



# **UNBC Institutional Research Data Management Strategy**

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Research data broadly encompasses all information collected to validate original research findings. This includes “Facts, measurements, recordings, records, or observations about the world collected by scientists and others, with a minimum of contextual interpretation. Data may be in any format or medium taking the form of writings, notes, numbers, symbols, text, images, films, video, sound recordings, pictorial reproductions, drawings, designs or other graphical representations, procedural manuals, forms, diagrams, work flow charts, equipment descriptions, data files, data processing algorithms, or statistical records.”([CASRAI](#)). Research data management is the act of managing research data, and refers to the storage, access, and preservation of data produced from a given investigation. Research data management is supported by many units across UNBC over the course of the research lifecycle, including by the GRW Library, the Office of Research and Innovation, and Information Technology Services

As part of the [Tri-Agency Research Data Management Policy](#), all Tri-Agency eligible post-secondary institutions must create and share an Institutional Strategy for Research Data Management. These strategies are intended to describe how institutions will support RDM. This initial strategy meets the requirements set out in the Tri-Agency Research Data Management Policy, and is designed to be the first step in engagement with the research community at UNBC to understand their RDM needs.

## **Principles**

UNBC acknowledges that research data management is an integral part of research integrity. As part of our commitment to research data management, UNBC acknowledges the following principles:

- Research data is an important and unique research output
- Any research data resulting from work with Indigenous communities, as well as research that collects data about Indigeneity, should be considered Indigenous research data, and must be managed accordingly. Specifically, OCAP, CARE, and locally relevant principles must be used when managing Indigenous research data.
- RDM is an ongoing process that takes place across the research lifecycle, and relies on technological infrastructure, local policies and procedures, and expert support to ensure best practices can be followed
- All research, across all disciplines, relies on and creates unique research data.

## **Responsibilities of Researchers and Institutional Supports**

This section highlights requirements and best practices from the Tri-Agency RDM Policy and provides information about UNBC units providing support in each of these areas.

### **Data Management Plans**

**Tri-Agency Requirements and best practices:** Certain funding opportunities will require Data Management Plans (DMPs), which will be outlined in the call for proposals; these DMPs will be considered in the adjudication process. Outside of these funding opportunities, all grant proposals are expected to include methodologies that reflect best practices in RDM.

Researchers create DMPs as part of their research planning process, and keep DMPs up to date as projects progress. When possible, researchers should use standard tools, such as the DMP Assistant, to create DMPs. DMPs should, at a minimum, describe: how data will be collected, documented, formatted, and preserved; how existing datasets will be used and what new data will be created; whether and how data will be shared; and where data will be deposited.

For research conducted with First Nations, Métis, and Inuit communities and organizations, DMPs must be co-developed with these research partners. DMPs in these contexts should recognize Indigenous data sovereignty and include options for renegotiation of the DMP.

**Institutional Support:** UNBC Library provides DMP training and support for UNBC researchers, and supports the use of the National DMP Assistant tool. UNBC Library offers workshops for graduate students on the basics of Research Data Management and DMPs, and creates custom workshops on request.

### **Data Storage**

**Tri-Agency Requirements and best practices:** Researchers should have access to storage that meets the needs of their research teams and is compliant with relevant laws, regulations, and ethical requirements.

**Institutional Support:** UNBC ITS, HPC, and the GIS Lab all provide support for researchers storing and working with active datasets of various sizes. Microsoft Office365 allows UNBC Researchers to store research data remotely, and manage access for research collaborations both internally and externally. Active data storage needs that exceed standard allotments are addressed on a case-by-case basis.

### **Data Curation**

**Tri-Agency Requirements and Best Practices:** Data should be shared in a format that is useable by others to either replicate results or conduct further analysis. Datasets should be fully described, and come with accompanying documentation, such as codebooks, code, and other documentation. Files should all be named consistently, with file naming conventions included in the data documentation.

**Institutional Support:** As part of DMP training, the UNBC Library provides training on dataset file formats, documentation, and description. For data deposited within the UNBC Data Repository, a basic level of curation support is provided, ensuring that datasets include a basic level of description and documentation.

### **Data Deposit**

**Tri-Agency Requirements and Best Practices:** CIHR-funded researchers must continue to comply with data deposit requirements included in the Tri-Agency Open Access Policy on Publications (in

place since January 1, 2008). SSHRC and NSERC-funded researchers will need to become compliant with deposit requirements as they come into effect (date unknown). Researchers are required to deposit all digital research data, metadata, and code that directly supports the research conclusions in journal publications and pre-prints from agency-supported research. Deposited data, metadata, and code should be linked to the relevant publication with a persistent digital identifier whenever possible.

Deposit of data is not equivalent to sharing research data, and researchers are not necessarily required to share their data. Researchers can choose to limit sharing permissions or keep data private once deposited. Where ethically and legally allowed, and when data has value for re-use, researchers should deposit data in an appropriate repository to allow for discovery and re-use.

**Institutional Support:** UNBC Library and the Office of Research and Innovation will provide support to UNBC's institutional data repository, UNBC Dataverse. UNBC Library provides support and guidance to researchers depositing data, including the selection of an appropriate repository, guidance on preparation of data for deposit, and support during the deposit process.

### **Data Licensing and Sharing**

**Tri-Agency Requirements and Best Practices:** Researchers should have clearly documented agreements stipulating rights and responsibilities related to data used and produced in a research project

**Institutional Support:** UNBC's Research Contract Specialist provides support to researchers who require data licensing and sharing agreements.

### **Sensitive Data**

**Tri-Agency Requirements and Best Practices:** Researchers must store sensitive data in compliance with all relevant restrictions, which may include secure physical locations or secure cloud storage environments. Access must be limited only to authorized data users. Sensitive data requires retention and disposition planning, and researchers are responsible for ensuring these plans are followed.

**Institutional Support:** UNBC's Human Ethics Research Board and the Privacy Office provide support and guidance for researchers who collect and use personally identifiable information.

### **Indigenous Data**

**Tri-Agency Requirements and Best Practices:** The Tri-Agency recognizes that data related to research by and with First Nations, Métis, and Inuit people must be managed in accordance with data management principles developed and approved by these communities. This includes considerations of Indigenous data sovereignty, data collection, ownership, protection, use, and sharing. While models such as Ownership, Control, Access and Possession (OCAP <sup>®</sup>) and CARE

have been developed, they do not necessarily respond to the needs and values of distinct First Nations, Métis, and Inuit communities and organizations. The agencies recognize that a distinctions-based approach is needed to ensure that the unique rights, interests, and circumstances of the First Nations, Métis, and Inuit are acknowledged, affirmed, and implemented.

**Institutional Support:** Consultation is required to understand how UNBC can best support the management of Indigenous research data.

### **Strategy:**

UNBC will provide the research community with training, infrastructure, and other support to implement best practices in research data management. To do so, UNBC will:

- Identify existing expertise, infrastructure, and staff capacity to support the UNBC research community in implementing best practices in RDM
- Identify what expertise, infrastructure, and capacity exists in provincial, national, and international organizations to support the UNBC research community in implementing best practices in RDM
- Support the development of inter-departmental collaborations across campus to ensure seamless access to RDM support for all UNBC researchers
- Identify key policies and procedures that impact RDM, and work to ensure they are up-to-date, internally consistent, and easily accessible to all researchers
- Consult with relevant campus and community partners to understand how UNBC can best support the management of Indigenous research data.

### **Acknowledgement**

The structure, background information, and best practices in this institutional strategy are based on the [UVic RDM Institutional Strategy](#)