

Lindsey L. Sloat

Postdoctoral research associate, UC Irvine

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EDUCATION

Millersville University: BSc (Hons.) Biology/Botany, 2006
University of Arizona: M.S. Ecology and Evolutionary Biology, 2012
University of Arizona: Ph.D. Ecology and Evolutionary Biology, 2015

APPOINTMENTS

Postdoctoral research associate with the Global Landscapes Initiative (Institute on the Environment, University of Minnesota). 2015 – 2018.

Postdoctoral research associate with the Coupled Human-Natural Systems group at the University of California Irvine (Earth Systems Science department). Current.

PUBLICATIONS

1. Godde, C.M., Kanar, D., Andrews, A., Thornton, P., **Sloat, L.L.**, Eugeni, R., Henderson, B., Herrero, M. Climate change and variability impacts on grazing herds: Insights from a systems dynamics approach for semi-arid Australian rangelands. *Global Change Biology*. (accepted)
2. Dillon, K., Henderson, A., Lodge, A., Hamilton, N., **Sloat, L.L.**, Enquist, B.J., Price, C., Kerckhoff, A. On the relationships between size and abundance in plants: beyond forest communities. *Ecosphere*. (in press)
3. Ray D.K., West P.C., Gerber J.S., **Sloat L.L.**, Garcia A., Samberg L., Butler E., Prischepov A. (2018). Progress of the Green Revolution and implications for land use and food security. *Scientific Advances*. (Submitted).
4. **Sloat L.L.**, Gerber J.S., Samberg L.H., Smith, W.K., Herrero M., Ferreira, L.G., Godde, C.M., West, P.C. (2018) Increasing importance of precipitation variability on global livestock grazing lands. *Nature Climate Change*. 8, 214-218
5. **Sloat, L.L.**, Henderson, A.N., Lamanna, C.L., Enquist, B.J. The effect of the foreshortened drought on carbon exchange in subalpine meadows. *Ecosystems*. Volume 18, Issue 3 (2015), Page 533-545
6. Enquist, B.J., Norberg, J., Bonsor, S.P., Violle, C., Webb, C.T., Henderson, A., **Sloat, L.L.**, and V.M. Savage (2015) Scaling from traits to ecosystems: Developing a general Trait Driver Theory via integrating trait-based and metabolic scaling theories. *Advances in Ecological Research*, 52 (2015).
7. Blonder, B.B., **Sloat, L.L.**, Enquist, B.J., McGill, B. Separating Macroecological pattern and process in ecological, economic, and geological systems. *PLOS One*. Nov 2014
8. Sides, C.B., Enquist, B.J., Ebersole, J.J., Smith, M.N., Henderson, A.N., & **Sloat, L.L.** (2014). Revisiting Darwin's hypothesis: Does greater intraspecific variability increase species' ecological breadth? *American journal of botany*, 101(1), 56-62.
9. Morueta-Holme, N., Enquist, B.J., McGill, B.J., Boyle, B., Jørgensen, P.M., Ott, J.E., Peet, R.K., **Sloat, L.L.** et al. "Habitat area and climate stability determine geographical variation in plant species range sizes." *Ecology letters* 16, no. 12 (2013): 1446-1454.
10. Harpold, A.A., Biederman, J.A., Condon, K., Merino, M., Korgaonkar, Y., Nan, T., **Sloat, L.L.**, Ross, M., and P.D. Brooks. "Changes in snow accumulation and ablation following the Las Conchas Forest Fire, New Mexico, USA." *Ecohydrology* (2013).
11. Blonder, B., Buzzard, V., Simova, I., **Sloat, L.L.**, et al. "The leaf-area shrinkage effect can bias paleoclimate and ecology research." *American journal of botany* 99, no. 11 (2012): 1756-1763
12. Hardy CR, **Sloat, L.L.**, and Faden, R.B. Floral organogenesis and the developmental basis for pollinator deception in the Asiatic dayflower, *Commelina communis* (Commelinaceae). *American Journal of Botany* 96(7):1236-1244. (2009)

SELECT LECTURES AND PRESENTATIONS

1. Paul C West, James S Gerber, Andrea S Garcia, **Lindsey Sloat**, Deepak K Ray, Peder Engstrom, Samuel Stiffman, Glenn Hyman, Julia R Manguera, Ginya Truitt Nakata,

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- Mauricio Castro Schmitz, Irene Farrow. "Mapping and targeting efforts to restore degraded lands for agriculture in Latin America." Flash Talk. Global Land Program Open Science Meeting. (April 2019)
- Gerber, J.S., Makowski, D., Mueller N.D., Ray, D.K., Butler, E.E., **Sloat, L.L.**, Samberg, L.S., Johnson, A.J., Siebert, S., West, P.C. "Hitting the ceiling: global trends in closing yield gaps". Poster. Global Land Program Open Science Meeting (April 2019).
 - Godde, C., Boone, R., Ash, A., Waha, K., Sloat, L. L., Thornton, P., Herrero, M. "Global rangelands at threat under climate change". Poster. Global Land Program Open Science Meeting (April 2019).
 - Sloat L. L.**, "Ecological theory for use in permaculture". Invited Lecture, Susquehanna Sustainable Enterprises. Ecological Permaculture Course. (March 2019).
 - Sloat L.L.**, "Global Agriculture and the Environment". Invited Lecture, Franklin and Marshall College. (Oct. 2018)
 - Sloat L.L.**, Gerber J.S., Ray D.K., West, P.C. Mueller N. "Expansion of Crop Growing Niches During the Green Revolution" American Geophysical Union Conference Poster. (Dec. 2018). Abstract ID: 434473
 - Sloat L.L.**, Gerber J.S. "Precipitation variability on Global pastures." Global Land Program Open Science Meeting. Beijing, China. (Oct 2016).
 - Sloat L. L.**, Gerber J.S., Samberg L.H., Smith, W.K., Herrero M., Ferreira, L.G., Godde, C.M., West, P.C. "Precipitation variability on global pasture" American Geophysical Union conference poster. (2016).
 - Gerber J.S., Samberg L.H., **Sloat L.L.**, Herrero, M., Ferreira, L., Ramankutty, N., Smith W.K., West, P.C. "Global Assessment of livestock intensification potential." American Geophysical Union conference presentation. San Francisco, (Dec. 2016).
 - Sloat, L.L.**, Henderson, A.N., Enquist, B.J. "Mid-summer drought and carbon exchange in subalpine meadows." American Geophysical Union conference presentation. San Francisco, (Dec. 2013).
 - Lamanna, Christine A., **Lindsey L. Sloat**, Amanda N. Henderson, and Brian J. Enquist. "Opposing trait drivers of phylogenetic community assembly across a subalpine elevational gradient." ESA Presentation. (Aug. 2012)
 - Henderson, Amanda N., Benjamin W. Blonder, Christine A. Lamanna, **Lindsey L. Sloat**, Andrew J. Kerkhoff, and Brian J. Enquist. "Plant community assembly and the role of intraspecific functional trait variability in alpine meadows." ESA Presentation (Aug. 2011)
 - Sloat, L.L.**, Lamanna, C.A., Aldridge, G., Enquist, B.J., Henderson, A.N., Inouye, D.W., Stansberry, M.J., Whitney, K.D., and I. Billick. "A comprehensive functional trait database for the plants of the Rocky Mountain Biological Laboratory." ESA Presentation (July 2011)
 - Sloat, L.L.** Graduate student seminar series. Rocky Mountain Biological Laboratory. "Functional diversity and productivity along an elevational gradient." (May 2011)

PRESS

- Environmental Reports: Is Climate Change A Risk to Global Grazing Lands?
<http://www.environmentreports.com/livestock-climate-variability>
- NASA Earth Observatory: Unstable Precipitation Leads to Unstable Pastures.
<https://earthobservatory.nasa.gov/images/144568/unstable-precipitation-leads-to-unstable-pastures>
- CSIRO ECOS: As Rainfall variability increase, do our graziers have solutions?
<https://ecos.csiro.au/grazing-rainfall/>
- Scientific American EE News: Fluctuating Rainfall Could Hurt Grazing Regions.
<https://www.scientificamerican.com/article/fluctuating-rainfall-could-hurt-grazing-regions/>

TEACHING AND MENTORING

Teaching Assistant – University of Arizona

Teaching lab sections, grading, leading field trips, helping students with writing projects:

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- Ecology: Mitch Pavo-Zuckerman – Fall 2008
- Human Evolution: Elizabeth Wood – Spring 2009
- The Evolution of Plant Form and Function: Brian Enquist -Fall 2009 and 2010
- Plant Biology: Steve Smith - Spring 2010
- Introduction to Biology: Tuan Chao Spring 2013; Elizabeth – Spring 2014

Research Assistant – Brian Enquist, University of Arizona

Working with a field crew to take environmental and diversity measurements, enter data, create reports, write protocol:

- Organize summer field campaign at the Rocky Mountain Biological Lab – Summer 2009-2013
- Execute field work for “Macrosystems” grant – Traveled to many field stations in the Northern Hemisphere and worked with a group of colleagues to measure tree diversity and various environmental characteristics. – Fall and Spring 2011

Lecturer – Hamline University (2014 – 2015)

Introductory Ecology lab (Bio1800L) - Fall:

- Instructor of record for three sections

Plant and animal physiology lab (Bio 1820L) – Spring:

- Instructor of record for three sections

WORKING GROUPS AND CONSULTING

Science consultant for The Nature Conservancy (2017 – 2018)

PI: Ginya Truitt (TNC)

Project team: Paul C West, James S Gerber, Andrea S Garcia, Lindsey Sloat, Deepak K Ray, Peder Engstrom, Samuel Stiffman, Glenn Hyman, Julia R Manguera, Nakata, Mauricio Castro Schmitz, Irene Farrow

This multi-institution science consulting group was tasked with mapping action landscapes for advancing The Nature Conservancy’s Healthy Agricultural Systems Strategy in Latin America

My role in this group included:

- Using satellite data to calculate land degradation proxies
- Mapping and targeting efforts to restore degraded lands for agriculture in Latin America

Early Career cross-disciplinary science communication group (2016 – 2018)

PI: Lindsey L. Sloat – Institute on the Environment

Project team: Laura Dee, Department of Forest Resources & Institute on the Environment; Carla Rosenfeld, Earth Science & Bio-Technology Institute; Lauren Cline, Plant Biol. Sciences; Lauren Sullivan, Ecology Evolution and Behavior; Leah Samberg, Institute on the Environment

This initiative aims to foster the collaboration of post-doctoral and early-career researchers from across the University to amplify the impact of their research

- Weekly group meetings focused on writing and peer review. These regular meetings allow for goal setting, accountability, and iterative feedback from peers across the natural sciences
- Recipient of a 2016 IonE mini-grant
- Host events related to fostering writing and peer review skills and effective cross disciplinary communication