

Title and Contact

GIS Faculty and Program Coordinator
Fond du Lac Tribal and Community College
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Blog: <https://northlandia.wordpress.com>

Research Interests

Geography and GIS teaching and curriculum development; STEM education; Student-driven environmental research; Indigenous, counter, and resistance cartography; Social and environmental justice movements

Education

- Ph.D. Geography
University of Wisconsin-Madison, August 2018
Advisor: Dr. Robert E. Roth
Dissertation: "Curriculum Development and Pedagogy for Teaching Web Mapping"
Minor: Culture, History, and Environment (CHE), Nelson Institute for Environmental Studies
- M.S. Cartography and GIS
University of Wisconsin-Madison, May 2013
Advisor: Dr. Robert E. Roth
Thesis: "Mapmaking for Change: Online Participatory Mapping Tools for Revealing Landscape Values in the Bad River Watershed"
- B.S. Outdoor Education/Natural History, Biology Teaching
Northland College, May 2005

Other Credentials

1. Association of College and University Educators (ACUE) Effective Online Teaching Practices - Promoting Active Learning Online. 6/2020.
2. Applying the Quality Matters Rubric Certificate. 10/2018.
3. FAA Remote Pilot Certificate. 9/2018, 2/2021.

Honors and Awards

1. UW-Madison Campus-Wide Teaching Assistant Innovation in Teaching Award, 2015
2. First Place, Association of American Geographers Cartography Specialty Group Honors Student Paper Competition, 2013
3. Best Thematic Map Poster, Wisconsin Land Information Association Poster Contest, 2013
4. Summa Cum Laude, Northland College, 2005
5. Alpha Chi National College Honor Society, 2001-2003

6. Outdoor Education Department Merit Award, Northland College, 2005
7. Dean's List, Northland College, 2002-2005

Courses Taught

Fond du Lac Tribal and Community College

All course outlines are available on the FDLTCC website at <http://fdltcc.edu/course-outlines>. Syllabi are available upon request. ^{QM} = Quality Matters certified course. * = Newly developed course.

1. Geography 1001: The Digital World. Sp2019*
2. Geography 1002: Introduction to Maps. Fa2022*
3. Geography 1010: Physical Geography (online). Fa2017, Fa2018, Fa2019, Fa2020, Fa2021, Fa2022
4. Geography 1020: Cultural Geography (online). Sp2018, Su2018, Sp2020, Fa2020, Fa2021, Su2022
5. Geography 1040: World Regional Geography (online). Fa2017, Fa2018, Fa2019, Su2020, Su2021^{QM}, Sp2022^{QM}
6. Geography 1054: Using GPS: Geocaching and Field Mapping. Fa2018, Su2020, Su2022
7. Geography 1060: Small Unmanned Aircraft Systems. Su2022*
8. Geography 2001: Introduction to Geographic Information Systems. Fa2017, Fa2018, Fa2019, Fa2020, Fa2021, Fa2022
9. Geography 2005: Cartography and Visualization. Sp2019, Sp2020, Sp2021, Sp2022
10. Geography 2030: Remote Sensing of the Environment. Sp2018, Fa2018, Fa2019, Fa2020, Fa2021, Fa2022
11. Geography 2050: GIS Applications. Sp2018, Sp2019, Sp2020, Sp2021, Sp2022
12. Geography 2051: Web Mapping (Independent Study). Sp2019*, Sp2020, Sp2021, Sp2022
13. Geography 2090: Undergraduate Research (Independent Study). Sp2018, Sp2019, Sp2020
14. Geography 2095/2096: Internship (Independent Study). Sp2019, Sp2022

University of Wisconsin-Madison

1. Geography 120: Global Physical Environments. Fa2011 (TA), Sp2012 (TA), Fa2012 (Head TA), Fa2013 (Head TA), Fa2013 (Head TA)
2. Geography 170: Our Digital Globe. Su2016 (Instructor)
3. Geography 370: Introduction to Cartography (online). Su2017 (Instructor)
4. Geography 378: Introduction to Geocomputing. Sp2014 (TA), Fa2016 (Instructor)

5. Geography 575: Interactive Cartography and Geovisualization. Fa2014 (TA)

K-12 and Informal Education

1. Science Teacher and Paraprofessional, Lake Superior High School (Duluth, MN). 2010-2011.
2. Summer School Chemistry and Physics, Duluth, MN Public Schools. 2010.
3. Substitute Teacher. 2006-2010.
4. Environmental Educator, Hartley Nature Center, Duluth, MN. 2009-2010.

Grants and Scholarships

1. American Association of Geographers Bridging the Digital Divide grant (\$15,000), 2022
2. American Association of Geographers Bridging the Digital Divide grant (\$10,000), 2020
3. Institutional PI, Minnesota Space Grant Consortium, NASA Space Grant NNX15AI18H (Subaward A004927303), FY2017-FY2023
4. Institutional PI, Center for Applied Atmospheric Research and Education (CAARE), NASA Minority University Research and Education Project (MUREP) Institutional Research Opportunity (MIRO) Grant NNX15AQ02A (Subaward 21-1505-5506-FDLTCC), FY2017-FY2021
5. UW-Madison Geography Department Trewartha Research Award, 2016-17.
6. UW-Madison Geography Department Trewartha Conference Travel Award. 2016.
7. North American Cartographic Information Society Travel Grant. 2016.
8. UW-Madison Geography Department Odebolt Conference Travel Award. 2015.
9. International Cartographic Conference Travel Grant, U.S. National Committee of the International Cartographic Association. 2013.
10. Wisconsin Land Information Association Damon Anderson Memorial Scholarship. 2012.
11. North American Cartographic Information Society Travel Grant. 2012.
12. UW-Madison Geography Department Trewartha Graduate Research Award. 2012.
13. Association of American Geographers Cartography Specialty Group Master's Thesis Grant. 2012.
14. Nelson Institute for Environmental Studies Center for Culture, History, and Environment Master's Thesis Research Travel Grant. 2012.
15. Grant from Bad River Band of Lake Superior Chippewa for thesis work. 2012.
16. SciFund Challenge (research crowdfunding) Participant. 2012.
17. Academic Scholarship, Northland College. 2001-2005.
18. Morris K. Udall Scholarship. 2004.

Peer-Reviewed Publications

1. Sack, CM. 2018. "The Status of Web Mapping in North American Higher Education." *Cartographic Perspectives* 89: 25-43. DOI: 10.14714/CP89.1429
2. Roth, RE, S Young, C Nestel, CM Sack, B Davidson, J Janicki, V Knoppke-Wetzel, F Ma, R Mead, C Rose, and G Zhang. 2018. "Global Landscapes: Teaching Globalization through Responsive Mobile Map Design." *The Professional Geographer*. DOI: 10.1080/00330124.2017.1416297
3. Vincent, K, RE Roth, SA Moore, Q Huang, N Lally, CM Sack, E Nost, H Rosenfeld. Under Review. "Improving spatial decision making using interactive maps: An empirical study on interface and decision complexity in the North American hazardous waste trade." *Environment and Planning B: Urban Analytics and City Science*.
4. Sack, CM. 2017. "CV-15 Web Mapping." *GIS&T Body of Knowledge*. University Consortium for Geographic Information Science. Available online: <http://gistbok.ucgis.org/bok-topics/web-mapping>.
5. Sack, CM and RE Roth. 2017. "Design and evaluation of an Open Web Platform cartography lab curriculum." *Journal of Geography in Higher Education* 41(1): 1-23. DOI: 10.1080/03098265.2016.1241987
6. Roth, RE, RG Donohue, and CM Sack. 2014. "A Process for Keeping Pace with Evolving Web Mapping Technologies." *Cartographic Perspectives* 78: 25-52. DOI: 10.14714/CP78.1273

Open Educational Resources

1. Sack, CM. 2020, in progress. *The Flexible GIS Workbook for ArcGIS Pro* (Open educational resource). Online: <https://mlpp.pressbooks.pub/flexiblegisworkbookpro/>.
2. Roth, RE, CM Sack, G Baldrice-Franklin, Y Chen, R Donohue, L Houtman, T Prestby, R Tolochko, and N Underwood. 2020. *Web Mapping: A Workbook for Interactive Cartography and Visualization on the Open Web*. Version 0.1. University of Wisconsin Cartography Laboratory: Madison, WI. DOI: 10.5281/zenodo.4032935
3. Sack, CM, RG Donohue, and RE Roth. 2014. "Interactive and Multivariate Choropleth Maps with D3." *Cartographic Perspectives* 78: 57-76.
4. Donohue, RG, CM Sack, and RE Roth. 2014. "Time Series Proportional Symbol Maps with Leaflet and jQuery." *Cartographic Perspectives* 76: 43-66.
5. Sack, CM. 2013. "User-Centered Design for Coastal Web Atlas Maps and Tools: A Process Manual." Wisconsin Coastal Atlas White Paper.

Other Publications

1. Sack, CM. 2022. "Counter-mapping." *The American Mosaic: The American Indian Experience*. ABC-CLIO. Available online: <https://americanindian.abc-clio.com/Search/Display/2272175>. Accessed September 26, 2022.
2. Sack, CM. 2020. "Talking Circle: Using GIS to Develop a Career Pathway for Tribal College Students." *Tribal College: Journal of American Indian Higher Education* 31(3): 46-47.

Peer-Reviewed Conference Proceedings

1. Roth, RE, CM Sack, M Kelly, N Lally, and KL Vincent. 2018. "MapStudy: An Open Source Survey Tool for Researching Interactive Web Maps." *AutoCarto & UCGIS Symposium*. Madison, WI: May 21-24, 2018.
2. Sack, CM, RE Roth, and KL Vincent. 2017. "Introducing MapStudy: An Open-Source Cartographic Research Tool." *28th International Cartographic Conference*. Washington, D.C.: July 2-7, 2017.
3. Severtson, DJ, RE Roth, and CM Sack. 2016. "The influence of interactivity and uncertainty on reasoning with maps that depict an environmental hazard." In: *Proceedings of Society for Risk Analysis*. San Diego, CA: December 11-15.
4. Severtson, DJ, RE Roth, and CM Sack. 2015. "Does interactivity enhance reasoning with maps that visualize uncertain information? Preliminary results from an empirical study. In: *Proceedings of IEEE Information Visualization Conference*. Chicago, IL: October 25.
5. Roth RE, SJ Young, C Nestel, CM Sack, B Davidson, J Janicki, V Knoppke-Wetzel, F Ma, R Mead, C Rose, and G Zhang. 2015. "Global Madison: Usability evaluation of an adaptive mobile map supporting situated learning of globalization." In: *Proceedings of the 27th International Cartographic Conference*. Rio de Janeiro, Brazil: August 27.
6. Severtson D, RE Roth, CM Sack, and R Mead. 2014. "The influence of interactive maps and data sufficiency on risk beliefs, ambiguity, and behavioral intentions for maps depicting water test results for private residential wells." In: *Proceedings of Society for Risk Analysis*. Denver, CO: December 10.
7. Sack, CM. 2013. "Mapping Sense of Place: Online Participatory Mapping for Indicating Landscape Values." In: *Proceedings of the 26th International Cartographic Conference*. August 25-30.
8. Donohue, RG, CM Sack, TR Wallace, RE Roth, and TMA Buckingham. 2013. "A Competitive Analysis of Open Web Mapping Technologies." In: *Proceedings of the 26th International Cartographic Conference*. Dresden, Germany: August 27.
9. Roth RE, RG Donohue, CM Sack, TR Wallace, and TMA Buckingham. 2013. "A Process for Assessing Emergent Web Mapping Technologies." In: *Proceedings of the 26th International Cartographic Conference*. Dresden, Germany: August 26.
10. Sack, CM. 2013. "Tools and Best Practices for Coastal Web Maps." In: Devillers, R, C Lee, R Canessa, and A Sherin (eds.), *CoastGIS Conference 2013: Monitoring and Adapting to Change on the Coast: The 11th International Symposium for GIS and Computer Cartography for Coastal Zone Management*. Victoria, BC, Canada: June 18-21. pp. 160-164.
11. Sack, CM. 2013. "Designing Map Democracy: The Creation of the Bad River Watershed Wikimap." First Place AAG Cartography Specialty Group Honors Student Paper. In: *Proceedings of the Association of American Geographers*. Los Angeles, CA: April 10.

Workshops

1. 2022. "Drone Meet & Fly." 2-hour meetup/workshop. *St. Louis River Summit*. Superior, WI: March 9.
2. 2021. "Designing Custom Collaboration maps." 3-hour workshop. *Minnesota GIS/LIS Consortium Educator Day*. Virtual: October 13.

3. 2021. "Building Custom Collaboration maps." 3-hour workshop. *Minnesota GIS/LIS Consortium Spring Workshops*. Virtual: May 13.
4. 2020. "Lynx Tracking GPS Training Workshop." 4-hour workshop for Fond du Lac Tribal and Community College Environmental Institute. February 28.
5. 2019. "GIS Basics Workshop for Friends of Lincoln Community Forest and Friends of the North Pikes Creek Wetlands." 4-hour workshop. Ashland, WI: February 16.
6. 2018. "Introduction to Leaflet." 3-hour workshop. *Minnesota GIS/LIS Consortium Spring Workshops*. Duluth, MN: May 16.

Invited Talks

1. 2022. "What is GIS?" Grades 8-11 presentation. Fond du Lac Ojibwe School. September 16 & 23.
2. 2022. "An Introduction to Geographic Information Systems (GIS) at Fond du Lac Tribal and Community College." Cloquet Economic Development Authority: August 3.
3. 2022. "Map or Die." *Faculty Talks*. Fond du Lac Tribal and Community College: January 12.
4. 2021. "What is GIS?" *Nandagikendan Seek to Learn Academy*. Fond du Lac Tribal and Community College: July 7.
5. 2020. "An Introduction to Geographic Information Systems (GIS) at Fond du Lac Tribal and Community College." *American Indian College Fund TCU STEM Webinar*. Online: October 27.
6. 2015. "Volunteered Geographic Information and Participatory Mapping." Guest lecture. *Geography 572: Graphic Design in Cartography* course. University of Wisconsin-Madison: November 19.
7. 2013. "Wikimapping the Bad River Watershed." Guest lecture. *University of Wisconsin-La Crosse GIS Exposition*. La Crosse, WI: December 6.
8. 2013. "Volunteered Geographic Information and Participatory Mapping." Guest lecture. *Geography 572: Graphic Design in Cartography* course. University of Wisconsin-Madison: November 29.

Conference Presentations Without Proceedings

1. Sack, CM. 2022. "Teaching Cartography at Fond du Lac Tribal and Community College." *North American Cartographic and Information Society Annual Meeting*. Minneapolis: October 20.
2. Sack, CM. 2022. "Tribal Youth GIS: Building the Next Generation of American Indian GIS Professionals." *Minnesota GIS/LIS Consortium Annual Conference*. Bemidji, MN: October 14.
3. Sack, CM. and H Tracy. 2022. "Habitat Mapping in the Lake Superior National Estuarine Research Reserve." *St. Louis River Summit*. Virtual: March 9.
4. Sack, CM. 2021. "Habitat Mapping in the Lake Superior National Estuarine Research Reserve." *Minnesota GIS/LIS Consortium Annual Conference*. Virtual: October 28.

5. Roth, RE, G Baldrice-Franklin, M Kelly, N Underwood, and CM Sack. 2021. "Distributing map studies." *International Cartographic Association Adaptable User Studies Workshop*. Virtual: May 6.
6. Sack, CM. 2021. "An Open Workbook for Introductory GIS Courses." *American Association of Geographers Annual Meeting*. Virtual: April 7-11.
7. Sack, CM. 2021. "Rewrite Site: Placemaking by Students for the US Steel Duluth Works Site." *St. Louis River Annual Summit*. Virtual: March 1-3.
8. Sack, CM. 2020. "Building a STEM Pipeline Through GIS at Fond du Lac Tribal and Community College." *Tribal GIS Annual Conference*. Virtual: November 16-20.
9. Al-Hamdan, M., Chiao, S., Palacios, S., Crosson, W., Barik, M., Estes, M., Griffin, R., Estes, S., Freedman, F., Sack, C., Kowalczak, C. 2019. "Promoting STEM Literacy and Diversity through the Center for Applied Atmospheric Research and Education (CAARE)." *American Meteorological Society (AMS) Annual Meeting*. Phoenix, AZ: January 6-10.
10. Palacios, S., Chiao, S., Al-Hamdan, M., Estes, M., Crosson, W., Barik, M., Griffin, R., Estes, S., Freedman, F., Sack, C., Kowalczak, C. 2018. "Research Experiences for Students in the Center for Applied Atmospheric Research and Education (CAARE) Program." *American Geophysical Union (AGU) Fall Meeting*. Washington, DC: December 10-14.
11. Sack, CM. 2018. "Key Concepts for Teaching Web Mapping." *Minnesota GIS/LIS Consortium Annual Conference*. Duluth, MN: October 3-5.
12. Sack, CM. 2017. "Resistance Mapping in Support of Frontline Indigenous Communities." *Critical GIS Workshop*. Montreal, QC, Canada: October 13.
13. Sack, CM. 2017. "Web Mapping: What are we teaching?" *North American Cartographic Information Society Annual Meeting*. Montreal, QC, Canada: October 10-12.
14. Sack, CM, K Vincent, M Kelly, and RE Roth. 2017. "MapStudy: A survey design framework for 21st Century Cartography." *28th International Cartographic Conference*. Washington, DC: July 2-7.
15. Veilleux, J, CM Landry, K Lange, CM Sack. 2017. "How Geography Can Inform Social Change And Political Movements: Example Of How Geospatial Analysis Can Describe Standing Rock Human Rights Violations For Indigenous People And Water Security Threat To The Missouri River Basin." Panel discussion. *American Association of Geographers Annual Meeting*. Boston, MA: April 5-9.
16. Sack, CM. 2017. "The Brave New World of Teaching Web Mapping." *American Association of Geographers Annual Meeting*. Boston, MA: April 5-9.
17. Sack, CM. 2017. "Invisible Nation: Mapping Sioux Treaty Boundaries." *Nelson Institute Center for Culture, History, and Environment Graduate Symposium*. Madison, WI: February 11.
18. Sack, CM, K Vincent, and RE Roth. 2016. "Introducing MapStudy: A survey design framework for 21st Century cartography." *North American Cartographic Information Society Annual Meeting*. Colorado Springs, CO: October 21.
19. Sack, CM and RE Roth. 2016. "Teaching Open Web Mapping." *ICA Commission on Open Source Geospatial Technologies Workshop at AutoCarto*. Albuquerque, NM: September 14. Supported by National Science Foundation Grant #1555267.
20. Sack, CM. 2015. "Open Web Mapping: How do we teach this stuff?" *North American Cartographic Information Society Annual Meeting*. Minneapolis, MN: October 15.

21. Roth, RE, DJ Severtson, CM Sack, and R Mead. 2015. "The influence of interactivity and uncertainty on health beliefs and decisions." *Association of American Geographers Annual Meeting*. Chicago, IL: April 21.
22. Sack, CM and Kimambo, N. 2015. "VGI-Enabled Web Mapping of Transhumance Corridors in the Sahel." *University of Wisconsin-Madison Geospatial Summit*. Madison, WI: April 20.
23. Sack, CM. 2014. "Whither the Wikimap." *North American Cartographic Information Society Annual Meeting*. Pittsburgh, PA: October 10.
24. Nestel, C, CM Sack, J Janicki, V Knoppke-Wetzel, F Ma, R Mead, C Rose, RE Roth, and G Zhang. 2014. "Adaptive cartography for situated learning." *North American Cartographic Information Society Annual Meeting*. Pittsburgh, PA: October 10.
25. Sack, CM and J. Janicki. 2014. "A Mobile Map-Based Situated Learning Module Using Open-Source Geoweb Technology." *FOSS4G*. Portland, OR: September 11.
26. Roth, RE, L Severtson, R Mead, and CM Sack. 2014. "Interactivity, privacy, and uncertainty: Mapping drinking water quality in Wisconsin." *Association of American Geographers Annual Meeting*. Tampa, FL: April 11.
27. Sack, CM. 2013. "Zero to Mashup in 1200 Seconds." *Practical Cartography Day at the North American Cartographic Information Society Annual Meeting*. Greenville, SC: October 9.
28. Sack, CM. 2013. "A Practical Introduction to D3 Web Maps." *North American Cartographic Information Society Annual Meeting*. Greenville, SC: October 10.
29. Sack CM, RG Donohue, RE Roth, TR Wallace, and TMA Buckingham. 2013. "Adapting Web Mapping Curriculum to Open Source Technologies." *FOSS4G North America*. Minneapolis, MN: May 22-24.
30. Sack, CM, RG Donohue, RE Roth, TR Wallace, and TMA Buckingham. 2013. "Web Mapping Technology Study Update, or Everything You Just Learned is Now Obsolete." *University of Wisconsin-Madison Geospatial Summit*. Madison, WI: April 25.
31. Sack, C.M. 2013. "Wikimapping Landscape Values in the Bad River Watershed." *Wisconsin Land Information Association Conference*. Lake Geneva, WI: February 14.
32. RE Roth, RG Donohue, TR Wallace, CM Sack, and TMA Buckingham. 2013. "Getting a Handle on Open Source Web Mapping Technologies." *Wisconsin Land Information Association Conference*. Lake Geneva, WI: February 14.
33. Sack, CM. 2012. "Mapmaking for Change: Wikimapping the Bad River Watershed." *North American Cartographic Information Society Annual Meeting*. Portland, OR: October 19.
34. Donohue, RG, TR Wallace, CM Sack, RE Roth, and TMA Buckingham. 2012. "Keeping Pace with Emerging Web Mapping Technologies." *North American Cartographic Information Society Annual Meeting*. Portland, OR: October 19.
35. Sack, CM. 2012. "Mapmaking for Change: Online Participatory Mapping Tools for Revealing Landscape Values in the Bad River Watershed." *University of Wisconsin-Madison Geospatial Summit*. Madison, WI: April 26.

Posters

1. Sack, CM. 2021. "The Flexible GIS Workbook for ArcGIS Pro: An Open Workbook for Introductory GIS Courses." *Minnesota GIS/LIS Consortium Annual Conference*. Virtual: October 26-28.

2. Sack, CM. 2017. "Oyáte Očhéthi Šakówin: The Great Sioux Nation." *North American Cartographic Information Society Annual Meeting*. Montreal, QC, Canada: October 10-12.
3. Sack, CM. 2015. "Open Source Learning: Designing a New Web Mapping Curriculum." *27th International Cartographic Conference*. Rio de Janeiro, Brazil: August 25.
4. Sack, CM. 2013. "Passenger Rail in the United States: A Romantic Past, a High-Speed Future?" *North American Cartographic Information Society Annual Meeting*. Greenville, SC: October 9.
5. Sack, CM, R Donohue, T Wallace, RE Roth, TMA Buckingham. 2013. "A Competitive Analysis of Open Web Mapping Technologies." *26th International Cartographic Conference*. Dresden, Germany: August 28.
6. Sack, CM. 2013. "A Sand County... Disappearing." *Wisconsin Land Information Association Conference*. Lake Geneva, WI: February 14.

Maps, Blogs, and Video

Many of my static and web maps are presented in my design portfolio at <http://northlandia.com>. I also write web mapping tutorials and commentary on my blog, <http://northlandia.wordpress.com>.

Posts on other blogs:

1. Sack, C. 2016. "The Land Doesn't Hate: A Conversation with Lauret Savoy." *Edge Effects*. November 10. <http://edgeeffects.net/lauret-savoy>
2. Sack, C. 2016. "A #NoDAPL Map." *The Huffington Post*. November 2. http://www.huffingtonpost.com/entry/a-nodapl-map-us_581a0623e4b014443087af35
3. Sack, C. 2015. "The Arrowhead on the Internet: A Conversation with National Park Service Cartographer Mamata Akella." *Edge Effects*. April 14. <http://edgeeffects.net/mamata-akella>

Video:

1. Sack, C, C Schuchhardt, and WR Daniels. *Downstream*. <https://vimeo.com/95729335>

Graduate Project Assistantships

1. Development of *MapStudy*, a web application framework for creating map-based surveys. UW-Madison Cartography Lab & Dr. Robert Roth. 2015-2017. Supported by National Science Foundation Grant #1555267.
2. Development of *Couloirs Transhumance*, a wikimap of herding corridors in eastern Senegal. UW-Madison Cartography Lab & Dr. Matthew Turner. 2015-2016.
3. Development of modularized online laboratory curriculum for Geography 575: Interactive Cartography and Geovisualization. UW-Madison Cartography Lab & Dr. Robert Roth. 2015.

Academic and Professional Affiliations

1. 2018-present. Minnesota State College Faculty.
2. 2019-present. Tribal GIS.

3. 2017-present. Northeast Minnesota GIS Users' Group.
4. 2017-present. Minnesota GIS/LIS Consortium.
5. 2011-2018. Graduate Associate, Center for Culture, History, and Environment (CHE), Nelson Institute for Environmental Studies, UW-Madison.
6. 2011-2018. UW-Madison Teaching Assistants' Association.
7. 2011-present. North American Cartographic Information Society (NACIS).
8. 2011-present. Association of American Geographers (AAG).

Professional Service

1. 2020-present. Vice President, FDLTCC Chapter, Minnesota State College Faculty.
2. 2020-present. Chair, FDLTCC Academic Affairs and Standards Council.
3. 2018-present. Membership Chair, FDLTCC Chapter, Minnesota State College Faculty.
4. 2016-2017. *Edge Effects* Digital Magazine Editorial Board, Center for Culture, History, and Environment, Nelson Institute for Environmental Studies, UW-Madison.
5. 2015-2017. Membership Secretary, UW-Madison Teaching Assistants' Association.
6. 2014-2016. Cartographer, *Capitalism, Nature, Socialism* (peer-reviewed journal).
7. 2016-2017. Graduate Representative to the Faculty, Geography Department, UW-Madison.
8. 2016. Graduate Student Symposium co-coordinator, Geography Department, UW-Madison.
9. 2015-2016. Writing Retreat co-coordinator, Center for Culture, History, and Environment, Nelson Institute for Environmental Studies, UW-Madison.
10. 2015. CHE Symposium planning committee, Center for Culture, History, and Environment, Nelson Institute for Environmental Studies, UW-Madison.
11. 2014-2015. Association of American Geographers Cartography Specialty Group Student Board Member.
12. 2014-2015. Department Picnics co-coordinator, Geography Department, UW-Madison.
13. 2014. Place-Based Workshop planning committee and tour guide, Center for Culture, History, and Environment, Nelson Institute for Environmental Studies, UW-Madison.
14. 2003-2005. Student Senator, Northland College Student Association Senate, Northland College.
15. 2004-2005. *Drifts* student newspaper editor, Northland College.

Community Service

1. 2019. Gichi-Gami Gathering Logistics Team, MN350.
2. 2017-2018. Advisory Board Member, WaterLegacy.
3. 2011-2015. Volunteer Coordinator, Rainbow Bookstore Cooperative.
4. 2007-2015. Board Member, Wisconsin Network for Peace and Justice.
5. 2008-2014. Writer, Zenith City Weekly newspaper (Duluth, MN).

6. 2008-2009. Americorps (Duluth, MN).