

Rebecca L. Mau

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Education

2013 **M.S.** Department of Biology, **Northern Arizona University, Flagstaff, AZ**

Thesis title: The Priming Effect in Multiple Ecosystems Along an Elevation Gradient in Northern Arizona.

2005 **B.S.** (with Distinction), School of Natural Resources and Environment, **University of Michigan, Ann Arbor, MI**

Major: Environmental Science, Minor: Global Change

2003 **University of Michigan Biological Station**, Pellston, MI

Professional Experience

2017-present **Research Associate**, Center for Ecosystem Science and Society (EcoSS), Northern Arizona University, Flagstaff, AZ. *Leads and collaborates on several research projects in the field of microbial community ecology. Mentors graduate and undergraduate students. Manages day-to-day operations of the lab.*

Supervisor: Bruce Hungate

2014-2017 **Research Specialist, Sr.**, Center for Ecosystem Science and Society (EcoSS), Northern Arizona University, Flagstaff, AZ. *Leads and collaborates on several research projects in the field of microbial community ecology. Mentors graduate and undergraduate students. Manages day-to-day operations of the lab.*

Supervisor: Bruce Hungate

2010-2013 **Graduate Student, Research Assistant/Teaching Assistant**, Northern Arizona University, Flagstaff, AZ. *Studied changes in microbial community ecology in response to climate change. Also taught 3 semesters of the lab portion of Bio 100 (Biology for non-biology majors).*

Major Advisor: Bruce Hungate

2010 **Research Assistant**, Northern Arizona University, Flagstaff, AZ. *Involved with lab and field-work of multiple projects examining genetic controls over environmental processes.*

Supervisors: Jamie Lamit, Sharon Ferrier, Tom Whittam

2009-10 **Research Assistant**, Universidad Rey Juan Carlos, Mostoles, Spain. *Investigated the effects of biotic community attributes on ecosystem functioning in a global change context.*

Supervisor: Fernando Maestre

2008 **Field Crew Leader**, Washington University, St. Louis, MO/Savannah River Site, Aiken, SC. *Managed a 5-person field crew examining the effects of landscape corridors on a longleaf pine savannah restoration study at the world's largest landscape level corridor projects.*
Supervisors: Lars Brudvig, Ellen Damschen, Nick Haddad, Doug Levy and Josh Tewksbury

2007 **Field Technician**, USGS/Dept. of Interior/Student Conservation Association, Kofa National Wildlife Refuge, Yuma, AZ. *Led post-fire regeneration surveys as a vegetation inventory intern.*
Supervisors: Lindsay Smythe and Todd Esque

2005-07 **Lab Manager**, University of Michigan, Ann Arbor, MI. *Investigated microbial communities and ecosystem processes under elevated nitrogen or elevated CO₂ and ozone conditions (FACE site Rhinelander, WI).*
Supervisor: Donald Zak

Awards

National Science Foundation, Integrative Graduate Education and Research Traineeship (IGERT), Jan-May 2012

Training

2005 **Mass Spectrometer and Elemental Analyzer Certification**,
Isomass Scientific, Inc., University of Ontario, Ontario, Canada

Publications

Mau, R.L., P. Dijkstra, E. Schwartz, B.A. Hungate (2017) Warming induced changes in soil carbon and nitrogen influence priming responses in four ecosystems. *Applied Soil Ecology*. DOI: 10.1016/j.apsoil.2017.10.034

Morrissey, E.M., **R.L. Mau**, E. Schwartz, T.A. McHugh, P. Dijkstra, B.J. Koch, J.C. Marks, B.A. Hungate (2017) Bacterial carbon use plasticity, phylogenetic diversity and the priming of soil organic matter. *The ISME Journal*. 11:1890-1899. DOI: 10.1038/ismej.2017.43

Liu, X-J.A., J. Sun, **R.L. Mau**, B.K. Finley, Z.G. Compson, N. van Gestel, J.R. Brown, E. Schwartz, P. Dijkstra, B.A. Hungate (2017) Labile carbon input determines the direction and magnitude of the priming effect. *Applied Soil Ecology*. 109:7-13. DOI: 10.1016/j.apsoil.2016.10.002

Morrissey, E.M., **R.L. Mau**, E. Schwartz, J.G. Caporaso, P. Dijkstra, N. van Gestel, B.J. Koch, C.M. Liu, M. Hayer, T.A. McHugh, J.C. Marks, L.B. Price, B.A. Hungate (2016) Phylogenetic organization of bacterial activity. *The ISME Journal*. 10(9):2336-2340. DOI: 10.1038/ismej.2016.28

Delgado-Baquerizo, M., F.T. Maestre, A. Gallardo, D.J. Eldridge, S. Soliveres, M.A. Bowker, A. Prado-Comesaña, J. Gaitán, J.L. Quero, V. Ochoa, B. Gozalo, M. García-Gómez, P. García-Palacios, M. Berdugo, E. Valencia, C. Escolar, T. Arredondo, C. Barraza-Zepeda, B.R. Boeken, D. Bran, O. Cabrera, J.A. Carreira, M. Chaieb, A.A. Conceição, M. Derak, R. Ernst, C.I. Espinosa, A. Florentino, G. Gatica, W. Ghiloufi, S. Gómez-González, J.R. Gutiérrez, R.M. Hernández, E. Huber-Sannwald, M. Jankju, **R.L. Mau**, M. Miriti, J. Monerri, E. Morici, M. Muchane, K. Naseri, E. Pucheta, E. Ramírez, D.A. Ramírez-Collantes, R.L. Romão, M. Tighe, D. Torres, C. Torres-Díaz, J. Val, J.P. Veiga, D. Wang, X. Yuan, E. Zaady (2016) Human impacts of aridity differentially alter soil N availability in drylands. *Global Ecology and Biogeography*. 25(1):36-45.

Maestre, F.T., M. Delgado-Baquerizo, T.C. Jeffries, D.J. Eldridge, V. Ochoa, B. Gozalo, J.L. Quero, M. García-Gómez, A. Gallardo, W. Ulrich, M.A. Bowker, T. Arredondo, C. Barraza-Zepeda, D. Bran, A. Florentino, J. Gaitán, J.R. Gutiérrez, E. Huber-Sannwald, M. Jankju, **R.L. Mau**, M. Miriti, K. Naseri, A. Ospina, I. Stavi, D. Wang, N.N. Woods, X. Yuan, E. Zaady, B.K. Singh (2015) Increasing aridity reduces soil microbial diversity and abundance in global drylands. *PNAS*. 112(51):15684-15689.

Hungate, B.A., **R.L. Mau**, E. Schwartz, J.G. Caporaso, P. Dijkstra, N. van Gestel, B.J. Koch, C.M. Liu, T.A. McHugh, J.C. Marks, E.M. Morrissey, L.B. Price (2015) Quantitative microbial ecology through stable isotope probing. *Applied and Environmental Microbiology*. 81(21):7570-7581.

Mau, R.L., C.M. Liu, M. Azia, E. Schwartz, P. Dijkstra, J.C. Marks, L.B. Price, P. Keim, B.A. Hungate (2015) Linking soil bacterial biodiversity and soil carbon stability. *ISME journal*. 9(6):1477-1480.

Ulrich, W., S. Soliveres, F.T. Maestre, N.J. Gotelli, J.L. Quero, M. Delgado-Baquerizo, M.A. Bowker, D.J. Eldridge, V. Ochoa, B. Gozalo, E. Valencia, M. Berdugo, C. Escolar, M. García-Gómez, A. Escudero, A. Prina, G. Alfonso, T. Arredondo, D. Bran, O. Cabrera, A.P. Cea, M. Chaieb, J. Contreras, M. Derak, C.I. Espinosa, A. Florentino, J. Gaitán, V. García Muro, W. Ghiloufi, S. Gómez-González, J.R. Gutiérrez, R.M. Hernández, E. Huber-Sannwald, M. Jankju, **R.L. Mau**, F. Mendes Hughes, M. Miriti, J. Monerri, M. Muchane, K. Naseri, E. Pucheta, D.A. Ramírez-Collantes, E. Raveh, R.L. Romão, C. Torres-Díaz, J. Val, J.P. Veiga, D. Wang, X. Yuan, E. Zaady (2014) Climate and soil attributes determine plant species turnover in global drylands. *Journal of Biogeography*. 41(12):2307-2319. DOI: 10.1111/jbi.12377

Delgado-Baquerizo, M., F.T. Maestre, A. Gallardo, M.A. Bowker, M.D. Wallenstein, J.L. Quero, V. Ochoa, B. Gozalo, M. García-Gómez, S. Soliveres, P. García-Palacios, M. Berdugo, E. Valencia, C. Escolar, T. Arredondo, C. Barraza-Zepeda, D. Bran, J.A. Carreira, M. Chaieb, A.A. Conceição, M. Derak, D.J. Eldridge, A. Escudero, C.I. Espinosa, J. Gaitán, M.G. Gatica, S. Gómez-González, E. Guzman, J.R. Gutiérrez, A. Florentino, E. Hepper, R.M. Hernández, E. Huber-Sannwald, M. Jankju, J. Liu, **R.L. Mau**, M. Miriti, J. Monerri, K. Naseri, Z. Noumi, V. Polo, A. Prina, E.

Pucheta, E. Ramírez, D.A. Ramírez-Collantes, R. Romão, M. Tighe, D. Torres, C. Torres-Díaz, E.D. Ungar, J. Val, W. Wamiti, D. Wang, E. Zaady (2013) Decoupling of soil nutrient cycles as a function of aridity in global drylands. *Nature*. 502(7475): 672-676.

Bowker, M.A., F.T. Maestre, **R.L. Mau** (2013) Diversity and patch-size distributions of biological soil crusts regulate dryland ecosystem multifunctionality. *Ecosystems*. 16(6):923-933.

Maestre, F. T., J. L. Quero, N. J. Gotelli, A. Escudero, V. Ochoa, M. Delgado-Baquerizo, M. García-Gómez, M.A. Bowker, S. Soliveres, C. Escolar, P. García-Palacios, M. Berdugo, E. Valencia, B. Gozalo, A. Gallardo, L. Aguilera, T. Arredondo, J. Blones, B. Boeken, D. Bran, A.A. Conceição, O. Cabrera, M. Chaieb, M. Derak, D.J. Eldridge, C.I. Espinosa, A. Florentino, J. Gaitán, M.G. Gatica, W. Ghiloufi, S. Gómez-González, J.R. Gutiérrez, R.M. Hernández, X. Huang, E. Huber-Sannwald, M. Jankju, M. Miriti, J. Monerris, **R.L. Mau**, E. Morici, K. Naseri, A. Ospina, V. Polo, A. Prina, E. Pucheta, D.A. Ramírez-Collantes, R. Romão, M. Tighe, C. Torres-Díaz, J.Val, J.P. Veiga, D. Wang, E. Zaady (2012) Plant Species Richness and Ecosystem Multifunctionality in Global Drylands. *Science*. 335(6065): 214-218.

Bowker, M.A., **R.L. Mau**, F.T. Maestre, C. Escolar, A.P. Castillo-Monroy (2011) Functional Profiles Reveal Unique Ecological Roles of Various Biological Soil Crust Organisms. *Functional Ecology* 25(4):787-795.

Eldridge, D.J., M.A. Bowker, F.T. Maestre, P. Alonso, **R.L. Mau**, J. Papadopoulos, A. Escudero (2010) Interactive Effects of Three Ecosystem Engineers on Infiltration in a Semi-Arid Mediterranean Grassland. *Ecosystems*. 13(4):499-510.