Joshua Stevens

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Research Interests

Cartography, geovisualization, and visual analytics with an emphasis on cartographic interaction, HCI/CHI, user-centered design, and big data.

Education

2011 - 2015 Expected	**Ph.D. in Geography** (ABD) | **The Pennsylvania State University** Dissertation Topic: *Cues and Affordances in Cartographic Interaction* Committee: Dr. Alan MacEachren[1] (chair), Dr. Cynthia Brewer[1], Dr. Anthony Robinson[1], and Dr. Shyam Sundar[2]. [1]Geography, [2]Communications and Media Effects
2009 - 2011	**M.S. in Geography** | **Michigan State University** Thesis: *Alternative Segmentation Schemes for the Design of Traffic Maps* Committee: Dr. Kirk Goldsberry (chair), Dr. Judy Olson, and Dr. Ashton Shortridge.
2005 - 2009	**B.S. in GIScience** | **Michigan State University** Areas of Study: Geovisualization, cartography, and information design.

Professional Experience & Appointments

2014 - Present	**Instructor** | **The Pennsylvania State University** GEOG 160: Mapping Our Changing World. https://www.e-education.psu.edu/geog160/	University Park, PA
Summer 2013	**Visiting Graduate Researcher** | **University of Zürich** Geographic Information, Visualization, and Analysis (GIVA) Unit: Research on cartographic interaction, eye-tracking, and geovisual analytics development in C++/Qt. http://www.geo.uzh.ch/en/units/giscience-giva	Zürich, Switzerland
2011 - Present	**Research Assistant** | **The Pennsylvania State University** GeoVISTA Center: Map symbology, standardization, and cartographic design for mobile devices. http://www.geovista.psu.edu	University Park, PA
2011 - 2012	**Teaching Assistant** | **The Pennsylvania State University** GEOG 461w: Dynamic Cartographic Representation http://www.geovista.psu.edu/resources/geog461w.html	University Park, PA
2010 - 2011	**Teaching Assistant** | **Michigan State University** GEO 423: Cartographic Design and Production GEO 426: Thematic Cartography	East Lansing, MI
2009 - 2010	**Research Assistant** | **Michigan State University** Formulated accessibility models and conducted spatial analyses of pedestrian access to nutritional produce items within Lansing, MI. Developed interactive demonstration of GIS methodology and online atlas of produce accessibly maps.	East Lansing, MI
Summer 2009	**Research Aide** | **Michigan State University** Developed atlas of hospital and treatment center locations in Michigan. Ran spatial and network analysis to determine regions of access to healthcare facilities.	East Lansing, MI

| 2003 - 2009 | **Student Assistant** \| **Michigan Department of Education**   Lansing, MI |

Managed the website and public portal of the Office of Career and Technical Education.
Performed statistical analysis to produce maps and other graphics representing school district and administrative performance.

Refereed Publications

2013   Robinson, A. C., S. Pezanowski, S. Troedson, R. Bianchetti, J. Blanford, **J. Stevens**, E. Guidero, R. E. Roth and A. M. MacEachren. *Symbol Store: Sharing Map Symbols for Emergency Management*. Cartography and Geographic Information Science, 1-12.
DOI: http://dx.doi.org/10.1080/15230406.2013.803833

2010   Goldsberry, Kirk, Duvall, Chris S. , Howard, Philip H. and **Stevens, Joshua E.** *Visualizing Nutritional Terrain: a Geospatial Analysis of Pedestrian Produce Accessibility in Lansing, Michigan, USA*, Geocarto International, 25(6), 485 - 499.
DOI: http://dx.doi.org/10.1080/10106049.2010.510583

Conference Proceedings/Extended Abstracts

2013   **Stevens, J**., Robinson, A.C. and A.M. MacEachren. *Designing Map Symbols for Mobile Devices: Challenges, Best Practices, and the Utilization of Skeuomorphism*. 26th International Cartographic Conference. Dresden, Germany, August 25 - 30.

Presentations

2013   **Stevens, J**. and A.M. MacEachren. *Accommodating Big Data in Visual Analytics: Pairing Computation with Cognition*. Annual Meeting of the Association of American Geographers, Los Angeles, CA, April 9 - 13.

Idris, M., Smith., J., and **J. Stevens**. *NVizABLE: A Network Visualization and Big Data Learning Environment*. Annual Meeting of the Association of American Geographers, Los Angeles, CA, April 9 - 13.

2012   **Stevens, J**., S. Pezanowski, E. Guidero, A.C. Robinson, and A.M. MacEachren. *Map Symbol Design and Event Reporting for Mobile Devices: A Preview of a Mobile Application and Developer API based on an Online Symbol Repository*. Annual Meeting of the North American Cartographic Information Society, Portland, OR, October 17 - 19.

Robinson, A.C., S. Pezanowski, R.A. Bianchetti, **J. Stevens**, E. Guidero, J. Blanford, and A.M. MacEachren. *SymbolStore.org – An Open Resource for Map Symbols*. Annual Meeting of the North American Cartographic Information Society, Portland, OR, October 17 - 19.

Stevens, J. and R. Mullins. *Event-based Network Visualization*. Demo at Big Data Social Science Speaker Series. The Pennsylvania State University, September 16.

Robinson, A.C., Pezanowski, S., Bianchetti, R., Guidero, E., **Stevens, J.**, Blanford, J., and A.M. MacEachren. *Sharing Map Symbology for Emergency Management* Extended Abstract for GeoCart 2012 in Auckland, NZ, August 29-31.

Stevens, J. and K. Goldsberry. *Fixed-interval Segmentation for Travel-time Estimations in Traffic Maps*. Annual Meeting of the Association of American Geographers, New York, NY, February 24 - 28.

2011   **Stevens, J**. and K. Goldsberry. *A User-centric Approach to Network Segmentation in the Design of Traffic Maps*. Proceedings, 25th ICA/ACI International Cartographic Conference, Paris, France, July 3 - 8.

2010   **Stevens, J.** and K. Goldsberry. *Nutritional Terrain Mapping and Produce Accessibility in Lansing, MI*. Annual Meeting of the Association of American Geographers, Washington D.C., April 14 - 18.

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Keynote Presentations

2014   **Stevens, J.** *From Sensemaking to Sharing: The Importance of Design in Geographic Analysis and Communication*, 24th Annual Conference of the Minnesota GIS/LIS Consortium. Rochester, MN. October 3.

Invited Talks

2014   **Stevens, J.** *An Introduction to Cartography and What Map Makers Do*, Presentation for 4th grade Geo Club, Radio Park Elementary School, State College, PA, May 21.

2013   **Stevens, J.** *Navigating a Labyrinth of Libraries: An Overview of Cartographic Software and Capabilities*, Practical Cartography Day, Annual Meeting of the North American Cartographic Information Society, Greenville, SC, October 9-11.

   Stevens, J. *An Introduction to Cartographic Software and Services*, Humanities in the Digital Age Special Interest Group, University Park, PA, April 26.

   Stevens, J. *Open Source Spatial Data Management*, Big Data Week, University Park, PA, April 22-26.

   Stevens, J. *Mapping Tools - Analysis and Visualization of Spatial Data*, Penn State Hacking Science: Hands on Sessions, University Park, PA, January 11.

Books and Online Texts

2012   **Stevens, J.**, Jennifer M. Smith, and Raechel A. Bianchetti, *Mapping Our Changing World*, Editors: Alan M. MacEachren and Donna J. Peuquet, University Park, PA: Department of Geography, The Pennsylvania State University.

Chapters

2012   **Stevens, J.**, *Chapter 1 - Location is Where It's At: Introduction to GIScience and Technology*. In MacEachren, A.M. and Peuquet, D.J., editors, Mapping our Changing World, University Park, PA: Department of Geogr aphy, The Pennsylvania State University.

   Stevens, J., *Chapter 5 - How We Know Where We Are: Land Surveying, GPS, and Technology*. In MacEachren, A.M. and Peuquet, D.J., editors, Mapping our Changing World, University Park, PA: Department of Geography, The Pennsylvania State University.

   Stevens, J., *Chapter 6 - Can we Get There from Here? Applications of Topology, TIGER, and Geocoding*. In MacEachren, A.M. and Peuquet, D.J., editors, Mapping our Changing World, University Park, PA: Department of Geography, The Pennsylvania State University.

Reprinted Maps, Graphics, and Press

2014   Geospatial analysis and visualization of folklore: "92 Years of Sasquatch Sightings in the United States and Canada"
Featured by: TIME, NBC, Fox News, The Huffington Post, Gizmodo, Flowing Data and The Discovery Channel

2013   Time-series maps of political events in Afghanistan in: "What can we learn from the last 200 million things that happened in the world?" *Foreign Policy*, 10 April.
http://ideas.foreignpolicy.com/posts/2013/04/10/what_can_we_learn_from_the_last_-200_million_things_that_happened_in_the_world

2011   Map of Pará, Brazil and accompanying figure in: Walker, Robert T., Simmons, Cynthia, Aldrich, Stephen, Perz, Stephen, and Arima, Eugenio. *The Amazonian Theater of Cruelty*. Annals of the Association of American Geographers. 101(5), 1156-1170.
DOI: http://dx.doi.org/10.1080/00045608.2011.579539

Pedestrian produce access map in: Michigan State University. "Mapping urban food deserts." *ScienceDaily*, 3 March.
http://www.sciencedaily.com/releases/2011/03/110303141557.htm

2010   Produce accessibility map in: Goldsberry, K., Acmoody, S. *Mapping Nutritional Terrain: Using GIS to Identify Food Deserts in Lansing, Michigan*. ArcUser 13(4): 48 - 49.
http://www.esri.com/news/arcuser/1010/foodesert.html

Atlases, Software, & Web-based Tools

2012   Robinson, A.C., Pezanowski, S., Bianchetti, R., **Stevens, J.**, Guidero, E., Blanford, J., and A.M. MacEachren. *The Symbol Store: An Online Repository of Map Symbols*.
http://www.symbolstore.org

2009   Goldsberry, K., Duvall, C., Howard, P., **Stevens, J**. *An Online Atlas Of Produce Accessibility In Lansing, Michigan*. Produced in conjunction with the Michigan State Intramural Research Grants Program. 2008-2010.
http://www.geo.msu.edu/food/media/atlas/atlas.htm

Scholarships, Grants, & Awards

2013	$30,000	NSF IGERT Big Data Social Science Fellowship
	$1,300	US National Committee of the International Cartographic Association
2012	$30,000	NSF IGERT Big Data Social Science Fellowship
2011	$1,500	US National Committee of the International Cartographic Association
	$200	Earth & Mineral Science Poster Competition, The Pennsylvania State University
	$500	Graduate Office Fellowship, Michigan State University
2010	$250	Geography Travel Grant, Michigan State University

Professional Affiliations

Member, North American Cartographic Information Society
Member, Association of American Geographers
Member, Cartography Specialty Group (AAG)
Officer, Graduate Geography Group, Michigan State University (2009 - 2011)
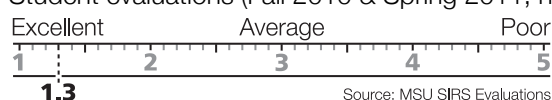
Reviewer For

The Journal of Maps
Cartographic Perspectives

Teaching Experience

2014	GEOG 160	Mapping Our Changing World (Intro to Geospatial Technologies and Concepts)
2012	GEOG 461w (Lab)	Dynamic Cartographic Representation
2011	GEO 426 (Lab)	Thematic Cartography
2010	GEO 423 (Lab)	Map Design and Production

Student evaluations (Fall 2010 & Spring 2011, no evaluations given in 2012):

Excellent   Average   Poor
1   2   3   4   5
1.3   Source: MSU SIRS Evaluations

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Outreach & Volunteering

2013	Judge, Graduate Poster Exhibition and Visual Arts Session, University Park, PA
	Graduate Volunteer, Earth and Mineral Sciences Exposition, University Park, PA
2012	Graduate Volunteer, Earth and Mineral Sciences Exposition, University Park, PA
2006	Tutor in science, Dwight Rich Middle School, Lansing, MI

Certified Training

Esri Certification: Geodatabase Data Models
Esri Certification: ArcGIS Desktop
Federal Emergency Management Agency (FEMA) ICS-100
Federal Emergency Management Agency (FEMA) ICS-200
Federal Emergency Management Agency (FEMA) ICS-800

Technical Skills

Languages	Python, JavaScript, ActionScript, PHP, SQL, R, HTML, CSS, and LaTeX
GIS	ArcGIS, QGIS, UDig, and TatukGIS
Design	Illustrator, Photoshop, After Affects, Flash, InDesign, Dreamweaver, and TileMill
Libraries	D3, Leaflet, OpenLayers, CartoDB, and MapBox
Environments	Flex, iOS, Android, and Drupal
Other Software	Qt Creator, Microsoft VisualStudio, Eclipse, and SYSTAT