

Regional Academic Library Consortia as key partners in building sustainable, responsive Digital Research Infrastructure

December 14, 2020

Submitted to NDRIO on behalf of

Vivian Stieda, Council of Prairie and Pacific University Libraries (COPPUL)

Sonia Seck, Sous-comité des bibliothèques du Bureau de coopération interuniversitaire (BCI)

Cynthia Holt, The Council of Atlantic University Libraries - Conseil des bibliothèques universitaires de l'Atlantique (CAUL-CBUA)

For more information, please contact:

Vivian Stieda

Executive Director

Council of Prairie and Pacific University Libraries (COPPUL)

execdir@coppul.ca

Regional Academic Library Consortia

Regional Academic Library Consortia across Canada support our members in serving communities and in offering fulfilling student experiences; we share a commitment to enhancing teaching, learning, and scholarly activity at our member institutions through resource sharing, collaborative projects, and efforts to build collective capacity, expertise, and infrastructure.

Collectively, our membership includes 81 diverse post-secondary libraries across Canada's 10 provinces. Our partnerships with allied organizations at the local, regional, and national levels allow us to leverage economies of scale to serve researcher needs, while in many cases, and of strategic importance, supporting efforts to grow and sustain a network of non-profit, community-owned infrastructure and services.

The role of Regional Academic Library Consortia in Canada's Digital Research Infrastructure

Academic library consortia were early to recognize emerging needs for infrastructure and services that support long-term access to digital collections, including research data, and to pursue collaborative approaches to meeting these needs. At the regional level, we have led initiatives to establish trustworthy data repositories, preservation processing services, and future-friendly preservation storage,¹ meanwhile fostering communities of practice that

¹ For descriptions of these services, please see <https://dx.doi.org/10.14288/1.0371946>

strengthen collective capacity to leverage this infrastructure effectively in support of data management activities within member institutions and allied research organizations.

Council of Prairie and Pacific University Libraries (COPPUL)

The Council of Prairie and Pacific University Libraries' (COPPUL) WestVault² provides high-redundancy preservation storage distributed across the four Western provinces. Through a reciprocal partnership with the British Columbia Electronic Library Network, Westvault also serves as preservation storage for users of the shared hosted Arca repository service.³ COPPUL also provides hosted preservation processing through its Archivemata-as-a-Service⁴, supported by Artefactual⁵ and UBC Educloud. This service is available to Atlantic partners through an agreement with the CAUL-CBUA.

Council of Atlantic University Libraries - Conseil des bibliothèques universitaires de l'Atlantique (CAUL-CBUA)

On the East coast, the Council of Atlantic University Libraries - Conseil des bibliothèques universitaires de l'Atlantique's (CAUL-CBUA) CAIRN repository supports regional stewardship of digital assets.⁶ Through partnership with COPPUL, CAUL-CBUA members also have access to Archivemata-as-a-Service to support long-term preservation.

Ontario Council of University Libraries (OCUL) Scholars Portal

OCUL Scholars Portal serves as host for a national Dataverse repository service, in partnership with Canada's four regional consortia and with funding from CARL [add the extended name, i.e. Canadian Association of Research Libraries] Portage. It provides processing support through its Permafrost Service, which integrates with the Ontario Libraries Research Cloud for secure, long-term storage.

OCUL Scholars Portal has also led development efforts to integrate Dataverse with Archivemata for long-term dataset preservation,⁷ and has implemented DuraCloud as a common deposit interface for preservation storage in partnership with DuraSpace, the University of Toronto Libraries, and COPPUL.⁸

² <https://coppul.ca/westvault>

³ <https://bceln.ca/services/shared-services/arca>

⁴ <https://coppul.ca/archivemata>

⁵ <https://www.artefactual.com/>

⁶ <https://cairnrepo.org/>

⁷ <https://ocul.on.ca/dataverse-archivemata-integration-now-available-for-testing>

⁸ <https://duraspace.org/announcing-duracloud-canada-linking-data-repositories-to-preservation-storage/>

Sous-comité des bibliothèques du Bureau de coopération interuniversitaire

In Québec, the Sous-comité des bibliothèques of the Bureau de coopération interuniversitaire provides Dataverse repository services through a partnership with OCUL Scholars Portal. There are currently no services for long-term dataset preservation provided by the Sous-comité.

The Future Ecosystem: National, Federated, Distributed, Inclusive

We see NDRIO building on the success of Portage by coordinating efforts to develop a national digital research infrastructure ecosystem that is federated, geographically distributed, and inclusive of diverse researchers and organizations, including a national preservation service modelled on the recommendations of the 2018 “Research Data Preservation in Canada” white paper.⁹ This would include:

- Coordinating work to integrate regional data repositories, preservation systems, and future-friendly storage, and investing in their growth and sustainability to fill gaps through a federated approach.
- Building collective capacity among Canada’s research organizations for providing digital research infrastructure and services. Our small and medium-sized Universities play a unique and valuable role in connecting local researchers to DRI services, and must have equitable opportunities to participate actively in the use and development of national DRI infrastructure.
- Developing infrastructure and services that are responsive to the regional, cultural, linguistic, and disciplinary diversity among Canadian researchers. We recommend that particular attention be paid to meeting the needs of Indigenous and Francophone communities, who are generally underserved by existing tools and services.

Bridging the gaps: recommended next steps

We look forward to collaborating with NDRIO as active participants in the development of a federated system that builds on existing infrastructure and services at the national, regional and local levels.

1. **Coordinate and invest in the development of a geographically distributed, federated, and flexible ecosystem of digital research infrastructure with appropriate community governance.** We see a future where services addressing common baseline requirements for active storage, repository storage, preservation processing, and future-friendly storage are scaled nationally, with appropriate community governance, while complementary investments are made in regional and institutional infrastructure that serves more specialized needs.

⁹ <https://dx.doi.org/10.14288/1.0371946>

Recommendations:

- To address regional gaps in the availability of preservation processing services, create bilingual interfaces and service points and enhance processing capabilities for COPPUL's Archivematica-as-a-Service and OCUL's Permafrost.
- Scale COPPUL's WestVault and Scholars Portal's Ontario Libraries Research Cloud (OLRC), positioning them as complementary services at the national level that offer support for different levels of preservation.¹⁰
- To promote technological sustainability, invest in refining DuraCloud Canada for use as a unified deposit interface for WestVault, the OLRC, and other preservation storage providers.
- Develop an accessibility strategy and funding stream to support DRI partners in the development of born accessible tools, interfaces and research outputs.

- 2. Commit to building collective capacity for participation in the Digital Research Infrastructure ecosystem across diverse research organizations.** This includes promoting interoperability between existing systems, and supporting the work of small and medium-sized institutions as essential partners in addressing researchers' needs across disciplines and geographic regions.

Recommendations:

- Support the adoption of best-practice Persistent Identifiers (PIDS), as recommended by the ORCID Canada Consortium, DataCite Canada Consortium, and the Canadian Research Data Management (RDM) Community. PIDs are a vital component of Digital Research Infrastructure that will facilitate interoperability across organizations and systems, now and as new technologies emerge.
- Work with Regional Academic Library Consortia to develop national, distributed, and scalable models for infrastructure and service provision, including establishment of fair and equitable cost sharing mechanisms for small- and medium-sized institutions. Consortia already play an important role in connecting diverse members and allied cultural heritage organizations with needed infrastructure and resources through strategic partnerships and cost sharing. We are well-positioned to play an intermediary role in the development of inclusive pathways for participation in the national DRI ecosystem.
- Continue to fund Coordinator positions that address shared needs for curation, discovery, and preservation services at scale, based on the recommendations of experts in the broader Canadian Research Data Management community.

- 3. Prioritize relationship-building with Indigenous scholars, and take concrete steps to ensure national DRI infrastructure is developed to reflect principles of**

¹⁰ <https://ndsa.org/publications/levels-of-digital-preservation/>

Indigenous Data Sovereignty¹¹. Our organizations recognize that Indigenous peoples and their communities have the right to own, control, access and possess their information. This may mean recognizing and honoring that some data cannot be shared openly in repositories. We believe that NDRIO has a unique opportunity to prioritize the responsible stewardship of Indigenous Knowledge in the development of new digital research infrastructure, and demonstrate how technology can be used to support in-depth and meaningful decolonization¹² efforts in the research community.

Recommendations:

- Build reciprocal relationships with Indigenous scholars, researchers and communities of practice, and promote their inclusion on governing bodies like the NDRIO Researcher Council. It's important that Indigenous peoples serve in decision-making capacities.
- Alongside broader efforts to responsibly steward sensitive data¹³, invest in the development of functionality and policies that facilitate compliance with the First Nations Principles of OCAP.¹⁴
- Create an Indigenous Advisory Council of NDRIO for guidance on digital research infrastructure policies involving the preservation and protection of Indigenous data and its sovereignty.
- Ensure that NDRIO leadership has completed OCAP training so that they are informed from the start on Indigenous principles of data sovereignty and how this needs to be considered from the beginning regarding any infrastructure development. Indigenous data sovereignty cannot be seen as an afterthought.
- Develop new models for collaborative co-stewardship of research data through reciprocal partnerships between Indigenous communities and research organizations.¹⁵ Acknowledge that models need to be situated in local relationships and ways of knowing.

Conclusion

Ultimately, our common cause is the creation of a sustainable and accessible Canadian Digital Research Infrastructure ecosystem. Canada's diversity, including its distinct regionality and our shared commitment to decolonization, necessitates the strategic development and utilization of community capacity to achieve essential national objectives. In this context, we look forward to working with NDRIO in a distributed but coordinated and culturally inclusive DRI model.

¹¹ Walter, M. and Suina, M. (2018). Indigenous data, Indigenous methodologies and Indigenous data sovereignty. *International Journal of Social Research Methodology*, p. 1-11.

¹² Tuck, E. and Yang, Wayne K. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education & Society* 1(1), p. 1-40.

¹³ See, e.g., <https://portagenetwork.ca/news/sfu-working-towards-zero-knowledge-encryption-of-sensitive-data-in-frdr/>

¹⁴ https://www.afn.ca/uploads/files/nihbforum/info_and_privacy_doc-ocap.pdf

¹⁵ See, e.g., <https://news.gov.mb.ca/news/index.html?archive=&item=43654>.

