

# TIMOTHY J. PRESTBY

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## EDUCATION

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- The Pennsylvania State University** Anticipated Spring 2025  
Doctor of Philosophy, Geography  
Dissertation: “Understanding Trust in Thematic Maps”  
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** 2020  
Bachelor of Science, Honors Cartography and GIS | Graduated with Distinction  
Certificate in Environmental Studies  
Thesis: “Understanding Neighborhood Isolation”  
Advisors: Dr. Song Gao & Dr. Robert E. Roth

## RESEARCH APPOINTMENTS

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- 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

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### Refereed Journal Articles

- Prestby, T.J., (In progress). 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.**, & Vongkusolkiet, 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., Baldrice-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](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., Baldrice-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

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### 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.

**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.

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.

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., Baldrice-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. (2020). 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

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### Fellowships

Graduate Research Fellowship. <i>NSF</i> .	2022 – Present
Hilldale Undergraduate Research Fellowship. <i>UW–Madison</i> .	2019 – 2020

### Grants

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

### Cartography Awards

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

### Awards

Young Scientist Award. <i>International Cartographic Association (ICA)</i> .	2023
Early Career Scholar Award. <i>U.S. National Committee to the ICA</i> .	2023

Young Scientist Award. <i>ICA</i> .	2022
Outstanding Graduate Research Assistant Award. <i>Department of Geography, Penn State</i> .	2022
Young Scientist Award. <i>ICA</i> .	2021
Early Career Scholar Award. <i>U.S. National Committee to the ICA</i> .	2021
Geospatial Intelligence Scholarship. <i>US Geospatial Intelligence Foundation</i> .	2021
Damon Anderson Memorial Scholarship. <i>WLIA</i> .	2021
FEGR Top-up Award, <i>Penn State College of Earth and Mineral Sciences</i> .	2020
Olmstead Award for Excellence in Cartography. <i>Department of Geography, UW–Madison</i> .	2020
Jerome Kohn Geographic Excellence Award. <i>Department of Geography, UW–Madison</i> .	2019
Phi Beta Kappa. <i>UW–Madison</i> .	2019
William F. Vilas Merit Scholarship. <i>UW–Madison</i> .	2018
College of Letters and Sciences Dean’s List. <i>UW–Madison</i> .	2018 – 2020
Community Environmental Scholar. <i>UW–Madison</i> .	2017 – 2018
College of Agriculture and Life Sciences Dean’s List. <i>UW–Madison</i> .	2016 – 2018

## TEACHING APPOINTMENTS

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<b>Instructor</b> Department of Geography, Penn State Geography 361: Cartography—Maps and Map Construction	Fall 2024
<b>Teaching Assistant</b> Department of Geography, Penn State Geography 361: Cartography—Maps and Map Construction	Fall 2023
<b>Teaching Assistant</b> Department of Geography, UW–Madison Geography 575: Interactive Cartography and Visualization	Spring 2020

## SERVICE

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### Leadership Roles

Editorial Board, <i>Cartography and Geographic Information Science</i> .	2024 – Present
Editorial Board – Social Media, <i>Journal of Maps</i> .	2022 – Present

### Peer Reviewer

<i>GeoHumanities</i> .	2024 – Present
<i>Cartographica</i> .	2024 – Present
<i>The Cartographic Journal</i> .	2024 – Present
<i>International Journal of Geographic Information Science</i> .	2023 – Present
<i>International Journal of Cartography</i> .	2023 – Present
<i>International Journal of Human-Computer Interaction</i> .	2022 – Present
<i>Cartography and Geographic Information Science</i> .	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

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<b>Undergraduate Student Mentor</b> GeoGraphics Lab, Penn State	2024 – Present
<b>President, Supporting Women in Geography</b> Department of Geography, Penn State.	2021 – 2023
<b>Graduate Coordinator, Undergraduate Research Opportunities Connection</b> Department of Geography, Penn State.	2021 – 2022



## PROFESSIONAL EXPERIENCE

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<b>Cartographer</b> Penn State GeoGraphics Lab	August 2023 – Present
<b>Cartography Intern</b> Cartography Team, Apple Maps	May 2021 – August 2021
<b>Web Developer</b> University of Wisconsin Cartography Lab, UW–Madison	January 2019 – August 2020

## STUDY ABROAD EXPERIENCE

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<b>Discover in Scandinavia</b> Copenhagen, Denmark	Summer 2019
<b>Wageningen University and Research Exchange</b> Wageningen, Netherlands	Spring 2018
<b>UW Greenhouse Program in Nicaragua</b> Nicaragua	Summer 2016

## PROFESSIONAL MEMBERSHIPS

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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