Reexamining Geospatial Instruction through the "Digital Place"

Méch Frazier and Kelsey Rydland

abstract: In the wake of a global pandemic, an economic recession, and police violence, the role of libraries as a safe place is critical. These events have changed how librarians provide instruction and build communities within the university and outside it. This article discusses how the authors changed their approach to geospatial and data analysis instruction during the COVID-19 pandemic. Through the theoretical lens of Ray Oldenburg[1] and Robert Putnam,[2] the article describes the relationship between the role of the library and social capital. It discusses the challenges the library faced and how it worked to meet them. The article addresses two distinct questions: (1) How can the library broaden its social network outside the university community to address lack of economic opportunity and other inequities? and (2) How can the library increase remote opportunities and continue to provide the social capital the university expects from it? The results indicate that while librarians cannot solve all their challenges, they can continue to address them by encouraging accessibility in instruction and learning.

Introduction

In the wake of police violence, an economic recession, and a global pandemic, the past year has reshaped the way students experience universities and their libraries. Academic libraries serve as physical places for community gatherings and provide access to technology and special collections. A 2020 COVID-19 survey by the American Library Association found that physical materials, special collections, and computers were among the top anticipated needs of patrons.[3] In addition, many academic libraries provide geospatial resources. These include essential hardware, such as laptops and high-performing desktops, and proprietary software, such as Esri's ArcGIS suite of mapping software and associated geospatial data sets. Finally, academic libraries provide space for discourse, academic inquiry, and essential services, reinforcing the

portal: Libraries and the Academy, Vol. 22, No. 1 (2022), pp. 141–149.

important role libraries play in student and faculty success, exploration, and identity. This paper examines how geographic information systems (GIS) have changed in an academic library setting during the COVID-19 pandemic. The authors explore these changes through the concept of the "third place," a welcoming space other than home or work. They attempt to reimagine connections usually facilitated through physical spaces in a virtual environment here called the "digital place."

Background and Theoretical Perspective

Third places, or "the great good places," include such spaces as cafés, coffee shops, bookstores, bars, and hair salons that serve as a location for sociability and social interaction.[4] The urban sociologist Ray Oldenburg coined the term. Although informative, Oldenburg explores the original theory from a male perspective, emphasizing binary gender systems and excluding the exploration of third places through other identities pertaining to race, class, and gender. Moreover, Oldenburg's theory of communal spaces often excludes women and reinforces the idea of the Western nuclear household.[5] The authors acknowledge these limitations and attempt to create a more inclusive and reflective framework by considering contemporary scholarship focused on community building and place making, such as the work of Christina Fuller-Gregory and Lee Peoples.[6]

Third places, or "the great good places," include such spaces as cafés, coffee shops, bookstores, bars, and hair salons that serve as a location for sociability and social interaction.

The concept of libraries as third places, physical spaces providing opportunities for forming a community through social bonding or exchange of ideas, is not new. Scholars who have explored this idea, in addition to Fuller-Gregory, include Cathryn Harris and colleagues Hui Lin, Natalie Pang, and Brendan Luyt.[7] Third places differ from other social environments, such as a person's home (that is, the "first place") or work (the "second place"). This paper applies this notion to academic institutions and their libraries. Specifically, it suggests that campus libraries, student centers, and cultural houses function as third places.

At the time of this publication, little discussion had focused on how academic libraries, as third places, adapted geographic information system (GIS) services during the pandemic. Traditionally, third places are rooted in physical spaces with social interactions occurring between persons; however, the pandemic restricted or eliminated these public spaces. As they had during past traumatic events, "during times of community crisis, libraries often serve as places of refuge."[8] This role made it imperative to provide library resources in a flexible remote environment. In a 2020 survey, the Public Library Association found 98 percent of libraries (public and academic) closed in response to the pandemic.[9] This disruption began to shift the third place away from physical locations, transitioning them into virtual environments, or what the authors refer to here as the "digital place" (see Figure 1).

Conversations about virtual third places are not new. For instance, Charles Soukup compares computer-mediated communication, the exchange of messages by means of

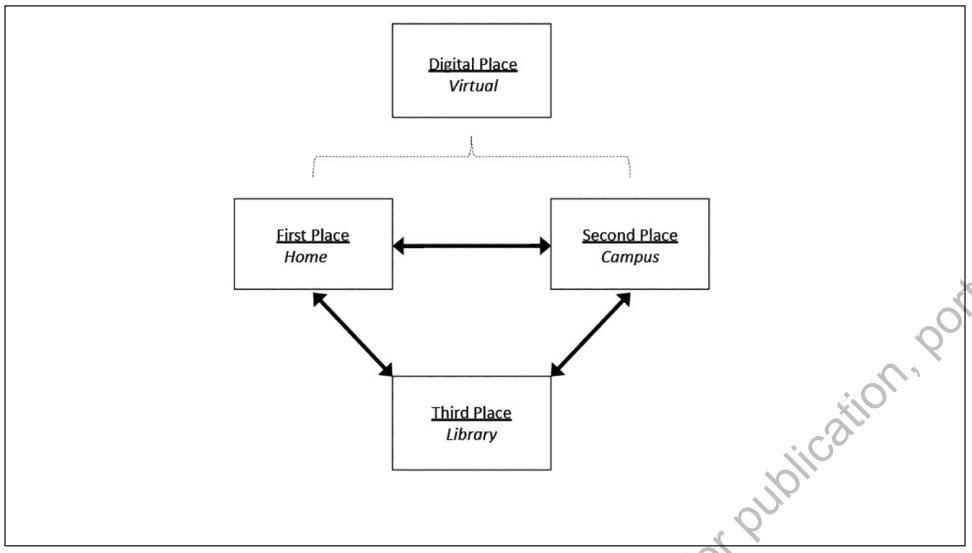

Figure 1. A model of the first, second, third, and digital places for students.

computers, to a third place.[10] Soukup acknowledges that computer-mediated communication lacks three characteristics of a third place: (1) localized community, (2) social levelers, and (3) barriers to accessibility.[11] Ultimately, Soukup settles on "virtual third places" as a more accurate way to describe the development of third places when people use computers and networks for communication.[12] Such communication has disadvantages. For example, it can lead to misunderstanding because nonverbal cues, such as gestures and tone of voice, are missing. While some of these criticisms are true for specific situations, in general, technology—and its relationship to community engagement—has progressed to become more adaptable, more accessible (though not without exceptions), and more localized. An example is Reddit's online forum DataIsBeautiful, which focuses on charts, maps, and other forms of data visualization. DataIsBeautiful is open-source, can be downloaded as an application on mobile devices, and promotes conversations on localized geospatial topics. Thus, the development and prominence of social media and technology have enabled the success of the digital place.

Scholars have also documented a fourth place, as Arnault Morisson does in his article "A Typology of Places in the Knowledge Economy: Towards the Fourth Place."[13] Morisson explores the relationship between social environments and the evolution of postindustrial societies. The result is a combination of elements from the first, second, and third places, ultimately forming the fourth place. The fourth place, as Morisson describes it, is "the frontier between social and private dynamics, work and leisure, networking and social interactions, [where] collaboration and competition are blurry."[14] Like the fourth place, the digital place is embedded in liminality. As Figure 1 highlights, the digital place can be accessed between first, second, or third place and is not necessarily a combination of places, as Morisson suggests.[15]

Unlike third places, digital places can blend into first and second places, making them omnipresent. For instance, Northwestern University Libraries in Evanston, Illinois, transitioned its traditional in-person GIS workshops to online workshops at the beginning of the pandemic. The libraries' Geospatial and Data Services team hosted instruction through the video platform Zoom, with participants attending workshops remotely, either from their home (the first place) or campus (the second place). With this newly adopted teaching method, participants could even attend GIS workshops on their phones. This transition resulted in first and second places that no longer existed as separate entities; people could attend workshops anywhere and in any time zone. See Figure 2.

Unlike third places, digital places can blend into first and second places, making them omnipresent.

This flexibility led to the reevaluation and reexamination of GIS resources and services to focus on what best supports students, faculty, and staff and their needs. As a result, Northwestern University GIS Services focused on two fundamental questions: (1) What do virtual GIS services look like during a pandemic? (2) How can librarians and specialists assist in facilitating professional relationships that would typically occur in person?

Virtual GIS Services

Historically, the role of the Northwestern University Libraries was to create opportunities for in-person instruction. Its face-to-face learning opportunities—workshops, embed-

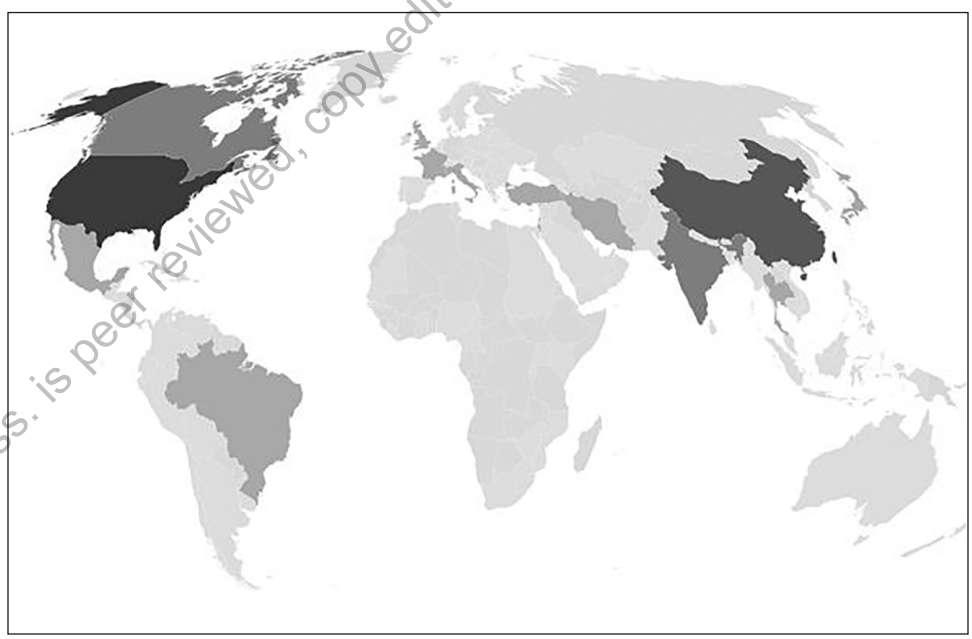

Figure 2. The countries of origin of graduate students at Northwestern University in 2018. Darker colors represent higher frequencies of graduate students, whereas lighter colors indicate lower frequencies.

ded instruction, or one-on-one research consultations—established trust, reciprocity, information, and cooperation across departments at the university. Workshops and research consultations created a supportive social network across the campus, benefiting students, researchers, and the libraries. As a result, the libraries gained social capital as a resource, encouraging collaborative partnerships university-wide. The goal was to expand this beneficial social capital outside the university by providing free public workshops (see Figure 3). Opening workshops to the public allowed individuals to connect to librarians and specialists while simultaneously improving their GIS skills. This connection was especially valuable during the pandemic, when over 24 million Americans lost their jobs. An estimated 5 million employers in the United States rely on geospatial services,[16] and the U.S. Bureau of Labor Statistics predicts that services related to GIS will expand 4 percent from 2019 to 2029.[17] GIS has the additional benefit of engaging the public in many projects related to COVID-19 or social justice.

Workshops and research consultations created a supportive social network across the campus, benefiting students, researchers, and the libraries.

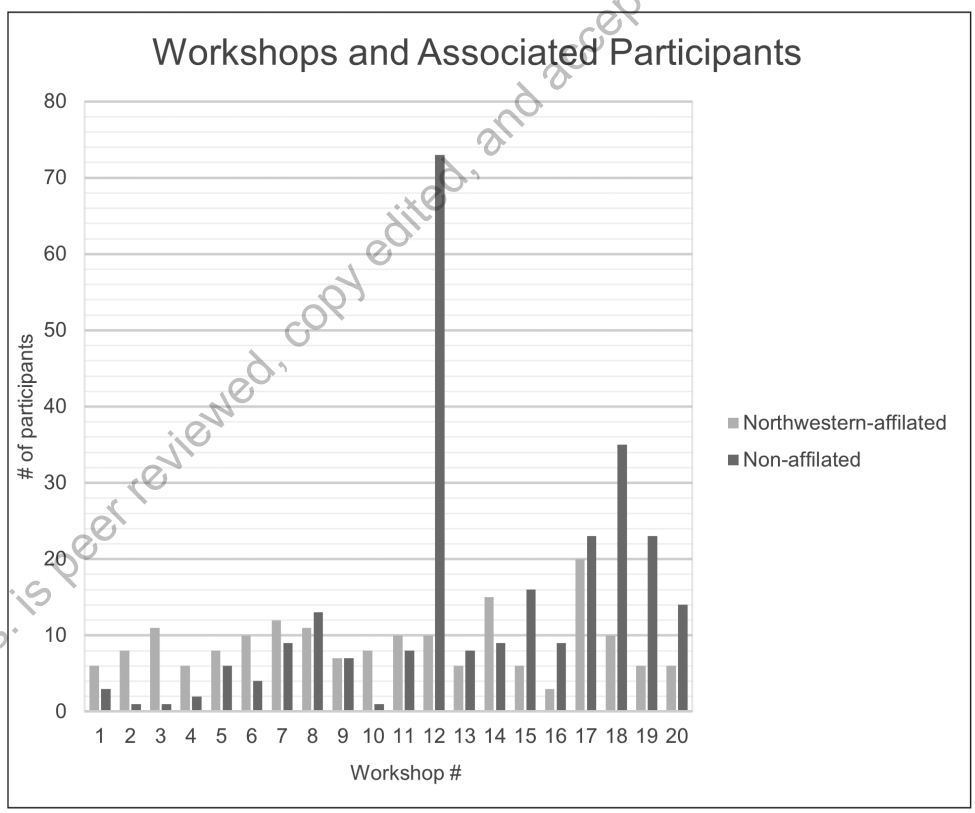

Figure 3. Participants in geographic information systems (GIS) workshops at Northwestern University since May 2020. The number of persons not affiliated with the university who attended workshops exceeded the number of Northwestern-affiliated participants for 9 of the 20 workshops.

In a longitudinal study, Gregory March and Edith Scarletto found that libraries have become leaders in providing GIS services on campus.[18] Building on prior research, March and Scarletto depict GIS as another format of information service that libraries provide their research communities.[19] Information services benefit universities and provide social capital through interactions with the campus community, offering data provision, consultations and workshops, and technology, such as labs and remote workstations. As the team of Julie Sweetkind-Singer and Meredith Williams and that of Weihe Wendy Guan, Bonnie Burns, Julia Finkelstein, and Jeffrey Blossom suggest,[20] and, as Northwestern's experience confirms, these services provide value to students, faculty, and staff at academic libraries.

Geospatial technology and services are specially adapted for all-remote environments, as users can access most service by an electronic device such as a computer or smartphone. For academic libraries, this means opportunities for internal collaboration to provide virtual GIS support. For instance, Northwestern University Libraries Geospatial and Data Services collaborated with the university's Information Technology Services to provide remote desktop solutions for public library computers. The extension of services eventually included high-powered GIS laboratory machines, which house local geolocators for individuals to use.

During the pandemic, GIS Services also sought alternatives to proprietary software, which often created economic barriers for external participants. Instead, Northwestern University Libraries taught free and open-source software such as QGIS. Although the teaching and use of QGIS are not new in academic libraries, the pandemic made it essential to emphasize free software available to most individuals. QGIS is language-inclusive, functioning in over 40 languages and able to render diacritical marks. Geospatial and Data Services also began using GitHub to store and distribute workshop-related data, making it easier for workshop participants, especially those not affiliated with Northwestern, to access workshop materials.

The pandemic made it essential to emphasize free software available to most individuals.

Since 2016, the Geospatial and Data Services team has accounted for 18 percent (n = 2,059) of the total research consultations at Northwestern University Libraries. Over the same period, the group supported 13 percent (n = 268) of the total library instruction sessions. In 2020, during the pandemic, Geospatial and Data Services saw an 11.32 percent increase in research consultations. Figure 4 compares the average number of research consultations for the Geospatial and Data Services group to the number for the rest of the library since 2016.

Facilitating Professional Relationships

In the digital place, libraries can form professional relationships with students and faculty organically by creating accessible workshops and consultations. As mentioned previously, Zoom is the main video platform used to consult and provide curriculum support via instruction at Northwestern University Libraries. Providing accessibility to instruction on Zoom may include activating closed-caption text, reducing background

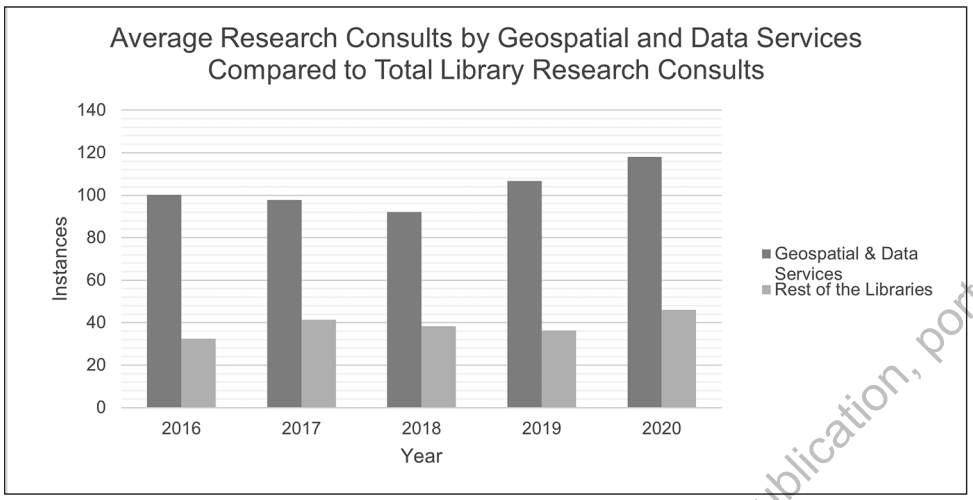

Figure 4. The average number of research consultations by the two-person geographic information systems (GIS) team at Northwestern University Libraries compared to the libraries' total research consultations.

noise when leading a call, and recording the session (with permission). Participants are not required to turn on their video, ensuring Northwestern University GIS workshops create a safe environment for participants. As the digital space blurs personal boundaries of home and campus, requiring participants to activate their video could induce anxiety in an already stressful remote environment. Accessibility can also include flexibility. Flexibility in workshops and GIS labs could mean shortening traditionally longer, core introductory sessions. During the summer of 2020, for instance, Northwestern University Libraries Geospatial and Data Services developed and implemented small-scale GIS sessions to accommodate users' schedules and lessen Zoom fatigue. Most sessions lasted 45 minutes or less.

Providing accessibility to instruction on Zoom may include activating closed-caption text, reducing background noise when leading a call, and recording the session.

Despite the potential for Zoom fatigue, GIS consultations are more efficient and effective. Video-mediated platforms, albeit virtual, improve on previous options like e-mail to provide a more personal connection. The ability to do a quick screen share on Zoom with a student or faculty member saves time for the librarian and the user. Another added benefit of video-mediated GIS research consultation is the opportunity to build a professional rapport with faculty and students, although video-mediated instruction can result in the loss of behavioral cues and norms otherwise perceived in-person sessions.

The ability to do a quick screen share on Zoom with a student or faculty member saves time for the librarian and the user.

Limitations and Future Research

This research acknowledges that the setting for this discussion occurs within a privileged environment, since Northwestern University is a private university with significant resources. The intent, however, is to identify practices that can be applied across universities and adapted based on resources available. This research occurred within an academic library setting and may be difficult to apply or adapt to a nonacademic environment. Future research should continue to examine ways to create inclusive places where a variety of students, faculty, and staff can engage in geospatial research. Given the digital nature of GIS, limitations in access may continue due to difficulties using the Internet and other information and communication technologies. Bridging this digital divide and looking for opportunities to engage with users is an area of continued research. Ideally, open-source opportunities and offering tutorials and materials through providers such as GitHub, a cloud-based service where people can collaborate on projects, increase accessibility. Self-paced tutorials and video recordings also allow greater access to GIS instruction. As in any technology-focused discipline, being proactive, inclusive, and flexible will determine future success. The Geospatial and Data Services group will continue to consider issues of accessibility when it comes to library resources to make progress in areas related to social justice, structural racism, and lack of economic opportunities, not just for the Northwestern campus but also for the community at large.

Conclusion

This article discusses how the Geospatial and Data Services group at Northwestern University Libraries focused on enlarging its social network while also considering the opportunities and limitations of the digital place. Providing opportunities for community learning outside Northwestern was a successful experiment to expand the libraries' social network. Through the broadening of the libraries' network, the university and wider community experienced measurable benefits. This research has provided examples and steps to foster new opportunities for building social capital—especially in these uncertain times of the pandemic and social unrest.

Kelsey Rydland is a GIS (geographic information systems) and data analyst and data services librarian at Northwestern University Libraries in Evanston, Illinois; he may be reached by e-mail at: kelsey.rydland@northwestern.edu.

Méch Frazier is a GIS and cartographic specialist at Northwestern University Libraries in Evanston, Illinois; she may be reached by e-mail at: mech.frazier@northwestern.edu

Notes

1. Ray Oldenburg, *The Great Good Place: Cafés, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts and How They Get You through the Day* (New York: Paragon House, 1989).
2. Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon & Schuster, 2000).
3. American Library Association, "Libraries Respond: COVID-19 Survey," 2020, https://www.ala.org/tools/covid/libraries-respond-covid-19-survey.

4. Oldenburg, *The Great Good Place.*
5. Oldenburg, *The Great Good Place.*
6. Christina Fuller-Gregory, "Reimagining the Library as Third Place," *Public Libraries* 59, 4 (2020): 9–11; Lee F. Peoples, "Placemaking and Assessing Physical Space in the Academic Law Library," *Legal Information Management* 17, 1 (2017): 5–10, https://doi.org/10.1017/S1472669617000056.
7. Fuller-Gregory, "Reimagining the Library as Third Place"; Cathryn Harris, "Libraries with Lattes: The New Third Place," *APLIS* [Australasian Public Libraries and Information Services] 20, 4 (2007): 145–52; Hui Lin, Natalie Pang, and Brendan Luyt, "Is the Library a Third Place for Young People?" *Journal of Librarianship and Information Science* 47, 2 (2015): 145–55, https://doi.org/10.1177/0961000614532303.
8. Makiba J. Foster and Meredith R. Evans, "Libraries Creating Sustainable Services during Community Crisis: Documenting Ferguson," *Library Management* 37, 6 (2016): 352–62, https://doi.org/10.1108/LM-06-2016-0049.
9. "How Public Libraries Are Responding to the Pandemic," *American Libraries*, April 9, 2020, https://americanlibrariesmagazine.org/blogs/the-scoop/public-libraries-responding-pandemic/.
10. Charles Soukup, "Computer-Mediated Communication as a Virtual Third Place: Building Oldenburg's Great Good Places on the World Wide Web," *New Media & Society* 8, 3 (2006): 421–40, https://doi.org/10.1177/1461444806061953.
11. Soukup, "Computer-Mediated Communication as a Virtual Third Place," 426.
12. Soukup, "Computer-Mediated Communication as a Virtual Third Place," 432.
13. Arnault Morisson, "A Typology of Places in the Knowledge Economy: Towards the Fourth Place," in *New Metropolitan Perspectives*, Francesco Calabrò, Lucia Della Spina, and Carmelina Bevilacqua, eds. (Cham, Switz.: Springer, 2018), 444–51, https://doi.org/10.1007/978-3-319-92099-3_50.
14. Morisson, "A Typology of Places in the Knowledge Economy."
15. Morisson, "A Typology of Places in the Knowledge Economy."
16. Esri, "Careers in GIS," 2021, https://www.esri.com/en-us/what-is-gis/careers.
17. United States Bureau of Labor and Statistics, Occupational Handbook (Washington, DC: U.S Bureau of Labor Statistics, 2021), https://www.bls.gov/ooh/.
18. Gregory March and Edith Scarletto, "The Evolution of GIS [geographic information systems] Services within North American Academic Libraries: Documenting Change through the Decades (1995–2016)," *Journal of Map & Geography Libraries* 13, 2 (2017): 222–45, https://doi.org/10.1080/15420353.2017.1313803.
19. March and Scarletto, "The Evolution of GIS Services within North American Academic Libraries."
20. Julie Sweetkind-Singer and Meredith Williams, "Supporting the Information Needs of Geographic Information Systems (GIS) Users in an Academic Library," *Science & Technology Libraries* 21, 3–4 (2001): 175–90, https://doi.org/10.1300/J122v21n03_11; Weihe Wendy Guan, Bonnie Burns, Julia L. Finkelstein, and Jeffrey C. Blossom, "Enabling Geographic Research across Disciplines: Building an Institutional Infrastructure for Geographic Analysis at Harvard University," *Journal of Map & Geography Libraries* 7, 1 (2011): 36–60, https://doi.org/10.1080/15420353.2011.534688.