

# Megan Leigh Mobley

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## Education

**Ph.D. Ecology**, 2011, Duke University, Durham, NC.

**B.S. Environmental Sciences**, 2004, Duke University, Durham, NC

## Appointments

2013	Instructor, ENR1100: Env't and Nat Resources Problems and Policies
2013-present	Junior Editor, American Journal Experts, Durham, NC
2012-2014	Postdoctoral Research Associate, University of Wyoming, Laramie, WY
2011	Teaching Assistant: Forest Measurements
2011	Teaching Assistant: Soil and Ecosystems
2010	Teaching Assistant: Forest Field Skills
2009	Visiting Researcher, Oregon State University, Corvallis, OR
2009	Teaching Assistant: Advanced Soils Readings
2008	Research Assistant
2008	Teaching Assistant: Fire Ecology and Management
2007	Teaching Assistant: Biogeochemistry
2007	Visiting Researcher, Rothamsted Research, Harpenden, UK
2007	Teaching Assistant: Fire Ecology and Management
2006	Teaching Assistant: Soil Resources
2005-2006	Environmental Consultant, Technical Forestry Services, Greybull, WY
2004-2005	Research Technician, Nicholas School of the Environment, Durham, NC
2003-2004	Research Technician, Duke University Department of Biology, Durham, NC
2003	REU participant, UColorado Mountain Research Station, Nederland, CO
2002	NSF Teaching Fellow, Duke University Marine Laboratory, Beaufort, NC
2002	Research Technician, Nicholas School of the Environment, Sequoia National Park, CA

## Publications

Korfanta, NK, **ML Mobley**, and IC Burke. Fertilizing western rangelands for mule deer: A sound mitigation strategy? Accepted at *Wildlife Society Bulletin*

**Mobley, ML**, K Lajtha, MG Kramer, AR Bacon, PR Heine, DD Richter. Surficial gains and subsoil losses of soil C and N during secondary forest development. Accepted at *Global Change Biology*

**Mobley, ML**, RL McCulley, IC Burke, G Peterson, DS Schimel, CV Cole, ET Elliott, DG Westfall. Grazing and no-till cropping impacts on N retention in dryland agroecosystems. Accepted at *Journal of Environmental Quality*

Avirmed, O, IC Burke, **ML Mobley**, WK Lauenroth, and DR Schlaepfer. 2014. Natural recovery of soil organic matter in 30-90 year old abandoned oil and gas wells in sagebrush steppe. *Ecosphere* **5**:art24. doi:10.1890/ES13-00272.1

Richter, DD, AR Bacon, SA Billings, D Binkley, M Buford, MA Callahan, AE Curry, RL Fimmen, AS Grandy, PR Heine, M Hofmockel, JA Jackson, E Lemaster, J Li, D Markewitz, **ML Mobley**, MW Morrison, MS Strickland, T Waldrop, and CG Wells. 2014. Evolution of Soil, Ecosystem, and Critical Zone Research at the Calhoun Experimental Forest, In: *USDA Forest Service Experimental Forests and Ranges: Research for the Long Term*. DC Hayes, S Stout, R Crawford, and A Hoover (eds). Springer Verlag, NY.

**Mobley, ML**, DD Richter, PR Heine. 2012. Accumulation and decay of woody detritus in a mature southeastern loblolly pine stand. *Canadian Journal of Forest Research* **43**:109-118. doi: 10.1139/cjfr-2012-0222

Richter, DD, SS Andrews, AR Bacon, S Billings, CA Cambardella, N Cavallaro, JE DeMeester, AJ Franzluebbers, S Grandy, S Grunwald, J Gruver, AS Hartshorn, H Janzen, M Kramer, JK Ladha, K Lajtha, G Liles, D Markewitz, PJ Megonigal, A Mermut, **ML Mobley**, C Palm, C Rasmussen, CJ Richardson, DA Robinson, P Smith, C Stiles, RL Tate, A Thompson, AJ Tugel, H van Es, L West, S Wills, D Yaalon, and TM Zobeck. 2011. Soils and human-soil relations are changing rapidly: Proposals from SSSA's new Cross-Division Work Group on Soil Change. *Soil Science Society of America Journal* **75**:2079–2084. doi: 10.2136/sssaj2011.0124

Richter, DD and **ML Mobley**. 2009. Monitoring Earth's Critical Zone. *Science* **326**:1067-1068. doi: 10.1126/science.1179117

Galik, CS, **ML Mobley**, DD Richter. 2009. A virtual "field test" of forest management carbon offset protocols: the influence of accounting. *Mitigation and Adaptation of Strategies for Global Change* **14**: 677-690. doi: 10.1007/s11027.009.9190.9

Galik, CS, DD Richter, **ML Mobley**, LP Olander, and BC Murray. 2008. A Critical Comparison and Virtual "Field Test" of Forest Management Carbon Offset Protocols. Climate Change Policy Partnership, Duke University, Durham, NC. [link](#)

Suding, K, I Ashton, H Bechtold, WD Bowman, **ML Mobley** and R Winkleman. 2008. Plant and microbe contribution to community resilience in a directionally changing environment. *Ecological Monographs* **78**: 313-329. doi: 10.1890/07.1092.1

### Submitted Manuscripts

Avirmed, O, WK Lauenroth, IC Burke, and **ML Mobley**. Natural recovery of a sagebrush plant community: results from 30-88 year old disturbed sites. In review at *Western North American Naturalist*

Cleary, MJ, **ML Mobley**, IC Burke. Inorganic nitrogen supply and dissolved organic nitrogen abundance across the US Great Plains. In review at *PLOS ONE*

Parolari, AJ, **ML Mobley**, AR Bacon, GG Katul, DD Richter, and A Porporato. Boom and bust carbon-nitrogen dynamics during reforestation. In review at *Global Change Biology*.

### Awards and grants

2013	Associate Faculty Member Travel Grant, Faculty of 1000 Prime, \$250
2012	Dissertations Initiative for the Advancement of Climate Change Research (DISCCRS) Symposium VII Scholar
2011	Duke University Conference Travel Award to AGU Fall Meeting, \$715
2011	ESA/SERDP Travel Award to ESA Annual Meeting, \$500
2011	Oosting Fellow, Duke University
2010	Duke University Conference Travel Award to AGU Fall Meeting, \$715
2010	ESA/SERDP Travel Award to ESA Annual Meeting, \$500
2010	NSF Doctoral Dissertation Improvement Grant, \$15000
2009-2010	E. Bayard Halsted Fellow, Duke University
2009-2010	Preparing Future Faculty Fellow, Duke University
2006-2010	James B. Duke Fellow, Duke University
2009	Duke University Conference Travel Award to SSSA Annual Meeting, \$900
2008	NSF Graduate Research Fellowship Honorable Mention
2007	Duke University Predissertation Travel Award to Harpenden, UK, \$1300
2005	NSF REU Travel Award to ESA Annual meeting, \$1250

2004 US Forest Service Science Award, Duke University  
2004 Graduation with Distinction in Environmental Sciences,  
Duke University  
2001-2004 A. Pat Brown Environmental Science Scholar, Duke University

### Invited Oral Presentations

**Mobley, ML**, DD Richter, K Lajtha, M Kramer, PR Heine. 2012. Deep soil carbon loss under an aggrading old-field forest. 5th International Workshop on Soil and Sedimentary Organic Matter Stabilization and Destabilization (SOM5). Monte Verita, Switzerland.

**Mobley, ML**. 2012. Field-to-forest succession and changes in the quantity and distribution of ecosystem carbon and nitrogen. University of Wyoming Botany Seminar, Laramie, WY.

**Mobley, ML**, DD Richter, K Lajtha, M Kramer. 2011. Exploring deep soil carbon loss following field-to-forest land use change. American Geophysical Union Fall Meeting. San Francisco, CA.

**Mobley, ML**, DD Richter, PR Heine, SA Billings. 2011. Soil Carbon Change during Fifty Years of Old-Field Forest Development. Oosting Ecology Seminar, Duke University, Durham, NC.

**Mobley, ML** and DD Richter. 2008. Fifty Years of Forest Carbon Budgets at the Calhoun Experimental Forest: What have we learned? Joint Meeting of the Geological Society of America and Soil Science Society of America. Houston, TX.

### Oral Presentations

**Mobley, ML**, RL McCulley, IC Burke, GA Peterson, DS Schimel, CV Cole, ET Elliott, DG Westfall. 2013. Perennial plant cover controls soil nitrogen retention in managed current and former grasslands of the semi-arid western Great Plains. Ecological Society of America Annual Meeting, Minneapolis, MN.

**Mobley, ML**. 2012. Dead Leaves (and Trees) and Dirty Ground: The distribution of forest carbon among living and dead materials. DISsertations initiative for the advancement of Climate Change ReSearch (DISCCRS) Symposium VII. Colorado Springs, CO.

**Mobley, ML** and DD Richter. 2012. Changes in dead plant carbon over 50 years of old-field forest development. Ecological Society of America Annual Meeting, Portland, OR.

**Mobley, ML**. 2011. An ecosystem approach to dead plant carbon over 50 years of old-field forest development. Duke University Program in Ecology Seminar, Durham, NC.

**Mobley, ML**, DD Richter, PR Heine. 2011. Carbon and nitrogen storage and decomposition in decaying taproots at the Calhoun Experimental Forest, SC. Ecological Society of America Annual Meeting. Austin, TX.

**Mobley, ML**, PR Heine, SA Billings, K Lajtha, MG Kramer, DD Richter. 2010. Soil Carbon Change during Fifty Years of Old-Field Forest Development. American Geophysical Union Fall Meeting. San Francisco, CA.

**Mobley, ML**, DD Richter, PR Heine. 2010. Accumulation and decay of coarse woody detritus over 50 years of pine forest development. Ecological Society of America Annual Meeting. Pittsburgh, PA.

**Mobley, ML**, DD Richter, S Qian. 2009. Transformations of pine forest-derived dissolved organic matter in a temperate zone soil. Soil Science Society of America Annual Meeting. Pittsburgh, PA.

**Mobley, ML**, DD Richter, S Qian. 2009. Transformations of pine forest-derived dissolved organic matter in a temperate zone soil. Ecological Society of America Annual Meeting. Albuquerque, NM.

## Service

Ongoing	Reviewer: <i>Biogeosciences, Ecosphere, Ecosystems, Environmental Science &amp; Technology, Global Change Biology, Journal of Geophysical Research-Biogeosciences, Soil Science Society of America Journal</i>
2013	Judge, GLOBE 2013 Student Virtual Conference
2013	Reviewer, DISCCRS VIII applications
2013	Judge, Wyoming State Science Fair
2012-present	Associate Faculty Member in Ecology, Faculty of 1000 Prime
2011	Volunteer, Meet a Scientist Program, Museum of Life + Science, Durham, NC
2011	Organizer, Global Soil Change Workshop III, Duke University
2011	Organizer, Sustainability across the Curriculum Workshop, Duke University
2010-2011	President, Duke Chapter of Sigma Xi
2010	Reviewer: <i>Ecology of Dead Wood in the Southeast</i> . The Forest Guild, Santa Fe, NM
2010	Organizer, Science of Coffee event, Museum of Life + Science, Durham, NC
2009-2011	Education and Transportation subcommittees of the Duke Campus Sustainability Committee
2009	Organizer, Global Soil Change Workshop II, Duke University
2008-2011	Organizer, Periodic Tables Science Café
2007-2011	Selection Committee, University Program in Ecology Seminar
2007-2010	Vice President, Duke Chapter of Sigma Xi
2007-2009	Coordinator, Nicholas School of the Environment Graduate Seminar
2007	Organizer, Global Soil Change Workshop I, Duke University
2008	Mentor, Women and Math Mentoring Program

## Professional memberships

American Geophysical Union; Biogeosciences Section  
Earth Science Women's Network  
Ecological Society of America; Biogeosciences Section  
GLOBE International Scientist Network  
Soil Science Society of America; Forest, Range and Wildland Soils (S-7) Division

## Collaborators (last 2 years)

Otgonsuren Avirmed (UWyoming), Allan Bacon (UFlorida); Sharon Billings (UKansas); Ingrid Burke (UWyoming); Matthew Cleary (UWyoming); Paul Heine (Duke); Gaby Katul (Duke); Nicole Korfanta (UWyoming); Marc Kramer (UFlorida); Kate Lajtha (Oregon State); William Lauenroth (UWyoming); Rebecca McCulley (UKentucky); Urszula Norton (UWyoming); Emilene Ostlind (UWyoming); Anthony Parolari (Duke); Gary Peterson (Colorado State); Amilcare Porporato (Duke); Daniel Richter (Duke); Caitlin Rottler (UWyoming); David Schimel (Jet Propulsion Lab); Daniel Schlaepfer (UWyoming); Joe von Fischer (Colorado State); Dwayne Westfall (Colorado State); Ruth Yanai (SUNY-Syracuse)