

ADRIENNE MARSHALL

Department of Water Resources ♦ University of Idaho ♦ Moscow, ID 83844
(408) 859-5037 ♦ mars7850@vandals.uidaho.edu

EDUCATION

- | | |
|---|-----------------------------|
| Ph.D. in Water Resources, University of Idaho (in progress)
NSF IGERT Fellow | <i>August 2016-Present</i> |
| M.S. in Energy and Resources, University of California, Berkeley
Overall GPA: 3.98/4 | <i>August 2014-May 2016</i> |
| B.A. in Biology, Scripps College
Cum laude
Minor in French
Overall GPA: 11.0/12 | <i>August 2005-May 2009</i> |

GRANTS AND AWARDS

- National Science Foundation (NSF) Integrative Graduate Education and Research Traineeship (IGERT):** Graduate fellowship to study interdisciplinary approaches to adapting water resources to climate change in the Columbia River Basin. Awarded April 2016.
- Graduate Students in Extension Fellowship:** Graduate fellowship to develop research and extension products with University of California Cooperative Extension. Awarded May 2015.
- Birdsall Fellowship:** Energy and Resources Group award to support independent research. Awarded October 2015.
- Energy and Resources Group Block Grant Funds:** In support of study at the Energy and Resources Group. Awarded May 2014.
- James E. Scripps Scholarship:** Half-tuition, merit-based scholarship to attend Scripps College. Awarded April 2005.
- National Merit Scholarship:** In recognition of exceptional performance on the PSAT. Awarded September 2004.

RESEARCH EXPERIENCE

- | | |
|--|--------------------------------|
| University of Idaho
<i>Research Assistant</i> | November 2016 - August ongoing |
| <ul style="list-style-type: none">· Conduct climate sensitivity study assessing effects of intra-annual temperature changes on hydrology in a sagebrush-aspen ecosystem· Use the Simultaneous Heat and Water (SHAW) model to simulate hydrologic fluxes | |
| Rocky Mountain Research Station
<i>Internship</i> | June 2016 - August 2016 |
| <ul style="list-style-type: none">· Employed LasTools and Fusion to process aerial lidar data.· Developed workflow using structure-from-motion technology to reconstruct historic forest canopy height from aerial photos dating back to 1929· Completed forest science field work in support of research fusing lidar metrics with field data | |

Latah Soil and Water Conservation District

June 2016 - August 2016

Internship

- Calculated spectral indices from Landsat and NAIP imagery in Google Earth Engine in a Before-After-Control-Impact study design to assess whether the effects of meadow restoration were evident in remotely sensed images
- Conducted literature review to identify mechanistic and statistical models to simulate the effects of meadow restoration on streamflow
- Delivered reports and Google Earth Engine scripts to the Latah Soil and Water Conservation District for their use in further analyses

Energy and Resources Group

August 2014 - May 2016

Master's Research

- Developed and conducted a study assessing the impacts of changing hydroclimate on timing of visitation to wilderness in the Sierra Nevada
- Obtained and analyzed data from diverse sources, including USGS stream gages, snow surveys, National Park Service databases, and weblogs

University of California Cooperative Extension

August 2013 - December 2013

Graduate Student Researcher

- Synthesized scientific literature on climate change impacts in California forests, and adaptation and mitigation strategies
- Developed publication on adaptation strategies for landowners (accepted pending revisions)
- Presented climate science in staff trainings for environmental educators at NatureBridge, an environmental education non-profit

Scripps College

August 2008 - May 2009

Senior Thesis

- Conducted laboratory research to assess whether aging mouse liver proteins had higher levels of nitrotyrosine oxidation than young mouse liver proteins
- Identified the proteins that were subject to these oxidative modifications

PUBLICATIONS

Marshall, A.M., S. Kocher, A. Kerr. Adapting forests to climate change. UC Agriculture and Natural Resources. Forest Stewardship Series. (accepted pending revisions)

Marshall, A.M., V. Butsic, J. Harte. The phenology of wilderness use: Backcountry recreation in a changing climate. (in prep)

Marshall, A.M., R. Lutefeali, A. Raval, D.N. Chakravarti, B. Chakravarti. (2013) Differential hepatic protein tyrosine nitration of mouse due to aging effect on mitochondrial energy metabolism, quality control machinery of the endoplasmic reticulum and metabolism of drugs. Biochemical and Biophysical Research Communications. 430: 231-235.

PRESENTATIONS

Marshall, A., V. Butsic, J. Harte. (November 2016). The phenology of wilderness use: backcountry recreation in a changing climate. Oral presentation at the 2016 MtnClim Conference.

Marshall, A. Climate change impacts, adaptation, and mitigation in the Marin Headlands (January 2016). NatureBridge Staff Training.

Kerr, A.C., K.L. Steenwerth, P. Stine, J. Chambers, C. Fischer, L. Kiger, T. Hedt, O. Gonzales, R. Tse, A. Tse, A. Gunasekara, R. Henly, J.R. DeLaRosa, M. Battany, T. Pathak, D. Parker, M. Schwartz, R. Tjeerdema, J. Kalansky, E. Kehmeier, A. Xides, A. Marshall, K. Jagannathan. (December 2015). Providing farmers, ranchers, and foresters in California with actionable climate information: opportunities and obstacles for Californias USDA Regional Climate Sub Hub. Poster presented at the American Geophysical Union Fall Meeting, San Francisco, CA.

Marshall, A., S. Kocher, A.C. Kerr, and P.A. Stine (October and November 2015). Climate change in California forests: updating the Forest Stewardship Series with impacts, adaptation, and mitigation strategies. Poster presented at the University of California Agriculture and Natural Resources Strategic Initiatives Conference, Sacramento, CA and the Southwest Climate Summit, Sacramento, CA.

Marshall, A. Climate change impacts, adaptation, and mitigation in Yosemite (September 2015). NatureBridge Staff Training.

Ratcliffe, F., and A. Marshall (December 2014). Restoration of a reach with failing WPA-era rockwork on Sausal Creek in Dimond Park, Oakland: 13 year post-project appraisal. Oral presentation at the University of California Berkeley River Restoration Symposium.

TEACHING EXPERIENCE

Quantitative Aspects of Global Environmental Problems

January 2016-May 2016

Graduate Student Instructor

UC Berkeley

- Taught 5 weekly discussion sections assisting students with quantitative course material that included analytical environmental modeling, environmental chemistry, and zero-dimensional climate models
- Held office hours and exam preparation periods, and graded exams

Ecology and Society

August 2014-December 2014

Graduate Student Instructor

UC Berkeley

- Mentored undergraduates conducting term projects in macroecology field research
- Evaluated student essays, quantitative homework, and term projects

Field Science Educator

January 2011-May 2014

Field Science Educator

NatureBridge

- Developed and delivered weekly environmental education programs to groups of students in 4th-12th grade
- Course material included personal and teambuilding skills, environmental stewardship, and environmental science
- Conducted field science projects with students, including macroinvertebrate water quality surveys, abiotic water quality testing, snow surveys, and phenology studies

Outdoor Science School

August 2009-May 2010

Naturalist Intern

Foothill Horizons Outdoor School

- Taught environmental science and personal and teambuilding skills to groups of 30 sixth graders weekly
- Collaborated with classroom teachers to design and deliver curriculum tailored to student needs

COMPUTER SKILLS

Programming Software

R, MATLAB
Google Earth Engine, ENVI, LaTeX, LasTools, Fusion, ArcGIS,
QGIS

Models

SHAW

SERVICE

Admissions Committee at the Energy and Resources Group

Welcome Committee at the Energy and Resources Group

Volunteer Facilitator at the Sierra Cascades Dialogue