

CAROLYN S. FISH

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Department of Geography
1251 University of Oregon
Eugene, OR 97403-1251

EDUCATION

Doctor of Philosophy in Geography, 2014-2018

The Pennsylvania State University (Penn State)

Dissertation Title: The cartography of climate change in United States media

Advisor: Dr. Cynthia A. Brewer

Master of Science in Geography, 2008-2010

Michigan State University

Thesis Title: Change detection in animated choropleth maps

Bachelor of Science in Geography (GIScience concentration), 2005-2008

The Pennsylvania State University

Graduated with Distinction

PROFESSIONAL EXPERIENCE

Academic Positions

- 2018-present *Assistant Professor*
Department of Geography, University of Oregon, Eugene, OR
- 2019-2021 *Early-Career Innovator Program Fellow*
National Center for Atmospheric Research (NCAR), Boulder, CO
- 2014-2018 *Graduate Fellow, Instructor, Teaching Assistant, and Research Assistant*
The Pennsylvania State University, University Park, PA
- 2008-2010 *Teaching Assistant*
Michigan State University, East Lansing, MI

Professional Positions (Non-Academic)

- 2011-2014 *Cartographic Product Engineer*
Esri, Redlands, CA
- 2010 *GIS Data Collection Manager*
Remote Sensing and GIS, Michigan State University, East Lansing, MI

GRANTS

- 2019-21 **Fish, C.S. (PI).** *Map storytelling to build empathy for coastal communities.* National Center for Atmospheric Research (NCAR) Innovators Program sponsored by the National Science Foundation (NSF) (\$235,000).

- 2017-18 Brewer, C.A. (PI) and **C.S. Fish (Co-PI)** *Doctoral dissertation research: Cartographic design for public communication of environmental information*. National Science Foundation (NSF) Doctoral Dissertation Research Improvement Award (DDRI) (\$15,986).
- 2017-18 **C.S. Fish (PI)**. *Cartographic design for mass communication*. Evelyn L. Pruitt National Fellowship for Dissertation Research, Society of Woman Geographers (\$11,000).

PUBLICATIONS

Summary: I have nine peer-reviewed publications. Five of those publications are during my time at the University of Oregon, four of which are sole-authored. Google Scholar lists over 160 citations of my work and an h-index of 6 as of January 1, 2021.

Peer-Reviewed Publications

- 2020 **Fish, C.S.** (in press). Elements of Vivid Cartography. *The Cartographic Journal*. DOI: 10.1080/00087041.2020.1800160
- 2020 **Fish, C.S.** (2020) Cartographic content analysis of compelling climate change communication. *Cartography and Geographic Information Science*. 47(6), 492-507. DOI: 10.1080/15230406.2020.1774421
- 2020 **Fish, C.** (2020) Storytelling for making cartographic design decisions for climate change communication. *Cartographica: The International Journal for Geographic Information and Geovisualization*. 55(2), 69–84. DOI: 10.3138/cart-2019-0019
- 2019 de Sherbinin, A., A. Bukvic, G. Rohat, M. Gall, B. McCusker, B. Preston, A. Apotsos, **C. Fish**, S. Kienberger, P. Muhonda, O. Wilhelmi, D. Macharia, W. Shubert, R. Sliuzas, B. Tomaszewski, S. Zhang. (2019). Climate Vulnerability Mapping: A Systematic Review and Future Prospects. *WIREs Climate Change*. 10(5), 1-23. DOI: 10.1002/wcc.600
- 2018 **Fish, C.S.** (2018). Spatiotemporal Representation. *The Geographic Information Science & Technology Body of Knowledge* (4th Quarter 2018 Edition), John P. Wilson (Ed.). DOI: 10.22224/gistbok/2018.4.6.
- 2017 Griffin, A.L., T. White, **C.S. Fish**, B. Tomio, H. Huang, C. Robbi-Sluter, J.V. Meza Bravo, S.I. Fabrikant, S. Bleisch, M. Yamada, and P. Picanço (2017). Designing across map use contexts: A research agenda. *International Journal of Cartography*. 3(sup1), 90-114. DOI:10.1080/23729333.2017.1315988.
- 2016 **Fish, C.S.** and K. Calvert (2016). Analysis of interactive solar energy web maps for urban energy sustainability. *Cartographic Perspectives*. 85, 5-22. DOI: 10.14714/CP85.1372*
- *won *Cartographic Perspectives* Student Paper Competition
- 2016 **Fish, C. S.** and N.B. Piekielek (2016). Targeting disciplines for GIS outreach using bibliometric analysis. *Journal of Maps and Geography Libraries*. 12(3), 258–280. DOI: 10.1080/15420353.2016.1221870.
- 2013 Schaetzl, R. J., H. Enander, M.D. Luehmann, D.P. Lusch, **C. Fish**, M. Bigsby, M. Steigmeyer, J. Guasco, C. Forgacs, and A. Pollyea (2013). Mapping the physiography of Michigan with GIS. *Physical Geography*. 34(1): 2-39. DOI: 10.1080/02723646.2013.778531.
- 2011 **Fish, C.**, K.P. Goldsberry, and S. Battersby (2011). Change blindness in animated choropleth maps: An empirical study. *Cartography and Geographic Information Science*. 38(4): 350-362. DOI: 10.1559/15230406384350.

Work in Progress

Fish, C.S. and K. Quines. Who is telling the story of climate change with maps? The surprising

cartographic silence of the far right. To be submitted to *The Annals of the American Association of Geographers*.

Fish, C.S. and A.L. Griffin. Maps, framing, climate change, and emotions. To be submitted to *Nature Climate Change*.

Fish, C.S. and M. Garrison. Building Empathy for Coastal Communities Through Storytelling Maps. To be submitted to *Cartography and Geographic Information Science*.

Book Chapters

- 2020 Hauthal, E., D. Burghardt, D., **C. Fish**, A.L. Griffin. (2020) "Sentiment Analysis" In (Kobayashi) *Encyclopedia of Human Geography*, Second Edition: Elsevier. Pp. 169-177. <https://doi.org/10.1016/B978-0-08-102295-5.10593-1>
- 2015 **Fish, C.** and C.A. Brewer. (2015) "GIS as a Tool for Map Production" In: (Monmonier) *The History of Cartography Project*, Volume 6: University of Chicago Press; Chicago, Illinois. Pp. 504-509. https://www.press.uchicago.edu/books/HOC/HOC_V6/HOC_VOLUME6_G.pdf

Peer-Reviewed Extended Abstracts

- 2019 **Fish, C.S.** and A.L. Griffin. *Emotional responses to climate change map framing using facial emotion recognition technology*. Proceedings of the 28th International Cartographic Conference. Tokyo, Japan. July 2019.
- 2018 **Fish, C.S.** *Evaluating emotional responses to framing of climate change maps with facial emotion recognition technology*. 10th International Conference on Geographic Information Science. Melbourne, VIC, Australia. August 29, 2018.
- Fish, C.S.** *Animation in the age of the animated gif: The changing dynamics of dynamics in geovisual analytics*. Workshop at the 10th International Conference on Geographic Information Science. Melbourne, VIC, Australia. August 28th, 2018.
- 2017 **Fish, C.S.** *A content analysis of climate change maps in the United States news media*. Proceedings of the 28th International Cartographic Conference. Washington, DC. July 2-7, 2017
- 2017 Griffin, A.L., T. White, **C.S. Fish**, B. Tomio, H. Huang, C. Robbi-Sluter, J.V. Meza Bravo, S.I. Fabrikant, S. Bleisch, M. Yamada, and P. Picanço. *Designing across map use contexts*. Proceedings of the 28th International Cartographic Conference. Washington, DC. July 2-7, 2017.
- 2015 **Fish, C.S.** and K. Calvert. *Understanding map design for energy policy, planning, and technology implementation*. The 27th Annual Meeting of the International Cartographic Association. Rio de Janeiro, Brazil. August 25, 2015.
- 2010 Goldsberry, K. and **C. Fish**. *Legibility of transitions in dynamic geovisual displays: Determining the influence of change blindness in geovisual analytics*. The 6th Meeting of GIScience. Zurich, Switzerland. September 15, 2010.
- 2009 **Fish, C.** and K. Goldsberry. *Evaluating the influence of tweening on human change perception in animated choropleth maps*. The 24th Annual Meeting of the International Cartographic Association. Santiago, Chile. November 18, 2009.

Proceedings and Other Publications (Not Peer-Reviewed)

- 2017 **Fish, C.S.** and A.L. Griffin. (2017). *Emotional responses to climate change maps*. Proceedings of the 28th International Cartographic Conference, Pre-conference Workshop on Maps and Emotion. Washington, DC. July 1-2, 2017.
- 2015 **Fish, C.S.** 2015. *Cartographic challenges in animated mapping*. Proceedings of the 27th International Cartographic Conference, Pre-conference Workshop on Envisioning the Future of Cartographic

Research. Curitiba, Brazil. August 21, 2015.

- 2015 Abbott, L., A. Barrett, S. Eissler, **C.S. Fish**, L. Goldberg, S. Mainzer, and M. Olsen. (2015). *Community perceptions of local foods: A mixed methods approach in State College, PA*. University Park, PA: Hamer Center for Community Design.

PRESENTATIONS AND INVITED LECTURES

Invited Talks

- 2020 **Fish, C.S. (presenter)**. *Creating User Friendly Maps for Experts & Storytelling Maps for Everyone on Ocean Acidification & Hypoxia*. State of the Coast Conference-Oregon Sea Grant. Virtual. November 6, 2020.
- Fish, C.S. (presenter)**. *What do maps have to do with emotions and climate change?* IntroDUCKtion: UO Student Orientation. Eugene, OR, August 6, 2020.
- 2018 **Fish, C.S. (presenter)**. *Cartographic design for mass communication*. Society of Woman Geographers Meeting, Washington, DC, April 28, 2018.
- 2017 **Fish, C.S. (presenter)**. *Cartographic design for climate change vulnerability mapping*. National Socio-Environmental Synthesis Center (SESYNC) Pursuit on Climate Vulnerability Mapping Workshop May 8-10, 2017, Annapolis, MD, May 9, 2017.
- Fish, C.S. (presenter)**. *Emotion, framing, climate change, and maps*. United States Military Academy at West Point. West Point, NY, April 27, 2017.
- 2014 **Fish, C.S. (presenter)**. *Designing point symbols*. University of Kentucky MapShop Workshop for the New Maps+ Online Digital Mapping Initiative. Lexington, KY, October 13th 2014.
- Wilson, M., **C.S. Fish, (panelist)**, A. Woodruff, J. Czaplowski, and M. Foster. *Professional cartography*. Geography 109: Digital Mapping, University of Kentucky. Lexington, KY, October 14th, 2014.
- 2012 **Fish, C. (presenter)**, L. Rosenshein Bennett, and L. Scott. *Visualizing space-time cluster analysis*. Esri Useful Maps and Apps Presentation Series. Redlands, CA, October 30, 2012
- 2009 **Fish, C. (presenter)** and K. Goldsberry. *Quantifying the influence of tweening in animated maps*. Michigan State Geography Department Colloquia Series. East Lansing, MI, March, 2009.
- Fish, C. (presenter)** and K. Goldsberry. *Change blindness and animated choropleth maps*. Michigan State Geography Department Colloquia Series. East Lansing, MI, October 2, 2009.

Conference Presentations

- 2020 **Fish, C.S. & N. Douglass (both authors were presenters)**. *Revamping an Introductory GIS Course for Online Delivery*. 2020 North American Cartographic Information Society (NACIS) Conference, Virtual. October 15, 2020.
- 2020 **Fish, C.S. (presenter)**. *Who is telling the story of climate change with maps? The surprising cartographic silence of the far right*. 115th Meeting of the American Association of Geographers, Denver, CO. (cancelled)
- 2019 **Fish, C. S. (presenter)**. *Vivid Maps of Climate Change: Do They Make a Difference?* 114th Meeting of American Association of Geographers, Washington, DC, April 3-7, 2019.
- 2018 **Fish, C.S. (presenter)**. *Vivid Persuasion in Maps*. 2018 North American Cartographic Information Society (NACIS) Conference, Norfolk, VA, October 18, 2018.

- Fish, C.S. (presenter).** *Vivid maps: Climate change cartographic communication.* 113th Meeting of the American Association of Geographers, New Orleans, LA, April 10-14, 2018.
- 2017 **Fish, C.S. (presenter).** *Climate change, maps, and the media.* 2017 North American Cartographic Information Society (NACIS) Conference, Montreal, Canada, October 10-13, 2017.
- Fish, C.S. (presenter)** and A.L. Griffin. *Emotional responses to climate change maps.* 112th Annual Meeting of the American Association of Geographers, Boston, MA, April 5 – 9, 2017.
- 2016 **Fish, C.S. (presenter)** and K. Calvert. *A content analysis study of interactive online solar energy maps.* 111th Annual Meeting of the Association of American Geographers, San Francisco, CA, March 30, 2016.
- *Awarded Best Paper in the American Association of Geographers Cartography Specialty Group Honors Student Paper Competition
- Fish, C.S. (presenter)** and K. Calvert. *Assessment of solar energy web maps.* 2016 No Boundaries Conference, University Park, PA, February 20, 2016.
- 2015 Robinson, A. C. (presenter), **C.S. Fish**, and S. Quinn. *Visualizing geographic patterns in MOOC data.* 2015 Esri Education GIS Conference. San Diego, CA, July 18-21, 2015.
- Calvert, K., J. Brownson, **C.S. Fish (panelist)**, D. Renne, J. Rannalli, and D. Lingfors. *Panel: Mapping solar energy futures: Emerging trends in geospatial decision-support.* Solar 2015: American Solar Energy Society (ASES) Conference, State College, PA, July 29, 2015.
- Fish, C.S. (presenter)** and K. Calvert. *Web-based renewable energy map design evaluation.* 110th Annual Meeting of the Association of American Geographers, Chicago, IL, April 21-25, 2015.
- Fish, C.S. (presenter)**, P. Stephens, and M. Mathason. *Web-based renewable energy map design evaluation.* 2015 No Boundaries Conference, University Park, PA, April 11, 2015.
- 2014 **Fish, C.** and K. Goldsberry. *Are you blind to change? Evaluating the influence of tweening on human change perception in animated choropleth maps.* 2014 North American Cartographic Information Society (NACIS) Conference, Pittsburgh, PA, October 8-11, 2014. (poster)
- 2013 **Fish, C. (presenter).** *Basemaps.* 2013 Esri International Users Conference, San Diego, CA, July 8-12, 2013
- Fish, C. (presenter).** *Military Aspects of Weather.* 2013 Esri International Users Conference, San Diego, CA, July 8-12, 2013
- Fish, C.,** N. Campos, and M. Funk. **(all authors were presenters).** *ArcGIS for the Military: Managing the operational factors.* 2013 Esri International Users Conference, San Diego, CA, July 8-12, 2013
- Fish, C.** and M. Funk. **(all authors were presenters).** *ArcGIS for the Military: Analyzing the operational environment.* 2013 Esri International Users Conference, San Diego, CA, July 8-12, 2013
- Fish, C.** and M. Funk. **(all authors were presenters).** *ArcGIS for the Military: analyzing the operational environment.* 2013 Esri Federal GIS Conference, Washington, DC, February 25-27, 2013.
- Fish, C.S. (presenter).** *Designing and testing point symbols.* 2013 North American Cartographic Information Society (NACIS) Conference, Greenville, SC, October 9-11, 2013.
- 2012 **Fish, C.** and B. Conklin. **(all authors were presenters).** *Creating basemaps for the defense and intelligence communities.* 2012 Esri Federal GIS Conference, Washington, DC, February 22-24, 2012.
- Fish, C.** and B. Conklin. **(all authors were presenters).** *Exploring the ArcGIS Defense and Intelligence Resources.* 2012 Esri Federal GIS Conference, Washington, DC, February 22-24, 2012.

- Fish, C.S. (presenter)**, L. Rosenshein Bennett, and L. Scott. *Visualizing space-time cluster analysis*. 2012 North American Cartographic Information Society (NACIS) Conference, Portland, OR, October 17-19, 2012.
- 2011 Buckley, A. (presenter), K. Field, and **C.S. Fish**. *Methods for space time visualization: Take 3*. 2011 North American Cartographic Information Society (NACIS) Conference. Madison, WI, October 12-14, 2011.
- Goldsberry, K. (presenter) and **C.S. Fish**. *Space-time legibility: Using design to mitigate geovisual failures*. 107th Annual Meeting of the Association of American Geographers, Seattle, WA, April 12-16, 2011.
- 2010 **Fish, C.S. (presenter)** and K. Goldsberry. *Animated choropleth maps and human change detection*. The 106th Annual Meeting of the Association of American Geographers, Washington, DC, April 14-18, 2010.
- Goldsberry, K. (presenter) and **C.S. Fish**. *Change We Can Perceive In: Change legibility in dynamic displays of geographic information*. 106th Annual Meeting of the Association of American Geographers, Washington, DC, April 14-18, 2010.
- 2009 **Fish, C.S. (presenter)** and K. Goldsberry. *The effects of smooth transitions in animated choropleth maps on human change detection*. 2009 North American Cartographic Information Society (NACIS) Conference. Sacramento, CA, October 7-10, 2009.
- Fish, C.S. (presenter)** and K. Goldsberry. *Quantifying the influence of tweening in animated maps*. 105th Annual Meeting of the Association of American Geographers, Las Vegas, NV, March 22-28, 2009.
- 2008 Roth, R.E. (presenter), M. Stryker, **C. Fish**, D. Schoch, and C.A. Brewer. *ScaleMaster.org: Multi-scale mapping made easy*. 2008 North American Cartographic Information Society (NACIS) Conference. Missoula, MT, October 8-11, 2008.
- Allen, M., **C. Fish**, and S. Herb. **(all authors were presenters)**. *The cultural and literary map of Pennsylvania*. 104th Annual Meeting of the Association of American Geographers, Boston, MA, April 15-19, 2008.

Workshop (attendance and presentations)

- 2019 National Science Foundation Landscape Carbon Sequestration for Atmospheric Recovery (LCSAR) Workshop, Portland, Oregon
- 2017 Critical GIS Workshop, McGill University, Montreal, Canada
- 2017 National Socio-Environmental Synthesis Center (SESYNC) Workshop on Climate Change Vulnerability Mapping, Annapolis, MD **with presentation** on “Cartographic Design for Climate Change Vulnerability Mapping”
- 2016 International Cartographic Association (ICA) Workshop with Commissions on Visual Analytics, Usability, and Map Design in San Francisco, California
- 2015 ICA Workshop with Commissions on Visual Analytics, Usability, and Map Design in Curitiba, Brazil **with presentation** of white paper on “Cartographic Challenges in Animated Mapping”

FELLOWSHIPS & SCHOLARSHIPS

- 2017-18 NASA Pennsylvania Space Grant Consortium, Graduate Fellowship \$5,000.
- 2017-18 United States Geospatial Intelligence Foundation Doctoral Scholarship \$5,000.
- 2017 Cartography and Geographic Information Society (CaGIS) Doctoral Scholarship \$1,500.

- 2014-15 Penn State College of Earth and Mineral Sciences FEGR Top-up Award \$5,000.
2006-08 Penn State College of Earth and Mineral Sciences Matthew J. Wilson Honors Scholarship \$4,000.

AWARDS

- 2018 **University of Oregon New Junior Faculty Research Award** for new research at the University of Oregon.
- 2017 **Best Paper, Cartographic Perspectives Student Paper Competition** for Fish, C.S. and K. Calvert (2016). Analysis of interactive solar energy web maps for urban energy sustainability. *Cartographic Perspectives*. 85, 5-22.
- Outstanding Graduate Teaching Assistant Award** for excellence in teaching in the Department of Geography at Penn State.
- Nancy Brown Community Service Award** for excellence in service to the Department of Geography at Penn State and the community.
- Penn State Geography Academic Enrichment Research Award** for dissertation research.
- 2016 **Best Paper, Association of American Geographers Cartography Specialty Group Paper Competition** for presentation of the paper entitled *A content analysis study of interactive online solar energy maps*.
- Penn State Geography Academic Enrichment Research Award** for dissertation research.
- E. Willard Miller Ph.D. Paper Competition Second Place** for the paper entitled *A content analysis study of interactive online solar energy maps*.
- 2014 **Elaine Bosowski Second Place Map Graduate Level Award** for a graduate student map or poster displayed at the annual meeting of the Pennsylvania Geographic Society.
- 2009 **Graduate Office Fellowship, Michigan State University, Department of Geography** for master's thesis research.
- 2008 **Association of American Geographers, Cartography Specialty Group Master's Thesis Research Grant** for the proposal entitled: "*Evaluating the influence of tweening on human change perception in animated choropleth maps*".
- Penn State Department of Geography, Jeff Gockley Memorial Award** for academic excellence in the GIScience concentration.
- 2005-08 **Dean's List**, Penn State University, College of Earth and Mineral Sciences.

TRAVEL GRANTS

- 2017 United States National Committee of the International Cartographic Association National Science Foundation (NSF) Young Scholar Conference Grant
- 2016 Gamma Theta Upsilon Travel Award
- 2015 United States National Committee of the International Cartographic Association National Science Foundation Young Scholar Conference Grant
- North American Cartographic Information Society Student Travel Grant
- State of the Map United States Conference Scholarship
- Free and Open Source Software for Geospatial (FOSS-4G) North American Conference Scholarship

- 2014 North American Cartographic Information Society Student Travel Grant
- 2010 North American Cartographic Information Society Member Travel Grant
- 2009 United States National Committee of the International Cartographic Association National Science Foundation Young Scholar Conference Grant
- GIS and GIScience Specialty Group of the Association of American Geographers Travel Award
- Michigan State University, Department of Geography Travel Grant
- Michigan State, Graduate School Travel Grant
- Michigan State, College of Social Science Travel Grant
- Michigan State, Council of Graduate Students Travel Grant
- Robert Thomas/Gamma Theta Upsilon Michigan State Travel Grant

TEACHING

Course Instructor

- GEOG 481/581: GIScience 1 Oregon
 Introductory, undergraduate and graduate GIS course
 Winter 2019, Spring 2019, Fall 2019, Winter 2020, Fall 2020, Winter 2021
- GEOG 498: Geospatial Project Design Oregon
 Upper-division undergraduate capstone service-learning GIS course
 Fall 2019, Fall 2020
- GEOG 181: Our Digital Earth Oregon
 Introductory, general education undergraduate GIS course
 Spring 2019
- GEOG 607: Cartography Seminar Oregon
 Graduate student seminar
 Winter 2021
- GEOG 160: Mapping Our Changing World (Web) Penn State
 Introductory, general education online undergraduate GIS course
 Fall 2017, Summer 2017
- GEOG 430: Human Use of the Environment (Web) Penn State
 Upper-division online undergraduate human-environment geography course
 Summer 2016
- GEOG 206: Physical Geography (Web) Michigan State
 Introductory, general education online undergraduate physical geography course
 Summer 2009
- Teaching Assistant**
- GEOG 363: Geographic Information Systems Penn State
 Intermediate, undergraduate GIS course. Taught lab component.
 Spring 2017
- GEOG 361: Cartography: Maps and Map Construction Penn State

Intermediate, undergraduate cartography course. Taught lab component.
Fall 2016

GEO 423: Map Design Michigan State
Intermediate, undergraduate cartography course. Taught lab component.
Fall 2008, Fall 2009

GEO 426: Thematic Cartography Michigan State
Advanced, undergraduate cartography course. Taught lab component.
Spring 2009, Spring 2010

MENTORSHIP

Graduate Student Advisees

Nathaniel Douglass	Master of Science in Geography	In Progress	Oregon
Michala Garrison	Master of Science in Geography NCAR Innovator Student Fellow	In Progress	Oregon

Graduate Student Advisee Awards

NACIS Student Map and Poster Competition, Best Research Poster, Michala Garrison (2020)

Graduate Student Committee Member

Schyler Reis	PhD in ESSP/Geography	In Progress	Oregon
Justin Meinke	PhD in Geography	In Progress	Oregon
Bill Limpisathian	PhD in Geography	In Progress	Oregon
Michael Madden	Master of Science in Environmental Studies	In Progress	Oregon

Undergraduate Advising

Katie Quines	Bachelor of Science in Geography/Spatial Data Science	Oregon
Peter Ryan	Bachelor of Science in Geography	Penn State
Han Yu	Bachelor of Science in Geography	Penn State
Julia Higson	Bachelor of Science in Geography/Anthropology	Penn State
Nicole Rivera	Bachelor of Science in Geography	Penn State
Sophie Najjar	Bachelor of Arts in Geography/Visual Arts	Penn State
Patrick Stevens	Bachelor of Science in Geography	Penn State

SERVICE

Scholarly Affiliations

American Geophysical Union (AGU)
American Association of Geographers (AAG)
Cartography and Geographic Information Society (CaGIS)
Gamma Tau Upsilon, Geography Honors Society (GTU)
Phi Beta Kappa, Lambda Chapter of Pennsylvania
North American Cartographic Information Society (NACIS)
Society of Woman Geographers (SWG)
Supporting Women in Geography (SWIG)

Journal Reviews

Cartographic Perspectives (1)
Cartographic Journal (2)

Cartography and Geographic Information Science (5) (Editorial Board Member)
Cities (1)
Geographical Analysis (1)
 Geographic Information Science & Technology Body of Knowledge (1)
Geography Teacher (1)
IEEE Transactions on Visualization and Computer Graphics (1)
 International Cartography Conference 2019 (3)
International Journal of Geographic Information Science (1)
ISPRS International Journal of Geo-Information (1)
Renewable & Sustainable Energy Reviews (1)

Interdisciplinary Service

2020 **Organizer/Chair:** Convergence Research in Climate Science: How to Move Beyond Disciplinary Silos, American Geophysical Union (AGU) Poster Session
2020 **Organizer/Chair:** Convergence Research in Climate Science: How to Move Beyond Disciplinary Silos, American Geophysical Union (AGU) Paper Session

Disciplinary Service

2020- **Editorial Board:** Cartography and Geographic Information Science Journal
 2020-2021 **Past-Chair:** Cartography Specialty Group of the AAG
 2020-2021 **Committee Chair:** Diversity and Inclusion of the Cartography Specialty Group of the AAG
 2019-2020 **Chair:** Cartography Specialty Group of the AAG
 2019-2020 **Program Committee Chair:** Cartography Specialty Group of the AAG
 2018-2019 **Vice Chair:** Cartography Specialty Group of the AAG
 2014-2016 **Conference Organizer:** NACIS Practical Cartography Days (2015-2016)
 2012- 2013 **Board Member:** Cartography and Geographic Information Society (CAGIS)
 2009- 2010 **Student Director:** Cartography Specialty Group, AAG

Conference Session Organization/Chair

2021 **Session Organizer:** AAG 2021, Mapping Climate Change
 2020 **Session Organizer:** AAG 2020 Convergence research in climate science (cancelled)
 2020 **Session Organizer:** AAG 2020, Election Mapping (cancelled)
 2020 **Session Organizer:** AAG 2020, Storytelling and Map Design (cancelled)
 2018 **Session Organizer:** AAG 2018, Mapping Climate Change (2 sessions)
 2017 **Session Chair:** Critical Conference, Penn State
 2017 **Session Chair:** ICC 2017, Cartographic Representation in Geovisual Analytics
 2016 **Session Chair:** NACIS 2016, Mapping in the City
 2016 **Session Organizer:** AAG Grant Writing Panel for SWIG
 2012 **Session Chair:** AutoCarto 2012, Geospatial Modeling Session
 2010 **Session Chair:** NACIS 2010, Practical Solutions & Applications for Mapmakers

University Service

2019 Information Technology Research Domain Subcommittee, University of Oregon (UO)

Departmental Service (University of Oregon)

2020 **Committee Member:** Internal Hiring Plan Proposal (GeoAI Proposal)
 2020-2021 **Committee Member:** Graduate Admissions Committee
 2020 **Peer Reviewer of Teaching:** Kendra Chritz
 2019-2020 **Committee Member:** Remote Sensing Search Committee, UO
 2018-2020 **Committee Member:** Information Technology Committee, UO
 2018-2020 **Committee Member:** Scholarships, Fellowships, and Awards Committee, UO
 2019 **Committee Member:** Internal Hiring Plan Proposal (Smart Cities Proposal), UO

- 2018 **Organizer:** Supporting Young Women in Geography, mapping activity, Penn State
2015-2016 **President:** Graduate Students in the Penn State Department of Geography
2015-2016 **President:** Supporting Women in Geography at Penn State
2016 **Presenter:** Supporting Young Women in Geography Day, GIS activity, Penn State
2015 **Organizer/Moderator:** no)Boundaries *Communicating Your Discipline* Panel, Penn State
2015 **Presenter:** Supporting Young Women in Geography Day, GIS activity, Penn State
2011- 2013 **Organizer:** Esri Useful Maps and Apps Presentation Series, Esri
2009- 2010 **Co-President:** Geography Graduate Group, Michigan State
2009- 2010 **Department Steward:** Graduate Employees Union, Michigan State
2009 **Graduate Assistant:** Geography Graduate Student Orientation, Michigan State
2009 **Social Coordinator:** Geography Graduate Group, Michigan State
2008 **Secretary:** Geography Graduate Group, Michigan State
2007- 2008 **Undergraduate Representative:** Supporting Women in Geography, Penn State

Community Service

- 2018 **Volunteer:** ENVISION workshop, geography activity, University Park, PA.
2017 **Organizer:** Mapathon, Puerto Rico following Hurricane Maria, Penn State
2017 **Volunteer:** ExplorationU, cartography activity, Milesburg, PA
2017 **Volunteer:** HauntedU, geosciences activity, University Park, PA
2015-2016 **Organizer:** Maptime State College, State College, PA
2011- 2013 **Volunteer:** Court Appointed Special Advocate for Foster Children (CASA), Redlands, CA
2005- 2008 **Volunteer:** Penn State Philanthropic Dance Marathon, University Park, PA
2005- 2007 **Volunteer/Tutor:** Stormbreak Group Home for Foster Children, State College, PA
2005 **Volunteer:** Habitat for Humanity, Penn State Chapter, Augusta, GA

ADDITIONAL TRAINING

- 2016 *Visiting Student*
School of Physical Environmental and Mathematical Sciences, University of New South
Wales, Canberra Campus, Australia
- 2013 *Scrummaster Certification*
Scrum Alliance, Westminister, CO