

# Hokkaido University Research Data Policy

Enacted by the President on June 27, 2022

Hokkaido University (hereinafter referred to as “the University”) has the basic philosophy of "promoting creative research based on academic freedom, regardless of whether it is purely theoretical or applied, and drastically advancing research and education functions through the flexible development of graduate schools, etc., and aims to promote world-class research that can respond to challenges in human history."

To embody this philosophy and contribute to the further development of academic research and the sustainable development of the local and international community, the University will appropriately manage the research data generated in the course of research activities and actively promote its utilization through publication or sharing. Based on the "Basic Policy on the Management and Utilization of Publicly Funded Research Data" (Integrated Innovation Strategy Promotion Council, April 27, 2021), the University has established the following policies on the management and utilization of research data.

## 1. Definition and Scope of Target Research Data

The term "research data" as used in this policy refers to data collected or generated by researchers in the course of their research activities at the University, whether digital or non-digital.

## 2. Research Data Management

Research data shall be managed under the responsibility of the researcher who collected or generated the data, in accordance with the requirements set forth in laws and regulations, and rules and contracts of the University, as well as ethical requirements, while carefully considering the unique characteristics of each research data set.

## 3. Utilization of Research Data

Research data collected or generated by researchers through their activities at the University shall be publicly released or shared as research outcomes. Research data deemed necessary in terms of public interest or societal needs shall be proactively disclosed and made available for utilization. However, data that is inappropriate for publication or sharing due to concerns such as the protection of intellectual property rights, personal information, and other relevant legal, ethical, or security considerations shall be excluded from disclosure or sharing.

## 4. Responsibility of the University

The University shall provide support for the proper management and utilization of research data, including the development of repositories and storage infrastructure.

## 5. Other

This policy shall be reviewed and revised as necessary in response to changes in society and the academic environment.

## Explanations and Supplements to the Policy

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## ※① Introduction (Background of the Policy Establishment, etc.)

With the recent advancement of digitalization, the reliance on research data in academic research and industrial applications has rapidly increased. In order to ensure compliance with organizational regulations, to maintain and enhance the research capabilities of the University through the effective utilization of research data, and to contribute to solving societal issues, it is essential for the University to establish appropriate management practices for research data, along with the necessary publication or sharing, and to develop the organizational infrastructure needed to support these efforts.

At the University, in terms of preventing research misconduct, the University has established the "Code of Conduct for Scientists at Hokkaido University," and in the "National University Corporation Hokkaido University Research Misconduct Rules," the retention period of research materials is stipulated to encourage researchers to appropriately manage their research data.

Meanwhile, regarding the promotion of open science, the University Library has enabled the publication of research data in the "Hokkaido University Collection of Scholarly and Academic Papers (HUSCAP)" starting from April 2021. Additionally, as part of its interdisciplinary large-scale computer system service, the Information Initiative Center has begun providing cloud storage "Nextcloud," which allows for the storage of research data, and is advancing collaboration with the Research Data Cloud "GakuNin RDM," developed by the National Institute of Informatics (NII).

This policy sets forth the principles for the management and utilization of research data at the University, while respecting the regulations of the preceding activities, as well as compliance with the legal and ethical requirements set forth in the various research fields conducted at the University. Each department is expected to formulate specific implementation policies and internal regulations in accordance with this policy, tailored to the needs of their respective research fields.

## ※② Research Data

"Research data" serves as supporting materials for research results. It includes anything that can be used to verify research findings, regardless of the format, whether non-digitized printed materials, digital formats, or other digital and non-digital formats. This includes quantitative information or qualitative descriptions collected or generated by researchers through methods such as experiments, observations, modeling, interviews, and surveys. It includes raw or primary data (e.g., data directly obtained from measurements, collection, or generation), secondary data derived from primary data for subsequent analysis or interpretation, as well as processed or analytical data generated through further analysis or processing of such data, and simulation data.

For example, the following are included:

- Observation data, experimental data, clinical data, simulation data
- Photographs, audio, and video
- Laboratory notebooks and field notes
- Questionnaires and survey forms

In addition, data describing each dataset (metadata), as well as tools, software, algorithms, and documentation required for data utilization, will be handled in accordance with the corresponding data.

### ※③ Research Data Management

To prevent research misconduct, researchers are required to manage various research data (\*), in accordance with requirements such as retention periods and management methods stipulated in relevant laws and regulations, the University's rules, and contracts, as well as ethical requirements. Furthermore, to enhance the utilization of data at different stages of research activities and facilitate the publication of research results, such as papers, researchers are expected to make efforts to improve research data management, including classifying and organizing the data, ensuring proper storage and backup in appropriate locations, and improving access efficiency.

Researchers should create and implement a "Research Data Management Plan" as a research group or individually to manage such data. In the case of group research, the principal investigator should clarify the responsibilities and roles of data management within the research group and ensure that all members can ensure proper data management based on mutual agreement within the group. In collaborative research involving multiple institutions, research should be started after agreeing on intellectual property rights and other rights related to the data, and data management should be conducted according to the institutions' agreements, while seeking legal advice if necessary. The research data management plan should be reviewed as needed during the research period and, by the end of the research, all research data and their storage locations should be listed.

#### ○Other Considerations Regarding Research Data Management

- Researchers are required to handle research data in accordance with the requirements stipulated in relevant laws and regulations, the University's rules, and contracts, as well as ethical requirements. In particular, when agreeing to contracts (including commissioned research agreements, collaborative research agreements, as well as terms and conditions, rules, and regulations; the same applies hereinafter) related to the handling of research data with the national government, research institutions, private companies, or other related organizations (hereinafter referred to as "related organizations"), researchers must carefully review the contract terms to ensure that they do not impede future research activities at the University, the researchers themselves or other researchers. Additionally, they should seek support from the administrative office of their affiliated department as necessary.
- When providing research data to related organizations, researchers must ensure that they give adequate consideration to the rights regarding the use of the research data, and reach a prior agreement with the related organizations regarding issues such as confidentiality and whether compensation will be provided. Researchers should comply with the regulations for clinical research data, as these are already stipulated by the "National University Corporation Hokkaido

University Rules for the Licensing of Clinical Research Data" (HU Doc No. 134). Furthermore, the authorization of clinical research data, in principle, belongs to the University.

- When receiving research data from related organizations, researchers must handle the data appropriately based on the agreement with the related organization.
- When creating research data jointly with related organizations, researchers must reach a prior agreement with the related organizations on the ownership of rights to the data, confidentiality, usage conditions, etc.
- If a researcher transfers to another department or retires, they must, through discussions with relevant parties, make prior arrangements regarding the handling of the research data under their management, to avoid disrupting the future research activities of the University, the researcher, or other researchers.

(Terminology)

\* In this policy, "management" refers to the handling of research data collected or generated by researchers during the course of research activities at the University, from the initiation to the completion of the research. Specifically, this includes the development of a research data management plan, the collection, generation, organization, analysis, processing, storage, sharing, publication, and disposal of research data, among other activities.

#### ※④ Researchers

The researchers subject to this policy refer to all individuals involved in handling research data in each research activity conducted at the University, regardless of whether they are University officers, faculty, or students.

#### ※⑤ Utilization of Research data

Researchers are encouraged to make research data publicly available to the greatest extent possible, unless there are specific restrictions as specified below:

- If there is no agreement with co-researchers.
- If there are restrictions on publication due to joint research contracts with companies, etc.
- If there are legal issues (e.g., personal information, intellectual property such as patents, export trade control, etc.) that restrict publication.
- If there are restrictions on publication due to research community practices (e.g., handling of clinical trial data, endangered species habitats, interviews in literary research, etc.).

Furthermore, unless otherwise specified, researchers are responsible for deciding whether to make research data publicly available or share it, as well as determining the scope, conditions, and licenses for publication or sharing.

When making data publicly available, appropriate licensing information must be included, and users must comply with it. Ideally, research data should be deposited in an appropriate repository

provided by the research field or institution. Such data should be assigned a persistent URI, such as a Digital Object Identifier (DOI), and made searchable according to the FAIR principles. Researchers are encouraged to use open-source file formats or formats suitable for long-term preservation to ensure publication in a reproducible and permanently accessible form.

※⑥ The development of repositories and storage infrastructure.

At the University, starting from April 2021, a framework was put in place within the "Hokkaido University Collection of Scholarly and Academic Papers (HUSCAP)" to promptly make "research data associated with academic papers, whether published or unpublished," publicly available.

[https://www.lib.hokudai.ac.jp/support/research\\_data/](https://www.lib.hokudai.ac.jp/support/research_data/)

Additionally, the Information Initiative Center provides "Cloud storage (Nextcloud)" as part of the interdisciplinary large-scale computer system service, allowing researchers to store research data.

<https://www.hucc.hokudai.ac.jp/intercloud/cloudstorage/>

In the future, related departments, including the ICT Promotion Office, the University Library, and the Information Initiative Center, will continue to consider and implement the development of the University's repository and storage infrastructure, aiming to promote open science. Specifically, this includes the enhancement and expansion of repositories at the University Library, the expansion of storage infrastructure at the Information Initiative Center, integration of cloud storage with large-scale computing and big data processing infrastructures such as supercomputers, automation of data collection and accumulation through integration with experimental equipment and sensors, collaboration with external cloud services such as literature management systems and electronic lab notebooks, and the provision of guidance and training on the appropriate management and utilization of research data.

※⑦ Review of this policy

This policy shall be regularly reviewed by the relevant committee and may be revised in response to changes in society and the academic environment.