

# USask Research Data Management Strategy and Roadmap

Winter 2023

V1.0

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Tri-Agency Research Data Management Institutional Strategy Working Group

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## Background

Research data management (RDM) refers to the collection, documentation, storage, sharing, and preservation of research data throughout the lifecycle of a research project [1]. Good RDM practices improve research efficiency, support research integrity and replication, and enhance research visibility and impact [2]. These outcomes benefit researchers and their institutions, funders, and the research enterprise in Canada and internationally.

In 2016 the Tri-Agency began to signal that RDM was an emerging priority in the national research landscape. Released that year, the Tri-Agency Statement of Principles on Digital Data Management states that “[t]he agencies [SSHRC, CIHR, and NSERC] expect grant holders to incorporate data management best practices into their research, and research institutions to provide their researchers with an environment that enables world class data stewardship practices.” In 2018 the Agency began soliciting feedback on a draft RDM Policy, and in March 2021 released the finalized Tri-Agency Research Data Management Policy outlining new expectations for researchers and academic institutions. The Policy recognizes that “data created in the context of research by and with First Nations, Métis, and Inuit communities, collectives and organizations will be managed according to principles developed and approved by those communities, collectives and organizations, and in partnership with them” [3].

The three key requirements of the Policy, including their implementation dates, are:

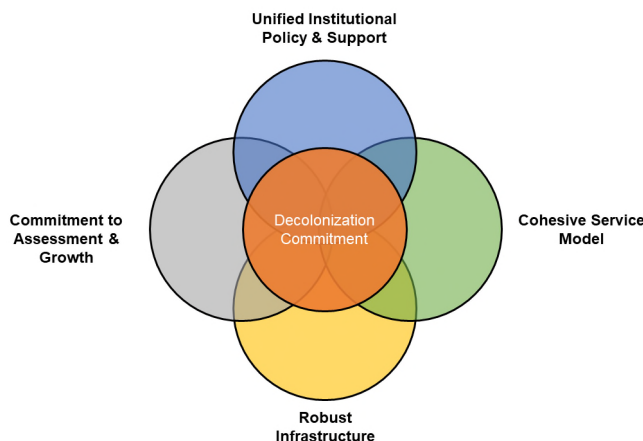
- **Develop an institutional strategy:** Institutions must develop and post RDM strategies, notifying the Agencies of their completion (March 2023)
- **Data Management Plans (DMPs):** Researchers must submit a DMP with applications for Tri-Agency funding
  - phase-in begins 2022
- **Data deposit:** Researchers funded by the Tri-Agency must deposit all research data, metadata, and code supporting published research conclusions in a digital repository. Open sharing of research data is encouraged where appropriate.
  - phase-in begins after institutional strategies have been reviewed

Anticipating the release of the Policy, in 2019 USask struck the Institutional RDM Strategy Working Group to deliver its institutional RDM strategy – a concise and directive document outlining how USask will build capacity to support research data management broadly and respond to the Tri-Agency Policy specifically. This work culminated in the present Institutional Strategy.

## Approach

The working group took a two-pronged approach to understand the national and institutional RDM landscape and develop institutional recommendations. First, it reviewed [nationally administered institutional RDM survey results](#) to identify priority areas and service needs. Second, it developed a USask RDM Gap Analysis [4], founded on a review of existing institutional RDM supports and feedback from focus groups held in 2020 with Tri-Agency funded faculty members. This gap analysis led to the identification of key pillars necessary for providing sustainable RDM support.

### Pillars of a Successful RDM Strategy



Using the pillars as the foundation for RDM support at USask, the working group developed recommendations informed by the gap analysis. For each recommendation, the following questions were considered: What campus stakeholders would be impacted? How long would it take to implement? What resources are required? When should it be implemented?

Recommendations were then prioritized based on:

- level of urgency according to the requirements of the Tri-Agency RDM Policy;
- ability to be adopted in a timely manner;
- likelihood of being sustainably and feasibly implemented;
- facility to incorporate Indigenization and Decolonization best practices; and
- dependencies on other recommendations.

After prioritization was complete, the recommendations were discussed with sponsors from OVPR, ICT, OVP-IE, and the University Library, and were finalized as the recommendations presented in this strategy.

The recommendations are presented below in table format and include the following variables:

- **Action:** The specific action USask should take to support RDM. Each action may have multiple deliverables.
- **Pillar:** The specific RDM pillar the action is aligned with.
- **Decolonization commitment:** A description of how Indigenization/Decolonization will be incorporated into the action. Within this strategy the term 'Indigenous' recognizes First Nations, Métis, and Inuit as represented in [ohpahotân / oohpaahotaan](#), as well as global Indigenous populations who share a right to data sovereignty.
- **Responsible team:** Which campus partners should be involved in implementing the action.
- **Implementation timeline:** When the action should be implemented.

Although this strategy was developed in response to the Tri-Agency RDM Policy, the actions and services identified herein will be available to support the RDM needs of all USask researchers.

## Recommendations

### High Priority (Ranked)

Actions	RDM Pillar	Indigenization and Decolonization Commitment	Responsible Team(s)	Implementation Timeline
Appoint leaders from across campus to oversee the development of an RDM Support Team.	<i>Unified Institutional Policy &amp; Support</i>	<ul style="list-style-type: none"> <li>• Include OVPIE representation from the beginning stage.</li> <li>• Prioritize alignment with USask Indigenous Strategy in group's first steps.</li> </ul>	OVPR, REB, OVPIE, Library, ICT, and CHASR	FY 2023-24
Appoint service providers from OVPR, REB, OVPIE, University Library, IT, and CHASR to the RDM Support Team to deliver coordinated RDM services.	<i>Cohesive Service Model</i>	<ul style="list-style-type: none"> <li>• Include OVPIE representation from the beginning stage.</li> <li>• Prioritize alignment with USask Indigenous Strategy in group's first steps.</li> </ul>	OVPR, REB, OVPIE, Library, ICT, and CHASR	FY 2023-24
Deliver coordinated RDM support to students, faculty, and staff through the RDM Support Team.	<i>Cohesive Service Model</i>	<ul style="list-style-type: none"> <li>• Incorporate principles of Indigenous data governance and sovereignty (e.g., OCAP, CARE, TCPS2) into RDM support model.</li> </ul>	OVPR, REB, OVPIE, Library, ICT, and CHASR	FY 2024-25
Amend USask Research Procedures 2.3 and 3.1 to include language supporting compliance with funder RDM policies.	<i>Unified Institutional Policy &amp; Support</i>	<ul style="list-style-type: none"> <li>• Incorporate applicable Indigenous policies and data governance and sovereignty principles in procedure revision.</li> </ul>	OVPR, OVPIE	FY 2023-24
Develop a core RDM training requirement for prospective and current Tri Agency-funded USask researchers to ensure compliance with the Research Data Management Policy.	<i>Cohesive Service Model</i>	<ul style="list-style-type: none"> <li>• Incorporate principles of Indigenous data governance and sovereignty (e.g., OCAP, CARE, TCPS2) in required training.</li> </ul>	OVPR, REB, OVPIE, Library	FY 2024-25
Develop University-wide recommendations for research data deposit and sharing solutions.	<i>Robust Infrastructure</i>	<ul style="list-style-type: none"> <li>• Include clear and explicit guidance for Indigenous data.</li> </ul>	Library, ICT, OVPR	FY 2024-25

Revise ethics approval procedures to include mandatory training on Indigenous data principles (e.g., OCAP, CARE, TCPS2) for researchers, where applicable.	<i>Unified Institutional Policy &amp; Support</i>	<ul style="list-style-type: none"> <li>Develop strategy to identify research that will require Indigenous ethics approvals.</li> </ul>	OVPR, OVPIE	FY 2024-25
Develop a DMP tracking mechanism to monitor USask compliance with the Tri-Agency policy.	<i>Commitment to Assessment &amp; Growth</i>	<ul style="list-style-type: none"> <li>In consultation with OVPIE, determine important institutional markers for tracking Indigenous data DMPs.</li> </ul>	OVPR, REI, REB, OVPIE	FY 2023-24
Track, evaluate, and report on support delivered to researchers by the RDM Support Team (e.g., consultations, training, referrals).	<i>Commitment to Assessment &amp; Growth</i>	<ul style="list-style-type: none"> <li>Incorporate Indigenous research support metrics in consultation with OVPIE.</li> </ul>	Library, ICT, OVPR	FY 2024-25
Integrate core RDM concepts and skills into undergraduate and graduate curricula.	<i>Cohesive Service Model</i>	<ul style="list-style-type: none"> <li>Introduce principles of Indigenous data governance and sovereignty (e.g., OCAP, CARE, TCPS2) into curricula.</li> </ul>	OVPR, REB, CGPS, College ADRs	FY 2024-25

### Recommended Future Initiatives

<b>Actions</b>	<b>RDM Pillar</b>	<b>Indigenization and Decolonization Commitment</b>	<b>Responsible Team(s)</b>	<b>Implementation Timeline</b>
Analyze suitability of existing USask infrastructure and processes for stewarding Indigenous data.	<i>Robust Infrastructure</i>	<ul style="list-style-type: none"> <li>Partner with OVPIE and Indigenous community stakeholders to identify needs and challenges and inform future development.</li> </ul>	OVPR, Library, ICT, OVPIE	FY 2025
Investigate research lifecycle solutions (e.g., electronic lab notebooks, Open Science Framework) to improve collaboration and RDM throughout the research process.	<i>Robust Infrastructure</i>	<ul style="list-style-type: none"> <li>Ensure lifecycle solutions accommodate Indigenous data governance and sovereignty principles.</li> </ul>	OVPR, Library, ICT	FY 2025
Recognize good data management and sharing practices in promotion, tenure, and renewal processes.	<i>Unified Institutional Policy &amp; Support</i>	<ul style="list-style-type: none"> <li>Ensure any changes recognize Indigenous knowledges and ways of knowing.</li> </ul>	OVPR, UFSA, University Council, VP-Faculty Relations	FY 2026

## References

- [1] Portage Network. (2019). [Primer: Research Data Management](#).
- [2] Whyte, A., Tedds, J. (2011). [Making the Case for Research Data Management](#). DCC Briefing Papers.
- [3] Government of Canada. (2021). [Tri-Agency Research Data Management Policy](#).
- [4] University of Saskatchewan Research Data Management Working Group. (2020). USask Research Data Management Gap Analysis.