, you can label them as “interview1”, “interview2”, etc.)
 2. Include all the files in one main file (e.g. you have 10 interviews, combine all these interviews in one file, name “interviews”)
 3. Make a separate folder (e.g. named “interviews”) in which you store all the separate interviews; these separate interviews you could store under the label “interview1”, “interview2”, but could also be any other name
See for filenames, section 4.1
 - b. Data files after analyses (such as SPSS data after variable transformations, removal of outliers, etc.) and a description or computer code (e.g., SPSS syntax file) containing the steps to go from raw data file to the analyzed data file, including a short clarification of the steps of the analyses in English, in a folder “ProcessedData”.
In case you have more than one file linked to the same type of raw data, you have three options:
 1. Label all files differently (e.g. you have 3 interviews coded, you can label them as “Coding1”, “Coding2”, etc.)
 2. Include all the files in one main file (e.g. you have 10 interviews, combine all these interviews in one file, name “Codings”)
 3. Make a separate folder (e.g. named “Codings”) in which you store all the separate interviews; these separate interviews you could store under the label “interview1”, “interview2”, but could also be any other name
See for filenames, section 4.1
 - c. Final product (article) with journal(s), in a folder “Publication”
2. A “Metafile” explaining the different files and how to interpret the uploaded files. The format of this file is found in Appendix 3. This file should also contain information on the confidentiality of the raw data or if there are situations of joint copyrights.

The folder structure of the overall data management is as follows.
For an individual publication (not being part of a larger project):

 [typeofpublication] name		
	Metafile.pdf	
	 RawData	<name file>.ext
	 ProcessedData	<name file>.ext
	 Publication	<name file>.ext

For publications, part of a larger project:

 PROJECT NAME			
	 [typeofpublication] name		
	Metafile		
	 RawData	<name file>.ext	
	 ProcessedData	<name file>.ext	
	 Publication	<name file>.ext	
	 [typeofpublication] name		
	Metafile	Metafile	
	 RawData	 RawData	
	 ProcessedData	 ProcessedData	
	 Publication	 Publication	

For an example, see Appendix 4. In Appendix 5, you can find an example of a Metafile.

7. Privacy issues when storing data

Personal data is any data that (directly or indirectly) can be traced back to a certain (natural) person. Direct, when names of persons are mentioned; indirect, when attributes of that person are mentioned that can be linked to one specific person (e.g. professor, male, forest and nature conservation policy group → professor Bas Arts).

Most of the researchers in FNP work with personal data. It is, therefore, important to realize the following aspects as regards data management and personal data. The objective of WUR is to respect the personal life of the Data subject as much as possible. On the basis of the fundamental right to protection of the Personal data of a Data subject, the data relating to him/her must be protected against illegal and unauthorised use or abuse. This means that the Processing of Personal data must comply with relevant laws and regulations and that Personal data must be safe at Wageningen

University & Research². On the following website, the most important aspect of working with personal data are portrayed. It is important to be aware of the different aspects involved in all phases of your research. Some of the aspects mentioned are solved by following the guidelines of this protocol (e.g. safe storage):

<https://www.wur.nl/en/show/Policy-document-for-processing-personal-data-WUR.htm>

8. Roles and roadmap

The following overview summarizes the steps to be taken and the division of tasks as regards data management.

1. Start of a new project (FNP):
 - a. Create a data management plan on dmp.wur.nl in case required by the funder Main researcher/project coordinator
 - b. Request to secretariat for new project folder on W:-drive, including access rights Main researcher/project coordinator
 - c. Create project folder on W:-drive Secretariat
 - d. Select short-term/local data storage Main researcher/project coordinator
 - e. Discuss data storage with FNP project team Main researcher/project coordinator

2. During project:
 - a. Store all data on selected short-term/local data storage All team members
 - b. Store separate phases of project in project folder on W:-drive Main researcher/project coordinator

3. Finished project:
 - a. Request to secretariat to archive project folder on the W:-drive (massive storage) Main researcher/project coordinator
 - b. Store project folder on the W:-drive (massive storage) Secretariat
 - c. Discuss external data storage with FNP data steward Main researcher/project coordinator
 - d. Store data on external archive Main researcher/project coordinator
Data steward

9. Research Data Management course

The Wageningen Graduate Schools, in cooperation with WUR Library, organize Research Data Management courses several times a year. These consist of lectures and

² For a complete overview of WUR's policy on personal data, check: <https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC.htm>

practical assignments that cover various aspects of managing research data: from organising your data files during data collection to publishing your final dataset.

10. Sources/acknowledgements

For this protocol, we made use of the following sources:

Hilde van Zeeland; Shauna Ní Fhlaithearta, 2018. Wageningen University and Research: course research data management. <https://hdl.handle.net/10411/E8M8Gi>. DataverseNL, V1; Part 1 - Intro-FilesFolders-VersionControl-KeepingNotes.pdf. Date of access: 22nd of May, 2019

Hilde van Zeeland; Shauna Ní Fhlaithearta, 2018. Wageningen University and Research: course research data management. <https://hdl.handle.net/10411.E8M8GI>. DataverseNL, V1; Part2 complete_WURframework-Storage.pdf. Date of access: 22nd of May, 2019

WUR, 2019. Data management. <https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC.htm>. Date of access: 22nd of May, 2019

WUR, 2018. Policy document on the processing of Personal data at Wageningen University & Research. https://www.wur.nl/upload_mm/5/e/7/6ee98c92-d1b3-4ff6-b156-f1cc4b133bad_Policy%20document%20for%20processing%20personal%20data%20WUR.pdf. Date of access: 23th of May, 2019

WUR, 2021. Data Management. <https://www.wur.nl/en/Value-Creation-Cooperation/Collaborating-with-WUR-1/WDCC/Data-Management-WDCC.htm>. Date of access: 30th of September, 2021

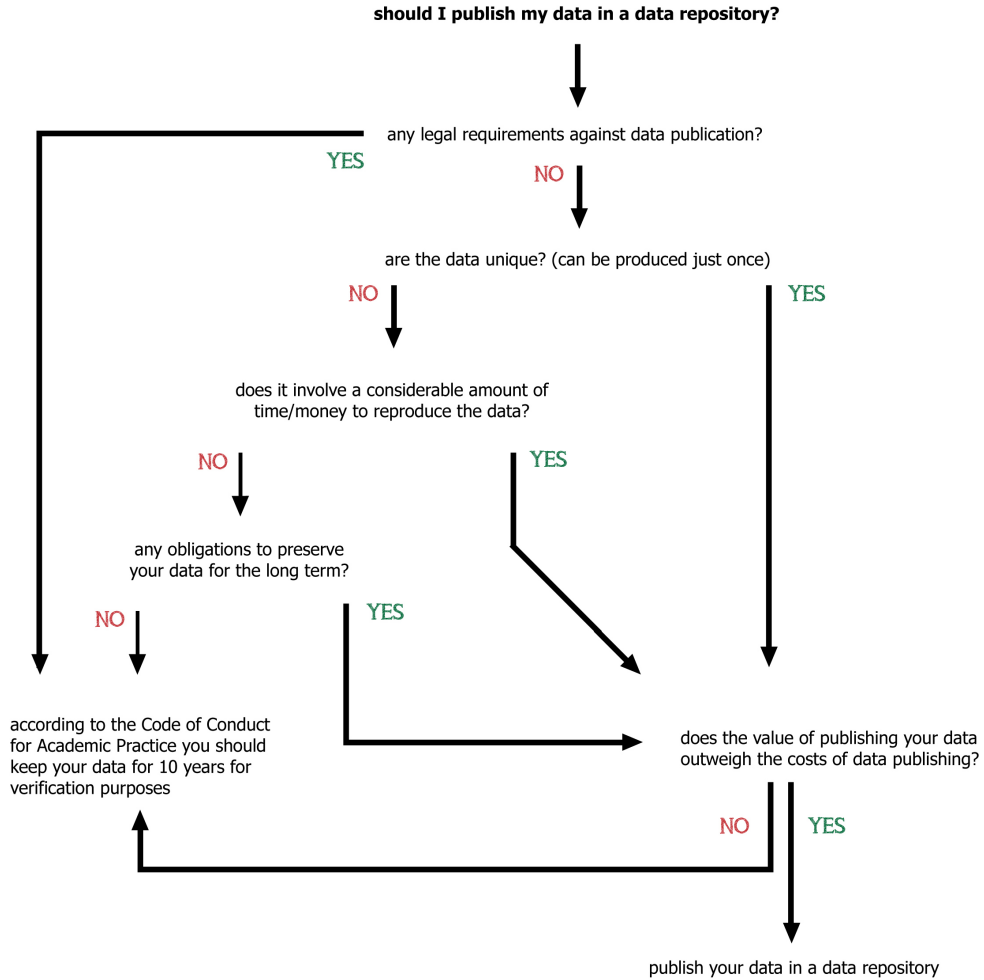
This guide is the product of the Forest & Nature Conservation Policy group; contact persons dr. Marjanke Hoogstra-Klein & Keen-Mun Poon.

Our sincere thanks to the help from:

- Shauna Ní Fhlaithearta (WUR)
- Guido Hoenderboom (WUR)

Appendix 1

Flow chart for data storage



Source: WUR, 2019. When and why to publish your dataset. <https://www.wur.nl/en/Value-Creation-Cooperation/WDCC/Data-Management-WDCC/Finishing/When-and-why-to-publish-your-dataset.htm>.
Date of access: 22nd of May, 2019

Appendix 2

File formats preferred by DANS

§	Type	Preferred format(s)	Acceptable format(s)
2.2	Text documents	<ul style="list-style-type: none"> PDF/A (.pdf) 	<ul style="list-style-type: none"> ODT (.odt) MS Word (.doc, .docx) RTF (.rtf) PDF (.pdf)
2.3	Plain text	<ul style="list-style-type: none"> Unicode (.txt) 	<ul style="list-style-type: none"> Non-Unicode (.txt)
2.4	Markup language	<ul style="list-style-type: none"> XML (.xml) HTML (.html; .xhtml) <p>Note: When valid and complete (see notes)</p> <p>If needed:</p> <ul style="list-style-type: none"> Related files: .css; .xslt; .js, .es (see notes) 	<ul style="list-style-type: none"> SGML (.sgml)
2.5	Spreadsheets	<ul style="list-style-type: none"> ODS (.ods) CSV (.csv) 	<ul style="list-style-type: none"> MS Excel (.xls, .xlsx) PDF/A (.pdf) OOXML (.docx, .docm)
2.6	Databases	<ul style="list-style-type: none"> SQL (.sql) SIARD (.siard) DB tables (.csv) 	<ul style="list-style-type: none"> MS Access (.mdb, .accdb), (v. 2000 or later) dBase (.dbf) (v. 7 or later) HDF5 (.hdf5, .he5, .h5)
2.7	Statistical data	<ul style="list-style-type: none"> SPSS Portable (.por) SPSS (.sav) STATA (.dta) DDI (.xml) data (.csv) + setup (.txt) 	<ul style="list-style-type: none"> SAS (.7bdat; .sd2; .tpt) R^(*)
2.8	Raster Images	<ul style="list-style-type: none"> JPEG (.jpg, .jpeg) TIFF (.tif, .tiff) PNG (.png) JPEG 2000 (.jp2) 	<ul style="list-style-type: none"> DICOM (.dcm) (by mutual agreement)
2.9	Images (vector)	<ul style="list-style-type: none"> SVG (.svg) 	<ul style="list-style-type: none"> Illustrator (.ai) EPS (.eps)
2.10	Audio	<ul style="list-style-type: none"> WAVE; BWF (.wav) FLAC (.flac) 	<ul style="list-style-type: none"> AIFF (.aif, .aiff) MP3 (.mp3) AAC (.aac, .m4a)
2.11	Video	<ul style="list-style-type: none"> MPEG-2 (.mpg, .mpeg, ...) MPEG-4 H.264 (.mp4) Lossless AVI (.avi) QuickTime (.mov) 	<ul style="list-style-type: none"> MKV (.mkv)
2.12	Computer Aided Design (CAD)	<ul style="list-style-type: none"> AutoCAD DXF v. R12 (.dxf) 	<ul style="list-style-type: none"> AutoCAD, other versions (.dwg, .dxf)
2.13	Geographical Information (GIS)	<ul style="list-style-type: none"> GML (.gml) MIF/MID (.mif/.mid) 	<ul style="list-style-type: none"> ESRI Shapefiles (.shp & related files) MapInfo (.tab & related files) KML (.kml)
2.14	Images (geo reference)	<ul style="list-style-type: none"> GeoTIFF (.tif, .tiff) 	<ul style="list-style-type: none"> TIFF World File (.tfw & .tif)
2.15	Raster GIS	<ul style="list-style-type: none"> ASCII GRID (.asc, .txt) 	<ul style="list-style-type: none"> ESRI GRID (.grd & related files)
2.16	3D	<ul style="list-style-type: none"> WaveFront Object (.obj) X3D (.x3d) 	<ul style="list-style-type: none"> COLLADA (.dae) Autodesk FBX (.fbx)
2.17	RDF	<ul style="list-style-type: none"> W3C standards 	
2.18	Computer Assisted Qualitative Data Analysis (CAQDAS)	<ul style="list-style-type: none"> Formats used in application, processed according to each individual file's data type 	<ul style="list-style-type: none"> Application's export formats (ATLAS.TI copy bundle; NVIVO export project; ...) QuDEX

Source: DANS, 2015. Preferred formats. September 2015, version 3. <https://dans.knaw.nl/en/deposit/information-about-depositing-data/DANSpreferredformatsUK.pdf>. Date of access: 22nd of May, 2019

(*) Under examination

Appendix 3

Metafile article

1. Organizational context

Name of FNP researcher(s):

Graduate school:

2. Publication

Title of publication:

Type of publication:

Part of a larger project: no/yes, i.e.

3. Data management information

First author:

Co-authors:

Short description (2-3 sentences) of the article:

Country/countries of research:

Region(s)/location(s) of research:

Dates/period of research:

Dates/period of data collection:

Models/software used:

Ownership data:

Confidentiality:

Copyright article:

Other data storage locations:

4. Data management structure

Metafile		
<i>Name of file:</i>	<i>Short description:</i>	
[type of publication]_name		
RawData		
<i>Name of file:</i>	<i>Short description:</i>	
ProcessedData		
<i>Name of file:</i>	<i>Short description:</i>	
Publication		
<i>Name of file:</i>	<i>Short description:</i>	

Appendix 4

Example folder structure

In this format description, we will make use of an example, i.e. the fictional FNP researcher S. Cooper.

Main folder

S. Cooper started in 2018 an EU project on Dutch climate change policy and forest management at the FNP group. His main folder on the W:\drive is Coope001. He set up a main folder for the project, which he called EU_ClimateChange. He has two publications for this project. One article and one book chapter. The paper is on forest policy and climate in the Netherlands, the book chapter focuses on describing adaptive strategies of Dutch forest managers. He makes two subfolders in the Eu_Climate Change folder, labelled Article_PolicyClimate and Bookchapter_AdaptiveStrategies. The folder structure now consists of:

```
Coope1
  EU_ClimateChange
    Article_PolicyClimate
    Bookchapter_AdaptiveStrategies
```

NOTE: the following only provides an example for the article

Article_PolicyClimate

a. Raw data:

S. Cooper sets up a folder “RawData” in the Article_PolicyClimate folder:

```
Coope1
  EU_ClimateChange
    Article_PolicyClimate
      RawData
    Bookchapter_AdaptiveStrategies
```

For his article, S. Cooper has carried out several interviews in 2019 to explore opinions on climate change policy. Next to the interviews, S. Cooper has also carried out a web-survey. Part of the interviews was with experts and part with forest managers. All interviews were transcribed. The transcribed expert interviews are stored in one pdf-file, and the transcribed interviews with the managers are stored in one pdf-file:

Storage name expert interviews: ExpertInterviews_2019.pdf

Storage name managers interviews: ManagersInterviews_2019.pdf

All data from the survey was transported to SPSS. This SPSS file (with a complete description of all variables, the labels, and the values) is also stored.

Storage name SPSS file: SurveySPSS_2019.sav

All files are stored under RawData

Processed data:

S. Cooper sets up a folder “ProcessedData” in the Article_PolicyClimate folder:

Coopel

- EU_ClimateChange
 - Article_PolicyClimate
 - RawData
 - ProcessedData
 - Bookchapter_AdaptiveStrategies

S. Cooper analysed and coded the interviews (both those of the experts and the managers) using Atlas.ti 7. All codings of the 100 interviews were stored as individual files. S. Cooper, therefore, made two folders in the processed data folder:

Coopel

- EU_ClimateChange
 - Article_PolicyClimate
 - RawData
 - ProcessedData
 - Experts
 - Managers
 - Bookchapter_AdaptiveStrategies

Storage name expert interviews: Expert#³_YYYYMMDD.hpr7

Storage name managers interviews: Manager#⁴_YYYYMMDD.hpr7

All data from the survey was analysed in SPSS. This SPSS file (including all steps of the analysis) is stored. As this is only one file, no separate folder was made for this file

Storage name SPSS file: SPSSanalyses_2019.spv

c. Publication:

S. Cooper sets up a folder “Publication” in the Article_PolicyClimate folder:

Coopel

- EU_ClimateChange
 - Article_PolicyClimate
 - RawData
 - ProcessedData

³ # = number of interview

⁴ # = number of interview

Experts
Managers
Publication
Bookchapter_AdaptiveStrategies

S. Cooper sends in his article to the journal Forest Policy and Economics in 2019. His first article is rated as “major revisions”. Cooper rewrites the article and sends a new version at the end of 2019, which is accepted by the editor.

Storage name final article (incl. right layout): Articlefinal_20191231.pdf

d. Metafile

S. Cooper finishes the metafile with the final report and stores this.

Storage name metafile: MetaFile.pdf

S. Cooper’s final folder structure is as follows:

Coope001			
Article PolicyClimate			
Metafile			
		Raw data	ExpertInterviews_2019.pdf ManagersInterviews_2019.pdf SurveySPSS_2019.sav
		Processed data	
		Experts	Expert1_20190512.hpr7 Expert2_20190514.hpr7 ... Expert50_20190714.hpr7
		Managers	Manager1_20190513.hpr7 Manager2_20190515.hpr7 ... Manager50_20190715.hpr7
			SPSSanalyses_2019.spv
		Publication	Articlefinal_20191231.pdf
Bookchapter AdaptiveStrategies			
		RawData	...
		ProcessedData	...
		Publication	...

Appendix 5

Example Metafile Publication

Based on the data collected by S. Cooper, he should set up the following metafile for his article:

1. Organizational context Name of FNP researcher(s): S.L. Cooper Graduate school: WASS	
2. Research project Title of publication: Perceptions on forest policy and climate change in the Netherlands Type of publication: article Part of a larger project: yes, EU CLIC (Climate Change in the Netherlands)	
3. Data management information First author: S.L. Cooper Co-authors: prof. Bas Arts (FNP) Short description (2-3 sentences) of the article: The article describes the outcome of 100 semi-structured interviews on climate change policy with experts and forest managers from the Dutch National Forest Service. It shows that climate change policy is experienced as rather limited, only providing support for a few types of owners. Country/countries of research: Netherlands Region(s)/location(s) of research: Netherlands Dates/period of research: 2018-2019 Dates/period of data collection: 2019 Models/software used: IBM SPSS Statistics 25 Ownership data: FNP Confidentiality: no Copyright article: journal Other data storage locations: none	
4. Data management structure Files:	
Metafile	
<i>Name of file:</i>	<i>Short description:</i>
MetaFile.pdf	Metafile of this article
Article PolicyClimate	
RawData	
<i>Name of file:</i>	<i>Short description:</i>

	ExpertInterviews_2019.pdf	Data file transcribed interviews experts (per expert)
	ManagersInterviews_2019.pdf	Data file transcribed interviews managers (per manager)
	SurveySPSS_2019.sav	SPSS data file containing data web-survey
ProcessedData		
	<i>Name of file:</i>	<i>Short description:</i>
	Expert#_YYYYMMDD.hpr7	Atlas.ti 7 file with coded interviews experts (per expert, date of interview included)
	Manager#_YYYYMMDD.hpr7	Atlas.ti 7 file with coded interviews managers (per manager, date of interview included)
	SPSSanalyses_2019.spv	SPSS output file with statistical analysis
Publication		
	<i>Name of file:</i>	<i>Short description:</i>
	Articlefinal_20191231.pdf	Final publication