Wilson Sauthoff (he/him)

Ph.D. Candidate, Colorado School of Mines Hydrologic Sciences & Engineering Program

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Contact Information

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Education

Hydrology Ph.D. (in progress, expected 2025)
Data Science M.Sc. (in progress, expected 2024)
Colorado School of Mines
Advisor: Dr. Matthew Siegfried, (8/2020–Present)

Ocean Sciences M.Sc.
University of California Santa Cruz
Advisors: Drs. Christina Ravelo & Matthew McCarthy, (9/2013–9/2016)

Environmental Science and Management B.Sc.
University of California Davis
Oceanography minor, Advisor: Dr. Tessa Hill, (9/2010–6/2013)

Peer-Reviewed Publications

Brault, E., Koch, P., McMahon, K., Broach, K., Rosenfield, A., **Sauthoff, W.**, Loeb, V., Arrigo, K., Smith, W. (2018). Carbon and nitrogen isoscapes in West Antarctica reflect oceanographic transitions. *Marine Ecology Press Series*. https://doi.org/10.3354/meps12524

Serrato Marks, G., LaVigne, M., Hill, T., **Sauthoff, W.**, Guilderson, T., Roark, B., Dunbar, R., Horner, T. (2017). Reproducible Ba/Ca variations recorded by northeast Pacific bamboo corals. *Paleoceanography and Paleoclimatology*. https://doi.org/10.1002/2017PA003178

Moffitt, S., Moffitt, R., **Sauthoff, W.**, Hewett, K., Davis, K., Hill, T. (2015) Paleoceanographic insights on recent oxygen minimum zone expansion: Lessons for modern oceanography. *PLOS ONE*. https://doi.org/10.1371/journal.pone.0115246

Other Publications

Siegfried, M., Schroeder, D., **Sauthoff, W.**, Smith, B. (2021) Investigating a large subglacial lake drainage in East Antarctica with ice-penetrating radar. *SEG Technical Program Expanded Abstracts*. https://doi.org/10.1190/segam2021-3582777.1

Ruck, K., Sheffield Guy, L., Chetty, S., French, N., Seefeldt, M., Carpenter, P., Frey, K., Griffith, P., Prior-Jones, M., **Sauthoff, W.** (Eds.). (2020). Polar Technology Conference 2020 Report. Arctic Research Consortium of the US (ARCUS). https://www.arcus.org/publications/31301

Isern, A., Burtler, N., Shanhun, F., **Sauthoff, W.** (Eds.) (2019). Report on International Ross Sea Region Collaboration and Coordination Workshop. Scientific Committee on Antarctic Research. https://www.scar.org/scar-news/pais-news/ross-sea-workshop-report/

Sauthoff, W., Ravelo, C., McCarthy, M. (2016). Nitrogen isotopes of amino acids in marine sediment: A burgeoning tool to assess organic matter quality and changes in supplied nitrate $\delta^{15}N$. M.Sc. thesis, University of California Santa Cruz. http://escholarship.org/uc/item/63r5v4zj

Sauthoff, W. (2013) Gulf of Alaska and California bamboo corals: A new archive of climate change. *Explorations: The UC Davis Undergraduate Research Journal*, Vol. 15. http://explorations.ucdavis.edu/2013/sauthoff_wilson.html

Selected Conference Presentations

CryoSat-2/ICESat-2 integrated time series and comparison of shoreline evolution in Antarctic active subglacial lakes (poster), 2022 AGU Fall Meeting Session C008, Chicago, IL (12/2022)

ICESat-2-extended time series of subglacial volume fluxes using time-variable shorelines of Antarctic active subglacial lakes (talk), Ice, Cloud and Land Elevation Satellite-2 Science Symposium 2022, Austin, TX (10/2022)

Variable shorelines of Antarctic active subglacial lakes reveal large underestimates of subglacial volume fluxes (poster), 2022 GSA Connects Session T107, Denver, CO (10/2022) https://doi.org/10.1130/abs/2022AM-383750

Refined time series of Antarctic active subglacial lakes: New multimission volume flux estimates using evolving shorelines (talk), 2022 WAIS Workshop, Estes Park, CO (9/2022)

Antarctic active subglacial lake shoreline migration and novel features of ice height anomaly (talk), AGU Frontiers in Hydrology Meeting, San Juan, PR (6/2022)

Antarctic active subglacial lake shoreline migration and novel features of ice height anomaly (talk), Spring 2022 Ice, Cloud and Land Elevation Satellite-2 Science Team Meeting, Boulder, CO (5/2022)

Observing connected subglacial lake drainage at Slessor Glacier, East Antarctica, using ICESat-2 laser altimetry (poster), 2021 WAIS Workshop, Sterling, VA (9/2021)

Workshop Participation

Participant, Joint IAPSO/IACS Commission on Ice-Ocean Interactions Online workshop, virtual (10/2022)

Participant, CLIVAR Sources, Pathways and ImpaCts of frEsh water in northern and soUthern Polar oceans and seas (SPICE UP), virtual (9/2022)

Co-organizer, International Ross Sea Region Collaboration and Coordination Workshop, Scientific Committee on Antarctic Research (SCAR) XIII International Symposium on Antarctic Earth Sciences (ISAES) Conference, Incheon, Korea (7/2019)

NSF Representative, 2019 Next Generation of Polar Researchers Leadership Symposium, Catalina, CA (5/2019)

Awards

2022 WAIS Workshop Early Career Researcher Travel Grant, $280, (9/2022)
ESIP Request for Machine Learning Tutorials Grant (Project Partner), $5,000, (7-12/2022)
Mines Hydrological Science & Engineer Student Leadership Award, $400, (7/2022)
2021 WAIS Workshop Early Career Researcher Travel Grant, $651, (9/2021)
Mines Hydrological Science & Engineer Student Leadership Award, $220 (5/2021)
NSF Antarctic Service Medal, (03/2017)
Graduate Student Association Travel Grant, $288, (5/2015)
Myers Oceanographic Trust Grant, $1100, (4/2015)
Friends of Long Marine Lab Grant, $950, (1/2015)
PADI Foundation Grant, $1685, (9/2013)
Provost's Undergraduate Fellowship, $894, (12/2011)

Mentoring

Colorado School of Mines
Venezia Follingstad, undergraduate student (2022)
Kayla Hubbard, M.Sc. student, (2021), now National Science Foundation science assistant

University of California Santa Cruz
Natalia Spritzer, Science Internship Program high school intern, (2015)
Sami Chen, undergraduate lab assistant, (2014-2015), now Ph.D. student at Stanford
Nicolette Chiem, undergraduate CalTeach intern, (2014-2015)
Linda Pineda, undergraduate researcher, (2015-2016)

Teaching Experience

Colorado School of Mines
Teaching Assistant
Applications of Remote Sensing (Geophysics 470/570), 1/2022-5/2022

University of California Santa Cruz
Teaching Assistant
Ecology & Society (Environmental Studies 100L), 1/2016-3/2016
Microbiology (Microbiology & Environmental Toxicology 119), 9/2015-12/2015
Our Changing Planet (Oceans 80B), 9/2014–12/2014, 4/2014–6/2014

University of California Davis
Laboratory Teaching Assistant, Mathematics and Science Teaching Program for biological science laboratory (BIS 2A-CL), 1/2012–3/2012
Biological Sciences Tutor, Student Academic Success Center, 6/2011–12/2011
Instructor, Biological Sciences supplemental course (BIS 98), 4/2011–6/2011

Professional Experience

National Science Foundation Office of Polar Programs Alexandria, Virginia
Science Assistant, Facilitated merit-based review of scientific proposals for funding consideration; Performed proposal and award data analysis to assess trends in metrics including institution parameters, proposing researcher demographics, etc. to achieve portfolio balance and broader impacts; Wrote internal documentation surrounding funding decisions; Project management of special initiatives to increase stakeholder engagement; Executive Secretary to Executive Management Board of cross-agency management partners of the U.S. Antarctic Program, (3/2018–8/2020)

Pacific Architects & Engineers McMurdo Station, Antarctica
Various roles, Coordinated site assessments, remediation, monitoring, and training activities at primary logistical hub and remote field camps; Ensured compliance with regulatory policies pertaining to environmental protection and waste management observing the Antarctic Treaty; Collected and analyzed environmental samples; Maintained GIS and GPS records; Authored technical reports; Ensured timely, safe, and effective passenger and courier movements at remote research station and airfields; Dispatched passenger and crew ground movements, (7/2017–2/2018)

Monterey Bay Aquarium Research Institute Moss Landing, California
Ocean Chemistry Intern, Researched deep-sea oil leaks using laser Raman spectroscopy to model environmental fate of oil pollution and methane seeps; Coded data reduction program; Mobilized materials for fieldwork, (6-9/2013)

Sacramento Air Quality Management District Sacramento, California
Mobile Sources Intern, Implemented incentive program oversight; Analyzed air quality surveys; Prepared technical documents including grant final reports; Organized public outreach efforts, (6/2012-6/2013)