

# HILLARY B. HAMANN, PhD

Department of Geography and the Environment  
University of Denver, Boettcher Center West, 2050 E. Iliff Ave., Denver, Colorado 80208-0183  
Phone: 303-871-3977; Fax: 303-871-2201; e-mail: [hhamann@du.edu](mailto:hhamann@du.edu)

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## INTERESTS

Geomorphic and hydrologic processes in alpine, tropical, and burned watersheds; snow hydrology; watershed biogeochemistry; water and natural resource sustainability; geoscience education and pedagogy

## EDUCATION

- 2002      **Ph.D. Geography**, INSTAAR & University of Colorado, Boulder, CO  
Dissertation: *The ionic pulse, snowmelt flowpaths, and surface water chemistry in two alpine basins, Colorado Rocky Mountains, USA* (Chair: Dr. T. Nelson Caine).
- 1998      **M.A. Geography**, INSTAAR & University of Colorado, Boulder, CO  
Thesis: *Snowcover controls on alpine soil surface temperature patterns, Niwot Ridge, Colorado, USA* (Chair: Dr. T. Nelson Caine)
- 1994      **B. A. Earth & Environmental Science**, Wesleyan University, Middletown, CT  
Honors Thesis: *Chemistry and discharge of the Río Chirripo Pacífico, Costa Rica* (Chair: Dr. Jelle Z. deBoer)
- 1992      **School for International Training**, College Semester Abroad, Ecuador: Comparative Ecology
- 1992      **Middlebury College**, Middlebury VT, Summer Intensive Spanish

## PROFESSIONAL EXPERIENCE

- 2017-present      **Teaching Professor**, Department of Geography and the Environment, University of Denver, Denver, CO
- 2017      **Visiting Faculty**, TREE (Teaching and Research in Environmental Education) Semester, Catamount Center for Environmental Science and Education, Woodland Park, CO
- 2015-2017      **Associate Teaching Professor**, Department of Geography and the Environment, University of Denver, Denver, CO
- 2011-2015      **Senior Lecturer**, Department of Geography and the Environment, University of Denver, Denver, CO
- 2007-2011      **Lecturer**, Department of Geography and the Environment, University of Denver, Denver, CO
- 2005-2007      **Assistant Professor**, Department of Geography and Environmental Studies, University of Colorado, Colorado Springs, CO
- 2001-2005      **W.M. Keck Visiting Scholar in The Geography of the American Southwest**, Southwest Studies and Environmental Science, Colorado College, Colorado Springs, CO
- 2001      **Research Assistant**, US Geologic Survey, Boulder, CO *Glacial runoff chemistry and sub-glacial weathering of Precambrian basement rock, Freemont Glacier, WY* (PI Dr. Robert Stallard).
- 2000      **Research Personnel**, National Geographic Society Carabaya Expedition, *Effects of recent climate change on high alpine soils, vegetation and surface waters, Peru* (PIs Anton Seimon, University of Colorado,

Boulder, CO, and Peter Zahler, Wildlife Conservation Society & University of Massachusetts, Amherst, MA)

- 1999-2001 **Lead Graduate Teacher**, Geography Department, University of Colorado, Boulder, CO
- 1999 **Instructor**, Science Squad, Hughes Biological Science Initiative, Boulder, CO
- 1999 **Research Assistant**, *Surface Water & Snowpack Chemistry, Antisana Volcano, Ecuador* (PIs Dr. Mark Williams, University of Colorado, Boulder & Dr. Bernard Francou, Universidad Catolica, Quito, Ecuador)
- 1998-1999 **Instructor**, Geography Department, University of Colorado, Boulder, CO
- 1995 **Research Lab Assistant**, US Geologic Survey, Marine Street Laboratory, Boulder, CO
- 1996-1998 **Teaching Assistant**, Geography Department, University of Colorado, Boulder, CO
- 1996 **Research Assistant**, University College London, *Structural geology and paleomagnetism of New Zealand's North Island* (PIs Dr. Ellen Platzman & Dr. John Platt, University College London)
- 1996 **Outreach Educator**, Maine Audubon Society, Falmouth, ME
- 1995-1999 **Expeditionary Wilderness Leader**, Wilderness Ventures, Jackson, WY
- 1995-1996 **Teacher**, Nature's Classroom, Groton, MA & Ivoryton, CT
- 1994 **Resource Management Intern**, Student Conservation Association Resource Assistance Program, *Erosion control by native revegetation in Bandelier National Monument, NM* (PI: Brian Jacobs, Bandelier National Monument, NM)
- 1992 **Research Personnel**, Nuestros Paramos, Quito, Ecuador, *Effectiveness of Llama Reintroduction Program to the Ecuadorian Highlands* (PI, Sr. Fernando Valdivieso)

## **COURSES TAUGHT**

### **University of Denver (Quarters):**

- GEOG 3750 Health & Environment through the Ages in England (undergraduate/graduate travel course) (SI'16, SI'17)
- GEOG 2320 Andean Landscapes—Inca Trail & Colca Canyon (undergraduate travel course) (WI'13)
- FSEM 1111 Colorado's Rivers (undergraduate, first year seminar) (F'11, F'12, F'13, F'14, F'15, F'16, F'18, F'19, F'21)
- GEOG 1201 Environmental Systems—Weather & Climate (undergraduate) (annually: F'07-F'21)
- GEOG 1202 Environmental Systems—Hydrology (undergraduate) (annually: W'08-W'22)
- GEOG 1203 Environmental Systems—Landforms (undergraduate) (annually: S'08-S'22)
- NATS 1264 Global Environmental Change, Climate Dynamics (honors undergraduate) (F'08, F'09)
- GEOL 2020 Historical Geology (undergraduate) (W'09, S'11, S'13, S'15, S'17, S'19)
- GEOL 3540 Hydrology (undergraduate/graduate) (S'08, S'10, S'12, S'14, S'16, S'18, S'20, S'22)
- GEOG 3720 Mountain Environments & Sustainability (undergraduate/graduate) (S'09, W'11, W'12, W'14, W'16, W'18, W'20, W'22)
- GEOG 3830 Natural Resources Planning & Analysis (undergraduate/graduate) (F'07)
- GEOG 3870 Water Resources & Sustainability (undergraduate/graduate) (W'08, W'10, F'10, W'13, W'15, W'17, W'19, F'20, W'21)
- GEOG 5991 Independent Study – Mapping Water Literacy Geography (W'20)
- ENVI 3991 Independent Study – Arctic Hydrology (W'19)
- GEOG 3991 Independent Study – Scientific Writing (S'18)
- GEOG 3991 Independent Study--Climate and Water Resources (S'16)
- ENVI 3991 Independent Study-- Climate Change and Hydrology (S'16)
- ENVI 3991 Independent Study – Urban Gardens and Sustainability (W'13)
- GEOG 3991 Independent Study – Managing Sustainability (F'12)
- ENVI 3991 Independent Study – Bringing Community Gardens to K-12 Classrooms (S'11)

ENVI 3991 Independent Study – Benthic Organism Analysis (S'11)  
ENVI 3991 Independent Study – Honors Thesis Research & Proposal (S'10)  
ENVI 3991 Independent Study – Hands on Public Lands Management (S'10)

**University of Colorado, Colorado Springs (Semesters):**

GES 450/550 Water Resources and Water Problems (undergraduate/graduate) (S'07)  
GES 446/517 Field Methods in Geography: Death Valley (undergraduate/graduate) (W'07)  
GES 431/531 Geomorphology (undergraduate/graduate) (F'06)  
GES 101 Environmental Systems: Landforms and Soils (F'06, S'06)  
GES 380 Regional Geography of the Pikes Peak Area (S'06)  
GES 441/541 Resource Management and Conservation (undergraduate/graduate) (F'05)

**Colorado College (Block Plan):**

EV 311 Water (S'02, S'03, S'04, S'05)  
SW 272 Geographic Inquiry in the Southwest (S'02, S'03, S'04, S'05)  
EV 121 Introduction to Environmental Science (First Year Experience) (F'02, F'03, F'04)  
EV 127 Introduction to Geographic Information Systems (S'05)  
SW 200 Physical Geography of the Southwest (F'04)  
EV155 Introduction to Earth Systems (F'04)  
GY 250/EV 320 Global Climate Change (F'03)  
SW 200 Landscape and Climate Change in the Southwest, (F'02)  
SW 175 Introduction to the American Southwest (F'01)

**University of Colorado, Boulder (Semesters):**

GEOG 1011 Environmental Systems: Landscapes and Water (F'98, S'99)  
GEOG 4241 Geomorphology (TA: F'96, F'97)  
GEOG 1001 Environmental Systems I: Climate and Vegetation (TA: F'96)

**PUBLICATIONS** (\*\* undergraduate student author; \* graduate student author)

Hancock\*, C. L., Daniels, J. M., and **Hamann, H. B.** Hydroclimate and hydrology of the San Juan Mountains, Colorado. *Submitted to Journal of Hydrology in 2020*

McCarroll\*, M. and **Hamann, H.** 2020. What we know about water: A water literacy review. *Water*, 12(10), 2803, <https://doi.org/10.3390/w12102803>, <https://www.mdpi.com/2073-4441/12/10/2803>

Hazen, H. and **Hamann, H.** 2020. Assessing Student Learning in Field Courses Using Oral Exams. *The Geography Teacher*, 7(4), pg. 130-135, DOI: 10.1080/19338341.2020.1828137

Johaneman\*\*, T.M., Arp, C.D, Whitman, M.S., Bondurant, A.C., **Hamann, H. B.** and Kerwin, M. W. 2020. Classifying connectivity to guide aquatic habitat management in an arctic coastal plain watershed experiencing land-use and climate change. *Arctic, Antarctic and Alpine Research*, 52(1), pg. 476-490. <https://www.tandfonline.com/doi/full/10.1080/15230430.2020.1805848>

**Hamann, H.** and Kerwin, M. 2018. Nurtured on Wikipedia, can an honor code foster better writers? *New Directions for Community Colleges*. no. 183, pg. 35-43.

**Hamann, H.** 2014. Writing to learn, learning to write: are students in FSEM1111: “Colorado’s Rivers” doing either effectively? *Writing Across the Curriculum at the University of Denver: Context and Issues*, Hesse, D. (ed), pg 8-12.

**Hamann, H.** 2011. Google Earth investigations of faulted and folded landforms. Science Education Resource Center at Carlton College, <http://serc.carleton.edu/NAGTWorkshops/geodesy/activities/41097.html>

**Hamann, H.** and Drossman, H. 2006. Integrating watershed management with learning: the role of information transfer in linking educators and students with community watershed initiatives. *Comparative Technology Transfer and Society*, Vol. 4, No. 3. pp. 305-339.

**Hamann, H.B.**, Stallard, R.F. and Pullen, N.H. 2004. Hydrochemical flow separation and a comparison of runoff pathways in small tropical catchments. *Forests and Water in Warm Humid Asia, Proceedings of a Workshop of the*

*International Union of Forest Research Organizations (IUFRO) Forest Hydrology Working Group*, Kota Kinabalu, Sabah, Malaysia. July 10-12, 2004. Sidle, R.C., Tani, M, Nik, A.R., Taddese, T.W. (eds.), pp. 134-137.

Stallard, R.F., Pullen, N.H., **Hamann, H.B.** and Elsenbeer, H. 2004. Rapid assessment of hydrology and soils in small tropical catchments. Forests and Water in Warm Humid Asia, *Proceedings of a Workshop of the International Union of Forest Research Organizations (IUFRO) Forest Hydrology Working Group*, Kota Kinabalu, Sabah, Malaysia. July 10-12, 2004. Sidle, R.C., Tani, M, Nik, A.R., Taddese, T.W. (eds.) pp. 107-110.

Pullen, N.H., Stallard, R.F., and **Hamann, H.B.** 2004. Soil hydrologic response in small tropical catchments. Forests and Water in Warm Humid Asia, *Proceedings of a Workshop of the International Union of Forest Research Organizations (IUFRO) Forest Hydrology Working Group*, Kota Kinabalu, Sabah, Malaysia. July 10-12, 2004. Sidle, R.C., Tani, M, Nik, A.R., Taddese, T.W. (eds.) pp. 130-133.

Drossman, H. and **Hamann, H.** 2003. Teaching chemistry at the Watershed Level. *Proceedings of the American Chemical Society Meeting*, New York, NY. September 7-11. Vol. 46. No. 2. paper 70.

Williams, M.W., Losleben, M., and **Hamann, H.B.** 2002. Alpine areas as early warning indicators of climate change. *Geographical Review*. Vol. 92, No. 2. pp. 180-191.

**Hamann, H.B.** 2001. "A Sense of Place: A Geographer's View of the Southwest," *la Tertulia newsletter*, Vol. XVII, No. 3, p. 1.

## **PRESENTATIONS AND SEMINARS**

2021 Hamann, H. and McCarroll, M. *Water literacy: What we know about what we know about water* (presentation), American Association of Geographers Annual Meeting, Virtual

2020 Hamann, H. and McCarroll, M. *Water literacy: What we know about what we know about water* (presentation), Earth Educator Rendezvous, Virtual

2018 Hamann, H., Kerwin, M., and Lavanchy, G.T. *Water Knows No Borders: Bringing International Water Resource Issues to the DU Classroom* (panel presentation), Internationalization Summit, University of Denver, Denver, CO

2017 Hamann, H. *Effective Water Education: From Abundant Information to Authentic Relevant Understanding, Breaking Down Complex Water & Environmental Topics* (invited panelist), Advancing Environmental Education Conference, Denver, CO

2016 Hamann, H. *Water and natural resource concerns for the North Dakota Access Pipeline* (invited panelist), Sustainable International Development Initiatives Student Group, Joseph Korbel School of International Studies at the University of Denver, CO

2016 Hamann, H. *3<sup>rd</sup> rock from the sun: earth's history and structure* (invited guest lecture), 21<sup>st</sup> Century Physics and Astronomy, University of Denver, CO

2016 Hamann, H. *Geoscientists' view of time.* (invited presentation) "Afro-Medieval Literature?" A Symposium on Temporality, University of Denver, CO

2016 Hamann, H. *Beyond the armchair II: tips and strategies for teaching an international field course – Andean Landscapes* (presentation and session chair) American Association of Geographers Annual Meeting, San Francisco, CA

2015 Hamann, H. *Engaging large lectures with kinesthetic learning: examples from an introductory Environmental Systems course* (presentation) Earth Educators' Rendezvous, Boulder, CO

2015 Hamann, H. *The trail I took and lessons learned along the way* (invited presentation) Association of Women Geoscientists Laramide Chapter 2015 Student Award Reception, Denver, CO

2014 Kerwin, M. and Hamann, H. *Nurtured on Wikipedia, can an honor-code create better writers?* (joint-presentation) Annual Conference of the International Center for Academic Integrity, Jacksonville, FL

2010 Hamann, H., Buhr, S., Moser, S., Dow, K., Hassenzahl, D., Niepold, F. and Gallagher, S. *Climate literacy 2* (panel chair & discussant) American Association of Geographers Annual Meeting, Washington, D.C.

- 2010 Hamann, H.B. *Wildfire ash effects on water quality*. (presentation) American Association of Geographers Annual Meeting, Washington, D.C.
- 2008 Hamann, H.B. *Hydrochemical leaching of wildfire ash*. (poster) American Geophysical Union Fall Meeting, San Francisco, CA
- 2008 Hamann, H.B. *Hydrochemical leaching of wildfire ash from the Mato Vega, CO fire*. (presentation) American Association of Geographers Annual Meeting, Boston, MA
- 2007 Hamann, H.B., Caine, N., Williams, M.W. and Hill, K. *Diurnal variations in isotopic and solute concentrations of two alpine headwater streams during snowmelt runoff*. (presentation) American Association of Geographers Annual Meeting, San Francisco, CA.
- 2006 Hamann, H.B., Stallard, R.F., Pullen, N.H. *A Comparison of Runoff Pathways and Nutrient Export in three Small Tropical Forest Catchments*. (presentation) American Association of Geographers Annual Meeting, Chicago, IL
- 2004 Hamann, H.B., Stallard, R.F., and Pullen, N.H. *A Comparison of Runoff Pathways and Nutrient Export in Small Tropical Forest Catchments*. (poster) American Geophysical Union Annual Fall Meeting, San Francisco, CA.
- 2004 Hamann, H.B. *Can We Quench the Thirst of a Growing Southwest?* (invited presentation) Aficionados Luncheon Series, Colorado College.
- 2004 Hamann, H.B. *Integrating GIS into Project-Based Courses in Environmental Science and Southwest Studies: Challenges and Opportunities*. (invited presentation) American Association of Geographers 100<sup>th</sup> Annual Meeting
- 2003 Hamann, H. *Academic Job Market: Different Types of Institutions* (invited presentation) University of Colorado at Boulder Graduate Teacher Program Spring Conference
- 2002 Hamann, H. and Williams, M. *The Ionic Pulse From Snowmelt: Inter-Annual Variation at Niwot Ridge, CO*. (poster) American Geophysical Union Annual Fall Meeting.
- 2002 Hamann, H.B. *Snow, landscape and flowpath effects on early runoff chemistry from two alpine catchments in Colorado*. (presentation) American Association of Geographers 98<sup>th</sup> Annual Meeting.
- 2001 Hamann, H.B. *Acid snow and mountain water supplies: environmental controls on stream chemistry*. (presentation) University of Colorado Mountain Research Station Summer Seminar Series.
- 2001 Hamann, H.B. *Alpine snow depths and soil temperatures, results from three years at Niwot Ridge, Colorado*. (illustrated poster) American Association of Geographers 97<sup>th</sup> Annual Meeting.
- 2000 Hamann, H. B., and Caine, N. *Inter-annual changes in snow meltwater flowpaths and stream chemistry: data from two alpine basins in Colorado*. (poster) American Geophysical Union Annual Fall Meeting.
- 2000 Hamann, H.B. *Inter-annual changes in snow meltwater flowpaths and stream changes: data from two alpine basins in Colorado*. (presentation) INSTAAR Graduate Student Seminar Series.
- 2000 Hamann, H.B. *Temporal and spatial variation in chemical transformations of snowmelt runoff at Niwot Ridge, Colorado*. (presentation) Rocky Mountain Hydrologic Research Center 55<sup>th</sup> Annual Meeting.
- 1999 Hamann, H.B. *Flowpath influence on the ionic pulse from snowmelt: a comparison of two alpine streams, Colorado Rocky Mountains*. (poster) American Geophysical Union Annual Fall Meeting.
- 1999 Hamann, H.B. *Temporal patterns of alpine snowmelt runoff chemistry and flowpaths* (presentation). American Association of Geographers 95<sup>th</sup> Annual Meeting.
- 1998 Hamann, H.B., Losleben, M. and Bardsley, T. *Snowcover influence on soil temperature dynamics in the Colorado alpine*. (presentation) American Association of Geographers 94<sup>th</sup> Annual Meeting.

- 1998 Hamann, H.B. *Snowcover control on alpine soil surface temperatures and basal ice, Niwot Ridge, Colorado.* (presentation) Rocky Mountain Hydrologic Research Center 53<sup>rd</sup> Annual Meeting.
- 1997 Hamann, H.B., Losleben, M. and Bardsley, T. *Winter soil temperature dynamics under varying snow depth in a continental alpine setting Colorado Front Range.* (presentation) Great Plains/Rocky Mountain Division of the AAG Annual Meeting.
- 1997 Hamann, H.B. *From strangler figs to oil rigs: ecology and issues of development in Ecuador.* (presentation) Institute of Arctic and Alpine Research, Graduate Seminar Series

### **CO-AUTHORED ABSTRACTS**

- Kelley, M. M. **Hamann, H.** and Li, J. 2018. *A New Flood Risk Communication Tool: A Proof-of-Concept Product for Boulder County, Colorado.* American Geophysical Union Fall Meeting, Washington D.C. 10-14 Dec.
- Kelley, M.M., **Hamann, H.** and Li, J. 2018. *Developing a Flood Risk Information System for Colorado.* American Association of Geographers Annual Meeting, New Orleans, LA, 10-14 April.
- Kelley, M. and **Hamann, H.** 2017. *Developing a Flood Risk Information System for Colorado.* Sustaining Colorado Watersheds Conference, Avon, CO, 10-12 October
- Hill, K., **Hamann, H.**, Williams, M., and Caine, N. 2006. *Diurnal changes in isotopic and chemical content of a headwater stream during snowmelt runoff.* 1<sup>st</sup> Annual Hydrologic Sciences Student Research Symposium, University of Colorado, Boulder, CO, 7-8 April.
- Hoalst-Pullen, N., **Hamann, H.B.**, and Stallard, R.F. 2006. *A comparison of hydrological flowpaths and nutrient export in three small tropical forest catchments.* 1<sup>st</sup> Annual Hydrologic Sciences Student Research Symposium, University of Colorado, Boulder, CO, 7-8 April.
- Hill, K., **Hamann, H.**, Williams, M., and Caine, N. 2006. *Diurnal changes in isotopic and chemical content of a headwater stream during snowmelt runoff.* Hydrology Days, Colorado State University, Fort Collins, CO. 20-22 March.
- Pullen, N.H., R.F. Stallard, **H.B. Hamann**, and D.M. Mixon. 2005. *From In Situ Sampling to Remote Sensing: Scaling Hydrology and Soil Properties in Tropical Forests.* American Association of Geographers 101<sup>st</sup> Annual Meeting, Denver, Colorado.
- Pullen, N.H., **Hamann, H.B.**, and Stallard, R.F. 2004. *Soil hydrologic response and nutrient movement in three small tropical catchments.* American Geophysical Union Annual Fall Meeting, San Francisco, CA. 13-17 December.
- Daniels, L. D. and **Hamann, H.B.** 2001. *Hot topics in biogeography: tree rings and forest fires.* National Council for Geographic Education Annual Meeting, Vancouver, BC, 1-4 August.
- Seimon, A., Zahler, P., **Hamann, H.B.**, Miller, A. M., Ley, R. 2000. *Encroachment of complex ecosystems into high alpine zones in response to climactic warming: A case from the Andes.* Global Mountain Biodiversity Assessment Conference, Basal, Switzerland. 7-10 September.

### **MEDIA CONTRIBUTIONS**

TV News, September 18, 2018, Denver 7 News Special, <https://www.thedenverchannel.com/news/our-colorado/-our-colorado-where-water-runs-gold-looks-at-where-your-next-glass-of-water-will-come-from> (overview); <https://www.youtube.com/watch?v=vopmOrpYpbw> (full video)

TV News, May 8, 2018, Denver 7 News, <https://www.thedenverchannel.com/news/our-colorado/colorado-cities-battle-to-retain-gain-water-rights-amid-continuing-growth>

Internet, September 8, 2018, University of Denver, <https://news.du.edu/first-year-seminar-gets-students-outside-to-explore-colorados-rivers-and-mines/>

## **GRANTS AND RESEARCH**

- 2020 **DU Natural Sciences and Mathematics Olin Faculty Development Grant**, *Earth Educator Rendezvous: Developing Curriculum and Leadership in Water Literacy* (\$1105)
- 2020 **DU Marsico Visiting Scholars Grant**, to host Dr. Kevin Wheeler, University of Oxford Environmental Change Institute and Water Balance Consulting. *Negotiating climate uncertainty, the drive for development, and regulatory transformation on transboundary rivers: The Colorado River and the Nile River* (\$2141)
- 2018 **DU Partners in Scholarship (PinS) Grant**: *Sustainability Attitudes of Wine Tourists in the South Island of New Zealand* (\$3500), PI with undergraduate student Alexandria Vieth
- 2017 **DU Internationalization Grant**: *Geological Heritage and History in Scotland* (\$500) PI
- 2017 **DU Partners in Scholarship (PinS) Grant**: *Pinpointing Nutrient Loading: A Study of Inflow Streams, Big Payette Lake, ID* (\$3457), PI with undergraduate students Jack Poole & Henry Crawford
- 2015 **DU Partners in Scholarship (PinS) Grant**: *Socioecological Impacts of Mega-Hydroelectric Projects in Chile: Mis-calculations and Mis-compensations* (\$3500), Co-PI with Dr Mike Kerwin and undergraduate Hayley Stuart
- 2014-15 **DU Natural Sciences and Mathematics Olin Faculty Development Grant**: *Colorado Water Leaders Program* (\$2317) PI
- 2013-14 **DU Internationalization Grant**: *Dams & Parks: Exploring Conservation, Development and Sustainability in Northern Patagonia* (\$2500) PI
- 2011 **DU Partners in Scholarship (PinS) Grant**: *Local scale spatial variation of wind-deposited dust in the Colorado snowpack* (\$425), PI with undergraduate student Charlie Landefeld
- 2010 **DU Partners in Scholarship (PinS) Grant**: *The effect of dust layers on persistent weak layers in a Continental Snowpack* (\$1480), PI with undergraduate student Tom Carroll
- 2009 **DU Partners in Scholarship (PinS) Grant**: *The Effects of Wildfire on Colorado's Water Quality* (\$3480), PI with undergraduate student Lauren Barrows
- 2008 **DU Professional Research Opportunities for Faculty (PROF)**: *The Chemical Leaching of Wildfire Ash by Simulated Rain and Erosion Events* (\$14,924), PI
- 2006 **UCCS Committee on Research and Creative Works**: *Hydrologic and hydrochemical roles of wildfire ash: Impacts during rain and snowmelt scenarios* (\$5000), PI
- 2005 **National Research Council Research Assistantship Program Post-Doc Appointment at USGS, Boulder, CO** *Hydrologic and hydrochemical roles of wildfire ash: impacts during rain and snowmelt scenarios* (awarded, position not accepted)
- 2004 **Colorado College Mellon Environmental Science Summer Research Grant**, *A comparison of groundwater recharge and snowmelt runoff in two small alpine catchments using GPS and GIS* (\$2120), PI
- 2004 **Colorado College Natural Science Division Grant**, *Nutrient Movement and Loss by Differing Runoff Pathways in Tropical Forest Soils: An Inter-Site Comparison of CTFS Tropical Forest Plots* (\$4000), PI

- 2004 **Colorado College Community Based Learning Grant for Course Development, *First Year Experience Introduction to Environmental Science*** (\$1500), PI
- 2004 **Seven Springs Foundation Grant *A comparison of groundwater recharge and snowmelt runoff in two small alpine catchments using GPS and GIS*** (\$3000), PI
- 2003 **Midwest Instructional Technology Center Grant to host a summer GIS symposium & workshop, *GIS, It's Hot, It's New, Now What Do I Do?*** (\$89,000), Co-PI
- 2003 **Center for Tropical Forest Science Research Grant, *Nutrient Movement and Loss by Differing Runoff Pathways in Tropical Forest Soils: An Inter-Site Comparison of CTFS Tropical Forest Plots*** (\$5000), PI
- 2003 **Colorado College Benezet Start Up Grant for Summer Research, *Nutrient Loss by Overland Flow from Tropical Forest Soils: An Inter-Site Comparison of CTFS Tropical Forest Catchments*** (\$4000), PI
- 2003 **Colorado College Mellon Summer Research Grant, *Nutrient Loss by Overland Flow from Tropical Forest Soils: An Inter-Site Comparison of CTFS Tropical Forest Catchments*** (\$4500), PI
- 2000-2002 **EPA, Science to Achieve Results (STAR) Fellowship for Graduate Environmental Study, *Physical controls on snowmelt flowpaths, the ionic pulse and surface water chemistry in two alpine basins, Colorado Rocky Mountains*** (\$46,000), PI
- 2002 **University of Colorado Graduate School, PhD Dissertation Grant** (\$200)
- 2000 **Beverly Sears Graduate Student Grant *Soil and surface water interactions in a recently deglaciated tropical high-alpine watershed, Lake Sibiracocha, Peru*** (\$750), Co-PI with Amy Miller
- 1998 **Sigma Xi, Grant In Aid of Research, *Temporal patterns of alpine runoff chemistry and flowpaths: the ionic pulse during snowmelt*** (\$700), PI
- 1998 **Colorado Mountain Club, *Snowmelt flowpaths, chemistry, and the transmission of the ionic pulse to surface waters, Niwot Ridge, CO*** (\$700), PI

## **HONORS AND RECOGNITIONS**

- 2021 **Crimson & Gold Outstanding Faculty Member Award**, University of Denver
- 2020 **Faculty Career Champion**, recognition by past students and the University of Denver Career Center
- 2019 DU Provost's Recognition for **Outstanding Faculty Member Contributing to Impactful Teaching**
- 2018 **Faculty Career Champion**, recognition by past students and the University of Denver Career Center
- 2015 **Water Leaders Program Class of 2015**, Selection based on competitive criteria, Colorado Foundation for Water Education, Denver, CO
- 2013 **Division of Natural Science and Mathematics Award of Excellence in Teaching**, University of Denver
- 2004 **Honorable Mention**, Poster presentation at the IUFRO Forests and Water in Warm, Humid Asia conference, Kota Kinabalu, Sabah, Malaysia
- 2000-2001 **Preparing Future Faculty Fellow**, University of Colorado Graduate Teacher Program
- 1998, 2000 **American Association of University Women, Brown/Ricketts/Udick Scholarship** (\$2500)
- 1997, 2000 **University of Colorado, Graduate School Fellowship** (\$1800)



**SERVICE AND OUTREACH**

Colorado Statewide Education Action Plan (SWEAP) Assessment Task Force (2021-2022)  
 Session Organizer, American Association of Geographers Annual Meeting (2021)  
 SUNY Geneseo, Department of Geography, External Review Committee to evaluate new Sustainability Studies major (2020)  
 Editorial Board Member, *Applied Geography (Elsevier)*(2018-present)  
 DU Sustainability Council Curriculum Committee (2017-present)  
 DU Backpacking Club Faculty Advisor (2017-2020)  
 DU First Year Seminar Faculty Committee (2013-2016; 2017-2020)  
 DU Sustainability Minor Advisor and Director (2010-present)  
 Colorado State Geography Bee Judge & DU department liaison (2010-2020)  
 Crew Leader Instructor, Crew Leader & Volunteer, Wildlands Restoration Volunteers, CO (2007-present)  
 Board Member: Catamount Center for Environmental Science and Education, Woodland Park, CO (2005-present)  
 Reviewer: Water Resources Research; Arctic, Antarctic & Alpine Research; W.H. Freeman; Journal of Geography, National Science Foundation REU-Program; Macmillan Learning; National Geographic Grant Program (2002- present)  
 Impact 2025: Sustainable DU Steering Committee Member (2016-2017)  
 Session Organizer and Chair: Beyond the Armchair 1 & 2, American Association of Geographers meeting (2016)  
 Guest Presenter, Ricks Center for Gifted Children, University of Denver (2015)  
 Summer Institute Instructor, Science Teachers Learning Lesson Analysis (STeLLA) (2010-12)  
 DU Partners in Scholarship (PinS) Committee (2009-2011)  
 Panel Chair and Discussant: Climate Literacy 2, American Association of Geographers meeting (2010)  
 Field Trip Leader for the AAG Department Leadership Workshop (2010)  
 Leader for the Geography Faculty Development Alliance (GFDA) workshop (2009)  
 Field Trip Leader for the US-China GIScientists Workshop (2009)  
 DU Sustainability Education and Research Committee (2008-2010)  
 Organizer and Chair: Let's Get Physical—experiences of female junior faculty in physical geography, American Association of Geographers meeting (2007)  
 Panelist: Teaching Water Resources at the Undergraduate Level, Association of American Geographers meeting (2007)  
 Presenter, University of Colorado at Boulder's Science Squad K-12 Teacher Training (2006)  
 UCCS Sustainability Task Force Member (2006-2007)  
 UCCS LAS Scholar Awards committee (2006-2007)  
 UCCS Geography Department Women in Geography Award Selection Committee (2005-2007)  
 Hughes Biological Sciences Initiative K-12 Teacher Workshop: "From Plains to Tundra: Changes with Altitude" (2006)  
 Session Chair, Cryosphere II: Frozen Soils and Snow Chemistry, American Association of Geographers meeting (2006)  
 Organizer for Cryosphere Specialty Group papers for American Association of Geographers meeting (2006)  
 Co-Instructor for Smithsonian Tropical Research Institute and Center for Tropical Forest Science Soils Biology Initiative Workshops (I and II), Barro Colorado Island, Panama (2003, 2004)  
 Presenter, University of Colorado Graduate Teacher Program Spring Conference: "Academic Job Market: Different types of institutions" (2003)  
 Hughes Biological Science Initiative K-12 Teacher Workshop (2002)  
 Presenter, JASON Project, Denver Museum of Science and Nature (2001)  
 Earthworks Earth Science Workshop for Secondary Teachers (6 days), CalWood, Colorado (2000)  
 Presenter, Expanding Your Horizons, Science Career Fair for Girls (1999, 2000)  
 Graduate Student Representative, Institute of Arctic and Alpine Research (1998-1999)  
 Organizer for Graduate Student Talk Series, Institute of Arctic and Alpine Research (1997-1998)  
 Volunteer, Green Lakes Valley Snow Survey, University of CO (1997, 1998, 1999, 2000, 2001)  
 Volunteer, Loch Vale Snow Survey, USGS, CO (1997, 1999)  
 Volunteer Trip Leader, Sierra Club Inner City Outings Program (1997-2001)

**STUDENT RESEARCH ADVISING****University of Denver: Undergraduate Students**

Taylor Johaneman, co-advisor, Undergraduate Thesis: *Assessing the Catchment Connectivity in an Arctic Coastal Plain Watershed* (2018-2019)

Alexandria Vieth, PinS Undergraduate Research: *Sustainability Attitudes of Wine Tourists in the South Island of New Zealand* (2018-2019)

Jack Poole & Henry Crawford, PinS Undergraduate Research: *Pinpointing Nutrient Loading: A Study of Inflow Streams, Big Payette Lake, ID* (2017-2018)

Hayley Stuart, advisor, Undergraduate Thesis: *Hydro-Development in Chile: Past Mistakes, Future Lessons* (2015-2016)

Hayley Stuart, co-advisor, PinS Undergraduate Research: *Socioecological Impacts of Mega-Hydroelectric Projects in Chile: Mis-calculations and Mis-compensations* (2015)

Vince Szilagyi, committee member, Honors Undergraduate Thesis: *Crisis of Control: Geographic Knowledge in the Era of Empire* (2012 - 2013).

Lauren Barrows, advisor, Honors Undergraduate Thesis: *Benthic Macroinvertebrates as Indicators of Water Quality and Effective Water Treatment for Acid Mine Drainage* (2010-2011)

Charlie Landefeld, advisor, PinS Undergraduate Research: *Local scale spatial variation of wind-deposited dust in the Colorado snowpack* (2011)

Thomas Carroll, advisor, PinS Undergraduate Research: *The Effect of Dust Layers on Persistent Weak Layers in a Continental Snowpack* (2010)

Lauren Barrows, advisor. PinS Undergraduate Research: *The Effects of Wildfire on Colorado's Water Quality* (2009)

### **University of Denver: Graduate Students**

Dinko Hanaan Dinko, PhD Geography, committee member, Dissertation: *Negotiating water security for irrigation and smallholder agriculture in Northern Ghana* (2020-present)

Paige Ramsey, MS GIS, committee member, Project: *Creating a Wetlands Research and GIS Resource Inventory in Colorado's San Luis Valley Using Esri's ArcGIS Hub* (2020-2021)

Chris Hancock, MA Geography, committee member, Thesis: *Spatial and Temporal Controls on Streamflow Variability in Alpine Watersheds of the San Juan Mountains, Colorado* (2019-2020)

Meghan McCarroll, PhD Geography, co-advisor, Dissertation: *Water Literacy in Drought-Prone Regions: Case Studies from Aurora, CO, USA and Cape Town, South Africa* (2018-present)

Madeline Kelley, MSGIS Geography, advisor, Project: *Developing a Flood Risk Information System: A Proof-of Concept Information Tool* (2016-2018)

Emilio Mateo, MA Geography, committee member, Thesis: *Rock Glacier Hydrology in the San Juan Mountains, CO* (2015-2017)

Ian Slayton, PhD Geography, committee member. Dissertation: *Paleoclimate of Kawuneeche Valley of the Colorado River Headwaters, Rocky Mountains, CO* (2012 - 2017).

Rebecca Boyd, MSGIS committee member. Project: *Streamflow in the Upper Mississippi River Basin* (2013-2015)

Ryan Croy, MA Public Policy capstone panelist: *Fire on the Mountain: Wildfire Mitigation for Communities in Boulder County, Colorado* (2015)

Benjamin Glennon, MSGIS-online capstone project reader: *GIS and Avalanche Susceptibility* (2015)

Aaron Zettler-Mann, MA Geography committee member. Thesis: *Quantifying Human Impacts on River Bar Morphology Using Digital Photogrammetry* (2013 - 2014).

Harry Katz, PhD Geography committee member. Dissertation: *Floodplain Geomorphology of Mountain Basins* (2012 – 2015; withdrew from program).

Benjamin Kreisman, PhD Geography committee member. (2012 – 2017 withdrew from program).

Thomas Gary Lavanchy, PhD Geography committee member. Dissertation: *Water Resources and Tourism Development along the Western coast of Nicaragua: A Political Ecology Perspective* (2011 - 2015).

Joseph Hoover, PhD Geography committee member. Dissertation: *Investigating the utility of web-based GIS in water quality environmental decision-making* (2010-2014)

William Brenton, MA Geography committee member. Thesis: *Episodic recruitment and climate analysis of ponderosa pine (*Pinus ponderosa* P. & C. Lawson) on the Colorado Eastern Plains along the Palmer Divide* (2011-2012)

Katrina Marzetta, MA Geography committee member. Thesis: *Large Snow Events' Impact on Tree Ring Growth and Dillon Reservoir* (2009-2011)

Katie Williams, MSGIS committee member. Project: *Characterization of watershed dynamics in the Rocky Mountain National Park Wilderness using remote sensing techniques* (2010-2011)

Pasha Enzi, MSGIS committee member. Project: *Effect of Spruce Beetle on Canopy, in Engelmann Spruce, Rio Grande National Forest, Colorado* (2008-2010)

Harry Katz, MA Geography committee member. Thesis: *Gully Erosion and Hillslope-Channel Coupling in the Pike's Peak Highway Watershed* (2008-2010)

### **University of Colorado at Colorado Springs:**

Sheree Lynn, MA Geography advisor. Thesis: *Roaring Fork Watershed: Macroinvertebrate Indices as Baseline Data, Verification of Stream Alteration Scores, and Tools for Prediction of Stream Alteration* (2006-2007)  
Wendi Clouse, MA Geography advisor. Thesis: *Gully Stabilization Assessment: North Crystal Creek, Pike National Forest, Colorado* (2005-2007)  
Tara Kelley, MA Geography committee member, Thesis: *Perceptions of Reclaimed Water Landscape Irrigation: A Survey of Colorado Springs Residents* (2005-2006)  
Nancy Olsen, MA Geography committee member. Thesis: *Single Occupancy Vehicle Travel and Alternate Transport Possibilities to the University of Colorado at Colorado Springs* (2005-2006)

**Colorado College:**

Kathleen Orlinsky, Independent Study: *GIS Use and Data Resources for Latin American and Caribbean Countries* (2005)  
Lisa Pate, advisor, MAT Thesis: *Wolf Reintroduction in the Rockies and American Southwest* (2002-2005)  
Courtney Adkins, advisor, Thesis: *Comparison of rainfall, soil properties and soil water chemistry across three tropical forest catchments* (2003- 2005)  
Meaghan Daly & Maxwell Harper, Summer Research: *Using GPS and GIS to Investigate Snow Ablation and Basin Recharge in two Alpine Catchments* (2004)  
Peter Erb, Independent Study: *Using GIS to Study Water Quality in the Hayman Burn Area, CO* (2004)  
Patrick Holmes & Doug Vilsak, Independent Study: *Front Range Development Profile* (2003)  
David Pilz & Matthew Dayno, Independent Study: *The NASA Cold Land Processes Experiment, analyzing spatial snow variability at three sites using GIS* (2002)

**PROFESSIONAL ORGANIZATION AFFILIATIONS**

National Association of Geoscience Teachers (2015-present)  
Association for Women Geoscientists (2015-present)  
Water Education Colorado (formerly: Colorado Foundation for Water Education) (2010-present)  
American Association of Geographers (1996- present)  
American Geophysical Union (1997-2010)  
Sigma Xi (2008)  
Geological Society of America (2001-2005)  
American Association of University Women (1998-2001)  
Boulder Watershed Forum (1997-2002)