

# Natasha T. Krell

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- Education**
- University of California at Santa Barbara** 2016 – 2021 anticipated  
Ph.D. student in Geography  
*Advisor:* Dr. Kelly K. Caylor  
*Research Interests:* Dryland hydrology and agriculture, resilience, human impacts
- College of the Atlantic**, Bar Harbor, ME 2014 – 2016  
B.A. in Human Ecology with foci in geoscience and botany  
*Advisor:* Dr. David P. Feldman
- Smith College**, Northampton, MA 2012 – 2014  
Majored in environmental geosciences
- Honors and Awards**
- 2017:** Finalist for Fulbright Fellowship to Kenya, *Institute of International Education* Graduate Scholars Program, *UCSB Graduate Division*
- 2016:** Maine Space Grant Consortium Award, *NASA*
- 2015:** Shelby Cullom Davis International Advanced Studies Award, *COA*  
Kathryn W. Davis Global and Civic Engagement Fund Award, *COA*  
Maine Space Grant Consortium Award, *NASA*  
Presidential Scholarship, *COA*  
Sierra Club Coalition SPROG Scholarship, *COA*
- 2014:** International Student Travel Grant, *American Geophysical Union*  
Rothschild Student-Faculty Collaboration Grant, *COA*  
Presidential Scholarship, *COA*  
Sierra Club Coalition SPROG Scholarship, *COA*
- 2013:** Len Assante Scholarship, *National Groundwater Association*  
Environmental Leadership Grant, *Henry David Thoreau Foundation*
- Research Experience**
- Graduate Student Researcher**, Earth Research Institute Sept. 2016 – current  
*Mentor:* Dr. Kelly Caylor  
Graduate student in Dr. Caylor's lab at UCSB studying smallholder agriculture and dryland ecohydrology. Completed two field campaigns to Zambia and Kenya deploying Pulsepod environmental sensors and rain gauges.
- Internship**, Mpala Research Centre, Laikipia, Kenya June – Aug. 2015  
*Mentor:* Dr. Kelly Caylor  
Collected data for undergraduate thesis on geostatistical analysis of gilgai microrelief formation using UAV-based imagery. Assisted the Princeton Ecohydrology Lab's ongoing projects including troubleshooting and deploying Pulsepod environmental sensors.

**Independent Research**, College of the Atlantic, USA Sept. 2014 – Present  
*Mentor*: Dr. Nishanta Rajakaruna

Investigated edaphic-climatic influences on the ecology and evolution of two common herbaceous perennials found on serpentine and granite outcrops of Deer Isle, ME. Conducted a reciprocal transplant experiment with *H. perforatum* and *A. millefolium* to test for local adaptation. Organized citizen scientists to monitor plant phenology.

**Research Assistant**, Acadia National Park, USA April – June 2015  
*Mentor*: Caitlin McDonough MacKenzie

Monitored spring leaf-out and flowering phenology in Acadia National Park to assist study for a doctoral dissertation in Botany at Boston University.

**NSF-REU Internship**, University of Arizona, USA June – Aug. 2014  
*Mentor*: Dr. Shirley (Kurc) Papuga

Conducted research analyzing flowering phenology of *Larrea tridentata* (creosotebush) using MATLAB digital image processing and meteorological and flux tower data at the Santa Rita Experimental Range. Co-authored manuscript in preparation.

**Research Assistant**, Smith College, USA Nov. 2012 – May 2013  
*Mentor*: Dr. Andrew Guswa

Assisted research project to improve ecoinfrastructure for stormwater management on campus. Co-presented poster at Student-Faculty Collaborations Symposium.

**Publications** Boyd, R. S., **Krell, N.T.**, and Rajakaruna, N. 2016. Extreme Environments. In: Oxford Bibliographies in Ecology Ed. David Gibson. New York: Oxford University Press.

**Peer-Reviewed Poster Presentations** **Krell, N.T.**, DeCarlo, K.F., and Caylor, K.K. “Analysis of Biophysical Mechanisms of Gilgai Microrelief Formation Using Ultra-High Resolution Aerial Imagery.” American Geophysical Union Fall Meeting (2015). San Francisco, CA.

**Krell, N.T.**, Dawson, H.R, and Rajakaruna, N. “Edaphic-climatic influences on the ecology and evolution of plants found on serpentine and granite outcrops of Deer Isle, Maine.” Northeast Natural History Conference (2015). Springfield, MA.

**Krell, N.T.**, Papuga, S.A., Kipnis, E., Nelson, K. “Dynamic Pulse-Driven Flowering Phenology in a Semiarid Shrubland.” American Geophysical Union Fall Meeting (2014). San Francisco, CA.

**Krell, N.T.**, Papuga, S.A., Kipnis, E., Nelson, K. “Dynamic Pulse-Driven Flowering Phenology in a Semiarid Shrubland.” Research Insights in Semiarid Ecosystems (RISE) Symposium (2014). Tucson, AZ. *Awarded prize for best undergraduate poster.*

**Krell, N.T.**, Papuga, S.A., Kipnis, E., Nelson, K. “Dynamic Pulse-Driven Flowering Phenology in a Semiarid Shrubland.” Phenology Research and Observations of South-west Ecosystems (PROSE) Symposium (2014). Tucson, AZ. *Awarded prize for second best overall poster.*

**Teaching Experience** **Teaching Assistant**, U.C. Santa Barbara, USA March 2017 – present  
Led discussions and activities for upper-division undergraduate Biogeography class at UCSB (GEOG / ENV S 167).

**Teaching Assistant**, College of the Atlantic, USA Sept. – Nov. 2015

Co-taught Advanced Statistics Tutorial at College of the Atlantic with Dr. Sean Todd. Covered parametric statistics and taught R programming to classmates.

**Tutor**, Smith College, USA Feb. – Nov. 2013  
Tutored at-risk middle school youth in Connections After School Program in Springfield, Massachusetts.

**Assistant Program Manager**, JUMP! Foundation, China July 2012 – Sept. 2013  
Planned and facilitated leadership development programs and community building workshops for international students in Beijing, Huangzhou, and Shanghai.

**Community  
Outreach  
and Service**

**Technical Committee on Ecohydrology**, AGU Jan. 2016 – Present  
Student representative for AGU Ecohydrology Technical Committee.

**Hydrology Section Student Subcommittee**, AGU Jan. 2015 – Present  
Elected for two-year position on the American Geophysical Union's Hydrology Section Student Subcommittee. Organizer of 2015 Student Conference and co-convenor of 2015 and 2016 Social Dimensions of Geoscience pop-up talks.

**Admissions Committee**, College of the Atlantic Dec. 2014 – April 2015  
Served as undergraduate representative on admissions committee at College of the Atlantic. Reviewed applications to admit transfer and first-year students to College of the Atlantic's class of 2019.

**Languages**

*Spoken* Fluent Spanish, conversational Kiswahili, elementary Mandarin  
*Computational* MATLAB, R, Python, L<sup>A</sup>T<sub>E</sub>X