Brian Rogers

PhD Candidate Department of Earth System Science Stanford University

EDUCATION

- 2020-present: PhD Earth System Science, *Stanford University, Stanford, CA* Thesis Advisor: Kate Maher
- 2015-2019: BS Geological Engineering, Missouri University of Science and Technology, Rolla, MO

RESEARCH EXPERIENCE

2020-present: Department of Earth System Science, Stanford University Using reactive transport modeling and data science to quantify uncertainty in the efficacy and verifiability of enhanced weathering for carbon dioxide removal. 2022: Applied Mathematics and Plasma Physics, Los Alamos National Laboratory Tested the ability of a terrestrial simulator (Amanzi-ATS) to model agricultural tile drainage dynamics. 2019-2021: Earth and Environmental Sciences Area, Lawrence Berkeley National Laboratory Developed reactive transport simulations (MIN3P) of biogeochemical cycling hotspots within river corridors in the headwaters of the Upper Colorado River Basin Department of Geological Engineering, Missouri University of Science and Technology 2018-2020: Designed and executed a field study to distinguish between geogenic and anthropogenic sources of heavy metals in Missouri groundwater. 2018: Environmental Sciences Division, Argonne National Laboratory Designed an experiment to quantify denitrification rates in an agricultural system with bioenergy and traditional crops and performed field work to quantify nutrient uptake. 2016-2017: Department of Earth and Environmental Science, University of Pennsylvania Developed computational tools to process and interpret elemental and thermal data obtained from laboratory analysis of soil samples. 2016: Department of Civil and Environmental Engineering, Vanderbilt University Performed statistical analysis of household-level water consumption data for a sustainable living community in Colorado to support a simulation on community drought resilience.

PEER-REVIEWED PUBLICATIONS

(1) Babey, T., Perzan, Z., Pierce, S., Wang, L., **Rogers, B.,** Carroll, R., Bargar, J., Maher, K. (2024). Mountainous Floodplain Connectivity in Response to Hydrological Transitions. *Water Resources Research*.

(2) **Rogers, B.,** Newcomer, M.E., Raberg, J., Dwivedi, D., Steefel, C.I., Bouskill, N.J., Nico, P.S., Faybishenko, B, Fox, P.M., Conrad, M., Bill, M., Brodie, E., Arora, B., Dafflon, B., Williams, K.H., Hubbard, S.S. (2021). Modeling the impact of riparian hollows on river corridor nitrogen exports. *Frontiers in Water: Water and Critical Zone*. doi.org/10.3389/frwa.2021.590314

GRADUATE PROFESSIONAL ACTIVITIES

2024-2025:	Working Group Member, Enhanced Rock Weathering Methodology, Riverse
2023-2024:	Chair, Graduate Student Advisory Committee, Doerr School of Sustainability
	Delegate, United Nations Climate Change Conference (COP28), Dubai, UAE
	Working Group Member, ERW Foundations Document, Cascade Climate
	Reviewer, July 2024 CDR Prepurchase Applications, Frontier
	Reviewer, Nature Communications, Advances in Water Resources
2022-2023:	Member, Graduate Student Advisory Committee, Doerr School of Sustainability
2021-2022:	Member, Graduate Student Advisory Committee, Doerr School of Sustainability

Current professional affiliations: Geochemical Society, American Geophysical Union

GRADUATE AWARDS

2024-2026: Stanford Data Science Scholar 2020-2025: Stanford Graduate Fellow in Science and Engineering 2020-2024: Department of Energy Computational Science Graduate Fellow