

Curriculum Vitae

Moira A. Hough

1341 E 28th St
Tucson, AZ 85713, USA
Cell: +1-914-310-7319
E-mail: houghm@email.arizona.edu

Research Interests

I am primarily interested in the role of organisms in driving biogeochemical processes, particularly under the influences of climate and land-use changes. I am especially interested in cross-system interactions, such as the dynamics of terrestrial/wetland/aquatic interfaces, and above-ground below-ground linkages.

Key systems of interest: wetlands, polar & alpine ecosystems

Key concepts: Ecological response to climate change, biogeochemistry, social-ecological systems

I also have a strong interest in science outreach and education particularly at the primary school level, and in linking basic ecological research to policy and management solutions.

Education

PhD 2013-present

University of Arizona, Tucson AZ

Department of Ecology and Evolutionary Biology

Supervisors: Scott Saleska & Virginia Rich

Thesis topic: Plant & microbial mediation of arctic carbon fluxes

MSc 2013

University of Arizona, Tucson AZ

School Natural Resources and the Environment

Department of Watershed Management and Ecohydrology

Supervisor: Mitchell Pavao-Zuckerman

Thesis title: "Tracing environmental change from plant traits to social-ecological systems on the San Pedro River"

BA 2009

Magna Cum Laude

Carleton College, Northfield MN

Major: Biology

Thesis title: "Plant-mediated effects of anthropogenic nitrogen deposition on carbon accumulation in peatlands."

Minor: Environment & Technology Studies

Thesis title: "Ecological Modeling in the Cannon River Watershed."

Awards & Scholarships

2013

NSF-Graduate Research Fellowship

2005

National Merit Scholarship

Research and Professional Experience

2011-2012

Graduate Research Assistant, Biosphere 2: Tucson AZ

NSF Coupled Natural and Human Systems Project: "Strengthening Resilience of Arid Region Riparian Corridors"

2010-2011

Seasonal Naturalist, Long Lake Conservation Center: Palisade, MN.

Teaching visiting groups of students in grades 5-7 about conservation, ecology, and environmental principles

- 2010 **Field Assistant**, University of Alaska, Fairbanks: Craig, AK
Studied impacts of logging on habitat use and fawn mortality using capture and radio tracking of fawns and adult female Sitka Black-Tailed Deer.
- 2009-2010 **Environmental Scientist**, TRC Environmental: Lowell, MA
Wetland delineation, protected habitat surveys, project permitting, and environmental compliance assessments.
- 2009 **Student Researcher**, The Polaris Project: Cherskiy, Russia.
Impacts of climate change on carbon and nutrient cycling in the Kolyma River watershed. Public outreach on climate change.
- 2009 **Teaching Assistant**: Ecosystems Ecology, Carleton College.
Prepared lab and led groups of students on sampling trips.
- 2008 **Student Researcher**, La Selva Biological Station, Costa Rica
Studied scent attraction in Euglossine bees and response to disturbance in *Nasutitermes* termites.
- 2008 **Student Researcher (REU)**, McKnight Lab: U of Colorado, Boulder.
Alpine lake biogeochemistry. Stream biogeochemistry and invertebrate community structure.
- 2007 **Intern**, WWF: Fandriana, Madagascar
Assessed anthropogenic pressures on crayfish populations. Community outreach.
- 2006 **Farm Hand**, Stone Barns Center for Food & Ag: Pocantico Hills, NY
Managed and maintained enclosures for free-range livestock.

Publications in Progress

Hough, M., D. Chan, C. Scott, B. Enquist, M. Pavao-Zuckerman. *In preparation, planned submission spring, 2014*. Trait-based mechanisms for predicting resilience of ecosystem service provision in an arid riparian corridor.

Hough, M., D. Chan, C. Scott, B. Enquist, M. Pavao-Zuckerman. *In preparation, planned submission spring, 2014*. Implementation of ecosystem service frameworks in the context of social-ecological adaptation to climate change.

Presentations

- Hough, M., D. Chan, C.A. Scott, B. Enquist, M. Pavao-Zuckerman. 2013. "Application of trait-based mechanisms to resilience of ecosystem service provision in an arid riparian corridor." (Presentation) *Ecological Society of America Conference*, Minneapolis, MN, August 6, 2013.
- Hough, M., J. Stromberg, C.A. Scott, B. Enquist, M. Pavao Zuckerman. 2012. "Functional traits as predictors of resilience for riparian ecosystem processes and services," (Poster) *Ecosystem Services Partnership Conference*, Portland, OR, July 31- August 4, 2012.
- Hough, M., D. Chan, C.A. Scott, M. Pavao Zuckerman. 2012. "Ecosystem Services as Tools to Assess Social-Ecological Resilience in Arid Riparian Corridors," (Poster) *Adaptation Futures Conference* Tucson, AZ, May 29-31, 2012.
- Hough, M., K.E. Frey, W. Sobczak, A. Bunn, E.B. Bulygina, S. Chandra, S. Davydov, R.M. Holmes, J. Schade, V. Spektor, & S. Zimov (2010). "Potential impacts of permafrost degradation on carbon storage of peat soils in the Kolyma River basin, East Siberia." (Poster). *State of the Arctic Conference*, Miami FL, 2010.

Reports

- Hough, Moira (2009). Nest spatial distribution and gallery repair rate in the neotropical arboreal termite *Nasutitermes corniger*. Tropical Rainforest Ecology: Carleton College.

Hough, Moira, Kate Malecek, Jessie Martinez, Cam McDonald-Hyman, Mikaela Robertson (2009). The role of scent composition and complexity in attracting euglossine bees. *Tropical Rainforest Ecology*: Carleton College.

Hough, Moira (2008). Impacts of DOM on aquatic macroinvertebrate communities (*Oral*). University of Colorado, Boulder Mountain Research Station.

Hough, Moira, Marjolein Kamermans (2007). Pilot study of the market pressures of crayfish in the commune of Miarinavaratra. Internal Report: WWF Madagascar.

Outreach & Service

- 2013-2014 **Sky School Teaching Fellow:** Teacher at K-12 residential science program
- 2012-2013 **Natural Resources Graduate Student Organization:** Co-chair
Graduate student-faculty liaison and representative
- 2013 **Southern Arizona Regional Science and Engineering Fair:** Judge at regional
science fair for K-12 student projects
- 2012 **Catalina Foothills High School:** Outreach
Mentored students in development of “Environmental Inquiry” projects based on
current environmental research
- 2012 **Travel Grant Review:** Reviewed proposals for the Graduate and Professional Student
Council travel grant
- 2011 **Biosphere 2:** Science Interpretation
Designed and developed interpretive materials for a public outreach exhibit based
on current research in the Landscape Evolution Observatory
- 2009 **Student Departmental Advisor:** Carleton College.
Advisor to current and potential Biology majors.
- 2005-2009 **Kids for Conservation Teacher:** Northfield, Minnesota.
Taught principles of conservation to second through fifth graders.
- 2007 **Canoe Trip Leader:** Carleton College.
Four day freshman orientation trips in Boundary Waters Wilderness Area.
- 2004 **SCA Trail Crew:** Guadalupe Mountains National Park, Texas
Built stone steps, retaining walls, water bars to maintain mountain trails.

Languages

English, native

French, very good spoken, good written

Spanish, fair spoken and written

Skills

Certifications: CPR, Wilderness First Aid

Software: Excel, Word, PowerPoint, S-plus, SPSS, ArcGIS, R

Sampling & Analysis: Soil, water, leaf chemistry, GPS, Radio telemetry, some survey experience

Field identification: Ornithology, Entomology (aquatic and terrestrial)

Outdoor Experience: Extensive experience hiking, canoeing, backpacking, some climbing experience