TIMOTHY J. PRESTBY

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EDUCATION

The Pennsylvania State University   Anticipated Spring 2025
Doctor of Philosophy, Geography
Dissertation: "Evaluating Trust in Maps: Theory, Methods, and Design"
Advisor: Dr. Anthony C. Robinson

The Pennsylvania State University   2022
Master of Science, Geography
Thesis: "The Design of COVID-19 Story Maps in Data Journalism"
Advisor: Dr. Anthony C. Robinson

The University of Wisconsin–Madison
Bachelor of Science, Honors Cartography and GIS | Graduated with Distinction   2020
Certificate in Environmental Studies
Thesis: "Understanding Neighborhood Isolation"
Advisors: Dr. Song Gao & Dr. Robert E. Roth

RESEARCH APPOINTMENTS

NSF Graduate Research Fellow   2022 – Present
Department of Geography, Penn State
Advisor: Dr. Anthony C. Robinson, Professor of Geography

Graduate Research Assistant   2020 – 2022
Department of Geography, Penn State
"Beescape Nexgen" (USDA)
PI: Dr. Christina Grozinger, Professor of Entomology

Undergraduate Research Assistant   2019 – 2020
University of Wisconsin Cartography Lab, UW-Madison
"Elements of Interactive Cartography" (NSF)
PI: Dr. Robert E. Roth, Professor of Geography

Undergraduate Research Assistant   2018 – 2020
Geospatial Data Science Lab, UW-Madison
Advisor: Dr. Song Gao, Associate Professor of Geography

PUBLICATIONS

Refereed Journal Articles

Prestby, T.J., (In review). Uncertainty Representation and Cultural Color Congruence in Visualization Design: Impacts on Trusting and Reading Thematic Maps. For submission to *IEEE Transactions on Computer Graphics and Visualization*.

Case, N., **Prestby, T.J.**, Gartner, G. (In review). "Does this map do what I want?": Elements of trust in maps. *Cartographic Perspectives*.

Prestby, T.J. (In review). Situating Trust in Cartography: Conceptions of Trust and Trustworthiness in Maps. *Cartographic Perspectives*.

Prestby, T.J. (2024). Measuring Trust in Maps: development and evaluation of the MAPTRUST scale. *International Journal of Geographic Information Science*. https://doi.org/10.1080/13658816.2024.2370076

Prestby, T.J. (2023). Trust in maps: what we know and need to know. *Cartography and Geographic Information Science*. https://doi.org/10.1080/15230406.2023.2281306

Prestby, T.J., Robinson, A.C., McLaughlin, D., Dudas, P.M., & Grozinger, C.M. (2023). Characterizing user needs for Beescape: A spatial decision support tool focused on pollinator health. *Journal of Environmental Management*, 325, 116416. https://doi.org/10.1016/j.jenvman.2022.116416

Hart, D.A., **Prestby, T.**, & Roth, R.E. (2022). Design and Evaluation of Coastal Web Atlases: Best Practices and Future Opportunities for Map Representation, Interaction, and Usability. *Coastal Management*, 50(6), 514-548. https://doi.org/10.1080/08920753.2022.2126271

Prestby, T. (2022). Design Techniques for COVID-19 Story Maps: A Quantitative Content Analysis. *Cartography and Geographic Information Science*, 1-20. https://doi.org/10.1080/15230406.2022.2102077

Song, Z., Roth, R.E., Houtman, L., **Prestby, T.**, Iverson, A., & Gao, S. (2022). Visual Storytelling with Maps: An Empirical Study on Story Map Themes and Narrative Elements, Visual Storytelling Genres and Tropes, and Individual Audience Differences. *Cartographic Perspectives*, (100), 10-44. https://doi.org/10.14714/CP100.1759

Bley, K., Caldwell, K., Kelly, M., Loyd, J., Roth, R.E., Anderson, T.M., Bonds, A., Plevin, J., Madison, D., Sims, T., Spencer, C., Archuleta, C., Ellner, Z., McDowell, T., Nestel, C., Noterman, E., Smith, N., Velednitsky, S., Underwood, N., Darlington, R., Gao, Y., George, A., Miller, L.,

Prestby, T., & Vongkusolkit, J. (2021). A Design Challenge for Transforming Justice. *GeoHumanities*. https://doi.org/10.1080/2373566X.2021.1986100

Robinson, A.C., Peeler, J., **Prestby, T.**, Goslee, S. C., Anton, K., & Grozinger, C. M. (2021). Beescape: Characterizing user needs for environmental decision support in beekeeping. *Ecological Informatics*. https://doi.org/10.1016/j.ecoinf.2021.101366

Li, B., Gao, S., Liang, Y., Kang, Y., **Prestby, T.**, Gao, Y., & Xiao, R. (2020). Estimation of regional economic development indicator from transportation network analytics. *Scientific reports*, 10(1), 1-15. https://doi.org/10.1038/s41598-020-59505-2

Prestby, T., App, J., Kang, Y., & Gao, S. (2020). Understanding neighborhood isolation through spatial interaction network analysis using location big data. *Environment and Planning A: Economy and Space*, 52(6), 1027-1031. https://doi.org/10.1177/0308518X19891911

Book Chapters

Roth, R.E., Sack, C.M., Baldrica-Franklin, G., Chen, Y., Donohue, R., Houtman, L., **Prestby, T.**, Tolochko, R., & Underwood, N. (2021) Web Mapping: A Workbook for Interactive Cartography and Visualization on the Open Web (Version 0.2). *University of Wisconsin Cartography Laboratory*. http://doi.org/10.5281/zenodo.4685763

Gao, S., Li, M., Rao, J., Mai, G., **Prestby, T.**, Marks, J., & Hu, Y. (2021). Automatic urban road network extraction from massive GPS trajectories of taxis. *Handbook of Big Geospatial Data*, 261. https://doi.org/10.1007/978-3-030-55462-0_11

Refereed Conference Abstracts

Prestby, T. (2023). In Maps We Trust. *Abstracts of the ICA*, 6, 206. https://doi.org/10.5194/ica-abs-6-206-2023

Robinson, A.C., **Prestby, T.J.**, McLaughlin, D., Houtman, L., Dudas, P., and Grozinger, C. (2023). Geovisualization for Pollinator Decision Support with Beescape NexGen. *Abstracts of the ICA*, 6, 212. https://doi.org/10.5194/ica-abs-6-212-2023

Prestby, T. (2022). Content Analysis of COVID-19 Cartographic Journalism. *Abstracts of the ICA*, 5, 65. https://doi.org/10.5194/ica-abs-5-65-2022

Robinson, A.C., **Prestby, T.J.**, McLaughlin, D., Dudas, P., & Grozinger, C. (2022). Evaluating User Needs for Geovisualization of Pollinator Health and Ecosystems. *Abstracts of the ICA*, 5, 157. https://doi.org/10.5194/ica-abs-5-157-2022

Prestby, T. (2021). Characterizing Storytelling in COVID-19 Cartographic Journalism. *Abstracts of the ICA*, 3, 245. https://doi.org/10.5194/ica-abs-3-245-2021

Roth, R.E., Sack, C.M., Baldrica-Franklin, G., Chen, Y., Donohue, R., Houtman, L., **Prestby, T.**, Tolochko, R., and Underwood, N. (2021). Introducing Web Mapping: A Workbook for Interactive Cartography and Visualization on the Open Web. *Abstracts of the ICA*, 3, 254. https://doi.org/10.5194/ica-abs-3-254-2021

PRESENTATIONS

Invited Talks

Prestby, T.J. (2023). Trust in Maps: what we know and what we need to know. Invited lecture for the Department of Geography and Earth Sciences at UNC Charlotte. October 17.

Conference Presentations

*presenter on co-authored work

Prestby, T.J. (2024). Trust in Maps: Applying the MAPTRUST Scale to Study Cartographic Design. *Viral Movements Symposium*. State College, PA: May 15.

Prestby, T.J. (2024). Conceptualizing Trust in Cartography. *American Association of Geographers Annual Meeting*. Honolulu, HI: April 18.

Prestby, T.J. (2024). An Empirical Study on How Color Congruence and Uncertainty Affect Map Trust. *Penn State Geography Miller Masterclass*. State College, PA: March 14.

Birkenholtz, T., **Prestby, T.J.**, Houtman, L. (2024). Placing Wetlands in the Watershed: Situating Millbrook Marsh, Pennsylvania in the Chesapeake Bay Watershed. *Delaware Wetlands Conference*. Wilmington, DE: February 6.

Prestby, T.J. (2023). To Trust or Not to Trust Maps, That Is the Question. *North American Cartographic Information Society Annual Conference*. Pittsburgh, PA: October 12.

Robinson, A.C., **Prestby, T.J.**, McLaughlin, D., Houtman, L., Dudas, P., and Grozinger, C. (2023). Geovisualization for Pollinator Decision Support with Beescape NexGen. *International Cartography Conference*. Cape Town, South Africa: August 16.

Prestby, T.J. (2023). In Maps We Trust. *International Cartography Conference*. Cape Town, South Africa: August 15.

Prestby, T.J. (2023). The Intersection of AI, Trust, and Cartography. *Pre-conference Workshop on MapAI, International Cartography Conference*. Stellenbosch, South Africa: August 12.

Song, Z., Roth, R.E., Houtman, L., **Prestby, T.J.**, Iverson, A., & Gao, S. (2022). Visual Storytelling with Maps: Update and Outlook from an Empirical Study. *AutoCarto*. Redlands, CA: November 3.

Prestby, T.J. (2022). Surveying the Design of Story Maps in Digital Journalism. *North American Cartographic Information Society Annual Conference*. Minneapolis, MN: October 20.

Prestby, T.J. (2022). Design Techniques for COVID-19 Story Maps: A Quantitative Content Analysis. *EuroCarto*. Vienna, Austria: September 21.

Robinson, A.C., **Prestby, T.J.**, McLaughlin, D., Dudas, P., & Grozinger, C. (2022). Evaluating User Needs for Geovisualization of Pollinator Health and Ecosystems. *EuroCarto*. Vienna, Austria: September 21.

Prestby, T.J. (2021). Characterizing Storytelling in COVID-19 Cartographic Journalism. *International Cartography Conference*. Florence, Italy: December 16.

Prestby, T.J. (2021). Mapping Multiscale Pollinator Big Data. *Center for Pollinator Research Symposium*. State College, PA: November 16.

Roth, R.E., Sack, C.M., Baldrica-Franklin, G., Chen, Y., Donohue, R., Houtman, L., **Prestby, T.J.**, Tolochko, R., & Underwood, N. (2021). Introducing "Web Mapping: A Workbook for Interactive Cartography and Visualization on the Open Web". *North American Cartographic Information Society Annual Conference*. Oklahoma City, OK: October 14.

Hart, D.A., **Prestby, T.J.**, & Roth, R.E. (2021). Design and Evaluation of Coastal Web Atlases: Best Practices and Future Opportunities for Map Representation, Interaction, and Usability. *CoastGIS*. Virtual: September 16.

Hart, D.A., **Prestby, T.J.**, & Roth, R.E. (2021). Enhancing the Wisconsin Coastal Atlas as a Resource to Support Adaptive Coastal Management. *International Coastal Atlas Network Steering Meeting*. Virtual: September 27.

Hart, D.A., **Prestby, T.J.***, & Roth, R.E. (2020). Designing Coastal Web Atlases: Best Practices and Future Directions. *Social Coast Forum*. Charleston, SC: February 6.

Prestby, T.J., App, J., Kang, Y., & Gao, S. (2020). Visualizing Neighborhood Isolation by Spatial Interaction Network Analysis. *American Association of Geographers Annual Meeting*. Denver, CO: Canceled.

Prestby, T.J., Gao, S., Liang, Y., Kang, Y., & Li, B. (2019). Linking Traffic Volume to Economic Development Index Using Big Data and Gravity Models. *American Association of Geographers Annual Meeting*. Washington, DC: April 4.

Panels

Prestby, T. (2023). "Advancing GIS Careers" *GISalon Webinar*, GISphere.

FELLOWSHIPS, GRANTS, AND AWARDS

Fellowships

Graduate Research Fellowship. *NSF.*	2022 – Present
Hilldale Undergraduate Research Fellowship. *UW–Madison.*	2019 – 2020

Grants

Student Travel Grant. *North American Cartographic Information Society* **(NACIS)**.	2024
Graduate Enrichment Research Grant. *Department of Geography, Penn State.*	2023
Student Travel Grant. *NACIS.*	2023
Student Travel Grant. *NACIS.*	2022
Student Travel Grant. *NACIS.*	2021
Graduate Research Enrichment Grant. *Department of Geography, Penn State.*	2021
Student Travel Grant. *NACIS.*	2020
Bromley Research Travel Grant. *L & S Honors Program, UW–Madison.*	2019
Student Travel Grant. *NACIS.*	2019

Cartography Awards

David Woodward Award for Best Digital Map, Honorable Mention. *Cartography and Geographic Information Society* **(CaGIS)**.	2021
Arthur Robinson Award for Best Print Map, Honorable Mention. *CaGIS.*	2021
Barbara Bartz Petchenik Cartographic Excellence Award. *Department of Geography, UW–Madison.*	2019
Keynote's Choice Award. *Wisconsin Land Information Association* **(WLIA)**.	2019

Thematic Map Award, First Place. *WLIA.*   2019

Awards

Young Scientist Award. *International Cartographic Association **(ICA)**.*   2023

Early Career Scholar Award. *U.S. National Committee to the ICA.*   2023

Young Scientist Award. *ICA.*   2022

Outstanding Graduate Research Assistant Award.   2022
Department of Geography, Penn State.

Young Scientist Award. *ICA.*   2021

Early Career Scholar Award. *U.S. National Committee to the ICA.*   2021

Geospatial Intelligence Scholarship. *US Geospatial Intelligence Foundation.*   2021

Damon Anderson Memorial Scholarship. *WLIA.*   2021

FEGR Top-up Award, *Penn State College of Earth and Mineral Sciences.*   2020

Olmstead Award for Excellence in Cartography. *Department of Geography,*   2020
UW–Madison.

Jerome Kohn Geographic Excellence Award. *Department of Geography,*   2019
UW–Madison.

Phi Beta Kappa. *UW–Madison.*   2019

William F. Vilas Merit Scholarship. *UW–Madison.*   2018

College of Letters and Sciences Dean's List. *UW–Madison.*   2018 – 2020

Community Environmental Scholar. *UW–Madison.*   2017 – 2018

College of Agriculture and Life Sciences Dean's List. *UW–Madison.*   2016 – 2018

TEACHING APPOINTMENTS

Instructor   Fall 2024
Department of Geography, Penn State
Geography 361: Cartography—Maps and Map Construction

Teaching Assistant   Fall 2023
Department of Geography, Penn State
Geography 361: Cartography—Maps and Map Construction

Teaching Assistant   Spring 2020
Department of Geography, UW–Madison
Geography 575: Interactive Cartography and Visualization

SERVICE

Leadership Roles

Student Director, *AAG Cartography Specialty Group.*   2024 – Present

Editorial Board, *Cartography and Geographic Information Science.*   2024 – Present

Editorial Board, *Journal of Maps.*   2022 – Present

Peer Reviewer

Preventing Chronic Disease.   2024 – Present

GeoHumanities.   2024 – Present

Cartographica.   2024 – Present

The Cartographic Journal.   2024 – Present

International Journal of Geographic Information Science.   2023 – Present

International Journal of Cartography.   2023 – Present

International Journal of Human-Computer Interaction.   2022 – Present

Cartography and Geographic Information Science.   2021 – Present

Conference Session Organization

Putting the Human Back in Cartography: Methods and Theories. (2024). *American Association of Geographers Annual Meeting* **(AAG)**. Honolulu, HI: April 18. Sponsored by the Cartography Specialty Group. Co-organized with Jack Swab.

INSTITUTIONAL SERVICE

Undergraduate Student Mentor   2024 – Present
GeoGraphics Lab, Penn State

President, Supporting Women in Geography   2021 – 2023
Department of Geography, Penn State.

Graduate Coordinator, Undergraduate Research Opportunities Connection   2021 – 2022
Department of Geography, Penn State.

PROFESSIONAL EXPERIENCE

Cartographer   August 2023 – Present
Penn State GeoGraphics Lab

Cartography Intern   May 2021 – August 2021
Cartography Team, Apple Maps

Web Developer   January 2019 – August 2020
University of Wisconsin Cartography Lab, UW-Madison

PROFESSIONAL TRAINING

Penn State CIRTL Associate-Level Teaching Certificate   2024

Collaborative Institutional Training Initiative Certificate for Human Subject Research   2022

LinkedIn Learning Git Essential Training   2019

LinkedIn Learning GitHub for Web Designers   2019

LinkedIn Learning CSS Essential Training 1-3   2019

LinkedIn Learning Javascript Essential Training   2018

LinkedIn Learning Crafting Meaningful HTML   2019

LinkedIn Learning HTML Essential Training   2018

PROFESSIONAL MEMBERSHIPS

Member, Cartography and Geographic Information Society   2024 – Present

Member, ICA—Commission on Ethics   2023 – Present

Member, Cartography Specialty Group of the AAG   2019 – Present

Member, NACIS   2019 – Present