

LOVE DATA WEEK: RDM FROM ALL SIDES

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LAND ACKNOWLEDGEMENT

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.

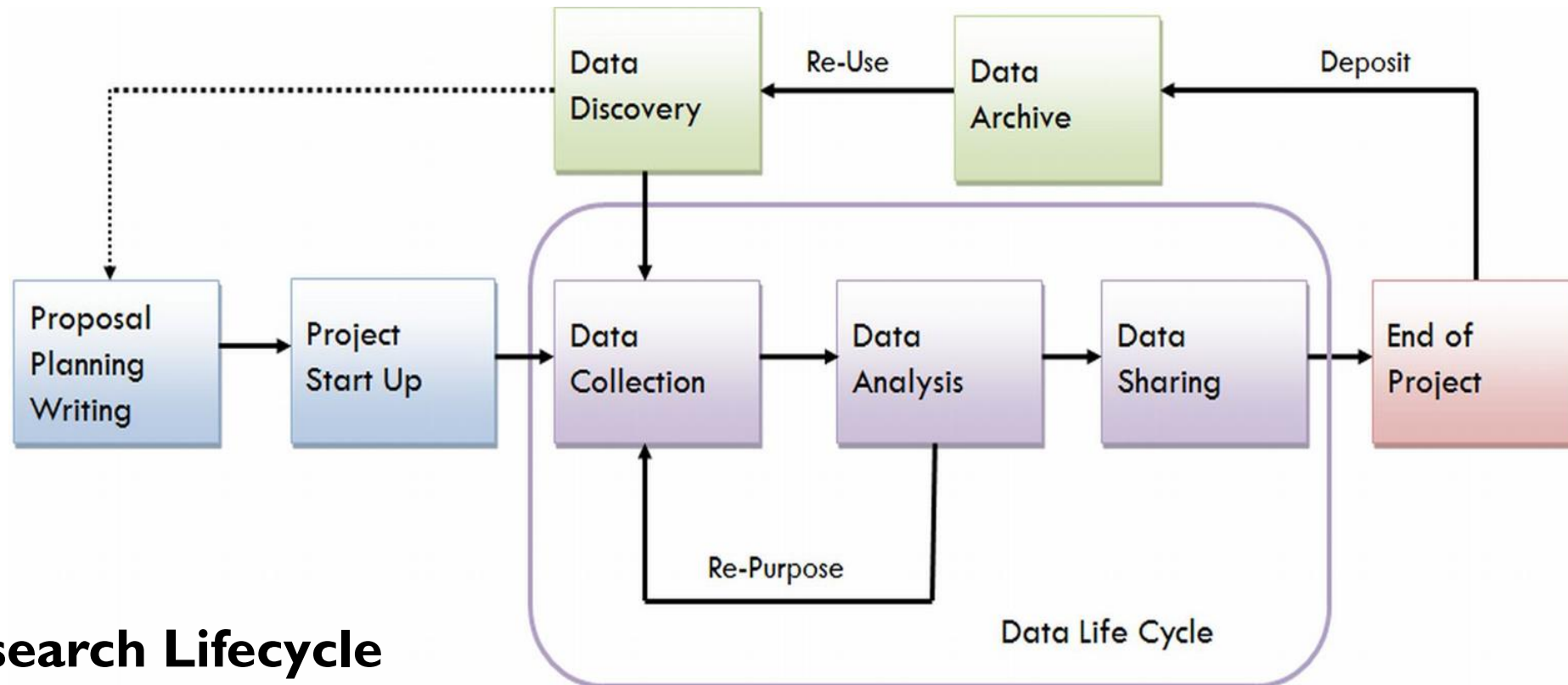
We recognize that African Nova Scotians are a distinct people whose histories, legacies and contributions have enriched that part of Mi'kma'ki known as Nova Scotia for over 400 years.

AGENDA

- Define research data management (RDM)
- Address the 3 pillars of the Tri-Agency RDM Policy
- Introduce Dal support services and resources

What is Research Data Management?

A broad term used to describe the structure, organization, maintenance, and overall **stewardship** of research data.



Research Lifecycle

RDM BENEFITS



RDM helps you, as a researcher, and a practitioner



RDM helps the community ([FAIR Principles](#), [OCAP Principles](#), [CARE Principles](#))



RDM helps fulfill legal, ethical, funder, publisher requirements

TRI-AGENCY RDM POLICY

The Tri-Agency Research Data Management Policy requires:

- An Institutional Strategy
- Data Management Plans, phased in, initial opportunities announced spring 2022
- Data Deposit, to be phased in

Released March 2021 and available here:

http://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html



A LITTLE MORE ABOUT STRATEGY

3.1 Institutional Strategy

Each postsecondary institution and research hospital eligible to administer CIHR, NSERC or SSHRC funds is required to create an institutional RDM strategy and notify the agencies when it has been completed.

The strategy must be made publicly available on the institution's website, with contact information to which inquiries about the strategy can be

DALHOUSIE'S STRATEGY

- Dalhousie's [Institutional Research Data Management Strategy](#) documents our RDM services, supports and goals. It was prepared in advance of the [Tri-Agency Research Data Management Policy](#), which encourages responsible use of research funds and the creation of [FAIR](#) (Findable, Accessible, Interoperable, and Reusable) data
- Dalhousie's Strategy was developed in consideration of the internationally endorsed [CARE Principles for Indigenous Data Governance](#) (collective benefit, authority to control, responsibility, and ethics), and the [First Nations principles of OCAP](#)® (ownership, control, access, and possession)



A little more about Data Management Plans

TRI-AGENCY RDM POLICY

3.2 Data management plans

All grant proposals submitted to the agencies should include methodologies that reflect best practices in RDM. For certain funding opportunities, the agencies will require data management plans (DMPs) to be submitted to the appropriate agency at the time of application, as outlined in the call for proposals; in these cases, the DMPs will be considered in the adjudication process.

Policy released March 2021 and available here:

http://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

TRI-AGENCY DMPS AND FUNDING OPPORTUNITIES

- Pilot program for funding opportunities that require applications to include DMPs:
 - CIHR – several Team and Network Grants
 - NSERC – Subatomic Physics Discovery Grants (Individual and Project)
 - SSHRC – Partnership Grant Stage 2
- DMPs are adjudicated by reviewers – experts in the field of research to determine appropriateness for the proposed research
- Tri-Agency will evaluate the process prior to expanding the DMP requirement to other funding opportunities

For a complete list of funding opportunities requiring DMPs:

<https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/funding-opportunities-requiring-data-management-plans>

TRI-AGENCY RDM POLICY

For research conducted by and with First Nations, Métis and Inuit communities, collectives and organizations, DMPs must be co-developed with these communities, collectives and organizations, in accordance with RDM principles or DMP formats that they accept. DMPs in the context of research by and with First Nations, Métis and Inuit communities, collectives and organizations should recognize Indigenous data sovereignty and include options for renegotiation of the DMP.

EXAMPLE DMP REQUIREMENTS FOR INTERNATIONAL FUNDERS

1

National Institutes of Health (NIH) - Data Management and Sharing (DMS) Plans are required, outlining how scientific data and accompanying metadata will be managed and shared. The DMS Plan and any updates must be approved by the funder and the prime institution, as applicable.

2

National Science Foundation (NSF) - DMPs are required to describe how the proposal will follow NSF policy on managing, disseminating and sharing research results

3

European Commission (Horizon Europe) - DMPs are mandatory for projects generating and/or reusing data. DMPs should align with EU requirements for open access to data, as well as the project's Dissemination & Exploitation Plan.

4

Wellcome Trust – Outputs Management Plans are required to be submitted with an application and are reviewed as part of the funding decision. Justified costs for delivering the plan are eligible in the budget.

WHAT IS A DMP?

- “A formal statement describing how research data will be managed and documented throughout a research project and the terms regarding the subsequent deposit of the data with a data repository for long-term management and preservation.”

- <https://codata.org/rdm-terminology/data-management-plan/>

DMPs are living documents that can be modified to accommodate changes throughout the course of a research project.

http://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

ELEMENTS OF A DMP

1. Data Collection
2. Documentation & Metadata (“data about data”)
3. Storage & Backup
4. Preservation
5. Sharing & Reuse
6. Responsibilities & Resources
7. Ethics & Legal compliance

Be sure to consider:

- Infrastructure
- Partners and Collaborators
- Funder Requirements

TIPS:

Start planning
early

Use the DMP
Assistant

Revisit and
revise!

DMP ASSISTANT

- DMP Assistant is a tool for preparing data management plans (DMPs)
 - **Accessible:** online, free to use, French-English bilingual
 - **Adaptable:** offers a variety of discipline and methodology specific templates
 - **Easy to use:** guidance and examples are provided; users can revisit and revise as often as they like

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1/20

Data Collection (1 / 3)

This section addresses data collection issues such as data types, file formats, naming conventions, and data organisation factors that will improve usability of your data and contribute to the success of your project.

What types of data will you collect, create, link to, acquire and/or record?

B *I* [List Icon] [List Icon] [Link Icon] [Table Icon]

Tabular data

Guidance | **Comments**

DAL

Examples: numeric, images, audio, video, text, tabular data, modeling data, spatial data, instrumentation data.

Save

Answered less than a minute ago by [Redacted]

What file formats will your data be collected in? Will these formats allow for data re-use, sharing and long-term access to the data?

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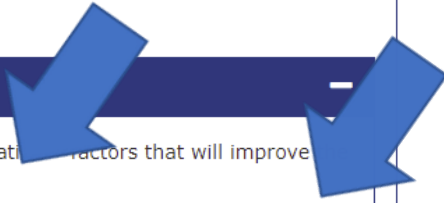
Guidance | **Comments**

DAL

Proprietary file formats requiring specialized software or hardware to use are not recommended, but may be necessary for certain data collection or analysis methods. Using open file formats or industry-standard formats (e.g. those widely used by a given community) is preferred whenever possible.

Read more about file formats: [UBC Library](#)

Save



Questions are accompanied by prompts, and you can toggle to leave comments for colleagues (collaborators).

You can also add links, tables and format the text.



**A LITTLE BIT
ABOUT ACTIVE
DATA
MANAGEMENT**

MICROSOFT 365

Dalhousie University-supported cloud storage solution

- OneDrive
- SharePoint
- Teams
- Not suited for financial or personal health information

ACENET / DIGITAL RESEARCH ALLIANCE

- 1-5TB of project space per system by default per PI/Lab.
- Five Nationally funded systems across Canada.
- Limited Access Methods
- Not suitable for Sensitive Data.
- Local Support: ACENET
Support@ace-net.ca

NAS (O-DRIVE)

Dalhousie Local Storage

- Servers on-site
- Suitable for sensitive data
- Not intended for large datasets due to costs
- Cost: \$4 per GB / month

NEW DALHOUSIE DATA STORAGE

- Free - 5TB of storage provided per lab/PI
- Additional Data Storage available upon request
- Suitable for sensitive data
- Access method for data is planned to be flexible. Windows File share, HTTPS, NFS, SCP, Geoserver, IPT, RSYNC, MinIO Block storage, etc.
- Rollout – Summer/Fall 2024



A LITTLE MORE ABOUT DATA DEPOSIT

TRI-AGENCY RDM POLICY

3.3 Data Deposit

Grant recipients are required to deposit into a digital repository all digital research data, metadata and code that directly support the research conclusions in journal publications and pre-prints that arise from agency-supported research. Determining what counts as relevant research data, and which data should be preserved, is often highly contextual and should be guided by disciplinary norms.

Grant recipients are not required to share their data. However, the agencies expect researchers to provide appropriate access to the data where ethical, cultural, legal and commercial requirements allow, and in accordance with the FAIR principles and the standards of their disciplines. Whenever possible, these data, metadata and code should be linked to the publication with a persistent digital identifier.

DATA REPOSITORIES

- A repository is an online database service, an archive that manages the long-term storage and preservation of digital resources and provides a catalogue for discovery and access.
- Stores, curates, enables discovery, access and reuse.

<https://learn.scholarsportal.info/modules/portage/research-data-repositories-101-module-2/>

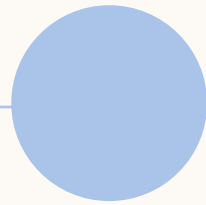
DALHOUSE UNIVERSITY DATAVERSE

- Dalhousie University Dataverse at Borealis is a Canadian hosted, publicly accessible data repository platform
- Handles a variety of file types and formats
- Allows users to create custom use and access terms
- Assigns DOIs



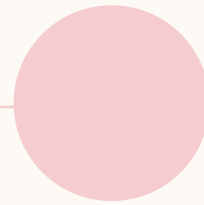
**HOW TO GET HELP
WITH RDM?**

DALHOUSIE CONTACTS



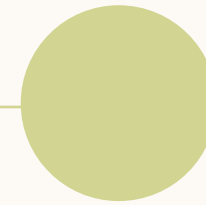
LIBRARIES

- Data Management Team: data.management@dal.ca
 - Access to [Borealis](#) (and advice on other repositories)
 - Guidance on decisions around sharing (ethics, legalities)
 - Help with DMPs (try DMP Assistant), naming conventions, file organization, formatting and more



ITS

- Research Computing support: support@dal.ca
- Research Computing & Training: ACENET, support@ace-net.ca
- Digital Research Alliance: support@tech.alliancecan.ca



ORS

- Grants and Contracts: grantsandcontracts@dal.ca
- Institutional & International Programs: ird@dal.ca
- Post-Award: orspost@dal.ca
- Indigenous Research: indigenousresearch@dal.ca
- Research Security: michael.sullivan@dal.ca

THANK YOU

The background features a large white circle on the left and a large light pink circle on the right, both overlapping a dark blue background. The pink circle contains several thin, white, concentric curved lines that create a ripple effect.