

MOLLY H. POLK

Department of Geography and the Environment
The University of Texas at Austin
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EDUCATION

- 2016 Ph.D., Geography, University of Texas at Austin
“They Are Drying Out’: Social-Ecological Consequences of Glacier Recession on Mountain Peatlands in Huascarán National Park, Peru”
- 2003 M.A., Latin American Studies, University of Texas at Austin
“An Assessment of Conservation Approaches for the Natural Protected Areas in Arid Southern Peru”
- 1996 B.A. Latin American and Iberian Studies, Vanderbilt University, Nashville, TN

PROFESSIONAL APPOINTMENTS

- 2016 - present Associate Director of Sustainability Studies and Lecturer
Department of Geography & the Environment, University of Texas at Austin
- 2017- present Affiliate Faculty
Lozano Long Institute of Latin American Studies, University of Texas at Austin
- 2016-2017 Postdoctoral Research Fellow
Department of Ecosystem Science and Sustainability, Colorado State University
- 2011-2014 Graduate Research Assistant
Department of Geography & the Environment, University of Texas at Austin
NSF CNH: Collaborative Research: Hydrologic Transformation and Human Resilience to Climate Change in the Peruvian Andes

PUBLICATIONS

Refereed Journal Articles and Book Chapters

- Polk, M. H.**, N. B. Mishra, K. R. Young, and K. Mainali. 2020. Greening and browning trends across Peru’s diverse environments. *Remote Sensing* 12(15):2418.
- Polk, M.H.**, K.R. Young, A. Cano, B. León. 2019. Vegetation of Andean wetlands (*bofedales*) in Huascarán National Park, Peru. *Mires and Peat* 24:1-26.
- Chimner, R.A., L. Borgeau-Chavez, S. Grelik, J.A. Hribljan, A. Planas Clarke, **M.H. Polk**, E.A. Lilleskov, B. Fuentealba. 2019. Mapping extent and types of wetlands in the Cordillera Blanca, Peru. *Wetlands* 29:1-11.

- Aide, T.M., H.R. Grau, J. Graesser, M.J. Andrade-Nuñez, E. Araoz, A. Barros, M. Campos-Cerqueira, E. Chacón-Moreno, F. Cuesta, R. Espinoza, M. Peralvo, **M.H. Polk**, X. Rueda, A. Sanchez, K.R. Young, L. Zarba, K. Zimmerer. 2019. Woody vegetation dynamics in the tropical and subtropical Andes from 2001 to 2014: Satellite image interpretation and expert validation. *Global Change Biology* 25:2112-2126.
- Young, K.R., J. Bury, M. Carey, B.G. Mark, J.M. McKenzie, M. Baraer, A. French, **M.H. Polk**. 2017. A socio-ecological perspective on climate change driven by both social and climatic factors: The Santa River in Peru in Rodríguez, L. and I. Anderson (eds.) pp. 116-121. *The Lima Declaration on Biodiversity and Climate Change: Contributions from Science to Policy for Sustainable Development*. Technical Series No. 89. Montreal: Secretariat of the Convention on Biological Diversity.
- Mark, B.G., A. French, M. Baraer, M. Carey, J. Bury, K.R. Young, **M.H. Polk**, O. Wigmore, P. Lagos, R. Crumley, J. McKenzie, L. Lautz. 2017. Glacier loss and hydro-social risks in the Peruvian Andes. *Global and Planetary Change* 159:61-76.
- Polk, M.H.**, K.R. Young, M. Baraer, B.G. Mark, J.M. McKenzie, J. Bury and M. Carey. 2017. Exploring hydrologic connections between tropical mountain wetlands and glacier recession in Peru's Cordillera Blanca. *Applied Geography* 78:94–103.
- Young, K.R., A. Ponette-González, **M.H. Polk**, J.K. Lipton. 2017. Snowlines and treelines in the tropical Andes. *Annals of the American Association of Geographers* 107:429-440.
- Polk, M.H.** and K.R. Young. 2016. Bofedales y los efectos de cambios ambientales através de un sistema socio-ecológico alto-andino (Peatlands and consequences of climate change in a high Andean socio-ecological system) in Postigo, J. and K.R. Young (eds.) pp. 283-301. *Naturaleza Y Sociedad: Perspectivas Socio-Ecológicas Sobre Cambios Globales En América Latina (Nature and Society: Socio-Ecological Perspectives On Global Change in Latin America)*. Lima, Peru: Instituto de Estudios Peruanos.
- Bury, J.B., B. Mark, M. Carey, K.R. Young, J. McKenzie, M. Baraer, A. French, **M.H. Polk**. 2013. New geographies of water and climate change in Peru: Coupled natural and social transformations in the Santa River Watershed. *Annals of the American Association of Geographers* 103:363-374.
- Polk, M.H.**, K.R. Young, K.A. Crews-Meyer. 2005. Biodiversity conservation implications of landscape change in an urbanizing desert of southwestern Peru. *Urban Ecosystems* 8:313-334.

Refereed Journal Article Under Review

- Polk, M.H.** Wetlands in Peru's Huascarán National Park are shrinking, fragmenting, and disappearing. Submitted to *Journal of Mountain Science* on July 14, 2020.

Other Publications

- Polk, M.H.** 2018. Asymmetries of carbon in Kasmer, L. (curator) p. 39. *Carbon Allotropes: Visceral & Ethereal, An Artist's Response*. LMK Press, Los Angeles, CA.
- Polk, M.H.** 2018. La ruta del cambio climático: Climate change tourism in the Peruvian Andes. *Portal Annual Review* 26-31.
- Sounny-Slitine, M. A., K. A. Tasker, K. F. Doubleday, **M. H. Polk**, B. R. Knight, and C. Schneider. 2015. On making and becoming a graduate. *The Southwestern Geographer* 18:C1–C3.
- French, A., M. Arenas Aspilcueta, M. Baraer, B. Mark, J. McKenzie, R.J. Gómez López, K.R. Young, **M.H. Polk**, M. Carey, J. Bury. 2013. Las Áreas Naturales Protegidas Informan. Los impactos del cambio global en las áreas naturales protegidas y sus zonas de influencia: El caso del Parque Nacional Huascarán y la cuenca del Río Santa. Edición No. 1. SERNANP, Lima, Peru.

FELLOWSHIPS AND GRANTS

- 2014 **University of Texas at Austin, Graduate School Continuing Fellowship** (\$30,359)
- 2014 **DigitalGlobe Foundation Imagery Grant** (Imagery value \$4200)
- 2013 **National Science Foundation, Doctoral Dissertation Research Improvement Grant** “Glacier Recession and Implications for High-Elevation Peatlands” PI K.R. Young. Award Number BCS-1333141 (\$15,881)
- 2013 **American Association of University Women, Austin Branch Dissertation Fellowship** “Andean Glacier Recession and Implications for High Mountain Peatlands” (\$2500)
- 2012 **American Association of Geographers, Mountain Geography Specialty Group, Chimborazo Student Research Grant** “Glacier Recession and High Andean Wetlands: Investigating Spatial Distribution and Vegetation Heterogeneity” (\$500)
- 2011 **University of Texas at Austin, Department of Geography and the Environment, Robert E. Veselka Graduate Research Travel Fellowship** “Glacial Recession, Wetlands and Fire: Consequences for Landscape Heterogeneity in the Cordillera Blanca, Peru” (\$650)
- 2002 **University of Texas at Austin, College of Liberal Arts, Lozano Long Institute of Latin American Studies Field Research Grant** “An Assessment of Conservation Approaches for the Natural Protected Areas in Arid Southern Peru” (\$780)
- 2002 **University of Texas at Austin, Environmental Science Institute Summer Fellowship** (\$3000)
- 2002 **The Explorer's Club, Brian Hanson** “An Assessment of Conservation Approaches for the Natural Protected Areas in Arid Southern Peru” (\$700)
- 2001 **Tinker Foundation Field Research Grant** “An Assessment of Conservation Approaches for the Natural Protected Areas in Arid Southern Peru” (\$1900)

COLLABORATIVE RESEARCH GRANTS

- 2019 **Government of Chile: Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT)**, “Extractivismo y migración: vínculos entre la expansión forestal, la migración interna y la transformación del espacio rural en el sur de Chile” with PI Lindsey Carte. Senior Personnel (\$5000)
- 2019 **Government of Peru: Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica (CONCYTEC)**, “Desarrollando Herramientas para Mejorar el Estado de Salud y Capacidad de Carga de Ecosistemas de Pastizal y Puna Dentro y Alrededor de Áreas Naturales Protegidas” with PIs Javier Ñaupari and Enrique Flores at Universidad Nacional Agraria de La Molina. Senior Personnel (\$21,700)
- 2016-2020 **National Science Foundation, Division of Environmental Biology, Coupled Natural and Human Systems Program**, “Andes, Bofedales and Cattle: The Impacts of Changing Hydrology and Glacial Retreat on Community Livelihoods in Peru's Cordillera Blanca” PI Gillian Bowser, Colorado State University. Co-PIs Randall Boone, Andrew Taber, Kenneth R. Young, Rodney A. Chimner, Enrique Flores. Senior Personnel. Award Number CNH-S DEB-1617429 (\$499,992)

AWARDS AND HONORS

- 2019 University of Texas at Austin, **Experiential Learning Course Developer Award** for “Living Map” in Introduction to Sustainability Studies in collaboration with Dr. Jayme Walenta (\$10,000)
- 2019 University of Texas at Austin, Bridging Disciplines Program, **New Course Award** for Introduction to Sustainability Studies in collaboration with Dr. Jayme Walenta (\$6000)
- 2019 University of Texas at Austin, College of Liberal Arts, **Lecturer Travel Grant Award** for travel expenses to Annual Meeting of the American Association of Geographers (\$500)
- 2018 University of Texas at Austin, Bridging Disciplines Program, **Sustainability Course Conversion Award** for SUS 379L Directed Internships in Sustainability (\$3000)
- 2018 University of Texas at Austin, **Eyes on Teaching**. Selected by Provost’s Teaching Fellows and Faculty Innovation Center to participate in a campus-wide exchange on best teaching practices
- 2017 American Association of Geographers J. Warren Nystrom Award Competition **Finalist**
- 2016 University of Texas at Austin, Department of Geography and the Environment, **Achievement Award** (\$200)
- 2016 University of Texas at Austin, Office of Graduate Studies, **Professional Development Award** (Awarded in 2016, 2015, 2014, 2013 for a total of \$1455)
- 2014 PEO Scholar Award, nominated by Austin Chapter to national competition, **Finalist**
- 2013 University of Texas at Austin, Department of Geography and the Environment, **Leadership Award** (\$150)

TEACHING EXPERIENCE

University of Texas at Austin – Instructor of Record

Undergraduate: GRG 301C The Natural Environment (Introduction to physical geography)
Fall 2017, Spring 2018
Class Size: 100-180 students

GRG 335N Landscape Ecology
Spring 2014, Summer 2016, Fall 2016, Spring 2017, Fall 2017, Fall 2018,
Spring 2019, Fall 2019, Spring 2020, Summer 2020
Class Size: 25-35 students

SUS 301 Introduction to Sustainability Studies
Fall 2020
Class Size: 32

SUS 379L Directed Internships in Sustainability
Fall 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020
Class Size: 26-28 students

GRG 379L Practicum: Internship in Applied Geography
Spring 2017, Spring 2018
Class Size: 18-20 students

University of Texas at Austin – Teaching Assistant

Undergraduate: GRG 460G Environmental GIS
GRG 301C The Natural Environment
GRG 319 Geography of Latin America

PROFESSIONAL DEVELOPMENT IN TEACHING & LEARNING

Apr 2020 Adapting Summer Courses for Remote Teaching, UT-Austin Faculty
Innovation Center
Mar 2020 Online Teaching Tips, UT-Austin Faculty Innovation Center
Mar 2020 Keeping Students Engaged, UT-Austin Faculty Innovation Center
Mar 2020 Moving a Case Course Online, Harvard Business Publishing
Mar 2020 How to Move Classes Online, Harvard Business Publishing
Apr 2019 Experiential Learning Workshop, UT-Austin Faculty Innovation Center
Nov 2018 Case Method Teaching Seminar Part I, Harvard Business School
Nov 2018 Collaborative Learning Part II, UT-Austin Faculty Innovation Center
Sept 2018 Collaborative Learning Part I, UT-Austin Faculty Innovation Center
Feb 2018 Eyes on Teaching participant, UT-Austin
Feb 2016 Eyes on Teaching invited instructor, UT-Austin
May 2015 Leadership Certificate, UT-Austin Division of Diversity and
Community Engagement Inclusive Classrooms Leadership Seminar

UNDERGRADUATE ADVISING

2020 Sarah Boatwright, UT Plan II Thesis
2019 Jack Rouse, UT Bridging Disciplines Program Independent Internship
2018 Melissa Terrazas, UT Bridging Disciplines Program Independent Internship
2017 Kevin Strybos, Senior year project: Streamflow and vulnerability in the Peruvian Andes
Anna Huntington, Bridging Disciplines Program Independent Internship
Tiby Erwan, UT Bridging Disciplines Program Independent Internship

- Jazzmyne Herrington, Environmental Science Capstone Project
 2015 Shelby Manford, Environmental Science Capstone Project
 Tansy Stobart, Environmental Science Capstone Project

PROFESSIONAL SERVICE

University Service

- 2018-2020 President's Sustainability Steering Committee
 2018 Reviewer for the E.D. Farmer International Fellowships for Texans and Mexican Nationals, Teresa Lozano Long Institute of Latin American Studies
 2017-2018 School of Undergraduate Studies, Core Curriculum Assessment Planning Committee representing the Department of Geography and the Environment
 2014 College of Liberal Arts Teaching Assistant Task Force

Department Service

- 2016-present Chair, Undergraduate Curriculum Committee
 2017-2018 Member, Bylaws Committee
 2016 Member, Undergraduate Committee
 2013 President, UT-Austin Graduate Association of Geography Students

Service to the Discipline

- Reviewer for *Arctic, Antarctic, and Alpine Research*, *Hydrological Processes*, *Journal of Mountain Science*, *Applied Geography*, *Sustainability*, *Annals of the American Association of Geographers*, *Ecología en Bolivia*, *Naturaleza Y Sociedad: Perspectivas Socio-Ecológicas Sobre Cambios Globales En América Latina (Nature and Society: Socio-Ecological Perspectives About Global Change in Latin America)*
 Reviewer for U.K. Natural Environment Research Council, National Geographic Society grants
 Graduate Student Representative, AAG, Landscape Specialty Group, 2015

INVITED LECTURES AND OTHER ACTIVITIES

- 2019 Lecture, UT-Austin Plan II Skaaren Climate Scholars. "Social-Ecological Systems: Research Perspectives from a Longhorn Geographer"
 2019 Invited Paper. Congress on High Andean Puna in Protected Areas (Congreso de Ecosistemas Altoandinos de Puna en Áreas Naturales Protegidas), National Agrarian University La Molina, Lima, Peru. "Límites y Biodiversidad en el Parque Nacional Huascarán" ("Boundaries and Biodiversity in Huascarán National Park"), In Spanish
 2019 Invited Paper. Congress on High Andean Puna in Protected Areas (Congreso de Ecosistemas Altoandinos de Puna en Áreas Naturales Protegidas), National Agrarian University La Molina, Lima, Peru. "Una Herramienta para la Evaluación Rápida de Bofedales: Epicollect5" ("A Rapid Evaluation Tool for Bofedales: Epicollect5"), In Spanish
 2018 Invited Paper. Society of Wetland Scientists Annual Meeting, Denver, CO. "Framing Climate Change and Mountain Wetlands in the Tropical Andes"

- 2017 J. Warren Nystrom Award Competition Finalist. Annual Meeting of the American Association of Geographers, Boston, MA. "Practicing Critical Physical Geography in the Tropical Andes"
- 2017 Invited Panelist, UT-Austin Faculty Lunch and Learn. "Sustainability and Experiential Learning"
- 2017 Keynote Speaker. First Annual Peruvian Wetland Congress, Lima, Peru. "Bofedales Altoandinos: Líneas de Investigación Prioritarias y Sostenibilidad", In Spanish
- 2016 Invited Lecture, UT-Austin 7th Annual Sustainability Symposium. "The New B.A. in Sustainability Studies"
- 2016 Invited Panelist. Annual Meeting of the American Association of Geographers, San Francisco, CA. "Positionality, Gender & Fieldwork: Considerations and Advice"
- 2015 Invited Lecture. The Mountain Institute and Parque Nacional Huascarán, Huaraz, Peru. "El Retroceso Glaciar e Impactos en los Bofedales del P.N. Huascarán", In Spanish
- 2015 Invited Lecture. Pontificia Universidad Católica del Peru, Graduate Seminar on Climate Change and Coupled Natural Human Systems, "Implementando Teoría de Sistemas Socio-Ecológicos en los Bofedales de Alta Montaña", In Spanish
- 2015 Invited Lecture. UT-Austin Department of Geography and the Environment, Remote Sensing of the Environment Course, "Special Challenges of Remote Sensing in Mountains"
- 2015 Invited Lecture. UT-Austin Department of Geography and the Environment, Introduction to Physical Geography Course, "Glacial and Periglacial Processes and Landforms"
- 2014 Invited Lecture. Museo de Historia Natural, Lima, Peru. "Bofedales y el Retroceso Glaciar: Un Caso de Estudio del Parque Nacional Huascarán", In Spanish
- 2014 Invited Panelist. Annual Meeting of the American Association of Geographers, Tampa, FL. "Publishing, not perishing: A student's guide to academic publishing"
- 2013 Invited Workshop Leader. Glacial Flooding & Disaster Risk Management Knowledge Exchange & Field Training Workshop, Huaraz, Peru. "Mountain Mire Ecology"
- 2013 Invited Lecture. Annual Presentation of the University of Texas Dissertation Fellows at American Association of University Women Austin Branch. "Andean Glacier Recession and Implications for Mountain Peatlands"
- 2013 Invited Lecture. City of Austin, Center for Environmental Research. "Climate Change and Mountain Mires in the Peruvian Cordillera Blanca"
- 2011 Invited Poster. American Museum of Natural History, New York, Student Conference on Conservation Science. "Glacier Recession and Wetlands in the Cordillera Blanca, Peru"

CONFERENCE PRESENTATIONS AND ORGANIZING ACTIVITES

Organized Sessions

- 2019 American Association of Geographers Annual Meeting, Washington, D.C. "Experiential Learning in Sustainability Higher Education" Panel Discussion co-organized with Melissa Hinton (UT-Knoxville) and Jayme Walenta (UT-Austin).
- 2018 American Association of Geographers Annual Meeting, New Orleans, LA. "New Trends in Geography Departments – Sustainability Studies Degrees" Panel Discussion co-organized with Melissa Hinton (UT-Knoxville).
- 2016 American Association of Geographers Annual Meeting, San Francisco, CA. "Mountain Landscapes and Communities in a Changing World" co-organized and co-chaired with Jeff LaFreniere (Gustavus Adolphus College).

- 2015 American Association of Geographers Annual Meeting, Chicago, IL. "Mountain Landscapes and Communities in a Changing World" co-organized with Jeff LaFreniere (Gustavus Adolphus College). Discussant: Richard Marston. Expanded to double session.
- 2014 American Association of Geographers Annual Meeting, Tampa, FL. "Mountain Landscapes and Communities in a Changing World" co-organized and co-chaired with Jeff LaFreniere (Gustavus Adolphus College). Discussant: Richard Marston.

Conference Presentations

- 2019 American Association of Geographers Annual Meeting, Washington, D.C. "Near Universal Greening Trends Across Peru's Diverse Environments" with Niti B. Mishra and Kenneth R. Young
- 2016 Foro Internacional de Glaciares y Ecosistemas de Montaña, Huaraz, Peru. "Bofedales: Cambios Socio-Ecológicos y Sostenibilidad". In Spanish.
- 2016 Annual Meeting of the American Association of Geographers, San Francisco, CA. "Andean Tropical Mountain Peatlands Through the Lens of SES Theory"
- 2015 Annual Symposium of the Association of Geography Students, Department of Geography, Texas A&M University. "Increasing Forest Cover and Melting Glaciers: A Case Study from Peru's Santa River Basin"
- 2014 U.S. Regional Association of the International Association for Landscape Ecology, Anchorage, AK. "Shrinking Glaciers and Expanding Woodlands: The Case of Peru's Santa River Basin"
- 2014 Annual Meeting of the American Association of Geographers, Tampa, FL. "Mountain Peatlands and Glacier Recession: A Case Study from Peru's Huascarán National Park"
- 2013 Foro Internacional Glaciares, Huaraz, Peru. "Tropical Mountain Mires and New Geographies of Water in the Santa River Watershed" Poster. Lead author and published with K.R. Young, J. Bury, B.G. Mark, M. Carey, J.M. McKenzie, M. Baraer, and A. French.
- 2013 Annual Meeting of the American Association of Geographers, Los Angeles, CA. "In the Shadow of Melting Glaciers: Applying Social-Ecological System Theory and Mixed Methods to Characterize Change"
- 2012 Cambio Climático: Glaciares, Ambientales Y Vulnerabilidad Social (conference), Universidad Nacional de Santiago Atunéz de Mayolo, Huaraz, Peru. "Retroceso Glaciar y Implicaciones para Bofedales en el Parque Nacional Huascarán". In Spanish
- 2012 Annual Meeting of the American Association of Geographers, New York, NY. "The Missing Link: Wetlands & Glacial Retreat in the High Andes of Peru"
- 2011 Annual Meeting of the Southwest American Association of Geographers, Austin, TX. "The Missing Link: Wetlands & Glacial Retreat in the High Andes of Peru"
- 2011 UT-Austin, Department of Geography and the Environment, Robert E. Veselka Graduate Research Travel Fellowship Symposium. "The Missing Link: Wetlands & Glacier Retreat in the Cordillera Blanca, Peru"

FOREIGN LANGUAGES

- English: Native fluency
- Spanish: fluency in speaking, reading, and advanced intermediate writing

SOFTWARE AND GPS

- ArcGIS: advanced and frequent user
- ERDAS Imagine: advanced user
- Stata: proficient user
- Land Change Modeler: proficient user
- FRAGSTATS: advanced and frequent user
- Microsoft Office: advanced and frequent user
- GPS: advanced and frequent user of Garmin devices

PROFESSIONAL AFFILIATIONS

2011- present American Association of Geographers member
Specialty groups: Biogeography, Human Dimensions of Global Change, Landscape, Latin America, Mountain Geography, Energy and Environment

OTHER EMPLOYMENT EXPERIENCE

2005 – 2010 Polk Real Estate Company and Grubb & Ellis, Inc., Austin TX
Commercial real estate brokerage in Central Texas.

2003 – 2004 Lady Bird Johnson Wildflower Center, Austin, TX
Researcher, Conservation Programs

1999 – 2000 McFarlane Moody Interests, Inc., Houston, TX
Project Manager

1997 – 1999 JP Morgan Chase & Co., Houston, TX
Bank Officer, Retail Leadership Program