

K. Arthur Endsley

Curriculum Vitae

2004 Dana Building, 440 Church St.
University of Michigan, Ann Arbor, MI, 48109-1041
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Education

University of Michigan (Ann Arbor, MI)

Ph.D. Natural Resources and Environment and Scientific Computing, April 2019 (Expected)
School of Natural Resources and Environment

Michigan Technological University (Houghton, MI)

B.S. Applied Geophysics, December 2009

Fields: Geology, Remote Sensing, Physics

Department Scholar, Geological and Mining Engineering and Sciences, 2008

Honors and Awards

Graham Environmental Sustainability Doctoral Fellowship (\$50,000; 2016-2017)
Graham Sustainability Institute, University of Michigan

Courtney Wilson First Year PhD Student Award (2015)

School of Natural Resources and Environment, University of Michigan

Social Impact Challenge 2015 Finalist and Winning Team (\$2,500; February 2015)
Center for Social Impact, Ross School of Business, University of Michigan

2008 Department Scholar

Department of Geological and Mining Engineering and Sciences
Michigan Technological University

Certifications

Responsible Conduct of Research and Scholarship (RCRS)

February 2015 - February 2017

In response to the America Competes Act

School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI

Grants and Funding

Sloan & Moore Foundation and the University of Michigan (2014-2016)

MCubed Diamond Big Data Challenge 3

Carl Lagoze (PI); sub-award to Daniel G. Brown (PI), Elizabeth Bruch (Co-PI), Jeffrey Morenoff (Co-PI), Christopher Ruf (Co-PI)

University of Michigan, Ann Arbor, MI

British Columbia Centre for Disease Control (2015)

“Data Mining Tools for Assessing Public Health Targets in British Columbia” (\$25,844)

Jessica McCarty (PI), K. Arthur Endsley (Co-I), Michael G. Billmire (Co-I)

Michigan Tech Research Institute (MTRI), Ann Arbor, MI

NASA (Grant no. NNX12AB90G; 2010-2015)

“Assessing the Impact of a Combined In-situ and Satellite CO₂ Monitoring Network on Constraining Biospheric and Anthropogenic Fluxes for North America” (\$149,139)

Anna Michalak, Carnegie Institution for Science Department of Global Ecology (PI); sub-award to K. Arthur Endsley (PI)

Michigan Tech Research Institute (MTRI), Ann Arbor, MI

Research & Professional Experience

University of Michigan

Graduate Student Research Assistant (September 2014 - Present)

Ann Arbor, MI, U.S.A.

Michigan Tech Research Institute (MTRI)

Research Scientist I (2012 - 2014)

Assistant Research Scientist (2010 - 2012)

Research Intern (2008 - 2009)

Ann Arbor, MI, U.S.A.

Michigan Technological University (MTU)

Cross-Correlation of LP and VLP Events at Mount Saint Helens (2009)

As an independent study, analyzed events corresponding to resonance in fluid-filled cracks.

Houghton, MI, U.S.A.

Teaching & Mentoring Experience

Graduate Student Instructor, “Urban Sustainability” (Fall 2016)

University of Michigan, Ann Arbor, MI

Course content: Urban sustainability, Urban metabolism, Industrial ecology, Political ecology, Critical reading and discussion of the literature.

Data Carpentry Instructor (April 2016 - Present)

Software Carpentry Instructor (July 2015 - Present)

University of Michigan, Ann Arbor, MI

Trained to teach Python, R, Git, Mercurial, and SQL to beginning adults, particularly scientists and students of science, through the [Software Carpentry program](#).

Research Scientist I (2012-2014)*Michigan Tech Research Institute, Ann Arbor, MI*

Mentored undergraduate and high school interns, training them in scientific computing, Python, database design and management, and time management.

Teaching Assistant, “Understanding the Earth” (3 semesters, 2008 - 2009)*Michigan Technological University (MTU), Houghton, MI*

Course content: GPS wayfinding and field mapping, Rock and mineral identification, Sub-surface plumes, Erosional and depositional systems, Natural hazards, and Bedrock lithology and structural geology.

After-School Science Educator (2007)*Ontonagon Area Elementary School, Ontonagon, MI**Western Upper Peninsula Center for Science, Mathematics, and Environmental Education*

Field Experience

Bering Glacier, Alaska U.S.A.; experience in boreal and karst landscapes: August 2007 (geophysical surveys); August 2008 (field equipment maintenance); May 2010 (ablation monitoring installation); August 2010 (field equipment maintenance); May 2011 (installation); May 2012 (Eddie Bauer-funded surge research)

Fairbanks, Alaska, U.S.A. (2012): Remote sensing field validation at Bonanza Creek LTER

Ngöbe-Bugle Comarca, Panama (2009): Transit surveys and field interviews related to clean water provision

Michigan, U.S.A. (2007): Geophysical field work with horizontal loop magnetometer, electrical resistivity meters, geophones, etc. as part of course of study

Service and Outreach

Reviewer: *Landscape and Urban Planning* (2016); *Journal of Environmental Planning and Management* (2016)

Editorial Board: *Michigan Journal of Sustainability* (2016)

Graduate Employees Organization (GEO) Grievances Committee (2016 - Present)

Chair, Doctoral Organizing Committee, SNRE (2017)

Esri GeoMentor (2016 - Present)

Volunteer, M.I.S.S.I.O.N. Ann Arbor and Camp Take Notice (2012 - Present)

Web Administrator, Jim Toy Community Center (JimToyCenter.org)

Educator, Web Designer for U.P. Seismology (www.geo.mtu.edu/UPSeis/)

MichiganView (2010-2014, www.MichiganView.org)

Design, develop, and maintain web-based educational resources on remote sensing for K-12 and post-secondary students.

Professional Memberships

Association of American Geographers (AAG)

American Geophysical Union (AGU)

Geological Society of America (GSA)

The Explorers Club

Conference Presentations and Talks

“Assessment of urban socio-economic change in southeast Michigan neighborhoods through a land-cover change proxy.” April 1, 2016. American Association of Geographers Annual Meeting. San Francisco, CA.

“Visualization of XCO₂ and flux data with applications for the web.” January 30, 2014. OCO-2 Algorithm and Science Team Meeting. Caltech, Pasadena, CA.

“Mapping Prescribed Burns and Wildfires on Twitter with Data Mining and Information Retrieval Techniques.” International Association of Wildland Fire (IAWF)’s 2013 International Smoke Symposium. October 23, 2013. University of Maryland, MD.

“Prescribed Burn and Wildfire Communication on Twitter: Identifying and Mapping with Data Mining Techniques.” Association for Fire Ecology (AFE) Fire Congress. December 5, 2012. Portland, OR.

“Utilization of Remote Sensing Data for Bridge Condition in Operational Deci-

tion Support” at the ASNT Nondestructive Evaluation/Nondestructive Testing (NDE/NDT) for Highways and Bridges: Structural Materials Technology (SMT) 2012 Conference. American Society for Nondestructive Testing (ASNT). August 23, 2012. New York, NY.

“**Measurements of Velocity and Ablation from Bering Glacier During the Recent Surge**” (Session C41G, Talk 7, Glacier Surging and Ice Streaming: Fast Flow and Instabilities II) at American Geophysical Union 2011 in San Francisco, CA, December 8, 2011. ([Presentation.](#))

“**Real-Time Web-Based Satellite Tracking**” at Free and Open Source Software for Geospatial (FOSS4G) 2011 in Denver, CO, September 15, 2011. ([Video.](#))

“**Clarus Road-Weather Routing for Crash Risk Aversion**” at the Road Weather Management Stakeholder Meeting in Albuquerque, NM, September 7, 2011. ([Presentation.](#))

Publications

Refereed Publications

Miller, M.E., W.J. Elliot, M. Billmire, P.R. Robichaud, **K.A. Endsley**. 2016. “[Rapid-response tools and datasets for post-fire remediation: linking remote sensing and process-based hydrological models.](#)” *International Journal of Wildland Fire* **25**, 1061-1073.

Gonzalez, A., B.J. Cardinale, G.R.H. Allington, J. Byrnes, **K.A. Endsley**, D.G. Brown, D.U. Hooper, F. Isbell, M. Loreaue, M.I. O’Connor. 2016. “[Estimating local biodiversity change: A critique of papers claiming no net loss of local diversity.](#)” *Ecology* **97**(8): 1949–1960.

Endsley, K.A., M.G. Billmire. 2016. “[Distributed visualization of gridded geophysical data: the Carbon Data Explorer, version 0.2.3](#)” *Geoscientific Model Development* **9**:383-392.

French N.H.F., McKenzie D., Erickson T., Koziol B., Billmire M., **Endsley K.A.**, Scheinerman N.K.Y., Jenkins L., Miller M.E., Ottmar R., Prichard S. 2014. “[Modeling regional-scale fire emissions with the Wildland Fire Emissions Information System.](#)” *Earth Interactions* **18**(16).

Josberger, E.G., R.A. Shuchman, L.K. Jenkins, and **K.A. Endsley**. 2014. “[Melt water input from the Bering Glacier Watershed into the Gulf of Alaska.](#)” *Geophysical Research Letters*. **41**(3): 886-890.

Endsley, K.A. and McCarty, J.L. 2013. “[Mapping prescribed burns and wildfires from Twitter with natural language processing and information retrieval techniques.](#)” In Proceedings of the International Smoke Symposium. Hyattsville, Maryland, U.S.A.: International Association of Wildland Fire.

Vaghefi, K., R.C. Oats, D.K. Harris, T.M. Ahlborn, C.N. Brooks, **K.A. Endsley**, C. Roussi, J.W. Burns, and R. Dobson. 2012. “[Evaluation of commercially available remote sensors for highway bridge condition assessment.](#)” *Journal of Bridge Engineering* **17**(6):886-895.

Brooks, C.N., H. Kourous-Harrigan, M.G. Billmire, P. Metz, D.E. Keefauver, R.A. Shuchman, R. Dobson, **K.A. Endsley**, M. Taylor. 2012. “[Expanding Alaska-Canada rail: Jointly visualizing revenue freight, development, mineral commodity value, and impact of carbon dioxide.](#)” *Transportation Research Record: Journal of the Transportation Research Board*, No. 2261, pp.95-105.

Andrus, A.B., **K.A. Endsley**, S. Espino, J.S. Gierke. 2010. [Mapping the Freshwater-Saltwater Interface in the Terminal Moraine of the Bering Glacier](#). Ch. 19. Bering Glacier: Interdisciplinary Studies of Earth’s Largest Temperate Surging Glacier. Special Paper 462. Geological Society of America.

Other Publications

McCarty, J.L., E. Levin, **K.A. Endsley**, S.T. Aden, J. Bialas. 2015. “[Relating big data to local natural hazards: Lessons learned from data mining the Twitter API for volunteered geographic information on earthquakes, wildfires, and prescribed fires in the contiguous United States.](#)” in Proceedings of ISPRS WG IV/2 Workshop, “Global Geospatial Information and High Resolution Global Land Cover/Land Use Mapping.” April 21, 2015, Novosibirsk, Russian Federation.

Miller, M.E., M.G. Billmire, W.J. Elliot, **K.A. Endsley**, P.R. Robichaud. 2015. “[Rapid response tools and datasets for post-fire modeling: Linking Earth Observations and process-](#)

based hydrological models to support post-fire remediation.” The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XL-7/W3, 2015. 36th International Symposium on Remote Sensing of Environment, 11-15 May 2015, Berlin, Germany.

Endsley, K.A., C.N. Brooks, T.M. Ahlborn, K. Vaghefi. “Decision support system for integrating remote sensing in bridge condition assessment and preservation.” SPIE Proceedings, NDE/NDT for Highways and Bridges: Structural Materials Technology (SMT) 2012. March 11-15, 2012, San Diego, CA, U.S.A.

Ahlborn, T.M., D.K. Harris, C.N. Brooks, **K.A. Endsley**, D.C. Evans, R.C. Oats. 2010. “Evaluation of remote sensing technologies for detecting bridge deterioration and condition assessment.” p.498-505. NDE/NDT for Highways and Bridges. Structural Materials Technology. 16-20 August 2010. New York City, New York, U.S.A.