**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.