

## **Lara M. Kueppers**

School of Natural Sciences

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### **Education**

Ph.D. University of California, Berkeley (2003) Environmental Science, Policy and Management

M.S. Stanford University (1996) Earth Systems – Biosphere track

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

### **Positions**

Assistant Professor, School of Natural Sciences, UC Merced	2006-present
Instructor, Rocky Mountain Biological Laboratory, Colorado	2006
Senior Research Associate, Climate Change and Carbon Management Program, Earth Sciences Division, Lawrence Berkeley National Laboratory	2006
Postgraduate Researcher, Department of Earth Sciences, UC Santa Cruz	2004-2006
Graduate Student Researcher, Division of Ecosystem Science, UC Berkeley	1998-1999
Research Assistant, Rocky Mountain Biological Laboratory, Colorado	1997
Graduate Student Researcher, International Institute of Tropical Forestry, Puerto Rico	1995
Intern, World Resources Institute, Washington, DC	1995
Volunteer Botanist, Bilsa Biological Reserve, Esmeraldas Province, Ecuador	1994
Research Assistant, International Institute of Tropical Forestry, Puerto Rico	1994

### **Teaching**

Guest Lecturer, Western Washington University, Department of Environmental Science	2006
Guest Lecturer, UC Santa Cruz, Environmental Studies Department	2004, 2005
Teaching Assistant, Stanford University, Department of Earth Sciences and Department of Biological Sciences	1995-1996

### **Awards, Fellowships and Grants**

Central Coast Joint Data Committee, 2004 GIS Day Map Contest Award	2004
Postdoctoral Program in Climate and Global Change, NOAA (alternate)	2004
Graduate Research Environmental Fellowship, US Department of Energy (\$76,400)	1999-2003
Center for Accelerator Mass Spectrometry Grant, Lawrence Livermore National Laboratory (\$5,400 + ~80 radiocarbon analyses worth ~\$24,000)	2001-2002
Grant-in-Aid of dissertation research, Sigma Xi, Berkeley Chapter (\$750)	1998, 2002
Walter and Ruth Schubert Prize in Ecosystem Sciences, UC Berkeley (\$2,000)	2001
Environmental Defense Minigrant, Environmental Defense, NY (\$15,000)	1999-2001
University Fellowship, UC Berkeley (declined)	1999-2000
University Fellowship, UC Berkeley (\$13,000)	1997-1998

### Peer Reviewed Publications

- Kueppers, L. M.**, E. Zavaleta, B. Fulfroost, M. A. Snyder, and L. C. Sloan. 2006. The authors reply. *Frontiers in Ecology and the Environment* 4(4): 179.
- 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.
- 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
- 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.
- 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.
- 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.

### Other Publications

- 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

- Sloan, L.C., **L.M. Kueppers**, M.A. Snyder, D. Cayan, J. Jin, H. Kanamaru, M. Kanamitsu, N. L. Miller, M. Tyree, H. Du, and B. Weare. 2006. Modeling effects of land use changes on California's climate. Third Annual Climate Change Research Conference, Sacramento, California.
- Kueppers, L.M.** 2006. Ecological impacts: Size matters. Dissertation Initiative for the Advancement of Climate Change Research, Asilomar Conference Grounds, Pacific Grove, California.
- Kueppers, L.M.** 2006. Climate effects of irrigation and urbanization in California: A regional climate modeling study. Dissertation Initiative for the Advancement of Climate Change Research, Asilomar Conference Grounds, Pacific Grove, California. (poster)
- Kueppers, L.M.** 2006. From endemic oaks to irrigated almonds: A regional climate modeling approach to understanding vegetation-climate interactions in the western U.S. Department of Biology, San Diego State University, San Diego, California.
- Kueppers, L.M.** 2006. 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, California.

- Kueppers, L.M.** 2006. Biogeography and the carbon cycle: Anticipating and managing ecosystem feedbacks to a changing climate. Environmental Change Initiative, Brown University, Providence, Rhode Island.
- Kueppers, L.M.** 2006. 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, Providence, Rhode Island.
- Kueppers, L.M.** 2006. Causes and consequences of climate change in the western U.S. Huxley College of the Environment, Western Washington University, Bellingham, Washington.
- Kueppers, L.M.** 2005. How do land cover and land use changes affect California's climate? Environmental Systems Seminar, University of California, Merced.
- Sloan, L.C., **L. Kueppers**, M. Snyder, D. Cayan, M. Tyree, and others. 2005. Have urban and agricultural land use changes affected California's climate? Second Annual Climate Change Research Conference, and First Scientific Conference, West Coast Governors' Global Warming Initiative, Sacramento, CA.
- Kueppers, L. M.**, L. C. Sloan, M. A. Snyder, E. S. Zavaleta, and B. Fulfrost. 2005. Large shift in endemic oak ranges due to projected, future regional climate change in California. Global Environmental Change and Biodiversity Workshop, Dourdan, France. (poster)
- Kueppers, L. M.** 2004. Ecosystem-climate interactions: From forest carbon cycle measurements to regional climate models. W. Silver lab seminar, University of California, Berkeley.
- Sloan, L. C., M. Snyder, J. Bell, N. Diffenbaugh, J. Sewall, S. Bryant, and **L. Kueppers**. 2004. Regional climate modeling at UCSC: Current work and new directions. 2nd Annual Regional Climate Modeling Workshop, International Center for Theoretical Physics, Trieste, Italy.
- Kueppers, L. M.**, J. Southon, P. Baer, J. Harte. 2004. Forest carbon feedbacks to climate change: Dead wood decay measured using radiocarbon. Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory.
- Kueppers, L. M.** 2003. Climate and species controls on forest soil carbon dynamics in the Rocky Mountains. Department of Earth System Science, University of California, Irvine.

### **Contributed Presentations**

- 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. Cliftorne, 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. EcoEvo Seminar, Department of Biological Sciences, Stanford University.
- 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)

### **Public Outreach and Professional Service**

- American Geophysical Union 2005 Fall Meeting, San Francisco, CA 2005  
Co-host of workshop titled "Observational Needs for Quantifying Ecosystem Feedbacks to Climate Change."
- San Jose Mercury News, San Jose, CA. 2005-2006  
Provided interviews for articles on regional climate change and a range of ecological (including oak habitat shifts) and socioeconomic impacts.
- KQED (NPR), KGO (ABC), and BBC Radio. 2005-2006

- Provided radio interviews on climate change and oak habitat shifts in California, and on forest carbon cycle feedbacks to climate change in the Colorado Rocky Mountains.  
Eyewitness News, KPIX (CBS), San Francisco, CA. 2005
- Television interview on climate change and oak habitat shifts in California  
Sound Science Initiative, Union of Concerned Scientists, Cambridge, MA. 2000, 2005
- Reviewed draft report on Forest Carbon Storage as an Ecosystem Service.  
Met with California legislators during Climate Science Education Day, Sacramento, CA  
Snyder Graduate Fellowship Review Committee, Rocky Mountain Biological Laboratory 2004-2005
- Climate, Community & Biodiversity Alliance, Washington, DC. 2004
- Reviewed draft Project Design Standards for identifying land-use carbon market projects with social and ecological co-benefits.  
Nature Notes, KBUT, Crested Butte, CO. 2002
- One hour radio interview on climate change and forest ecosystems in the Rocky Mountains.  
Director Search Committee, Rocky Mountain Biological Laboratory 2000
- REU Mentor, Rocky Mountain Biological Laboratory 1998

### **Reviewing**

*Global Change Biology, Ecological Applications, Radiocarbon, Journal of Hydroclimatology,*  
DOE National Institute for Climatic Change Research (formerly NIGEC).

### **Professional Memberships**

American Association for the Advancement of Science, American Geophysical Union,  
Ecological Society of America, Rocky Mountain Biological Laboratory

### **Recent Collaborators and Coauthors (last 48 months)**

Paul Baer, Dan Cayan, Hui Du, Brian Fulfrost, John Harte, Barbara Haya, Jiming Jin, Hideki Kanamaru, Masao Kanamitsu, Laura Koteen, Ariel Lugo, Virginia Matzek, Norman Miller, Rebecca Ostertag, Lucinda Shellito, Whendee Silver, Lisa Sloan, Molly Smith, Mark Snyder, John Southon, Margaret Torn, Mary Tyree, Bryan Weare, Erika Zavaleta

### **Research Interests**

Ecological impacts from and ecosystem feedbacks to climate change, regional climate models, land-cover/ land-use change, species composition and ecosystem function, radiocarbon techniques, interdisciplinary research strategies, climate change policy.