Plan Overview

A Data Management Plan created using DMPonline

Title: Disclosing the Overlooked Wetlandscape Ecosystem Services (DOWES)

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Project abstract:

While wetlands are individual ecosystems with permanent or temporary waters, the novel term “wetlandscapes” refers to systems of wetlands that are hydraulic, hydrological, and ecologically coupled. Although wetland ecosystem services have been investigated for decades, the spatial aggregation of wetlands into wetlandscapes invites their reconsideration. This is most relevant concerning various types of services, such as food and water security services provided to ecosystems and communities beyond the direct area of influence. The main objective of DOWES is to resolve the interlinkages between water availability in wetlandscapes, theirresponses and stressors, and the provision of ecosystem services within and beyond their area of influence through synthesis across multiple wetlandscapes. Comprised of six well-known institutions across Sweden, Italy, France, the United Kingdom, and Brazil, DOWES will, in five work packages, address the main objective across six iconicwetlandscape ecosystems. The first determines high-resolution changes in the hydrological regime using the latest radar and altimetric missions. The second relates water availability to wetlandscape ecosystem responses and stressors. The third develops a participatory approach to identify perceptions of potential cultural ecosystem services. The fourth adds a layer of complexity by quantifying the provision of ecosystem services of wetlandscapes beyond the area of influence. Finally, the fifth work package combines these four to develop metrics and guidelines to track and quantify the provision of wetlandscape ecosystem services. DOWES addresses mostly Topics 1 and 2 of the Water4All 2023 Joint Transnational Call across three subtopics(ST): ST1.1., ST1.4, and ST2.1 by quantifying overlooked ecosystem services, finding how these ecosystem services change in time and space and their relationship with human and climatic drivers. The Proposal is also aligned with the main theme of the call as it studies wetlandscapes, which are considerably understudied compared toother types of water resources. It also couples with the main vision of Water4all by focusing on water security by providing ecosystem services, using state-of-the-art technologies such as hydrogeodesy, paleolimnology, atmospheric moisture tracking, and participatory methodologies. Stakeholder engagement through all project phases in a co-creation approach to developing a joint understanding of the wetlandscape concept and services and allow for more targeted environmental and social impacts. The participatory approach involves and disseminates knowledge among wetland researchers, local and national authorities related to wetlands, international wetland organizations like the Ramsar Convention and Wetlands International, and the general public via stop-motion animation videos for all ages. DOWES will bring a breakthrough in the quantification and assessment of WES, even beyond their direct area of influence, to provide environmental authorities with the tools and know-how to expand the protection, restoration and management of these valuable ecosystems.

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Grant number / URL: https://www.su.se/english/research/research-catalogue/research-projects/3/dowes--disclosing-the-overlooked-wetlandscape-ecosystem-services

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Disclosing the Overlooked Wetlandscape Ecosystem Services (DOWES)

0: Note on personal data!

Q1: I have read and understood the above declaration and hereby certify that this DMP contains no personal data except for information about project members such as PI and contact person.

- Yes

I: Description of data – reuse of existing data and/or production of new data

Q1: Data Quality Assurance measures (FAIR data): please check multiple options that will apply to assure quality and integrity of data collected, created or reused.

- 1. Non-proprietary file formats (e.g. .csv, .txt, .json, netCDF)
- 2. Sustainable file formats (e.g. .pdf; .csv; .txt)
- 4. Proprietary file formats (.doc ; .xls)
- 3. Software specific file formats (e.g. Matlab - .mat; Stata - .dta)
- 5. Datestamped file names (e.g. '20201011StockholmMeanTemperatures.csv')

Q2: Dataset ID: at this initial planning stage, please find one main identifier (e.g. a DOI, Handle, URL, ...) for the entire dataset(s) in the project where possible, even if it comprises several data files of different types.

https://doi.org/10.5281/zenodo.16980071

Q3: Dataset Identifier Type of your Dataset ID above in Q2, please select the corresponding option in the dropdown menu list below! (Default is 'other')

- doi

This is a zenodo repository.

Q4: Dataset Description (Abstract) - please describe the dataset(s) in the project! The description can be at a rather simple conceptual level, which does not have to point to individual data files. However, it could preferably give an overview of what type of data files or other material the dataset(s) will include, e.g. images, spreadsheets etc.

The dataset includes maps and spreadsheets.

Q5: Title of dataset

DOWES data

Q6: Are you re-using datasets that already have a definite *distribution* (that is, an *identifier*, access point or *location* URL)?

- no

Q10: Type of dataset(s) / resource type of the *main dataset(s)* of the project described by answers to Q2 / Q5 (thus, *not* of re-used datasets described in Q6-Q9).

- images

Maps of wetlands and wetlandscapes

Q11: Issue date (YYYY-MM-DD) of *main dataset(s)* of the project described by answers to Q2 / Q5 (thus, not of re-used datasets described in Q6-Q9)

2025-08-28

II: Documentation and data quality

Q1: How will metadata be created for your dataset? If by *use of a repository* (*recommended*), please specify which, either from the given options, or - if Other - by giving a link(s) / URL(s) [if multiple separated by commas] as Additional Information below. Please*, do not write whole texts here* with line or paragraph breaks*, as this prevents automatic processing and evaluation of the DMP!*

- 4. Zenodo/StockholmUniversityLibrary
- 7. Bolin Climate Research DB
- 5. GitHub
- 6. README-file
- 8. Other: https://...

All research deliverables will be uploaded in the Stockholm University Library.

Q2: Which metadata standards and vocabularies will you employ for general and domain specific metadata? (Multiple options possible. Some of them may overlap, then it is unnecessary to check all that hold a particular vocabulary specified in the text field.)

Q3: Which of the following data quality documentation and safeguard measures, if any, would you consider applying to your dataset?
(Multiple options possible. For options 4. *Pre-registration,* 6. *Supplementary documentation* or 9. *Other*, please specify to the extent possible in the comment area, e.g. by giving the URLs of particular services you intend to use for certain data quality measures.)

- 6. Suppl. documentation (e.g. codebook / variable description, ELN, questionnaire, stimuli)

III: Storage and backup

Q1: Where will you a) store and b) backup your accessible data during the project? (the data that you are using on a day-to-day basis). Please note that some options, in particular options 4-8, may not be suitable for storage and backup of *personal data* or other sensitive data!

- 1. SU Sunet Drive
- 3. SUA workplace computer
- 2. SU common / home

Q2: What volume (X) of data will you need to store and backup?

Question not answered.

Q3: What security measures will you need to employ to protect your data during the research process? (Multiple options can be selected).

- 3. Encrypted partition/files on own harddisk/Sunet Drive
- 1. Password protection

IV: Legal and ethical aspects

Q1: Will the creation, collection or reuse of dataset(s) in your project entail processing of *personal data*, i.e. any information relating to an identified or identifiable natural person (a '*data subject*', that is a *living* person)?

- yes

Q2: Will the creation, collection or reuse of dataset(s) in your project entail any of the following:

- **(a) processing of *special categories of personal data* according to the General Data Protection Regulation (EU 2016/679), i.e. personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation**
- **(b) processing of personal data regarding violations of law that include crimes, judgments in criminal cases, penal law sanctions, or administrative deprivation of liberty**
- **(c) physical interventions on research subjects or deceased persons**
- **(d) methods with the purpose of affecting a research person physically or mentally, or which includes an apparent risk of injuring the research subject either physically or mentally**
- **(e) studies of biological material that has been taken from a living or deceased person, and can be traced to that person**

Or, further, will the creation, collection or reuse of dataset(s) in your project include:

- **(F) Data from animal research**
- **(G) Data on genetic resources and/or traditional knowledge associated with genetic resources**
- **(H) Data that can be used for military purposes or concerning products that can be used for military purposes**
- **(I) Data that are sensitive in some other respect**

(Possible ethical review documentation applying to any of points (a-e) will be asked for separately.) If you answer yes to any of the points (F-I) and there is already relevant documentation or applications, please provide (a) reference(s) to any application(s)/ approval(s)/decision(s)/document(s), if possible by URL(s) / PID(s) such as DOI(s) giving direct access, or registration no. (Swe. *diarienr.*) in the text field below.

- unknown

Q5: Intellectual Property Rights - License(s) of data. Please select the usage license(s) for dataset(s) and/ or software *produced in your project*. (Multiple options possible. If *Other*, please specify by a URI or other file location for each of the additional license(s), separated by commas, in the comment area.)
[For *previously existing datasets* that you will be *re-using* , corresponding license(s) are entered in section *I:Q9 Description of data - re-use ...*]
If you choose no license at all from the options below, being aware that it *might* make your dataset less FAIR, please state the reason for this choice. [There are *fully legitimate reasons*, concerning e.g. personal data and sensitive data, that cannot be shared.]

- 01. CC-BY-4.0

Any personal and sensitive data will be made anonymous and not be shared publicly.

V: Accessibility and long-term storage

Q1: Where will datasets, documentation and/or metadata be made accessible? (Means or location of *distribution*).

- 1. Repository in answer to II:Q1
- 2. Supplement to journal article / publication

Q2: What will be made directly accessible (e.g. via repository in Q1, or as supplement to online journal)?

- Metadata and some datafiles
- Code book / variable descriptions

work-package depending. The metadata accompanying datasets will include documentation to understand the datasets such as information on who created the data, descriptors of the dataset and how to make the dataset reusable.

Q3: When will data files and/ or metadata and documentation be made accessible?

- Only after publication of journal article / paper

Q4: How will you ensure that all data files, documentation and metadata are transferred to SU digital archive for long-term preservation?

- Sunet Drive transfer

Q5: Will specific systems, software, source code or other types of services be necessary in order to understand, partake of or re-use / analyse data in the long term?

- unknown

Q6: Will the software you will use to collect, create, handle, transform, refine or analyse data also be needed to replicate or rerun experiments, partake of your datasets or open datafiles?

- unknown

Q7: Will the software / code you will use to collect, create, handle, transform, refine or analyse data be ... (multiple options possible)

- 1. Non-proprietary/Open Source (e.g. Python, R, XSLT)
- 2. Proprietary/Commercial (e.g. Matlab, Stata)

Q8: Will you be using Software in the "cloud" / Software-as-a-Service (SaaS) to create, handle, transform, refine or analyse data ?

- No

VI: Responsibility and resources

Q1: Who is responsible for data management and (possibly) supports the work with this while the research project is in progress?

- 1. PI
- 5. Others (please specify!)

PIs of each work package are responsible for the data management of each work package.

Q2: What resources will be required for data management to ensure that data fulfil the FAIR principles? (Multiple options possible.)

- 1. RDM-team support

Q3: Please estimate total extra costs (C) for data management, that is not covered by grant funding (or regular SU services, such as RDM-team support).

Question not answered.

VII: Funding requirement fulfilled for initial version

Q1: I hereby certify that the responsible PI (re)viewed this initial DMP as fulfilling the requirements for funding. I am aware that answering Yes will send this Initial version of the DMP to Archive for long-term preservation, and that future editing will then be in Phase 2, the final version.

- Yes

VIII: DMP administrative information

Q1: Please give an Identifier *of the Contact Person* (= yourself as creator/ owner) of this DMP, - *not* the *name* of the contact person, but only the identifier-string (that is within the " " in the examples below).

0000-0002-3527-0241

Q2: Please select Type of Identifier given as answer to Q1 above.

- orcid

Q3: Affiliation (Department / Institution) of Contact Person. Please select main Department / Institution affiliation *from drop-down menu* (ordered after faculties as in this list), or else choose "Other" and specify in comment area below!

- Physical Geography

Q4: Language used for this DMP. Please select!

Question not answered.

Q5: Funder(s). Multiple choice possible. If Other, please specify funder name(s) in the Additional Information text field, if more than one separated by commas.

- FORMAS

Water4All DOWES consortium

Q6: Grant ID. Please specify, if possible as a URL. (The Grant ID can often be the same as the PROJECT-ID in SweCris, e.g. https://www.vr.se/swecris#/project/2010-00383_VR)

2024-00999

Q7: Funding status. Please choose one from the dropdown menu.

- granted

IX: Full DMP - additional Datasets and identifiers, Reference list and Project end

Q1: Additional dataset(s)
Please fill in the *Default answer* table below in accordance with the given *Example answer* by replacing *None* in *Title, Identifier and Type* with *real values* for your dataset(s) after the *T1:, Id1: , Type1:* etc. You can add / delete rows if needed, but make sure the *new entries* are still in *italics* and leaving the last row without real values with *None* (as this will help us process your DMP data output for review.)
Identifier type: select from the same list as in section I-Q3: *ark, doi, handle, url, other.*
If *other*, please specify the type of dataset ID below the table as e.g. *"Local filename"* or *"Project-ID".*
The Description, Type of dataset (software, images, text, spreadsheets, sound, video, other) and Issue date for these additional datasets will as default be the same as for the main dataset described in section I: Q4, Q10 and Q11, so you might have to adjust these answers to fit for all datasets, or specify these new values for each additional dataset (below the table).

Question not answered.

Q2: List of References / Sources / Publications (other than reused datasets, in sec. I:Q6-9).
To be updated during all research project.

Question not answered.

Q3: Research project ended?
Please indicate if the research project described by this DMP is completed, so the full and final version of this DMP can be sent to long-term archive.

Question not answered.