Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

GOVERNING DOCUMENT SLU.ua.2024.1.1.1-24

Subject area: 4. Research

Document type: Policy	Decision date: 10/01/2024
Decision-maker: Vioe-Chancellor	Effective as of: 10/01/2024
Organisational unit: Division of Planning	Valid until: Further notice
Reference: Sofia Wretblad	To be updated by: 31/12/2025

Document(s) repealed: SLU.ua. 2022.1.1.1-3278

Annex to: Vice-Chancellor's decision on Policy on the management of and open access to research and environmental monitoring and assessment data at SLU

Policy on the management of and open access to research and environmental monitoring and assessment data at SLU

Table of contents

1. Introduction

The research as well as environmental monitoring and assessment conducted at SLU shall be characterised by good data management throughout the life cycle. Current legislation and good research practice[1] provide the framework for how data shall be managed. SLU endorses the FAIR data sharing principles[2] and aims to make data from research and from environmental monitoring and assessment as open as possible and as closed as necessary.

The purpose of this policy is to describe the direction taken by SLU and common principles SLU stands for with regard to data management, the existing legal requirements, and the responsibilities assigned within the University. The policy does not regulate in detail what data shall be made accessible, in what format, or at what time. This assessment must be made by the data producer based on the given circumstances of the project or study in question and the common principles presented in this policy. Good data management also includes clarifying the contexts which necessitate special protection of data. If necessary, the assessment can be made in consultation with the support functions available at the University with the aid of a data management plan as an important tool.

The policy is a comprehensive governing document that is supplemented with additional information and practical instructions on the staff web[3].

There is also an extensive guide on data management published by the Swedish Research Council.[4]

2. Purpose and scope of the policy

Open knowledge sharing and open science are emphasised in SLU's strategy for 2021-2025[5], at the national level in the Research Policy Bill for 2021-2024[6], and at European level in the EU Open Data Directive[7]. The goal at national level is to make all publicly funded research data openly accessible by 2026, provided there are no legal, security, ethical, or commercial issues. The aim is to increase the quality, dissemination, impact, and innovative power of research. Another reason for making data accessible is to make efficient use of resources. This concerns both financial resources and, for example, a reduction in the use of animal and human experiments. An important starting point for this policy is the national Roadmap for Open Science devised by the Association of Swedish Higher Education[8], which clarifies the responsibilities of higher education institutions and the measures required to accelerate the work on open access to research data and results. [Read more about background to and rationale for the policy]

---

[1] Good Research Practice - Swedish Research Council (ISBN 978-91-7307-354-7)

[2] https://www.go-fair.org/fair-principles/

[3] https://www.slu.se/bilaga-datapolicy

[4] Report Learn more about open access to research data– Swedish Research Council (vr.se) (information available only in Swedish)

[5] SLU's strategy 2021-2025 (SLU.ua. 2020.1.1.1-3420)

[6] Research, freedom, future – knowledge and innovation – Government Bill (2020/21:60) (information available only in Swedish)

[7] Directive on open data and the re-use of public sector information (2019/1024/EC)

[8] National Roadmap for Open Science REK 2021:1

The policy supports SLU staff in the transition to open science by expressing common principles and assigning responsibilities regarding the management and accessibility of research as well as environmental monitoring and assessment data throughout its entire lifecycle[9]. It serves as a guide in the development of e-infrastructures and support functions and it also aims to ensure that the University complies with relevant legislation and commitments to external stakeholders when it comes to data management. SLU, moreover, has a policy for scientific publishing[10] in place, which represents an additional important component in the work to promote open science.

The policy applies only to digital material, both raw and aggregated data, that is produced, processed and used in projects and studies at SLU and that underlies the results, conclusions, and bases for decision-making generated by research as well as environmental monitoring and assessment.
[Read more about data definitions]

The policy is supplemented with instructions on SLU's staff web[11].

3. Basic data management principles at SLU

SLU endorses the FAIR data sharing principles[12] (Findable, Accessible, Interoperable, and Reusable) and considers properly managed, accessible, and reusable data as a valuable and necessary resource for conducting research, teaching and environmental monitoring and assessment of high quality. Data made openly accessible also generates added value in the form of increased utilisation and visibility of SLU's research as well as environmental monitoring and assessment. Good management of data throughout its entire lifecycle[13] is a prerequisite for being able to comply with the FAIR data sharing principles to the greatest extent possible.

[Read more about FAIR data]

SLU is the governing body for the research as well as environmental monitoring and assessment carried out at the University. The research data generated by researchers and doctoral students in the context of their research constitute public documents[14], and the same applies also to environmental monitoring and assessment. This implies that SLU is responsible for ensuring that data from research environmental monitoring and assessment conducted at the University is handled in a legal and secure manner.

Data generated by research as well as environmental monitoring and assessment at SLU shall:

- be managed in accordance with good research practice[15],

---

[9] Introduction to data management | Externwebben (slu.se)
[10] SLU's Policy for scientific publishing (SLU.bibul.2022.1.1.1.-83)
[11] https://www.slu.se/en/subweb/library/publish-and-analyse/archiving-and-publishing-research-data/slus-datahanteringspolicy/
[12] https://www.go-fair.org/fair-principles/
[13] Introduction to data management | SLU External Web (slu.se)
[14] SLU's Policy on intellectual property rights (SLU.ua.2016.1.1.1-3342)
[15] Good Research Practice - Swedish Research Council (vr.se) ISBN 978-91-7307-354-7

- be managed in accordance with current legislation and agreements (see the following section),
- be openly with as few restrictions as possible.

Accessible data shall:

- be searchable and provided with descriptive metadata enabling others to understand and reuse it,
- be identifiable, verifiable, and reusable by humans as well as machines.

4. Legal aspects of research and environmental monitoring and assessment data

Under Swedish law, data cannot be owned in a legal sense. However, its use and handling may be regulated in different ways. It is important to ensure whether and how datasets in question are regulated in the context of both use and accessibility. Any agreements and regulations (listed below) take precedence over the principles of this policy, however, the principles should be taken into account as far as possible when formulating agreements.

4.1 Regulation of data

Research and environmental monitoring and assessment data managed at SLU may:

- be protected by database rights (it is the compilation that is protected, not the individual data),
- constitute material protected by copyright or photographic rights (e.g., publications or images),
- be regulated contractually as for use and management,
- be protected under trade secrets legislation[16],
- be protected under legislation on geographical information[17],
- be protected under security protection legislation[18].
- contain personal data in accordance with the General Data Protection Regulation (GDPR)[19]

These protections or rights may in turn be restricted by provisions within administrative law such as:

- the University's obligation to disclose public documents (including electronic documents such as a data file),
- the bill on Public Sector Data Accessibility[20],
- archives legislation[21].

4.2 Agreements on data

Where data are regulated by specific agreements (e.g., data host for national

---

[16] Bill on business secrets (2018:558) (information available only in Swedish)
[17] Ordinance on geographic information (2016:320) (information available only in Swedish)
[18] Bill on security protection (2018:585) (information available only in Swedish)
[19] EU General Data Protection Regulation
[20] Bill on Public Sector Data Accessibility (information available only in Swedish)
[21] Bill on archives – Government Bill (1990:782) (information available only in Swedish)

environmental monitoring and contract research[22]), the agreements take precedence over this policy, however not over current legislation. The agreements shall specify the data management responsibilities as well as whether and how the data is to be stored and made accessible and which respective party is responsible for archiving and making data accessible. If ownership is agreed upon, it does not mean that a party owns the data but rather that the party has rights and obligations towards the other parties within the project/study that usually come with ownership (such as the right to use the data in further research or commercially, the right to publish, and archive them, etc.). Confidentiality can also be agreed upon but then binds no one other than the contracting parties. The principle of public access to official documents cannot be waived, and should there be no basis for confidentiality according to the Public Access to Information and Secrecy Act[23] then the data must be disclosed upon request. To the extent that a funder imposes requirements on how data within a project or study should be stored and made openly available, the funder's requirements shall be followed, provided that Swedish legislation is complied with. Should data belong to another organisation, such as a private company or a public authority in another country, access may be restricted or blocked. In such cases, it is important that an agreement governs the accessibility and availability of data during the project.
[Read more about legal aspects in connection to data]

5. Applying the principles in projects and studies

The life-cycle of research and environmental monitoring and assessment data[24] includes planning, collecting, documenting, processing, storing, making accessible and archiving of data. Future (re)use of the material is facilitated by a structured way of working and by making the information comprehensible at all stages. The aim is to make data easy to find and interpret, both now and in the future, to facilitate continuity within projects and studies and to enable validation, sharing, and re-use of data.

Projects and studies at SLU vary greatly in nature and scope. This policy describes principles but does not intend to regulate what data shall be made accessible, in what form (raw data, processed data, aggregated data), or at what time. This must be considered in relation to the given circumstances of a project, and it is up to the data producer to make this type of assessment, preferably in consultation with the support functions available at the University. The content of the data management plan (see below) is a starting point for these decisions.

5.1 Data management plans

A data management plan[25] must be drawn up, registered, and then maintained over time for each new project and/or study in research and environmental monitoring and assessment at SLU. The data management plan is based on a template[26],

---

[22] SLU's Policy on intellectual property rights (SLU.ua.2016.1.1.1-3342) (information available only in Swedish)

[23] Publicity and privacy act – Government Bill (2009:400) (information available only in Swedish)

[24] Manage research and environmental assessment data

[25] Plan data management | Externwebben (slu.se)

[26] Data management plan template complying with requirements by the Swedish Research Council, Formas, the Swedish Environment Protection Agency and Science Europe. Overview on data management plans.

addressing various aspects of data management during the implementation of the project. The plan describes the managing of data, including archiving and making it available[27], in a systematic way. A well-thought-out data management plan can, thus, facilitate compliance with the principles described in this policy.

The data management plan template recommended by SLU includes:

- data description (what data will be collected/generated and how),
- data documentation and data quality,
- data storage and data backup,
- legal and ethical aspects,
- data sharing and long-term preservation
- responsibilities and resources.

To reflect changes over time, the plan shall be updated on a regular basis as long as the project or study is ongoing. The plan shall, among other things, state who assumes overall responsibility for managing the data generated[28]. The plan shall, furthermore, illustrate how the management of data in accordance with current legislation and good research practice[29] is ensured, and it must be clear when, how and where the data will be made accessible. The content of the data management plan can be discussed with SLU's support units in order to identify the aspects that are relevant to be highlighted in the plan.
[Read more about the data management plans]

5.2 Storage
Storage refers to the storage of data both during ongoing activities and prior to making data accessible and archiving. Data together with associated metadata and potential other documentation must be stored in a secure manner. They shall be protected from unauthorised access and loss, independent of whether or not the data are to be made publicly accessible. Computers and storage media that are not regularly backed up shall not be used for primary data storage in research projects and environmental monitoring and assessment studies. In order to be able to use a cloud service for storing personal data, there must be a data processing agreement with the supplier of the service. Cloud services may not be used for storing or processing sensitive personal data. Remember not to store personal data in a third country (third countries are usually outside the EU/EEA area).
[Read more about data storage]

5.3 Information security
Information security is about providing and maintaining appropriate protection of information. Information in all forms shall be protected according to the aspects of confidentiality, correctness, and accessibility, so in that the right person gains access to the right information at the right time. Technical and organisational security measures shall be appropriate and adapted to the information's level of

---

[27] SLU's Policy for the managing of business information (SLU.ua 2017.1.1.1-643) (information available only in Swedish)
[28] "Data controller", see more under "Roles and responsibilities" in this policy
[29] Good Research Practice - Swedish Research Council (vr.se) ISBN 978-91-7307-354-7

protection. Special attention is required, for example, regarding personal data that is regulated by the General Data Protection Regulation (GDPR)[30] or information that is classified with regard to national security[31]. Data producers shall ensure that research and environmental monitoring and assessment data is protected, classified[32] and risk assessed and that information security and data protection are followed in accordance with legislation, good research practice, and the University's regulations[33] and instructions[34]. The overall responsibility for this lies with the head of department or equivalent.
[Read more about information security]

5.4 Accessibility

Where and how?
One way to make data accessible for reuse is to upload and describe data files in, preferably certified, data catalogues (repositories) where data is accessible via the web[35]. Data generated at SLU should, as far as possible, be made openly accessible in data catalogues that provide data with a persistent identifier (PID) [36] in order to, among other things, facilitate proper citation of data. So as to comply with the FAIR data sharing principles, SLU offers support in reviewing and improving metadata and data when making it accessible and depositing, both in data catalogues[37] and other commonly existing solutions utilised in research as well as environmental monitoring and assessment at SLU.

In data catalogues, the data licence can often be specified in the metadata. By means of licences users become aware of the purposes for which data may be used and the conditions for further sharing. Licensing is an important component of meeting the FAIR data sharing principles. However, principles for licensing data by SLU are not included in this version of the policy due to ongoing national discussions on this issue.
[Read more about data licensing]

When?
Data must be made available according to the principle "as early as possible, as late as necessary", based on the conditions of the project or study. Within environmental monitoring and assessment, each study must consider when it is appropriate to make data available, since much data collection continues over time without a cut-off date. Even in time-limited projects, especially should such run over a longer period of time, reasons may exist to make subsets of data accessible already during the course of the project.

Embargoes may arise between project completion or publication of research results and the time when data may be made accessible. This may, for example, be due to the data being a trade secret in which case the timing of making data available

---

[30] Regulation (EU) 2016/679 of the European Parliament and of the Council
[31] Instructions for security protection (SLU.ua.2019-2896) (Only available in Swedish)
[32] SLU guidelines for information security classification (SLU.ua 2015.2.10-2115) (Only available in Swedish)
[33] Information security guidelines at SLU (SLU.ua 2015.2.10-2118) (Only available in Swedish)
[34] Quick guide to data protection in research
[35] CoreTrustSeal or equal: https://www.coretrustseal.org/
[36] PID/DOI Service
[37] Including SND´s research data catalogue which can also be used for environmental monitoring data

should be regulated by contract.

Restricted access
Certain types of data may not be made openly accessible due to restrictions such as confidentiality or personal data. In such cases, metadata should still be made available if possible. Should even the publication of metadata be deemed unsuitable with regard to national or information security in general, then publication shall be avoided. Such an assessment can be made in consultation with SLU's support functions.

[Read more about accessibility]

5.5 Archiving
Research and environmental monitoring and assessment data generated at SLU are considered official documents and are subject to the constitutional principle of public access to official records[38]. Thus, data must be, as a rule, released upon request and preserved in SLU's archives. Copyright applies to the results of research recorded in a work (e.g., a scientific publication). Primary data must be archived and preserved in order to make such research results verifiable. Laws and regulations govern whether confidentiality can be invoked or whether documents can be disposed of after a certain time.[39] Archiving of research and environmental monitoring and assessment data requires that the data is well documented, reliable, and readable. The archiving requirements are in many ways consistent with what is needed for information security and making data accessible, yet preserving documents is not the same as storing or making data accessible. Prior to and during projects and studies that generate data, those responsible must decide what applies to, for example, confidentiality and disposal deadlines, preferably in a data management plan. Data must be archived at the latest at the end of a project or study.
[Read more about data archiving]

6. Roles and responsibilities

6.1 Staff engaged in research and environmental monitoring and assessment
The person responsible for a study always has primary responsibility for his or her own activities and must ensure that good research practice, current legislation, and established procedures are followed. This responsibility also includes good and appropriate data management. Should a student carry out an independent project within the framework of an ongoing research project, the project manager of the research project is responsible for the necessary management of collected data.[40]

For all projects or studies carried out at SLU, a *data controller* must be appointed and named in the data management plan. In most cases, it is appropriate for the project's Project Manager (PI) or equivalent to be the data controller, however the

---

[38] Freedom of the Press Act Cpt 2 (1949:105).(Only available in Swedish)
[39] Publicity and privacy act – Government Bill (2009:400), Regulations of the Swedish National Archives and SLU's implementations thereof.
[40] Beyond this, there is no general obligation for the student to hand over his or her own collected data to the department after completing the course
Education planning and administration handbook (SLU.ua.2021.1.1.1-2466)

role may also be assigned to someone else. Though, the data controller shall be distinguished from the person responsible for the data-managing infrastructure. The data controller has overall responsibility for the management of data within a project or study (as defined below) but not necessarily for the technology or infrastructure deployed in the process.

The data controller shall

- ensure good and appropriate management of data in accordance with the principles of this policy,
- assure that agreements regarding responsibility and data management are drawn up where necessary, particularly in cases where researchers from several organisations collaborate on a project, during collaboration with industry representatives, during contract research, and towards external clients for data hosting.

Should the data controller leave SLU or is unable to fulfil his/her duties for any other reason, formal responsibility is transferred to the head of the department where the project is based, unless another person is appointed. Should data from research or environmental monitoring and assessment be handed over to another part of SLU, responsibility is transferred to that part of the organisation. A researcher, or a person engaged in environmental monitoring and assessment, who terminates his/her employment at the University is responsible for handing over the data is to the department for further use and subsequent archiving at the latest at the end of his/her employment, as well as for maintaining a dialogue with the support functions regarding making the data accessible. Data produced as part of projects or studies conducted at SLU must be kept at the University, even if the responsible personnel change their place of work.

6.2 Heads of department or equivalent
In accordance with the vice-chancellor's delegation of authority[41], the head of department is responsible for ensuring that education, research, as well as environmental monitoring and assessment of the highest quality are carried out within the department's area of expertise and within the means available.

The head of department shall

- assume overall responsibility that data management at the respective department complies with the principles of this policy,
- assume overall responsibility, as information owner, that information, including research as well as environmental monitoring and assessment data, is protected, classified and risk assessed according to information security guidelines[42].

6.3 University
As the governing body for research as well as environmental monitoring and assessment, SLU has the overall responsibility for ensuring that research and

---

[41] Vice-Chancellor's delegation of authority (SLU.ua 2021.1.1.1-186)
[42] SLU's Information security policy (SLU.ua.2023.2.10-2023)

environmental monitoring and assessment data are managed lawfully, correctly and securely, and in accordance with good research practice. In many parts, support functions and infrastructure are in place to enable compliance with the policy, either internally or via external structures, yet continuous development is required.

The University shall

- continuously develop the necessary e-infrastructure and appropriate support functions for good data management,
- provide training and guidance on data management, documentation, storage, archiving, and making data accessible.

For support and questions regarding all aspects of data management, contact SLU's Data Management Support (DMS; **dms@slu.se**), which can, if needed, rally expertise from other support functions such as IT department, Legal Affairs, Data Protection, and Archives/Registry.

7. Resources for data management

Managing research and environmental monitoring and assessment data in accordance with the principles of the policy requires time and resources at several levels. Costs directly related to data management within an externally funded project should be included in the project application to the funder (e.g., time, personnel, or software). Regarding assignments within environmental monitoring and assessment or contract research, data management costs should be specified in the contracts and agreements with the client.

8. Related internal governing documents

- SLU's Strategy 2021–2025 (SLU ua 2020.1.1.1-3420)
- SLU's Policy for scientific publishing (SLU Bibul 2022.1.1.1-83)
- SLU's Intellectual property rights policy (SLU.ua.2016.1.1.1-3342)
- SLU's Policy for the managing of business information (SLU.ua 2017.1.1.1-643) (information available only in Swedish)
- SLU's Guidelines for the secure classification of information (SLU.ua 2015.2.10-2115) (information available only in Swedish)
- SLU's Information security policy (SLU.ua.2023.2.10-2023)
- SLU's Plan for the preservation and disposal of research material (SLU.ua 1373/07) (information available only in Swedish)
- Vice-chancellor's delegation of authority (SLU.ua 2021.1.1.1-186)
- Quality guide for the management of environmental data (SLU.ua 2020.5.3-569)