

Matthew Haffner

ASSISTANT PROFESSOR · DEPARTMENT OF GEOGRAPHY AND ANTHROPOLOGY · UNIVERSITY OF WISCONSIN - EAU CLAIRE

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Academic interests: GIScience and Systems, Digital Geographies, Urban Geography

Education

Oklahoma State University

DOCTOR OF PHILOSOPHY IN GEOGRAPHY

Stillwater, Oklahoma

Aug. 2014 - May 2018

- Dissertation: Assessing the validity of location-based social media in the study of spatial processes
- Comprehensive exam areas: GIScience, Urban Geography, the GeoWeb
- Co-advisors: G. Allen Finchum, Adam J. Mathews

Oklahoma State University

MASTER OF SCIENCE IN GEOGRAPHY

Stillwater, Oklahoma

Aug. 2012 - July 2014

- Thesis: Measuring social interaction potential in Oklahoma City and Tulsa
- Advisor: Hongbo Yu

Pittsburg State University

BACHELOR OF SCIENCE IN SECONDARY EDUCATION

Pittsburg, Kansas

Aug. 2007 - May 2012

- Majors: Geography and Mathematics

Publications

PEER-REVIEWED JOURNAL ARTICLES

- **Haffner, M.** A place-based analysis of #BlackLivesMatter and counter-protest content on Twitter. *GeoJournal*. **2018**.
- **Haffner, M.** A spatial analysis of non-English Twitter activity in Houston, TX. *Transactions in GIS* 22(4): 913-929. <https://onlinelibrary.wiley.com/doi/abs/10.1111/tgis.12335>. **2018**.
- **Haffner, M.**, A. J. Mathews., E. Fekete, and G. A. Finchum. Location-based social media behavior and perception: Views of university students. *Geographical Review* 108(2):203-224. doi:10.1111/gere.12250. **2017**.
- Mathews, A. J., **M. Haffner**, and E. Ellis. GIS-based modeling of tornado siren sound propagation: Refining spatial extent and coverage estimations. *International Journal of Disaster Risk Reduction* 23:36-44. doi:10.1016/j.ijdr.2017.04.004. **2017**.

PEER-REVIEWED JOURNAL ARTICLES (UNDER REVIEW)

- **Haffner, M.** and J. C. Comer. An interactive point pattern analysis web application and teaching exercise.

BOOK CHAPTERS

- **Haffner, M.** Twitter. In *Handbook on Geographies of the Internet*, B. Warf (ed.). Cheltenham, UK: Edward Elgar Publishing Limited. (Forthcoming 2019).

MAPS

- **Haffner, M.** Location of Greenwood Historic District within Tulsa's contemporary food desert. In *Resilience, Environmental Justice, and the City*. Eds. B. H. Caniglia, M. Vallee, and B. Frank. pp. 84. **2017**.

Professional Conference Presentations

- **Haffner, M.*** A spatial analysis of non-English Twitter activity in Houston, Texas. *American Association of Geographers Annual Meeting*. New Orleans, Louisiana. Paper presentation. April **2018**.
- Finchum, G. A.* **Haffner, M.** How good is Twitter data: Comparing phone usage patterns using social media vs. calculated home location. *American Association of Geographers Annual Meeting*. New Orleans, Louisiana. Poster presentation. April **2018**.
- **Haffner, M.***, A. J. Mathews, E. Fekete, G. A. Finchum. Location-based social media behavior and perception: Views of university students. *Southwest American Association of Geographers Annual Meeting*. Huntsville, Texas. Paper presentation. November **2017**.
- **Haffner, M.*** The development of shp2nosql: Command line tools for spatial data and NoSQL databases. *American Association of Geographers Annual Meeting*. Boston, Massachusetts. Paper presentation. April **2017**.
- **Haffner, M.***, A. J. Mathews., E. Ellis. GIS-based modeling of tornado siren sound propagation in Stillwater, Oklahoma. *Southwest American Association of Geographers Annual Meeting*. Denton, Texas. Poster presentation. November **2016**.
- **Haffner, M.***, A. J. Mathews. A multi-dimensional topology for crowd-sourced geographic information. *NSF Workshop on Geospatial Data Science in the Era of Big Data and CyberGIS*. Urbana, Illinois. Paper presentation. July **2016**.
- G. A. Finchum*, **M. Haffner**, A. J. Mathews, E. Fekete. Analyzing smartphone usage patterns at colleges with strong gender differences using social media. *Association of American Geographers Annual Meeting*. San Francisco, California. Poster presentation. April **2016**.
- **Haffner, M.*** Conquering big spatial data: Towards a new philosophy in geographic information science. *Oklahoma State University Research Symposium*. Poster presentation. February **2016**.
- Ochsner, T. E.*, J. Dong, **M. Haffner**, A. Patrignani, J. C. Patton. Developing an operational system for daily 800-m resolution soil moisture estimates across Oklahoma. *American Geophysical Union Fall Meeting*. San Francisco, California. Paper presentation. December **2015**.
- Patton, J. C.*, T. E. Ochsner, A. Patrignani, J. Dong, **M. Haffner**. Towards a high resolution soil moisture map of Oklahoma. *American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America Annual Meeting*. Minneapolis, Minnesota. Poster presentation. November **2015**.
- **Haffner, M.***, H. Yu. Measuring social interaction potential in Oklahoma City and Tulsa. *Association of American Geographers Annual Meeting*. Chicago, Illinois. Paper presentation. April **2015**.
- Finchum, G. A.*, **M. Haffner**. Using Twitter data to analyze mobile device usage patterns in urban areas. *Association of American Geographers Annual Meeting*. Chicago, Illinois. Poster presentation. April **2015**.

- **Haffner, M.*** Using ArcGIS, Python, and R to measure social interaction potential in Tulsa and Oklahoma City. *Oklahoma South Central Arc User Group Meeting*. Moore, Oklahoma. Technical presentation. September **2014**.
- **Haffner, M.*** Measuring social interaction potential in Tulsa and Oklahoma City: A case study. *Oklahoma State University Research Symposium*. Stillwater, Oklahoma. Paper presentation. April **2014**.

* Presenting author

Teaching Experience

COURSES TAUGHT AS INSTRUCTOR OF RECORD

University of Wisconsin - Eau Claire

Eau Claire, Wisconsin

June 2018 - present

- **GEOG-335** *Geographic Information Systems I* (online)
- **GEOG-337** *Geographic Information Systems II*
- **GEOG-435** *Geographic Information Systems III*
- **GEOG-111** *Human Geography*

Oklahoma State University

Stillwater, Oklahoma

Aug. 2012 - Dec. 2015

- **GEOG-1113** *Introduction to Cultural Geography* (lecture)
- **GEOG-1114** *Introduction to Physical Geography* (lecture)
- **GEOG-1114** *Introduction to Physical Geography* (laboratory)

Neosho County Community College

Pittsburg, Kansas

Aug. 2011 - Dec. 2011

- **MATH-112** *Intermediate Algebra*

COURSES TAUGHT AS TEMPORARY INSTRUCTOR

Oklahoma State University

Stillwater, Oklahoma

Multiple dates

- **GEOG-4383** *Introduction to GIS Programming*
- **GEOG-3333** *Spatial Analysis*
- **GEOG-3123** *Urban Geography*
- **GEOG-2344** *Digital Tools for Environmental Exploration*
- **GEOG-5343** *Advanced GIS: Resource Management Applications*

St. Mary's Colgan High School

Pittsburg, Kansas

Jan. 2011 - May. 2011

- *Algebra II (as student teacher)*
- *Geometry (as student teacher)*
- *Algebra III (as substitute)*
- *Calculus (as substitute)*

Other Experience

Oklahoma State University

Stillwater, Oklahoma

Jan. 2016 - Present

GRADUATE RESEARCH ASSISTANT - DEPARTMENT OF GEOGRAPHY

- Diagnosed and fixed issues in Microsoft SQL Server databases
- Wrote programs in C#, designed web pages in the Microsoft .NET framework
- Improved the functionality, security, and aesthetics of Oklahoma's State Historic Preservation websites

PROGRAMMER - DEPARTMENT OF PLANT AND SOIL SCIENCES

May 2015 - Aug. 2015

- Worked in a research team to develop an automated soil moisture mapping system
- Led a workshop session on soil moisture mapping using the MATLAB Mapping Toolbox
- Helped develop a MATLAB kriging library

Association of Central Oklahoma Governments

Oklahoma City, Oklahoma

TRANSPORTATION INTERN

May 2013 - Aug. 2013

- Conducted spatial analysis using ArcGIS
- Wrote vast formulas in Microsoft Excel to organize data for over 125,000 car crashes
- Updated land use shapefiles in a network geodatabase

Invited Lectures

- Maintaining graduate student life. In *GEOG-5001 - Professional Development in Geography*. Oklahoma State University. November **2017**, November **2016**.
- Big data, spatial data science, and volunteered geographic information. In *GEOG-2344 - Digital Tools for Environmental Exploration*. Oklahoma State University. September **2017**.
- High performance computing in the social sciences. In *MATH-2910 - High Performance Computing*. Oklahoma State University. March **2016**.
- The emergence of urban segregation in the United States. In *GEOG-1113 - Introduction to Cultural Geography*. Oklahoma State University. March **2016**.
- GIS programming with PostgreSQL and PostGIS. In *GEOG-4383 - Introduction to GIS Programming*. Oklahoma State University. March **2016**.
- Volunteered geographic information, Twitter, and big data. In *GEOG-2344 - Digital Tools for Environmental Exploration*. Oklahoma State University. January **2016**, November **2015**.

Honors & Awards

2017	Norris Conference Travel Scholarship (\$550)	Department of Geography, OSU
2017	Jerry Croft Award in Geography Education (\$1500)	Department of Geography, OSU
2016	Norris Conference Travel Scholarship (\$350)	Department of Geography, OSU
2016	Spring Featured Researcher	High Performance Computing Center, OSU
2015	Research Materials Grant (\$200)	GPSGA, OSU
2015	Most Outstanding First Year PhD Student (\$2000)	Department of Geography, OSU
2015	Susan Shaul Medal for Excellence in Teaching (\$500)	Department of Geography, OSU
2015	Top Tier Graduate Fellowship (\$7500)	Graduate College, OSU
2014	SCAUG Regional Scholarship (\$1500)	South Central Arc User Group
2014	Norris Conference Travel Scholarship (\$500)	Department of Geography, OSU
2013	OKSCAUG Scholarship (\$500)	Oklahoma South Central Arc User Group
2013	Three Minute Thesis Competition Finalist	Graduate College, OSU
2013	Most Outstanding First Year Master's Student (\$1000)	Department of Geography, OSU

Professional Memberships

American Geographical Society	Apr. 2017 - Present
American Association of Geographers	Nov. 2014 - Present
Gamma Theta Upsilon (Geography Honor Society)	May 2013 - Present
OSU Forum of Geography Graduate Students	Aug. 2012 - May 2018
Fellowship of Christian Graduate Students	Aug. 2013 - May 2015

Professional & University Service

- **Alternate Member.** *OSU Student University Technology Services Fee Committee (UTSF).* Oklahoma State University. November **2017** - present.
- **Secretary.** *Gamma Theta Upsilon (Geography Honor Society).* Oklahoma State University. August **2017** - present.
- **President.** *Forum of Geography Graduate Students.* Oklahoma State University. August **2016** - February **2018**.
- **Co-organizer.** *Forum of Geography Graduate Students invited colloquium presentations.* Stillwater, Oklahoma. Department of Geography Colloquia. August **2016** - present.
- **Co-organizer.** *Open source software in geography: Theories, developments, and pathways toward openness.* AAG Annual Meeting. Boston, Massachusetts. Paper Session. April **2017**.
- **Co-organizer.** *Open source software in geography: Theories, developments, and pathways toward openness.* AAG Annual Meeting. Boston, Massachusetts. Panel Session. April **2017**.
- **Co-organizer.** *Securing positions in academia.* Forum of Geography Graduate Students Special Sessions. Stillwater, Oklahoma. Three Part Lecture Series. January **2017**.
- **President.** *OSU Fellowship of Christian Graduate Students.* Oklahoma State University. August **2013** - May **2015**.
- **Treasurer.** *Forum of Geography Graduate Students.* Oklahoma State University. August **2012** - July **2013**.

Technical Skills

Desktop GIS	R (various libraries), PostGIS, ArcPy, QGIS, MATLAB Mapping Toolbox, ArcGIS
Web GIS	GeoServer, OpenLayers 3
Databases/NoSQL systems	ElasticSearch, PostgreSQL, MongoDB, MS SQL Server
Languages	Bash, R, Python, LaTeX, SQL, MATLAB, HTML, CSS, SAS
Shells	Zsh, Bash, Eshell
Operating systems	Manjaro, CentOS, Raspbian, Ubuntu, Fedora, OS X, Windows
Web Frameworks	Hugo, Shiny, Jekyll, Microsoft .NET
Tools	Emacs (Spacemacs), Vim, Git, Docker, RStudio, Microsoft Visual Studio
APIs	Twitter, Flickr, Zillow
Presentation software	remark.js, reveal.js, LibreOffice Impress, MS PowerPoint
Certifications	Base SAS Programming for SAS 9
Graphics editing	Inkscape, Adobe Illustrator
Miscellaneous	High Performance Computing, RStudio Server, Linode