KATHERINE B. LININGER

Assistant Professor, Department of Geography, University of Colorado Boulder

Education

Ph.D. in Earth Sciences – Fluvial Geomorphology, *Colorado State University, 2018*
M.A. in Geography with Certificate of Watershed Science, *University of Texas at Austin, 2013*
B.A. in Geography and Political Science, *University of Wisconsin-Madison, 2008*

Professional Experience

2018-Present	Assistant Professor, Department of Geography, University of Colorado Boulder
2013-2018	NSF Graduate Research Fellow and Research Assistant, Department of Geosciences, Colorado State University,
2016	Visiting PhD candidate, Department of Ecology and Environmental Science, Umeå University, Sweden
2011-2013	NSF Graduate Research Fellow and Donald D. Harrington Fellow, Department of Geography and the Environment, University of Texas at Austin
2009-2011	Program & Research Assistant, Tropical Forests & Climate Initiative, Union of Concerned Scientists, Washington, DC

Honors and Awards

2018	Association for Women Geoscientists (AWG) Outstanding Student Award
2012-2017	National Science Foundation Graduate Research Fellowship
2016	Outstanding Student Presentation Award Winner, Earth and Planetary Surface Processes, American Geophysical Union Fall Meeting
2014	Robert E. Horton Research Grant, American Geophysical Union Hydrology section
2013	Warner Graduate Research Assistantship, Colorado State University
2011-2012	Donald D. Harrington Graduate Fellowship, University of Texas at Austin
2010	Ecological Society of America W.S. Cooper Award, (for Gill et al., 2009)
2008	Phi Beta Kappa Society Member

Research activities

Publications

Refereed journal articles and book chapters

Wohl, E., **Lininger, K. B.**, Rathburn, S. L., & Sutfin, N. A. (2020). How geomorphic context governs the influence of wildfire on floodplain organic carbon in fire-prone environments of the western United States. *Earth Surface Processes and Landforms, 45(1)*, 38-55. https://doi.org/10.1002/esp.4680

Lininger, K. B., Raimondi, J., Kramer, N., Homrighausen, D., & Covich, A. (2019). Comparison of discharge pulses in temperate and tropical rainforest headwater stream networks. *Journal of Hydrology*, *579*, 124236. https://doi.org/10.1016/j.jhydrol.2019.124236

Wohl, E., Kramer, N., Ruiz-Villanueva, V., Scott, D. N., Comiti, F., Gurnell, A. M., Piegay, H., **Lininger, K. B.**, Jaeger, K. L., Walters, D. M., Fausch, K. D. et al. (2019). The Natural Wood Regime in Rivers. *BioScience*, *69*(4), 259–273. https://doi.org/10.1093/biosci/biz013

Lininger, K. B., Wohl, E., Rose, J. R., & Leisz, S. J. (2019). Significant floodplain soil organic carbon storage along a large high latitude river and its tributaries. *Geophysical Research Letters*, *46*, 2121–2129. https://doi.org/10.1029/2018GL080996

Lininger, K. B., & Wohl, E. (2019). Floodplain dynamics in North American permafrost regions under a warming climate and implications for organic carbon stocks: A review and synthesis. *Earth-Science Reviews*. https://doi.org/10.1016/j.earscirev.2019.02.024

Lininger, K. B., Wohl, E., & Rose, J. R. (2018). Geomorphic Controls on Floodplain Soil Organic Carbon in the Yukon Flats, Interior Alaska, From Reach to River Basin Scales. *Water Resources Research*, (54), 1934–1951. https://doi.org/10.1002/2017WR022042

Wohl, E., **Lininger, K. B.**, & Scott, D. N. (2018). River beads as a conceptual framework for building carbon storage and resilience to extreme climate events into river management. *Biogeochemistry*, *141*(3), 365–383. https://doi.org/10.1007/s10533-017-0397-7

Wohl, E., Scott, D. N., & **Lininger, K. B.** (2018). Spatial distribution of channel and floodplain large wood in forested river corridors of the Northern Rockies. *Water Resources Research*, *54*, 7879–7892. https://doi.org/10.1029/2018WR022750

Lininger, K. B., Wohl, E., Sutfin, N. A., & Rose, J. R. (2017). Floodplain downed wood volumes: a comparison across three biomes. *Earth Surface Processes and Landforms*, *42*(8), 1248–1261. https://doi.org/10.1002/esp.4072

Wohl, E., **Lininger, K. B.**, & Baron, J. (2017). Land before water: the relative temporal sequence of human alteration of freshwater ecosystems in the conterminous United States. *Anthropocene*, *18*, 27–46. https://doi.org/10.1016/j.ancene.2017.05.004

Wohl, E., Hall, R. O., **Lininger, K. B.**, Sutfin, N. A., & Walters, D. M. (2017). Carbon dynamics of river corridors and the effects of human alterations. *Ecological Monographs*, *87*(3), 379–409. https://doi.org/10.1002/ecm.1261

Wohl, E., **Lininger, K. B.**, Fox, M., Baillie, B. R., & Erskine, W. D. (2017). Instream large wood loads across bioclimatic regions. *Forest Ecology and Management*, *404*, 370–380. https://doi.org/10.1016/j.foreco.2017.09.013

Scott, D. N., Brogan, D. J., **Lininger, K. B.**, Schook, D. M., Daugherty, E. E., Sparacino, M. S., & Patton, A. I. (2016). Evaluating survey instruments and methods in a steep channel. *Geomorphology*, *273*, 236–243. https://doi.org/10.1016/j.geomorph.2016.08.020

Lininger, K. B., & Latrubesse, E. M. (2016). Flooding hydrology and peak discharge attenuation along the middle Araguaia River in central Brazil. *CATENA*, *143*, 90–101. https://doi.org/10.1016/j.catena.2016.03.043

Lininger, K. B., Records, R., Smull, E., and Wehner, C. (2016). Creating local support networks for graduate student women, *Eos*, available online at https://eos.org/opinions/creating-local-support-networks-for-graduate-student-women.

Diamond, S., **Lininger**, **K. B.,** and Young, K. R. (2016). La minería de oro en la amazonia peruana desde una perspectiva socio-ecológica (Gold mining in the Peruvian Amazon from a social-ecological perspective). In *Naturaleza y Sociedad: Perspectivas socio-ecológicos sobre cambios globales en America Latina* (Social-ecological perspectives in Latin America), eds. J. Postigo and K. R. Young. Lima, Peru: Institúto de Estudios Peruanos.

Gill, J. L., Williams, J. W., Jackson, S. T., **Lininger, K. B.**, and Robinson, G. S. (2009). Pleistocene Megafaunal Collapse, Novel Plant Communities, and Enhanced Fire Regimes in North America. *Science*, *326*(5956), 1100–1103. https://doi.org/10.1126/science.1179504

Manuscripts in review

Gonzales, B.L., **Lininger, K.B.,** Kramer, N., and Sendrowski, A. Porosity problems: comparing and reviewing methods for estimating porosity and volume of wood jams in the field. In review at *Earth Surface Processes and Landforms*

Manuscripts in preparation

Lininger, K. B. and Polvi, L. E. Evaluating floodplain organic carbon stocks across a gradient of human alteration in the boreal zone. To be submitted to *Geomorphology*.

Cathcart, C.N., Falke, J.A., Fox, J., Henszey, R., and **Lininger, K. B.** Multiscale responses of logjams and juvenile Chinook salmon (*Oncorhynchus tshawytscha*) to a sub-Arctic boreal riverscape.

Jensen, A., Fastovich, D., Watson, B. I., Gill, J. L., Jackson, S. T., Russell, J. M., Bevington, J., Hayes, K., **Lininger, K. B.**, Rubbelke, C., Schellinger, G. C., Williams, J. W., More than one way to kill a spruce forest: The role of fire and climate in the late-glacial termination of spruce woodlands across the southern Great Lakes. To be submitted to *British Journal of Ecology.*

Lininger, K. B., Scamardo, J., and Guiney, M. The influence of floodplain forest stand characteristics and valley morphology on wood and organic matter jam deposition on floodplains during a large flood in the Colorado Front Range, USA. To be submitted to *Journal of Geophysical Research: Earth Surface.*

Non-refereed contributions

Lininger, K. B., (2014). Assessing organic carbon storage and carbon dynamics in boreal river floodplains. *American Geophysical Union Hydrology Section Newsletter*, December 2014.

Lininger, K. B. and Nelson, M. (2014). Yukon Expedition: The forgotten carbon sink. *National Geographic Society Explorers Journal blog*, available online at http://voices.nationalgeographic.com/2014/08/11/yukon-expedition-the-forgotten-carbon-sink/.

Lininger, K. B., (2013). The hydro-geomorphology of the middle Araguaia River: Floodplain dynamics of the largest fluvial system draining the Brazilian *Cerrado*. Master's thesis, University of Texas at Austin, Austin, TX, available online at https://repositories.lib.utexas.edu/handle/2152/21826.

Boucher, D., Elias, P., **Lininger**, **K.B.,** May-Tobin, C., Roquemore, S., and Saxon, E. (2011). The root of the problem: What's driving tropical deforestation today? *Union of Concerned Scientists Publication*, available online at http://www.ucsusa.org/global_warming/solutions/stop-deforestation/drivers-of-deforestation.html#.VkJTUspkCEw.

Elias, P. and **Lininger, K. B.** (2010). The plus side: Management techniques and policies to promote sustainable carbon sequestration in tropical forests. Union of Concerned Scientists Publication, available online at http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/The-Plus-Side.pdf.

Lininger, K. B., (2007). A late Pleistocene/early Holocene fire record from Appleman Lake, Indiana: The use of charcoal analysis in investigating landscape change. Undergraduate Honor's thesis, University of Wisconsin-Madison, available online at http://minds.wisconsin.edu/handle/1793/28894.

Funding

2019	Faculty Success Grant, Leadership Education for Advancement and Promotion, University of Colorado Boulder, $3,750
2017-2018	University Distinguished Professors' Scholarship, Colorado State University $10,000
2017	Burns Memorial Scholarship and Anderson Graduate Fellowship, Warner College of Natural Resources, $2500
2016	Schumm Graduate Fellowship, Warner College of Natural Resources Geosciences Department, Colorado State University, $5,000
2016	Pathfinder Fellowship, CUAHSI, $5,000
2016	National Science Foundation Graduate Opportunities Worldwide award, $5,000
2016	Swedish Research Council additional living cost award, NSF GROW opportunity, $3000
2015	P.E.O. Scholar Award, $15,000

2015-2016	Marie Morisawa Fellowship, Warner College of Natural Resources, Colorado State University, $5,000
2015	GSA Research Grant, Geological Society of America, $1,875
2014	Marie Morisawa Award in Geomorphology, Geological Society of America Quaternary Geology and Geomorphology Division, $2,500
2014	M. Gordon "Reds" Wolman Graduate Research Award, American Association of Geographers Geomorphology Specialty Group, $600
2012	David Bruton, Jr. Graduate School Fellowship, University of Texas at Austin, $1,000
2012	Robert E. Veselka Fellowship for Graduate Travel, Department of Geography and the Environment, University of Texas at Austin, $550
2012	Lozano Long Graduate Summer Field Research Grant, Lozano Long Institute for Latin American Studies, University of Texas at Austin, $1500

Conference abstracts and presentations

*Student advisee

*Hurtado, A. and **K.B. Lininger**. 2019. The Influence of Floodplain Large Wood Jams on Soil Moisture in the Colorado Front Range, USA. Poster presentation at the American Geophysical Union Fall meeting, San Francisco, CA.

Sutfin, N.A., E. Wohl, S. Rathburn, and **K.B. Lininger**. 2019. Burning River: The influence of wildfire on sediment and carbon dynamics within Rocky Mountain floodplains. Oral presentation at the American Geophysical Union Fall meeting, San Francisco, CA.

Falke, J., C.N. Cathcar, J. Fox, R. Henszey, and **K.B. Lininger**. 2019. Longitudinal patterns of logjams and occupancy by juvenile chinook salmon along a sub-arctic boreal riverscape. Oral presentation at the American Fisheries Society Annual Meeting, Columbus, Ohio.

Lininger, K. B., and L. Polvi. 2018. Evaluating floodplain organic carbon stocks across a gradient of human alteration in the boreal zone. eLightning presentation at American Geophysical Union Fall Meeting, Washington, DC.

Lininger, K.B., E. Wohl, and D.N. Scott. 2017. The influence of fluvial processes on the distribution of large wood in valley floors in northwestern Montana. Oral presentation at American Geophysical Union Fall Meeting, New Orleans, LA.

Lininger, K.B., E. Wohl, and J. Rose. 2017. Floodplain carbon storage in the central Yukon River Basin. Oral presentation at American Association of Geographers Meeting, Boston, MA.

Wohl, E., and **K.B. Lininger**, 2017. Preventing a leak: Two perspectives on creating supportive environment for graduate student colleagues. Oral presentation at European Geophysical Union General Assembly, Vienna, Austria.

Lininger, K.B., E. Wohl, and J. Rose. 2016. Geomorphic controls on floodplain organic carbon storage in sediment along five rivers in interior Alaska. Poster at American Geophysical Union Fall Meeting, San Francisco, CA.

Lininger, K.B., E. Wohl, J. Benshoof, and J. Rose. 2016. The influence of channel migration rate and grain size on differences in floodplain organic carbon storage between two rivers in interior Alaska. Oral presentation at Geological Society of America Meeting, Denver, CO.

J. Benshoof***, K.B. Lininger,** and E. Wohl. 2016. Changes in instream wood over time and the potential impact of log jams on floodplain dynamics in two rivers in interior Alaska. Poster at Geological Society of America Meeting, Denver, CO.

Lininger, K.B., E. Wohl, and J. Rose, 2015. Conditions that maximize floodplain downed wood volumes: a comparison across three biomes. Poster at American Geophysical Union Annual Meeting, San Francisco, CA.

Livers, B., **K.B. Lininger**, N. Kramer, and E. Wohl, 2015. Porosity problems: Developing a methodology for logjam porosity calculations in field projects. Poster at Third International Conference on Wood in World Rivers. University of Padova, Italy.

Lininger, K.B., and E.E. Wohl. 2014. Floodplain organic carbon storage in the central Yukon River basin. Poster at American Geophysical Union Annual Meeting, San Francisco, CA.

Lininger, K.B., E.M. Latrubesse, and M. Bayer. 2012. Analysis of floodplain storage and sedimentation in the middle Araguaia River, an anabranching system in central Brazil. Poster at American Geophysical Union Annual Meeting, San Francisco, CA.

Lininger, K.B., E.M. Latrubesse, and K.R. Young. 2012. Environmental change caused by mining in the Peruvian Amazon: The Madre de Dios watershed. Poster at Association of American Geographers Annual Meeting, New York City, New York.

Lininger, K.B. 2011. Geomorphologic change and stakeholder groups in the western Amazon: Proposed research on the impacts of gold mining. Poster at Southwest Association of American Geographers Regional Meeting, Austin, TX.

May-Tobin, C.C., D.H. Boucher, P. Elias, **K.B. Lininger**, S. Roquemore and E. Saxon. 2011. The root of the problem: A comprehensive literature review of what's driving tropical deforestation today. Poster at Ecological Society of America Annual Meeting, Austin, TX.

Gill, J.L., E.C. Grimm, S.T. Jackson, **K.B. Lininger**, P. Mueller, G.C. Schellinger, L.E. Straka, and J.W. Williams, 2010. Reconstructing the spatiotemporal patterns of late-glacial no-analog plant communities and megafaunal collapse in the upper Midwest, USA. Ecological Society of America Annual Meeting, Pittsburgh, PA.

Gill, J.L., J. Donnelly, S.T. Jackson, **K.B. Lininger**, J.P. Marsicek, G. Robinson, B.M. Simonson, and J.W. Williams, 2009. Pleistocene megafaunal collapse in North America preceded the Younger Dryas: Evidence from the Midwest. American Geophysical Union Annual Meeting, San Francisco, CA.

Gill, J.L., J.W. Williams, and **K.B. Lininger**, 2008. Were no-analogue plant communities during the late Pleistocene driven in part by herbivory release following the North American megafaunal extinction? Association of American Geographers Annual Meeting, Boston, MA.

Invited oral presentations

2020 "River corridors and the carbon cycle: floodplain organic carbon storage in the central Yukon River Basin", Department of Geography seminar series, University of Denver, Denver, Colorado

2019 "Floodplain downed large wood as a means of enhancing floodplain socio-ecological resilience", American Geophysical Union Fall Meeting, San Francisco, California

2019 "River corridor dynamics in permafrost regions under a changing climate: Detecting signatures of change and assessing implications for geomorphic processes and the carbon cycle", American Geophysical Union Fall Meeting, San Francisco, California

2019 "River corridors and the carbon cycle: floodplain organic carbon storage in the central Yukon River Basin", Department of Geology and Geological Sciences seminar series, Colorado School of Mines, Golden, Colorado

2019 "Floodplain carbon storage and large wood: expanding the benefits of river restoration in river corridors", Rocky Mountain Restoration Conference, Estes Park, Colorado

2019 "An underestimated and vulnerable carbon stock: floodplain soil carbon storage in permafrost regions and the potential for future changes due to warming", National Snow and Ice Data Center seminar series, Boulder, Colorado

2018 "River Corridors and the Carbon Cycle: Floodplain Organic Carbon Storage along Boreal Rivers", Hydrology and Water Resources seminar series, University of Colorado Boulder

2016 "Fluvial controls on the terrestrial carbon cycle: floodplain organic carbon storage in sediments and downed wood along boreal rivers", Department of Ecology and Environmental Science seminar series, Umeå University, Sweden

Teaching Experience

Courses taught

University of Colorado

Geography 5241: Fluvial Geomorphology (Spring 2020)

Geography 1011: Landscapes and Water (Spring 2020)

Geography/Geology 4241: Principles of Geomorphology (Fall 2018, Fall 2019)

Geography 5241: Ecogeomorphology in River corridors (Spring 2019)

Colorado State University

Geology 454: Geomorphology (Spring 2017)

Geology 121: Introduction to Geology lab section (Spring 2016)

Geology 454: Geomorphology lab section (Spring 2015)

Thesis committees

Chaired

Molly Guiney, M.A., ongoing, University of Colorado Boulder

Committees, University of Colorado

Abigail Eckland, M.S. student in Geology, topic: Morphodynamics of delta systems, primary advisor: I. Overeem

Will Wicherski, M.A. student in Geography, topic: Quantifying basin-scale bedload sediment transport in a high-energy river system, primary advisor: J. Pitlick

Sarah K Jamison-Todd, B.A. student in Geology, topic: Sedimentology Of Hurricane Irma Deposits On A Modern Carbonate Platform, primary advisor: L. Trower

Margaret Spangler, M.S. student in Civil Engineering, topic: Water quality on the upper Colorado River, primary advisor M. Gooseff

Undergraduate research assistants and advising

2019 Research mentor to UNAVCO RESESS intern, topic: The influence of floodplain logjams on floodplain soil moisture

2014-2017 Supervised two undergraduate research assistants and three independent study projects, Geology Department, Colorado State University

Teaching improvement workshops attended

2019 Active learning and group work for groups of any size, University of Colorado Faculty Teaching Excellence Program (FTEP) (January 24, 2019)

2018 Teaching large classes, University of Colorado Faculty Teaching Excellence Program (FTEP) (December 5, 2018)

Student awards and grants

2019 Colorado Water Center Student Research Grant, $5,000, Molly Guiney

Additional teaching activities

2014-2018 Participant in Graduate Teaching Certificate Program, The Institute for Teaching and Learning, Colorado State University, Attended multiple workshops to improve teaching techniques

Service activities

University of Colorado

2019-Present NSF Promoting Research-based Instructional Methods for Enhancing and Reforming STEM Education (PRIMERS) Roundtable Member and Geography Department Representative

2019-2020 Colloquium committee, Department of Geography

2018-2019 Colloquium committee, Department of Geography

Professional service activities

Journal reviews

2019: *Earth Surface Processes and Landforms, Geomorphology, Geophysical Research Letters, Water Resources Research, Water, Wetlands, Earth-Science Reviews, Anthropocene*
2018: *Eos, Geophysical Research Letters, Remote Sensing, Water Resources Research,*

Proposal reviews

National Science Foundation-Hydrologic Sciences

Conference sessions organized

2019	Co-convener and chair, American Geophysical Union Fall Meeting, EP41D and EP53A: Feedbacks among life, landscapes, and processes I and II
2018	Primary convener and chair, American Geophysical Union Fall Meeting, EP34B and EP41D: The influence of vegetation and large wood on water, sediment, and nutrient dynamics in fluvial and coastal environments I and II
2016	Co-convener, American Geophysical Union Fall Meeting, EP22B: The Flow of Organic Carbon through the Landscape
2016	Co-convener and chair, Geological Society of America Annual Meeting, T53: Floodplain Hydrogeomorphology: Dynamics of Sediment, Vegetation, and Organic Matter in Altered and Unaltered Systems

Additional service activities

2018-Present	Advisor for river restoration projects, Lefthand Watershed Oversight Group Provide advice and support to Lefthand Watershed Oversight Group for their restoration projects. Activities include providing feedback on monitoring protocols, help in the field, and attending planning meetings for restoration activities.
2015-2016	Mentor, PROmoting Geoscience Research Education & SuccesS (PROGRESS) program Mentored for an NSF-funded program aimed at retaining undergraduate women in the geosciences.
2014-2017	Co-founder and Treasurer, Northern Colorado Graduate Women in Science chapter, Colorado State University Co-founded and was treasurer for a local chapter of Graduate Women in Science, a national organization aimed at supporting women in the science fields. Activities included organizing panels and speakers on enhancing diversity in science, advocating for implementation of paid parental leave policy, and establishing workshop series on diversity for graduate students at Colorado State University.
2013-2018	Outreach to elementary schools, Fort Collins, Colorado

Gave guest lectures and lessons to elementary age students once per year on river system health and flooding; organized and judged elementary school science fair once per year.

Media Coverage

Lovel, S. L. & Reporter-Herald. 2019. Scientists to monitor ecology while Left Hand Creek site undergoes flood restoration this summer [online] Available from: https://www.denverpost.com/2019/05/05/left-hand-creek-flood-restoration/

Witze A. 2016. Arctic river flood plains are home to hidden carbon. Nature News DOI: 10.1038/nature.2016.20679 [online] Available from: http://www.nature.com/news/arctic-river-flood-plains-are-home-to-hidden-carbon-1.20679

Dicamillo L. 2016. Parental leave for grad assistants a reality. SOURCE [online] Available from: http://source.colostate.edu/move-in-2016-parental-leave-for-grad-assistants-a-reality/

Wardell B. 2014. On a rising tide. SOURCE [online] Available from: http://source.colostate.edu/rising-tide/

Additional professional development and synergistic activities

University of Colorado Boulder

2019 PI Academy SEED grant workshop, University of Colorado PI Academy (November 6, 2019)

2018 PI Academy Orientation, University of Colorado PI Academy (August 30, 2018)

2018 Strategic Career Planning workshop, University of Colorado PI Academy (October 11, 2018)

External professional development activities

2020 Faculty Success Program, National Center for Faculty Development and Diversity

2018 Workshop participant, NSF Workshop on the Application of SmallSat and Commercial Imagery to Arctic Science, University of Minnesota Polar Geospatial Center

2018 Workshop participant, NSF Workshop on the Application of SmallSat and Commercial Imagery to Arctic Science, University of Minnesota Polar Geospatial Center

2016-2017 Sustainability Leadership Fellow, School of Global Environmental Sustainability, Colorado State University, Participated in fellowship program with professional development and science communication workshops

2016 Workshop participant, Science communication, Compass

2016 Workshop participant, National Center for Earth Surface Dynamics Summer Institute on Earth Surface Dynamics, “Coupled hydro-eco-geomorphologic processes in human dominated landscapes: cascade of changes and the use of modeling for management and decision making”, St. Anthony Falls Laboratory, MN

2015 Workshop participant, Polar Geospatial Bootcamp, University of Minnesota Polar Geospatial Center

Membership in professional organizations

American Association of Geographers
American Geophysical Union
Geological Society of America
Earth Science Women's Network