

# 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<sup>1</sup> (chair), Dr. Cynthia Brewer<sup>1</sup>, Dr. Anthony Robinson<sup>1</sup>, and Dr. Shyam Sundar<sup>2</sup>.  
<sup>1</sup>Geography, <sup>2</sup>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

- Summer 2013 **Visiting Graduate Researcher | University of Zürich** Zürich, Switzerland  
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>
- 2011 - Present **Research Assistant | The Pennsylvania State University** University Park, PA  
GeoVISTA Center: Map symbology, standardization, and cartographic design for mobile devices.  
<http://www.geovista.psu.edu>
- 2011 - 2012 **Teaching Assistant | The Pennsylvania State University** University Park, PA  
GEOG 461w: Dynamic Cartographic Representation  
<http://www.geovista.psu.edu/resources/geog461w.html>
- 2010 - 2011 **Teaching Assistant | Michigan State University** East Lansing, MI  
GEO 423: Cartographic Design and Production  
GEO 426: Thematic Cartography
- 2009 - 2010 **Research Assistant | Michigan State University** East Lansing, MI  
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 accessibility maps.
- Summer 2009 **Research Aide | Michigan State University** East Lansing, MI  
Developed atlas of hospital and treatment center locations in Michigan.  
Ran spatial and network analysis to determine regions of access to healthcare facilities.

- 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*. 26<sup>th</sup> 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 Symbolology 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.

## Invited Talks

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- 2014 **Stevens, J.** *An Introduction to Cartography and What Map Makers Do*, Presentation for 4<sup>th</sup> 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

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- 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

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- 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 Geography, 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 and Graphics

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- 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](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/fooddesert.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

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|------|----------|---|
| 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)

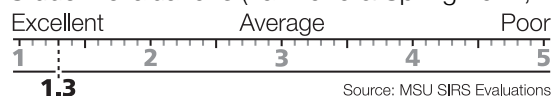
## Reviewer For

The Journal of Maps  
 Cartographic Perspectives

## Teaching Experience

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| 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):



## 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
- 2010 Selected Panelist in Geography, *Ask Science*, <http://www.reddit.com/r/askscience>
- 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

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Languages	Python, JavaScript, ActionScript, PHP, SQL, R, HTML, CSS, and L <sup>A</sup> T <sub>E</sub> X
GIS	ArcGIS, QGIS, UDig, and TatukGIS
Design	Adobe Illustrator, Photoshop, After Effects, 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