

Diego Andrés Riveros-Iregui

Bowman & Gordon Gray Distinguished Professor
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July 23, 2022

EDUCATION

- 2008 *Ph.D.* Ecology and Environmental Sciences (*Emphasis in Watershed Hydrology*)
Montana State University, Department of Land Resources and Environmental Sciences
Dissertation Title: *Hydrologic-Carbon Cycle Linkages in a Subalpine Catchment*
Advisor: Brian L. McGlynn
- 2004 *M.S.* Geology (*Emphasis in Hydrogeology*)
University of Minnesota, Department of Geology and Geophysics
Thesis title: *The Role of Hydrologic Pathways and Biogenic Methane in the Sarita Wetland, St. Paul, Minnesota*
Advisors: E. Calvin Alexander Jr. and Jennifer Y. King
- 1999 *B.S.* Geology (*minor Geophysics*)
National University of Colombia – Bogotá, Department of Geosciences
Thesis title: *Genesis and Petrographic Characterization of the Plio-Pleistocene Deposits Southwest of Bogotá, 'Zabrinsky,' Mosquera, Colombia* (in Spanish)
Advisors: Carlos Macia and Rafael Duarte

APPOINTMENTS

- 2022 – **University of North Carolina at Chapel Hill**
Interim Co-Director, Center for Galapagos Studies
- 2021 – **University of North Carolina at Chapel Hill**
Bowman and Gordon Gray Distinguished Professor, Department of Geography
- 2013 – **University of North Carolina at Chapel Hill**
Associate Professor (2019–); **Assistant Professor** (2013–19), Department of Geography.
Fellow: E3P, Institute for the Study of the Americas, Institute for the Environment, Center for Galapagos Studies, Center for Regional and Urban Studies
- 2018 – **Universidad San Francisco de Quito (Ecuador)**
Adjunct Professor, School of Biological and Environmental Sciences (Colegio de Ciencias Biológicas y Ambientales - COCIBA)
- 2010 – 2013 **University of Nebraska**
Assistant Professor, School of Natural Resources
- 2008 – 2010 **University of Colorado, Boulder**
Post-doctoral Fellow, Department of Ecology and Evolutionary Biology
- 1998 – 2000 **INGEOMINAS (Colombian Geological Survey)**, Bogotá
Intern in Geology (1998-99), Junior Geologist (1999-2000)

AWARDS AND RECOGNITION

Faculty Award for Global Excellence, Office of the Vice Provost for Global Affairs, UNC Chapel Hill (2022)
Fulbright U.S. Scholar Award. Ecuador, Academic Year 2022-2023.

W.N. Reynolds Senior Faculty Research & Scholarly Leave, Office of the Provost, UNC Chapel Hill (2022)
National Science Foundation, Faculty Early Career Development (CAREER) Award (2019)
J. Carlyle Sitterson Award for Excellence in Teaching First-Year Students, UNC Chapel Hill (2019)
National Center for Atmospheric Research (NCAR), ASP Visiting Professor Fellowship (2015)
Junior Faculty Development Award, Office of the Provost, UNC Chapel Hill (2015)
DISsertations initiative for the advancement of Climate Change ReSearch (DISCCRS) VI Scholar (2011)
University of Nebraska, Layman Award (2011)
National Center for Atmospheric Research (NCAR), ASP Post-doctoral Fellowship
Montana State University, Dissertation of the Year (2009): *Single recipient across MSU*
National Science Foundation, Doctoral Dissertation Improvement Grant (2008)
American Geophysical Union, Horton (Hydrology) Research Grant (2007)

BOOKS AND CHAPTERS

Books

Walsh, S.J., **Riveros-Iregui, D.**, Arce-Nazario, J., Page, P.H. (Editors), *Land Cover and Land Use Change on Islands: Social & Ecological Threats to Sustainability*. In the Galapagos Book Series, “Social, Terrestrial, and Marine Interactions in the Galapagos Islands,” (S.J. Walsh & C.F. Mena, Series Editors), Springer Nature, 2020. <https://doi.org/10.1007/978-3-030-43973-6>

Book Chapters

Covino, T., **Riveros-Iregui, D.A.**, and *Schneider, C.L. (2022). *Geomorphology Imparts Spatial Organization on Hydrological and Biogeochemical Fluxes*. In Eds., Wohl, E., *Treatise on Geomorphology*. Academic Press. <https://doi.org/10.1016/B978-0-12-818234-5.00068-7>

Hu, J., Qubain, C., and **Riveros-Iregui, D.A.**, (2020) *How do non-native plants influence soil nutrients along a hydroclimate gradient on San Cristobal Island?* 205-219 pp. In Eds., Walsh, S.J. et al., *Land Cover and Land Use Change on Islands: Social & Ecological Threats to Sustainability*. Springer Nature.

*McQueen, S.G., **Riveros-Iregui, D.A.**, and Hu, J., (2020) *The Carbon Balance of Tropical Islands: Lessons from Soil Respiration*. 261-276 pp. In Eds., Walsh, S.J. et al., *Land Cover and Land Use Change on Islands: Social and Ecological Threats to Sustainability*. Springer Nature.

REFEREED ARTICLES (*Advisee Author, †Equal Contribution)

*Shoenborn, A., *Yannarell, S., MacVicar, C., Barriga-Medina, N., Markillie, M., Mitchell, H., Bonham, K., Leon-Reyes, A., **Riveros-Iregui, D.A.**, Klepac-Ceraj, V., and Shank, E. (in review) *Microclimate is a strong predictor of the native and invasive plant-associated microbiota on San Cristóbal Island, Galápagos Archipelago*. *Environmental Microbiology*

Duvert, C., Marzolf, N.S., Linkhorst, A., Deirmendjian, L., Herreid, A.M., Jeffrey, L.C., López-Lloreda, C., Macedo, M., Oviedo-Vargas, D., **Riveros-Iregui, D.A.**, Solano, V., *Whitmore, K.M., and Borges, A.V. (in review) *Greenhouse gas emissions from inland waters: A perspective and research agenda for the tropics and subtropics*. *L&O Letters*

*Delesantro, J., Duncan, J.M., **Riveros-Iregui, D.A.**, Blaszczyk, J., Bernhardt, E.S., Urban, D., and Band, L.E., *The Non-Point Sources and Transport of Baseflow Nitrogen Loading Across a Developed Rural-Urban Gradient* (2022) *Water Resources Research* <https://doi.org/10.1029/2021WR031533>

- *Delesantro, J., Duncan, J.M., **Riveros-Iregui, D.A.**, Blaszczyk, J., Bernhardt, E.S., Urban, D., and Band, L.E., (2021) Characterizing and Classifying Urban Watersheds with Compositional and Structural Attributes. *Hydrological Processes* 35:e14339 <https://doi.org/10.1002/hyp.14339>
- Harris, A., Fidan, E., Nelson, N., Emanuel, R., Jass, T., Kathariou, S., Niedermeyer, J., Sharara, M., de los Reyes III, F., **Riveros-Iregui, D.A.**, Stewart, J (2021) Microbial Contamination in Environmental Waters of Rural and Agriculturally-Dominated Landscapes Following Hurricane Florence. *Environmental Science & Technology Letters* 2021, 1, 9, 2012-2019. <https://doi.org/10.1021/acsestwater.1c00103>
- *Larsen, W., Liu X-M., and **Riveros-Iregui, D.A.**, (2021) Rare earth element behavior in springs and streams on a basaltic island: San Cristóbal, Galápagos. *Applied Geochemistry* 131, 105004. <https://doi.org/10.1016/j.apgeochem.2021.105004>
- *Whitmore, K.M., *Stewart, N., Encalada, A.C., Suárez, E., and **Riveros-Iregui, D.A.**, (2021) Spatiotemporal Variability in the Gas Transfer Velocity of CO₂ in a Tropical Mountainous Stream Using Two Independent Methods. *Ecosphere* 12 (7) Article e03647. <http://dx.doi.org/10.1002/ecs2.3647>
- Gómez-Gener, L., Rocher-Ros, G., Battin, T., Cohen, M.J., Dalmagro, H., Dinsmore, K.J., Drake, T., Duvert, C., Prast, A.E., Horgby, A., Johnson, M., Kirk, L., Machado-Silva, F., Marzolf, N., McDowell, M.J., McDowell, W.H., Miettinen, H., Ojala, A.K., Peter, H., Pumpanen, J., **Riveros-Iregui, D.A.**, Santos, I., Six, J., Stanley, E.H., Wallin, M.B., White, S., and Sponseller, R.A., (2021) Global carbon dioxide efflux from rivers enhanced by high nocturnal emissions. *Nature Geoscience* 14, 289-294. <https://doi.org/10.1038/s41561-021-00722-3>
- *Schneider, C.L., *Herrera, M., *Raisle, M.L., *Murray, A.R., *Whitmore, K.M., Encalada, A.C., Suárez, E., and **Riveros-Iregui, D.A.**, (2020) Carbon Dioxide (CO₂) Fluxes from Terrestrial and Aquatic Environments in a High-Altitude Tropical Catchment. *Journal of Geophysical Research – Biogeosciences* 125, e2020JG005844 [doi:10.1029/2020JG005844](https://doi.org/10.1029/2020JG005844)
- *Percy, M.S., **Riveros-Iregui, D.A.**, Mirus, B.B., and Benninger, L.K. Temporal and spatial variability of shallow soil moisture across four planar hillslopes on a tropical ocean island, San Cristóbal, Galápagos (2020) *Journal of Hydrology: Regional Studies* 30 (100692). <https://doi.org/10.1016/j.ejrh.2020.100692>
- Tague, C.L., Papuga, S.A., Gerlein-Safdi, C., Dymond, S., Morrison, R.R., Boyer, E.W., **Riveros-Iregui, D.A.**, Arora, B., Dialynas, Y.G., Hansen, A., Krause, S., Kuppel, S., Loheide II, S.P., and Schymanski, S.J., Adding our leaves: a community-wide perspective on research directions in ecohydrology (2020) *Hydrological Processes* 34, 1665-1673. <https://doi.org/10.1002/hyp.13693>
- Awada, T., Skolaut, K., Battipaglia, G., Saurer, M., **Riveros-Iregui, D.A.**, Schapaugh, A., Zhou, X., Huddle, J., Martin, D., and Cherubini, P. (2019) Tree rings and stable isotopes show differential adaptation of native and invasive woody species to streamflow fluctuations in a semi-arid riparian ecosystem, *Ecohydrology* 2019;12:e2074. <https://doi.org/10.1002/eco.2074>
- *Schmitt, S.R., **Riveros-Iregui, D.A.**, and Hu, J. (2018) The role of fog, orography and seasonality on precipitation in a semi-arid, tropical island. *Hydrological Processes* 32, 2792-2805, <https://doi.org/10.1002/hyp.13228>
- Riveros-Iregui, D.A.**, Covino, T.P., and Gonzalez-Pinzon, R.A. (2018) The Importance of and Need for Rapid Hydrologic Assessments in Latin America. *Hydrological Processes* 32, 2441-2451, <https://doi.org/10.1002/hyp.13163>
- Riveros-Iregui, D.A.**, *Lorenzo, T.M., *Liang, L.L., and Hu, J. (2018) Summer Dry-Down Modulates the Isotopic Composition of Soil CO₂ Production in Snow-Dominated Landscapes. *PLoS ONE* 13(5):e0197471 [doi:10.1371/journal.pone.0197471](https://doi.org/10.1371/journal.pone.0197471)
Media: Blog Coverage by PLOS Ecology Community
- Hamel, P., **Riveros-Iregui, D.A.**, Ballari, D., Browning, T., Célleri, R., Chandler, D., Chun, K., Destouni, G., Jacobs, S., Jasechko, S., Johnson, M., Krishnaswamy, J., Poca, M., Pompeu, P., and Rocha, H. (2018)

Watershed Services in the Humid Tropics: Opportunities from Recent Advances in Ecohydrology. *Ecohydrology* 2018;11:e1921. <https://doi.org/10.1002/eco.1921>

- Reyes, W.M., Epstein, H.E., Li, X., McGlynn, B.L., **Riveros-Iregui, D.A.**, and Emanuel, R.E. (2017) Complex Terrain Influences Ecosystem Responses to Climate. *Global Biogeochemical Cycles* 31, 1306-1317, doi:10.1002/2017GB005658
- Riveros-Iregui, D.A.**, Lenters, J.D., Peake*, C.S., Ong, J., Healey, N., Zlotnik, V. (2017) Energy Balance of a Shallow Saline Lake in the Nebraska Sandhills. *Journal of Hydrology* 553:172-187. doi:10.1016/j.jhydrol.2017.08.002
- Loecke, T.D., Burgin, A.J., **Riveros-Iregui, D.A.**, Ward, A.S., Thomas, S.A., Davis, C.A., and St. Clair, M.A., (2017) Weather whiplash in agricultural regions drives deterioration of water quality. *Biogeochemistry* 133:7-15. doi:10.1007/s10533-017-0315-z
Media: EurekAlert!, Scientific American, E&E News
- *Peña, D.C., Rubiano, Y., and **Riveros-Iregui, D.A.** (2016) Effects of Land Use on Soil CO₂ Flux in the Guerrero Paramo, Colombia. *Agronomia Colombiana* 34(3), 364-373. doi:10.15446/agron.colomb.v34n3.58791
- *Liang, L.L., **Riveros-Iregui, D.A.**, and Risk, D. (2016) Spatial and Seasonal Variability of the Stable Carbon Isotope Composition of Soil CO₂ and Flux in Complex Terrain. *Journal of Geophysical Research – Biogeosciences* 121, 2328-2339. doi:10.1002/2015JG003193
- Reynolds, K.N., Loecke, T.D., Burgin, A.J., Davis, C.A., **Riveros-Iregui, D.A.**, Thomas, S.A., Ward, A.S., and St. Clair, M.A., (2016) Optimizing Sampling Strategies for Riverine Nitrate using High-Frequency Data in Agricultural Watersheds. *Environmental Science and Technology* 50(12), 6406-6414, doi:10.1021/acs.est.5b05423
- *¹Percy, M.S., *¹Schmitt, S.R., **Riveros-Iregui, D.A.**, and Mirus, B.B. (2016) The Galápagos Archipelago: A Natural Laboratory to Examine Sharp Hydroclimatic, Geologic and Anthropogenic Gradients. *WIREs Water* 3: 587-600. doi:10.1002/wat2.1145
- ¹Hu, J., and ¹**Riveros-Iregui, D.A.**, (2016) Life in the clouds: Are tropical montane cloud forests responding to changes in climate? *Oecologia* 180:1061-1073. doi:10.1007/s00442-015-3533-x
- Du, Z., **Riveros-Iregui, D.A.**, Jones, R.T., McDermott, T.R., Dore, J., McGlynn, B.L., Emanuel, R.E., and Li, X., (2015) Landscape Position Influences Microbial Composition and Function via Redistribution of Soil Water across a Watershed. *Applied and Environmental Microbiology* 81(24): 8457-8468, doi:10.1128/AEM.02643-15.
- Wang, L., Manzoni, S., Ravi, S., **Riveros-Iregui, D.A.**, Caylor, K., (2015) Dynamic interactions of ecohydrological and biogeochemical processes in water-limited systems. *Ecosphere* 6:art133. *Ecological Society of America Centennial Paper*. doi:10.1890/ES15-00122.1
- Davis, C.A., Ward, A.S., Burgin, A.J., Loecke, T.D., **Riveros-Iregui, D.A.**, Schnoebelen, D.J., Just, C.L., Thomas, S.A., Weber, L.J., and St. Clair, M.A. (2014) Antecedent Moisture Controls on Stream Nitrate Flux in an Agricultural Watershed. *Journal of Environmental Quality* 43:1494-1503, doi:10.2134/jeq2013.11.0438
- *Liang, L.L., **Riveros-Iregui, D.A.**, Emanuel, R.E., and McGlynn, B.L., (2014) A Simple Framework to Estimate Distributed Soil Temperature from Discrete Air Temperature Measurements in Data-Scarce Regions. *Journal of Geophysical Research – Atmospheres* 119(2): 407-417 doi:10.1029/2013JD020597
- Fisher, E., Mackey, K., Cusack, D., DeSantis, L., Hartzell-Nichols, L., Lutz, J., Melbourne-Thomas, J., Meyer, R., **Riveros-Iregui, D.A.**, Sorte, C., Taylor, J., and White, S., (2012) Is Pre-Tenure Interdisciplinary Research a Career Risk? *EOS, Transactions, American Geophysical Union* 93:311-312. doi: 10.1029/2012ES003846

- Riveros-Iregui, D.A.**, McGlynn, B.L., Emanuel, R.E., and Epstein, H.E., (2012) Complex Terrain Leads to Bi-Directional Responses of Soil Respiration to Inter-annual Water Availability. *Global Change Biology* 18(2):749-756. doi: 10.1111/j.1365-2486.2011.02556.x
- Emanuel, R.E., **Riveros-Iregui, D.A.**, McGlynn, B.L., and Epstein, H.E., (2011) On the Spatial Heterogeneity of Net Ecosystem Production in Complex Landscapes, *Ecosphere* 2(7):art86. doi:10.1890/ES11-00074.1
- Riveros-Iregui, D.A.**, McGlynn, B.L., Marshall, L.A., Welsch, D.L., Emanuel, R.E., and Epstein, H.E., (2011) A Watershed-Scale Assessment of a Process Soil CO₂ Production and Efflux Model. *Water Resources Research*, 47, W00J04, doi:10.1029/2010WR009941
- Riveros-Iregui, D.A.**, Hu, J., Burns, S.P., Bowling, D.R., and Monson, R.K. (2011) An Inter-Annual Assessment of the Relationship between the Stable Carbon Isotopic Composition of Ecosystem Respiration and Climate in a High Elevation Subalpine Forest. *Journal of Geophysical Research – Biogeosciences* 116, G02005, doi: 10.1029/2010JG001556
- Pacific, V.J., McGlynn, B.L., **Riveros-Iregui, D.A.**, Welsch, D.L., and Epstein, H.E., (2011) Landscape Structure, Groundwater Dynamics, and Soil Water Content Influence Soil Respiration across Riparian-Hillslope Transitions, Tenderfoot Creek Experimental Forest, Montana. *Hydrological Processes* 25:811-827. doi: 10.1002/hyp.7870
- Hu, J., Moore, D.J.P., **Riveros-Iregui, D.A.**, Burns, S.P., and Monson, R.K. (2010) Modeling Whole Tree Carbon Assimilation Rate Using Observed Transpiration Rates and Needle Sugar Carbon Isotope Ratios. *New Phytologist* 185:1000-1015. doi:10.1111/j.1469-8137.2009.03154.x
- Pacific, V.J., McGlynn, B.L., **Riveros-Iregui, D.A.**, Epstein, H.E., and Welsch, D.L., (2009) Differential Soil Respiration Responses to Changing Hydrologic Regimes. *Water Resources Research* 45, W07201, doi:10.1029/2009WR007721
- Riveros-Iregui, D.A.** and McGlynn, B.L., (2009) Landscape Structure Control on Soil CO₂ Efflux Variability in Complex Terrain: Scaling from Point Observations to Watershed-Scale Fluxes. *Journal of Geophysical Research – Biogeosciences*, 114, G02010, doi:10.1029/2008JG000885
- Pacific, V.J., McGlynn, B.L., **Riveros-Iregui, D.A.**, Welsch, D.L., and Epstein, H.E., (2008) Variability in Soil Respiration across Riparian-Hillslope Transitions. *Biogeochemistry* 91:51-70. doi:10.1007/s10533-008-9258-8
- Blankinship, J.C., **Riveros-Iregui, D.A.**, Desai, A.R., (2008) NCAR Advanced Study Program Students “Method Hop” their Way to Regional Biogeochemistry. *Bulletin of the American Meteorological Society* 89:1571-1573. doi:10.1175/2008BAMS2615.1
- Riveros-Iregui, D.A.**, McGlynn, B.L., Epstein, H.E., and Welsch, D.L. (2008) Interpretation and Evaluation of Combined Measurement Techniques for Soil CO₂ Efflux: Discrete Surface Chambers and Continuous Soil CO₂ Concentration Probes. *Journal of Geophysical Research – Biogeosciences* 113, G04027, doi:10.1029/2008JG000811
- Riveros-Iregui, D.A.** and King, J.Y., (2008) Isotopic Evidence of Methane Oxidation across the Surface Water - Groundwater Interface. *Wetlands*, 28:928-937. doi:10.1672/07-191.1
- Riveros-Iregui, D.A.**, Emanuel, R.E., Muth, D.J., McGlynn, B.L., Epstein, H.E., Welsch, D.L., Pacific, V.J., and Wraith, J.M. (2007) Diurnal Hysteresis between Soil CO₂ and Soil Temperature is Controlled by Soil Water Content. *Geophysical Research Letters* 34, L17404, doi:10.1029/2007GL030938

NON-REFEREED PUBLICATIONS

- Rusique Urrego, C., Escobar Escobar, N., and **Riveros-Iregui, D.A.**, (2018) Fusagasugá y San Bernardo: el balón está en su cancha. *El Espectador*, Opinion published on October 19, 2018.
<https://www.elespectador.com/opinion/fusagasuga-y-san-bernardo-el-balon-esta-en-su-cancha-columna-818833>
- Riveros-Iregui, D.A.**, Wang, L., and Wilcox, B., (2011) Ecohydrology and the Challenges of Coming Decades. *American Geophysical Union, Hydrology Section Newsletter*, pp 32-34
- Riveros-Iregui, D.A.** and McGlynn, B. L. (2008) Measuring and Modeling CO₂ and H₂O fluxes in Complex Terrain. *FluxLetter: the Newsletter of FLUXNET* 1(4):10-11

TEACHING AND MENTORING

University of North Carolina at Chapel Hill:

- GEOG050 First Year Seminar: Mountain Geography: Fall 2016 (24), Fall 2017 (24), Fall 2018 (24), Spring 2019 (24), Spring 2020 (22), Spring 2021 (24)
- GEOG110 Introduction to Environmental Systems: Fall 2014 (61), Fall 2017 (83), Fall 2018 (100), Fall 2019 (171)
- GEOG141 Geography for Future Leaders: Fall 2019 (100), Fall 2020 (150)
- GEOG341/GEOG390 Introduction to the Hydrology of Tropical Islands: Summer 2015 (15), Summer 2016 (9), Summer 2018 (11)
- GEOG391 Quantitative Methods in Geography: Fall 2019 (6)
- GEOG392 Research Methods in Geography: Spring 2020 (6)
- GEOG440 Earth Surface Processes: Fall 2016 (11)
- GEOG441 Introduction to Watershed Systems: Fall 2013 (10), Spring 2014 (12), Spring 2015 (22), Spring 2016 (10), Spring 2018 (7), Spring 2019 (18)
- GEOG697 Capstone Seminar in Geographic Research: Spring 2018 (27), Spring 2021 (28)
- GEOG710 Advanced Physical Geography: Spring 2014 (3), Spring 2015 (5)

Current Students Supervised:

Graduate:

- Andrew Murray (Ph.D. candidate in Geography, expected 2022)
- Keridwen Whitmore (Ph.D. student in Geography, expected 2024)

Undergraduate:

- Kayla Emerson (B.S. student in Environmental Science, expected 2022)
- Megan Essig (B.S. student in Environmental Science, expected 2022)
- Quentin McCalla (B.S. student in Geosciences, expected 2024)
- Dylan Morgan (B.S. student in Environmental Science, expected 2022)
- Jayne Willard (B.S. student in Environmental Science, expected 2022)

Lab Manager:

- Tessa Davis (B.S. Environmental Science)

Past Students and Mentees:

Post-Graduate and Graduate:

Joseph Delesantro (Ph.D. 2021). Dissertation Title: *Urbanization controls on nutrient loading along the rural to urban gradient of the NC Piedmont*. Now: Postdoctoral Research Associate, University of Virginia.

Sarah Schmitt (Ph.D. 2018, NSF Graduate Research Fellow). Dissertation Title: *The Role of Fog in the Hydrological Functioning of Tropical Island Ecosystems*. Now Senior Scientist, Applied Research Associates

Theresa (Tracie) Lorenzo (M.S. 2014, University of Nebraska-Lincoln). Thesis Title: *Hydrologic Mediation of the Spatial and Temporal Variability of the Soil CO₂ Stable Isotopic Composition in a Subalpine Watershed*. Now Ph.D. student, Arizona State University

Colin Peake (M.S. 2014, University of Nebraska-Lincoln). Thesis Title: *Evaluation of Evaporative Drivers and Hydrologic Influences using Energy and Water Budget Techniques at a Shallow Saline Lake in the Western Sandhills of Nebraska, USA*. Now Hydrologist, USGS – Urbana, IL.

Dr. Liyin Liang, Post-doctoral Research Associate (2011-2013, University of Nebraska-Lincoln). Now Senior Scientist at Landcare Research, New Zealand

Undergraduate:

Meredith Emery (B.A. Studio Art, Honors, 2020). Now Beinecke Scholar.

Anayancy Estacio-Manning (B.A. Global Studies, 2020). Now Graduate School Penn State.

Maribel Herrera (B.A. Geography, B.A. Environmental Studies, 2020)

Megan Raisle (B.A. Geography, 2020)

Chloe Schneider (B.A. Geography, B.S. Environmental Science, 2020). Now Intern at NASA

Nehemiah Stewart (B.S. Chemistry, B.S. Math, 2021), Now M.D./Ph.D. students at UNC-Chapel Hill

William Hamilton (B.S. Environmental Sci., minor in Computer Sci., graduated with Highest Honors 2019). Now USGS Helena, MT.

Sarah McQueen (B.S. Biology, graduated with Honors 2019). Now M.D. student

Rhyan Stone (B.S. Environmental Science. 2019). Now Environmental Specialist, Texas Commission on Environmental Quality

Emily Browning (B.S. in Public Health 2018) graduated with Honors. Undergraduate Honors Thesis: *Rainfall Effects on Water Quality in a Tropical Semi-Arid Island Environment*. Now Fulbright Scholar, Spain

Rebecca Chaisson (B.A. Geography. 2018). Morehead-Cain Scholar

Haley Mosey (B.S. Environmental Science, B.A. Geography. 2018).
Undergraduate Honors Thesis Title: *Impacts of Extreme Flooding on Hydrologic Connectivity and Water Quality in the Atlantic Coastal Plain*. Now Project Executive at Wine Intelligence

Erin Vanderjeugd (B.S. Environmental Science. 2016). Now research assistant at Woods Hole Oceanographic Institution

Catherine Schumak (B.S. Environmental Science. 2016, graduated with Honors).
Undergraduate Honors Thesis Title: *Spatiotemporal Variability and Composition of Atmospheric Carbon Dioxide and Methane in the Piedmont of North Carolina*. Now Ph.D. student, Colorado State University

Adam Gold (B.S. Environmental Science. 2015). Now Post-doctoral Researcher UNC-Chapel Hill

Morgan Betcher (B.S. Environmental Science. 2014, Honors).
Undergraduate Honors Thesis Title: *Aquatic Invertebrates of an Andean Cloud Forest*

Catie Finkenbinder (B.S. Natural Resources. 2014, University of Nebraska-Lincoln).
Now Ph.D. student Oregon State.

William Avery (B.S. Natural Resources. 2013, University of Nebraska-Lincoln).
Now Ph.D. student UW-Madison

Thesis Committee Member:

University of North Carolina at Chapel Hill

Karly Schmidt (Ph.D., expected 2021)
Madelyn Percy (Ph.D., graduated 2020)
Tong Qiu (Ph.D., graduated 2020)
Kaylyn Gootman (Ph.D., graduated 2019)
Chris Jones (Ph.D., graduated 2017)
John Lovette (M.S., graduated 2017)
Johnathan Sugg (Ph.D., graduated 2017)
Matthew Dannenberg (Ph.D., graduated 2017)
Charles Scaife (M.S., graduated 2016)

University of Nebraska-Lincoln

Zhe Du (Ph.D., graduated 2016)
Karla Jarecke (M.S., graduated 2014)
Caitlin Weaver (M.S., graduated 2014)
Ryan Stutzman (M.S., graduated 2012)
Kristen Skolaut (M.S., graduated 2012)
Katie Van Cleave (M.S., graduated 2012)

University of Colorado-Boulder

Katherine Powell (Ph.D., graduated 2016)
John Knowles (Ph.D., graduated 2015)

Universidad Nacional de Colombia – Bogotá

Carmen Alicia Parrado (Ph.D., graduated 2016)

GRANTS AND CONTRACTS

- 2021-22 Office of the Executive Vice Chancellor and Provost, University of North Carolina at Chapel Hill: *W.N. Reynolds Senior Faculty Research and Scholarly Leave*
\$64,000 (direct). Lead PI. Effort: 5.5%
- 2020-23 National Science Foundation *Collaborative Research: Conceptualizing and quantifying the function of beaver dams and stormwater ponds on the hydrology and biogeochemistry of urban streams* **\$598,356 (\$102,464 to UNC). Co-PI with Sarah Ledford (Georgia State) as PI. Effort: 5.55%**
- 2019-24 National Science Foundation *CAREER: The Role of Small Wetland Connectivity in Controlling Greenhouse Gas Emissions and Downstream Carbon Fluxes from Headwater Tropical Streams*
\$630,000 (\$434,520 direct). Sole PI. Effort: 11.1%
Supplement 2021-2024, **\$21,094. Sole PI. Effort: 11.1%**
- 2018-21 National Science Foundation *MRI: Acquisition of a Soil Greenhouse Gas Flux Measurement System to Support Research in Coastal Ecology and Sustainable Agriculture* **\$230,597 (\$0 to UNC). Senior Personnel with Tom O'Halloran (Clemson) as PI. Effort: 2.78%**
- 2018-19 National Science Foundation *RAPID: Collaborative Research: Assessing Chemical and Microbiological Contamination in Environmental Waters in Eastern North Carolina after Hurricane Florence* **\$149,997 (\$105,511 direct). Co-PI with Angela Harris (NCSU) as PI. Effort: 5.55%**

- 2017-20 State of North Carolina: *Effects of Land Use and Stream Network Dynamics on Water Quality*
\$259,000 (direct). Lead PI. Effort: 11.1%
- 2016-17 National Science Foundation *RAPID: Impacts of Extreme Flooding on Hydrologic Connectivity and Water Quality in the Atlantic Coastal Plain, and Implications for Vulnerable Populations*
\$58,851 (\$46,707 direct). Lead PI. Effort: 11.1%
- 2015-16 Office of the Executive Vice Chancellor and Provost, University of North Carolina at Chapel Hill: *Junior Faculty Development Award*
\$7,500 (direct). Lead PI. Effort: 5.5%
- 2015-16 Department of Geography, University of North Carolina at Chapel Hill: *Seed Research Award*
\$6,000 (direct). Lead PI. Effort: 5.5%
- 2012-16 The World Bank: *Water Quality and Sustainability of Andean Paramos: Drinking Water for Millions of People in Latin America*
\$162,000 (\$145,800 direct). Lead PI. Effort: 11.1%
- 2012-16 U.S. Department of Agriculture: *Soil Carbon Transformation in Heterogeneous Landscapes: Implications for Soil, Water, and Air*
\$500,000 (\$412,438 direct) Lead PI. Effort: 11.1%
- 2012-13 National Science Foundation *Using a Drought-Enhanced Nitrate Pulse to Understand Stream N Retention and Processing*
\$197,568 (\$180,665 direct). Co-PI with Amy Burgin as Lead PI. Effort: 11.1%
- 2012-13 University of Nebraska-Lincoln, Agricultural Research Division (ARD) Grant-in-Aid of Research:
\$20,000 (direct). Lead PI. Effort: 11.1%
- 2011-12 University of Nebraska, Layman Award
\$10,000 (direct). Lead PI. Effort: 11.1%
- 2011-12 National Science Foundation EPSCoR: *Effects of Topographic and Hydrologic Network Complexity on Land-Atmosphere Exchange of CO₂ in Subalpine Forests*
\$40,283 (direct). Lead PI. Effort: 11.1%
- 2009-11 National Center for Atmospheric Research, UCAR Advanced Study Program Post-doctoral Fellowship
\$110,000 (direct). Grant declined for alternate funding.
- 2008-10 National Science Foundation Doctoral Dissertation Improvement Grant: *Hydrologic-Carbon Cycle Linkages in a Subalpine Catchment* (DEB-0807272)
\$12,000 (direct). Lead PI. Effort: 11.1%
- 2007-08 American Geophysical Union (Hydrology Section) – Horton Research Grant: *Hydrologic Controls on the Soil Temperature – Soil CO₂ Relationship*
\$11,000 (direct). Lead PI. Effort: 11.1%
- 2007 National Science Foundation EPSCoR, Grant to attend AmeriFlux Meeting, Boulder, CO
\$650 (direct). Lead PI

GRANTS, AWARDS, & HONORS BY CURRENT OR FORMER STUDENTS (TOTAL \$743,400)

- | | | |
|------|--|---|
| 2021 | Katie McMahon
Katie McMahon | NSF Graduate Research Fellowship (3 years) – \$141,000
Peter J. Robinson Award for Best Research Paper in Environmental Geography– \$50 |
| | Katie McMahon
Kriddie Whitmore
Kriddie Whitmore
Tessa Davis | Highest Honors
Community Engagement Fellowship, Center for Public Service– \$2000
Dean’s Graduate Fellowship– \$5000
Excellence in Environmental Research Award, E3P |

	Elizabeth Farquhar	Highest Honors
2020	Megan Raisle	Chancellor's Award: McNally Award for Excellence in Geography– \$500 Phi Beta Kappa
	Emily Browning	Fulbright U.S. Student Program (1 yr in Spain)
	Tessa Davis	Phi Beta Kappa
	Chloe Schneider	Peter J. Robinson Award for Best Research Paper in Environmental Geography– \$50
2019	Meredith Emery	Beinecke Scholarship– \$34,000 John Hope Franklin Student Documentary Award– \$5,000
2018	Sarah Schmitt	Kenan Graduate Fellow, College of Arts & Sciences– \$7,500 Royster Society of Fellows, Thomas S. and Helen Borda Royster and Snowden and Elspeth Merck Henry Dissertation Fellowship – \$21,000
	Haley Moser	J. Doug Eyre Award for Outstanding Leadership in Geography– \$250 Peter J. Robinson Award for Best Research Paper in Environmental Geography– \$50
2017	Angélica Gómez	Faculty For the Future Fellowship – \$50,000
2016	Sarah Schmitt	Critical Zone Observatory SAVI Program Grant (2016) – \$7,000
	Angélica Gómez	Fulbright Fellowship (Stipend and tuition) – \$106,000
2015	Madelyn Percy	NSF Graduate Research Fellowship (3 years) – \$141,000 Geological Society of America, Student Research Grant – \$2,500 Hydrogeology Division Award, Geological Society of America – \$0 Critical Zone Observatory SAVI Program Grant – \$6,000
	Sarah Schmitt	National Geographic Young Explorer – \$5,000 CUAHSI Pathfinder Fellowship – \$5,000 Geological Society of America, Student Research Grant – \$2,500 Outstanding Mention for “Exceptional Merit in Conception and Presentation”, Geological Society of America – \$0 NCAR ASP Graduate Student Visiting Award – \$1,750
	Catherine Schumak	Tom and Elizabeth Long Excellence Research Award – \$500
2014	Sarah Schmitt	NSF Graduate Research Fellowship (3 years) – \$141,000
2013	William Avery	Undergraduate Creative Activities and Research Experiences – \$2,400
	Catie Finkenbiner	Undergraduate Creative Activities and Research Experiences – \$2,000
2013	William Avery	Undergraduate Creative Activities and Research Experiences – \$2,000
	Colin Peake	NSF National Center for Airborne Laser Mapping Seed Grant for airborne LIDAR data collection in the Nebraska Sandhills – \$40,000 (approx.)
2012	Juan Jaimes	Geological Society of America, Student Research Grant – \$2,400
	Tracie Lorenzo	University of Nebraska Chancellor's Fellowship – \$10,000

MEMBERSHIPS

American Geophysical Union (Hydrology Section); Ecological Society of America (Biogeosciences Section);
Geological Society of America (Southeast Section)

SERVICE

University:

- Member, University Committee on Distinguished Professorship Awards, UNC (2021-2022)
- Chair, Diversity Committee, Department of Geography, UNC (2020 – 2021)
- Member, University Committee on Teaching Awards, UNC (2019 – 2020)
- Member, Information Committee, Department of Geography, UNC (2019 – 2020)
- Member, Faculty Search Committee, Department of Geography, UNC (2019)
- Member, Faculty Search Committee, E3P, UNC (2018 – 2019)
- Member, Undergraduate Committee, Department of Geography, UNC (2018 – 2019)
- Member, Diversity Committee, Department of Geography, UNC (2018 – 2020)
- Member, Annual Review and Merit Committee, Department of Geography, UNC (2015 – 2016)
- Member, Faculty Search Committee, Department of Geography, UNC (2016)
- Member, Faculty Search Committee, Department of Geography, UNC (2016)
- Chair, Colloquium Committee, Department of Geography, UNC (Spring 2015)
- Member, Faculty Search Committee, Department of Geography, UNC (2014)
- Member, Diversity Committee, Department of Geography, UNC (2013 – 2014)
- Member, Faculty Search Committee, School of Natural Resources, UNL (2012 – 2013)
- Member, Sustainability Committee, School of Natural Resources, UNL (2011 – 2012)
- Member, Safety and Facilities Committee, School of Natural Resources, UNL (2011 – 2013)

Community:

- Member, American Geophysical Union Bridge Program Advisory Committee
- Member, Critical Zone Collaborative Network Advisory Committee
- Chair, AGU Ecohydrology Technical Committee (2020-2022)
- Deputy Chair, AGU Ecohydrology Technical Committee (2017-2019)
- Member, Planning Committee Chapman Conference on Tropical Ecohydrology, American Geophysical Union (June, 2016)

Editorial:

- Associate Editor, *Journal of Geophysical Research - Biogeosciences* (2013 – 2018)

Panelist:

- National Science Foundation, Graduate Research Fellowship Program (2021)
- National Science Foundation, Division of Environmental Biology (2020)
- U.S. Department of Energy, Office of Biological & Environmental Research (2019)
- National Science Foundation, Division of Earth Sciences (2019)
- National Science Foundation, Graduate Research Fellowship Program (2018)
- National Science Foundation, Graduate Research Fellowship Program (2016)
- National Science Foundation, Long Term Ecological Research (2016)
- U.S. Department of Agriculture, National Institute of Food and Agriculture (2012)
- National Science Foundation, Division of Environmental Biology (2012, 2011)
- National Science Foundation, Long Term Ecological Research Project (Site Reviewer 2011)

Proposal Reviewer:

- Consortium of Universities for the Advancement of Hydrologic Sciences Inc. (CUAHSI), Pathfinder Fellowship Proposals (2016)
- National Science Foundation (2021, 2020, 2019, 2018, 2016, 2014, 2013, 2012, 2011)

Other Professional Reviews, Including Journals:

- **Book:** Christopherson and Birkeland, *Geosystems: An Introduction to Physical Geography*, Tenth Edition
- **Book:** Dingman, S. Lawrence, *Physical Hydrology*, Third Edition
- Dissertation Initiative for the Advancement of Climate Change Research (DISCCRS) Scholars, Supported by NSF and NASA. (2014, 2013, 2012)
- Reviewer for Layman Foundation Competitive Grant Program – University of Nebraska-Lincoln
- *African Journal of Agricultural Research* – 2012(1)
- *Agricultural and Forest Meteorology* – 2018(1), 2017(1), 2015(1), 2014(1), 2009(1)
- *Arctic, Antarctic, and Alpine Research* – 2011(1)
- *Biogeochemistry* – 2015(1), 2014(2), 2013(1), 2010(1)
- *Biogeosciences* – 2011(1), 2010(1), 2009(1)
- *Catena* – 2011(1)
- *Ecohydrology* – 2012(1), 2009(1)
- *Ecological Indicators* – 2011(1)
- *Geophysical Research Letters* 2014(1), 2017(1), 2019(1)
- *Global Change Biology* – 2010(2)
- *Hydrology and Earth System Sciences* – 2013(1), 2012(1)
- *Hydrological Processes* – 2010(1)
- *Hydrological Sciences Journal* – 2011(1)
- *Journal of Arid Environments* – 2016(1)
- *Journal of Geophysical Research – Biogeosciences* – 2013(1), 2011(2), 2010(1)
- *Journal of Hydrometeorology* – 2009(1)
- *Plant and Soil* – 2010(1)
- *PLOS ONE* – 2012 (1)
- *Soil Biology and Biochemistry* – 2009 (1)
- *Soil Science Society of America Journal* – 2013 (1)
- *Water Resources Research* – 2019(2), 2011(2), 2010(1)

University and Community Lectures:

- University of Vermont, Rubenstein School of Environment and Natural Resources. May, 2022
- Arizona State University, Center for Ecosystem Science and Society. April, 2022
- North Carolina State University, Center for Geospatial Analytics. September, 2021
- Morehead Planetarium, Agriculture, Wildlife, & Conservation in the Galapagos Islands. April, 2021
- University of New Hampshire, Department of Natural Resources and the Environment. October, 2020
- Museum of Life & Science, Changing Climate: Building a Climate-Conscious NC. September, 2020
- American Council on Education/AIEA Internationalization Collaborative. February, 2020
- University of South Carolina, Department of Geography. January, 2020
- Perry Harrison Elementary School, Parent-Teacher Association. November 2019
- World View's Latin America and North Carolina Seminar, March, 2019
- Virginia Tech, Department of Biological Systems Engineering. March, 2018
- University of San Francisco-Quito, College of Biological Sciences, Quito, Ecuador. February, 2018
- Duke University, Program in Ecology. October, 2017
- University of Virginia, Department of Environmental Sciences. November, 2016
- AGU Chapman Conference, Emerging Issues in Tropical Ecohydrology, Invited Speaker, June 2016
- Appalachian State University, Department of Geology. February, 2016
- Van Tuyl Lecture, Department of Geology and Geological Engineering, Colorado School of Mines, September 2015
- International Center for Tropical Agriculture (CIAT), Cali, Colombia. September 2015

- North Carolina State University, Department of Forestry and Environmental Resources, October 2014
- Tübingen University, Germany. Center for Applied Geosciences, July 2014
- KIT IMK-IFU, Germany. Invited Lecturer at the Mechanisms and Interactions of Climate Change in Mountain Regions (MICMOR) Summer School, July 21-30, 2014
- University of North Carolina at Chapel Hill, Curriculum for the Environment and Ecology, December 2013
- University of Washington, College of the Environment, April 2013
- University of North Carolina at Chapel Hill, Department of Geography, February 2013
- University of Iowa, Department of Geosciences, October 2012
- University of California, Berkeley, Department of Environmental Science, Policy, and Management, March 2012
- National University of Colombia, Department of Agronomy, July 2011
- Li-COR Biosciences, Lincoln, NE, December 2010
- University of Colorado, Department of Geography, November 2010
- North Carolina State University, Department of Forestry, October 2010
- Idaho State University, Department of Biological Sciences, March 2010
- University of Nebraska, School of Natural Resources, March 2010
- Boston University, Department of Geography, February 2009
- University of Colorado, Department of Civil, Environmental, and Architectural Engineering, January 2009

Session Convener:

- American Geophysical Union, Fall Meeting 2018: Beyond Ecosystem Boundaries: Integrating Terrestrial and Aquatic Processes to Advance Catchment Biogeoscience
- American Geophysical Union, Fall Meeting 2018: Ecohydrologic General Contributions
- American Geophysical Union, Fall Meeting 2015: Emerging Issues in Ecohydrology, Agricultural Systems, Land-use Change, and Climate Change in the Tropics
- American Geophysical Union, Fall Meeting 2014: Ecohydrology in a Changing Environment
- American Geophysical Union, Fall Meeting 2014: Enhancing Education in the Hydrologic Sciences
- American Geophysical Union, Fall Meeting 2014: Emerging Issues in Tropical Ecohydrology
- American Geophysical Union, Fall Meeting 2013: Ecohydrology in a Changing Environment
- American Geophysical Union, Fall Meeting 2011: Spatial Analysis of High-Resolution Remote Sensing for Hydrology, Ecology, and Biogeochemistry
- American Geophysical Union, Fall Meeting 2011: Riparian and Stream Network Processes Across Hydrologic Regimes
- American Geophysical Union, Fall Meeting 2010: Chemical and Isotopic Dimensions of Water – Ecosystems Interactions
- American Geophysical Union, Fall Meeting 2010: Regional Biosphere-Atmosphere Interactions in Complex Terrain: Processes and Feedbacks among Nutrients, Water, and Climate
- American Geophysical Union, Fall Meeting 2009: Tracers, Isotopes, and Other Biogeochemical Techniques in Ecohydrology
- American Geophysical Union, Fall Meeting 2008: Hydrologic Controls on Ecosystem Function
- American Geophysical Union, Fall Meeting 2007: Advances in Ecohydrology: Landscape-Scale Patterns and Processes

ADVISORS

Postdoctoral	Russell K. Monson (University of Colorado Boulder)
Ph.D.	Brian L. McGlynn (Montana State University)
M.S.	Jennifer King (U of Minnesota, now UC Santa Barbara)

B.S.

Carlos Macías (National University of Colombia)