

RESEARCH DATA POLICY

Type of document:	Policy
Date:	9 March 2021
Reg no:	FS 1.1-545-21
Approved by:	Vice-Chancellor
Validity:	Until further notice
Field:	Research
Office in charge:	Planning Office, Umeå University Library
Replaces document:	



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Description 1.

This policy describes responsibilities and provides guidance on how Umeå University is to manage and preserve research data during the entire course of a research project from the planning stage, during the project and after the end of the project.

Background 2.

Scholarly publication is changing and scientific research articles are being made openly accessible through Open Access. The Swedish Government, funding bodies and large publishers recommend or request that research data is made accessible as far as legislation allows. Research data becomes a natural part of the scholarly publication process.

The objective of the Government's research bills "Collaborating for knowledge – for society's challenges and strengthened competitiveness" (2016/17:50) and "Research, freedom, future knowledge and innovation for Sweden" (2020/21:60), is that a transition to open access to research results, including research data, should be fully implemented by 2026. Umeå University sees the adoption of this policy as a part of a process to transition to open access to research results.

Through this policy, Umeå University accepts the recommendation of the Swedish Research Council stating that research data should be managed in accordance with the international FAIR principles for scientific data management^{1,2}. The FAIR principles mean that research data must be managed in a way that makes it findable, accessible, interoperable and reusable. The FAIR principles do not mean that all research data should be open, but as open as possible, and it should have a detailed description using metadata legible by both humans and machines.

Due to the nature and content of this document, the following aspect have not been taken into account: work environment, sustainability, collaboration, accessibility, as well as student and international perspectives.

This policy is in line with the work of the university to implement HRS4R and with the university's vision to create a work environment that provides equal opportunities for all employees. It is considered to have positive consequences for the equal opportunity work at Umeå University and to improve the university's research environment.

This document has been translated from Swedish into English. If the English version differs from the original, the Swedish version takes precedence.

Definitions 3.

Research data

In this policy, research data is defined according to the definition from the Swedish Research Council3: "Research data is digital information collected in order to be analysed for scientific purposes. Examples of such research data include results from experiments and measurements, observations from field work, statistics, questionnaire responses, interviews and images. Physical objects such as scientific and archaeological collections, physical art works or biobanks are not

 ¹ Wilkinson, M. D., Dumontier, M., Aalbersberg, I. J., Appleton, G., Axton, M., Baak, A., . . . Mons, B. (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data*, *3*, 160018, <u>https://doi.org/10.1038/sdata.2016.18</u>
² H2020 programme: guidelines on FAIR data management in Horizon 2020, European commission, ver 3.0 2016, s.4.

³ Proposal for national guidelines for open access to scientific information (2015). Stockholm: Swedish Research Council.

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regarded per se as research data; however, digital information about such objects is to be regarded as research data".

Research

Research is "scientific experimental or theoretical work or scientific studies conducted through observation if the work or studies are done to acquire new knowledge; it is also development work on a scientific basis, but not such work or studies that are performed only within higher education on a first or second-cycle levels".⁴

Official document

An official document is a document or recording that is stored by an authority and has been received by or created at an authority. A recording is considered to be stored by an authority, if it is accessible to the authority with technical aids that the authority itself uses for transmission of its content in such a form that it can be read, heard or otherwise comprehended.

4. Starting points

Umeå University shares the view that everyone should have open access to research publications and research data that are completely or partly funded by public funds to the extent that is permitted by legislation, ethics and commercial interests. The research data that forms basis for scientific publications must be easily accessible for peer review, journals and publishers and be made accessible in accordance with the recommendations of the Swedish Research Council. All source data and materials that document the research process are property of Umeå University and must, as a general rule, be archived according to the university's records management plan for research, when a research project has been completed.

Umeå University supports the establishment of sustainable research infrastructures and services for managing research data at a local and national level. Based on current laws such as the General Data Protection Regulation, the Freedom of the Press Act and other regulations, internal regulatory documents and requirements from the Swedish Research Council, the EU and other research funding bodies, Umeå University offers their researchers support in managing and making research results and research data accessible.

The local infrastructure for research data and research data management is to be developed continuously and must follow laws, regulations and guidelines from the Government, the EU, the Swedish Research Council and other relevant research funding bodies and actors. In this way, correct management, storage, sharing and long-term preservation of research data is ensured.

This policy applies to all employees who conduct research and includes all subjects and areas where research is performed at Umeå University. It clarifies responsibilities and provides guidance on how Umeå University should manage and preserve research data from the planning stage of a research project, during the project and after the end of the project. Intellectual property rights are not included in this context.

⁴ Swedish Ethical Review Act (2003:460).

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5. Responsibility and rules for management of research data

The main rule is that research data must be managed correctly and securely in accordance with current legislation, ethics and good research practice.

5.1 Publication of research data

Umeå University adopts the Swedish Research Council's recommendations for publishing research data in the version published by the council in spring 2020.

The Swedish Research Council recommends that research data financed via public funds, and applicable legislation allows to be published, should be published openly on the internet within a reasonable time after the research results have been published.

Legal and ethical aspects affect access

Determining which data can be published with open access shall always be based on applicable legislation. Some research data must not be published with open access due to legal or ethical aspects (if they are covered by secrecy legislation, include personal data or IP material, for example), but the options for publishing data may also be affected by other factors, such as the volume of the data sets.

If open access to research data cannot be provided, the reason why this is not possible should be documented.

Data created in the research process and forming the basis for publications

This recommendation covers data created during the research process and forming the basis for scientific publications. If already existing data from other actors have been used, such as various types of public agency data, then these data only constitute research data if they have been analysed, processed or otherwise refined during the research process. Already existing data that have only been used in their original form and that are already managed and made accessible by another actor are not covered by this recommendation.

Metadata should also be published with open access

Both research data and data describing research data (known as metadata) should be published with open access. If there are obstacles to publishing research data, the focus should in the first instance be on making metadata openly accessible on the internet. In this way, users can find information on what research data exists, even when there are obstacles to open publication, for example lack of a suitable publication platform or technical limitations that prevent all data from being published.

Publication according to the FAIR principles

Publication of research data can be done using various digital platforms, for example via the higher education institution where the research is conducted or via other relevant national and/or international portals, infrastructures and similar organisations and platforms. The publication of research data shall always be based on the FAIR principles.

5.2 Data management plans

Umeå University recommends its researchers to write a data management plan⁵ at the beginning of each research project and to keep it updated continuously throughout the project. A data

takes precedence.

⁵ The data management plan is a formal document that describes how to manage the data material during and after the research project / thesis work. The data management plan is designed according to the specific research project and is intended to function as a support for the researcher during the research process. For

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management plan should, for instance, specify how research data is to be collected, stored, managed, documented, used and made accessible during and after the research project. Umeå University has a template for data management plans, which, together with help texts, is also available in an online tool. In some cases, it is mandatory for researchers to establish a data management plan, for instance for certain research projects funded by the EU and by the Swedish Research Council. A data management plan should also be set up for all new doctoral student projects, together with the corresponding research plan.

5.3 Ownership and collaborations

Research data generated in research at Umeå University is an official document of the authority in accordance with the Public Access to Information and Secrecy Act and the archive legislation, and are owned by Umeå University. In research projects that are conducted in collaboration with external parties such as other Swedish authorities, Region Västerbotten, companies and universities abroad, the terms of ownership of research data must be regulated in collaboration agreements that should be reviewed by a university legal officer. The starting point for such agreements is that Umeå University reserves the rights to use, publish, share or make publicly accessible research data that is produced or stored at Umeå University, and that the recommendations of the Swedish Research Council for publishing research data are followed. The terms must not restrict the obligations of the university under the Public Access to Information and Secrecy Act and the archive legislation.

5.4 Storage and giving access to research data

Research data must be managed and stored at Umeå University in accordance with the routines that Umeå University recommends for storage and information security. Umeå University is responsible for ensuring that all research data can be stored on suitable and secure storage spaces and for providing sustainable infrastructure to make research data accessible in accordance with the recommendations of the Swedish Research Council (see 5.1).

5.5 Description of research data

Research data should be provided with standardized and machine-readable metadata in accordance with the FAIR principles in order to make the data searchable, comprehensible and reusable by others than the researcher who created it. Even in cases where research data cannot be made openly accessible, it is recommended that the researcher describes the research project using metadata to make it visible and searchable. Metadata can be published in the metadata catalogue provided by the consortium of the Swedish National Data Service (SND), in which Umeå University is included.

5.6 Research data with copyright protected material

Research data that contains material belonging to others and that is protected by copyright cannot be made publicly accessible but the copyright does not prevent such data from being archived and described through metadata, which in turn should be made openly accessible.

5.7 Supervision of doctoral students and students

Supervisors are responsible for ensuring that doctoral students and students receive clear instructions for managing research data safely and correctly. In a doctoral project, doctoral students and their supervisors are together responsible for ensuring that there is a data management plan describing the routines for managing research data during and after the doctoral project. The research data management should follow this policy. Doctoral students and their supervisors are also together responsible for ensuring that research data generated in the doctoral

the individual researcher / PhD student, the data management plan can be an effective tool for thinking about the design, collection and management of research data at an early stage of the project. A data management plan should be seen as a living document that is continuously updated during the project.

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project, which is funded by Umeå University or by a third party, is managed according to the routines of the department when doctoral students complete their doctoral studies.

5.8 Support by teaching and guidance

Umeå University is to offer support for the correct management of research data in the form of education and information as well as by expert advice. Instructions regarding correct management of research data should also be included in the training of doctoral students at an early stage.

5.9 Access to research data when changing jobs

If employees change jobs and want to take a copy of the research data from the projects they have worked on at Umeå University with them, they should discuss with their head of department if and how this can be made possible. The details are to be regulated by a written agreement between the higher education institutions involved and specific terms and conditions regarding secrecy and personal data are to be noted.

5.10 Archiving and disposal of research data

Research data is an official document and part of the Swedish cultural heritage and must be archived indefinitely unless a decision is made to dispose of the data. Archiving of research data is to be carried out, regardless of whether research data is made accessible or not, in accordance with the current records management plan. The head of department is responsible for making decisions regarding the disposal of research data. The metadata description of research data should always be preserved, which also includes metadata that describes research data that has been disposed of.