

Lauren C. Giggy, Ph.D.

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EDUCATION

Ph.D., Earth Sciences

Sept. 2019- March 2025

University of California, Santa Cruz

Dissertation: Hydrology and Biogeochemistry of Non-Perennial Streams in California

B.Sc., Geology

Aug. 2014- Dec. 2017

Fort Lewis College

WORK EXPERIENCE

Research Scientists – ECOSHEDS Lab

October 2025 – Present

University of New Hampshire, remote from San Luis Obispo County, CA

Consultant II – Geosciences Team

March 2025 – October 2025

Sespe Consulting, Inc, Ventura, CA

Graduate Student Researcher

Sept. 2019 - March 2025

Watershed Hydrology Research Lab, University of California, Santa Cruz

Graduate Student Researcher

June 2019 – Sept. 2019

California Heartbeat Initiative, University of California, Natural Reserve System

Hydrologist, NAGT Intern

May 2018- Aug. 2018

USGS Pennsylvania Water Science Center, New Cumberland, PA

Undergraduate Student Researcher

Dec. 2016 – Dec. 2017

Fort Lewis College, Durango, CO

Fluid Minerals and GIS Intern

June 2016 – Aug. 2016

Bureau of Land Management, Durango, CO

TEACHING EXPERIENCE

Graduate Student Instructor

University of California, Santa Cruz

1) Introduction to Teaching

Sept. 2023 - Dec. 2023

Graduate Teaching Assistant

University of California, Santa Cruz

1) Geologic Hazards

Sept. 2022 - Dec. 2022

2) California Geology

Sept. 2021 - Dec. 2021

3) California Geology (Online)

Sept. 2020 - Dec. 2020

4) Water in the Environment (Online)

Mar. 2020 - June. 2020

Teaching Assistant – Undergraduate Geology Field Camp

PUBLICATIONS

Giggy, L., Price, A., Zimmer, M. (2026). Changes in Dominant Streamflow Drivers as Network-Scale Flow Regime Shifts from Intermittent to Ephemeral Across a Multi-Year Drought. *Hydrological Processes* 40 (2): e70413. <https://doi.org/10.1002/hyp.70413>.

Barling, N., Callahan, R., Donaldson, A., Huang, M., Rempe, D., Shahid, S., Smith, D., **Giggy, L.,** and Zimmer, M. (2025). Greater dynamic storage on a pole-facing hillslope due to aspect-related variations in vegetation water use. *Geophysical Research Letters*, 52, e2025GL115750. <http://dx.doi.org/10.1029/2025GL115750>

Giggy, L., Barton, R., Wagner, S., & Zimmer, M. (2025). Distinct streamflow and nutrient export dynamics in wildfire-impacted nonperennial streams in central coastal California. *Journal of Geophysical Research: Biogeosciences*. 130, e2024JG008553. <https://doi.org/10.1029/2024JG008553>

Giggy, L., and Zimmer, M. (2025). Lithologic controls on streamflow behavior, carbon export, and concentration-discharge relationships in two adjacent headwater streams. *Water Resources Research*. 61, e2024WR037086. <https://doi.org/10.1029/2024WR037086>.

Giggy, L., and Gianniny, G. (2018). An investigation of the hydrogeochemistry and sources of salinity in the Dolores River, Southwestern Colorado. *Metamorphosis*, v. Spring 2018. [Undergraduate Thesis]

PRESENTATIONS

Giggy, L., Zimmer, M. (2025), The Role of Lithology on Concentration–Discharge Relationships and Carbon Export in Two Adjacent Headwater Catchments. Invited talk at the Santa Clara Valley Water Engineers Society, 16 September.

Giggy, L., Price, A., Zimmer, M. (2025), Drivers of surface water response and persistence in a non-perennial stream network. Salmonid Restoration Federation Conference, 1 May.

Giggy, L. (2025), Distinct post-fire solute export from two adjacent headwater catchments. UC Natural Reserve Mildred E. Mathias Research Symposium, 7 March.

Giggy, L., Zimmer, M. (2023), Lithologic controls on water and solute export in two adjacent headwater catchments, presented at American Geophysical Union Annual Meeting, 12 December. (Highlighted Poster)

Giggy, L. (2023), High and Dry: Understanding streamflow behavior and solute export in upland intermittent and ephemeral streams, Invited talk presented at California State University East Bay Hydrology Seminar, 25 September.

Giggy, L., Thomas, A., Lopez Barretto, B. (2023), Post wildfire water quality and implications for land management in CA, presented at the Secure Water Future Policy Pitch Presentations, 22 September.

Giggy, L., Zimmer, M. (2023), Climatic and lithologic controls on streamflow activation and persistence in a central coastal California headwater catchment, presented at the Eighth Interagency Conference on Research in the Watersheds, 7 June.

Zimmer, M., **Giggy, L.** (2022). Controls on stream network expansion and contraction in a semi-arid headwater catchment, presented at the Joint Aquatic Sciences Meeting, 20 May.

Giggy, L., Zimmer, M., Barton, R., Wagner, S., Willits, P., Finnegan, N., Donaldson, A. (2021), Watershed structural controls on water, carbon, and nutrient export in fire-affected headwater streams, presented at American Geophysical Union Annual Meeting, 17 December.

Wagner, S., Barton, R., **Giggy, L.,** Willits, P., Zimmer, M. (2021) Linking carbon export to watershed hydrology enables an integrated view of biogeochemistry in fire-affected streams, presented at Society of Freshwater Science Annual Meeting, 24 May.

Giggy, L., Zimmer, M. (2020), Characteristics of surface water persistence in non-perennial stream networks, presented at 2020 Fall Meeting, American Geophysical Union, 1-17 Dec.

Giggy, L., Gianniny, G. (2017), Investigation of the Dolores Salt Anticline and Potential Evaporite Dissolution, Dolores River, SW Colorado, presented at 2017 Fall Meeting, Geologic Society of America, October.

AWARDS, GRANTS, AND FELLOWSHIPS

Chancellor's Dissertation Year Fellowship (\$10k) <i>University of California Santa Cruz</i>	2024
UC Water Academy Fellow- Wildfire and Water Edition <i>University of California, Secure Water Futures</i>	2023
College Skateboarding Education Foundation Scholar (\$1k) <i>College Skateboarding Education Foundation</i>	2023
Earth's Environment Fund Award (\$4k) <i>University of California, Santa Cruz</i>	2023
Mildred E. Mathias Graduate Student Research Grant (\$3k) <i>University of California Natural Reserve System</i>	2021
Outstanding Geology Student <i>Association for Women in Geosciences</i>	2018
Department of Geosciences' Outstanding Geology Student <i>Fort Lewis College</i>	2017
Field Method's "Rock Star" Award <i>Fort Lewis College</i>	2017
Undergraduate Research Grant (\$2k) <i>Fort Lewis College</i>	2017

MENTORING

Graduate Research Mentoring - Samantha Motz (Ph.D. Student) <i>University of California, Santa Cruz</i> Ongoing research: Stable Water Isotope-Aided SAS Functions Explain Hydrological Responses in Two Adjacent Non-Perennial Catchments	2024 – Present
Doris Duke Conservation Scholars – Marion Webber (Undergraduate) <i>University of California, Santa Cruz</i>	June 2021 – Aug. 2021

Poster: Hydrology, Geology, and Summer Plant Water Use at Blue Oak Ranch Reserve

GEODES Research Intern – Samuel Achonu (Undergraduate)

June 2020 – Dec. 2020

University of California, Santa Cruz

Stream Channel Geomorphology and Terrain Analysis of Blue Oak Ranch Reserve

OUTREACH, VOLUNTEER, AND SERVICE

Peer Reviewer: Water Resources Research, Earth System Science Data

July 2024 - Present

Contributor to California's 5th Climate Change Assessment: Central Coast

March 2025

Event Facilitator and Skateboard Instructor

Feb. 2020 – June 2024

Skate Like a Girl, SF Bay

Graduate/1st Year Undergraduate Mentor

Sept. 2022 – June 2023

University of California, Santa Cruz

GEOPATHS Grad/Undergrad Mentor

Jan. 2020 – May 2021

University of California, Santa Cruz