Digital Research Infrastructure for the Humanities and Social Sciences in Canada: An Updated Landscape Analysis (2025)

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Prepared by Alyssa Arbuckle for Érudit and the Canadian Research Knowledge Network / Réseau canadien de documentation pour la recherche

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1. Executive Summary

Digital Research Infrastructure for the Humanities and Social Sciences in Canada: An Updated Landscape Analysis (2025) aims to survey the main organizations and initiatives that make up humanities and social sciences digital research infrastructure (HSS DRI) in Canada today. The goal of this landscape analysis is to provide an overview of HSS DRI, as well as to draw attention to areas of confluence or of opportunity. The analysis does not outline a set of recommendations for the development of HSS DRI, as it intends to offer more of a birds-eye-view perspective than a roadmap to follow.

The initial draft of this landscape analysis was undertaken from April to July 2024, revised thereafter, and released as a pre-publication community draft for discussion in April 2025. The initial methodology included a scoping review of comparable reports and analyses from different international jurisdictions; research into HSS DRI; and a set of conversations with 22 key stakeholders in the Canadian HSS DRI landscape. Following community consultation via conference presentations, anonymous peer review, an open survey, and various discussions, the current, updated version of this landscape analysis was revised from August to October 2025. This landscape analysis surveys 13 key DRI organizations connected to the humanities and social sciences (to varying degrees), as well as an additional 33 related initiatives.

DRI is often considered as the tools, technologies, hardware, software, and people who facilitate digital research. Some emphasize the “invisible but critical” nature of DRI, while others assert how vast DRI is, or the importance of considering DRI throughout the whole research lifecycle: from the conception of an idea to its eventual publication and preservation as a research output. Although this landscape analysis specifically focuses on the humanities and social sciences, most stakeholders suggest that the *concept* of DRI is discipline agnostic at its core. In *practice,* however, DRI works differently for different disciplines, who have varying, unique methodological and community needs—acknowledging the overlaps and connections between HSS DRI and STEM DRI. Many cite ongoing sustainability as a central challenge, with a focus on funding competitions, resource allocation, training, highly qualified personnel, and researcher engagement.

The landscape analysis finds that there is substantial coverage of the HSS DRI landscape, with clusters of organizations and activity around specific areas (e.g. open access, libraries, publishing, repositories, research data management, and preservation). As priorities for HSS DRI development in Canada are agreed on and set, these overviews may be useful in consideration of additional support, development, and opportunities for collective approaches.

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3. Digital Research Infrastructure for the Humanities and Social Sciences in Canada

3.a. Introduction

In Canada, digital infrastructure for undertaking, supporting, and preserving research has evolved over decades following policy developments, asserted researcher needs, and strategic priorities. This infrastructure, however, serves different disciplines in different ways. *Digital research infrastructure,* as a term, carries technical, built, or engineered implications. Those are not necessarily adjectives that most people would use to describe the work of the humanities and social sciences, in general. Humanities research infrastructure, however, has played a historical, foundational role for all research disciplines—including the most technical. As the authors of *Facing the Future: European Research Infrastructure for Humanities and Social Sciences* (Duşa, Nelle, Stock, and Wagner 2014) and the European Strategy Forum on Research Infrastructures (ESFRI) Report argue, the earliest research infrastructure was the ancient library, dedicated to philosophical thought and speculation: humanities "archives, libraries, and collections of artefacts are the oldest infrastructures of all, dating back to ancient times" (Farago 2014, 21). Given this millennia-long history, it is unsurprising that libraries continue to play a central role in digital research infrastructure today. The concept of foundational support for academic endeavour is as old as the inception of academia itself; research and its infrastructure are fundamentally intertwined in the service of knowledge production.

Moving more fully into the concept of *digital* research infrastructure for both the humanities *and* the social sciences, one must broaden their conception of infrastructure from the brick and mortar buildings that house collections to the many interconnecting digital components that facilitate research in the 21st century. "Building" metaphors remain apt; many consider the term *digital research infrastructure* to represent the foundational and often invisible frameworks that facilitate research—much like the underground pipes that carry water to one's kitchen sink. In her book *How Infrastructure Works: Inside the Systems that Shape our World* (2023), engineering researcher Deb Chachra suggests, blithely, that infrastructure is "all of the stuff you don't think about" (10). She argues that "for something to be considered infrastructure, its presence and characteristics are taken as a given" (10). In 2009, Janet Halliwell, adapting a report from David Moorman, provides the following definition: "Research infrastructure is characterized as the physical, informational and human resources essential for researchers to conduct high quality research" (3). Moreover, she enumerates infrastructure as including:

> (1) tools, equipment, instrumentation, platforms and facilities, (2) software and information resources, including enabling computer systems, databases, data analysis and data interpretation systems, and communication networks, (3) the technical support (human or automated) and services needed to operate the infrastructure and keep it working effectively, and (4) the special environments and installations (such as buildings and research space) necessary to effectively create, deploy, access and use research tools. (3)

For the purposes of this landscape analysis, one can visualize Chachra's "given" infrastructure of digital research infrastructure as the digital or digitally enabled tools, technologies, hardware, software, and people who facilitate research, as Halliwell (drawing from Moorman) notes.[1]

In Canada, digital research infrastructure for the humanities and social sciences is multifaceted, but the way it interlocks—or could interlock—to form one cohesive, efficient structure is not always obvious. Humanities and social sciences data is also disciplinary-specific, and its infrastructure reflects this. Moreover, in some cases humanities and social sciences data norms can be unique to subdisciplines or fields; according to the Federation for the Humanities and Social Sciences, there are 91,000 humanities and social sciences researchers in Canada (n.d.), and all of those researchers follow established, field-specific methodologies. Much humanities and social sciences data is text-based, for instance, and constitutes both digitized materials as well as born digital objects. But humanities and social sciences data may also include non-textual formats such as maps, photographs, 3-D models, or other datasets.[2]

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[1] Of note, this terminology has evolved over time and in different contexts. In the 2006 report from the American Council of Learned Societies titled *Our Cultural Commonwealth,* the authors articulate a similar concept as *cyberinfrastructure*. "The term cyberinfrastructure," they explain, "is meant to denote the layer of information, expertise, standards, policies, tools, and services that are shared broadly across communities of inquiry but developed for specific scholarly purposes: cyberinfrastructure is something more specific than the network itself, but it is something more general than a tool or a resource developed for a particular project, a range of projects, or, even more broadly, for a particular discipline" (American Council of Learned Societies 2006, 1). As technology and methodology evolve, qualifying research infrastructure as *digital* research infrastructure may, too, become antiquated. However, there is still ample non-digital infrastructure that supports research (e.g. library stacks, classrooms, campuses, labs, field sites) that, at the present moment, the qualifier is still distinct and relevant.

[2] For instance, SSHRC-funded projects like *Surviving Memory in Postwar El Salvador* (https://www.elsalvadormemory.org/) and *Landscapes of Injustice* (https://www.landscapesofinjustice.com/) are composites of multiple different outputs, activities, and media types. *Surviving Memory in Postwar El Salvador* is an international collaboration with the goal to "engage in high-impact, community-driven research projects, oral histories, and accessible knowledge-sharing activities that approach historical memory work holistically through the intersections of documentation, mapping, and testimonies; art, music, and theatre; intergenerational education; justice; mental health and healing; commemoration; environmental reparation; and local economic reconstruction" (n.d.). Project outputs from *Landscapes of Injustice* include a museum exhibit, digital research database, educational resources, digital storytelling website, and book, alongside standard research articles.

Humanities and social sciences data may be (and are) used in other disciplines, too, as well as by non-academic users; regardless, there are disciplinary-specific norms regarding form and format. These digital assets and the infrastructure that supports them are crucial to the ongoing growth and development of humanities and social sciences in Canada.

The following landscape analysis aims to survey the many organizations and initiatives that make up humanities and social sciences digital research infrastructure in Canada today (hereafter referred to as "HSS DRI"). The goal is to provide an overview of HSS DRI, as well as to point out any areas of overlap or of opportunity. The analysis stops short of making recommendations for HSS DRI, as it intends to offer more of a birds-eye-view perspective than a roadmap to follow. Of note, although much HSS DRI enables open scholarship practices, the DRI organizations and initiatives surveyed here are not necessarily or exclusively in service of the Open Access movement or its offspring (open sciences, open education, open data, et cetera). As the Invest in Open Infrastructure group explains, where DRI pertains largely to the tools, technology, and people who facilitate academic research in the digital world and throughout the research lifecycle, open infrastructure pertains to "the narrower sets of services, protocols, standards and software that can empower communities to collectively build the systems and infrastructures that deliver new improved collective benefits without restrictions, and for a healthy global interrelated infrastructure system" (n.d.).

3.a.i. National Approaches to Digital Research Infrastructure

Canada has developed generalized DRI over the past three decades, evinced in organizations such as the Canadian Network for the Advancement of Research, Industry and Education (CANARIE; established 1993) and the Digital Research Alliance of Canada (the Alliance; established 2019), as well as the latter's forebearer, Compute Canada (established 2012). The Government of Canada Ministry of Innovation, Science and Economic Development (ISED) defines DRI as "the collection of tools and services that allow researchers to turn big data into scientific breakthroughs" (2021). Moreover, they indicate that there are four key elements to national DRI: 1) a digital network for research and education, 2) data management, 3) research software, and 4) advanced research computing. ISED further indicates that these key elements must be supported by highly qualified personnel and cybersecurity.[3] ISED's continued support of DRI is evident in their ongoing commitment to Canada's Digital Research Infrastructure

[3] See https://ised-isde.canada.ca/site/digital-research-infrastructure/en for more information on ISED's approach to DRI, including diagrams of the recent (as of 2021) and future national DRI landscape. With the establishment of the Alliance as the "New DRI Organization" noted, the *future* diagram can be considered as representative of the current, planned state of the landscape.

Strategy, as espoused in their 2024-25 departmental plan.[4] They outline support for the Alliance for the

> planning, procurement, installation, operation and allocation of computing infrastructure to increase computing capacity for AI researchers. In 2024–25, [the Alliance] will continue to coordinate and deliver national services in advanced research computing, research data management and research software, while also promoting innovation and expanding the network of support and resources that are available to academic and research communities. (2024)

ISED also indicates their support for CANARIE in the same plan, specifically for CANARIE's work on the National Research and Education Network and Digital Accelerator for Innovation and Research program.

Despite this national level definition and commitment, as well as coordination and investment over time via CANARIE, Compute Canada, ISED, and the Alliance, the more disciplinarily-specific *HSS* DRI in Canada is not comparable to peer countries. For instance, the European Union established the Digital Research Infrastructure for the Arts and Humanities (DARIAH) over a decade ago; the Australian Research Data Commons was formed in 2018 and subsequently launched a Humanities, Arts, and Social Sciences + Indigenous Research Data Commons and more recently a Social Science Research Infrastructure Network.[5] Canadian HSS DRI has not followed one single, overarching plan; rather, it is made up of many constituent parts that have evolved based on individual community's visions, needs, and epistemic traditions. Such organic evolution is not necessarily or wholly negative. In fact, this sort of development can be perceived as a strength of the Canadian HSS DRI ecosystem: it has emerged from the ground up in response to real, articulated needs, and has been built by individuals and organizations who are confident in the veracity of those needs and in response to disciplinary inquiries. This development approach has also resulted in substantial coverage of DRI activities for the humanities and social sciences. But the organic evolution of a complicated system also means that there is no distinct leadership, overarching plan, or set of agreed upon guiding principles that can be returned to at critical junctures. The Academy of the Social Sciences in Australia addresses similar concerns in their own decadal plan for building digital research infrastructure, with a focus on the social sciences. The authors of *Connected, Innovative and Responsive: Decadal Plan for Social Science Research Infrastructure 2024-33* articulate five principles

[4] Available at https://ised-isde.canada.ca/site/planning-performance-reporting/en/departmental-plans/innovation-science-and-economic-development-canadas-2024-2025-departmental-plan.
[5] See https://www.dariah.eu/, https://ardc.edu.au/, and https://ardc.edu.au/project/social-science-research-infrastructure-network/, respectively.

to select and build fit-for-purpose social science research infrastructure: 1. Design for diversity; 2. First Nations-led; 3. Streamline ethical and responsible research; 4. Open to partners and community; 5. Enable equitable access (Academy of the Social Sciences in Australia 2024).[6] One can see how articulating these principles provides a decision-making framework so that, moving forward, each solution and strategy can be weighed against these values-based priorities.

In Canada, various organizations assert needs and values on behalf of their constituencies. These articulated needs were brought together most recently in the Alliance's 2021 researcher needs assessment (Pérez-Jvostov, Iron, Khair, Sahrakorpi, and Zhang 2021). Humanities and social sciences position papers asserted infrastructural support needs around Indigenous data sovereignty (including Ownership, Control, Access, and Possession [OCAP] and Collective Benefit, Authority to Control, Responsibility, and Ethics [CARE] principles);[7] equity, diversity, and inclusion; open scholarship standards; highly qualified personnel training; and staff employment and retention. The authors of the summative report also gloss the Canadian Association of Research Libraries' position paper as suggesting "The need for interoperability between data repositories, institutional repositories, open educational resources, and other platforms supporting open scholarship" (26). The relevant sections of the Alliance's assessment can be considered as an early step toward a cohesive articulation of needs to be addressed in the ongoing development of HSS DRI in Canada.[8]

3.b. This Analysis: Scope & Methods

The initial draft of this landscape analysis was undertaken from April to July 2024, revised thereafter, and released as a pre-publication community draft for discussion in April 2025 on the Érudit website. The initial methodology included a scoping review of comparable reports and analyses from different international jurisdictions; research into HSS DRI; and a set of conversations with 22 key stakeholders in the Canadian HSS DRI landscape. (For a list of these individuals, please see *Appendix 3*.) The majority of the conversations were held via videoconference, save for one in-person and one email discussion. Stakeholders were asked to provide details on the DRI organizations or initiatives they are affiliated with (to ensure the accuracy of this analysis), as well as to comment more generally on DRI in Canada, especially pertaining to the humanities and

[6] The Social Science Research Infrastructure Network noted above is positioned as a response to this plan.
[7] See https://fnigc.ca/ocap-training/ and https://www.gida-global.org/care, respectively.
[8] See https://alliancecan.ca/en/initiatives/position-paper-submissions for all position papers submitted to the Alliance for consideration in their 2021 researcher needs assessment. Many of these papers are written by members of the Canadian humanities and social sciences community.

social sciences. Following community consultation via conference presentations, anonymous peer review, an open survey, and various discussions, the current version of this landscape analysis was revised from August to October 2025. This analysis includes the current summary, as well as descriptive entries of 13 key DRI organizations connected to the humanities and social sciences (to varying degrees; see section 4), an additional 33 related initiatives (see section 5), and appendices.

3.c. Overview of Conversations

Beyond detailed, organization- or initiative-focused discussion, the conversations with key stakeholders revolved around the concept of HSS DRI, in general, as well as challenges to the current ecosystem and potential future directions. Future directions will be discussed in more detail in the conclusion to this analysis, below.

Most of those who engaged in conversation coalesce around the conception of DRI as the tools, technologies, hardware, software, and people who facilitate humanities and social sciences research. Some respondents emphasize the “invisible but critical” nature of DRI or how vast DRI is. Other respondents assert the importance of considering DRI throughout the whole research lifecycle, from the conception of an idea to its eventual publication and preservation as a research output, as well as its potential use and re-use. Although this landscape analysis is specifically focused on the humanities and social sciences, most stakeholders considered the *concept* of DRI to be discipline agnostic at its core, but that in *practice* DRI works differently for different disciplines, who have varying, unique methodological and community needs.

These conversations included a consideration of HSS DRI challenges and needs. Perhaps unsurprisingly, many cite sustainability as a core concern. This includes basic questions such as “who will fund HSS DRI now and in the future?” and “why should any one organization or institution be responsible for infrastructure contributed to and used by many across the country”? More detailed reflections include the importance of recognizing that HSS DRI does not fit easily into the mold of current research funding schemes in Canada. Moreover, funding DRI through competitions means that organizations are spending substantial time and energy in fundraising and jockeying for the same resources as individuals, rather than being supported in a more collective, coordinated fashion following the European or Australian approaches. Underinvestment in DRI that is specifically geared toward the humanities and social sciences will undoubtedly widen the research development and success gap between disciplines in Canada, as well as between Canadian and international research.

Since most of the national funding opportunities are focused on research, rather than on infrastructure, these opportunities are often "one-off" injections of money. Single funding awards may help to facilitate a piece of HSS DRI but ignore the reality that DRI will only be useful if it is updated, dependable, and persistent for years to come. Historically, the Canada Foundation for Innovation (CFI) is the most prominent funder of DRI in Canada. Currently, CFI funds one Major Science Initiative in the humanities (Coalition Publica) and one in the social sciences (Canadian Research Data Centre Network). According to the CFI website, the Major Science Initiative Fund "provides support for the ongoing operating and maintenance needs of research facilities of national importance" (n.d.). CFI also funded some humanities and social sciences projects through its cyberinfrastructure initiative in 2015 and 2017. Most recently, CFI announced a humanities, arts, and social sciences-specific stream of its core infrastructure funding mechanism, the Innovation Fund. As a more recently mandated DRI funder in Canada, the Alliance provides limited support specific to HSS. There are, however, HSS applications within some of the initiatives available to all researchers generically (for example, by funding persistent identifier and research data management activities and by supporting institutional and data repositories). The Social Sciences and Humanities Research Council does not have a mandate to fund DRI. Of note, some organizations have successfully sought funding or other support outside of standard funding competitions, but these paths to resources are not always clear or open to other groups.[9]

The 2023 *Report of the Advisory Panel on the Federal Research Support System* proposes the creation of the Canadian Knowledge and Science Foundation, a "new, complementary governance mechanism to work alongside the existing system" of research funding in Canada (Bouchard et al. 2023). Based on this report, the introduction of a new governance mechanism seems unlikely to improve HSS DRI funding in particular. The report does acknowledge issues in accessing infrastructure funding in Canada—namely, that researchers must take a fragmented, multi-agency approach to this. They write:

> To be successful, Canadian researchers need access not only to research funding but also to state-of-the-art research tools, instruments, and facilities. Several stakeholders have emphasized the importance of better coordinating infrastructure, operating and research funding. The proposed [Canadian Knowledge and Science Foundation] would be tasked with working with the granting councils and Canada Foundation for Innovation (CFI) to address this fragmentation and identify opportunities for streamlining processes. (n.p.)

[9] A future inquiry into how the HSS DRI landscape has been funded to date would be interesting data to consider, especially as organizations considers sustainable development, moving forward.

This is a promising statement, especially as it acknowledges the multifaceted reality of DRI, that is, funding, tools, instruments, and facilities; one would readily add skilled people to this list, too. Later in the report, however, Bouchard et al. focus this infrastructure attention on the value of ongoing, lifecycle support for Major Research Facilities (e.g. large, complex science labs or costly, shared tools such as particle accelerators). Most HSS DRI does not qualify or make sense as a Major Research Facility, since the hardware needs for HSS DRI are markedly different than those in the sciences.

In fact, a much more pressing need for HSS DRI is appropriately resourced highly qualified personnel to develop, implement, and support DRI initiatives, as asserted in the responses to the Alliance's 2021 researcher needs assessment (see Antoniuk and Brown 2021, Estill 2021, Evalyn et al. 2021, Rockwell et al. 2021). There are serious challenges for HSS DRI around recruitment, training, and retention of skilled staff to undertake this type of work. Limited staffing support severely hampers the capacity of HSS DRI to operate at scale, never mind to evolve in response to emergent needs of researchers, moving forward. This reflects another way in which HSS DRI does not fit the expectations for DRI set out and perpetuated by the funding agencies and other national bodies.

Appropriate, sustainable resourcing is not the only concern expressed by those working to advance HSS DRI. Some respondents feel that there is a collaborative leadership gap in the area of HSS DRI, especially on a national level; among other challenges, this results in a lack of representative, single-source, convincing messaging to policy influencers, funders, and the federal government. Relatedly, there is a problematic disconnect between national DRI funding and support schemes and the asserted needs of humanities and social sciences practitioners, as acknowledged above. Others indicate that standardization initiatives (e.g. research data management or persistent identifiers) will only be truly successful if they are accepted and implemented across all academic disciplines and institutions in Canada and are not considered the sole responsibility of any one organization or institution. Still others point out that *nuanced* access, related to sensitive cultural or personal data, is not fully developed and implemented yet. Organizations witness a lack of researcher knowledge as to how to engage with HSS DRI effectively. As Sheila Anderson writes in her own consideration of research infrastructure,

> if research infrastructures are to contribute to the transformation of research then it is important that researchers working on histories, literature, culture and other aspects of what makes us human understand the value of these infrastructures for their own practices and how they operate to facilitate and to enhance the production of their research. (2013, 7)

From a more technical perspective, this could be characterized as a lack of ongoing, informed user engagement or collaborative development. This also suggests that the pathways to larger national infrastructure initiatives and supports are not always obvious. Finally, there are concerns about optimizing current digital objects to ensure their present and future interoperability, especially across different systems and as technology continues to develop and change over time.

These concerns are grouped and visualized in the following chart, where common challenges are listed on the y-axis and number of respondents who mentioned this concern are marked on the x-axis.[10] Note that challenges that were only cited by one individual have not been included on the chart, as they are not representative of mutually stated concern. Moreover, a specified survey with delineated options that respondents could rank may provide more accurate data regarding shared concerns or challenges than thoughts shared in a more unstructured way in discussion.

[10] Of note, many of these concerns were also expressed during the Tri-Agencies' review of their Open Access Policy on Publications, and can be reviewed in the resulting report (Government of Canada 2024).

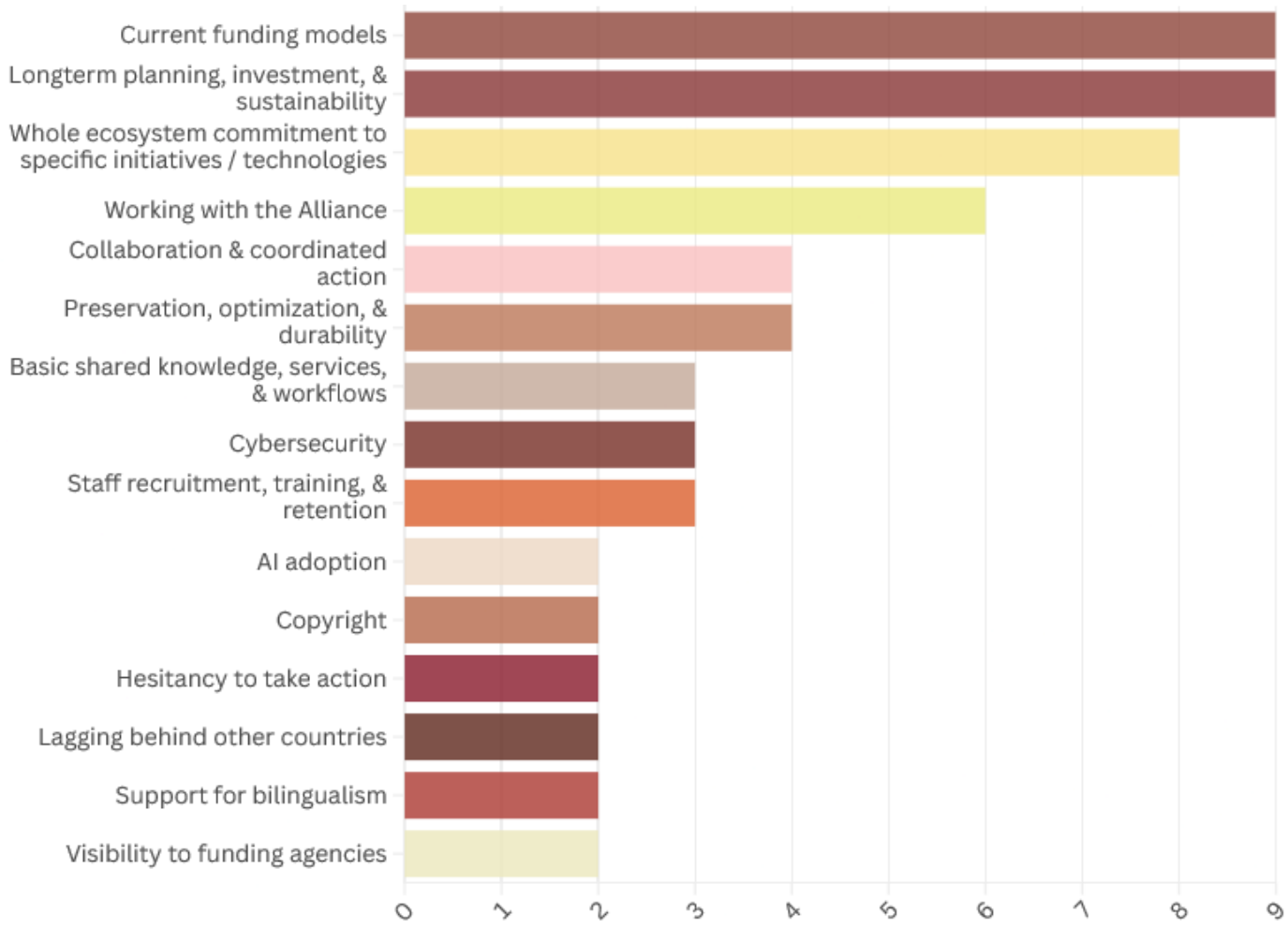

Figure 1: Challenges to HSS DRI in Canada, as cited in discussion

3.d. Where We Are Today

This landscape analysis surveys 13 key DRI organizations connected to the humanities and social sciences, as well as an additional 33 related initiatives. This analysis aims to strike a balance between accurately representing the HSS DRI landscape and remaining focused on key actors and projects. Thus, organizations and initiatives were selected based on their prominence in the landscape at a national level. These organizations and initiatives play different roles in the HSS DRI ecosystem depending on mission, mandate, history, and need. In general, the organizations seek to coordinate and sustain different parts of HSS DRI in support of research; they are more broadly mandated and thus differ from initiatives and smaller projects in scope and approach.

In review of the organizations and initiatives surveyed in this analysis, it is important to emphasize two things: firstly, this analysis should be considered as a snapshot of a

particular moment in time. Especially given the rate of technological change, the landscape this analysis surveys will evolve in the months and years to come. Secondly, it is likely that some relevant organizations and initiatives have been inadvertently overlooked in this analysis and the document will benefit from further consultation and regular updating. The organizations and initiatives included at this time are surveyed in sections 4 and 5, and alphabetical lists of both may be found in *Appendix 1* and *Appendix 2,* respectively.

Of note, the wealth of humanities and social sciences labs in Canada—including digital humanities or digital scholarship labs such as the Centre de recherche interuniversitaire sur les humanités numériques (Université de Montreal), Digital Democracies Institute (Simon Fraser University), Electronic Textual Cultures Lab (University of Victoria), Humanities Data Lab (University of Ottawa), The Humanities Interdisciplinary Collaboration Lab (University of Guelph), and Lewis and Ruth Sherman Centre for Digital Scholarship (McMaster University)—have not been explicitly surveyed as standalone organizations or initiatives. Neither have SSHRC-funded Partnership projects that are clearly digital humanities projects but are not explicitly HSS DRI initiatives, such as *Landscapes of Injustice* (led by Jordan Stanger-Ross, University of Victoria) or *Revue3.0 : Écrire, Transmettre, Découvrir* (led by Marcello Vitali Rosati, Université de Montreal). Training initiatives, such as the Digital Humanities Summer Institute or the Canadian Certificate for Digital Humanities, are also not included. Rather, this landscape analysis focuses on specific digital research infrastructure initiatives that may be connected to these labs, projects, or initiatives. This is not to suggest that such endeavours are not key components in HSS DRI writ large; in fact, they are often primary frequent users of and contributors to such infrastructure. Rather, this landscape analysis is tightly scoped on HSS DRI organizations and initiatives instead of on the critical research and training they support. In fact, if one was to review all of the research labs, projects, and training that HSS DRI in Canada supports, this document would be gargantuan; there are no doubt hundreds of examples of such work from around the country, given the centrality of technology to humanities and social sciences research today and its 91,000 member community.

The 13 key DRI organizations are responsible (as leads) for—or else participate in—17 of the 33 related initiatives, as per Figure 2 below. There is a red dot marked for initiatives that organizations are currently leading; an orange dot for initiatives that organizations are engaged in, but do not lead; a yellow dot for initiatives that were led by an organization previously but are now led by a different organization; and a green dot for initiatives that were led by an organization previously, but which they still participate in substantially. Due to space limitations, organization names have been abbreviated as follows in Figure 2 and subsequent figures:

Organization Name	Abbreviation
Bibliothèque et Archives nationales du Québec (BAnQ)	BAnQ
Canadian Association of Research Libraries / Association des bibliothèques de recherche du Canada (CARL / ABRC)	CARL
Canadian Heritage Information Network	CHIN
Canadian Research Data Centre Network / Réseau canadien des Centres de données de recherche (CRDCN / RCCDR)	CRDCN
Canadian Research Knowledge Network / Réseau canadien de documentation pour la recherche (CRKN / RCDR)	CRKN
Digital Research Alliance of Canada / Alliance de recherche numérique du Canada (The Alliance / L'Alliance)	Alliance
Érudit	Érudit
Internet Archive Canada	IAC
Library and Archives Canada / Bibliothèque et Archives Canada (LAC / BAC)	LAC
OurDigitalWorld*	ODW
Public Knowledge Project (PKP)	PKP
Regional Library Associations (full list in section 4, below)	Reg. Lib.
Scholars Portal	SP

** This organization is not affiliated with initiatives explored in this analysis and thus not included in Figure 2, below.*

The 17 initiatives indicated in Figure 2 are also abbreviated, when needed, as follows:

Initiative Name	Abbreviation
Artefacts Canada	Artefacts CAN
Borealis	Borealis
Canadian Persistent Identifiers Advisory Committee / Comité consultatif canadien sur les identifiants pérennes	CPIDAC
Canadiana collections (Canadiana and Héritage)	Canadiana
Coalition for Canadian Digital Heritage / Coalition pour la numérisation du patrimoine canadien	CCDH
Coalition Publica	Coalition Publica
Cyberinfrastructure ouverte pour les sciences humaines et sociales	CO.SHS
Data Management Plan (DMP) Assistant / Assistant PGD (plan de gestion des données)	DMP
DataCite Canada Consortium / Consortium DataCite Canada	DCAN
Federated Research Data Repository / Le Dépôt fédéré de données de recherche	FRDR
Lunaris	Lunaris
Open Journal Systems	OJS
Open Monograph Press	OMP
Open Preprint Systems	OPS
ORCID Canada Consortium / Consortium ORCID Canada	ORCID-CA

Partnership for Open Access	POA
Scholaris	Scholaris

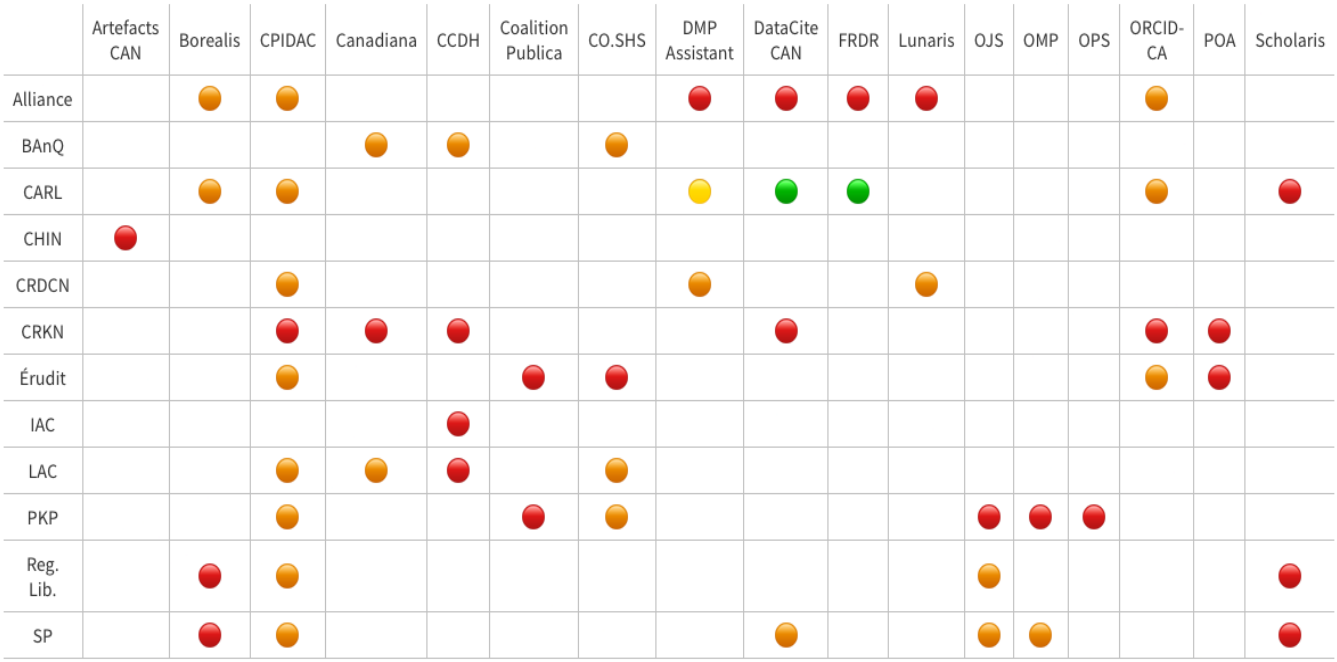

Figure 2: Key DRI organizations (on the y-axis) and their related initiatives (on the x-axis). Red dot = initiatives organizations currently lead; orange dot = initiatives organizations engage with (do not lead); yellow dot = initiatives organizations previously led, now led by a different organization; green dot = initiatives organizations previously led, still participate in substantially.

As evinced in Figure 2, several initiatives are undertaken jointly by more than one organization: the Coalition for Canadian Digital Heritage, Coalition Publica, DataCite Canada Consortium, ORCID Canada Consortium, Partnership for Open Access, and Scholaris. In addition to these multi-leader initiatives, many organizations participate in initiatives they do not lead, including Borealis, Canadian Persistent Identifiers Advisory Committee, Cyberinfrastructure ouverte pour les sciences humaines et sociales, Federated Research Data Repository, and Open Journal Systems.

To aid in this analysis, a set of commonly used research, library, and scholarly communication keywords were selected to tag and group organizations and initiatives. Organization keywords were assigned after review and evaluation of each group's core digital research infrastructure role and initiatives. These keywords are listed below, along with the number of organizations tagged with each keyword.

<u>Keywords: Organizations</u>

- advanced research computing (1)
- archives (2)

- cultural heritage (6)
- data curation (1)
- digitization (4)
- discovery (6)
- documentary heritage (2)
- geospatial data (1)
- history (7)
- interlibrary loan (1)
- journals (3)
- libraries (6)
- licensing (1)
- microdata (1)
- monographs (2)
- open access (9)
- open social scholarship (1)
- open source software (2)
- persistent identifiers (3)
- population health data (1)
- pre-prints (1)
- preservation (8)
- publishing (3)
- quantitative analysis (1)
- repositories (4)
- research data management (4)

These keywords can be represented as follows, with the most used keywords near the centre of the visualization and the lesser used keywords surrounding them:

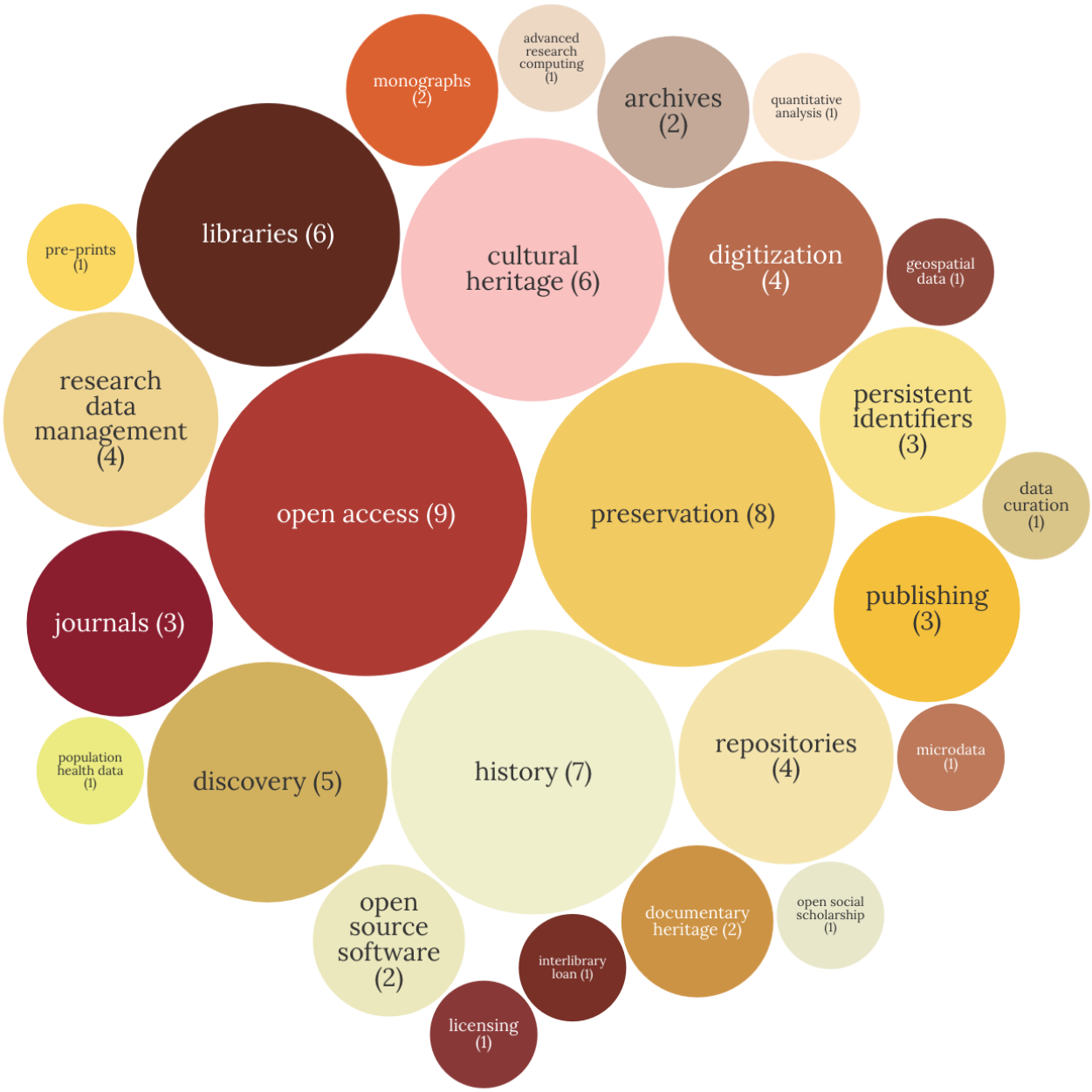

Figure 3: A map of relevant keywords, with frequency indicated.

Organizations are then plotted on a scatterplot, connected to their assigned keywords, to visually map their relative area of activity in the landscape as well as to present areas of confluence and areas of lesser activity.

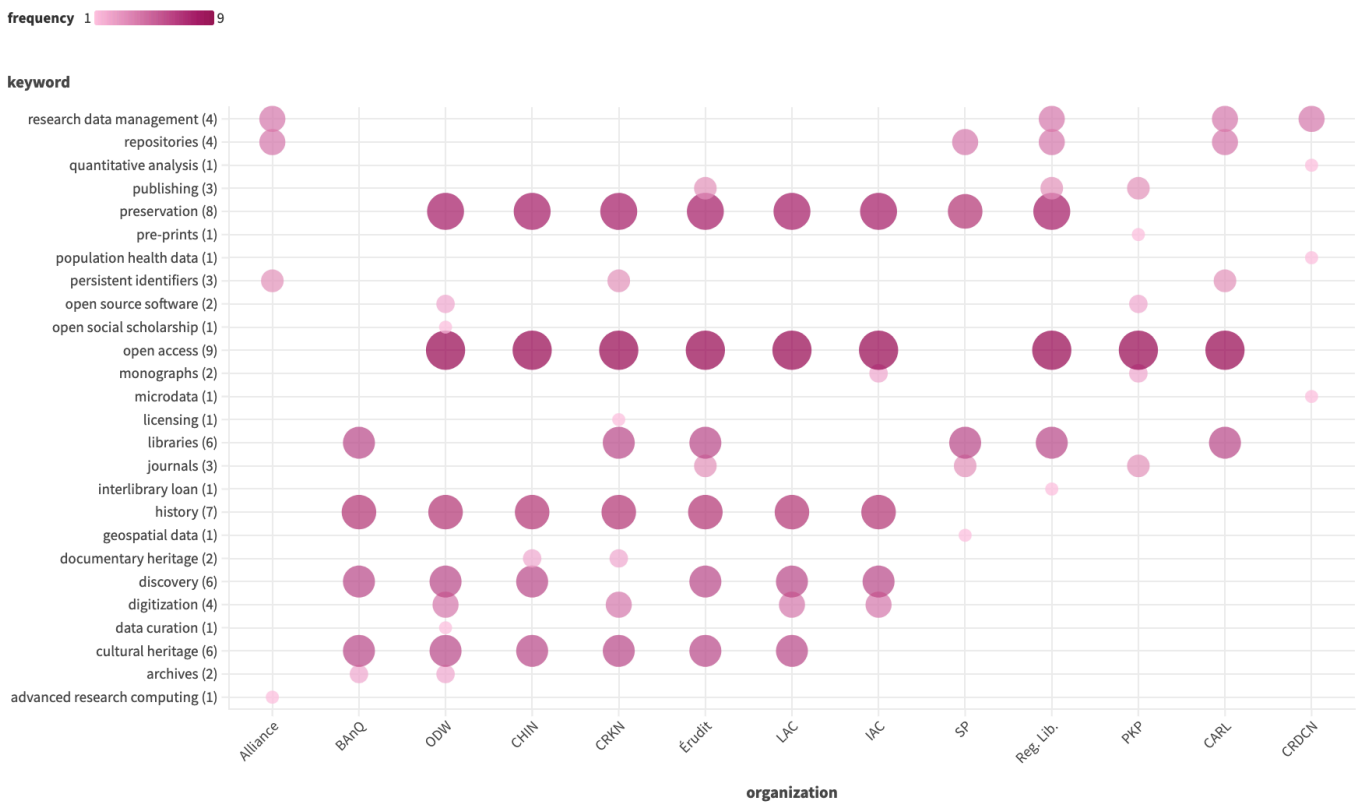

Figure 4: HSS DRI organizations plotted with their corresponding keywords, with frequency of keywords represented numerically on the y-axis as well as by size of dot.

As Figures 3 and 4 demonstrate, the 13 DRI organizations included in this landscape analysis can be mapped across 26 keywords. Trends emerge in review of this plotting. For instance, open access is the keyword with the highest frequency as evinced by its span across organizations and the weight of its dots. By separating out the data further (and removing open access, given its dominance), a general cluster of organizations appear around the “preservation and findability” keywords (e.g. discovery, libraries, repositories, preservation, research data management, persistent identifiers, et cetera) and another around the “publishing” keywords (e.g. journals, monographs, pre-prints, publishing, et cetera). See Figures 5 and 6, below. This distinction is not overly firm, as there are keywords that readily span both such as licensing and persistent identifiers.

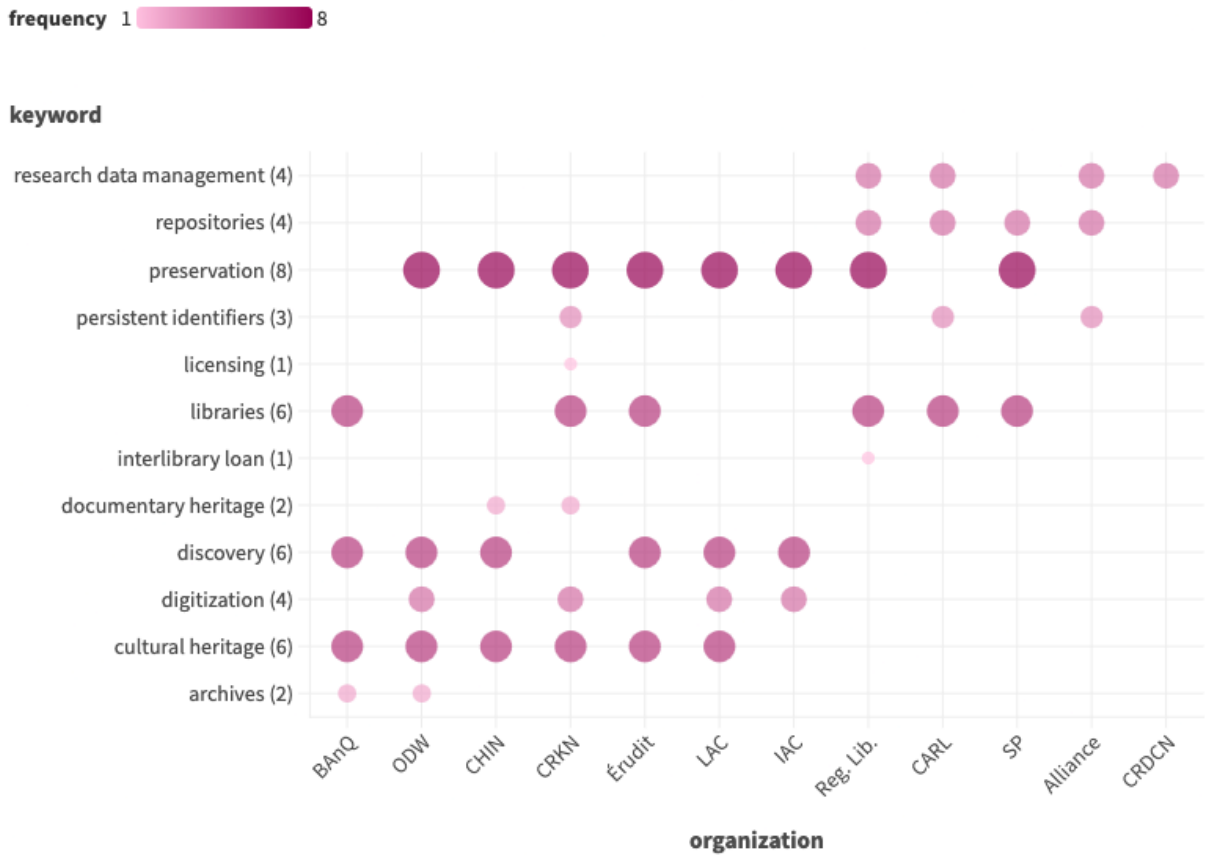

Figure 5: The same plot as Figure 4, above, with "preservation and findability" keywords and related organizations isolated (and the open access keyword removed).

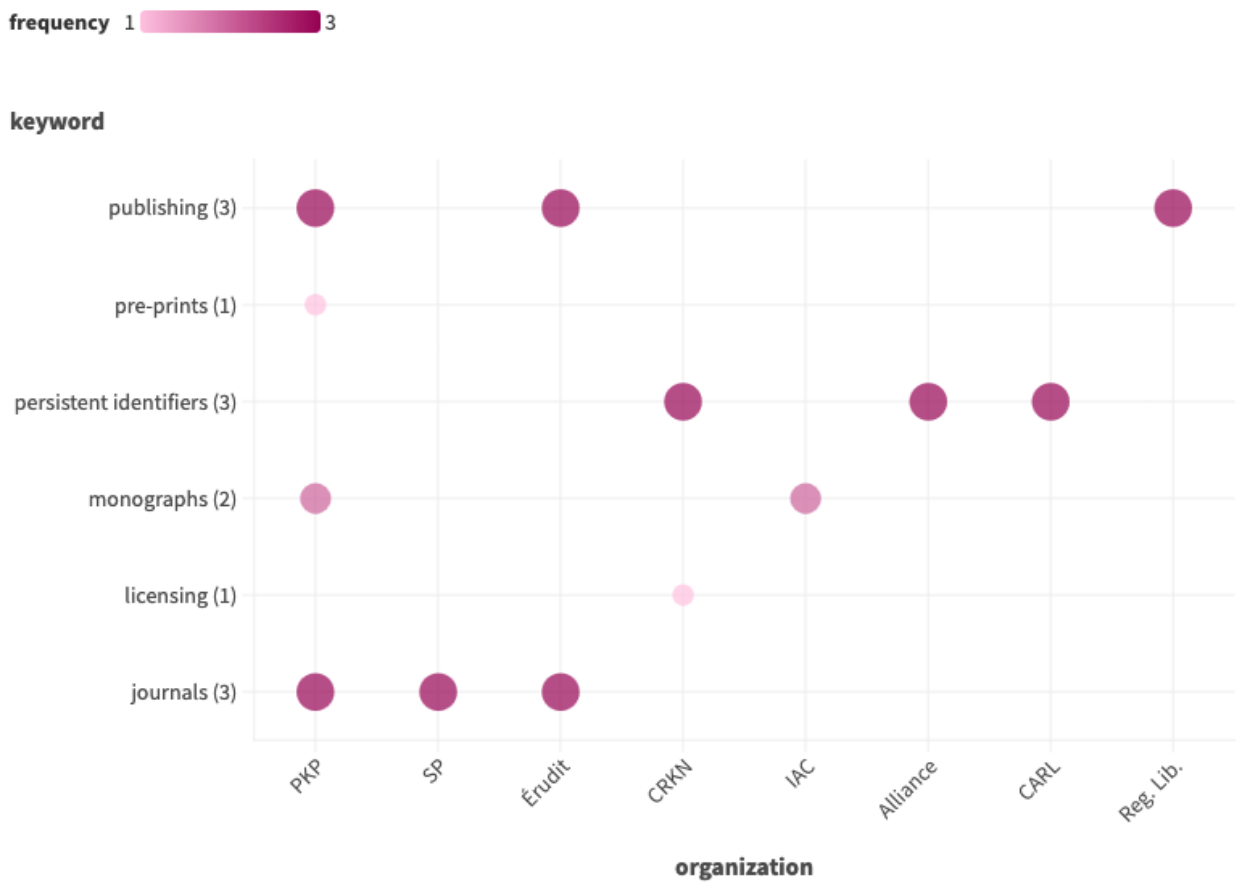

Figure 6: The same plot as Figure 4, above, with "publishing" keywords and related organizations isolated (and the open access keyword removed).

Isolating the data in this way is not intended to suggest that there is more activity in the “preservation and findability” space than the “publishing” space, nor to assign any relative value to any one activity over another. It does, however, reflect where multiple organizations are working in the same space (as represented above, in Figure 2, as well). These collaborations are acknowledged in greater detail in the summaries, below, where many of the key DRI initiatives are undertaken by multiple organizations in collaboration or else responsibility for the initiatives transitions from one organization to another over time.

For reference, one can also consider the “preservation and findability” and “publishing” tagged organizations together in Figures 7 and 8, below.

Figure 7: A combination of the "preservation and findability" and "publishing" tagged organizations

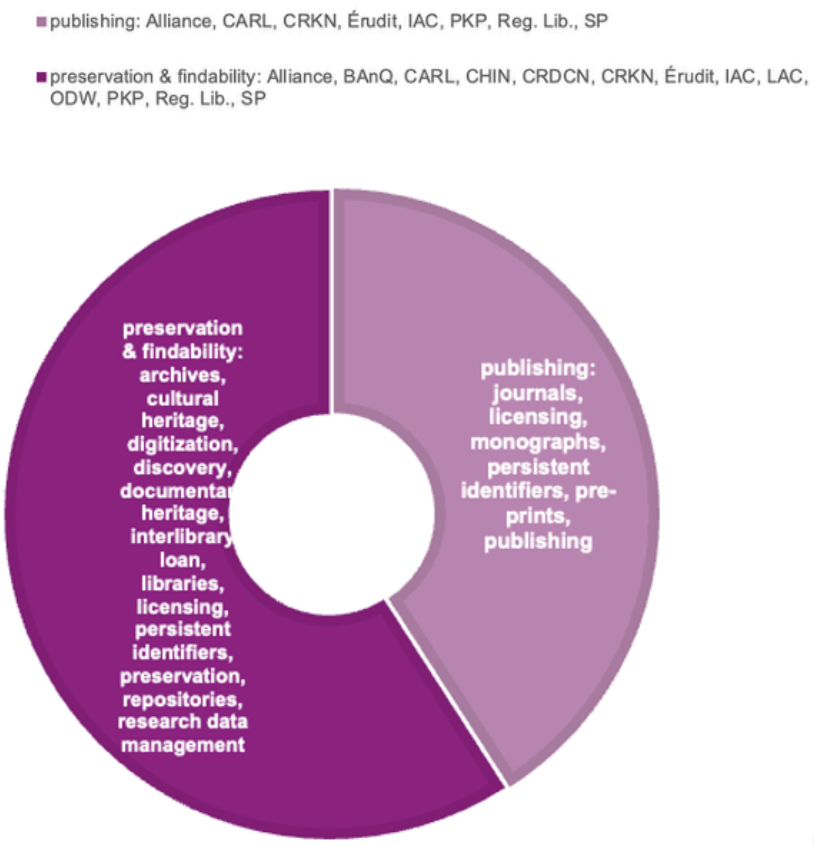

Figure 8: Another representation of the "preservation and findability" and "publishing" tagged organizations, and affiliated organizations

Keywords are listed in the organization summaries in the next section, but can also be viewed in this table for quick reference:

Organization	**Keywords**
Bibliothèque et Archives nationales du Québec (BAnQ)	archives, cultural heritage, discovery, history, libraries
Canadian Association of Research Libraries / Association des bibliothèques de recherche du Canada (CARL / ABRC)	libraries, open access, persistent identifiers, repositories
Canadian Heritage Information Network	cultural heritage, discovery, documentary heritage, history, open access, preservation
Canadian Research Data Centre Network / Réseau canadien des Centres de données de recherche (CRDCN / RCCDR)	microdata, population health data, quantitative analysis, research data management
Canadian Research Knowledge Network / Réseau canadien de	digitization, cultural heritage, documentary heritage, history, libraries, licensing, open access, persistent identifiers, preservation

documentation pour la recherche (CRKN / RCDR)	
Digital Research Alliance of Canada / Alliance de recherche numérique du Canada (The Alliance / L'Alliance)	advanced research computing, persistent identifiers, repositories, research data management
Érudit	cultural heritage, discovery, history, journals, libraries, open access, preservation, publishing
Internet Archive Canada	digitization, discovery, history, monographs, open access, preservation
Library and Archives Canada / Bibliothèque et Archives Canada (LAC / BAC)	cultural heritage, digitization, discovery, history, open access, preservation
OurDigitalWorld	archives, cultural heritage, data curation, digitization, discovery, history, open access, open social scholarship, open source software, preservation, research data management
Public Knowledge Project (PKP)	journals, monographs, open access, open source software, pre-prints, publishing
Regional Library Associations	interlibrary loan, libraries, open access, preservation, publishing, repositories, research data management
Scholars Portal	geospatial data, journals, libraries, preservation, repositories

It is interesting to note how the initiatives related to DRI in the humanities and social sciences map onto this same framework. The set of keywords employed above for organizations is expanded for initiatives, which are often more tightly scoped in areas of activity. Below is an expanded keyword list with the number of initiatives tagged with each keyword listed:

<u>Keywords: Initiatives</u>

- archives (7)
- cultural heritage (7)
- data curation (5)
- data visualization (4)
- digital humanities (7)
- digitization (2)
- discovery (12)
- history (7)
- interoperability protocols (2)
- journals (2)
- libraries (1)
- linked open data (4)
- literary studies (2)
- metadata standards (2)
- microdata (1)
- monographs (1)
- open access (18)
- open education (2)
- open educational resources (2)
- open social scholarship (4)
- open source software (5)
- persistent identifiers (3)
- preprints (1)
- preservation (6)
- publishing (9)

- quantitative analysis (1)
- repositories (6)
- research data management (6)
- semantic web (2)
- terminology (2)
- text analysis (2)

Below, initiatives have been overlaid on the original keyword scatterplot, in place of organization names. Due to space limitations, initiative names have been coded as follows:

Initiative Name	**Code**
ARCHIVESCANADA.ca	A1
Artefacts Canada	A2
Borealis	B
Canadian Census Data Discovery Project	C1
Canadian Election Study (CES)	C2
Canadian Humanities and Social Sciences Commons	C3
Canadian Persistent Identifiers Advisory Committee / Comité consultatif canadien sur les identifiants pérennes (CPIDAC / CCCPID)	C4
Canadiana collections (Canadiana and Héritage)	C5
Coalition for Canadian Digital Heritage / Coalition pour la numérisation du patrimoine canadien (CCDH / CNPC)	C6
Coalition Publica	C7
Collaboratory for Writing and Research on Culture (CWRC)	C8
Cyberinfrastructure ouverte pour les sciences humaines et sociales (CO.SHS)	C9
Data Management Plan (DMP) Assistant / Assistant PGD (plan de gestion des données)	D1
DataCite Canada Consortium / Consortium DataCite Canada	D2
Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR)	F
Implementing New Knowledge Environments (INKE) Partnership	I
Linked Editing Academic Framework (LEAF)	L1
Linked Infrastructure for Networked Cultural Scholarship (LINCS)	L2
Lunaris	L3
National Centre for Truth and Reconciliation Archives (NCTR Archives)	N1
National Indigenous Knowledge & Language Alliance / Alliance nationale des connaissances et des langues autochtones (NIKLA/ANCLA)	N2
Open Government Portal	O1
Open Journal Systems (OJS)	O2
Open Monograph Press (OMP)	O3
Open Preprint Systems (OPS)	O4
ORCID Canada Consortium / Consortium ORCID Canada (ORCID-CA)	O5
Partnership for Open Access (POA)	P1
Polar Data Catalogue (PDC)	P2
Pressbooks	P3

Scholaris	S1
SpokenWeb	S2
Sustainability Academic Network (SUSAN)	S3
Voyant Tools	V

Of note, some of the keywords from Figures 3 and 4 are not tagged onto any of the initiatives. This may indicate a gap between the more general classification of a DRI organization and its initiatives specifically connected to the humanities and social sciences. There are also several new keywords in Figure 9that are not present in Figures 3-8. Most of these additional keywords are much more specialized. It is of course expected that delineated initiatives would be more focused on specific disciplines, subdisciplines, or activities. Some initiatives are also not connected to the DRI organizations at all; rather, they are standalone interventions often conceived of initially as researcher-led digital scholarship initiatives (e.g. CWRC, INKE, LEAF, LINCS, and Voyant). Regardless, it is interesting to consider that some of these more specific, initiative-based keywords would not map easily back onto any of the 13 DRI organizations considered in this analysis as undertaking work specifically connected to the humanities and social sciences.

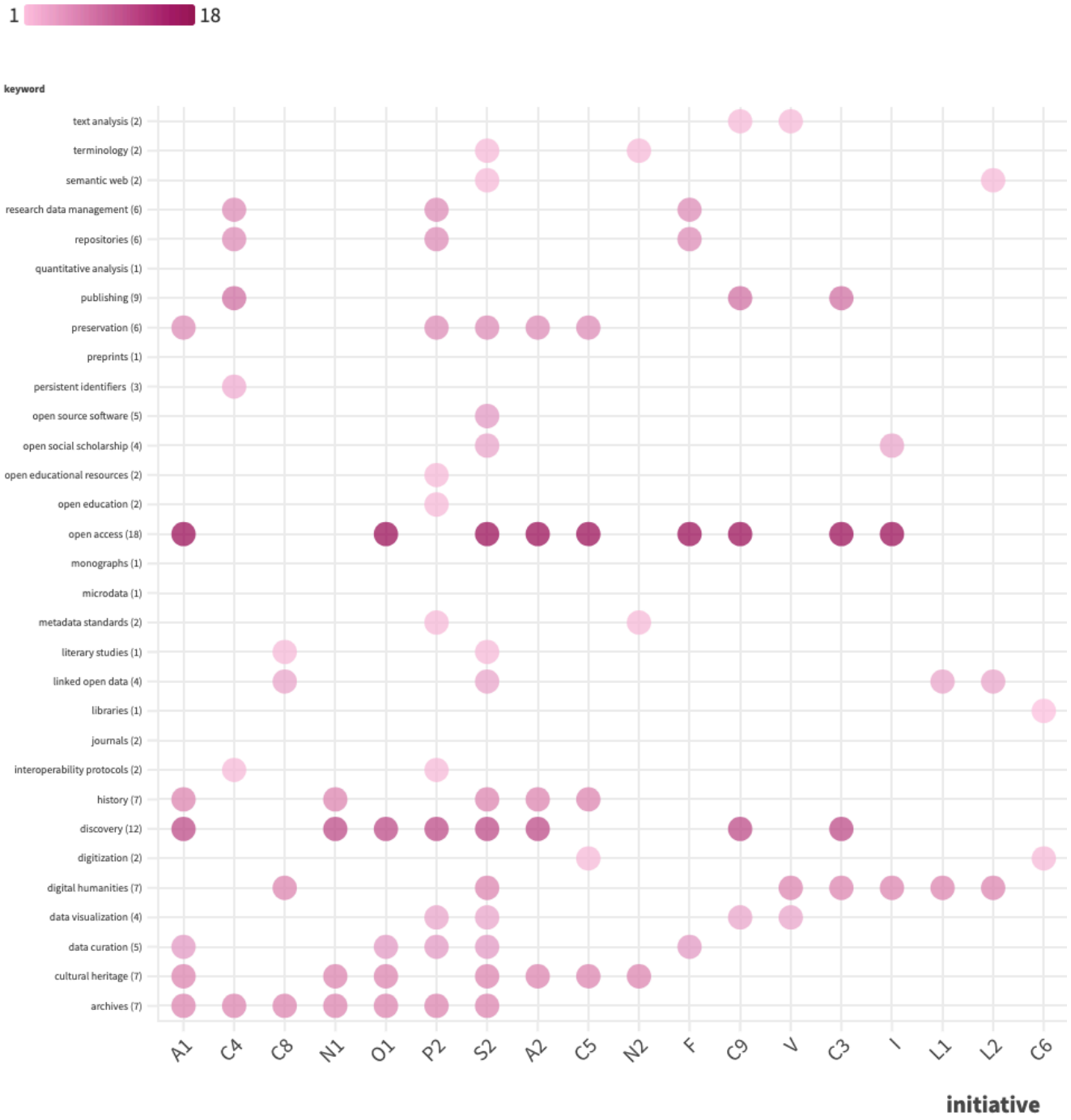

Figure 9: HSS DRI initiatives represented on the keyword scatterplot (part 1).

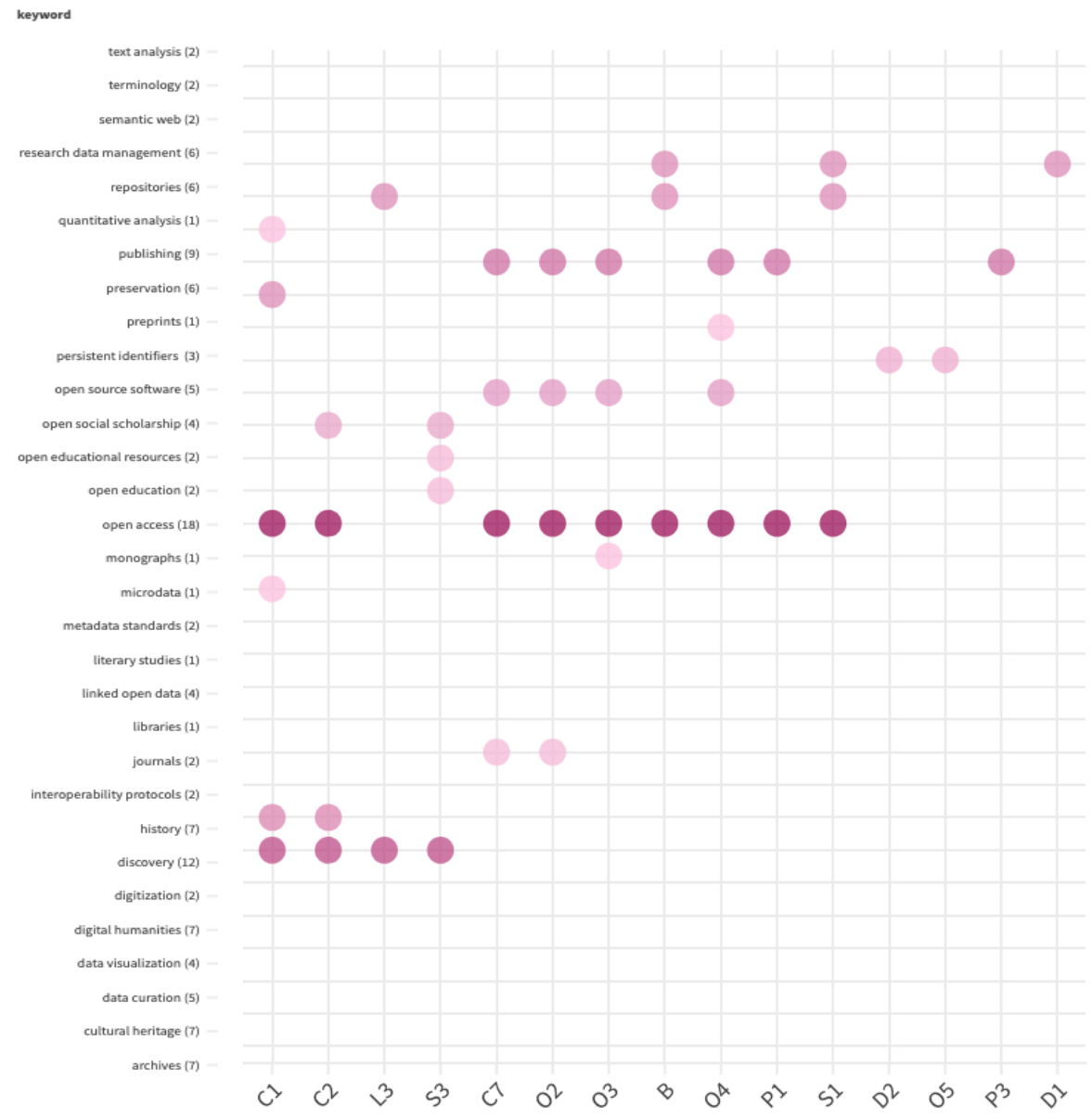

Figure 9: HSS DRI initiatives represented on the keyword scatterplot (part 2).

As with the organizations, relevant keywords are listed in the initiative summaries in the next section, but can be viewed in the following table for quick reference:

Initiative	Keywords
ARCHIVESCANADA.ca	archives, cultural heritage, data curation, discovery, history, open access, preservation
Artefacts Canada	cultural heritage, discovery, documentary heritage, history, open access, preservation
Borealis	open access, repositories, research data management

Canadian Census Data Discovery Project	discovery, documentary heritage, geospatial data, history, microdata, open access, preservation, quantitative analysis
Canadian Election Study (CES)	discovery, documentary heritage, history, open access
Canadian Humanities and Social Sciences Commons	digital humanities, discovery, open access, open social scholarship, publishing
Canadian Persistent Identifiers Advisory Committee / Comité consultatif canadien sur les identifiants pérennes (CPIDAC / CCCPID)	interoperability protocols, persistent identifiers, publishing, repositories, research data management
Canadiana collections (Canadiana and Héritage)	cultural heritage, digitization, history, open access, preservation
Coalition for Canadian Digital Heritage / Coalition pour la numérisation du patrimoine canadien (CCDH / CNPC)	archives, digitization, libraries
Coalition Publica	journals, open access, open source software, publishing
Collaboratory for Writing and Research on Culture (CWRC)	archives, digital humanities, linked open data, literary studies
Cyberinfrastructure ouverte pour les sciences humaines et sociales (CO.SHS)	data visualization, discovery, open access, publishing, text analysis
Data Management Plan (DMP) Assistant / Assistant PGD (plan de gestion des données)	research data management
DataCite Canada Consortium / Consortium DataCite Canada	persistent identifiers
Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR)	data curation, open access, repositories, research data management
Implementing New Knowledge Environments (INKE) Partnership	digital humanities, open access, open social scholarship
Linked Editing Academic Framework (LEAF)	digital humanities, linked open data
Linked Infrastructure for Networked Cultural Scholarship (LINCS)	digital humanities, linked open data, semantic web
Lunaris	discovery, repositories
National Centre for Truth and Reconciliation Archives (NCTR Archives)	archives, cultural heritage, discovery, documentary heritage, history
National Indigenous Knowledge & Language Alliance / Alliance nationale des connaissances et des langues autochtones (NIKLA/ANCLA)	cultural heritage, metadata standards, terminology
Open Government Portal	archives, cultural heritage, data curation, discovery, open access
Open Journal Systems (OJS)	journals, open access, open source software, publishing
Open Monograph Press (OMP)	monographs, open access, open source software, publishing

Open Preprint Systems (OPS)	preprints, open access, open source software, publishing
ORCID Canada Consortium / Consortium ORCID Canada (ORCID-CA)	persistent identifiers
Partnership for Open Access (POA)	open access, publishing
Polar Data Catalogue (PDC)	archives, data curation, data visualization, discovery, geospatial data, interoperability protocols, metadata standards, preservation, repositories, research data management
Pressbooks	open education, open educational resources, publishing
Scholaris	open access, repositories, research data management
SpokenWeb	archives, cultural heritage, data analysis, data curation, data visualization, digital humanities, discovery, history, linked open data, literary studies, open access, open education, open educational resources, open social scholarship, open source software, preservation, semantic web, terminology
Sustainability Academic Network (SUSAN)	discovery, open social scholarship
Voyant Tools	data visualization, digital humanities, text analysis

Taken together, all of these figures demonstrate that there is significant coverage of the HSS DRI landscape, with clusters around specific areas (e.g. open access, libraries, publishing, repositories, research data management, and preservation). There is a substantial breadth and depth of active engagement in HSS DRI in Canada. The data also demonstrates which areas have emerged as a shared priority across multiple organizations. Open access, for instance, is so prevalent—it is associated with 9 organizations and 18 initiatives—that it verges on redundancy to separate it out as an individual aspect of digital research infrastructure. Another example is persistent identifiers, which is affiliated strongly with 3 organizations and 3 initiatives, but is also coordinated by an advisory body (the Canadian Persistent Identifiers Advisory Committee [CPIDAC]) that includes additional organizations surveyed here and many others as well. As priorities for HSS DRI development in Canada are agreed on and set, these overviews may be useful to reference where additional support and development is needed, and how collective approaches to such support and development can prove effective.

3.e. Conclusion: Looking Forward

Canadian HSS DRI enables critical research across the country and ensures that such research and its published output will be findable and accessible for generations of knowledge creation and creators to come. HSS research in Canada will falter without the standardization and support of DRI; in an overwhelmingly digital knowledge environment, research and data that are not discoverable (or optimized for machine learning) are not read, never mind reused. This is not a new argument; over 15 years ago Halliwell (adapted from Moorman) asserted:

> As we have seen in the natural and health sciences, access to appropriate infrastructure changes the way researchers structure their activities, allowing them to tackle larger, more fundamental questions in new ways and to aggressively push the frontiers of knowledge. Appropriate infrastructure allows researchers to be more efficient and more effective, while shared resources facilitate collaboration between disciplines and the re-formulation of research questions. (2009, 3)

As a community of practice, the organizations and initiatives surveyed in this landscape analysis share a commitment to the perpetual value of humanities and social sciences research in Canada—to its capacity to *aggressively push the frontiers of knowledge*, as Halliwell asserts above. To uphold this commitment, many organizations already incorporate global standards like the FAIR (Findable, Accessible, Interoperable, Reusable) guidelines, which ensure that Canadian HSS DRI is in line with international research development and expectations.

Strong HSS DRI does not solely benefit the humanities and social sciences research community, however. Ensuring that this type of work is broadly accessible, in an ongoing way, guarantees that all of those who are interested in, work with, and benefit from humanities and social sciences data and publications can engage with and rely on this shared knowledge trust—whether they are academic researchers or not. The impact of humanities and social sciences research on national, regional, local, and personal levels cannot be overstated. Consider one of the organizations included in this analysis, the Canadian Research Data Centre Network.[11] This organization's commitment to securing access to Statistics Canada data ensures that those who are seeking further information about demographics in a certain time period are able to work with trustworthy, reliable data. Demographic data is key for regional policy decisions—both to understand their impact, in hindsight, and to undertake them with informed, data-backed confidence now and moving forward. Another initiative surveyed here, the Linked Infrastructure for Networked Cultural Scholarship project, actively enriches cultural data online, to provide more accurate and more contextualized information to knowledge seekers.[12] This contributes to a data rich environment that shores up trustworthy and verified information in the sea of fabricated data points all too prevalent today. In addition, the National Indigenous Knowledge & Language Alliance focuses on creating a dynamic, multilingual set of terminologies applied to Indigenous Peoples, places, heritage, tradition, knowledge, and cultures to remediate the historical classification of data, which is often outdated and even racist.[13] Such a commitment to truthful information and classification is central to reconciliation work in Canada; as stated by

[11] https://crdcn.ca/
[12] https://lincsproject.ca/
[13] https://www.nikla-ancla.com/

the Truth and Reconciliation Commission of Canada in their final report, “without truth, justice is not served, healing cannot happen, and there can be no genuine reconciliation between Aboriginal and non-Aboriginal peoples in Canada” (2015, 12). Humanities and social sciences research contributes to a truthful reckoning with the past and present of Canada and its knowledge products. These critical initiatives actively contribute to an improved, accurate, and robust public knowledge ecosystem in Canada.

While in conversation with key stakeholders in preparation of this landscape analysis, many individuals urged the importance of *looking forward.* Short of forecasting the unknowable, they acknowledged the critical importance of anticipating technological change and considering how current HSS DRI work can be developed with future interoperability and innovation in mind. For instance, with the rise and increasing prominence of artificial intelligence and machine learning in research endeavour, how do we develop datasets that can be readily integrated into language models, if desired? How do we avoid bespoke solutions that do not readily scale or interoperate, while maintaining disciplinary priorities and values? How do we ensure we have the space to think through challenging issues related to artificial intelligence outside of the pressure of commercial interests and development? How could automation improve the usefulness and usability of HSS DRI initiatives? What role do HSS DRI organizations have to play in this evolving space? These topics are ripe for further study and discussion.

There are additional questions and areas of inquiry that would benefit from deeper reflection, too; for example, an assessment of the skills needed to build, maintain, and leverage digital research infrastructure for the humanities and social sciences in particular. There are also weighty questions around preservation of digital assets, now and in the future, as well as how to decommission a piece of infrastructure after it has reached the end of its useful life. Open access is, in many ways, considered to be a given in the Canadian HSS DRI landscape. But the community could still think deeper on how disciplinary infrastructure can continue to support open access research and publishing as well as strategically meet and advance open science goals on a national and international level. These topics may prove to be guiding questions for an addition to or extension of this present analysis.

As Deb Chachra writes, “the kinds of systems we have today depend on the characteristics of the systems that came before” (2023, 8)—by extension, the kinds of systems we will have in the future depend on the systems we create now. These systems will evolve over time, but only based on who is involved in their development; Sheila Anderson writes, “infrastructure becomes *research* infrastructure as part of a process of change, collaboration, and engagement” (2013, 20; *emphasis mine*). Looking

forward also means considering how this community of practice shapes its own future, including through standards adherence, policy development, training and skill progression, government and funder advocacy, and strategic collective governance. This landscape analysis was developed, in part, to spur on conversations on how best HSS DRI organizations and initiatives can look forward, together.

4. Key Digital Research Infrastructure Organizations Connected to the Humanities and Social Sciences

This section surveys 13 key digital research infrastructure organizations that are strongly connected to the humanities and social sciences. Each entry includes organization-specific information on mission, lead, major digital research infrastructure initiatives, and keywords. Note that the organization may not lead the digital research infrastructure initiatives listed, but rather play a pivotal role in them either currently or in the past. For a mapping of which organizations lead, contribute to, engage with, or previously led an initiative, please see Figure 2 in section 3.d., above.

1. **Bibliothèque et Archives nationales du Québec (BAnQ)**
   https://www.banq.qc.ca/

Mission: BAnQ offers democratic access to culture and knowledge. It collects, processes, preserves and promotes Québec's documentary heritage and a vast collection of documents in all fields. It also provides the services of a major public library to the entire population of Québec.

Lead: Marie Grégoire, President and Chief Executive Officer

Major Digital Research Infrastructure Initiative

- BAnQ numérique

Digital Research Infrastructure Role Summary: As a national library and national archives, BAnQ stewards, preserves, and provides access to cultural heritage materials specifically related to Québec. Primarily, this is facilitated through BAnQ numérique (which can be translated as "Digital BAnQ"), a collection of documentary heritage artifacts.

Keywords: archives, cultural heritage, discovery, history, libraries

2. **Canadian Association of Research Libraries / Association des bibliothèques de recherche du Canada (CARL / ABRC)**
   https://www.carl-abrc.ca/

Mission: CARL provides leadership on behalf of Canada's research libraries and enhances capacity to advance research and higher education. It promotes effective and sustainable knowledge creation, dissemination, and preservation, and advocates for public policy that enables broad access to scholarly information.

Lead: Susan Haigh, Executive Director

Major Digital Research Infrastructure Initiatives

- DataCite Canada Consortium / Consortium DataCite Canada, with CRKN; transitioned to the Alliance (and CRKN)
- Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR); transitioned to the Alliance
- Institutional Repositories
- Research Data Management, including Portage; transitioned to the Alliance
- Scholaris, with Scholars Portal and OCUL

Digital Research Infrastructure Role Summary: CARL is as a conjoiner and representative of Canada's research libraries. CARL's support of institutional repositories in Canada, including through the 2018-2022 Open Repositories Working Group and the Canadian Repositories Community of Practice, has contributed to today's robust network of repositories in Canadian libraries. This work is furthered with the development of Scholaris and the Federated Research Data Repository (FRDR), which will, eventually, provide more streamlined access to various research data collections (including journal articles, dissertations, bibliographic records, and datasets) that are either housed centrally (in the case of FRDR) or at various institutions across the country (as with Scholaris).[14] CARL's development of the Portage network, now integrated into the Digital Research Alliance of Canada, reflects the organization's long commitment to developing and supporting robust research data management practices in Canada.

Keywords: libraries, open access, persistent identifiers, repositories, research data management

3. **Canadian Heritage Information Network (CHIN)**
   https://www.canada.ca/en/heritage-information-network.html

Mandate: CHIN assists Canadian museums in documenting, managing, and sharing information about their collections, to ensure that this information is accessible now and in the future.

Leads: Steven Guilbeault (Minister of Canadian Identity and Culture) and Brigitte Gibson (Director General, Heritage Branch)

Major Digital Research Infrastructure Initiatives

[14] Note that these initiatives are in varying states of development. FRDR is fully launched, where Scholaris is still in development (at time of writing) and is not currently serving as a discovery service. See the relevant summaries for these initiatives in section 5, below.

- Artefacts Canada
- Artists in Canada
- Bibliographic Database of the Conservation Information Network
- Data Dictionaries
- Military History and Heritage
- Nomenclature for Museum Cataloging

Digital Research Infrastructure Role Summary: CHIN is a Special Operating Agency within the Department of Canadian Heritage. In support of research, CHIN provides collections management resources to the Canadian museum community, including guidance around nomenclature, documentation, digitization, heritage research, linked open data, and preservation. CHIN also facilitates online public access to millions of collections records from GLAM organizations across Canada.

Keywords: cultural heritage, discovery, documentary heritage, history, open access, preservation

4. **Canadian Research Data Centre Network / Réseau canadien des Centres de données de recherche (CRDCN / RCCDR)**
   https://crdcn.ca/

Mission: To facilitate access to trustworthy data, enabling a diverse pool of researchers to advance knowledge at the forefront of their disciplines; to foster a professional community of emerging and established researchers and assist them to develop skills in quantitative research and in the responsible and skilled use of data; and to contribute to evidence-informed policy that addresses vital societal issues by connecting researchers with decision-makers and advocating for related improvements in the research ecosystem.

Lead: Natalie Harrower, Executive Director

Major Digital Research Infrastructure Initiatives

- Collaborative Research Programme
- vRDC (Virtual Research Data Centre)

Digital Research Infrastructure Role Summary: CRDCN is a national research infrastructure for the quantitative social and population health sciences that provides unique access to Statistics Canada microdata to over 2,000 researchers annually to advance knowledge and inform policy. CRDCN also connects research findings to policy

and supports researchers through training, knowledge mobilization, and advocacy. Funded by the Canada Foundation for Innovation as a Major Science Initiative, as well as by both the Canadian Institutes of Health Research and Social Sciences and Humanities Research Council as a strategic research platform, CRDCN is a collaboration between Statistics Canada and 42 universities across the country, headquartered at McMaster University.

Keywords: microdata, population health data, quantitative analysis, research data management

5. **Canadian Research Knowledge Network / Réseau canadien de documentation pour la recherche (CRKN / RCDR**)
   https://www.crkn-rcdr.ca/

Mission: To empower Canada by creating pathways to trusted knowledge.

Lead: Clare Appavoo, Executive Director

Major Digital Research Infrastructure Initiatives

- Canadiana collections, including Héritage
- DataCite Canada Consortium / Consortium DataCite Canada, with the Alliance; transitioned from CARL
- Licensing
- ORCID Canada Consortium / Consortium ORCID Canada (ORCID-CA), with CARL
- Canadian Persistent Identifier Advisory Committee / Comité consultatif canadien sur les identifiants pérennes) (CPIDAC / CCCPID), with the Alliance
- Partnership for Open Access, with Érudit

Digital Research Infrastructure Role Summary: As a member organization comprised of libraries and research institutions, CRKN convenes its members and facilitates ongoing access to research content. CRKN strengthens digital research infrastructure by administering an interoperable persistent identifier program that includes ORCID-CA (for researcher-level identifiers) and DataCite Canada (for digital object identifiers [DOIs]), as well as convening the Canadian Persistent Identifiers Advisory Committee (CPIDAC), which supports the development and implementation of a national Persistent Identifier (PID) Strategy for Canada. CRKN is responsible for building, maintaining, and preserving the Canadiana collections, made up of 65 million cultural heritage records used by researchers across the country, and is Trusted Digital Repository certified. CRKN negotiates the major licenses to academic resources—including open access and read-

and-publish agreements—on behalf of its member constituency. With Érudit, CRKN is an initiating member of the Partnership for Open Access.

Keywords: cultural heritage, digitization, documentary heritage, history, libraries, licensing, open access, persistent identifiers, preservation

6. **Digital Research Alliance of Canada / Alliance de recherche numérique du Canada (The Alliance / L'Alliance)**
   https://alliancecan.ca

Mission: The Alliance fosters national and global collaboration to provide researcher-centric, sustainable, and integrated digital research infrastructure.

Lead: George Ross, Chief Executive Officer

Major Digital Research Infrastructure Initiatives

- Advanced Research Computing infrastructure
- Alliance Cloud Connect Pilot
- Borealis, with Scholars Portal and Regional Library Associations (including OCUL, CAAL, COPPUL, and PBUQ)
- Controlled Access Management for Research Data (Sensitive Data Repository Project)
- DataCite Canada Consortium / Consortium DataCite Canada, with CRKN; transitioned from CARL
- Data Management Plan (DMP) Assistant Portage / Assistant PGD (plan de gestion des données); transitioned from CARL
- Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR); transitioned from CARL
- Lunaris

Digital Research Infrastructure Role Summary: The Alliance is responsible for bringing together and supporting cross-country digital research infrastructure, with a focus on the three pillars of advanced research computing, research data management, and research software, as well as additional support for research platforms and portals and cybersecurity. The Alliance is empowered and mandated to do this work at a national scale. Current core capacity is in providing the hardware and software needs for advanced research computing and coordinating research data management across disciplines. The Alliance coordinates or contributes to a number of digital research initiatives with utility for the humanities and social sciences; most notably Borealis, the DataCite Canada Consortium, DMP Assistant, and FRDR. It hosts and maintains

essential tools for humanities and social sciences research, such as Voyant Tools. As a representative of the federal government, the Alliance also acts as a funder and coordinates a variety of funding programs and opportunities (shared with the provinces and academic institutions).

Keywords: advanced research computing, persistent identifiers, repositories, research data management

7. **Érudit**

https://www.erudit.org/

Mission: to support open digital publishing and research in the arts, humanities, and social sciences.

Lead: Tanja Niemann (Executive Director)

Major Digital Research Infrastructure Initiatives

- Coalition Publica, with PKP
- Cyberinfrastructure ouverte pour les sciences humaines et sociales (CO.SHS)
- Érudit.org
- Partnership for Open Access, with CRKN

Digital Research Infrastructure Role Summary: As a publication platform, Érudit hosts and shares nearly 350 scholarly and cultural journals; over 130 books and proceedings; more than 145,000 theses and dissertations; and over 5,600 grey literature documents. Érudit centralizes and provides access to this corpora of largely open access research material as well as supports Canadian authors in their digital publishing activities, especially in diamond open access and with the support of the Partnership for Open Access. Through Coalition Publica, Érudit facilitates a journal production pipeline and serves in a leadership role for not for profit, open access publishing in Canada.

Keywords: cultural heritage, discovery, history, libraries, open access, journals, preservation, publishing

8. **Internet Archive Canada**

https://archive.org/

Mission: to provide universal access to all knowledge.

Lead: Andrea Mills (Executive Director)

Major Digital Research Infrastructure Initiatives

- Archive-It
- Digitization project with Library and Archives Canada
- National Heritage Digitization Strategy, now Coalition for Canadian Digital Heritage (with Library and Archives Canada)

Digital Research Infrastructure Role Summary: Internet Archive Canada is a not-for-profit digital library that has digitized more than 650,000 books, micro-reproductions, archival fonds, and maps, supported by more than 300 libraries and memory institutions from across Canada. As a partner to cultural heritage organizations in the country, Internet Archive Canada provides critical access to and preservation of cultural heritage materials—both through the digitization of analog or microfilm materials and the archival of born digital materials and web content. Internet Archive Canada also hosts academic journal content and digitizes back lists of journals when their partners wish to move journal content to offsite storage.

Keywords: digitization, discovery, history, open access, monographs, preservation

9. **Library and Archives Canada / Bibliothèque et Archives Canada (LAC / BAC)**
   https://library-archives.canada.ca/eng/Pages/Home.aspx

Mandate:

- to preserve the documentary heritage of Canada for the benefit of present and future generations;
- to be a source of enduring knowledge accessible to all, contributing to the cultural, social and economic advancement of Canada as a free and democratic society;
- to facilitate in Canada co-operation among communities involved in the acquisition, preservation and diffusion of knowledge;
- to serve as the continuing memory of the Government of Canada and its institutions.

Lead: Leslie Weir (Librarian and Archivist of Canada)

Major Digital Research Infrastructure Initiatives

- Collection Search
- Digitization project with Internet Archive Canada
- National Heritage Digitization Strategy, now Coalition for Canadian Digital Heritage (with Internet Archive Canada)
- Open Data from LAC

Digital Research Infrastructure Role Summary: LAC is responsible for preserving Canada's documentary heritage on a national scale. LAC provides persistent research access to cultural heritage materials via their Collection Search and open data initiatives, as well as partners with other groups on digitization initiatives. This access is extended through focused work that raises the profile of First Nations, Indigenous, and Metis-related materials, including through the Day Schools Project and We Are Here: Sharing Stories initiative. LAC has also launched a pilot project with Transkribus, which uses artificial intelligence to transcribe and digitize materials that are then made available online. An additional LAC initiative is the Archive Party, an event which aims to help people manage their digital records. LAC holds one of the top 5 collections in the world in terms of size of heritage collections; they digitize ~5 million pages per year, and tens of thousands of audio files have been digitized as well.

Keywords: cultural heritage, digitization, discovery, documentary heritage, history, open access, preservation

10. OurDigitalWorld

https://ourdigitalworld.org/

Mission: OurDigitalWorld supports cultural organizations of all sizes in their mission to preserve local history collections for current and future generations.

Leads: Art Rhyno (Board Chair) and Jess Posgate (Project Coordinator)

Major Digital Research Infrastructure initiatives

- Ontario Community Newspapers Portal
- Ontario Government Documents
- OurOntario
- VITA Digital Collections Toolkit

Digital Research Infrastructure Role Summary: OurDigitalWorld is a grassroots conduit for many public libraries, museums, and local history groups to digitize cultural content. OurDigitalWorld provides data to university researchers as well as software and services for organizations across Canada and the United States to create, manage, and display their community collections, including digitized newspapers, for public discovery and access.

Keywords: archives, cultural heritage, data curation, digitization, discovery, documentary heritage, history, open access, open social scholarship, open source software, preservation, research data management

11. Public Knowledge Project (PKP)
https://pkp.sfu.ca/

Mission: to improve the quality, access, and bibliodiversity of scholarly communication toward a global public good.

Leads: Juan Pablo Alperin (Scientific Director) and Kevin Stranack (Director of Operations)

Major Digital Research Infrastructure Initiatives

- Coalition Publica
- Open Journal Systems (OJS)
- Open Monograph Press (OMP)
- Open Preprint Systems (OPS)

Digital Research Infrastructure Role Summary: PKP is a well-established open source publishing project that furnishes thousands of journals in Canada and worldwide, as well as monographs and preprints. Through the provision of these free to use applications, PKP supports academic publishing writ large as well as community engagement around academic publishing. With Érudit, PKP is a key partner of Coalition Publica, which facilitates open access journal publishing and hosting in Canada. Through Coalition Publica, PKP is exploring Crossref integration with OJS journals as a pilot project in incorporating Digital Object Identifiers.

Keywords: journals, monographs, open access, open source software, pre-prints, publishing

12. Regional Library Associations: [15] British Columbia Electronic Library Network (BC ELN),[16] Council of Atlantic Academic Libraries / Conseil des bibliothèques postsecondaires de l'Atlantique (CAAL / CBPA),[17] Council of Prairie and Pacific

[15] These regional library associations form Consortia Canada, with other entities. Consortia Canada manages resource licensing for libraries across the country, and different consortia assume different negotiations to share the workload. See https://www.concan.ca/ for more details.
[16] https://bceln.ca/
[17] https://caul-cbua.ca/

University Libraries (COPPUL),[18] Ontario Council of University Libraries (OCUL),[19] Partenariat des bibliothèques universitaires du Québec (PBUQ)[20]

Mission: Regional library consortia connect member libraries to leverage resources, expertise, and infrastructure in order to meet shared goals.

Leads: various

Major Digital Research Infrastructure Initiatives

- Arca (BC ELN)
- Archivematica-as-a-Service (COPPUL)
- Borealis (OCUL, CAAL, COPPUL, PBUQ), with Scholars Portal and the Alliance
- Digital resource licensing (BC ELN, CAAL, OCUL)
- Fonds de soutien à l'édition savante (PBUQ)
- Illume Interlibrary Loan Service Support Centre (BC ELN)
- Omni (OCUL)
- Open Journal System Hosting (BC ELN)
- Scholars Portal, including GeoPortal, Books, and Journals (OCUL)
- Shared Service Platform / Plateforme partagée de services and Sofia Discovery Tool (PBUQ)
- WestVault (COPPUL, BC ELN)

Digital Research Infrastructure Role Summary: Regional library consortia provide streamlined access to digital research infrastructure for their member libraries. Depending on their members' needs, they build or seek out initiatives that support institutional repositories, collections, publishing, and / or access. Regional consortia connect libraries across a specified jurisdiction as well as represent them in more national fora. Different consortia undertake digital research infrastructure work to different extents (see initiatives list above), and consortia partner with each other on initiatives of shared interest as well.

Keywords: libraries, open access, preservation, publishing, repositories

13. Scholars Portal
https://scholarsportal.info/

Lead: Kate Davis, Director

[18] https://coppul.ca/
[19] https://ocul.on.ca/
[20] https://pbuq.ca/

Major Digital Research Infrastructure Initiatives

- Accessible Content E-Portal
- Borealis (Canadian Dataverse Repository), with the Alliance and Regional Library Associations (including OCUL, CAAL, COPPUL, and PBUQ)
- GeoPortal
- Odesi
- Scholaris, with CARL, Ontario Council of University Libraries, and University of Toronto Libraries
- Scholars Portal Journals & Scholars Portal Books
- Ontario Library Research Cloud (Openstack, Horizon, Duracloud, Archivematica)
- Permafrost digital preservation

Digital Research Infrastructure Role Summary: As a digital research infrastructure service of the Ontario Council of University Libraries (OCUL), Scholars Portal provides shared technology and collections for the 21 university libraries in Ontario. This infrastructure is divided into content, preservation, and access streams, and includes a collection of accessible content, journals, e-books, and social science and geospatial data. Notably, Scholars Portal is a service provider to *libraries* as they manage their digital collections, not to researchers. OCUL has recently released their *OCUL Artificial Intelligence / Machine Learning Report and Strategy* (Asberg et al. 2024), and Scholars Portal will play a significant role in the 5 key AI / ML projects outlined therein (audio to text transcription; government documents; accessibility; virtual reference; capacity building).

Keywords: geospatial data, interlibrary loan, journals, preservation, repositories

5. Key Digital Research Infrastructure Initiatives Related to the Humanities and Social Sciences

This section surveys 33 key digital research infrastructure initiatives that are strongly related to the humanities and social sciences. Each entry includes organization-specific information on who leads the initiatives, as well as its purpose, impact on Canadian digital research infrastructure, and keywords.

1. **ARCHIVESCANADA.ca**

https://archivescanada.ca/

Organizational Leads: Canadian Council of Archives, Provincial and Territorial Archival Networks, and Library and Archives Canada

Purpose: to provide the Canadian public greater access to the documentary heritage held by archives in this country.

Impact on Canadian Digital Research Infrastructure: ARCHIVESCANADA.ca is a national database comprising descriptions of archival holdings from hundreds of individual archival institutions across Canada. These holdings include documentary records, maps, photographs, sound recordings, videos and more, made accessible to the ARCHIVESCANADA.ca portal via provincial or territorial networks.

Keywords: archives, cultural heritage, data curation, discovery, history, open access, preservation

2. **Artefacts Canada**

https://app.pch.gc.ca/application/artefacts_hum/indice_index.app?lang=en

Organizational Lead: CHIN

Purpose: to provide online, public access to millions of collections records from GLAM organizations across Canada.

Impact on Canadian Digital Research Infrastructure: The Artefacts Canada database contains more than 4 million object records and more than 1 million images from Canadian museums. This database is openly available to both museum professionals and the public. Artefacts Canada is also open to receiving additional collections from museums.

Keywords: cultural heritage, discovery, documentary heritage, history, open access, preservation

3. **Borealis**

https://borealisdata.ca/

Organizational Lead: The Alliance, Scholars Portal, and Regional Library Associations (including OCUL, CAAL, COPPUL, and PBUQ)

Purpose: to serve as a research data repository.

Impact on Canadian Digital Research Infrastructure: Borealis is a bilingual, multidisciplinary, Canadian research network of Dataverse-based institutional data repositories. Borealis supports open discovery, management, sharing, and preservation of research data via institutionally-hosted and supported collections. It also contains national collections such as Odesi: a curated, Canadian social science data repository and online exploration and analysis tool. Borealis's common software is maintained by Scholars Portal. Compared to the Federated Research Data Repository (FRDR), the datasets deposited in Borealis are relatively small. Its service model differs from FRDR as well; Borealis has many different service points owned and operated by many individual academic institutions.

Keywords: open access, repositories, research data management

4. **Canadian Census Data Discovery Project**

https://cddp-pddr.ca/

Lead: Leanne Trimble (University of Toronto)

Purpose: to include all born-print and born-digital statistical tables, datasets, and mapping products, as well as all relevant documentation, going back to the earliest known pre-Confederation censuses, in one portal.

Impact on Canadian Digital Research Infrastructure: The Canadian Census Discovery Portal is an in-development, openly available, bilingual, online discovery platform. Once completed, users will access an inventory of individual census items through the portal and be able to download digital copies of the materials. Search will be possible via subjects, geographies, and / or dates, and there will also be information available on accessibility and readability of contents in all available formats. This portal aims to improve access to and research conditions for existing qualitative, quantitative, and spatial data sources from the population censuses of Canada.

Keywords: discovery, documentary heritage, geospatial data, history, microdata, open access, preservation, quantitative analysis

5. **Canadian Election Study (CES)**
   http://www.ces-eec.ca/

Lead: various

Purpose: to contribute to the understanding of electoral democracy in Canada via a large-scale survey of citizens conducted each election year.

Impact on Canadian Digital Research Infrastructure: Running since 1965, the CES provides a longitudinal, data-driven perspective on Canadians' political behaviour and attitudes. This open dataset provides a snapshot and record of Canadian society and political life over the past several decades.

Keywords: discovery, documentary heritage, history, open access

6. **Canadian Humanities and Social Sciences Commons (Canadian HSS Commons)**

https://hsscommons.ca/

Lead: Implementing New Knowledge Environments (INKE) Partnership

Purpose: to connect and support the work of humanities and social sciences researchers across Canada.

Impact on Canadian Digital Research Infrastructure: The Canadian HSS Commons is an in-development, national-scale, multilingual network for Canadian HSS researchers and stakeholders to share, access, re-purpose, and develop scholarly projects, publications, educational resources, data, and tools. It is the first digital commons of its kind with an explicit emphasis on both the humanities and social sciences communities in Canada. An Implementing New Knowledge Environments (INKE) Partnership initiative, the Canadian HSS Commons currently supports over 1,250 registered members and houses nearly 8,000 publications in its repository.

Keywords: digital humanities, discovery, open access, open social scholarship, publishing

7. **Canadian Persistent Identifiers Advisory Committee / Comité consultatif canadien sur les identifiants pérennes (CPIDAC / CCCPID)**
   https://www.crkn-rcdr.ca/en/persistent-identifier-pid-governance

Organizational Leads: CRKN and the Alliance; transitioned from CARL

Purpose: to provide expertise and advice on persistent identifiers (PIDs).

Impact on Canadian Digital Research Infrastructure: Persistent identifiers (PIDs) connect information together across the digital research infrastructure ecosystem. Currently, CPIDAC focuses on 2 PID programs: ORCID-CA (the Canadian ORCID community of practice) and the DataCite Canada Consortium (a collective of Canadian organizations managing some Digital Object Identifier [DOI] registration). This multi-organization committee convenes and advises the ORCID-CA Governing Committee and the DataCite Canada Consortium Governing Committee on leveraging maximum benefits through national adoption and use of PIDs. This advisory work extends to educating government research and infrastructure funding bodies on international trends and emergent best practices; developing and championing a national PIDs implementation strategy; and providing advice to key stakeholders on national opportunities to leverage the benefits of DataCite Canada Consortium and ORCID-CA membership.

Keywords: interoperability protocols, persistent identifiers, publishing, repositories, research data management

8. **Canadiana collections (Canadiana and Héritage)**
   https://www.canadiana.ca/

Organizational Lead: CRKN

Purpose: to develop, maintain, and provide access to a massive collection of datasets related to Canadian history.

Impact on Canadian Digital Research Infrastructure: Canadiana provides a documentary historical corpus that supports research about Canada with a historical dimension. Canadiana serves, among others, academic historians, genealogical researchers, legal researchers, and claims researchers. The Canadiana collections include Canadiana and Héritage, which together comprise 64 million pages of digitized heritage content (at the time of writing). The Canadiana collections are open access and preserved in the Canadian Research Knowledge Network Trustworthy Digital Repository for researchers to access and work with this large corpora.

Keywords: cultural heritage, digitization, history, open access, preservation

9. **Coalition for Canadian Digital Heritage / Coalition pour la numérisation du patrimoine canadien (CCDH / CNPC)**

https://ccdh-cnpc.ca/

Organizational Leads: CRKN, LAC, Internet Archive Canada, and others

Purpose: to enable digitization, access, and preservation of heritage content for discovery and innovation.

Impact on Canadian Digital Research Infrastructure: CCDH emerged from the National Heritage Digitization Strategy (NHDS), a previous organization of Canadian libraries seeking support for digitization efforts. Now, CCDH aims to provide a collaborative framework for cultural heritage digitization in Canada across the Galleries, Libraries, Archives, and Museums (GLAM) sector. In this way, digitization projects are undertaken in a somewhat more streamlined way, expertise and resources are shared, and digitization efforts are not duplicated by various individuals and organizations. CCDH does not handle long term preservation, data management, or perpetual access; rather, CCDH aims to increase the amount of heritage material in Canada available digitally by linking, coordinating, and supporting across GLAM organizations.

Keywords: archives, digitization, libraries

10. **Coalition Publica**
https://www.coalition-publi.ca/

Organizational Leads: Érudit (Tanja Niemann) and PKP (Kevin Stranack)

Purpose: to provide an open national infrastructure to support Canadian digital scholarly publishing.

Impact on Canadian Digital Research Infrastructure: As a collaboration between open source publishing software provider PKP and journal publisher Érudit, Coalition Publica streamlines publishing in Canada—particularly non-commercial, open access, academic publishing. Coalition Publica makes digital research infrastructure in Canada more efficient by simplifying and supporting journal publishing. Coalition Publica currently hosts and supports over 200 French and English academic journals in Canada; provides access to textual and bibliometric data for research purposes; and shares Open Journal Systems (OJS) as open source software via Github. Coalition Publica supports the humanities and social sciences journal community in the transition toward sustainable open access.

Keywords: journals, open access, open source software, publishing

11. **Collaboratory for Writing and Research on Culture (CWRC);** formerly **Canadian Writing Research Collaboratory / Le Collaboratoire scientifique des écrits du Canada (CWRC / CSÉC)**

https://cwrc.ca/

Lead: Susan Brown (University of Guelph)

Purpose: to serve as an editorial environment for open collaboration and publication across the humanities and social sciences. Previously, CWRC's purpose was to provide an online platform for researching Canadian literary studies specifically.

Impact on Canadian Digital Research Infrastructure: CWRC is a platform for creating, storing, editing, and sharing collections of digital research artifacts that have been digitized or are born digital, including video, audio, and textual media. CWRC enables collaboration and sharing of data at the human or user level and aims to support collaboration through machines by fostering best practices with data formats, metadata standards, and shared vocabulary for interoperability. CWRC enables FAIR (Findable, Accessible, Interoperable, Reusable) research data that is suitable to the humanities and social sciences and is web accessible. This data is not archived in a static form, but rather dynamically updated, used, and shared in the ways that most humanities and social sciences scholars interact with data. Initially, CWRC was a specific resource for those researching and creating digital archives on literary studies in Canada, whereas the new iteration will span the humanities and social sciences.

Keywords: archives, digital humanities, linked open data, literary studies

12. **Cyberinfrastructure ouverte pour les sciences humaines et sociales / Open Cyberinfrastructure for the Humanities and Social Sciences (CO.SHS)**

https://co-shs.ca/fr/

Organizational Lead: Érudit

Purpose: to support humanities and social sciences research through improved production, discovery, and exploration.

Impact on Canadian Digital Research Infrastructure: CO.SHS comprises three components of humanities and social sciences research: production, discovery, and exploration. The production side focuses on strengthening the capacity of digital publishing. The discovery element increases the discoverability of research results on the Érudit platform. And the exploration component facilitates search of a vast textual corpora, incorporating both analysis and visualization tools.

Keywords: data visualization, discovery, open access, publishing, text analysis

13. **Data Management Plan (DMP) Assistant / Assistant PGD (plan de gestion des données)**

https://dmp-pgd.ca/

Organizational Lead: The Alliance; transitioned from CARL

Purpose: to supplement researchers with a tool to prepare data management plans.

Impact on Canadian Digital Research Infrastructure: The DMP Assistant supports researchers in developing more sustainable plans for their research projects, thus contributing to more viable and robust research.

Keywords: research data management

14. **DataCite Canada Consortium / Consortium DataCite Canada**

https://www.crkn-rcdr.ca/en/datacite-canada-consortium

Organizational Leads: CRKN and the Alliance; transitioned from CARL

Purpose: to support Canadian institutions who have integrated DataCite into their own research infrastructure for Digital Object Identifier (DOI) provision.

Impact on Canadian Digital Research Infrastructure: The DataCite Canada Consortium makes the implementation of persistent identifiers for research outputs more efficient, which in turn ensures Canadian research is aligned with international research publication and open access standards.

Keywords: persistent identifiers

15. **Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR)**

https://www.frdr-dfdr.ca

Organizational Lead: The Alliance; transitioned from CARL

Purpose: to act as a general purpose research data repository for large datasets.

Impact on Canadian Digital Research Infrastructure: As a bilingual platform for sharing and preserving Canadian research data, FRDR is open to all Canadian researchers, across disciplines. FRDR provides a sustainable data deposit option for researchers to store, manage, and preserve their data—all in line with open access journal and funder

data sharing requirements. Technically speaking, FRDR runs on compute clusters with much larger capacity than any one individual institution has; it is accustomed to large datasets and large data needs (e.g. datasets that are hundreds of terabytes). FRDR differs from Borealis in the size of the data it supports as well as in its service model: FRDR is administered centrally by the Alliance, working directly with researchers—many of whom have significant existing experience with high performance computing.

Keywords: data curation, open access, repositories, research data management

16. **Implementing New Knowledge Environments (INKE) Partnership**
https://inke.ca

Lead: Ray Siemens (University of Victoria)

Purpose: to foster open social scholarship through a collection of partnered research initiatives.

Impact on Canadian Digital Research Infrastructure: The INKE Partnership is a research group that coordinates the Canadian Humanities and Social Sciences Commons, Open Scholarship Policy Observatory, , Canadian-Australian Partnership for Open Scholarship, a training stream, and various other open social scholarship community projects. These initiatives provide multiple angles for humanities and social sciences researchers in Canada to undertake more open and more social scholarship. Funded by a SSHRC Partnership grant, the INKE Partnership's contributions to digital research infrastructure are necessarily in concert with academic-aligned partners in this space.

Keywords: digital humanities, open access, open social scholarship

17. **Linked Editing Academic Framework (LEAF)**
https://www.leaf-vre.org/

Lead: Susan Brown (University of Guelph)

Purpose: to serve as an editorial environment for open collaboration and publication.

Impact on Canadian Digital Research Infrastructure: LEAF is research software that provides web-based tools and online spaces for collaborative digital knowledge production. Built on an extended and adapted basic Islandora framework, LEAF supports workflows and embeds Extensible Markup Language (XML) markup and linked open data tools. These tools include LEAF-Writer, a modular XML and Resources Description Framework (RDF) online editor, and LEAF Commons, which facilitates lightweight editorial workflows for the text markup community.

Keywords: digital humanities, linked open data

18. **Linked Infrastructure for Networked Cultural Scholarship (LINCS)**
https://lincsproject.ca/

Lead: Susan Brown (University of Guelph)

Purpose: to make cultural data more readily available, shareable, searchable, and reusable via Linked Open Data.

Impact on Canadian Digital Research Infrastructure: LINCS enables researchers to create interoperable, interlinked, and contextualized online data about culture to benefit scholars and the public. LINCS does so by converting cultural datasets to Linked Open Data (LOD), providing access to a suite of LOD tools, and algorithmically converting and poising datasets for further validation and enhancement, among other activities. By employing a common data model and vocabulary, sets of Linked Open Data become broadly usable in the global knowledge graph. Additionally, the LINCS browser plug-in can embed into a webpage to incorporate LOD into the content. Better linked and more contextualized data enriches the research landscape.

Keywords: digital humanities, linked open data, semantic web

19. **Lunaris**
https://www.lunaris.ca

Organizational Lead: The Alliance

Purpose: to serve as a national discovery service for multidisciplinary data.

Impact on Canadian Digital Research Infrastructure: Lunaris is an openly available bilingual interface for searching across academic, government, and research repositories across Canada. It harvests metadata from these repositories and makes their content discoverable in a central platform that allows combined text- and map-based search.

Keywords: discovery, repositories

20. **National Centre for Truth and Reconciliation Archives (NCTR Archives)**
https://nctr.ca/

Organizational Lead: National Centre for Truth and Reconciliation (NCTR)

Purpose: to responsibly and accountably steward for the experiences, photos, and memories entrusted to the NCTR by the Survivors of Residential Schools.

Impact on Canadian Digital Research Infrastructure: The NCTR Archives include records of the human rights abuses inflicted on First Nations, Inuit, and Métis peoples in the residential school system. From a digital research infrastructure perspective, these records are critical cultural heritage material for accurate record-keeping and historical research. The NCTR Archives are built on an AtoM archive database and include more than four million records.

Keywords: archives, cultural heritage, discovery, documentary heritage, history

21. **National Indigenous Knowledge & Language Alliance / Alliance nationale des connaissances et des langues autochtones (NIKLA / ANCLA)**
https://www.nikla-ancla.com/

Lead: Camille Callison (University of the Fraser Valley)

Purpose: to unify and amplify Indigenous voices in a community of practice related to cultural memory and heritage.

Impact on Canadian Digital Research Infrastructure: NIKLA's current area of focus is on the Respectful Terminology Platform Project. This project will result in an open, online platform to enable a dynamic, multilingual set of terminologies applied to Indigenous Peoples, places, heritage, tradition, knowledge, and cultures.

Keywords: cultural heritage, metadata standards, terminology

22. **Open Government Portal**
https://search.open.canada.ca/data/

Organizational Lead: Government of Canada

Purpose: to improve transparency, accountability, public participation, and inclusion.

Impact on Canadian Digital Research Infrastructure: The Open Government Portal collects and makes available information resources and datasets published by government institutions. This includes mandatory reporting on spending, expenses, briefings, and reports tabled in parliament, as well as additional featured datasets. The related open data portal catalogue is a downloadable dataset containing some key metadata for the general datasets available.

Keywords: archives, cultural heritage, data curation, discovery, open access

23. **Open Journal Systems (OJS)**
https://pkp.sfu.ca/software/ojs/
Organizational Lead: PKP

Purpose: to provide no-cost, open source software for journal publishing and management.

Impact on Canadian Digital Research Infrastructure: OJS is used by thousands of journals around the world, including many in Canada. OJS provides support throughout a journal's production lifecycle, from article submission through peer review to publication and distribution. OJS is discipline agnostic and has multilingual capacity.

Keywords: journals, open access, open source software, publishing

24. Open Monograph Press (OMP)
https://pkp.sfu.ca/software/omp/
Organizational Lead: PKP

Purpose: to provide no-cost, open source software for monograph publishing and management.

Impact on Canadian Digital Research Infrastructure: OMP facilitates digital monograph publishing for publishers in Canada and beyond. It has multilingual capacity and can integrate persistent identifiers such as ORCID or digital object identifiers (DOIs).

Keywords: monographs, open access, open source software, publishing

25. **Open Preprint Systems (OPS)**
https://pkp.sfu.ca/software/ops/
Organizational Lead: PKP

Purpose: to provide no-cost, open source software for preprint servers.

Impact on Canadian Digital Research Infrastructure: As software for developing a preprint server, OPS supports the open, pre-publication of research results. OPS is currently used by SciELO for their preprint server; currently, there is not a Canadian-based preprint server running off of OPS although the capacity exists to do so.

Keywords: open access, open source software, preprints, publishing

26. **ORCID Canada Consortium / Consortium ORCID Canada (ORCID-CA)**
https://www.crkn-rcdr.ca/en/orcid-ca-home

Organizational Leads: CRKN

Purpose: to support an ORCID community of practice in Canada.

Impact on Canadian Digital Research Infrastructure: ORCID-CA encourages the Canadian research community to use ORCID iDs and to take advantage of the ORCID API in local institutional systems. When scholars select an ORCID iD as a unique identifier, it provides a digital record of that scholar's activities as well as facilitates streamlined data transfer between different digital research infrastructure tools and platforms.

Keywords: persistent identifiers

27. **Partnership for Open Access (POA)**

https://partnership.erudit.org/Organizational Leads: Érudit and CRKN

Purpose: to provide ongoing financial support to humanities and social sciences publishers in an equitable and sustainable open access environment.

Impact on Canadian Digital Research Infrastructure: The POA is a mechanism through with Canadian libraries support open access publishing in Canada. Partner libraries, through CRKN, gain access to the articles of journals on Érudit.org that are currently transitioning to open access, as well as to the plain text of the Érudit corpus for text and data mining purposes. This provides a sustainable revenue source for journals as they shift their business and publication model to open access.

Keywords: open access, publishing

28. Polar Data Catalogue (PDC)
https://www.polardata.ca

Lead: Gregory Vey (University of Waterloo)

Purpose: to facilitate the storage, discovery, and sharing of research related to the polar regions.

Impact on Canadian Digital Research Infrastructure: As an online data repository, the PDC is a member of the Canadian Polar Data Consortium (CPDC), formerly the Canadian

Consortium for Arctic Data Interoperability (CCADI), which is involved in the development of an integrated Canadian Arctic data management system. The PDC is the official repository for several research programs, including the Northern Contaminants Program and the Nunavut General Monitoring Plan. The PDC also offers a variety of online tools and resources (e.g. geospatial tools and interactive visualizations) to promote data discoverability and usability and is involved in standards and interoperability initiatives in the broader research data management community.

Keywords: archives, data curation, data visualization, discovery, geospatial data, preservation, repositories, research data management, metadata standards, interoperability protocols

29. **Pressbooks**

https://pressbooks.com/

Lead: Hugh McGuire

Purpose: to provide software for the development of open educational resources (primarily digital textbooks).

Impact on Canadian Digital Research Infrastructure: Pressbooks is a straightforward content management system that can be used to create open educational resources. In Canada, it is supported by BCcampus as the open authoring platform for those employed by postsecondary institutions in British Columbia and Yukon.

Keywords: open access, open education, open educational resources, publishing

30. **Scholaris**

https://scholaris.ca/

Organizational Leads: CARL, Ontario Council of University Libraries, University of Toronto Libraries, and Scholars Portal

Purpose: to provide a robust and scalable multi-institutional national repository service.

Impact on Canadian Digital Research Infrastructure: At the time of writing, Scholaris is currently in development. Ultimately, Scholaris will become a national DSpace-based service that links repositories across Canada. Currently, it centralizes the management of institutional repository software, thereby making it more efficient. In future, Scholaris will be more connected to Borealis and will ideally serve as a discovery service for users to find information across multiple interoperable institutional repositories.

Keywords: libraries, open access, repositories, research data management

31. SpokenWeb

https://spokenweb.ca/

Lead: Jason Camlot, Principal Investigator and Director

Purpose: to develop coordinated and collaborative approaches to literary historical study, digital development, and critical and pedagogical engagement with diverse collections of literary sound recordings from across Canada and beyond.

Impact on Canadian Digital Research Infrastructure: SpokenWeb both preserves and describes sonic artifacts that have captured literary events of the past as well as "activates" these artifacts in the present. SpokenWeb has preserved, described, and activated over 5,000 literary recordings held across Canada. Further, the initiative supports (1)) new forms of historical and critical scholarly engagement; 2) sustainable access via digital preservation, aggregation, and asset management; 3) search, visualization, analysis, and critical engagement; and 4) mobilization of digitized spoken and literary recordings. This initiative has developed innovative systems for cataloguing, storing, and sharing metadata about archival sound recordings; GUIs for AV presentation graphical user interfaces (GUIs); and AV analysis and engagement tools, including the SpokenWeb Metadata Schema, Swallow Metadatabase, and SW Search Engine.

Keywords: archives, cultural heritage, data analysis, data curation, data visualization, digital humanities, discovery, history, linked open data, literary studies, open access, open education, open educational resources, open social scholarship, open source software, preservation, semantic web, terminology

32. Sustainability Academic Network (SUSAN)

https://susanhub.com/

Leads: Juan Cimalio Serpa (McGill University), Vibhu Bhardwaj (CAE), Mariapaz Pajares (McGill University)

Purpose: to help the sustainability community unite forces and combat climate change more effectively.

Impact on Canadian Digital Research Infrastructure: SUSAN is a digital platform that allows users to post and share datasets, papers, conferences, job postings, local events, and grants related to sustainability. These resources are categorized across various themes—from solar energy and mining to circular economies. This platform is

purposefully multidisciplinary in order to connect researchers and encourage collaboration more efficiently.

Keywords: discovery, open social scholarship

33. **Voyant Tools**
http://www.voyant-tools.org/

Leads: Geoffrey Rockwell (University of Alberta); previously with Stéfan Sinclair (McGill University; now deceased)

Purpose: to serve as a tool for researchers to analyze and visualize text.

Impact on Canadian Digital Research Infrastructure: An easy to use and widespread text analysis and visualization tool, Voyant is central to many digital humanities researchers' work in Canada. Voyant is integrated into other digital research infrastructure initiatives such as LINCS.

Keywords: data visualization, digital humanities, text analysis

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7. Appendices

7.a. Appendix 1: List of Key Digital Research Infrastructure Organizations Connected to the Humanities and Social Sciences

- Bibliothèque et Archives nationales du Québec (BAnQ)
- Canadian Association of Research Libraries / Association des bibliothèques de recherche du Canada (CARL / ABRC)
- Canadian Heritage Information Network (CHIN)Canadian Research Data Centre Network / Réseau canadien des Centres de données de recherche (CRDCN / RCCDR)
- Canadian Research Knowledge Network / Réseau canadien de documentation pour la recherche (CRKN / RCDR)
- Digital Research Alliance of Canada / Alliance de recherche numérique du Canada (The Alliance / L'Alliance)
- Érudit
- Internet Archive Canada
- Library and Archives Canada / Bibliothèque et Archives Canada (LAC / BAC)
- OurDigitalWorld
- Public Knowledge Project (PKP)
- Regional Library Associations: British Columbia Electronic Library Network (BC ELN), Council of Atlantic Academic Libraries / Conseil des bibliothèques postsecondaires de l'Atlantique (CAAL / CBPA), Council of Prairie and Pacific University Libraries (COPPUL), Ontario Council of University Libraries (OCUL), Partenariat des bibliothèques universitaires du Québec (PBUQ)

7.b. Appendix 2: List of Key Digital Research Infrastructure Initiatives Connected to the Humanities and Social Sciences

- ARCHIVESCANADA.ca
- Artefacts Canada
- Borealis
- Canadian Census Data Discovery Project
- Canadian Election Study (CES)
- Canadian Humanities and Social Sciences Commons
- Canadian Persistent Identifiers Advisory Committee / Comité consultatif canadien sur les identifiants pérennes (CPIDAC / CCCPID)
- Canadiana collections (Canadiana and Héritage)

- Coalition for Canadian Digital Heritage / Coalition pour la numérisation du patrimoine canadien (CCDH / CNPC)
- Coalition Publica
- Collaboratory for Writing and Research on Culture (CWRC); formerly Canadian Writing Research Collaboratory / Le Collaboratoire scientifique des écrits du Canada (CWRC / CSÉC)
- Cyberinfrastructure ouverte pour les sciences humaines et sociales (CO.SHS)
- Data Management Plan (DMP) Assistant
- DataCite Canada Consortium / Consortium DataCite Canada
- Federated Research Data Repository / Le Dépôt fédéré de données de recherche (FRDR/DFDR)
- Implementing New Knowledge Environments (INKE) Partnership
- Linked Editing Academic Framework (LEAF)
- Linked Infrastructure for Networked Cultural Scholarship (LINCS)
- Lunaris
- National Centre for Truth and Reconciliation Archives (NCTR Archives)
- National Indigenous Knowledge & Language Alliance / Alliance nationale des connaissances et des langues autochtones (NIKLA / ANCLA)
- Open Government Portal
- Open Journal Systems (OJS)
- Open Monograph Press (OMP)
- Open Preprint Systems (OPS)
- ORCID Canada Consortium / Consortium ORCID Canada (ORCID-CA)
- Partnership for Open Access (POA)
- Polar Data Catalogue (PDC)
- Pressbooks
- Scholaris
- SpokenWeb
- Sustainability Academic Network (SUSAN)
- Voyant Tools

7.c. Appendix 3: Individuals Consulted in the Development of this Landscape Analysis

- Clare Appavoo (CRKN)
- John Aspler (CRKN)
- Davin Baragiotta (Érudit)
- Jonathan Bengtson (University of Victoria Libraries, CCDH)

- Élise Bergeron (Érudit)
- Susan Brown (University of Guelph, LINCS, CWRC, LEAF)
- Amy Buckland (Concordia University Library)
- Kate Davis (Scholars Portal)
- Jason Friedman (previously CRKN; now University of Saskatchewan Library)
- Jean-François Gauvin (BAnQ)
- Susan Haigh (CARL)
- Geoff Harder (University of Alberta Library)
- Natalie Harrower (McMaster University, CRDCN)
- Meghan Landry (ACENET)
- James MacGregor (CRKN)
- Andrea Mills (Internet Archive Canada)
- Pascale Montmartin (BAnQ)
- Tanja Niemann (Érudit)
- Ray Siemens (University of Victoria, INKE Partnership)
- Kevin Stranack (PKP)
- Leslie Weir (LAC)
- Lee Wilson (The Alliance)