

Lara M. Kueppers

School of Natural Sciences and
Sierra Nevada Research Institute
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Climate Sciences Department
Earth Sciences Division
Lawrence Berkeley National Laboratory
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Research Interests & Expertise

Climate-ecosystem feedbacks, ecological impacts of climate change, land-cover/ land-use change, regional climate modeling, model-experiment integration, species effects on ecosystem function, interdisciplinary research and teaching, climate change policy.

Education

University of California, Berkeley

Ph.D. (2003) Environmental Science, Policy and Management
Dissertation: *Forest Carbon Cycling Along an Elevation Gradient: The Influence of Species and Climate* (Committee: J. Harte, chair; C. D'Antonio; W. Silver; M. Torn)

Stanford University

M.S. (1996) Earth Systems – Biosphere track (co-terminal with B.S.)
Thesis: *The Effects of Tree Species Richness on Nutrient Cycling in a Tropical Moist Forest in Puerto Rico* (Committee: H. Mooney; W. Silver)

B.S. (1996) Earth Systems – Biosphere track

Professional Experience

2012-present *Faculty Scientist*, Earth Sciences Division, Lawrence Berkeley National Laboratory
2006-present *Assistant Professor*, School of Natural Sciences, UC Merced
2006 *Instructor*, Rocky Mountain Biological Laboratory, Colorado
2006 *Senior Research Associate*, Climate Change and Carbon Management Program, Earth Sciences Division, Lawrence Berkeley National Laboratory
2004-2006 *Postgraduate Researcher*, Department of Earth Sciences, UC Santa Cruz (L. Sloan, mentor)
1998-2003 *Graduate Student Researcher*, Division of Ecosystem Science, UC Berkeley (J. Harte, adviser)
1997 *Research Assistant*, Rocky Mountain Biological Laboratory, Colorado
1995-1996 *Teaching Assistant*, Department of Earth Sciences and Department of Biological Sciences, Stanford University
1995 *Graduate Student Researcher*, International Institute of Tropical Forestry, Puerto Rico (W. Silver, adviser)
1994 *Research Assistant*, International Institute of Tropical Forestry, Puerto Rico

Grants

Current (\$5,412,857 total as PI)

- 2012-2015 USDA-AFRI, co-PI; PI W. Thompson, co-PIs J. E. Campbell, P. Zimmel, L. Sloan, M. Snyder, G. Knapek, J. Outlaw (UCM \$271,024, with J. E. Campbell)
- 2007-2014 US Department of Energy, Office of Science, Terrestrial Ecosystem Sciences, PI; Co-PIs M. Torn, J. Harte, J. Mitton, M. Germino (total \$5,131,836; UCM \$2,947,755)
- 2011-2012 UC Merced Graduate Research Council, PI; co-PI A. Westerling (\$9,997)

Completed Research Support (\$119,942 total as PI)

- 2010-2012 UC Merced Graduate Research Council, co-PI; PI A. C. Frank (\$9,200)
- 2009 California Energy Commission, UCOP-CIEE, PI; co-PI J. E. Campbell (\$10,000)
- 2008 Colorado Native Plant Society, PI; Collaborator R. Butz (\$1,000)
- 2007-2008 California Energy Commission, Public Interest Energy Research-Environmental Area, PI; Co-PIs M. Torn, W. Riley (total \$74,992; UCM \$49,261)
- 2001-2002 Center for Accelerator Mass Spectrometry Grant, Lawrence Livermore National Laboratory (\$5,400 + ~80 radiocarbon analyses worth ~\$24,000)
- 1998, 2002 Grant-in-Aid of dissertation research, Sigma Xi, Berkeley Chapter (\$750)
- 1999-2001 Environmental Defense Minigrant, Environmental Defense, NY, Collaborator; PI J. Harte (\$15,000)

Awards and Fellowships

- 2004 Central Coast Joint Data Committee, 2004 GIS Day Map Contest Award
- 2004 Postdoctoral Program in Climate and Global Change, NOAA (selected as alternate)
- 1999-2003 Graduate Research Environmental Fellowship, US Department of Energy (\$76,400)
- 2001 Walter and Ruth Schubert Prize in Ecosystem Sciences, UC Berkeley (\$2,000)
- 1999-2000 University Fellowship, UC Berkeley (I declined this award)
- 1997-1998 University Fellowship, UC Berkeley (\$13,000)

Peer Reviewed Publications (*student co-author, [#] ISI citation number)

- Castanha, C., M.S. Torn, M.J. Germino, *B. Weibel, and **L.M. Kueppers**. 2012. Conifer seedling recruitment across a forest-to-alpine tundra gradient and effects of provenance. *Plant Ecology and Diversity*. in press. doi:10.1080/17550874.2012.716087. [0]
- Moyes, A. B., C. Castanha, M. Germino, and **L. M. Kueppers**. 2012. Warming and the dependence of limber pine (*Pinus flexilis*) establishment on summer soil moisture within and above its current elevation range. *Oecologia*. doi: 10.1007/s00442-012-2410-0. [0]
- *Lu, Y., and **L. M. Kueppers**. 2012. Surface energy partitioning over four dominant vegetation types across the United States in a coupled regional climate model (WRF3-CLM3.5). *Journal of Geophysical Research - Atmospheres*. 117: D06111. doi: 10.1029/2011JD016991 [0]
- Barbour, E. and **L. M. Kueppers**. 2012. Conservation and management of ecological systems in a changing California. *Climatic Change*. 111(1): 135-163. doi: 10.1007/s10584-011-0246-y [1]
- Kueppers, L. M.**, and M. A. Snyder. 2011. Influence of agricultural irrigation on surface energy and water fluxes, surface climate, and atmospheric circulation in California. *Climate Dynamics*. 38(5-6): 1017-1029. doi: 10.1007/s00382-011-1123-0. [1]

- Reinhardt, K., C. Castanha, M. J. Germino, **L. M. Kueppers**. 2011. Ecophysiological variation in two provenances of *Pinus flexilis* seedlings across an elevation gradient from forest to alpine. *Tree Physiology* 31(6): 615-625. [0]
- *Subin, Z. M., W. J. Riley, J. Jin, *D. S. Christianson, M. S. Torn, **L. M. Kueppers**. 2011. Ecosystem feedbacks to climate change in California: Development, testing, and analysis using a coupled regional atmosphere and land-surface model (WRF3-CLM3.5). *Earth Interactions*. 15(15): 1-38. doi: 10.1175/2010EI331.1. [4]
- Luo, Y., J. M. Melillo, S. Niu, C. Beier, J. Clark, E. Davidson, J. Dukes, R. D. Evans, C. Field, C. Czimczik, M. Keller, B. Kimball, **L. Kueppers**, R. Norby, S. Pelini, E. Pendall, E. Rastetter, J. Six, M. Smith, M. G. Tjoelker, and M. S. Torn. 2011. Coordinated approaches to quantify long-term ecosystem dynamics in response to global change. *Global Change Biology*, 17(2): 843-854. doi: 10.1111/j.1365-2486.2010.02265.x. [9]
- *Anderson, R., J. G. Canadell, J. T. Randerson, R. B. Jackson, B. A. Hungate, D. D. Baldocchi, G. A. Ban-Weiss, G. B. Bonan, K. Caldeira, L. Cao, N. S. Diffenbaugh, K. R. Gurney, **L. M. Kueppers**, B. E. Law, S. Luyssaert, T. L. O'Halloran. 2011. Biophysical considerations in forestry for climate protection *Frontiers in Ecology and the Environment*, 9(3): 174-182. [14]
- Jackson, R. B., J. T. Randerson, J. G. Canadell, *R. G. Anderson, R. Avissar, D. D. Baldocchi, G. B. Bonan, K. Caldeira, N. S. Diffenbaugh, C. B. Field, B. A. Hungate, E. G. Jobbágy, **L. M. Kueppers**, M. D. Noesetto, and D. E. Pataki. 2008. Protecting climate with forests. *Environmental Research Letters* 3: 044006. [51]
- Lobell, D. B., C. J. Bonfils, **L. M. Kueppers**, and M. A. Snyder. 2008. Irrigation cooling effect on temperature and heat index extremes. *Geophysical Research Letters* 35: L09705. [6]
- Kueppers, L. M.**, M. A. Snyder, L. C. Sloan, D. Cayan, J. Jin, H. Kanamaru, M. Kanamitsu, N. L. Miller, M. Tyree, *H. Du, and B. Weare. 2008. Seasonal temperature responses to land-use change in the western United States. *Global and Planetary Change*, doi:10.1016/j.gloplacha.2007.1003.1005. [22]
- Kueppers, L. M.**, M. A. Snyder, and L. C. Sloan. 2007. Irrigation cooling effect: Regional climate forcing by land-use change, *Geophysical Research Letters*, 34, L03703, doi:10.1029/2006GL028679. [46]
- Kueppers, L. M.**, E. Zavaleta, B. Fulfroost, M. A. Snyder, and L. C. Sloan. 2006. Constrained range expansion and climate change assessments - The authors reply. *Frontiers in Ecology and the Environment* 4(4): 179. [1]
- Kueppers, L. M.**, and J. Harte. 2005. Subalpine forest carbon cycling: Short- and long-term influences of climate and species. *Ecological Applications* 15(6): 1984-1999. [13]
- Kueppers, L. M.**, M. A. Snyder, L. C. Sloan, E. S. Zavaleta, and B. Fulfroost. 2005. Modeled regional climate change and California endemic oak ranges. *Proceedings of the National Academy of Science* 102(45): 16281-16286. [49]
- Kueppers, L. M.**, J. Southon, P. Baer and J. Harte. 2004. Dead wood biomass and turnover time, measured by radiocarbon, along a subalpine elevation gradient. *Oecologia* 141(4): 641-651. [36]
- Silver, W. L., **L. M. Kueppers**, A. E. Lugo, R. Ostertag, and V. Matzek. 2004. Carbon sequestration and plant community dynamics following reforestation of tropical pasture. *Ecological Applications* 14(4): 1115-1127. [40]
- Kueppers, L. M.**, P. Baer, J. Harte, B. Haya, L. E. Koteen, and M. E. Smith. 2004. A decision matrix approach to evaluating the impacts of land use activities undertaken to mitigate climate change. *Climatic Change* 63: 247-257. [4]

Other Publications (*student co-author)

- Harte, J. and **L. M. Kueppers**. 2012. Insight from integration. *Nature* 485(7399): 449.
- Kueppers, L. M.** and J. E. Campbell. 2009. *Potential effects of climate change on California's bioenergy resources*. California Energy Commission Discussion Paper.
- Kueppers, L.M.**, W. Riley, J. Jin, *Z. Subin, *D. Christianson, M. Torn. 2009. *Ecosystem Feedbacks to Climate Change in California: Integrated Climate Forcing From Vegetation Redistribution*. California Energy Commission, Public Interest Energy Research Program. CEC-500-2009-075.
- Barbour, E., and **L. Kueppers**. 2008. *Conservation and Management of Ecological Systems in a Changing California*. Public Policy Institute of California, <http://www.ppic.org/main/publication.asp?i=856>, 42pp.
- Hanson P. J., A.T. Classen, **L. Kueppers**, Y. Luo, N.G. McDowell, J. Morris, A. Rogers, P. Thornton, R. Ceulemans, J. Dukes, M. Goulden, R. Jackson, A. Knapp, M. Kirschbaum, K. Lewin, M. MacCracken, J. Melillo, T. Ringler. 2008. *Ecosystem research: Understanding climate change impacts on ecosystems and feedbacks to the physical climate*. Report of the workshop on "Exploring Science Needs for the Next Generation of Climate Change and Elevated CO₂ Experiments in Terrestrial Ecosystems" U. S. Department of Energy.
- Kueppers, L.M.**, M.S. Torn, and J. Harte 2007. *Quantifying Ecosystem Feedbacks to Climate Change: Observational Needs and Priorities*. A report to the Office of Biological and Environmental Research, Office of Science, U. S. Department of Energy.
- Kueppers, L.M.** 2005. Benefits of a regional climate model. *Science* 310: 1278-1279.
- Snyder, M. A., **L. M. Kueppers**, L. C. Sloan, D. Cayan, J. Jin, H. Kanamaru, M. Kanamitsu, N. L. Miller, M. Tyree, *H. Du, and B. Weare. 2006. *Regional Climate Effects of Irrigation and Urbanization in the Western United States: A Model Intercomparison*. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2006-031.

Invited Presentations

- 2012 Ohio State University. *Alpine Treeline Warming Experiment: Effects of microclimate on subalpine seedling establishment within and beyond two species' current elevation ranges*
Lawrence Berkeley National Laboratory. *Alpine Treeline Warming Experiment: A field test of predicted uphill species range shifts with climate change*
Central Rockies White Pine Health Working Group, Fort Collins, CO. *Limber pine germination responses to climate change at alpine treeline*
- 2010 American Geophysical Union 2010 Fall Meeting. *Sensitivity of subalpine tree seedlings and alpine plants to natural and manipulated climate variation: Initial results from an Alpine Treeline Warming Experiment*
Duke University. *Alpine Treeline Warming Experiment: Beginning an experimental test of predicted species range shifts with climate change*
California State University, Fresno. *Alpine Treeline Warming Experiment: Beginning an experimental test of predicted species range shifts with climate change*
Lawrence Livermore National Laboratory. *Using field studies and regional climate modeling to understand climate-ecosystem dynamics in the Western United States*
Ecological Society of America Annual Meeting. *Alpine Treeline Warming Experiment: Testing alpine and subalpine species and population responses to climate change*
High-Five Symposium, University of Montana, Missoula. *Alpine Treeline Warming Experiment: Limber pine germination responses to climate change*

- Department of Earth and Planetary Sciences, University of California, Santa Cruz. *Alpine Treeline Warming Experiment: Beginning an experimental test of predicted species range shifts with climate change*
- Department of Environmental Science, Policy and Management, University of California, Berkeley. *Alpine Treeline Warming Experiment: Beginning an experimental test of predicted species range shifts with climate change*
- 2009 Mountain Research Station, University of Colorado. *Will treeline species ranges shift uphill with climate change?*
Annual Meeting of the International Association of Landscape Ecologists, Snowbird, Utah. *Can experiments help us predict plant species range shifts with climate change?*
Department of Biological Sciences Spring Colloquium, California State University, Stanislaus. *The regional climate effects of changing land cover and land use in California.*
National Center for Ecological Analysis and Synthesis, University of California, Santa Barbara. *Feedbacks between climate change and plant distribution: Some initial model results.*
- 2008 Fifth Annual California Climate Change Conference, Sacramento, California. *Ecosystem feedbacks to climate change in California: Integrated climate forcing from vegetation redistribution* (poster by W. J. Riley, Kueppers on leave).
- 2007 EPA Workshop: Climate Change Effects on Biological Indicators. Baltimore, Maryland. *Regional climate change and ecological impacts*
- 2006 Dissertation Initiative for the Advancement of Climate Change Research, Pacific Grove, California. *Ecological impacts: Size matters and Climate effects of irrigation and urbanization in California: A regional climate modeling study* (poster)
Department of Biology, San Diego State University. *From endemic oaks to irrigated almonds: A regional climate modeling approach to understanding vegetation-climate interactions in the western U.S.*
School of Natural Sciences, University of California, Merced. *From endemic oaks to irrigated almonds: A regional climate modeling approach to understanding vegetation-climate interactions in the western U.S.*
Environmental Change Initiative, Brown University. *Biogeography and the carbon cycle: Anticipating and managing ecosystem feedbacks to a changing climate and From endemic oaks to irrigated almonds: A regional climate modeling approach to understanding vegetation-climate interactions in the western U.S.*
- Huxley College of the Environment, Western Washington University. *Causes and consequences of climate change in the western U.S.*
- 2005 Environmental Systems Seminar, University of California, Merced. *How do land cover and land use changes affect California's climate?*
Global Environmental Change and Biodiversity Workshop, Dourdan, France. *Large shift in endemic oak ranges due to projected, future regional climate change in California* (poster)
- 2004 W. Silver lab seminar, University of California, Berkeley. *Ecosystem-climate interactions: From forest carbon cycle measurements to regional climate models*
Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory. *Forest carbon feedbacks to climate change: Dead wood decay measured using radiocarbon*
EcoEvo Seminar, Department of Biological Sciences, Stanford University. *Rocky Mountain forest carbon: The influence of climate and species.*
- 2003 Department of Earth System Science, University of California, Irvine. *Climate and species controls on forest soil carbon dynamics in the Rocky Mountains*

Contributed Presentations (*student co-author)

- Moyes, A.B., M.J. Germino, and **L.M. Kueppers**. 2012. Physiological Stresses of Limber Pine Seedlings at and above Treeline Immediately Following Natural and Experimentally Advanced Snowmelt. MtnClim 2012, Estes Park, CO. (poster)
- Kueppers, L. M.** C. Castanha, A.B. Moyes, M.J. Germino, and M. Torn. 2012. Alpine Treeline Warming Experiment: Effects of Microclimate on Subalpine Seedling Establishment within and Beyond Two Species' Current Elevation Ranges. MtnClim 2012, Estes Park, CO.
- *Winkler, D. and **L.M. Kueppers**. 2012. Plant cover responses to simulated climate change in alpine plant species. Ecological Society of America Annual Meeting, Portland, OR. (poster)
- Kueppers, L. M.**, A. B. Moyes, S. M. Ferrenberg, *D. S. Christianson, C. Castanha, and M. J. Germino. 2011. Manipulation of subalpine and alpine microclimate in the Alpine Treeline Warming Experiment. American Geophysical Union Fall Meeting. San Francisco, CA.
- Reinhardt, K., C. Castanha, M. J. Germino, and **L. M. Kueppers**. 2011. Leapfrogging of tree species provenances? Interaction of microclimate and genetics on upward shifts in tree species' range limits. American Geophysical Union Fall Meeting. San Francisco, CA.
- Castanha, C., A. B. Moyes, M. S. Torn, M. J. Germino, and **L. M. Kueppers**. 2011. Responses of subalpine conifer seedling germination and survival to soil microclimate in the Alpine Treeline Warming Experiment. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- *Meromy, L., *J. L. Petrzalka, N. P. Molotch, M. W. Williams and **L. M. Kueppers**. 2011. Snowpack-climate manipulations using thermal infrared heaters along an elevational gradient. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- *Lubetkin, K., E. Berlow, A. Westerling, and **L. M. Kueppers**. 2011. Extent and timing of conifer encroachment into subalpine meadows in the Central Sierra Nevada, California. Ecological Society of America Annual Meeting, Austin, TX (poster)
- Kueppers, L. M.**, C. Castanha, A. B. Moyes, S. Ferrenberg, M. S. Torn, M. J. Germino. 2011. Alpine Treeline Warming Experiment: An Experimental Test of Climatic Constraints to Subalpine Tree Species' Recruitment Ranges. Interface 1st INTERFACE meeting: How Do We Improve Earth System Models? Integrating Earth System Models, Ecosystem Models, Experiments and Long-Term Data, Captiva Island, Florida (poster)
- Castanha, C., M. J. Germino, M. S. Torn, S. Ferrenberg, J. Harte, and **L. M. Kueppers**. 2010. Subalpine conifer seedling demographics: Species responses to climate manipulations across an elevational gradient at Niwot Ridge, Colorado. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- Moyes, A. B., C. Castanha, S. Ferrenberg, M. J. Germino, and **L. M. Kueppers**. 2010. Sensitivity of limber pine (*Pinus flexilis*) seedling physiology to elevation, warming, and water availability across a timberline ecotone. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- *Yang, X, E. Campbell, M. A. Snyder, L. Sloan, and **L. M. Kueppers**, 2010. Forecasting energy security impacts of biofuels using regional climate models. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- Reinhardt, K., C. Castanha, M. J. Germino, and **L. M. Kueppers**. 2010. Variation in gas exchange, carbohydrates, and growth in *Pinus flexilis* seedlings from forest to alpine. Ecological Society of America Annual Meeting, Pittsburgh, PA.
- *Lu, Y., **L. M. Kueppers**, *Z. Subin and J. Jin. 2009. Modeling the climate sensitivity to forest cover in North America. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)

- L. M. Kueppers**, A. Faist, S. Ferrenberg, and C. Castanha. 2009. Population and species differences in treeline tree-species germination patterns in response to climate change. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- R. J. Butz, K. Reinhardt, M. Germino, and **L. Kueppers**. 2009. Responses of alpine vegetation to global warming: Insights from comparing alpine-restricted and broad-ranging herbs along a snowmelt gradient. American Geophysical Union Fall Meeting. San Francisco, CA.
- *Subin, Z. M., J. Jin, **L. M. Kueppers**, W. J. Riley, *D. M. Svehla, M. S. Torn. 2009. Coupling WRF 3 and CLM 3.5 for regional climate simulation and understanding interactions between land cover and the atmosphere. 10th Annual WRF Users Workshop, Boulder, CO.
- *Lu, Y., **L. M. Kueppers**, *Z. M. Subin. 2009. Modeling the climate sensitivity to forest cover in North America. 10th Annual WRF Users Workshop, Boulder, CO.
- *Subin, Z. M., J. Jin, **L. M. Kueppers**, W. J. Riley, *D. M. Svehla, M. S. Torn. 2008. Ecosystem feedbacks to climate change in California: Integrated climate forcing from vegetation redistribution, using a new regional climate model configuration. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract GC51B-08.
- Kueppers, L. M.**, M. A. Snyder, and L. C. Sloan. 2006. Influence of land-use change on surface energy fluxes and atmospheric circulation in California, *Eos Transactions AGU*, 87(52), Fall Meet. Suppl., Abstract A41B-0041 (poster).
- Kueppers, L. M.**, M. A. Snyder, L. C. Sloan, and *S. Bryant. 2005. A regional climate modeling study of the effects of irrigation and urbanization on California climate. American Geophysical Union Fall Meeting. San Francisco, CA.
- Shellito, C. J., S. Clifthorne, L. C. Sloan, and **L. Kueppers**. 2005. Importance of soil texture in paleo-vegetation modeling studies. American Geophysical Union Fall Meeting. San Francisco, CA. (poster)
- Kueppers, L. M.**, M. A. Snyder, *S. Bryant, and L. C. Sloan. 2005. Climate effects of Irrigation and urbanization in California: A regional climate modeling study. Second Annual Climate Change Research Conference, and First Scientific Conference, West Coast Governors' Global Warming Initiative, Sacramento, CA. (poster)
- Snyder, M. A., **L. M. Kueppers**, L. C. Sloan, E. S. Zavaleta, and B. Fulfrost. 2005. Application of regional climate model output to the assessment of the impacts of climate change in California. Second Annual Climate Change Research Conference, and First Scientific Conference, West Coast Governors' Global Warming Initiative, Sacramento, CA. (poster)
- Kueppers, L. M.**, L. C. Sloan, M. A. Snyder, and E. S. Zavaleta. 2005. Endemic oaks, future climate change, and regional conservation. UCSC Plant Research Symposium, Santa Cruz, CA.
- Kueppers, L. M.**, L. C. Sloan, M. A. Snyder, and E. S. Zavaleta. 2004. Large shift in endemic oak ranges due to projected future regional climate change in California. *Eos, Transactions, American Geophysical Union*. (poster)
- Kueppers, L. M.** and J. Harte. 2004. Mountain forest carbon feedbacks to climate change: do species matter? Ecological Society of America Annual Meeting Abstracts.
- Kueppers, L. M.** 2004. Rocky Mountain forest carbon: The influence of climate and species. Department of Environmental Science, Policy and Management, University of California, Berkeley.
- Kueppers, L. M.** 2003. Climate and species controls on forest carbon dynamics in the Rocky Mountains. Global Change Education Program End-of-Summer Workshop. Arlington, VA.

- Kueppers, L. M.**, J. Southon, and J. Harte. 2002. Climate and species controls on decomposition of coarse woody debris: radiocarbon dating of decaying logs. Global Change Education Program End-of-Summer Workshop. Argonne National Laboratory, IL.
- Kueppers, L. M.**, J. Southon, and J. Harte. 2002. Climate and species controls on decomposition of coarse woody debris: radiocarbon dating of decaying logs. Ecological Society of America Annual Meeting Abstracts 87:185.
- Kueppers, L. M.** 2002. How do climate and forest type affect carbon storage and cycling rates: Coarse woody debris decomposition. Rocky Mountain Biological Laboratory, CO.
- Kueppers, L. M.**, and J. Harte. 2001. Soil carbon loss along a climate and forest type gradient in the Rocky Mountains. Ecological Society of America Annual Meeting Abstracts 86:135-136.
- Kueppers, L. M.**, and J. Harte. 2000. Soil carbon dynamics along a forest type and elevation gradient in the Rocky Mountains: Ecological feedbacks to climate change. Eos, Transactions, American Geophysical Union 81(48): F198. (poster)
- Kueppers, L. M.**, W. L. Silver, A. E. Lugo, and H. A. Mooney. 1996. The effects of canopy tree species diversity on nutrient cycling in a restored tropical moist forest. Bulletin of the Ecological Society of America, 77(3 Suppl. Part 2): 246. (poster)

Teaching

<i>Course (lower division, upper division or graduate)</i>	<i># students</i>	<i>Institution</i>	<i>Term</i>
Alpine Plant Ecology and Climate Change (g), 3 units	3	UC Merced	Spring 2012
Environmental Science and Policy (ud), 4 units (co-taught with Tony Westerling)	45	UC Merced	Spring 2012
Ecosystems of California (ld), 4 units	68	UC Merced	Spring 2012
Terrestrial Ecosystem Ecology (ud/g), 3 units	18	UC Merced	Fall 2011
Climate Change and Biodiversity (executive leadership program)	24	National Parks Institute	April 2011
Environmental Science and Policy (ud), 4 units (co-taught with Tony Westerling)	73	UC Merced	Spring 2011
Ecosystems of California (ld), 4 units	93	UC Merced	Spring 2011
Climate Change and Biodiversity (executive leadership program)	27	National Parks Institute	April 2010
Terrestrial Ecosystem Ecology (ud/g), 3 units	18	UC Merced	Spring 2010
Environmental Science and Policy (ud), 4 units (co-taught with Tony Westerling)	17	UC Merced	Spring 2010
Writing a Research Proposal (g), 2 units	15	UC Merced	Fall 2009
Active Service Modified Duties		UC Merced	Spring 2009
Active Service Modified Duties		UC Merced	Fall 2008
Ecosystems of California (ld), 4 units	49	UC Merced	Spring 2008
Environmental Science and Policy (ud), 4 units (co-taught with Tony Westerling)	39	UC Merced	Fall 2007
Terrestrial Ecosystem Ecology (ud/g), 3 units	3	UC Merced	Spring 2007
Rocky Mountain Ecosystems and Climate Change	4	Rocky Mountain Biological Laboratory	Summer 2006
Guest Lecturer, Department of Environmental Science		Western Washington University	Spring 2006

Visiting Scholars Hosted

Kaiguang Zhao 2011 Postdoctoral researcher, Duke University

Postdoctoral Scholars Mentored

Keith Reinhardt 2012

Andrew Moyes 2010-present

Ramona Butz 2007-2009 Currently Northern Province Ecologist for the Klamath, Mendocino, Shasta-Trinity, and Six Rivers National Forests, U.S. Forest Service

Undergraduate* and Graduate Students Mentored

Miguel Fernandez (co-advised with M. Dawson) 2011-present, PhD candidate, Environmental Systems, UC Merced

Daniel Winkler 2011-present, MS student, Environmental Systems, UC Merced

Yaqiong Lu 2008-present, PhD candidate, Environmental Systems, UC Merced

Kaitlin Lubetkin (co-advised with A. Westerling) 2008-present, PhD candidate, Environmental Systems, UC Merced

Melanie Wiederhold* 2012 University of Colorado REU Program student

Alan Hong* 2010-2012, Earth Systems Science major, UC Merced

Jennifer Wolf 2009-2011, M.S. Environmental Systems, UC Merced

Ana Becerril* 2011, Earth Systems Science major, UC Merced

Daniella Rodriguez* 2010 University of Colorado REU Program student

Renee Rozaieski* 2010 University of Colorado REU Program student

Marc Wasserman* 2010 UC Merced REU Program student

Ruth Xochihua* 2009-2010, Earth Systems Science graduate, UC Merced

Alyssa Carrell* 2008-2009, Biological Sciences graduate, UC Merced

Committee member for Danielle Christianson (PhD Candidate, UC Berkeley), Chelsea Carey (PhD Candidate, UC Merced), Alisa Keyser (PhD Candidate, UC Merced), Alyssa Carrell (PhD candidate, UC Merced), Sharon Patris (PhD student, UC Merced), Lauren Schiebelhut (PhD student, UC Merced), Steven Lee (MS student, UC Merced), Xianyu Yang (MS student, UC Merced), Christine Lamana (2012 PhD, University of Arizona), Gyami Shrestha (2011 PhD, UC Merced), Jennifer Petrzela (2011 MS, University of Colorado, Boulder), Joan Lehman (2010 MS, UC Merced), Patrick Rahilly (2008 MS, UC Merced).

Professional Service

2012 Co-organized initial meeting of North American Treeline Network following MtnClim 2012, Estes Park, CO

2009 Panelist for NSF CRI EaSM 2 special solicitation, Washington, DC

Panelist for DOE Early Career Research Program 2010 Climate and Environmental Sciences Division, Washington DC

Participant in DOE/NSF workshop *Long-term Global Change Experiments*

- 2007-2009 Panelist on NSF Ecosystem DDIG Advisory Panel, Washington, DC
American Geophysical Union, Biogeosciences Fall Meeting Program Committee
- 2008 Participant in DOE workshop *Exploring Science Needs for the Next Generation of Climate Change and Elevated CO₂ Experiments in Terrestrial Ecosystems*
- 2007 American Geophysical Union 2007 Fall Meeting, San Francisco, CA. Co-chair of session titled *Including Land Use and Land Cover Change in Earth System Models*
- 2006 American Geophysical Union 2006 Fall Meeting, San Francisco, CA. Co-chair of session titled *Modeling and Observation of Ecosystem, Carbon Cycle, and Energy System Feedbacks in the Earth's Climate*
- 2005 American Geophysical Union 2005 Fall Meeting, San Francisco, CA. Co-host of workshop titled *Observational Needs for Quantifying Ecosystem Feedbacks to Climate Change*
- 2004 Climate, Community & Biodiversity Alliance, Washington, DC. Reviewed draft Project Design Standards for identifying land-use carbon market projects with social and ecological co-benefits.
- 2000, 2005 Sound Science Initiative, Union of Concerned Scientists, Cambridge, MA. Reviewed draft report on Forest Carbon Storage as an Ecosystem Service. Met with California legislators during Climate Science Education Day, Sacramento, CA
- 2000 Director Search Committee, Rocky Mountain Biological Laboratory

University Service

- 2011-2012 Admissions Committee, Environmental Systems graduate program, UC Merced
- 2009-2012 Earth Systems Science undergraduate degree program faculty lead, UC Merced
- 2009-2012 Ad hoc Working Group on Environmental Majors and Minors, UC Merced
- 2008-2012 UC Merced Representative on the White Mountain Research Station Advisory Committee
- 2008-2012 Faculty lead (joint with M. Sprague until 2010), El Capitan High Performance Computing Cluster, UC Merced
- 2007-2012 UC Merced Representative to the California Cooperative Ecosystems Study Unit
- 2010-2011 Ecology Search Committee, UC Merced
- 2010 Participation in Preview Day on behalf of the Earth Systems Science major, UC Merced
- 2008-2010 Chancellor's Advisory Committee on the Status of Women, UC Merced
- 2009 Undergraduate Council, UC Merced
- 2008-2009 Ecology Search Committee, UC Merced
- 2007-2009 Natural Sciences Curriculum Committee, UC Merced
- 2008 Chair, Soil Biogeochemistry Search Committee, UC Merced
- 2008 Chair, Soil Physics Search Committee, UC Merced
- 2007-2008 Joint Ecology Search Committee (3 positions), UC Merced
- 2006-2007 Microbial Ecology Search Committee, UC Merced
- 2006-2007 Natural Sciences Academic Resource and Planning Committee, UC Merced

Public Service and Media

- Ongoing Alpine Treeline Warming Experiment website features Climate Change Education page as well as News, Publications, and information about our research (<https://alpine.ucmerced.edu/pub/htdocs/index.html>)
UC Merced Faculty Expert

- 2011-2012 Secretary, Founding member, Sierra Foothill Charter School - a science and sustainability focused K-8 Charter School in Catheys Valley, CA
- 2011 DeSTRESS online media. Climate scientist featured in open-licensed educational video on uncertainty and climate change for Economics, Geography, Sociology and Politics students (<http://media.streamlearn.com/video/30208262>).
BBC Radio. Feature piece on Alpine Treeline Warming Experiment.
Crested Butte Magazine. Feature article written on GLORIA alpine ecology project
Sierra Nevada Research Institute Symposium. Presentation on species ranges shifts and climate change.
Robert Fore Excellence in Education, Yosemite National Park. Presentation to local high school science teachers regarding climate change and ecological consequences.
- 2010 RMBL Exploration Experiences Climate Change Tour. Spoke with visitors to the field research station on an organized hike regarding climate change and climate and ecology research.
KVPT television. Guest climate scientist on a climate change episode of *Great Valley*, a taped half hour informational program.
Denver Post interview on subalpine and alpine species range shifts with climate change (article reprinted in Contra Costa Times).
- 2009 KPFA Radio interview on climate change
Nature News article on new DOE funded warming experiments
- 2007 ScienceNOW, KERN and KXJZ (NPR) Radio, Merced Sun-Star, Fresno Bee, and others. Provided interviews for radio, newspaper, and online outlets on the climate impacts of irrigated agriculture in California.
- 2006 Co-mentor for two Lawrence Berkeley National Laboratory K-12 Teacher Interns
- 2005-2006 KQED (NPR), KGO (ABC), and BBC Radio, San Jose Mercury News. Provided interviews on climate change and oak habitat shifts in California, and on forest carbon cycle feedbacks to climate change in the Colorado Rocky Mountains.
- 2005 Eyewitness News, KPIX (CBS), San Francisco, CA. Television interview on climate change and oak habitat shifts in California
- 2002 Nature Notes, KBUT, Crested Butte, CO. One hour radio interview on climate change and forest ecosystems in the Rocky Mountains.

Reviewing (manuscripts, proposals, applications)

Global Change Biology, Ecology Letters, Ecology, Ecological Applications, Oikos, Plant Ecology and Diversity, Journal of Arid Environments
Geophysical Research Letters, Climatic Change Letters, Journal of Geophysical Research – Atmospheres, Journal of Climate, Global Biogeochemical Cycles, Water Resources Research, Journal of Hydrometeorology, Radiocarbon
NSF (Atmospheric Sciences, Environmental Biology, Ocean Sciences, Office of Polar Programs),
DOE National Institute for Climatic Change Research, California PIER Program Report
DISCCRS V Workshop Applications, White Mountain Research Station Student Grants, Rocky Mountain Biological Laboratory Snyder Fellowship.

Professional Memberships

American Association for the Advancement of Science
American Geophysical Union

Ecological Society of America
Rocky Mountain Biological Laboratory
Sigma Xi