

Research Data Management

ULAC Update

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Outline

Research data management (RDM) - an overview

Tri-Agency draft policy & other influences

What's happening at McMaster?

What's happening beyond McMaster?



Research Data Management - An overview

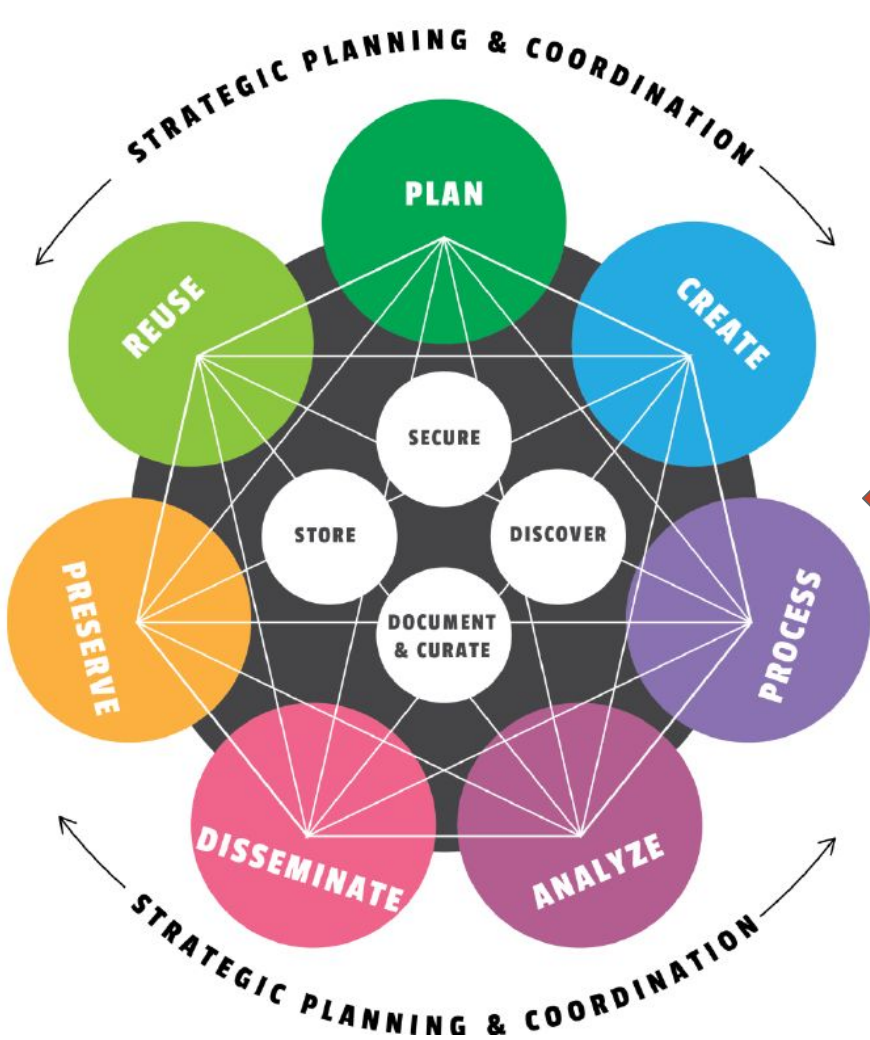


Research data are contents that are used as primary sources to support research, scholarship, artistic activity or research-creation, and that are used as evidence in the research process and commonly accepted in the research community as necessary to validate research findings and results.

Canadian Tri-Agency

Research data management (RDM) refers to the storage, access and preservation of data produced from a given investigation. Data management practices cover the entire lifecycle of the data...include: file naming data quality control and quality assurance; data access; data documentation (etc.)

CASRAI



Research Data Management

is the active organization & maintenance of data throughout the **research data lifecycle** to ensure its security, accessibility, usability, and integrity

Applying RDM best practices benefits...

Researchers and their collaborators

- ✧ Improves research efficiency and productivity
- ✧ Provides extra credit for research work
- ✧ Increases research impact
- ✧ May help to meet funding requirements

Research Communities

- ✧ Accelerates discovery
- ✧ Enables validation and verification

Funders, governments and the public

- ✧ Improves return on investment
- ✧ Increases research transparency
- ✧ Data as a public good

 Search

Partnerships and Projects

Meet Canada's scientists and professionals

Canadian High Arctic Research Station

Northern Contaminants Program

Canada's Extended Continental Shelf Program

Health Canada: Centre for Vaccine Evaluation

Science and Technology Data

Research Funding Collaboration

Co-operative Funding Programs

Policies and Guidelines

Open Access

Selecting the Appropriate Federal Granting Agency

Research Ethics

Responsible Conduct of Research

Public Communications

Tri-Agency Statement of Principles on Digital Data Management

1. Preamble

The [Canadian Institutes of Health Research \(CIHR\)](#), the [Natural Sciences and Engineering Research Council of Canada \(NSERC\)](#), and the [Social Sciences and Humanities Research Council of Canada \(SSHRC\)](#) (the agencies) are federal granting agencies that promote and support research, research training, knowledge transfer and innovation within Canada.

As publicly funded organizations, the agencies are strong advocates for making the results of the research they fund as accessible as possible. In promoting access to research results, they aspire to advance knowledge, avoid research duplication and encourage reuse, maximize research benefits to Canadians and showcase the accomplishments of Canadian researchers. These aspirations align with the Government of Canada's commitment to open science, as described in [Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation](#)(2014).

Research data include observations about the world that are used as primary sources to support scientific and technical inquiry, scholarship and research-creation, and as evidence in the research process.¹ Research data are gathered through a variety of methods, including experimentation, analysis, sampling and repurposing of existing data. They are increasingly produced or translated into digital formats. When properly managed and responsibly shared, these digital resources enable researchers to ask new questions, pursue novel research programs, test alternative hypotheses, deploy innovative methodologies and collaborate across geographic and disciplinary boundaries. The ability to store, access, reuse and build upon digital research data has become critical to the advancement of science and scholarship, supports innovative solutions to economic and social challenges, and holds tremendous potential for Canada's productivity, competitiveness and quality of life.

Tri-Agency Statement of Principles on Digital Data Management
<http://www.science.gc.ca/default.asp?lang=En&n=83F7624E-1>

Tri-Agency Statement of Principles on Digital Data Management: Expectations

- Data management planning
- Constraints and obligations
- Adherence to standards
- Collection and storage
- Metadata
- Preservation, retention and sharing
- Timeliness
- Acknowledgement and citation
- Efficient and cost-effective

Tri-Agency Statement of Principles on Digital Data Management: Responsibilities

Researchers

- incorporating best practices
- developing DMPs
- adhering to policies and standards

Research Communities

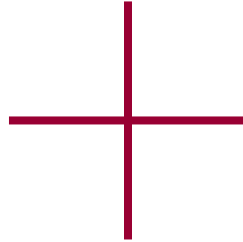
- developing & promoting standards
- fostering excellence
- selecting repositories

Research Institutions

- supporting best practices
- providing access to resources
- creating guidance and policies

Research Funders

- developing policies & guidance
- promoting data management
- providing peer reviewers



Draft Tri-Agency RDM Policy

Tri-Agency [draft data management policy](#)¹ — June, 2018

- Applies to grant recipients and institutions administering tri-agency funds.
- June-Sep, 2018: consultation period; feedback to inform policy

3 pillars:

1. **Institutions:** Institutional Strategy
2. **Researchers:** Data Management Plans
3. **Researchers:** Data Deposit

Phased and incremental implementation

¹http://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html [shortened: <https://bit.ly/2OsJB8w>]

RDM Requirements and Expectations

Funding Agencies and Governments



Publishers and Research Communities





What's happening at McMaster







McMaster's RDM support and services

- A variety of groups providing support
 - MUL, HSL, RHPCS, CSU, UTS, Faculty IT
- A variety of groups with interest in RDM
 - IT groups (see ↑), ROADS & HRS, MREB & HIREB, MacDATA, MUL & HSL
- Little / no coordination of services and strategy

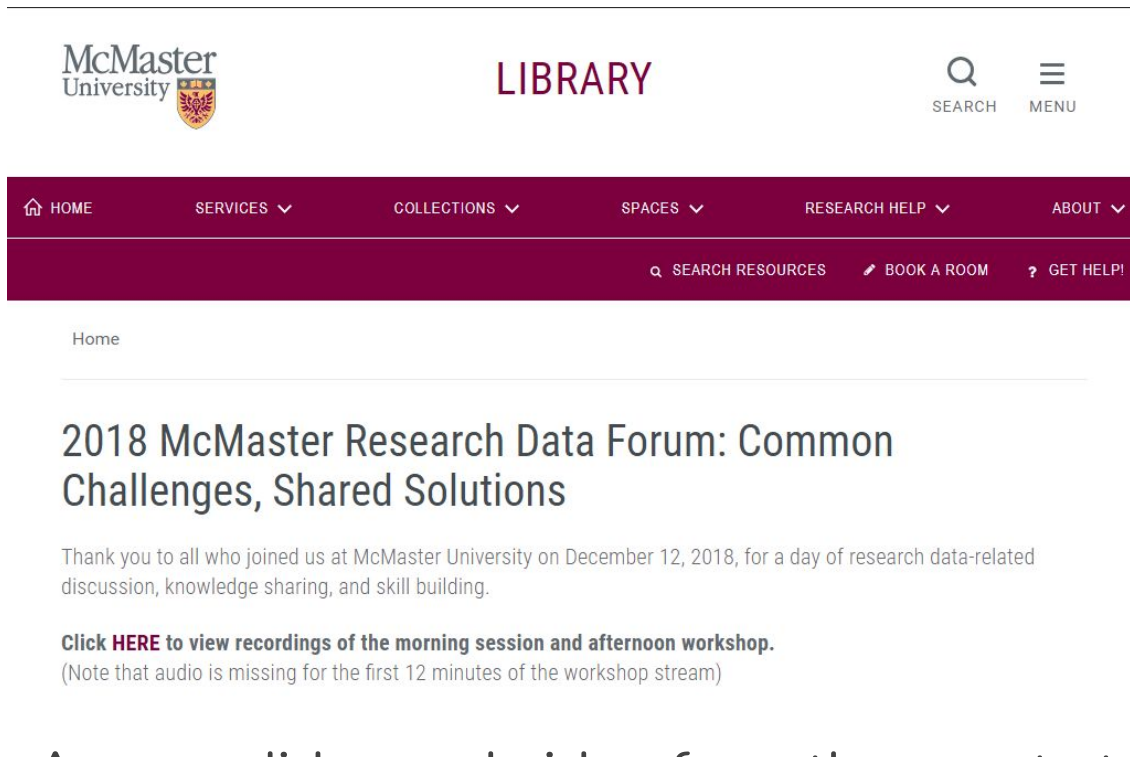
McMaster Research Data Management Committee

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1. Report to and advise the Research Technology Committee,.
 2. Actively monitor and discuss developments related to RDM..and new services and infrastructure to support RDM activities.
 3. Develop a communication strategy for updating campus stakeholders on RDM developments within and beyond the institution, and promoting general awareness and adoption of research data management best practices

McMaster Research Data Management Committee

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4. Coordinate and develop a campus-wide response to the Tri-Agency draft research data management policy.
 5. Assess and document McMaster RDM support requirements for researchers across campus.
 6. Work collaboratively to identify and offer appropriate services, infrastructure, and information and training resources.
 7. Draft an institutional strategy and policy for research data management to be reviewed by the Research Technology Committee (Tier 2) & IT Executive

McMaster Research Data Forum 2018



The screenshot shows the McMaster University Library website. At the top left is the McMaster University logo. In the center is the word "LIBRARY" in a large, maroon font. To the right are search and menu icons. Below this is a maroon navigation bar with white text for "HOME", "SERVICES", "COLLECTIONS", "SPACES", "RESEARCH HELP", and "ABOUT". A secondary maroon bar contains "SEARCH RESOURCES", "BOOK A ROOM", and "GET HELP!". The main content area has a "Home" breadcrumb. The title is "2018 McMaster Research Data Forum: Common Challenges, Shared Solutions". The text below reads: "Thank you to all who joined us at McMaster University on December 12, 2018, for a day of research data-related discussion, knowledge sharing, and skill building." A link is provided: "Click **HERE** to view recordings of the morning session and afternoon workshop." A note follows: "(Note that audio is missing for the first 12 minutes of the workshop stream)".

Access slides and video from the event at

<https://library.mcmaster.ca/research-data-2018>



What's happening beyond McMaster



EQUALITY GROWTH

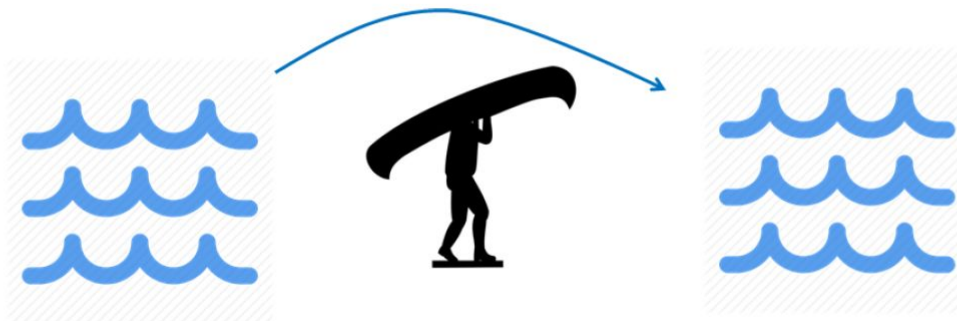
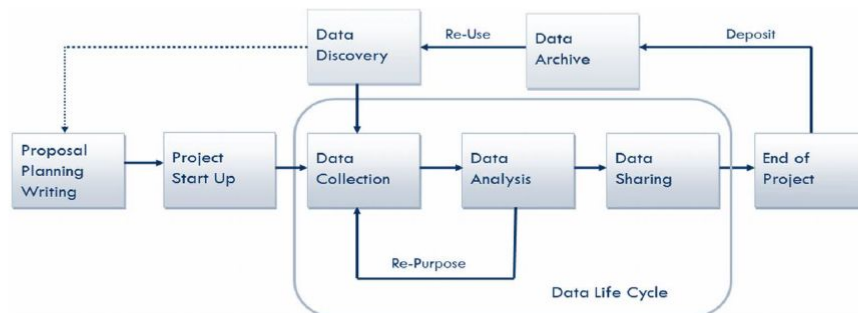
A Strong Middle Class

Harnessing Big Data

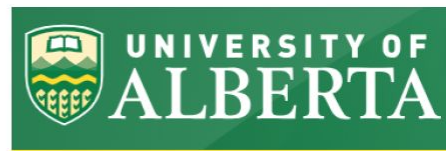
“The Government proposes to provide **\$572.5 million** over five years, with \$52 million per year ongoing, to implement a **Digital Research Infrastructure Strategy** that will deliver more open and equitable access to advanced computing and big data resources to researchers across Canada.”

What is Portage?

“Portage is a CARL-sponsored national network of Research Data Management experts **working collaboratively to build capacity and better coordinate RDM activities in Canada**”



Portage has many partners in RDM...

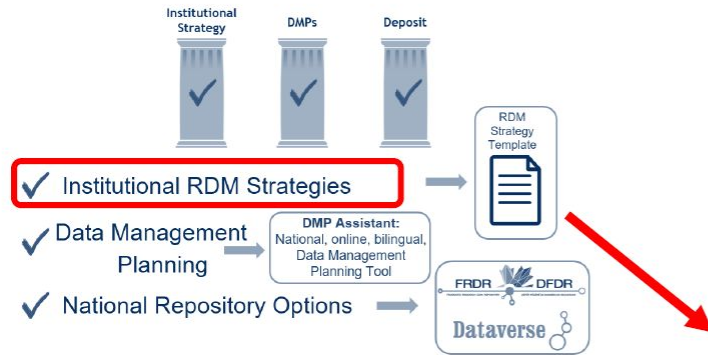


... and many other RDM and DRI stakeholders

Goals of the Portage Network

- Build a **community of practice** for research data management (RDM)
- Engage and advocate for research data management with **stakeholder communities**
- Facilitate and provide leadership in the **development of RDM infrastructure**

Pillar 1: Institutional RDM Strategies

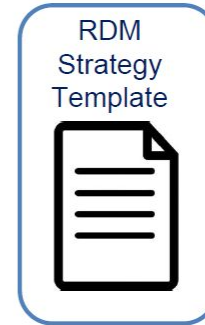


Expert Groups

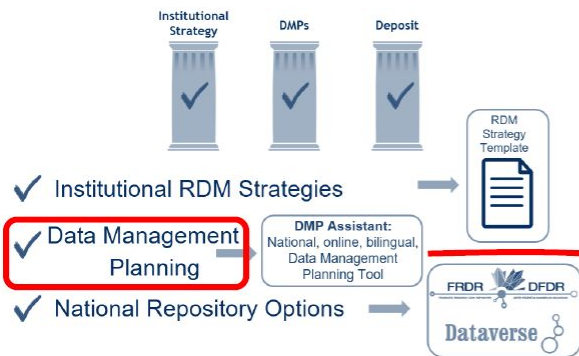
Data Management Planning
Curation
Data Discovery
Preservation
Training
Research Intelligence

Working Groups

- Dataverse North WG
- Responsible Research Data Management Practices for Sensitive Data
- FRDR Service Model WG
- FRDR Discovery Service WG
- **Institutional RDM Strategies**



Pillar 2: Data Management Planning



Working Groups

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Data Management Planning

Expert Groups

Curation

Data Discovery

Preservation

Training

Research Intelligence

DMP Assistant

Sign In

Sign Up



<https://assistant.portagenetwork.ca/en>

1. **Data collection**
2. **Documentation & metadata**
3. **Backup & storage** **DMP Assistant 2.0**
4. **Preservation** **Coming Soon**
5. **Data sharing & reuse**
6. **Responsibilities & resources**
7. **Ethics & legal compliance**

Pillar 3: Data Deposit into a Repository



Working Groups

- **Dataverse North WG**
- Responsible Research Data Management Practices for Sensitive Data
- **FRDR Service Model WG**
- **FRDR Discovery Service WG**
- Institutional RDM Strategies

