

**Julianne E. Scamardo, Ph.D.**  
**Assistant Professor**  
Department of Watershed Sciences  
Utah State University  
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## **Education**

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2023      Ph.D. Geosciences – Fluvial Geomorphology, Colorado State University  
2019      M.S. Geosciences – Fluvial Geomorphology, Colorado State University  
2017      B.S. Environmental Science (Geology), The University of Texas at Austin

## **Appointments**

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2024-Present    Assistant Professor, Department of Watershed Sciences, Utah State University  
2023-2024      Postdoctoral Researcher, Department of Geography & Geoscience and the  
Cooperative Institute for Research to Operations in Hydrology (CIROH),  
University of Vermont  
2019-2023      NSF Graduate Research Fellow and Research Assistant, Department of  
Geosciences, Colorado State University  
2022            Visiting Research Fellow, School of Geography, Earth, and Atmospheric  
Sciences, The University of Melbourne, Australia  
2017-2019      Graduate Research Assistant, Colorado State University  
2017-2019      Researcher, Boulder County Parks and Open Spaces, Colorado  
2016-2017      Undergraduate Research Assistant, Jackson School of Geosciences, The  
University of Texas (Advisor: Dr. Wonsuck Kim)  
2015            National Science Foundation Research Experience for Undergraduates, Stroud  
Water Research Center & University of Delaware (Advisor: Dr. James Pizzuto)

## **Publications**

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### *Refereed journal articles and book chapters*

17. Ockelford, A., Wohl, E., Ruiz-Villanueva, V., et al. (including **Scamardo, J.**), 2024, Working with wood in rivers in the Western United States. *River Research and Applications*. DOI: 10.1002/rra.4331
16. Wohl, E., Rathburn, S., Dunn, S., Iskin, E., Katz, A., Marshall, A., Means-Brous, M., **Scamardo, J.**, Triantafyllou, S., and Uno, H., 2024, Geomorphic Context in Process-Based River Restoration. *River Research and Applications*. DOI: 10.1002/rra.4236.
15. **Scamardo, J.** and Wohl, E., 2023, Recognizing the Ephemeral Stream Floodplain: Identification and Importance of Flood Zones in Drylands. *Earth Surface Processes and Landforms*. DOI: 10.1002/esp.5754.
14. Kemper, J.T. and **Scamardo, J.**, 2023, Snow Avalanches as a Driver of Large Wood Dynamics in Mountain Streams. *Geophysical Research Letters* 50(24). DOI: 10.1029/2023GL106355.
13. Wohl, E., Marshall, A., **Scamardo, J.**, and Rathburn, S., 2023, Biogeomorphic processes, spatial heterogeneity, and river corridor resilience to stand-killing wildfire *in* Florsheim, J.L. O’Dowd, A.P., and Chin, A., eds., *Biogeomorphic Responses to Wildfire in Fluvial*

- Ecosystems: Geological Society of America Special Paper 562. DOI: 10.1130/2024.2562(08).
12. **Scamardo, J.**, Nichols, M., Rittenour, T., and Wohl, E., 2023, Drivers of geomorphic heterogeneity in unconfined non-perennial river corridors. *Journal of Geophysical Research: Earth Surface* 128, e2023JF007102. DOI: 10.1029/2023JF007102.
  11. Kemper, J.T., Rathburn, S.L., Mueller, E.R., Wohl, E., and **Scamardo, J.**, 2023, Geomorphic response of low-gradient, meandering and braided alluvial river channels to increased sediment supply. *Earth-Science Reviews* 241: 104429. DOI: 10.1016/j.earscirev.2023.104429.
  10. Wohl, E., Uno, H., Dunn, S.B., Kemper, J.T., Marshall, A., Means-Brous, M., **Scamardo, J.**, and Triantafyllou, S.P., 2023, Why wood should move in rivers. *River Research and Applications*. DOI: 10.1002/rra.4114.
  9. Wohl, E., and **Scamardo, J.**, 2022, Aufeis as a Major Forcing Mechanism for Channel Avulsion and Implications of Warming Climate. *Geophysical Research Letters* 49: e2022GL100246. DOI: 10.1029/2022GL100246.
  8. **Scamardo, J.**, Nelson, P.A., Nichols, M., and Wohl, E., 2022, Modeling the relative morphodynamic influence of vegetation and large wood in a dryland ephemeral stream, Arizona, USA. *Geomorphology* 417: 108444. DOI: 10.1016/j.geomorph.2022.108444
  7. Wohl, E. and **Scamardo, J.**, 2022, Patterns of organic matter accumulation in dryland river corridors of the southwestern United States. *Science of the Total Environment* 833: 155136. DOI: 10.1016/j.scitotenv.2022.155136.
  6. **Scamardo, J.**, Marshall, S., and Wohl, E., 2022, Estimating widespread beaver dam loss: Habitat decline and surface storage loss at a regional scale. *Ecosphere* 13(3): e3962. DOI: 10.1002/ecs2.3962
  5. Wohl, E., Marshall, A.E., **Scamardo, J.**, White, D., and Morrison, R.R., 2022, Biogeomorphic influences on river corridor resilience to wildfire disturbances in a mountain stream of the Southern Rockies, USA. *Science of the Total Environment* 820: 153321. DOI: 10.1016/j.scitotenv.2022.153321
  4. Lininger, K., **Scamardo, J.**, and Guiney, M., 2021, Floodplain large wood and organic matter jam formation after a large flood: investigating the influence of floodplain forest stand characteristics and river corridor morphology. *JGR Earth Surface* 126: e2020JF006011. DOI: 10.1029/2020JF006011
  3. Wohl, E., and **Scamardo, J.**, 2021, The resilience of logjams to floods. *Hydrological Processes* 35(1): e13970. DOI: 10.1002/hyp.13970
  2. **Scamardo, J.**, and Wohl, E., 2020, Sediment storage and shallow groundwater response to beaver dam analogues in the Colorado Front Range, USA. *River Research and Applications* 36(3): 398-409. DOI: 10.1002/rra.3592
  1. Wohl, E., Hinshaw, S., **Scamardo, J.**, and Gutierrez-Fonseca, P. 2019. Transient organic jams in Puerto Rican mountain streams after hurricanes. *River Research and Applications* 35(3): 280-289. DOI: 10.1002/rra.3405

*Manuscripts in review*

**Scamardo, J.**, Munger, W., Nauman, B., Wang, J., Loria, K., Leopold, S., Heggli, A., Huntly, N., Baker, M., and Meadow, A.M. (in review) *Restoring Endangered Streams: The Science,*

Practice, and Law of Instream Process-Based Restoration Amid Climate Change, *submitted to Rangeland Ecology and Management*.

Stegen, J., Burgin, A., Busch, M., et al (including **Scamardo, J.**) (in review) Reviews and Syntheses: Variable Inundation Across Earth's Terrestrial Ecosystems.

#### Non-refereed contributions

**Scamardo, J.**, 2023, Form and Function: Quantifying Geomorphic Heterogeneity and Drivers in Dryland Non-Perennial River Corridors. Doctoral Dissertation, Colorado State University, Fort Collins, CO, available online at <https://www.proquest.com/openview/6f58daa1bd05328c7d8040c3e6d14a6a/1?pq-origsite=gscholar&cbl=18750&diss=y>

**Scamardo, J.**, 2019, Rivers and Beaver-Related Restoration in Colorado. Master's Thesis, Colorado State University, Fort Collins, CO, available online at [https://mountainscholar.org/bitstream/handle/10217/199728/Scamardo\\_colostate\\_0053N\\_15511.pdf?sequence=1&isAllowed=y](https://mountainscholar.org/bitstream/handle/10217/199728/Scamardo_colostate_0053N_15511.pdf?sequence=1&isAllowed=y)

**Scamardo, J.** and Wohl, E., 2019, Assessing the Potential for Beaver Restoration and Likely Environmental Benefits. Boulder County Parks and Open Spaces Final Report, available online at <https://assets.bouldercounty.gov/wp-content/uploads/2019/03/beaver-restoration-potential.pdf>

#### **Awards and Honors**

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**Natural Resources Workforce Development Fellowship**, Southwest Climate Adaptation Science Center, 2021-2022

**Graduate Student Achievement Award**, CSU Graduate Student Showcase, 2021

**Early Career Spotlight**, AGU Earth and Planetary Surface Processes, 2021

**Thomas A. Jones Graduate Research Assistantship**, Colorado State University Warner College of Natural Resources, 2018

**Edward Warner Graduate Research Assistantship**, Colorado State University Warner College of Natural Resources, 2017

**Jackson School of Geosciences Valedictorian**, University of Texas at Austin, 2017

**Distinguished Honors Scholar**, University of Texas at Austin, 2015-2017

#### **Funding**

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**NSF**, Graduate Research Fellowship (\$147,000), 2019 – 2023

**CSU**, Vice President for Research Graduate Fellowship (\$4,000), 2022 – 2023

**CUAHSI**, Pathfinder Fellowship (\$5,000), 2022

**GSA**, Farouk El-Baz Student Research Award for Desert Studies (\$2,500), 2021

**GSA**, Awards for Geochronology Student Research (AGeS2) (\$8,987), 2021

**GSA**, Graduate Student Research Grant (\$1,850), 2020

**GSA**, John T. and Carol G. McGill Research Award (\$2,000), 2018

#### **Courses Taught**

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**Guest Lecturer**, University of Vermont

Fall 2023	Geomorphology (GEOL 3410), undergraduate level
<b>Teaching Assistant</b> , Colorado State University	
Spring 2021	Geomorphology Lab (GEOL 454), undergraduate level
Fall 2020	Introduction to Geology Lab (GEOL 121), undergraduate level
<b>Guest Lecturer</b> , Colorado State University	
Spring 2018 & Spring 2020	Geomorphology (GEOL 454), undergraduate level
Fall 2018	Fluvial Geomorphology (GEOL 652), graduate level

### **Professional Service, Activities, and Public Outreach**

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#### *University Service*

**Coordinator**, CIROH @ UVM Early Career Seminar Series, 2023-Present  
**Mentor**, CSU Department of Geosciences Graduate Mentoring Program, 2022  
**Graduate Student Member**, Department of Geosciences DEI Committee, 2021 – 2023  
**Graduate Representative**, University Technology Fee Advisory Board, 2021 – 2023  
**Secretary and Co-Founder**, CSU Geosciences Graduate Student Organization, 2021 – 2023  
**Geosciences Department Representative**, CSU Graduate Student Council, 2019 – 2023  
**Co-President**, CSU Graduate Student Council, 2021-2022  
**Graduate Representative**, Faculty Council Committee on Scholarship, Research, and Graduate Education, 2021 – 2022  
**Pod Member**, Unlearning Racism in the Geosciences (URGE), 2021  
**Graduate Student Member**, Warner College D&I in the Field Committee, 2019-2021  
**Vice President of Engagement**, CSU Graduate Student Council, 2020 – 2021  
**Outreach Committee Member**, Northern Colorado Graduate Women in Science, 2019 – 2021  
**Mentor**, CSU Department of Geosciences Undergraduate Mentoring Program, 2019

#### *Journal Referee*

Earth Surface Processes and Landforms (2022-Present)  
 Geomorphica (2024 – Present)  
 River Research and Applications (2020-Present)  
 Water Resources Research (2023-Present)

#### *Conference Sessions Organized*

2023 Co-convener and chair, Geological Society of America Connects, 207 – D1:  
 Advances in Geomorphology and Quaternary Geology, Oral and Poster sessions  
 2022 Co-convener and chair, Geological Society of America Connects, 2 – T8: Non-  
 Perennial Streams and the Fluvial System, Oral and Poster sessions

#### *Science Communication and Outreach*

**Southwest Climate Adaptation Science Center Southern Utah Science, Management, and Policy Exchange**, 2023, Presented summary of process-based stream restoration research

in the southwestern U.S. to federal researchers and land managers, private consultants, and non-profit organization leaders.

**Montana Beaver Working Group**, 2022, Outlined potential analyses to support decision making for federal and state management agencies in Montana.

**Southwest Climate Adaptation Science Center Logan Science, Management, and Policy Exchange**, 2022, Presented summary of process-based stream restoration research and practices in the southwestern U.S. to community stakeholders and academics.

**Riverscapes Restoration Network**, 2020, Presentation to non-profit groups, consultants, and state employees across the Rocky Mountains on the efficacy of low-tech process-based restoration.

**Representative Joe Neguse**, 2019, Worked with cohort of graduate students to present on graduate student concerns regarding federal funding, environmental policy, and state-specific geoscientific issues.

**Front Range Teen Science Café**, 2018, Presentation to high school students across Northern Colorado on beavers, graduate school, and careers in geosciences

### **Invited Presentations & Seminars**

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2023 **University of Vermont**, CIROH Early Career Seminar Series  
**CUASHI Biennial Colloquium**, Session on Student-Centered Research  
**University of Nevada, Las Vegas**, Department of Geoscience Seminar  
**University of New Mexico**, Department of Earth and Planetary Sciences Seminar

### **Conference Presentations (Contributed)**

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**Scamardo, J.**, Lawson, K.S., Diehl, R., Underwood, K., Johnston, K., and Wemple, B., 2023, Investigating the impact of floodplain topography on flood attenuation in low-order catchments: poster presented at AGU Fall Meeting 2023, San Francisco, California, 11-15 December.

Lawson, K.S., Diehl, R.M., Underwood, K., **Scamardo, J.**, and Wemple, B., 2023, Functional Floodplain Classes Emerge from Regional Dataset of Hydraulically-Relevant Topographic Features: poster presented at AGU Fall Meeting 2023, San Francisco, California, 11-15 December.

**Scamardo, J.** and Wohl, E., 2023, Recognizing the Ephemeral Stream Floodplain: Identification and Importance of Flood Zones in Drylands: talk presented at GSA Connects 2023, Pittsburgh, Pennsylvania, 15-18 October.

**Scamardo, J.** and Wohl, E., 2023, Drivers of Geomorphic Heterogeneity in Non-Perennial River Corridors: poster presented at the Catchment Science Gordon Research Conference, Andover, New Hampshire, 18-23 June.

**Scamardo, J.**, Rutherford, I., and Wohl, E., 2022, The incorporation of large wood into channels following a significant forest blowdown. Abstract EP45A-04: talk presented at AGU Fall Meeting 2022, Chicago, Illinois, 12-16 December.

**Scamardo, J.** and Wohl, E., 2022, Patterns and Drivers of Floodplain Heterogeneity in Dryland Ephemeral Watersheds across the Southwest USA. Abstract 2-9: talk presented at GSA Connects 2022, Denver, Colorado, 9-12 October.

- Kemper, J., and **Scamardo, J.**, 2022, The impact of snow avalanches on wood delivery and geomorphic change in montane streams. Abstract 181-1: talk presented at GSA Connects 2022, Denver, Colorado, 9-12 October.
- Wohl, E., and **Scamardo, J.**, 2022, Aufeis as a forcing mechanism for channel avulsion and implications of warming climate. Abstract 2-6: talk presented at GSA Connects 2022, Denver, Colorado, 9-12 October.
- Scamardo, J.** and Wohl, E., 2022, The abundance and importance of wood in dryland ephemeral streams across the southwestern United States. Abstract EGU22-390: talk presented at 2022 General Assembly, EGU, Vienna, Austria, 23-27 May.
- Scamardo, J.**, Wohl, E., and Nichols, M., 2021, Morphodynamic Influence of Large Wood in a Dryland Ephemeral Stream, Arizona, USA. Abstract EP55B-1121: poster presented at 2021 Fall Meeting, AGU, New Orleans, La., 13-17 Dec.
- Scamardo, J.**, and Wohl, E., 2021, Quantifying the role of wood in shaping Southwestern dryland Streams: poster presented at Colorado State University Graduate Student Showcase, Fort Collins, CO, 5 – 8 Nov.
- Guiney, M.R., Lininger, K.B., and **Scamardo, J.**, 2020, The influence of disturbance and reach-scale geomorphology on depositional patterns and loads of large downed wood in semi-arid rivers, Colorado, USA. Abstract EP052-0016: poster presented at 2020 Fall Meeting, AGU, Virtual.
- Wohl, E., **Scamardo, J.**, and Iskin, E., 2020, Large wood and stream longitudinal disconnectivity. Abstract EGU20-10411: talk presented at 2020 General Assembly, EGU, Virtual.
- Reynolds, L., Jaeger, K., Lyons, K., Weiting, C., **Scamardo, J.**, Cooper, D., Wohl, E., and Rathburn, S., 2020, Floodplain Plant Community and Stream Channel Response More than Ten Years Following Tamarisk and Russian Olive Removal in Canyon De Chelly National Monument, Arizona: talk presented at 2020 Annual Conference, Rivers Edge West, Virtual.
- Scamardo, J.** and Wohl, E., 2019, The Geomorphic Effect of Beaver Dam Analogs in the Colorado Front Range: poster presented at 2019 Binghamton Geomorphology Symposium, Denver, CO, 12-13 Oct.
- Scamardo, J.** and Wohl, E., 2018, Geomorphic Channel Response to Beaver Dam Analogs in the Colorado Front Range. Abstract H210 –411541: poster presented at 2018 Fall Meeting, AGU, Washington D.C., 10—14 Dec.
- Wohl, E., Hinshaw, S., **Scamardo, J.**, and Gutierrez-Fonseca, P., 2018, Transient Organic Jams in Puerto Rican Mountain Streams After Hurricanes. Abstract EP41D-2712: poster presented at 2018 Fall Meeting, AGU, Washington D.C., 10 – 14 Dec.
- Scamardo, J.**, and Kim, W., 2016, How Do River Meanders Change with Sea Level Rise and Fall? Abstract EP53G-08: talk presented at 2016 Fall Meeting, AGU, San Francisco, CA, 12 – 16 Dec.
- Jones, C., Hsia, S., **Scamardo, J.**, Nguyen, K., and Papendieck, A., 2016, Longhorn Stream Team: An Experiential Environmental Science and Engineering Learning Community. Abstract W1A-1: talk presented at Mid Years Engineering Experience Conference, College Station, TX, 30 – 31 March.

**Scamardo, J.**, Pizzuto, J., Skalak, K., and Benthem, A., 2015, The Age and Origin of Scallop Floodplain Benches from Difficult Run, Fairfax County, VA. Abstract EP33A-1061: poster presented at 2015 Fall Meeting, AGU, San Francisco, CA, 14 – 18 Dec.

### **Professional Affiliations**

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Geological Society of America (GSA)

American Geophysical Union (AGU)

Earth Science Women's Network (ESWN)

Phi Beta Kappa Honors Society

### **Media Coverage**

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Canyonlands Research Center, 2021, Studying the Desert's Elusive Flows. The Sundial.

Available at: [https://canyonlandsresearchcenter.org/news/newletters/2021\\_Sundial\\_Newsletter.pdf](https://canyonlandsresearchcenter.org/news/newletters/2021_Sundial_Newsletter.pdf)

Cottle, S., Daley, L., Feltes, A., and Medeiros, J., 2020, When in Drought, Call the Beavers. The Water Desk. Available at: <https://waterdesk.org/2020/01/video-story-when-in-drought-call-the-beavers/>

Runyon, L., 2018, The Bountiful Benefits of Bringing Back the Beavers. NPR Weekend Edition. Available at: <https://www.npr.org/2018/06/24/620402681/the-bountiful-benefits-of-bringing-back-the-beavers>