

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES

BULLETIN

Academic Map Library Weeding – Thoughts and Guidelines Developed from Two Experiences

Feature Article

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Keywords: Maps; Map libraries; weeding; de-selection; academic libraries; collections management

Abstract

While maps remain an important part of library work, there has been a dearth of scholarly discussion on weeding maps. Some authors have offered suggestions in particular contexts – notably in public libraries and U.S. depository libraries. This leaves significant room for further discussion for those outside of the U.S. context, and those with more general map libraries. Following a literature review and contextual information situating the author's involvement in the topic, a discussion of methods and appropriate considerations are offered for weeding map collections. These guidelines are offered in point form in the conclusion for ease of referral.

Introduction

Weeding, or de-selection is a common and well-established practice in library work. Maps, however, are intrinsically different in form and content than manuscripts, and thus cannot be considered by the same criteria (Dawson, 2015, pp. 4-5). While some rules for de-selection can be borrowed from the manuscript realm, considerations such as scale and projection – which lead to significant differences in geospatial message – as well as the use of map editions over time as a tool of research, mean maps contain a plethora of variables that can alter their uniqueness and significance, and which can influence their utility for ongoing use. There is currently a dearth of writing about map weeding, particularly in the academic library. As the author was previously tasked with map weeding projects and found little guidance for this work, this paper seeks to offer

the current information and some general guidelines to help other map librarians develop a weeding project.

Literature Review

De-selection of materials is a Core Competency of map librarianship, according to the American Library Association (ALA) Map and Geospatial Information Round Table (MAGIRT) (MAGERT, 2008, p. 7). However, concrete ideas and methods are not discussed in the Core Competence document. The Map Collection Management Discussion Group is limited to ALA members and does not provide forward-facing recommendations on weeding or de-selection in map libraries (see MAGIRT, 2007).

Mary Larsgaard, whose work as a map librarian led to her authoring *Map Librarianship: An Introduction*, offered little in the way of suggestions for weeding. The closest the text comes is a section on "Evaluation" as part of the chapter "Selection and Acquisition", but this does not deal with the process of de-selection – only the evaluation of materials generally for inclusion in the collection (Larsgaard, 1998, pp. 111-115). Notably, this lack is mentioned directly in Folkner and Aagard's *The Influence of the Online Availability of USGS Topographic Maps on Weeding Decisions in Academic Libraries* (2016), where they note "Literature on weeding map collections is scarce and focuses on using a collection development policy to determine criteria for withdrawal" (p. 67). As their article is specific to weeding USGS Topographic maps that are available online, it only offers partial guidelines for the general map librarian to work from. While these guidelines for USGS topographic maps could be extended to broader collections, the world of map librarianship is diverse. One might find suggestions related to online topographic maps not particularly relevant in considering a local hand-drawn map or a thematic or tourist map of a local region.

The most prominent article of worth in the area is Dawson's *Weeding the Map Collection: Observations and Advice* (2015). It was unfortunate that the author did not find this article prior to undertaking his own work; however, much of the advice given aligned with the eventual guidelines developed. Dawson gives full explanations, with short recommendations at the end of each section. To summarize: address the emotional labour of weeding; teamwork is good; maps are not books; have a policy; be flexible; weeding helps the retained collection; and celebrate completion. It must be noted that Dawson presents these much more eloquently than the paltry wordage given here. However, for the reader questioning why a further article on the topic is needed: Dawson's article is excellent but is limited to the reference librarian's perspective in a public library map collection in the United States. This author now adds to Dawson's work by presenting the perspective of an academic map librarian in Canada in functional and liaison roles. These different perspectives, then, can be taken by future map librarians in weeding to consider for their own practice and to build on this literature.

Dawson also points to Le's 1983 article *The Map Collection in a Small Academic Library: Scarborough College*. While this article is nearly 40 years old and from a time radically different in terms of information use and retention, it holds some useful suggestions. In particular, the importance of the library's audience is stressed (p. 13), and the need for clear, written collections policies, including de-selection, is highlighted (p.14). Le also suggests maps may be weeded if superseded in a bound atlas (p. 14); this is something an individual librarian may wish to consider

in terms of the functional value of the differences in map size and overall physical utility. However, this librarian would only use this particular guideline sparingly.

One other notable writing specific to map weeding is Valery King's chapter *Federal Maps and the Depository Library* (in Caro, 2018, pp. 101-118). King, like Folkner and Aagard, deals almost exclusively with maps produced by the United States Government, and which are made available online; further, King's article is focused on Depository Libraries; other libraries with other map collections, then, are not fully captured. Finally, King's directives are primarily a focused reflection of weeding by Depository Libraries generally: an item may be discarded if it has been superseded, if it has become dated or expired, or if there is an official online copy. The only major caveat given is that users should be considered prior to eliminating a map, and that online maps may not be a worthwhile substitute for a paper map.

One can expand to consult other literature on weeding, specifically in search of articles that may offer practices for non-standard materials. To this end, Michael W. Handis' *Practical Advice for Weeding in Small Academic Libraries* (2007) offers some standard options: circulation reports and physical state. The latter is a strong consideration in maps, though retaining even a poorly cared-for item may be necessary in cases of rarity. Circulation reports are a fraught discussion among books (Hendley, 2019); among maps, it is virtually useless, as Weihs and Howarth (1995) note that 41.2% of map collections are uncatalogued (p. 190), and even among those that are catalogued, only a subset are circulating. Folkner and Aagard note that less than 40% of their respondents measure usage of USGS topographic maps, often by counting maps left out (p. 72). Measuring circulation among maps is, at best, challenging and does not correctly capture actual usage. In his final thoughts, Handis (2007) draws a difference between college and research libraries, noting that preservation is not a role for the former, and interlibrary loan remains a valuable tool (p.87). However, in the case of maps, even the USGS does not have a complete inventory of the maps it has produced (Folkner & Aagard, 2016, p.67), and the zeal for weeding can lead to items disappearing. At this stage, any library with a map collection could be the sole holder of that particular map. This issue will be further discussed below.

White, in his *Citation and Circulation Counts: Data Sources for Monograph De-selection in Research Library Collections* (2017), notes that current methods of de-selection "overwhelmingly emphasize the importance of circulation counts and date-of-last-use in the weeding process" (p. 53). He argues that this fails to account for many influential items and likely future use, and that instead, citations should be a data source considered in de-selection decisions. This could be a point of consideration for map de-selection. However, citation of maps is not as common as one would hope (based on the author's experience, conversations with other map librarians, and the dearth of literature on the topic, although associations have developed standard citation formatting – see Wood, 2012).

In summary, the literature on map weeding remains scant, leaving current map librarians to individual professional judgment. As many map librarians have either come into the field by chance (Larsgaard, 1998, p. xvii), or libraries have not devoted proper resources to the maps collection (p. 286), it remains the case that further consideration of map weeding is needed. Despite this general lack of publishing about the topic, maps remain both a well-loved and desired collection in the library (Larsgaard notes approximately 1000 spatial data collections in the United States and Canada, p. 306; see also Handren and Leahey, 2017, p. 253), and a collection to be

placed in otherwise unused space by administrators (Larsgaard, 1998, p.286). This paper seeks to give the map librarian further guiding thoughts for weeding.

Contextual Information

As the Geospatial/GIS Librarian at Brock University, the author was tasked with a weeding project at the Map, Data and GIS Library (MDGL). As they were new to working as a librarian, and the paper map collection had been weeded within the past ten years, they suggested and were approved focusing on the monographs and atlases. The monographs could largely be treated as other monograph collections (e.g. remove "Yahoo Maps 2003 for Dummies"; keep "Getting to know ArcGIS Pro 2.8"); however, the atlases proved a grey area between maps and monographs. Ultimately, working through conceptual issues of the atlases allowed the author to develop an overall collection development policy for the MDGL, particularly focusing on the maps and atlases. Later in their career, the author was given oversight of the McGill University map collection. Prior to their tenure, this collection saw a radical de-selection, some details of which were related in personal communications by those present at the time. The collection also suffered a traumatic move and subsequently languished for some time before clean-up and care were undertaken by a long-standing librarian at the institution. The author later took over this care, and the needs of the collection alerted them to general needs for any proper collection management to happen. As the author has since taken a position elsewhere, the collection remains in a state of limbo, with the previous librarian providing care once more, subject to administrative respect and resource allocation.

Discussion

The map collection requires a place within the overall collections policy. A collections policy that does not explicitly include maps and geospatial information ignores a distinct portion of the collection and reflects a gap in the policy. Should amending the policy prove problematic, a separate map and geospatial collections policy should be drafted. It may be worth including all data as well, as these areas have some notable similarities.

It is crucial to any de-selection process to fully catalogue the collection. The true scope, and any specialization(s), within the collection, will not reveal themselves unless a thorough knowledge of the items within it are known. Rankin and Larsgaard (2014) note that "The first thing to do when planning a weeding project is to determine what part of your map collection gets used and what does not" (p. 18). This is difficult without knowledge of the overall collection, and when a collection extends beyond a few thousand items, assistance in that knowledge is needed. Therefore, the collection should be inventoried and catalogued. Decisions about what should be maintained – a specialization within the collection, for example – may be harmed by not knowing what exists prior to de-selection. Map librarians should take this as an opportunity to argue for resources for an inventory and cataloguing of the maps, which, as previously noted, may not have previously occurred. An argument could be made, as well, that an inventory could be done in tandem with the weeding process. This would slow the weeding work, but ultimately save time by going through the entire collection at once. At the end, a consideration of the items to be weeded in light of the inventory created should be undertaken before the weeded items are fully removed to ensure the items selected for de-selection are deselected selectively.

There are gaps in information about the production of national topographic map series in the United States (Folkner & Aagard, 2016, p.67) and Canada (Woods et al, 2016 and Brodeur et al., 2020). As Woods et al note, "Topographic maps are commonly used by researchers interested in examining changes over time (urban sprawl, transportation patterns, diminishing woodlots, shoreline erosion, etc.)..." (p. 11). In keeping with the previously mentioned inventory of the local map collection, a collective effort could be made to inventory all currently surviving topographic and thematic maps, especially as produced by government departments. In Canada, this work has been taken on by Handren and Leahey (2022). It should further never be assumed that a particular topographic map from a given year exists in another more extensive library or archive. As was evidenced by Nova Scotia libraries' Novanet, every collection contains unique items and brings value to the whole (Marshall, 1999, p. 131). Weeding of government-produced maps, then, requires extra care in ensuring that the map of the same place and published date exist elsewhere and that said elsewhere will retain their copy. Any maps to be weeded should be checked with the national archive's inventory and/or other map librarians.

Thematic maps produced by various organizations bear consideration as well. In particular, these maps depict not only data about a particular location at the time of production, but also social and cultural conceptions of that place. Consider the examples of Leonard Guelke's "It's Your World Toronto" map from 1980 and "The Newfoundland Centred World" map created by Clarence Brown and the Department of Geography from the Memorial University of Newfoundland (1977). Similarly, the number of maps omitting Prince Edward Island has led to Alan MacEachern's (2018) research and exhibition, while New Zealand's omission has prompted a social media micro community (see www.reddit.com/r/MapsWithoutNZ) and tongue-in-cheek advertising featuring the Prime Minister (Guardian News, 2018), both of which denote current geopolitical sentiments of power and importance. Ultimately, given that maps run an extreme gamut from mass-produced to unique, it is essential to check on the availability of any map prior to weeding – an old tourist map may be the last findable one of its kind.

Materials particularly pertinent to the local culture should be preserved. As cultural institutions, it is incumbent upon libraries to reflect that locality, even if the item is not in use at the moment and the library has limited space. Large institutions often hold reputations for holding everything of value; however, less populated areas are often missed – trees lost in the forest. As an example, a 2022 search for "Shag Harbour" in the University of Toronto's library catalogue yielded 36 results, of which only 7 related to the area in question, and of those 7 all were articles from Canadian newspapers or magazines – a similar search of Dalhousie University's catalogue yielded 2295 results, including articles, books, images, government documents, and more. Extensive collections can also be more challenging to navigate (Dawson, 2015, p. 9), and a researcher may find more success in a locally-focused collection. Thus, the weeding process should be careful to retain items of local value.

Conclusion

A series of guidelines can be used to inform a weeding project:

1. Ensure a collection policy includes maps and geospatial information de-selection or that the institution has a collections policy specifically for the maps and geospatial collection.

2. Prepare an inventory/catalogue of all maps in the collection, and include them in the library's catalogue.
3. Consider the needs of local culture and historical preservation.
4. Consider the local user needs.
5. Consider the overall map and geospatial collection, including particular strengths – and if the collection is not catalogued, do so.
6. Determine if the map exists elsewhere. If not, ensure it is preserved, either locally or at an institution with the capacity to do so if necessary.
7. Consider the state of the map: is it damaged or degraded? If so, should it be removed (based on the other guidelines) or replaced?
8. Consider the emotional and artistic weight of the maps. Emotional and artistic value are part of an item's overall value and utility, though not everyone agrees.
9. Follow collection policy rules, but be flexible about them.

Ultimately, it is hoped that these guidelines prove useful to other uncertain map librarians who may find themselves faced with a weeding project. This article seeks to add an academic library's unique needs in map weeding to the public library perspective already delivered by Dawson; in the future, it is hoped that a special librarian and/or government librarian will further contribute to the discussion. Regardless, weeding of maps is a proposition fraught with pitfalls, and while it – like all weeding – must be undertaken (Koveleskie, 2014, p. 171), it must be done with great care, professional knowledge, and a deep understanding of the collection and the wider implications of the decisions made.

Sources

Brown, C., & Memorial University of Newfoundland. Department of Geography. (1977). The Newfoundland centred world. (ACSM Map Design Competition Collection ; 1977-6). St. John's, Nfld.: Memorial University of Newfoundland, Dept. of Geography.

Dawson, E.-J. (2015). Weeding the map collection: Observations and advice. *WAML Information Bulletin* 46(2). <https://waml.org/waml-information-bulletin/46-2/weeding-the-map-collection-observations-and-advice/>

Brodeur, J., Handren, K., Berish, F., Chandler, M., Fortin, M., Leahey, A., & Stevens, R. (2020). Enabling broad reuse of Canada's geospatial data and digitized cartographic materials. A response to the NDRIIO Call for White Papers on Canada's Future DRI. Accessed July 6, 2022 from <https://alliancecan.ca/sites/default/files/2022-03/final-enabling-broad-reuse-of-canadas-geospatial-data-and-digitized-cartographic-materials.pdf>

Folkner, C. A., & Aagard, M. C. (2016) The influence of the online availability of USGS topographic maps on weeding decisions in academic libraries. *Collection Management* 41, no. 2: 66–81. <https://doi.org/10.1080/01462679.2016.1159162>

Guardian News. (2018). Off the map: New Zealand tourism ad takes on 'conspiracy'. Online video. Accessed July 11, 2022 from <https://www.youtube.com/watch?v=HynsTvRVLil>

Guelke, L. (1980). It's your world Toronto [Map]. Map Research and Design Ltd.

- Handis, M. W. (2007). Practical advice for weeding in small academic libraries. *Collection Building* 26(3): 84–87. <https://doi.org/10.1108/01604950710761643>
- Handren, K. & Leahey, A. (2022). *The NTS 1:50,000 Maps Project: Leveraging library partnerships to build national geospatial data research infrastructure* [Conference session]. Mapping through a changing world, CARTO 2022, Online. <https://acmla-acacc.ca/carto2022/abstracts/#NTS>
- Hendley, M. (2019). "Discovering Data Discrepancies during De-selection: A Study of GreenGlass, Aleph, and Due Date Slips Circulation Data." *Technical Services Quarterly* 36(3): 233–48. <https://doi.org/10.1080/07317131.2019.1621558>.
- King, V. (2018). Federal Maps and the Depository Library. In S. Caro (Ed.), *Government Information Essentials* (pp. 99-115). Chicago: ALA Editions.
- Koveleskie, J. A. (2014). Weeding, wine, and cheese: Enticing faculty to cull a collection. *Pennsylvania Libraries: Research & Practice* 2(2): 171–78. <https://doi.org/10.5195/PALRAP.2014.77>
- Larsgaard, M. L. (1998). *Map librarianship: An introduction*. 3rd ed. Englewood, Colo: Libraries Unlimited.
- Le, L. (1983). The map collection in a small academic library: Scarborough College. *Association of Canadian Map Libraries Bulletin* 46: 12–16. <https://openjournals.uwaterloo.ca/index.php/acmla/issue/view/90/101>
- MAGERT. (2008). Map, GIS and cataloging / Metadata librarian core competencies. American Library Association Map and Geography Round Table. Accessed July 6, 2022 from <https://www.ala.org/rt/sites/ala.org/rt/files/content/publicationsab/MAGERTCoreComp2008.pdf>
- MacEachern, A. (2018) *Missing the Island* [PowerPoint slides, and exhibition]. Confederation Centre, Charlottetown, Prince Edward Island, Canada. <https://confederationcentre.com/exhibitions/missing-the-island/>
- MAGIRT. (2007). Map collection management discussion group [Website]. American Library Association Map and Geospatial Information Round Table. Accessed July 8, 2022 from <https://www.ala.org/rt/magirt/committees/mapcollectionmanagement>
- Marshall, P. (1999) Novanet, Inc.--Nova Scotia, Canada." *Information Technology and Libraries* 18(3): 130–34.
- Rankin, K., & Larsgaard, M. L. (2014, June). *Accidental map librarian, maps and map collection management - The Basics* [PowerPoint slides]. Presentation at MAGIRT Program, ALA Annual, Las Vegas, NV. <https://digitalscholarship.unlv.edu/libfacpresentation/129>
- Weih, Jean, & Howarth, L. C. (1995). Nonbook materials: Their occurrence and bibliographic description in Canadian libraries. *Library Resources & Technical Services* 39(2): 184-197. <http://downloads.alcts.ala.org/lrts/lrtsv39no2.pdf>

White, B. (2017). "Citations and Circulation Counts: Data Sources for Monograph De-selection in Research Library Collections." *College & Research Libraries* 78(1): 53–65.
<https://doi.org/10.5860/crl.78.1.53>

Wood, A. A. (2012). ACMLA Recommended Best Practices in Citation of Cartographic Materials. *Ottawa: Association of Canadian Map Libraries and Archives*. Available from:
http://www.acmla.org/docs/ACMLA_BestPracticesCitations.pdf

Woods, C., Simpkin, S., Brodeur, J., Leahey, A., Beard, C., & Janzen, S. (2016). Historical Map Digitization in Libraries: Collaborative Approaches for Large Map Series. *Association of Canadian Map Libraries Bulletin* 152.
<https://openjournals.uwaterloo.ca/index.php/acmla/issue/view/196/204>

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

**Learning from a Distance: Assessing the impact of the
Pandemic through a Virtual Reference Service**

Feature Article

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Keywords: IP Address, Geolocation, Chat reference, Pandemic, COVID-19, LibraryH3lp, Library Virtual Reference Service,

Abstract

With the onslaught of the global COVID19 pandemic, universities were forced to quickly pivot to exclusively remote and virtual service options. To further complicate the situation, many international student populations at these institutions were forced to study remotely in their home countries due to the pandemic and visa restrictions. In Canada and Ontario, International students make up a major revenue source for post-secondary institutions, making the need to find viable solutions to continue to serve these populations essential to their financial stability.

The *Ontario Council of University Libraries* (OCUL) runs a shared virtual reference service called *Ask a Librarian* (Ask). This paper assessed the global pandemic's impact through a comparative study of the service before, during, and after the pandemic's height. Using IP addresses, this study evaluated the impact of geographical location on the user's access to virtual library resources, as well as identified any barriers, shifts, or trends in the service. The COVID-19 pandemic has changed the face of education and remote learning indefinitely. The hope of this study is to assess the overall success and pitfalls of our current virtual reference services and suggest future improvement areas.

Ask A Librarian Service Background

Ask A Librarian is a consortial virtual chat service provided by Scholars Portal, the executive arm of the Ontario Council of University Libraries (Barret, Pagotto 2022). The web chat service was launched in 2011 with seven universities across Ontario, Canada. Since then, the service has grown to include 17 participating schools and, with the addition of the University of Ottawa,

includes service in French. In 2020, the service further expanded to include chat over SMS. In the last four years, Ask has received at least 25 000 chats per year.

Literature Review – Geolocation and the Importance of International Students

Geolocation is the process of using technology or methods to identify the location of a user in the world. This is becoming more important because more and more people, and connected objects are using the internet. Many studies reveal this interest. One study binds geolocation to images to know how geolocation is connected to things like images shared on social media websites (Liu, B., Yuan, Q., Cong, G., & Xu, D. 2014). Many studies focus on Twitter: (Tang, H., Zhao, X., & Ren, Y. 2022) uses various statistical techniques to retrieve the geographic coordinates of tweets. Another study (Mourad, A., Scholer, F., Magdy, W., & Sanderson, M. 2019) demonstrates that using the right data and metric is important to better geolocate Twitter user. This research aims at using geolocation services to get a better idea of where our users are contacting us from when they want to use our chat service.

International students play a key role within Canadian universities. As publicly funded institutions, the additional revenue generated by international students is essential to the overall financial health of these schools (Ballard 2021) (Butler, 2020). The COVID-19 pandemic created some major barriers for these students and resulted in many schools across the country facing financial challenges (Sciarpelletti, 2020) (Xing, 2020). For many international students, education is used as a pathway for permanent residency and work permits, and not being able to enter the country affects their eligibility for these pathways (“Fewer International Students”, 2020). This study’s main goal was to compare the difference in international access to OCUL’s Ask a Librarian service to track and quantify some of these challenges.

Methodology and Data Gathering

The chat service provider, LibraryH3lp, provides an Application Programming Interface (API) that administrative users can access to send specific requests to the chat server using Python programming language script (LibraryH3lp 2016). Using the LibraryH3lp API as a starting point, a script was written to select chats from a specific range of dates (Mondésir, 2022), representing the full service times during the Fall 2019, 2020, and 2021 semesters. At this point, the only metadata taken from the dataset was the date and IP address. The results were filtered to include only web chats, removing all SMS and practice chats.

Next, IPInfo service was used to retrieve the geolocation of each IP address (Grosser, 2017). This information comes in two-letter country codes. An Excel file was generated that contained the IP address, the chat date and the country code name retrieved from the service. The website Laendercode, was then used to convert the two-letter country codes into a dataset of country names (Laendercode 2022).

The results were then converted to pivot tables (see Appendix A) divided by year to find the distribution of accesses by country. From there, the data was analysed by comparing the number of international chats, the number of countries, and the differences between the years. The results were then transferred to a map for visualization (see Appendix B).

Data Cleaning

IPInfo was used to retrieve the geolocation of the pulled IP addresses from LibraryH3lp. IPInfo is an online service that retrieves geographical location of Internet devices (Komosny, Dan, et al, 2017) IPInfo has been selected in this study because it has been referred to as the trusted source for IP address data (United States, 2021) The researcher should be aware that this service limits the number of IP requests that can be submitted; beyond this, there is a service fee. At the time of this research, there was a limit of 50 000 IP addresses that a user could retrieve per month.

In our data set, there were instances of chats with two IP addresses. Due to the rarity of this instance (34 out of 47,775 files), these chats were disregarded. According to LibraryH3lp, this double IP address is due to the user's computer using a proxy server. Therefore, one IP address identifies the proxy, while the other the user's device.

IP info service constantly updates their algorithm and data sources. We noticed that for some ip addresses, when executing the code again, a couple of weeks later, to retrieve the geolocation, the result differs slightly. For example, one time an IP address might be found in Kenya, but a few weeks later it might be found in Ethiopia. This research used the latest result from when the code was run. The researcher should be aware that discrepancies when using IPInfo. Some study mentioned that the IPInfo service does not make publicly available information about the level of accuracy of their service. (Komosny, Dan, et al, 2017)

COVID-19 Timeline

- March 18, 2020, 15 schools out of the 17 *Ask A Librarian* participating schools cancelled face-to-face classes for the term.
- March 18, 2020 (21st for USA), the Canadian border implemented restrictions for foreign nationals entering the country (students with visas issued before this date were still able to enter the country)
- Fall 2020, 89% of *Ask A Librarian* participating schools were offering classes mostly remotely or virtually, with some exceptions (e.g. labs)
- October 10, 2020, international students are now able to travel to Canadian schools with an approved COVID-19 readiness plan (generally including two weeks of isolation at the expense of the student and additional testing)
- August 3, 2021, the Ontario Chief Medical Officer announced that all post-secondary institutions are required to have a mandatory vaccine policy
- Fall 2021 classes from *Ask A Librarian* participating schools were offered in a mixture of in-person, hybrid, and virtual offerings, with a strong push for in-person for many institutions

Findings

As seen in the table below, Fall 2020 saw a significant increase in chats overall, with international chats nearly doubling. Fall 2020 had 41 new countries with chats, and 39 of the countries with chats previously saw an increase in number as compared to Fall 2019 (See Appendix A & B). By Fall 2021, the total number of chats was still higher than Fall 2019; however, the number of international chats decreased by about 100.

There are too many variables to determine the reasons for these shifts. However, the COVID-19 pandemic clearly impacted this service, particularly with the increase in chats in Fall 2020. To determine the full impact of Fall 2021, more data from semesters prior to the pandemic is required to see if this variation is unusual or within the average chat service usage.

	<i>Fall 2019</i>	<i>Fall 2020</i>	<i>Fall 2021</i>
Total Chats	13292	18539	15210
International Chats	596	1137	494
Percentage of International Chats	4%	6%	4%

Next Steps

The study thus far has led to more questions and areas of potential study than conclusions. One of the next points of investigation is applying a user experience perspective, identifying common trends and questions, and examining chat transcripts and user satisfaction surveys. As Shaw and Spink (2009) discuss, FAQs are an essential library reference and information tool that are cost-saving. Having an idea of common questions will allow schools to update and clarify information or make more prominent needed information.

Additionally, a user-experience focused analysis would benefit from an Equity, Diversity and Inclusion lenses. Hamer's (2021) study on racial bias in virtual reference services highlights the difference in service level for individuals with racially diverse names. With the results of our study supporting the strong usage of this service internationally, an understanding and assessment of how our operators are currently serving these students would be beneficial.

Another element to consider in future studies is time zones and when students are accessing and have access to the chat service. Mawhinney's (2020) evaluation of all types of virtual reference services found that chat services were the most preferred. Chat provides synchronous, instantaneous, and easy access to answers. Mawhinney found that users would wait until the service reopened to ask a question rather than try any other virtual reference method (2020, p. 7). Finding ways to ensure international students have equitable access to this service, no matter what time zone they are located in, becomes essential with this lens.

Bibliography

Ballard, J. (2021, April 21). International student numbers in B.C. schools remain far below pre-pandemic levels, which means districts have lost out on millions in funding. *CBC News*. Consulted on January 8, 2022 <https://www.cbc.ca/news/canada/british-columbia/international-students-once-pumped-millions-into-b-c-schools-but-revenue-collapsed-during-pandemic-1.5995324>

Barrett, K., & Pagotto, S. (2022). Pay (No) Attention to the Man Behind the Curtain: The Effects of Revealing Institutional Affiliation in a Consortial Chat Service. *Partnership*, 16(2), pp. 1–18. <https://doi.org/10.21083/partnership.v16i2.6651>

Butler, C. (2020, August 24). Flow of new international students at Western University drops by almost a third in two years. CBC News. Consulted on February 8, 2022 <https://www.cbc.ca/news/canada/london/western-university-foreign-students-1.5695224>

Fewer international students may be able to study in Canada due to pandemic. (2020, July 25). CBC News. Consulted on February 17, 2022 from <https://www.cbc.ca/news/canada/manitoba/fewer-international-students-pandemic-travel-1.5663207>

Grosser, B. (2017). Tracing You: How transparent surveillance reveals a desire for visibility. *Big Data & Society*, 4(1). <https://doi.org/10.1177/2053951717694053>

Hamer, S. (2021). Colour blind: Investigating the racial bias of virtual reference services in English academic libraries. *The Journal of Academic Librarianship*, 47(5), 102416. <https://doi.org/10.1016/j.acalib.2021.102416>

Komosny, Dan, et al. "Location Accuracy of Commercial IP Address Geolocation Databases." *Information Technology and Control*, vol. 46, no. 3, 2017, <https://doi.org/10.5755/j01.itc.46.3.14451>.

Laendercode (2022). List: The two-letter country code / country abbreviation. *Country Code Landercode.net*. Consulted on February 9, 2022 <https://laendercode.net/en/2-letter-list.html>

Liu, B., Yuan, Q., Cong, G., & Xu, D. (2014). Where your photo is taken Geolocation prediction for social images: User Profile Enhanced Geolocation Suggestion for Social Images. *Journal of the Association for Information Science and Technology*, 65(6), 1232–1243. <https://doi.org/10.1002/asi.23050>

Mawhinney, T. (2020). User preferences related to virtual reference services in an academic library. *The Journal of Academic Librarianship*, 46(1), 102094. <https://doi.org/10.1016/j.acalib.2019.102094>

Mondésir G. (2022) Ask Chat IP Address Geolocation code, Github <https://zenodo.org/badge/latestdoi/502219140>

Mourad, A., Scholer, F., Magdy, W., & Sanderson, M. (2019). A Practical Guide for the Effective Evaluation of Twitter User Geolocation. *ACM Transactions on Social Computing*, 2(3), 1–23. <https://doi.org/10.1145/3352572>

Sciarpelletti, L. (2020, September 9). U of R international students struggle with delayed study permits, loneliness, money. CBC News. Consulted on February 17, 2022 <https://www.cbc.ca/news/canada/saskatchewan/international-students-struggling-with-delayed-study-permits-loneliness-money-1.5714938>

Shaw, K., & Spink, A. (2009). University Library Virtual Reference Services: Best Practices and Continuous Improvement. *Australian Academic & Research Libraries*, 40(3), 192–205. <https://doi.org/10.1080/00048623.2009.10721404>

Shelton, A. (2016, March). You may be surprised at what you can do with an API. *LibraryH3lp Blog*. <https://libraryh3lp.blogspot.com/2016/03/you-may-be-surprised-at-what-you-can-do.html>

Tang, H., Zhao, X., & Ren, Y. (2022). A multilayer recognition model for twitter user geolocation. *Wireless Networks*, 28(3), 1197–1202. <https://doi.org/10.1007/s11276-018-01897-1>

United states : IPinfo's host.io is a fast favorite with users. (2021). MENA Report Cancel

Xing, L. (2020, September 1). International student numbers down sharply in GTA due to COVID-19 pandemic. *CBC*. . Consulted on February 3, 2022

<https://www.cbc.ca/news/canada/toronto/covid-19-international-students-pandemic-ontario-1.5704452>

Appendix A: Pivot Table

Countries	2019	2020	2021	2020vs2019	2021 vs 2019
Albania		1			
Algeria	2	2	1	0%	-50%
Antigua and Barbuda	1	2		100%	-100%
Argentina	2		1	-100%	-50%
Australia	4	5	6	25%	50%
Austria	1	2	4	100%	300%
Azerbaijan		4			
Bahamas		6	1		
Bahrain			1		
Bangladesh		13	6		
Barbados	1	3		200%	-100%
Belgium	1	3		200%	-100%
Benin		1	1		
Bermuda		2			
Bhutan		2			
Bolivia, Plurinational State of		1			
Brazil	10	16	4	60%	-60%
Brunei Darussalam		1			
Burkina Faso		4			
Cameroon	1		1	-100%	0%
Canada	12788	17368	14608	36%	14%
Cayman Islands		3			
China	6	25	18	317%	200%

Colombia	7	9	5	29%	-29%
Congo		1			
Congo, the Democratic Republic of the		1	2		
Costa Rica		3	1		
Côte d'Ivoire		2	2		
Czech Republic	1	3	5	200%	400%
Denmark			1		
Dominica			1		
Dominican Republic	1	2	1	100%	0%
Ecuador		1	1		
Egypt	6	7	5	17%	-17%
Ethiopia	2	7		250%	-100%
Finland	7		1	-100%	-86%
France	7	10	5	43%	-29%
Germany	5	11	3	120%	-40%
Ghana	1	17	4	1600%	300%
Gibraltar		1			
Greece		1	1		
Haiti	2		1	-100%	-50%
Hong Kong	1	36	13	3500%	1200%
Hungary	1	1	1	0%	0%
Iceland		1			
India	22	156	53	609%	141%
Indonesia		20	6		
Iran, Islamic Republic of	3	12	23	300%	667%
Iraq		1	1		
Ireland	1	4	2	300%	100%
Israel	1	5	2	400%	100%
Italy	4	6	6	50%	50%
Jamaica	2	8	11	300%	450%
Japan	1	10	4	900%	300%
Jordan	1			-100%	-100%
Kazakhstan	1			-100%	-100%
Kenya	3	12	4	300%	33%
Korea, Republic of	1	11	8	1000%	700%
Kuwait	1	6	2	500%	100%
Lao People's Democratic Republic		1			
Lebanon	1	6	1	500%	0%

Lithuania		1			
Macao		2			
Malaysia	1	10		900%	-100%
Mali		1	3		
Mauritius		3			
Mexico	5	11	9	120%	80%
Mongolia			1		
Morocco	2	5	1	150%	-50%
Myanmar	2			-100%	-100%
Nepal		2	1		
Netherlands	5	3	7	-40%	40%
Nigeria	8	30	9	275%	13%
Norway		1			
Oman		2			
Pakistan	7	23	5	229%	-29%
Palestinian Territory, Occupied			2		
Paraguay		1			
Peru		5	1		
Philippines	1	2	12	100%	1100%
Poland			2		
Portugal	4	1	3	-75%	-25%
Puerto Rico			1		
Qatar	1	13	4	1200%	300%
Romania			1		
Russian Federation		4	13		
Saint Lucia		1			
Saint Vincent and the Grenadines	1			-100%	-100%
Saudi Arabia	3	24	17	700%	467%
Senegal		2	1		
Singapore		9	4		
Somalia	1			-100%	-100%
South Africa	3	3	2	0%	-33%
Spain	3	6	2	100%	-33%
Sri Lanka		1	10		
Sudan	1			-100%	-100%
Sweden		2	4		
Switzerland	2	3		50%	-100%

Taiwan, Province of China	1	1	1	0%	0%
Tanzania, United Republic of		3	3		
Thailand	3	2		-33%	-100%
Trinidad and Tobago		5	4		
Tunisia			1		
Turkey		21	6		
Turks and Caicos Islands		1			
Uganda		1	1		
United Arab Emirates	4	43	6	975%	50%
United Kingdom	33	31	19	-6%	-42%
United States	287	384	220	34%	-23%
Viet Nam	2	5		150%	-100%
Zambia		1			
Zimbabwe	2			-100%	-100%
#N/A	47	35	29	-26%	1394%

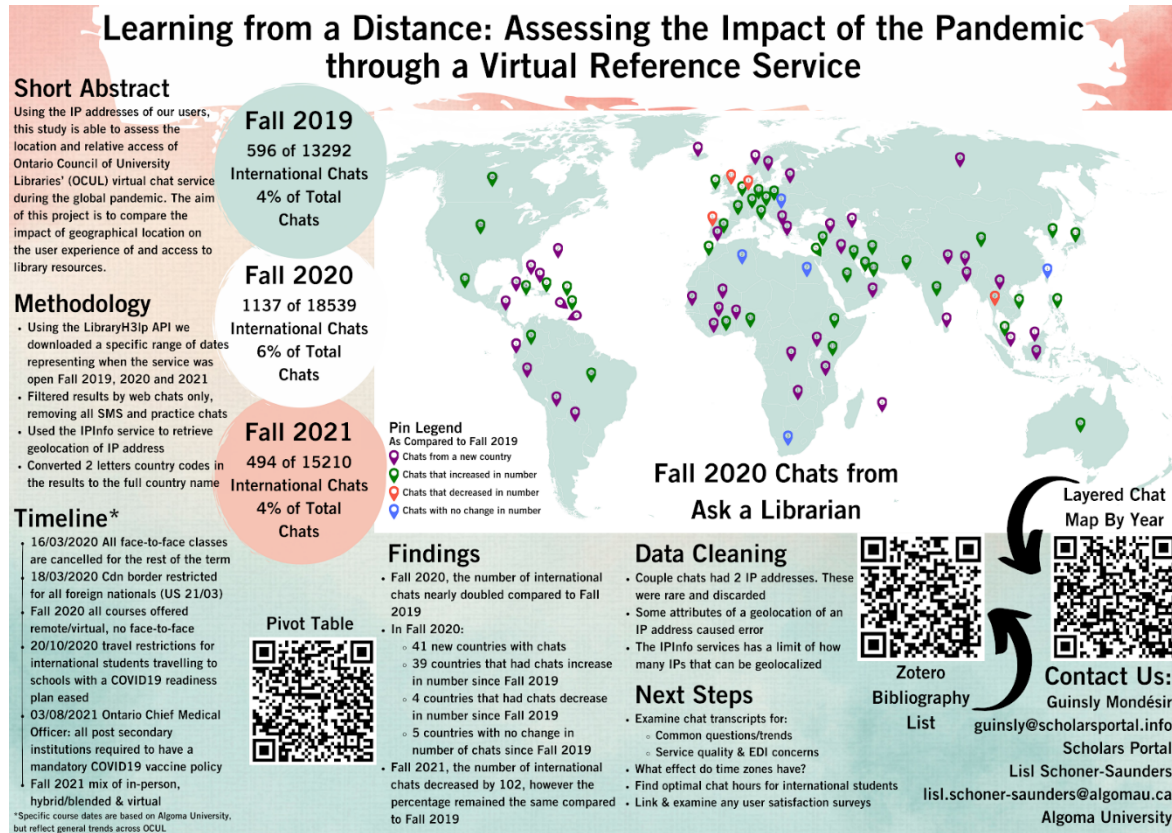
N/A represents ip adresses where either IPInfo couldn't get a geolocation or that the metadata from the chat didn't register the IP address field

Appendix B: Mapped Data Fall 2020 - 2019 Comparison



<https://doi.org/10.5281/zenodo.7641945>

Appendix C: Poster Image



<https://doi.org/10.5281/zenodo.7641945>

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

Bulletin Report – GIS Days 2022
The culmination of 3 years of virtual, collaborative, GIS Days

Feature Article

Authors:

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Keywords: GIS; GIS Day; Geographic Information Systems; Academic libraries; outreach; Canada

Abstract

GIS Day was a small, local offering dependent on individual institutions, until the COVID-19 pandemic prompted a wealth of online events. After 3 years of successive development, 2022 saw this event span multiple days and reach beyond Western University to institutions across Canada. The planning process, events, and outcome are here described as inspiration for future events by interested parties, and to acknowledge the work of those involved while simultaneously promoting the current work in GIS being undertaken and potential future directions for event organizers.

Introduction

GIS Day has been around since 1999 (Esri, 2014). As an internationally celebrated event, it is a staple of the GIS Community. While the event draws its roots from Esri and takes place during National Geographic's Geography Awareness Week, the event's true goal is to bring the joy and love of digital mapping outside the members of the GIS community. Every year brings new improvements as the event evolves and grows. Prior to the COVID-19 pandemic, GIS Day events were commonly run as small drop-in events within a singular company office or institution. These events featured a smattering of offerings, including lightning talks, displays, presentations, and activities – but all tended to be relatively small. In 2020, Western University Libraries' GIS Day planning team, along with the London GIS Working Group, decided to go virtual. The invitation to join the planning team was extended to the entire OCUL geo-community. For the past three years, the virtual event has grown to become an open and international event.

The Planning Process

This year the event planning team made the shift to a hybrid model. Since COVID restrictions had begun to lift, some institutions – including Western University, and University of Manitoba – wanted to provide a physical space to either explore GIS or to engage with the virtual offerings. The hybrid shift allowed the team to take advantage of the virtual format while moving back to some of the formatting that was common before the pandemic.

The planning team began to meet in the summer months and met monthly leading up to the event, with frequency increasing as the event approached. Volunteers worked on updating the training documents (**Appendix 1**), creating promotion plans, and reaching out to groups and individuals with their initial call for presentations. The call for volunteers as well as the call for presenters for GIS Days is always open to anyone.

There are three groups managed by the Planning Coordinator and the Planning Team:

- **ArcGIS Online Group:** hosts the Survey123 forms for event bios and abstracts, along with interactive maps and dashboards created for the event program
- **Internal team OneDrive:** hosts the event planning notes and documents, along with promotional logos and plans. OneDrive is also used to collect presentation resources during the event.
- **GIS Days webpage:** permanently linked through www.lib.uwo.ca/gisdays. It includes previous years' pages as archived resources. The Western Libraries team updates content on this page as new information is finalized.
 - **Scholarship@Western:** hosts the recorded presentations, linked through the GIS Days webpage.

The collaborating institutions for this year's event were:

- [Brock University Maps, Data and GIS / Digital Scholarship Lab](#)
- [Carleton University Library](#)
- [Queen's University Library](#)
- Trent University Library and Archives, [Maps, Data and Government Information Centre](#)
- [Bibliothèque de l'Université d'Ottawa](#) | [University of Ottawa Library](#)
- [University of Waterloo](#), Geospatial Centre and Faculty of Environment
- [Western University, Department of Geography and Environment](#)
- [University of Manitoba Libraries](#)
- [GoGeomatics](#)

Session Summary: Lightning Talks, Demonstrations, Tutorials

All GIS Days sessions took place via Zoom Webinar, with Zoom's automatic live captioning enabled. The Zoom Webinar license is purchased each year by Western Libraries to use for GIS Days and allows the event to take advantage of additional features that create a more streamlined conference feel. Sessions were broadly grouped by theme, and presentation blocks lasted between 45 and 50 minutes, with each session followed by a break of 30 minutes before the next session began. Attendees were automatically muted by session moderators when joining.

Attendees could participate in three ways:

1. By writing out their questions in the Q&A feature throughout the session. These questions were answered live by presenters, with responses typed out in the Q&A window as well. Answers were viewable to all attendees once posted, and questions and answers were archived for use by the planning team.
2. By requesting that they be unmuted by session moderators to ask a question over mic during the discussion period. Attendees tended not to take advantage of this ability very often.
3. By interacting with other participants using the chat feature.

Three different types of sessions were offered, see **Table 1** for additional details.

Table 1: The three types of sessions offered during GIS Days 2022.

	<i>Lightning Talks</i>	<i>Demonstrations</i>	<i>Tutorials</i>
<i>Duration</i>	7 minutes	20 minutes	1 hour
<i>Number of sessions</i>	45 total	6 total	4 total
<i>Description</i>	A brief overview of a research project or topic, usually as a synchronous or asynchronous presentation.	A more in-depth look at a software, tool, or research project.	A hands-on session where participants could learn how to navigate a platform, analytical tool, or software by following step-by-step instructions as shown by the presenter.

There was a wide breadth of presentations covering numerous disciplines: name of the presenter, job title, institution, title of the presentation, whether it was offered virtually or in-person, type of session, and the presentation abstract. See **Appendix 1** for specific and general feedback from each type of session, divided by theme, and **Appendix 1** for session summaries.

Awards were given to presenters with the most votes from participants in the feedback form; note that organizers and volunteers were exempted. The various prizes awarded were:

- Map Gallery Award (50-100\$)
- People’s Choice Award (100\$)
- Top People’s Choice Award (200\$)

See **our Acknowledgments** for the complete list of winners for each award.



Figure 1: World cloud highlighting keywords pulled from the titles of the winning presentations and posters.

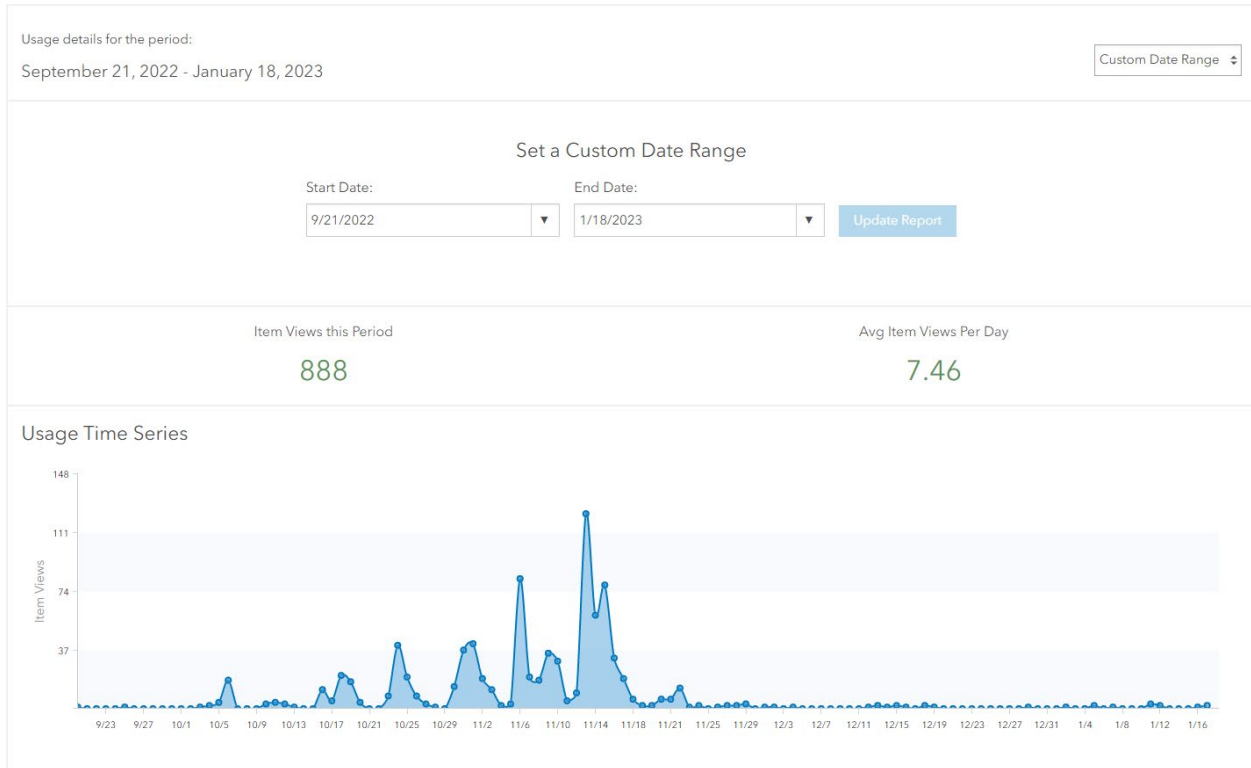


Figure 2: Top image - The dashboard interface, an interactive program that pulls all information about events and presenters into one place. Populated using form data using Survey 123. Bottom image – Total number of views of the dashboard page between September 2022 and January 2023.

Map Gallery

The process

This year's GIS Days event was the first year integrating a map gallery competition. The purpose was to create a digital exhibit of maps created by participants who may not have felt comfortable presenting a lightning talk or demonstration. ArcGIS StoryMaps was used to build the infrastructure, and submissions were collected using a Survey123 form. Applicants were asked to submit map files as PDFs and brief project descriptions. The Map Gallery was shared during each session of GIS Days for participants to browse and vote for which submissions were their favourites.



Figure 3: View of the GIS Days 2022 Map Gallery interface. (Found at: <https://storymaps.arcgis.com/stories/e7876e4845014d43b4e476a2e6cc9c1c>).

The top five People’s Choice Award maps were given prizes donated by a participating institution. Voting was solicited using the conference feedback form to improve participation. A screenshot of the Map Gallery can be seen in **Figure 3**.

Lessons Learned:

Marketing

The biggest hurdle the map gallery faced was getting submissions. The main reason was that it was a new element of GIS Days, so applicants did not know what the expectations were regarding quality/ expertise. Organizers contacted lightning talk presenters to solicit more submissions, and the final count of submissions was 25.

Timing

Several community colleges with GIS programs were interested in participating but needed more lead time to integrate submissions into their respective curricula.

As GIS Days falls early in the academic year, potential applicants do not have a huge body of work to draw on, so starting the conversation early/ keeping it going year-round will significantly improve submission quantity and quality.

If the map gallery is brought back in future years, having detailed instructions for applicants with samples from previous years and keeping the conversation going year-round when conducting consultations, workshops and in-class sessions will increase our application rates. It may be also worth looking at a different way to host this, as some commenters wished they could look at the maps in more depth (zooming in), something that was not possible to do in the current StoryMap format.

Networking Event Breakdown

Trivia

The trivia event was a unique hybrid form of trivia, where teams were either on-site in London, Ontario or online through Twitch/Discord. This worked well to bring together disparate participants in a low-stress, enjoyable themed event to socialize. Participants from across Canada, who rarely have the opportunity to meet in person, furthered networks and bonded over shared and specific knowledge of the field. The in-person event filled the Grad Club location it was held in and included participants from outside the geography field. Participants appreciated that the questions were somewhat lightly geography-themed and enjoyed being able to participate in a free pub trivia event.

Participant testimonial (René Duplain, GIS Librarian at uOttawa)

“One of my favourite parts of GIS Days is absolutely the trivia night social event, which gives a rare opportunity to socialize with colleagues from all over the country. The teams are formed over Discord, but often can have a side Zoom or Teams meetup to discuss the questions, catch up on all the goings on, and share some laughs over celebratory drinks of choice. It has been the closest I have come to that ‘in-person conference’ feel, where you get to know your contemporaries in between sessions or at social events. I hope this particular event continues for future GIS Days!”

Lunch-time sessions

The lunch-time sessions were another opportunity for participants to engage with peers working in or interested in learning about GIS in an informal (virtual) environment. Regarding the networking session, students commented that they enjoyed listening to people work through problems collaboratively, and it reinforced the messaging that in GIS, there are many different ways to solve a problem.

GIS Working Group

The London GIS Working group has expanded since going virtual and includes GIS professionals and students from across Ontario, with most members located in London/Middlesex. The group holds an open meeting during GIS Days every year for new members to join and to learn about various GIS jobs, careers, and ongoing projects. This year's meeting was formatted as a roundtable and allowed the group to provide career advice for recent grads and reflect on how they first became interested in the world of digital mapping.

Participants enjoyed being able to sit in and observe in the background, as well as having a platform to ask questions to a group of experts.

Three Years of Virtual GIS Days in Review

The Virtual GIS Days planning committee recorded attendance, presenter and volunteer data over the three years of events starting in 2020 (**Figure 4**). The data reveals several themes and trends, and provides valuable insights for those interested in planning similar future events. First, success starts with volunteers. The planning team benefitted from an active volunteer group over the three years, starting with twenty-nine volunteers in 2020 and peaking with 40 volunteers in 2022. The volunteer group comprised library personnel, faculty, GIS professionals, and students from over seven institutions, reflecting the truly collaborative nature of GIS Days (**Appendix 1**). Even as individual institutions began hosting in-person events in 2022, the number of volunteers for the virtual event increased. Most of the volunteers each year came from the host institution, Western University, ranging from 60% (2021) to 71% (2022) of the total volunteer number.

Similar to the volunteer numbers, the attendee numbers peaked in 2021. Event data, furthermore, was most granular for the 2021 and 2022 events due to the enhanced tracking offered by Zoom Webinar over the standard Zoom software used in 2020. The 2021 event had 695 individual attendees. The inaugural event in 2020 had a total of 509 attendees, while 2022 saw 489 individual attendees over the week-long event. While the unique registrant numbers dropped from 2021 to 2022 by nearly 50%, the data suggests that the 2022 attendees were more engaged throughout the week. The percentage of attendees active each day was higher every day of the week in 2022 over 2021. Wednesday was the only exception, with both events having 39% active attendance. Wednesday was also the in-person event day at several participating institutions, which could have influenced virtual attendance in 2022. There was a slight difference in the participant disciplinary backgrounds between the two years. The most noticeable shift was a rise in attendees from the Humanities, with a similar drop in participants identifying as coming from the Social Sciences. Looking at presentations, the number peaked in 2021 with a total of 58, followed by 2021 with 55 presentations and 2020 with 47.

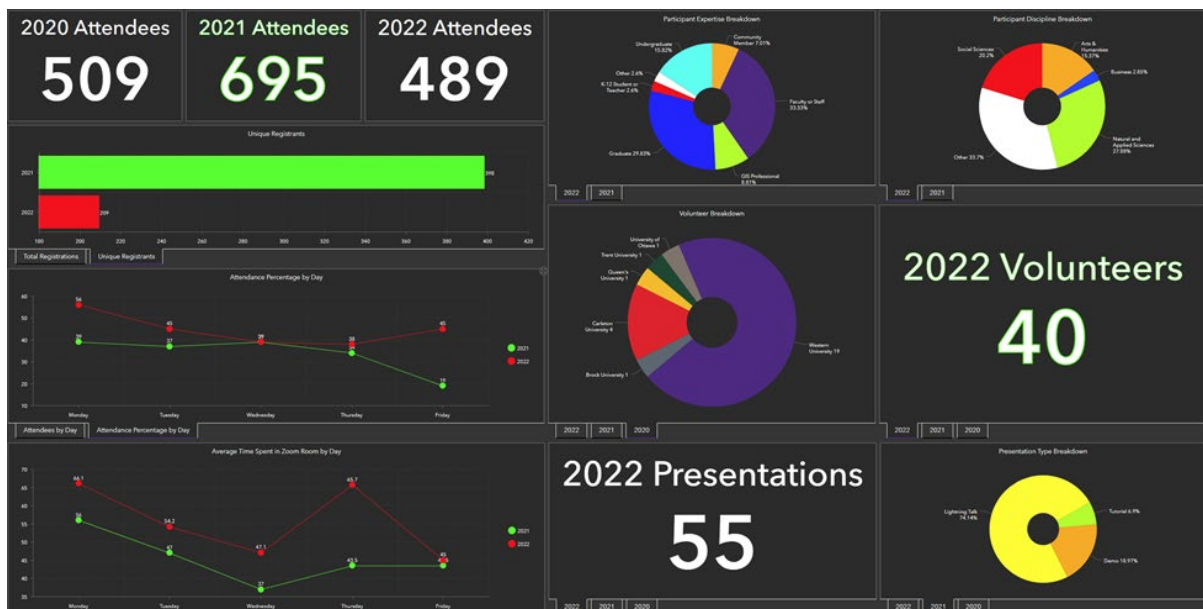


Figure 4: ArcGIS Dashboard summarizing attendance, volunteer, and presenter data 2020-22 <https://westernu.maps.arcgis.com/apps/dashboards/bf2b5a06e0954c1796b7a24d876886be> (Jordan Fuller)

Generally speaking, the 2021 event was the peak year of the three years of Virtual GIS Days. Looking ahead to 2023, assuming more institutions return to in-person events and Virtual GIS Days continue, the event would benefit from a dedicated analog day to concentrate better on the online presentations. This would maximize user engagement and streamline organizing across the collaborating institutions.

Challenges, Lessons Learned, and the Future of GIS Days

Liz Sutherland, GIS Days Coordinator, GIS Specialist at Western University Libraries Map & Data Centre. 5th year leading GIS Days at Western.

1. Community members don't have much opportunity to participate in conference-events relating to GIS. Most cost money to attend. Keeping the event free should be a top goal.
2. Technological difficulties related to moderation errors during sessions can impact a person's opinion of GIS Days.
3. Reminders are good, but the default zoom webinar frequency results in too many reminders.

The future of GIS Days should continue to evolve to incorporate partner goals and expand to support in-person events. This is a truly one-of-a-kind collaborative event that should continue into the future. The value of GIS Days as not only an introduction to GIS for beginners but also as a place to connect GIS Professionals creates an amazing two-fold audience. As the leader of this event for the last five years, I would love to incorporate the feedback from this past year and see the event adapt for our 2023 audience. Happy mapping!

Jordan Fuller, GIS Days Co-Organizer, GIS Technical Specialist at Western University Libraries Map & Data Centre. 2nd year helping organize GIS Days at Western

1. Having adequate collaboration from all parties involved is crucial to maintaining overall success
2. Trying to spread the presentations out between professionals and students seems like a big interest; part of the allure of the event is that it is open to all to present. This is a tough task to navigate
3. Running the online portion during the in-person phase provided room for error by moderators and organizers – it might be a bit too hectic to operate

I see the future of GIS days continuing to run as a hybrid option; I believe the online component being accessible and open to all is a valuable thing to the GIS community; but I also think that everyone returning to in-person events at their respective universities is just as important. Moving forward, I would want to ensure that all collaborated sessions are run through the main Zoom room, as the Friday session being moved outside of that room created a lack of participants. The presentation was great, but our registrant base didn't seem to reach that room very well. I think that dropping the event down to 4 days would also be beneficial - I envision Monday and Tuesday as presentation days on Zoom, Wednesday in-person and Thursday as more structured walk-throughs. In saying this, I suppose if there is enough interest in presenting, that may dictate the length of GIS Days. If the interest in presenting remains high, I could still see four days of

presentations (one being walk-through/hands-on tutorial), with the online portion removed on the in-person day.

René Duplain, Research Librarian (GIS) at the University of Ottawa Library. 3rd year volunteering for GIS Days hosted by Western University Libraries

The recent GIS Days 2022 hosted by Western University was a good opportunity to learn about GIS projects ongoing across Canada and internationally. The primarily virtual event was free to attend to any participant, which removed many barriers for anyone who had an interest in GIS to join. The sessions were also a way to discover and explore new tools and platforms. For example, at the GIS Days 2022, I learned how to better use ArcGIS Online's new interface through Sharon Janzen's tutorial entitled "ArcGIS Online – Laura Secord's Journey". GIS Days also included social activities, such as a trivia night, which provided members of the GIS community a rare opportunity to network with one another in a more relaxed setting.

For future events, I hope to introduce an in-person component at my own institution to complement this virtual event, as this would encourage more participation from members of my university. I also think that the virtual GIS Days might benefit from being a shorter event, e.g., narrowing it to three total days rather than five. A shorter overall event might enrich each day and lead to greater engagement and participation.

Martin Chandler, Liaison & Data Services Librarian, Cape Breton University. 3rd year volunteering for GIS Days hosted by Western University Libraries (1st year on planning committee)

Working in a smaller institution without a dedicated Data/GIS unit, and with my own position one filling both liaison and data/GIS services, as well as being geographically separate (in region, distance, and time) from the rest of the committee, the primary challenge is one of involvement and engagement. Options of what one is capable of taking on are more limited, and quicker to have volunteers. Still, the growth of the event has been impressive in recent years, and I expect future GIS Days to continue to see growth nationally. It offers another valuable point of contact with current trends in GIS work, which benefits all involved in the community.

Meg Miller, GIS & Data Visualization Librarian, University of Manitoba (1st year volunteering for GIS Days hosted by Western University Libraries)

Being the single point of service for GIS & data visualization services at my institution, the largest university in my prairie province, means figuring out how to meet expectations and effectively managing time. Being able to collaborate on this event meant the researchers in my network got exposed/ exposure to projects outside of their usual bubble.

Lessons learned:

1. The student population has a huge appetite for this sort of 'entry-level' conference. Participants could see what others at their level were doing and take inspiration instead of feeling overwhelmed.
2. The map gallery has a lot of potential, figuring out how to be more effective when marketing it to potential applicants is essential to its success.
3. There is an appetite for more in-person programming at our local institution.

I look forward to growing GIS Days at the University of Manitoba Libraries in future years.

Francine Berish, Geospatial Data and Geography and Planning Liaison Librarian at Queen's University in Kingston, Ontario. I am a 3-time virtual event volunteer/participant and 9-time heavy-weight Kingston Community / Queen's University GIS Day organizing champion.

I love that GIS Day is a gateway forum to share information with researchers and communities who don't traditionally use GIS or cartographic information. In the future, I would consider limiting the number of days to encourage engagement and to address the demand for in-person events that better integrate local partners.

Kara Handren, Data Librarian at the Map & Data Library, University of Toronto. 3rd year volunteering for GIS Days hosted by Western University Libraries

GIS days is an excellent opportunity to engage a wide variety of people, from varying levels of experience, with GIS. Since this is a free event, it removed barriers of entry for students and members of the community who do not have institutional funding. As most sessions are virtual, attendees are able to pop in and out depending on their schedules and interests, allowing professional in similar fields an opportunity to connect during their work days. It's also a great way to introduce those unfamiliar with GIS (but wanting to learn) with some of the amazing possibilities and projects being done across Canada!

I see the future off GIS days as continuing to offer a hybrid option to encourage and ease attendance of a wider audience. I do hope, however, that more institutions are able to return to an in-person component, as hands on teaching and demonstrations are so important to engaging new learners in what is a highly visual field. With this in mind, it might be best to consider which presentations would benefit from the wider distribution of an online forum, and plan a schedule that highlights these while providing space for in-person learning.

Zack MacDonald, Map Librarian, Western University Libraries – Archives and Special Collections. Second Year volunteering for Virtual GIS Days.

After participating in all three Virtual GIS days as a presenter and volunteer, I cannot imagine moving forward without some version of a multi-institutional hybrid event. I have come away from each event inspired and reinvigorated by the creative and powerful ways that scholars and practitioners at every level of ability are putting GIS to work. Perhaps the most valuable aspect of a Virtual GIS Days is its ability to break down silos and disciplinary boundaries, and to level playing fields. I saw evidence of this every year as undergraduate students, faculty researchers, and GIS professionals shared a virtual stage to share their work, their learnings, and expertise. A few reflections from my three years of involvement:

1. Hybrid events are the best of both worlds and ideal for future events. The online event is a powerful tool to bring so many people together to share their work. In-person events are a stronger platform for hands-on exploration, networking, and demonstrations. This years' trivia was exemplary of the ideal hybrid model.
2. Volunteers are amazing. It's truly incredible how much can be accomplished when a large group of dedicated volunteers work together to put on an event.

3. We'll continue to see GIS permeate non-traditional disciplines. It was telling how many more humanists have taken to GIS to explore their data, and as a narrative tool. (I may be biased in that coming from a humanities background myself.)

Administrative buy-in

GIS Days in general take time away from standard duties and have a monetary cost associated with in-person programming and sponsorship. Figuring out how to get administrative buy-in at ones local institution for GIS outreach to be a supported part of ones role instead of just a novelty is critical to the long-term success of these types of initiatives. Feedback from the University Librarian at the University of Manitoba describes why she supported the GIS Days initiative: "Encouraging experimentation, creativity, and innovation and smoothing the way for librarians to try new ways of doing things (and then getting out of the way) is part of being a good leader. It may not always be possible to support new ideas but having the conversations is how we move forward as an organization and a profession."

Acknowledgments

Thank-you to all our event volunteers: Martin Chandler (Cape Breton University), Meaghan Kenny (Carleton University), Rebecca Bartlett (Carleton University), Sherri Sunstrum (Carleton University), Martin Healy (Fanshawe College), Ashley Duyvesteyn (Queens University), Francine Berish (Queen's University), Makenna Humes (Queens University/Ministry of Transportation), Kara Handren (Scholars Portal, Ontario Council of University Libraries/University of Toronto), Kate Hodge (Trent University), Meg Miller (University of Manitoba), René Duplain (University of Ottawa), Jed Long (Western Geography & the Environment), Arielle Vanderschans (Western Libraries), Jordan Fuller (Western Libraries), Katya Pereyaslavskaya (Western Libraries), Lauren Barr (Western Libraries), Leanne Olson (Western Libraries), Lisa Lawlis (Western Libraries), Liz Sutherland (Western Libraries), Lyndsey Janzen (Western Libraries), Paige Roman (Western Libraries), Rayanne Tipert (Western Libraries), Rebecca Power (Western Libraries), Tom Belton (Western Libraries), Zack MacDonald (Western Libraries), Celina De Lancey (Western Libraries), Evans Batung (Western University), Jayden Chang (Western University), Jesse Sutton (Western University), John Hutchenreuther (Western University), Kathy Tang (Western University), Lauran Stoner (Western University), Lea Sansom (Western University), Lelanya Milley (Western University), Nick Langdon (Western University), Noah Churchill-Baird (Western University), Rhiannon Allen-Roberts (Western University), Stanley Ho (Western University), Tim Compeau (Western University/Huron University College), Jakub Ripley (GIS Specialist)

Thank-you to our presenters and session providers (* notes Peoples Choice Award Winner, ** notes Peoples Choice Award top prize): Aaron Jaffe & Connell Miller (The Northern Tornadoes Project), Alexander Wray (Human Environments Analysis Lab at Western University), Alexandre Nunes (Regional Municipality of Peel), Anifat Olawoyin (University of Manitoba), Arielle VanderSchans and Rebecca Power (Western University Libraries), *Ben Woodward (Digital History Canada), Brian Rex (Department of Architecture / University of Manitoba), *Christopher Hewitt (Western University NEST), *Claudia Towne Hirtenfelder (Queen's University), Collin Branton (Upper Thames River Conservation Authority), *Craig Irwin (Upper Thames River Conservation Authority), Craig MacDonell (University of Glasgow), Cristi Jerez (Western University), Erdanya Anderson (Huron University College), Ewan Geddes (York Mills C.I. Toronto District School Board), Francine Berish (Queen's University Libraries), *Grace O'Hanlon (University of Manitoba), *Hannah Mantel (History Department of Western University), Hui Jeong

(Hailyee) Ha (Western University, Department of Geography and Environment), Jaeden Cooke (Huron University College), Jared Newport (Western University), **Jayden (Zhe) Chang (Department of Geography and Environment, Western University), Jed Long and his students (Western University), Jesse Sutton (Western University - Social Science Building), *Jessica Linzel (The Brown Homestead), Jinfei Wang and her students (Western University), John Hutchenreuther (University of Western Ontario), Jonathan Brown (GO Open Data), Jonathan Murphy (GoGeomatics Canada), Jordan Clark (Oil, Gas and Salt Resources Library), Joseph Butler (Western University Faculty of Science-Department of Biology), Justin Chang (Mobia Technology Innovations), Kara Handren & Amber Leahey (University of Toronto / Scholars Portal), Kathy Tang (Western University), *Keshab Thapa (University of Manitoba), Lauren Sinclair (Learn ArcGIS, Esri), Martin Healy (Fanshawe College), Masha Kardashevskaya (RESOLVE, University of Manitoba), *Matthew Ketchin (Western Department of Geography and Environment), Meg Miller (University of Manitoba Libraries), Meredith Bacola (St Paul's College, University of Manitoba), Milad Malekzadeh (Western University), Muhammad Luqman (CSIRO Australia), Naser Ahmed (Western University), *Natalia Hrynko (UWO Department of Geography and Environment), Nigel Klemenčič-Puglisevich (Department of History, Western University), Nolan Pearce (Trent University), Pei Jun Zhao (Western University), René Duplain (University of Ottawa), *Reyhane Javanmard (University of Western Ontario), **Roisin Cossar & Allegra Chiarella (University of Manitoba), *Sean McLachlan (Printmonger Press), Sharon Janzen (Brock University), *Shirley Jean Thompson (University of Manitoba), Stanley Ho (Western University, Geography and Environment), Steven Dunning (Natural Resources Canada), Tarun Katapally & Sheriff Ibrahim (DEPTH Lab, Western University), Ted Strazimiri (SkyDeploy / Fanshawe College), Thomas Peace (Huron University College), Weronika Fydrych (University of Waterloo), Xin Zhou (Western University)

Thank-you to our Map Gallery submissions (* notes Peoples Choice Award Winner): Ajarat Adegun (University of Manitoba), Ali F Gheysari (University of Manitoba), Anifat Olawoyin (University of Manitoba), Camila Triana (University of Manitoba), *Emma Dicks and Kailee Meakin (University of Manitoba), Erdanya Anderson (Western University), *Gerald Beta (University of Manitoba), Jacques Marcoux (Canadian Centre for Child Protection), Jared Newport (Western University), *Jenna Duke (University of Manitoba), Jessica Linzel (The Brown Homestead), Ken Phrakonekham (Big Sky Geospatial), *Lea Denieul (Concordia University), Madeleine Dafeo (University of Manitoba), *Manuela Villarreal (University of Manitoba), Masha Kardashevskaya (University of Manitoba), Matthew Glowacki & Gel Irelli Martinez Ilagan (University of Manitoba), Meredith Bacola (University of Manitoba), Nolan Pearce (Trent University), Nusrat Jahan (University of Manitoba), Pei Jun Zhao (Western University), Sampson Boateng (University of Manitoba), Shirley Jean Thompson and Tanzim Ahmed (University of Manitoba), *Tasnim Ferdous, Nazi Yaghoobiyan (University of Manitoba), Thomas Peace (Western University)

References

Esri. (2014). *Discovering the World on GIS Day*. Redlands, CA: Esri.

Appendix 1: Resources

- Zoom Volunteer Guide Link: [GIS Days - Moderators Guide and Zoom Info.docx](#)
- Lightning Talk Guide: [Lightning Talks Guide .docx](#)
- Interactive map-based program:
<https://westernu.maps.arcgis.com/apps/dashboards/74ee62c733594ee5b96c6a97cf8fe46c>
- Map Gallery Link:
<https://storymaps.arcgis.com/stories/e7876e4845014d43b4e476a2e6cc9c1c>
- Presentation materials: [GIS Days Presentations](#)
- Presentation recordings: <https://ir.lib.uwo.ca/wlqisday/>
- GIS Days Event Page permalink: <https://www.lib.uwo.ca/gisdays/>
- ArcGIS Dashboard summarizing attendance, volunteer, and presenter data 2020-2022
[https://westernu.maps.arcgis.com/apps/dashboards/bf2b5a06e0954c1796b7a24d876886be.](https://westernu.maps.arcgis.com/apps/dashboards/bf2b5a06e0954c1796b7a24d876886be)
- Additional Appendices available here: https://uwoca-my.sharepoint.com/:w:/g/personal/ksuthe22_uwo_ca/EdzoKUdImB1MtWAw9MXrZGMB3a1mPAWKjeLEIhP41-yhw

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

**Transit Vector Data:
Mapping the City of Ottawa public transportation from 1929 and beyond!**

Digital Exhibit

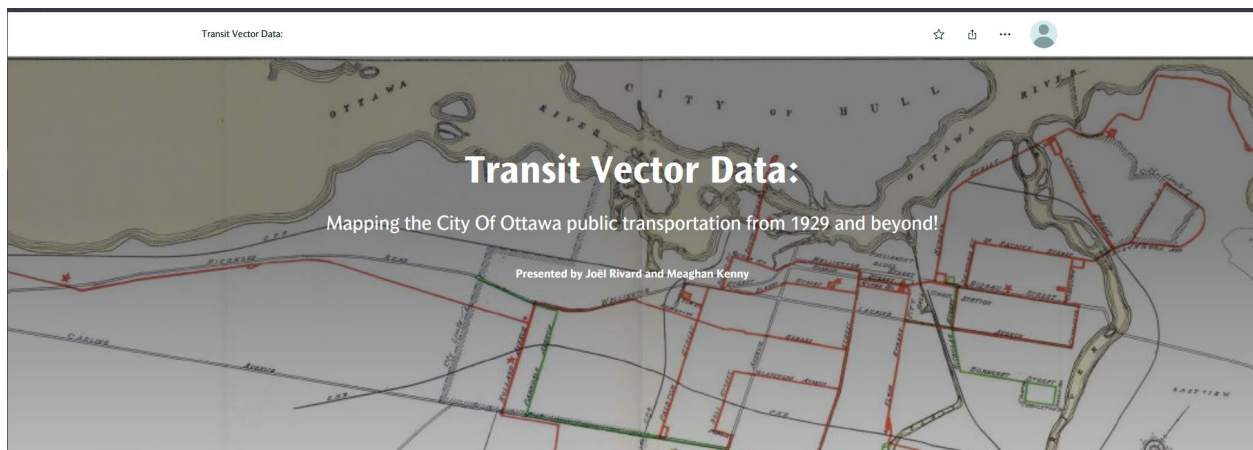
Authors:

*Meaghan Kenny- Geospatial Data Services Specialist,
Joël Rivard- Arts & Social Sciences Librarian,
Carleton University*

Keywords: Transit, GTFS, StoryMap, historical, Ottawa

Abstract

Explore the Esri StoryMap Tour highlighting the creation of individual vector transit routes for OC Transpo, the City of Ottawa's public transit agency between 1929 and 2021. The StoryMap illustrates the two processes used to compile these route datasets and touches on the various resources used in the past and the ones that are currently in use. Also provided are information on the final products, such as attribute information, file format as well as information on how to access them.



[Access at: <https://storymaps.arcgis.com/stories/b85777950c88487e814195e6a0f16bab>]

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

**Geographic digital divide - urban/rural issues, and
internationally**

GIS Trends

Martin Chandler
Liaison and Data Services Librarian, Cape Breton University

Keywords: GIS, Geographic Digital Divide, Canada, Mapping, Government of Canada, Internet

Abstract

This issue's GIS Trends section discusses the current efforts underway to close the Geographic Digital Divide in Canada. While the Government of Canada has promised every Canadian will have access to high-speed internet by 2030, the actual availability is highly geographically determined, and mal actors continue efforts to restrict access. GIS companies may promote their use in closing the divide, but do not address systemic issues.

Editorial

The geographic digital divide – the difference in access and service based on location – has been an issue for many years but has received greater urgency since the onset of the COVID-19 pandemic. While planners struggled to mitigate problems, the digital divide highlighted for education, health, and economies (Reddick et al, 2020), large gaps still remain at local, provincial, national, and international levels. GIS plays a role in determining the locations and managing the networks that allow internet access (Esri, n.d.).

The Government of Canada announced in December of 2022 that, by 2030, every Canadian would have access to high-speed internet ("High-speed internet for all...", 2022). The National Broadband Internet Service Availability Map ("National Broadband Internet...", 2022) offers a look into what internet service exists within Canada, particularly when it comes to Rural coverage. The coverage seems, at first glance, impressive. However, the data source information itself notes the amount of aggregation done, and relies on industry reporting as well as some surveys ("National Broadband Data...", 2022). Indeed, this author can attest to a location in Prince Edward Island where the reported 50/10 mbps is not available, and the only telecom in the area – a national one – offers a "high-speed" package of 2 Mbps, at a cost of ninety dollars per month.

This is one of many issues in the geographic digital divide. While the government of Canada offers a lofty goal, it depends on continued adequate funding, good faith engagement from private corporations and proper communication with the local people affected. Losing one of the above, and 100% high-speed availability becomes simply a lofty goal rather than a possibility.

Further to this, the next step in access to the internet is affordability. The cost of access is determined by the internet service providers (ISPs), which, while receiving public funds to expand their networks, are under no obligation to make those networks affordable. To mitigate this, the Government of Canada announced \$20/month high-speed internet to low-income families and seniors ("Government of Canada Announces...", 2022). Access to this program, though, assumes that you know about it, qualify for it, have your application approved (or you can navigate any appeals process should you be rejected), and that a connection is available. Information about this program is handily available online – if you are not already digitally-savvy, or you don't have a stable or functional connection, you may not know about this, or know how to access it. This author only discovered it when researching this paper with a high-speed internet connection. Moreover, while the program offers speeds up to 50 Mbps (or the fastest available in the region), it includes a data cap of 200 Gb per month. A divide remains.

Add to this is another threat from capitalism, namely in the form of exclusivity agreements such as those many U.S. municipalities have signed (see Koebler, 2014). Thankfully, these are not the norm in Canada; while large providers continue to ensure a paucity of providers, options have grown in many jurisdictions in recent years. There are more protections in Canada as well, including oversight by the CRTC (Zimmer, 2018). Still, a 2021 CRTC ruling allows for exclusive access to some in-building wirings in multi-dwelling units, limiting the companies one can use in said buildings (CRTC, 2021). Availability of providers, then, is a threat in the digital divide, and cost becomes unimpeded in a geographic monopoly.

Is the geographic digital divide bridgeable? Certainly. Is enough being done? In this economy? Of course not. Even if every building is connected with at least 50/10 Mbps internet connections, prohibitive variables abound, particularly on the urban/rural divide, including cost, restrictions, and infrastructure maintenance. Even with all of these accounted for, the availability of 50/10 internet speeds everywhere does not mean there is equitable access – any notable difference in access based on geography means the divide remains. Urban areas have significantly more options than 50/10 speeds. GIS can be used to highlight some of these concerns, though only if explicitly put towards doing so. There are examples of this in the U.S. (see bstgermain, 2022 and lisa_berry, 2021), but Canada has fewer discussions... Perhaps this will be accounted for in the next round of planning.

Sources

bstgermain. (2022). *Digital Divide Index*. West Lafayette, Indiana: Purdue Center for Regional Development, 2022. Available: ArcGIS.com
<https://www.arcgis.com/home/item.html?id=f9c3b305aa0f48789c61a13af9879ee1> (Accessed January 17, 2023).

Canadian Radio-television and Telecommunications Commission (CRTC). (2021). *Telecom Regulatory Policy CRTC 2021-239* (2021). Canadian Radio-television and Telecommunications

Commission = Conseil de la radiodiffusion et des télécommunications canadiennes.

<https://crtc.gc.ca/eng/archive/2021/2021-239.htm>

Esri. (n.d.) *Bridging the Digital Divide with ArcGIS*. Esri. <https://www.esri.com/en-us/c/industry/telecommunications/bridging-digital-divide-with-arcgis>

Government of Canada. (2022). *High-Speed Internet for All Canadians*. Innovation, Science and Economic Development Canada. <https://ised-isde.canada.ca/site/high-speed-internet-canada/en>

Government of Canada. (2022). *National Broadband Internet Service Availability Map*. Innovation, Science and Economic Development Canada. <https://www.ic.gc.ca/app/scr/sittibc/web/bbmap?lang=eng#!/map>

Government of Canada. (2022). *National Broadband Data Information*. Innovation, Science and Economic Development Canada. <https://ised-isde.canada.ca/site/high-speed-internet-canada/en/universal-broadband-fund/national-broadband-data-information>

Government of Canada. (2022). Government of Canada announces affordable high-speed Internet to help connect low-income families and seniors. <https://www.canada.ca/en/innovation-science-economic-development/news/2022/04/government-of-canada-announces-affordable-high-speed-internet-to-help-connect-low-income-families-and-seniors.html>

Koebler, J. (13 June 2014). *The FCC Can't Help Cities Trapped By Predatory Internet Deals With Big Telecom*. Vice. <https://www.vice.com/en/article/pgak38/the-fcc-cant-help-cities-trapped-by-predatory-internet-deals-with-big-telecom>

lisa_berry. (2021). *Households with cellular as their only internet subscription*. Redlands, California: Esri, 2021. Available: ArcGIS.com <https://www.arcgis.com/home/item.html?id=ab8306ddc4624e4b8607a62ea01e36e3> (Accessed January 17, 2023).

Reddick, Enriquez, R., Harris, R. J., & Sharma, B. (2020). Determinants of broadband access and affordability: An analysis of a community survey on the digital divide. *Cities*, 106, 102904–102904. <https://doi.org/10.1016/j.cities.2020.102904>

Zimmer. (2018). *The protection of net neutrality in Canada*. House of Commons, Canada. <https://www.ourcommons.ca/Content/Committee/421/ETHI/Reports/RP9840575/ethirp14/ethirp14-e.pdf>

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

Book Reviews

Compiled by: Paul Pival
Research Librarian, University of Calgary

Books reviewed in this issue:

- *Emma Willard, Maps of History* by Susan Schulten,
 Reviewed by Rhys Stevens, University of Lethbridge
- *Atlas of Design* Published by North American Cartographic Information Society (NACIS)
 Reviewed by Francine Berish, Queen's University
- *The Atlas of Atlases: Exploring the most important atlases in history and the cartographers who made them.* By Philip Parker
 Reviewed by Zack MacDonald, Western University

Emma Willard, Maps of History, by Susan Schulten

Reviewed by Rhys Stevens, University of Lethbridge

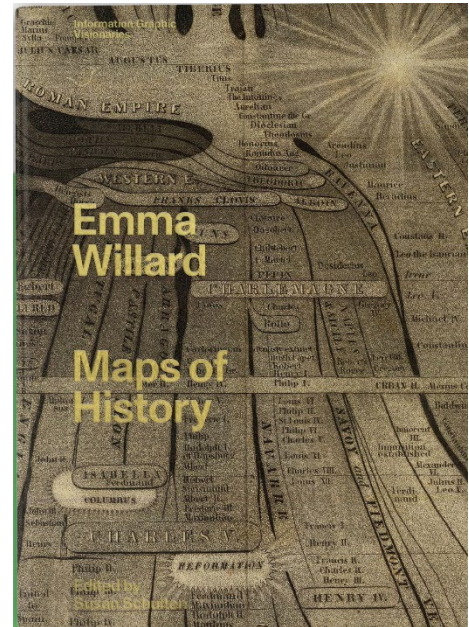
Susan Schulten (Editor). *Emma Willard, Maps of History*.
 San Francisco, CA: Visionary Press, 2022. 248p. \$88.00
 US. ISBN: 9798986194509.

Keywords: Women cartographers; Information visualization; Visual communication; Historical geography; Education history, Review

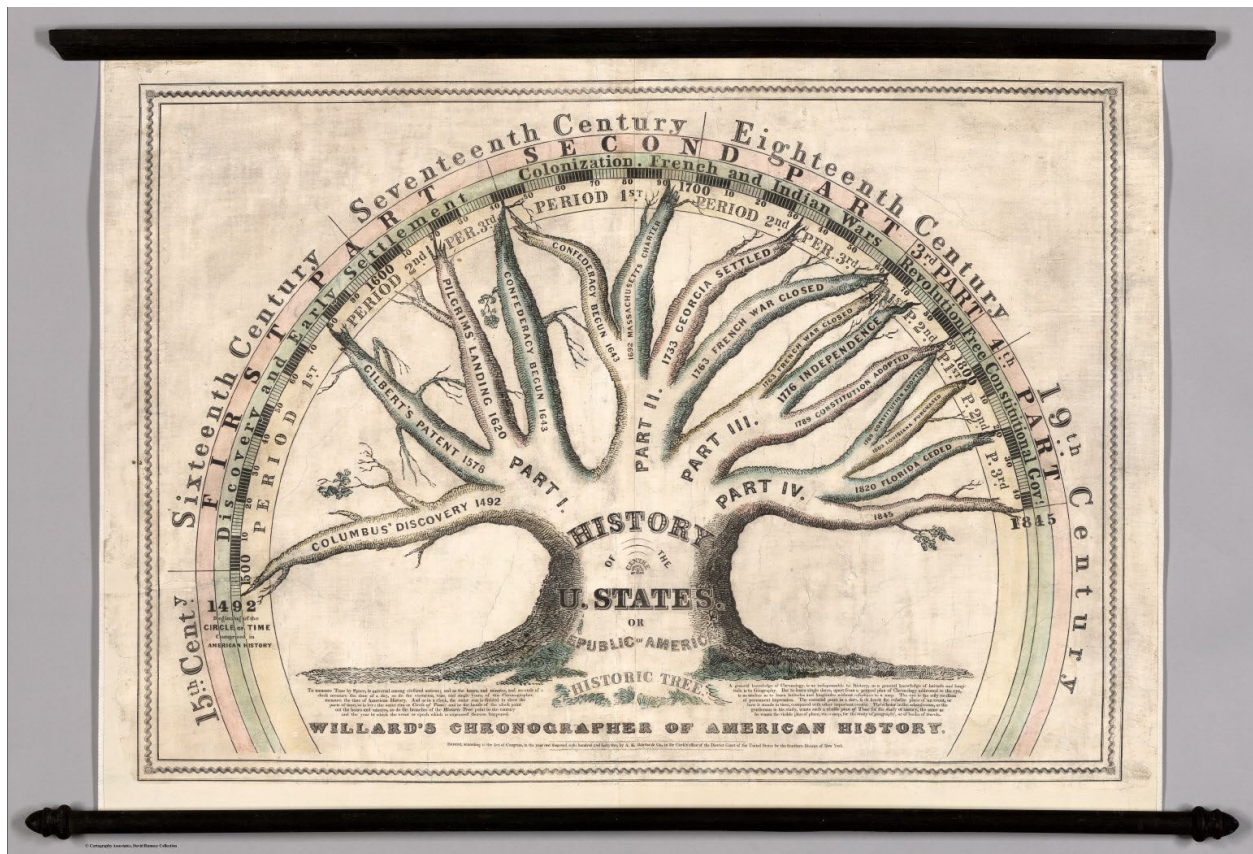
Review

Recognizing and celebrating spectacular data visualization creators whose ideas have revolutionized our understanding of the world is the aim of the new Information Graphic Visionaries book series by the Visionary Press. One of the first visionaries profiled within their own volume is 19th-century American educator Emma Willard (1787-1870). In *Emma Willard, Maps of History*, editor Susan Schulten, Professor of History at the University of Denver, provides details about Willard's influences and achievements in the form of a 100-page illustrated essay entitled "A Graphic Mind." The remainder of the 248-page book is a visual catalogue containing 100+ republished colour images from Willard's groundbreaking atlases, classroom charts and textbook graphics. Complementing the images are critique and historical context.

In her essay about Emma Willard (pp. 15-114), Schulten indicates that, as a teacher of young



women in the New England region during the early 1810s and 1820s, Willard became dissatisfied with existing geography textbooks and their “dry, encyclopedic approach to the subject.” In response, she set about using her love of drawing and self-taught knowledge of geometric perspective to develop her own more visual curriculum materials for the interdependent disciplines of geography and history. Willard’s classroom materials incorporated colour and iconography in a way that she believed would be most effective in allowing her students to acquire, process and retain information. In 1822, Willard’s efforts resulted in the publication of her first textbook, entitled *Ancient Geography*, which she later accompanied with *Ancient Atlas* (1827). Willard would continue to author influential and popular new textbooks and atlases - including the first-ever atlas of American history (*A Series of Maps to Willard’s History of the United States, or Republic of America*, 1829). Over time, more than a million copies of Willard’s textbooks and wall charts would circulate throughout America’s schools, libraries and homes. Examples of several notable and innovative visualizations within Willard’s four atlases have been republished and described by Schulten (pp. 117-190).



"Willard's Chronographer of American History" (1845) by Emma Willard — [Source](#) (Cartography Associates: CC BY-NC-SA 3.0).

Readers of *Emma Willard, Maps of History* will be particularly interested in learning about the next stage of Willard’s career, that Schulten describes as moving beyond traditional textbooks and maps to more complex graphical tools. This involved Willard reconsidering the appearance of the historical timeline graphic, which was itself so novel in the eighteenth century that it required its own explanation. Drawing again upon her artistic skill, she charted American history on a tree (*Willard’s Chronographer of American History*, 1845) in order to “give students a way to order the

Atlas of Design, Published by North American Cartographic Information Society (NACIS)

Reviewed by Francine Berish, Queen's University

Case, Nat., Koelker, Aaron., Ryan, Josh., and Tracy Tien (editors). *Atlas of Design*. Golden Valley, MN: Shapco Printing, 2022. 102p. 25.00\$ US. ISBN 979-8-9866856-6-3.

Keywords: Map Design, Compilation, Cartographic Innovation, Maps as Storytelling, Medium is the Message, Review

Review

Published by the North American Cartographic Information Society (NACIS), Volume 6 of the *Atlas of Design*, released during the ongoing COVID-19 epidemic, showcases an array of 32 maps from various sources and perspectives. While some maps are in keeping with cartographic traditions resonating with readers' nostalgia, others push the boundaries of innovation and are deeply personal, artistic, or tactile representations. Akin to hearing an artist preface their works at a gallery opening, the accompanying descriptions of each map afford the cartographer an opportunity to introduce their positionality to contextualize and justify their cartographic



Figure 2: "Panoramic Map of the Alps"

approaches and design elements, like fonts and colour schemes. On one hand, getting a sense of scale is challenging when one sees the maps outside of their original contexts and publications. For example, the awe-inspiring oblique "Panoramic Map of the Alps" published by National Geographic could be room-sized, and it is difficult to imagine a version with readable labels in any printed publication (Figure 1).

On the other hand, the *Atlas of Design* creatively uses headers and multipage spreads to zoom to elements and parts of the maps to highlight details the reader would not otherwise see. "The Atlanta Rap Map" was particularly stand-out in that it combines both artistic and traditional cartographic approaches through the creative integration of abstracted portraits of hip-hop artists and timelines into the cartouche (Figure 2). Maps do not have to be complicated to aid in our navigational understanding. The "Takamatsu Public Transportation Map"

approaches and design elements, like fonts and colour schemes. On one hand, getting a sense of scale is challenging when one sees the maps outside of their original contexts and publications. For example, the awe-inspiring oblique "Panoramic Map of the Alps" published by National Geographic could be room-sized, and it is difficult to imagine a version with readable labels in any printed publication (Figure 1).



Figure 1: "The Atlanta Rap Map" showing zoomed-in portion and descriptive text retrieved from <https://atlasofdesign.bigcartel.com/product/atlas-of-design-volume-6>.

promotes the idea that simplification and arrangement of successive planes can help tourists navigate the transit map using above-ground landmarks.

From mapping hospital smells to personal narratives, *The Atlas of Design* is an inspiring compilation of artistic and geospatial approaches to cartography that pushes its boundaries while simultaneously functioning as a gateway to the non-academic audience.

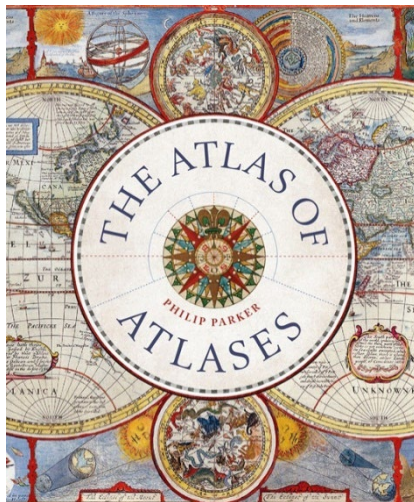
The Atlas of Atlases: Exploring the most important atlases in history and the cartographers who made them., By Philip Parker

Reviewed by Zack MacDonald, Western University

Parker, Philip, *The Atlas of Atlases: Exploring the most important atlases in history and the cartographers who made them.* London: The Ivy Press, 2022. 272 pages. \$56.68. ISBN 9780711268050.

Keywords: Atlas, Cartography, History, Historical Maps, Historical Cartography, Review

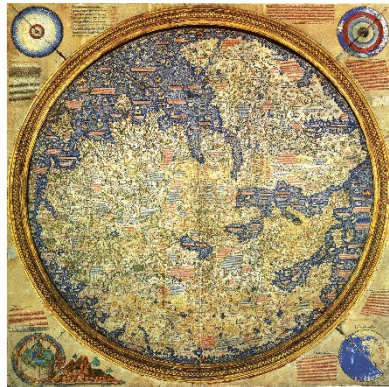
Review



The Atlas of Atlases aims to introduce its readers to the long and storied history of the atlas, from its most ancient origins to its questionable future in the age of digital mapping. The atlas includes over 200 high-quality, full-colour illustrations spanning nearly the entire history of western cartography, beginning with the Çatal Hüyük town plan (6200 B.C.) and ending with an image of a Google Street View car in action. Parker has published widely on the history of maps and cartography, including *History of the World in Maps* (2015), *History of Britain in Maps* (2017), and *History of World Trade in Maps* (2020). He brings this considerable expertise to bear to deliver an engaging and accessible survey of the history and development of the atlas.

The Atlas of Atlases is geared towards a general audience and introduces readers to the broad historical and technical developments of map making that led to the modern atlas. The atlas follows a chronological approach over its nine chapters, with each chapter focusing on a general theme. The early chapters cover an immense temporal scope and collectively address the development and rise of cartography in the Western tradition. The middle chapters cover the era of “peak atlas”, in which Parker provides a dense overview of the individual cartographers and map makers, socio-political, economic, technical, and intrapersonal forces that drove the development of atlases forward into the modern period. These chapters provide a concise, if not hasty, survey of the scientific and technical advances that enabled large-scale national mapping projects. Readers are reminded here of the pivotal and reciprocal role that atlases and mapping had in the legitimization of both nations and empires. The final three chapters cover the diversification, specialization, and subsequent “decline” of the atlas. These final chapters feel rushed compared to the previous chapters, despite the monumental changes wrought by new technologies in creating and disseminating cartographic materials.

The Kangnido map of 1402, a world map from the 15th century, is a remarkable example of early cartography. It is a circular map showing the world as known to the Koreans at the time. The map is oriented with North at the top, and the East at the right. It shows the Korean peninsula in the center, surrounded by the Sea of Japan to the east and the Yellow Sea to the west. The map also shows the Indian Ocean to the south and the Pacific Ocean to the east. The map is a testament to the advanced cartographic skills of the Koreans in the 15th century.



Perhaps unsurprising, given the attempt to squeeze the entire history of cartography into a single volume, the work is not without its limitations. Parker is forced to gloss over or selectively omit topics in such limited space. He warns his readers, for example, not to assume that the European West was alone in making advances in cartography and map making. He includes the Kangnido map of 1402 as a stunning example of the work of Asian cartographers but provides few other examples.

Similarly, the chapter covering 1900-1950 may leave readers with the impression that only military mapping projects were undertaken during that half-century. Furthermore, the coverage of the rise and diversification of thematic atlases felt less complete than the chapters covering their pre-modern predecessors. Despite espousing the ubiquity of atlases with the emergence of web mapping, and Google Maps in particular, little attention has been given to developments since that 2005 release. Although the chapters cover the introduction of air photography and satellite imagery, advances in geographic information systems, remote sensing, and digital mapping applications are absent. Nevertheless, Parker ends on a positive note, leaving the door open for future developments and transformations of the atlas rather than its obsolescence.

The *Atlas of Atlases* sets out to bring its readers a general overview of the rise and fall of the atlas as a cartographic medium, and it accomplishes this well. I found myself leafing through the volume until a map grabbed my interest, and then would read that section again. To this reader's pre-modern sensibilities, it is in the early chapters where the volume truly shines. Here, Parker does well to connect pre-modern mapping and their thematic and cosmographic, rather than strictly geographical approaches to the growth of the atlas as we know it today. While the high-quality images of rare and ancient maps grab your attention, the compelling accompanying narrative urges you to turn the page.

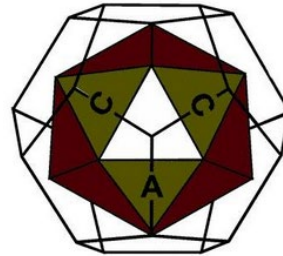
Readers looking for a general and accessible introduction to the history of cartography and rise of the atlas will find *The Atlas of Atlases* to be a fine starting point.

[Images from: <https://www.quarto.com/books/9780711268050/the-atlas-of-atlases>]

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

Carto 2023: Call for Proposals / Appel de propositions

ACMLA NEWS



Making and Breaking Boundaries: Advancing excellence in Cartography, in Canadian Map Libraries, and Beyond

Link to submission form: <https://arcg.is/1XOyfy1>

The Association of Canadian Map Libraries and Archives (ACMLA) and the Canadian Cartographic Association (CCA) are pleased to announce a return to in-person conferencing at the University of Calgary June 14-16 for the 56th edition of Carto! To accommodate members and other interested people not intending to attend in-person, we are planning a hybrid conference that will enable meaningful online participation. From remote library services to remote sensing data collection, this year's conference explores the changing boundaries of cartography and map librarianship in what has been an incredibly transformative couple of years.

The Carto 2023 conference committee invites researchers, students, cartographers, librarians, library staff, archivists, geographic information specialists, and other interested individuals to submit proposals for in-person presentations, panels, papers, posters, and workshops that explore this theme and others related to it.

Topics of interest include (but are not limited to):

- The application of domain and/or software expertise to add value to existing cartographic collections.

- Innovative uses of modern or historical cartographic materials to support teaching and research.
- New approaches for supporting the software training needs of researchers, students, and the public.
- Considerations for curating and making available historical and contemporary Indigenous collections and mapping work.
- Creating geospatial data through the digitization and georeferencing of print collections.
- Approaches for linking digital map collections to archival and other relevant materials.
- Strategies and systems for improving the discoverability and reusability of cartographic materials and geospatial data.
- New uses for physical space in map collections and libraries.
- Innovative methods for geovisualization and for the analysis, collection, and creation of geospatial data.
- Collaboration opportunities for those managing map collections and groups across the academic and public spheres.
- Managing geospatial collections and research data, and addressing challenges associated with using, describing, archiving, preserving, and providing access to this information.
- Innovations in integrating cartography with sources of real-time and interactive data geographic information.
- Mapping projects based on open data from Canadian and other sources.

Please submit an abstract (250 words) of your proposal in either French or English with a brief biography using the submission form. The deadline for submissions is **March 4th, 2023, 11:59 PM ET**. If you have any questions about your submission or the conference, please contact [Meg Miller](#) of the program committee.

Conference session formats (in person at the University of Calgary)

- Presentation (20 minutes including questions)
- Lightning talk (10 minutes including questions)
- Panel presentation (60 minutes, minimum of 3 presenters)
- Posters / StoryMaps (authors should be available to engage with conference participants during a presentation session)
- Workshop (60 minutes)
- Student researcher sessions (We especially encourage post-secondary students to take part in any of the above sessions. Please note that there are funding/grant/award opportunities available for student presenters. To apply please see <https://acmla-acacc.ca/awards> and <https://cca-acc.org/>

Créer et briser les frontières : Promouvoir l'excellence en cartographie dans les cartoathèques canadiennes et au-delà

Accédez au formulaire de soumission ici: <https://arcq.is/0Dvm4b>

L'Association des cartoathèques et archives cartographiques du Canada (ACACC) et l'Association Canadienne de Cartographie (ACC) sont heureuses d'annoncer le retour des conférences en personne à l'Université de Calgary du 14 au 16 juin pour la 56ème édition de Carto! Afin

d'accommoder les membres et les autres personnes intéressées qui n'ont pas l'intention de participer en personne, nous planifions une conférence hybride qui permettra également une participation en ligne significative. Des services de bibliothèque à distance à la collecte de données de télédétection, cette conférence annuelle explorera les frontières changeantes de la cartographie et de la cartotheque dans ce qui a été une période incroyablement transformatrice de deux ans.

Le comité de la conférence Carto 2023 invite les chercheurs, les étudiants, les cartographes, les bibliothécaires, le personnel des bibliothèques, les archivistes, les spécialistes de l'information géographique et toute autre personne intéressée à soumettre des propositions de présentations en personne, de panels, d'affiches et d'ateliers qui explorent ce thème et d'autres qui lui sont liés.

Les sujets d'intérêt incluent (mais ne sont pas limités à):

- L'application de l'expertise du domaine et/ou du logiciel qui ajoutent de la valeur aux collections existantes.
- Les utilisations innovantes de matériaux cartographiques modernes ou historiques pour contribuer à l'enseignement et la recherche.
- Nouvelles approches pour répondre aux besoins de formation aux logiciels pour les chercheurs, étudiants et le public.
- Considérations pour la conservation et la mise à disposition des collections et cartes autochtones anciennes et contemporaines.
- Création de données géospatiales grâce à la numérisation et au géoréférencement des collections.
- Les approches permettant de relier les collections de cartes numériques aux archives et autres documents pertinents.
- Stratégies et systèmes pour améliorer la découvrabilité et la réutilisation des documents cartographiques et des données géospatiales.
- Nouvelles utilisations des espaces physiques pour les collections de cartes et les bibliothèques.
- Méthodes innovantes pour la géovisualisation, ainsi que l'analyse, la collection et la création de données géospatiales.
- Possibilités de collaboration pour ceux qui gèrent des collections de cartes et des groupes dans les milieux universitaires et publics.
- Gérer les collections géospatiales et les données de recherche, ainsi que relever les défis associés à l'utilisation, à la description, à l'archivage, à la préservation et à l'accès aux informations.
- Intégrations innovantes de la cartographie dans les SIG à temps réels et interactifs.
- Projets de cartographie utilisant les données ouvertes canadiennes et internationales.

Veillez soumettre un abstrait (250 mots) de votre proposition en français ou anglais, ainsi qu'une courte biographie. La date limite est à **23h59 (heure de l'est) le 4 mars 2023**. Pour toutes questions concernant votre soumission ou la conférence, veuillez contacter [Thomas Herbreteau](#) du comité de programme.

Types de présentation disponibles (en personne à l'Université de Calgary):

- Démonstration (20 minutes incluant questions)
- Présentation éclair (10 minutes incluant questions)

- Présentation en panel (60 minutes, au moins 3 personnes)
- Posters / StoryMaps (l'auteur.trice doit être disponible pour présenter leur travail en personne)
- Atelier (60 minutes)
- Session pour chercheur.se étudiant.e (nous encourageons les étudiants post-secondaires de présenter ou participer dans un format ci-dessus. Veuillez noter que des bourses sont disponibles pour les présentateurs.trices étudiant.e.s. Veuillez consulter <https://acmla-acacc.ca/awards> (anglais) et <https://cca-acc.org/fr/accueil>).

On the behalf of the programming committee / Au nom du comité de programme:

Zack MacDonald, *Western University (chair / président)*

Francine Berish, *Queen's University (committee co-chair / coprésidente de comité)*

Thomas Herbreteau, *Ministère de la sécurité publique du Nouveau-Brunswick (committee co-chair / coprésident de comité)*

Martin Chandler, *Cape Breton University*

Saman Goudarzi, *McMaster University*

Meg Miller, *University of Manitoba*

Sherri Sunstrum, *Carleton University*

René Duplain, *Université d'Ottawa*

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

CARTO-ACMLA-ACACC AGM 2022 / AGA 2022 de CARTO- ACACC

ACMLA NEWS

AGM 2022

Attendance (23 Attendees): Martin C, Zack M. Rene D, Rosa O, Lorrain D, Wenonah VH, Dan J, Roger, Sherri S, Siobhan H, Kara H, Rudi, Andrew N., Paul P. Chrstine H, Rebecca B, Barb Z, Daniel B, Leanne T, Meaghan K., Samam G, Meg Miller

“I’ve never been this excited about an AGM”

Land Acknowledgement: Provided by Martin C.

The Agenda

Approval: (Moved – Andrew N. Seconded – Rebecca B)
approved

1. Minutes of 2021 AGM
 - a. Circulated
 - b. Approval (Moved – Andrew N. Seconded – Rebecca B) carried

2. Review: 2021 Honours Award to Marcel Fortin
 - a. Marcel unavailable for formal recognition from previous year’s honour.

3. Reports:
 - a. President (delivered) (moved Francine, second Siobhan H)
 - i. Carried no discussion
 - b. Past president (delivered) (moved Francine, second Siobhan H)
 - i. Carried, no discussion.
 - ii. If in person, should once again honour Marcel F to next year’s AGM.
 - c. Treasurer’s Reports
 - i. Three reports presented
 - ii. Siobhan – is it usual to have so few of our memberships at the point of June 9? Not 100% certain, but the bulk comes in after the first push in January/

December, confirmed by Sherri S. Potentially half of memberships paid in 2021, so not captured in the January-June 2022. Last year's report showed a similar trend.

- iii. Rene – Is there a plan for any excess money, either for travel bursary or other project? Dan – in the past we've had student competitions, scholarships, etc. - in past years we carried surplus to offset deficits in other years based on success of conferences.
 - Dan B -Previously funded members' travel, then others with limited professional funds, but we haven't done that in recent years with no physical conference
 - Dan J. Strategy was to at least break even at last conference at TMU.
- iv. Motion to approve – Wenonah, Second - Francine Carries

4. Association Executive Call

a. President

- i. Rene Duplain – happy to step up as co-president with Francine Berish, and kudos to Marin for his service over the past two years.
 - Noted that we have missed the in-person meetings and what that brings, but executive has met to discuss having more virtual working or social meetings because virtual has enabled more options for meetings.
 - Francine – Echoing Rene's ideas, and excited to move forward first as Secretary, then VP and encouraging others to join the exec, and both offered to share their experiences with others so to reach out.

ii. Acclaimed

b. VPs

- i. Zack MacDonald
- ii. Acclaimed

c. Secretary

- i. Meg Miller
- ii. Acclaimed

5. Membership costs update

- a. Martin C. - Point of discussion over last few years. Survey went out and decision made based on survey – two tiers: 1 with those with support from institutions (\$65), and a less expensive tier for those without institutional support (\$20). Based on honour system, we trust our members, and will come into effect November 2022.

6. Bulletin survey and future discussion

- a. Survey sent out about the current status of the Bulletin and what it will look like in the future
 - i. 28 responses. Results shared – reducing to twice-per-year with major support.
 - ii. Looking for more support for reasonable news, book reviews, and editor for reviews.

- iii. Rosa – honorarium is tied to frequency which the Bulletin comes out – perhaps something worth consideration.
- iv. Is there a way to increase publicity? Not just mentioning that articles are peer reviewed, engage more on social media. For example, HGIS articles, etc. Possible to solicit articles from interesting papers at the conference, or interesting projects we're working on. GIS trends might be too limiting, might be better to look at Trends in the Field.
- v. Rene – more direct link to Bulletin for Carto – we work on all of these story maps, presentations, etc.
- Zack M. Echo the idea of creating a better approach to get items from CARTO and into the Bulletin. Support from Meg M to do a special issue about Carto.
- vi. Action - Create working group to look into this

7. CARTO 2023

- a. Officially in person at University of Calgary. Hosted by Paul Pival.

8. Other business

- a. No other Business
- b. Big thanks from the entire Membership to Martin for his tireless efforts.

9. Adjourn

- a. Motion – Francine Second – Rene

AGA 2022

Présence (23 participants): Martin C, Zack M. René D, Rosa O, Lorrain D, Wenonah VH, Dan J, Roger, Sherri S, Siobhan H, Kara H, Rudi, Andrew N., Paul P. Christine H, Rebecca B, Barb Z, Daniel B, Leanne T, Meaghan K., Saman G, Meg Miller

"Je n'ai jamais été aussi excitée par une AGA".

Reconnaissance de la terre: Fourni par Martin C.

L'ordre du jour

Approbation: (Proposé - Andrew N. Secondé - Rebecca B)
Accepté

1. Procès-verbal de l'AGA de 2021

- a. Circulé
- b. Approbation (proposée - Andrew N, appuyé - Rebecca B) adoptée

2. Examen: Prix d'honneur 2021 à Marcel Fortin

- a. Marcel n'est pas disponible pour la reconnaissance officielle de l'honneur de l'année précédente.
3. Rapports:
- a. Président (remis) (proposé par Francine, appuyé par Siobhan H)
- i. Adopté sans discussion
- b. Past président (remis) (proposé par Francine, appuyé par Siobhan H)
- i. Adopté, aucune discussion.
 - ii. Si en personne, devrait encore une fois honorer Marcel F à l'AGA de l'année prochaine.
- c. Rapport du trésorier
- i. Trois rapports présentés
 - ii. Siobhan - est-il habituel d'avoir si peu d'adhésions au moment du 9 juin ? Pas sûr à 100%, mais la plupart des adhésions arrivent après la première poussée de janvier/décembre, confirmé par Sherri S. Potentiellement, la moitié des adhésions ont été payées en 2021, et ne sont donc pas prises en compte dans le rapport janvier-juin 2022. Le rapport de l'année dernière montrait une tendance similaire.
 - iii. Rene - Y a-t-il un plan pour tout excédent d'argent, que ce soit pour une bourse de voyage ou un autre projet? Dan - dans le passé, nous avons organisé des concours pour les étudiants, des bourses d'études, etc.
 - i. dans les années passées, nous avons reporté des surplus pour compenser les déficits des autres années en fonction du succès des conférences.
 - ii. Dan B. - Auparavant, nous avons financé le voyage de membres, puis d'autres avec des fonds professionnels limités, mais nous ne l'avons pas fait ces dernières années, sans conférence physique.
 - iii. Dan J. La stratégie était d'atteindre au moins le seuil de rentabilité lors de la dernière conférence à TMU.
 - iv. Motion d'approbation - Wenonah, appuyé - Francine
Adoptée
4. Appel à l'exécutif de l'Association
- a. Président
- i. René Duplain - heureux d'assumer la co-présidence avec Francine Berish, et félicitations à Marin pour ses services au cours des deux dernières années.
-Elle fait remarquer que les réunions en personne et ce qu'elles apportent nous ont manqué, mais l'exécutif s'est réuni pour discuter de la possibilité d'avoir plus de réunions de travail ou de réunions sociales virtuelles, car le virtuel offre plus d'options pour les réunions.
Francine - Se fait l'écho des idées de René, et est enthousiaste à l'idée d'aller de l'avant, d'abord en tant que secrétaire, puis en tant que viceprésidente, et encourage les autres à se joindre à l'exécutif.
 - ii. Acclamé
- b. VP

- i Zack MacDonald
 - ii Acclamé
- c. Secrétaire
 - i Meg Miller
 - ii Acclamé
- 5. Mise à jour des coûts d'adhésion
 - a. Martin C. - Point de discussion au cours des dernières années. Un sondage a été réalisé et une décision a été prise sur la base de ce sondage - deux niveaux : 1 avec ceux qui ont le soutien des institutions (65 \$), et un niveau moins cher pour ceux qui n'ont pas le soutien des institutions (20 \$). Basé sur un système d'honneur, nous faisons confiance à nos membres, et entrera en vigueur en novembre 2022.
- 6. Enquête sur le bulletin et discussion future
 - a. Un sondage a été envoyé sur le statut actuel du Bulletin et sur ce à quoi il ressemblera à l'avenir.
 - i. 28 réponses. Résultats partagés - réduction à deux fois par an avec un soutien important.
 - ii. Recherche d'un soutien plus important pour des nouvelles raisonnables, des critiques de livres, et un éditeur pour les critiques.
 - iii. Rosa - les honoraires sont liés à la fréquence de parution du Bulletin - peut-être quelque chose à considérer.
 - iv. Y a-t-il un moyen d'augmenter la publicité? Ne pas se contenter de mentionner que les articles sont évalués par les pairs, s'engager davantage sur les médias sociaux. Par exemple, les articles de HGIS, etc. Il est possible de solliciter des articles à partir de documents intéressants présentés à la conférence ou de projets intéressants sur lesquels nous travaillons.
Les tendances SIG sont peut-être trop restrictives, il serait peut-être préférable d'examiner les tendances dans le domaine.
 - v. René - un lien plus direct vers le Bulletin pour Carto - nous travaillons sur toutes ces cartes d'histoire, présentations, etc.
- Zack M. fait écho à l'idée de créer une meilleure approche pour faire passer les articles de CARTO dans le Bulletin. Soutien de Meg M. pour faire un numéro spécial sur Carto.
 - vi. Action - Créer un groupe de travail pour examiner cette question.
- 7. Annonce de CARTO 2023
 - a. Officiellement en personne à l'Université de Calgary. Animé par Paul Pival.
- 8. Autres sujets
 - a. Pas d'autres affaires
 - b. Un grand merci de la part de tous les membres à Martin pour ses efforts inlassables.
- 9. Ajournement
 - a. Motion - Francine Second - Rene

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**Membership list / Liste des membres
 2022**

ACMLA NEWS

Regular Members

Marilyn Andrews
 Jane Aspinall
 Rebecca Bartlett
 Gordon Beck
 Francine Berish
 Stéfano Biondo
 Jason Brodeur
 Martin Chandler
 Isabelle Charron
 Dana Craig
 Edward Dahl
 Danial Duda
 Rene Duplain
 Marcel Fortin
 Bonnie Gallinger
 Alex Guindon
 Kara Handren
 Siobhan Hanratty
 Kate Hodge

Christine Homuth
 Dan Jakubek
 Kyla Jemison
 Karen Jensen
 David Jones
 Amber Leahey
 Zack MacDonald
 David Malaher
 Meg Miller
 Andrew Nicholson
 Corinne Nidoy
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 Sarah Zhang
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