

# Kevin Sparks

Curriculum Vitae, Spring 2015

708c West Beaver Avenue  
State College, PA 16801

sparksk16@gmail.com  
kas5822@psu.edu

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## Work Experience

### The Pennsylvania State University, Department of Geography:

Research Assistant/Data Analyst, Summer 2013 to Present

*Dr. Alexander Klippel*, research projects relating to spatial information theory and spatial cognition

Teaching Assistant, Fall 2013 to Present

*Geog 464: Advanced Spatial Analysis*

*Geog 364: Spatial Analysis*

*Geog 363: Geographic Information Systems*

*Geog 362: Image Analysis*

Teaching Instructor, Summer 2014

*Summer Research Experience in Earth and Mineral Sciences (SEEMS)*

*Making Sense of Chaos: Programming Spatial Statistics to Evaluate Data*

Research Assistant/Cartographer, Fall 2011 to Summer 2012

*Dr. Cynthia Brewer*, research project for redesigning *The National Map* (USGS) entailing land cover representation and processing of remotely sensed data

Research Assistant, Fall 2011 to Spring 2012

*Dr. Derrick Lampkin*, remote sensing research, modeling glacial activity in Greenland

Teaching Intern, Fall 2010 and Fall 2012

*Geog 160: Mapping Our Changing World*

*Geog 120: Urban Geography: A Global Perspective*

### NASA Langley Research Center:

DEVELOP Intern, summer of 2011

Utilized multiple Hyperion agricultural indices to formulate a new monitoring method solely for tillage practice comparisons.

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## Education

MS Department of Geography, Pennsylvania State University, 2013 to 2015 (In Progress).

**BS** Geography with emphasis in geographic information science (GIS), climatology minor,  
Pennsylvania State University, 2009 to 2013.

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### ***Publications***

**K.A. Sparks**, A. Klippel, J.O. Wallgrun, D. Mark (2014) "Crowdsourcing landscape perceptions to validate land cover classifications", In O. Ahlqvist, K. Janowicz, D. Varanka, S. Fritz (Eds.), *Land Use and Land Cover Semantics - Principles, Best Practices and Prospects*, CRC Press / Taylor & Francis (*in press*).

Brewer, C.A., L.V. Stanislawski, B.P. Battenfield, P. Raposo, **K.A. Sparks**, J. McGilloway, and M. Howard (2013) "Automated thinning of road networks and road labels for multiscale design of *The National Map* of the United States," *Cartography and Geographic Information Science*, Vol. 40, No. 4, pp. 259-270.

Brewer, C.A., L.V. Stanislawski, B.P. Battenfield, P. Raposo, **K.A. Sparks**, and M. Howard (2012) "Multiscale Design for The National Map of the United States: Road Thinning for Topographic Mapping," *Proceedings, AutoCarto 2012*, Columbus OH, September.

N. Makar, K. Rooks, S. Archer, **K.A. Sparks**, C. Trigg, J. Lourie, K. Wilkens (2011) "Monitoring Agricultural Tillage Practices with NASA Hyperspectral Satellite Imagery," *IEEE's Earthzine.org*.

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### ***Presentations***

**K.A. Sparks**, A. Klippel, J.O. Wallgrun, D. Mark (2015) "Assessing Environmental Information Channels for Citizen Science Land Cover Classification" AAG Annual Meeting, Chicago, Illinois, April.

A. Klippel, J.O. Wallgrun, D. Mark, R. Purves, **K.A. Sparks** (2015) "Cognition of the Top of the World: Investigating Humans' Conceptions and Linguistic Expressions of Mountain Peaks" AAG Annual Meeting, Chicago, Illinois, April.

A. Klippel, A. Robinson, **K.A. Sparks** (2014) "Sketch-based Geospatial Learning Objects," COIL Research Symposium, The Pennsylvania State University, October.

**K.A. Sparks**, A. Klippel, J.O. Wallgrun, D. Mark (2014) "Crowdsourcing landscape perceptions to validate land cover classifications" GIScience, Vienna, Austria, September

**K.A. Sparks**, A. Klippel, J.O. Wallgrun, D. Mark (2014) "Crowdsourcing landscape perceptions to validate land cover classifications" Pennsylvania Spatial Cognition Symposium, State College, PA, May.

A. Klippel, A. Robinson, **K.A. Sparks** (2014) "Enhancing Online Geospatial Education with Sketch-based Geospatial Learning Objects," Symposium for Teaching and Learning with Technology, The Pennsylvania State University, March.

**K.A. Sparks**, J. Yang, A. Klippel (2013) "Day and night: Analyzing cultural differences through perceived similarities of lighting patterns" Conference on Spatial Information Theory (COSIT), Scarborough UK, September.

P. Raposo, **K.A. Sparks**, and C.A. Brewer (2012) "Techniques for Cartographic Presentation of Upsampled Raster Land Cover Data" North American Cartographic Information Society (NACIS) annual meeting, Portland OR, October.

C.A. Brewer, L.V. Stanislawski, B.P. Battenfield, P. Raposo, **K.A. Sparks**, and M. Howard (2012) "Multiscale design for The National Map of the United States: Road Thinning for Topographic Mapping," AutoCarto 2010, Columbus OH, September.

*Three invited presentations*—Center of Excellence for Geospatial Information Science (CEGIS) meeting, U.S. Geological Survey (USGS), Rolla MO, June 2012:

C.A. Brewer, **K.A. Sparks** and P. Raposo (2012), "Multiscale Design for *The National Map*."

**K.A. Sparks**, P. Raposo, and C.A. Brewer (2012) "Multiscale Land Cover Design for *The National Map*." (presenter).

P. Raposo, **K.A. Sparks**, and C.A. Brewer (2012) "Multiscale Land Cover Processing for *The National Map*."

P. Raposo, and **K.A. Sparks** (2012) "A Feathered-Edge Technique for Cartographic Presentation of Upsampled Raster Land Cover Data," no)Boundaries Interdisciplinary Conference, The Pennsylvania State University, March.

N. Makar, K. Rooks, S. Archer, **K.A. Sparks**, C. Trigg, J. Lourie, K. Wilkens (2011) "Midwest Climate and Agriculture - Monitoring Tillage Practices with NASA Remote Sensors" American Geophysical Union, Fall Meeting 2011, San Francisco, December.

N. Makar, K. Rooks, S. Archer, **K.A. Sparks**, C. Trigg, J. Lourie, K. Wilkens (2011) "Monitoring Agricultural Tillage Practices with NASA Hyperspectral Satellite Imagery," NASA Applied Sciences DEVELOP National Program Headquarters Annual Close Out Meeting, Washington D.C., August.

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## **Service**

Assisted in organizing the 1st **Pennsylvania Spatial Cognition Symposium** – 5/2/14 – 5/4/14. To fully understand human spatiality—from how the brain processes spatial information, to designing efficient spatial tools, to understanding spatial thinking across the curriculum—transdisciplinary research efforts are essential.

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## **Honors**

**Jeff Gockley Memorial Award** - given to the top rising senior in the Pennsylvania State Geography program in the Geographic Information Science Option

**National Geospatial Intelligence Agency**, accepted to 2012 summer internship

**Gamma Theta Upsilon Honor Society**, inducted member spring 2011 (honor society for academic achievement)

**Phi Kappa Phi National Honor Society**, 2012

**Dean's List**, The Pennsylvania State University 2010, 2011, 2012

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## **Other**

**GIScience Workshop**, *Role of Volunteered Geographic Information in Advancing Science: Effective Utilization.*

**Conference on Spatial Information Theory (COSIT) Workshop**, *Spatio-temporal theories and research for environmental, urban and social sciences: Where do we stand?*