Toby Maxwell, PhD
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Philosophy
It is my goal to bring together diverse social, cultural, and academic groups to study ecosystem ecology, combining our perspectives in an effort to understand and manage the impacts of climate change across the landscape.

Education
University of California at Davis, September 2012-March 2018
Ph.D., Agricultural and Environmental Chemistry, Advisor: William Horwath
Dissertation Title: Advancing Molecular to Regional Understanding of Carbon-Water Relations in Managed and Natural Systems Across California

State University of New York at Geneseo, Graduated 2011
Bachelor of Science in Chemistry, Magna Cum Laude

Current Projects
The climate paradox: mapping resilience and vulnerability of montane forests
Toby Maxwell, Lucas Silva
Working to determine drivers of tree physiological response to climate change across Oregon subalpine forests.

Probing for the role of fungal networks in nutrient transfer of novel plant communities across the PNW
Toby Maxwell, Barbara Bomfim, Kaye Shek, Krista McGuire, Lucas Silva
Using stable isotope probing to identify the role of fungal networks in prairie plant community response to warming.

Connecting carbon and oxygen isotope ratios from plant cellulose to soil carbonates to improve understanding of past and future climates
Adrian Broz, Greg Retallack, Toby Maxwell, Lucas Silva
Identifying links between contemporary and paleo plant responses to vapor pressure deficit to improve prediction.

Lab Experience and Data Analysis
Plant Ecology, Biogeochemistry, Stable Isotopes, Statistics & GIS in R, Soil Science, Analytical Chemistry

Honors/Awards
National Geographic Exploration and Research - $5000, award #:EC-422R-18
Jastro Shields Research Award, 2015 - $3000
William and Linda Sullivan Graduate Research Fellowship, 2014 - $1240

Select Publications
1. **Maxwell, T. M.,** Silva, L. C. R. & Horwath, W. R. Proc. Natl. Acad. Sci. 201718864 (2018). doi:10.1073/PNAS.1718864115
2. **Maxwell, T. M.**, Silva, L. C. R., Horwath, W.R., (2018). doi:10.1029/2018JG004553 *(JGR Biogeosciences).*
3. Jerszurki, D., Couvreur, V., **Maxwell, T. M.**, Silva, L. C. R., Matsumoto, N., Shackel, K., Souza, J. L. M., Hopmans, J. (2017) *Sci. Hortic-Amsterdam.*
4. **Maxwell, T. M.**, Silva, L. C. R. & Horwath, W. R. (2014) *Proc. Natl. Acad. Sci.* 2–3.

Peer Review Contributions
I have worked as a referee for the following journals
Nature Scientific Reports, Global Change Biology, Journal of Geophysical Research: Biogeosciences, PLOS-ONE, Plant and Soil

Extracurricular
Volunteer, Pacific Crest Trail Association, Winter 2016-Spring 2018
I wrote scientific blog posts and aided in office work for the Pacific Crest Trail association.

Mentor at Center for Land Based Learning SLEWS program, Spring 2013-2017
Taught underrepresented high school students about land stewardship in coordination with restoration of local farms.