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

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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.

	Lightning Talks	*Demonstrations*	*Tutorials*
Duration	7 minutes	20 minutes	1 hour
Number of sessions	45 total	6 total	4 total
Description	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.

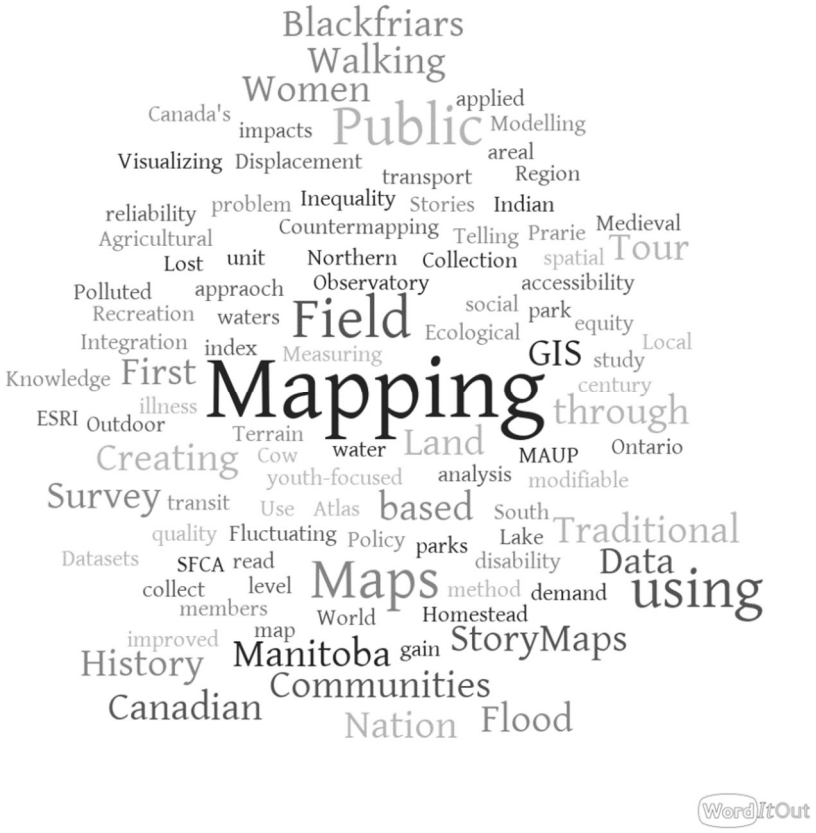
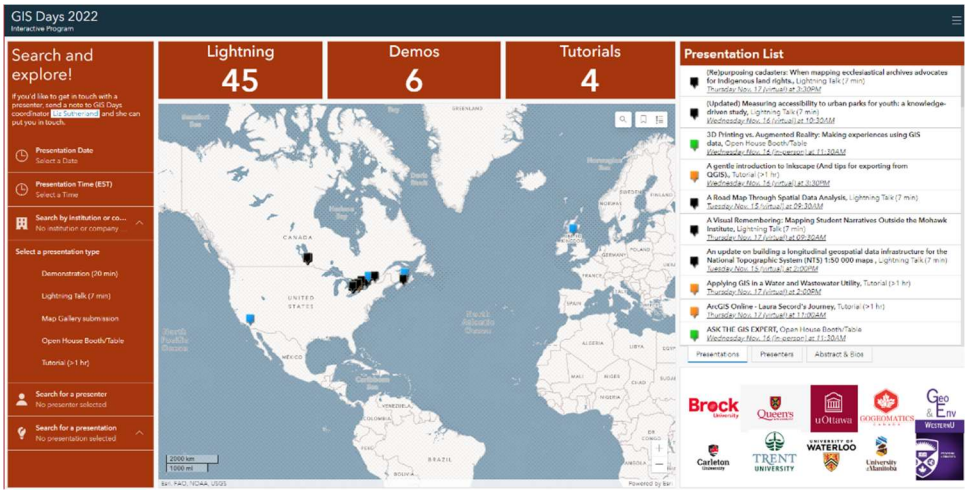


Figure 1: World cloud highlighting keywords pulled from the titles of the winning presentations and posters.



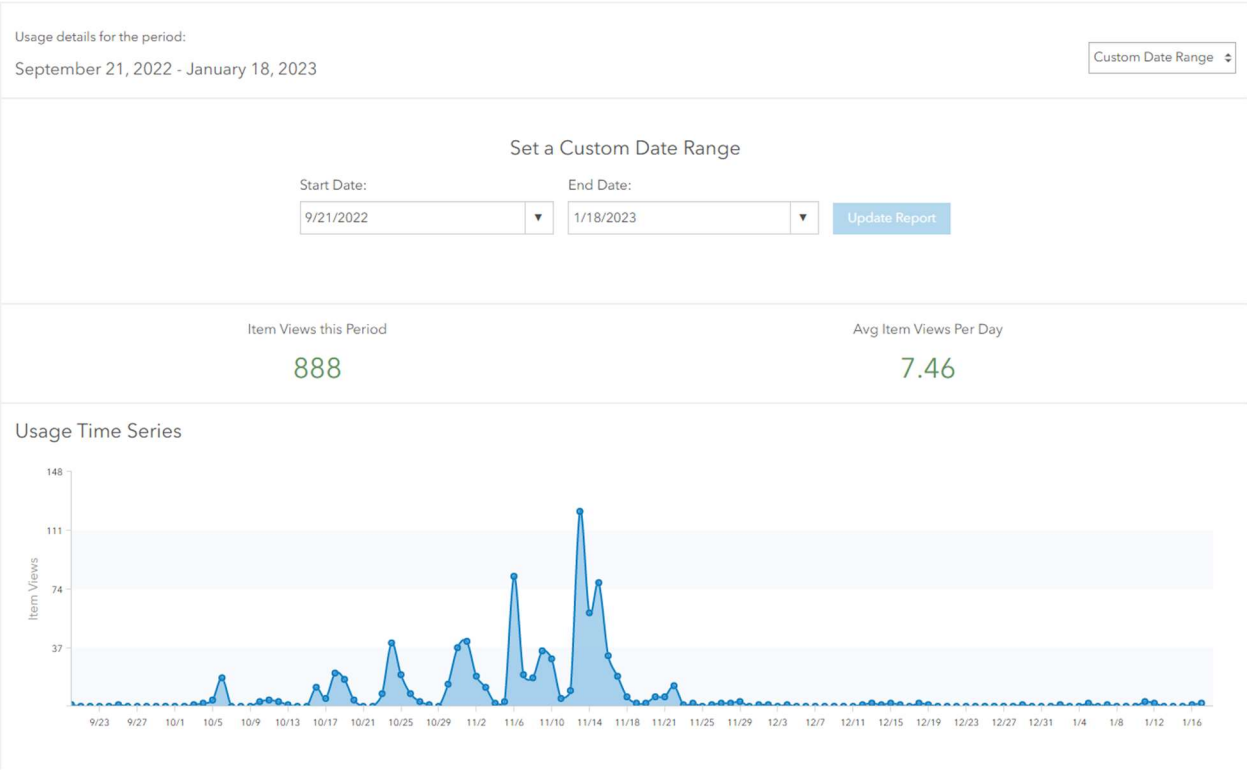


Figure 2: Top image - The dashboard interface, an interactive program that pulls all information about events and presenters into one place. Populated using form data using Survey 123. Bottom image – Total number of views of the dashboard page between September 2022 and January 2023.

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.

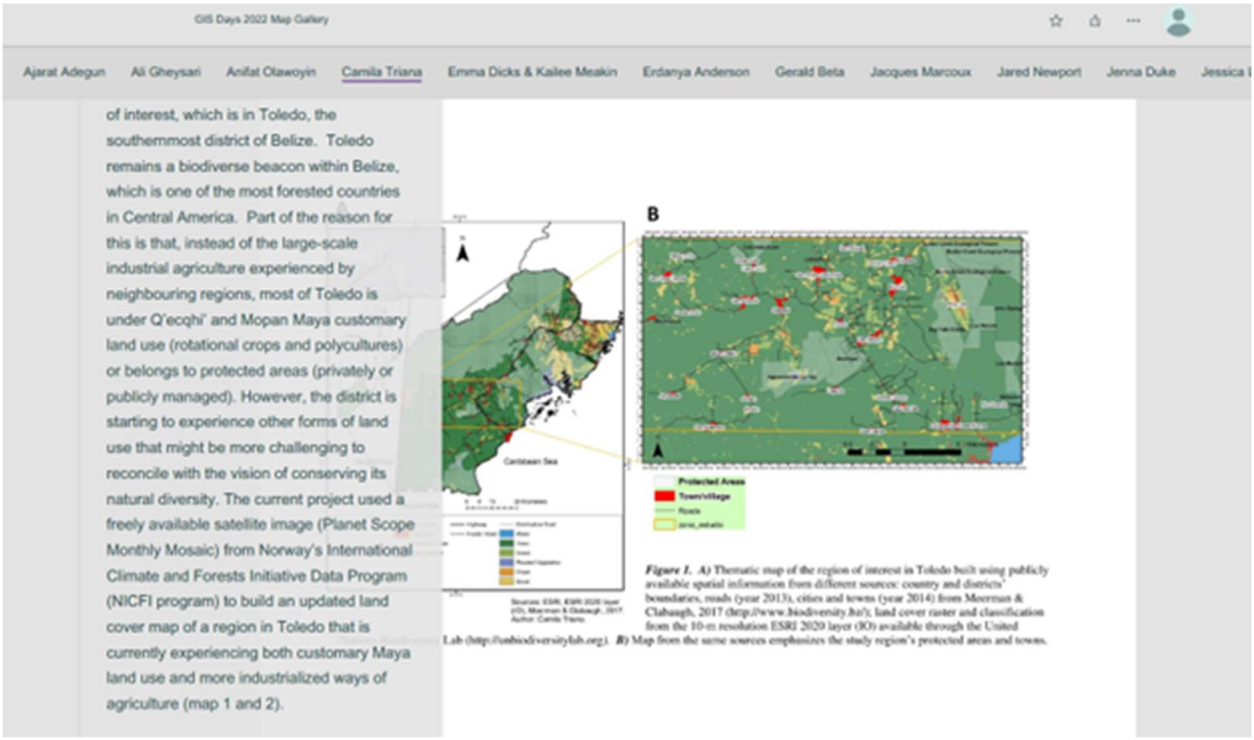


Figure 3: View of the GIS Days 2022 Map Gallery interface. (Found at: https://storymaps.arcgis.com/stories/e7876e4845014d43b4e476a2e6cc9c1c).

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.

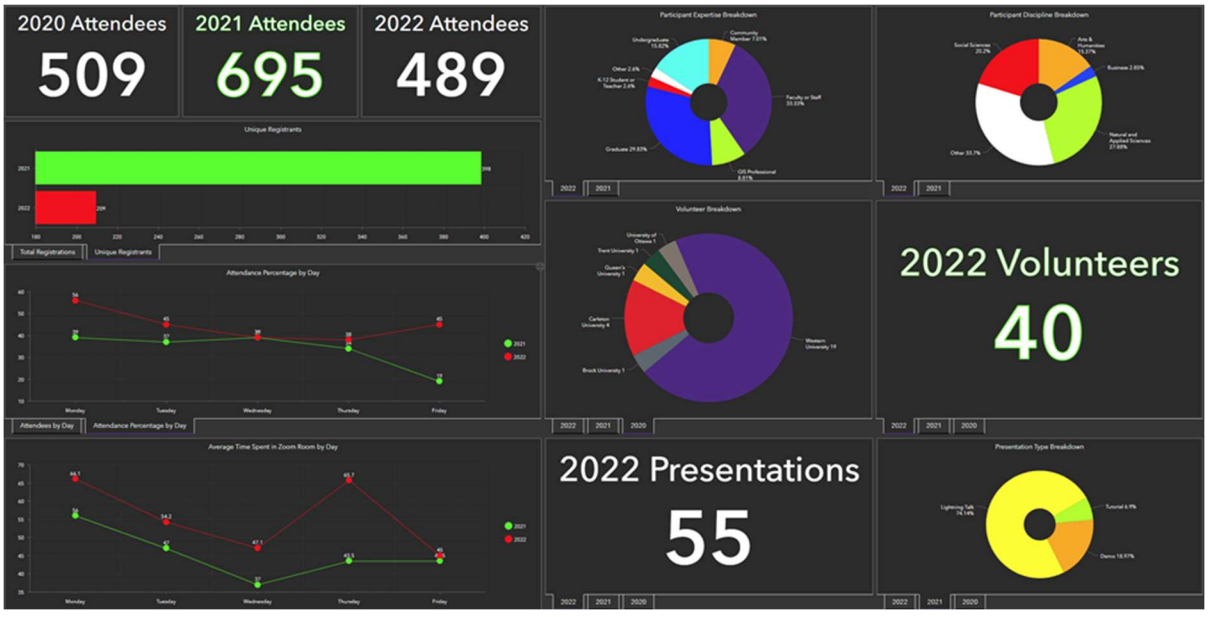


Figure 4: ArcGIS Dashboard summarizing attendance, volunteer, and presenter data 2020-22 https://westernu.maps.arcgis.com/apps/dashboards/bf2b5a06e0954c1796b7a24d876886be (Jordan Fuller)

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."

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(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), Niġel 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)

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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/wlgisday/
- 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.
- Additional Appendices available here: https://uwoca-my.sharepoint.com/:w:/g/personal/ksuthe22_uwo_ca/EdzoKUdImB1MtWAw9MXrZGMBA3a1mPAWKjeLEIhP41-yhw