

# MARYN A. SANDERS

University of Oregon  
Department of Earth Sciences  
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## EDUCATION

**University of Oregon**, Eugene, OR Jan. 2022 – present  
Ph.D. Candidate — Department of Earth Sciences  
*Advisor: Dr. Josh Roering*

**University of California, Berkeley**, Berkeley, CA May 2020  
B.A. — Honors and High Distinction in Geophysics  
*Thesis Advisor: Dr. William E. Dietrich*

**Relevant Skills:** acquisition and processing of drone-based and terrestrial lidar data, field surveys and mapping of landslides, Python programming, QGIS, Adobe Creative Suite, Microsoft Office, MATLAB, ArcGIS Pro, backpacking long distances with 40+ lbs, installing infrasound and seismic sensors

**Relevant coursework:** *Digital Elevation Modeling, Slope and Embankment Design, Introduction to Hydrology, Hillslope Geomorphology, Fluvial Geomorphology, Soil Biogeochemistry, Continuum Mechanics, Fluid Mechanics, Mineralogy, Structural Geology, Sedimentology and Stratigraphy, Differential Equations, Linear Algebra, Multivariable Calculus, General Chemistry, Calculus-based Physics*

## WORK EXPERIENCE

**National Science Foundation RAPID Facility, University of Washington, Seattle** May 2024 – May 2025  
*Graduate Research Fellow Recipient*  
Trained by the UW RAPID facility on collection and processing of drone-based lidar data, and traveled with RAPID equipment to Southeast Alaska to recent rockfall deposits

**Eel River Critical Zone Observatory, University of California, Berkeley** Sept. 2019 – Aug. 2021  
*Staff Lab Assistant — Dr. William Hahm and Dr. Daniella Rempe*  
Collected and analyzed monthly stable isotope samples and monitored groundwater in field sites across Northern California

## HONORS AND AWARDS

2022- University of Oregon Department of Earth Sciences Graduate Scholarship  
2024  
2021 National Science Foundation Graduate Research Fellowship  
2020 University of California, Berkeley, Earth and Planetary Sciences Departmental Citation  
2020 Highest Distinction in General Scholarship at UC Berkeley  
2019 UC Berkeley Earth and Planetary Sciences Charles H. Ramsden Endowed Scholarship  
2019 UC Berkeley Summer Undergraduate Research Fellowship

## PUBLICATIONS

**Sanders, M.A.**, Roering, J. J., Burns, W. J., Calhoun, N. C., Leshchinsky, B.A., *In review*, The influence of wildfire on debris flows in a landscape of persistent disequilibrium: Columbia River Gorge, OR, USA

Burns, W.J., Calhoun, N.C., Roering, J., **Sanders, M.A.**, Leshchinsky, B., DeSousa, D., Olsen, M., Rengers, F., Mathews, N., (2025). Multitemporal Lidar Analysis of Pre and Post Eagle Creek Fire Debris Flows, Western

Columbia River Gorge, Hood River and Multnomah Counties, Oregon, Oregon Department of Geology and Mineral Industries, Special Paper 55.

Hahm, W.J., Dralle, D.N., **Sanders M.A.**, Bryk, A.B., Fauria, K.E., Huang, M.H., Hudson-Rasmussen, B., Nelson, M.D., Pedrazas, M.A., Schmidt, L., Whiting, J., Dietrich, W.E., Rempe, D.M. (2022), Bedrock water storage dynamics under extreme drought consequences for plant water availability, recharge, and runoff, *Water Resources Research*, doi.org/10.1029/2021WR031781.

**Sanders, M.A.**, Jamison, H.X., Rempe, D.M., Hahm, W.J., Dietrich, W.E., 2021, What is the stable isotope moisture record generated in soils and shallow saprolite across a seasonal wet-up and dry-down cycle in a Mediterranean climate?: American Geophysical Union Fall Meeting, Abstract No. H55Y-1025.

**Sanders, M.A.**, Nelson, M.D., Bryk, A.B., Huang, M., Fauria, K.X., Dietrich, W.E., 2019, The role of small shallow landslides in landscape evolution as revealed by high resolution differential lidar surveys and field mapping: American Geophysical Union Fall Meeting, Abstract No. EP43D-2399.

## PRESENTATIONS

### Oral

**Sanders, M.A.** and Sousa, D. (*invited*), *Controls on post-fire debris flows in Oregon*: United States Geological Survey Landslide Hazards Seminar Series, November 20, 2024

**Sanders, M.A.**, Roering, J.J., Burns, W.J., Leshchinsky, B.A., 2024, *Exploring controls on debris flow volumes in steep, forested landscapes of the Columbia River Gorge, OR*: American Geophysical Union Fall Meeting, Abstract No. NH31B-04

### Poster

**Sanders, M.A.**, Roering, J. J., Burns, W. J., Calhoun, N. X., Leshchinsky, B.X., 2023, *Geologic and Wildfire Controls on Debris Flow Hazard in Steep Volcanic Catchments*: American Geophysical Union Fall Meeting, Abstract No. EP23D-1964

**Sanders, M.A.**, Jamison, H.X., Rempe, D.M., Hahm, W.J., Dietrich, W.E., 2021, What is the stable isotope moisture record generated in soils and shallow saprolite across a seasonal wet-up and dry-down cycle in a Mediterranean climate?: American Geophysical Union Fall Meeting, Abstract No. H55Y-1025.

**Sanders, M.A.**, Nelson, M.D., Bryk, A.B., Huang, M., Fauria, K.X., Dietrich, W.E., 2019, What is the stable isotope moisture record generated in soils and shallow saprolite across a seasonal wet-up and dry-down cycle in a Mediterranean climate?: American Geophysical Union Fall Meeting, Abstract No. EP43D-2399.

## SERVICE AND OUTREACH

AGU Earth and Planetary Surface Processes General Poster Session Convener	Dec. 2024
AGU Fall Meeting OSPA Volunteer Judge	2023, 2024
American Society for Photogrammetry and Remote Sensing Treasurer	Sept. 2023 – June 2024
Member of Inclusivity and Gender Diversity in Earth and Atmospheric Sciences at UO	Jan. 2022 – current
Science Program to Inspire Creativity and Excellence Volunteer	August 2023
Mad Duck Science Friday Volunteer	April 2023
IgDEAS undergraduate mentor	Jan – May 2022
Co-president of the Geological Association at Berkeley	Aug. 2019 – May 2020