

GERMÁN D. SILVA, Ph.D.

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EDUCATION

- Ph.D., Geography, University of California, Santa Barbara** 2025
Interdisciplinary Ph.D. Emphasis: Certificate in College and University Teaching
Committee: Jennifer King (Co-Chair), Dar Roberts (Co-Chair), Ian Walker, Kristin Byrd
Dissertation: "Investigating Inferential Relationships Between Soil Salinity and Plant Traits for Coastal Wetland Monitoring Applications"
- M.A., Geography, University of California, Santa Barbara** 2021
Committee: Jennifer King (Co-Chair), Dar Roberts (Co-Chair), Joe McFadden
Thesis: "The Influence of the Montecito Debris Flows on Landcover in Carpinteria Salt Marsh"
- B.A., Geography, California State University, Stanislaus, *Summa Cum Laude*** 2019
Areas of Concentration: Physical/Environmental Geography and Geospatial Technology
Minor: Environmental and Resource Studies
Thesis: "Effect of California's Drought on Pickleweed Vigor in a Californian Wetland: A Remote Sensing Approach"

PROFESSIONAL POSITIONS

- Graduate Research Fellow, University of California, Santa Barbara** Sept. 2019 – Sept. 2025
Graduate Teaching Associate, University of California, Santa Barbara Aug. 2024 – Sept. 2024
Summer Research Fellow, NASA/CalTech Jet Propulsion Laboratory June 2023 – Sept. 2023
Graduate Teaching Assistant, University of California, Santa Barbara Sept. 2021 – Dec. 2021
Campus Cartographer, California State University, Stanislaus June 2017 – Aug. 2019

PUBLICATIONS

- Silva, G.D.** "Leveraging ChatGPT as a tool for teaching AI and climate media literacy" *California Geography* **In Revision**
- Silva, G.D.**, Roberts, D.A., Byrd, K.B., Chadwick, K.D., Walker, I.J., and King, J.Y. "Using imaging spectroscopy and elevation in machine learning to estimate soil salinity in intermittently tidal wetlands." *Ecosphere* 16 (8): e70356. **Aug. 2025**
<https://doi.org/10.1002/ecs2.70356>
- Chadwick KD, and many coauthors including **Silva, G.D.** "Unlocking ecological insights from subseasonal visible-to-shortwave infrared imaging spectroscopy: The SBG High Frequency Time Series (SHIFT) campaign." *Ecosphere* 16 (3). **Mar. 2025**
<https://doi.org/10.1002/ecs2.70194>
- Silva, G.**, Roberts, D., McFadden, J., King, J., "Shifts in Salt Marsh Vegetation Landcover Following Debris Flow Deposition." *Remote Sensing* 14(12):2819. **June 2022**
<https://doi.org/10.3390/rs14122819>

GUEST LECTURES AND PEDAGOGICAL EXPERIENCE

- University of California, Santa Barbara**
Instructor of Record
- GEOG W8 Intro to Global Warming** Aug. 2024 – Sept. 2024
Teaching Assistant
- GEOG 176A Intro to Geographic Information Systems** Sept. 2021 – Dec. 2021
Guest Lectures
- GIS Applications for Planning at CalPoly SLO, "Using Raster Data to Estimate Wetland Soil Salinity"** Fall 2025

Physical Geology at Moorpark College, "Wetlands and Resilience"	Spring 2024
<i>Pedagogical Training</i>	
Certificate in College and University Teaching	Sept. 2025
Certificate in Inclusive Teaching	Mar. 2025
Summer Teaching Institute for Associates (STIA)	Sept. 2024
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GRANTS & FELLOWSHIPS	
Eugene Cota-Robles Fellow, <i>UC Santa Barbara Graduate Division</i>	2019 – 2025
UCSB Associated Students Coastal Fund, \$6515.60	2023
Graduate Research Fellow, <i>National Science Foundation</i>	2019 – 2022
Ronald E. McNair Scholars Program, <i>California State University, Stanislaus</i>	2018 – 2019
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MENTORSHIP EXPERIENCE	
<i>Graduate Student Peer Mentor, University of California, Santa Barbara</i>	
Sebastian Alvarez (2024 – Present), Wenxin Yang (2024 – Present), Xue Yan (2024 – Present), Sarah Payne (2023 – Present), My-Thu Tran (2023 – 2024)	
<i>Undergraduate Students, University of California, Santa Barbara (* Indicates independent research project)</i>	
Kathryn Kolb* (2023 – Present), Danae Stathatos* (2024 – 2025), Lacy Shifflette (2024), Damian Padilla (2024), Aidan Flynn (2024), Abby Nestor (2024), Evelyn Tsang (2024), Marian Walker* (2021 – 2024), Ruiming Song (2022), Ella Phillips (2022), Brianna Lee (2022), Madi Arndt (2022), Chenjia Liu (2022)	
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PRESENTATIONS	
<i>"Leveraging ChatGPT as a tool for teaching AI and climate literacy"</i>	2025
Paper, California Geographical Society	
<i>"Field and Model Implications for Estimation of Wetland Soil Salinity with Hyperspectral Imagery"</i>	2024
Paper, Association of Pacific Coast Geographers	
<i>"Integrating Imaging Spectroscopy and Elevation in Machine Learning for Soil Salinity Estimation in Coastal Wetlands"</i>	2024
Paper, Ecological Society of America Annual Meeting	
<i>"Elevating Remotely Sensed Data to Estimate Wetland Soil Salinity"</i>	2024
Paper, California Geographical Society Conference	
<i>"Remote Predictors of Soil Salinity in an Intermittently Tidal Wetland"</i>	2023
Poster, American Geophysical Union Annual Conference	
<i>"Shifts in Salt Marsh Vegetation Landcover Following Debris Flow Deposition"</i>	2022
Paper, European spatial data for Coastal and Marine Remote Sensing	
<i>"Change Detection in Carpinteria Salt Marsh Following the Montecito Debris Flow"</i>	2021
Paper, California Geographical Society Conference	
<i>"Using Remotely Sensed Data to Map Extent of Debris in a Californian Salt Marsh"</i>	2020
Poster, National oSTEM Conference	
<i>"Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach"</i>	2019
Paper, 33 rd Annual Student Research Competition at CSU Stanislaus	
<i>"Effect of California's Drought on Pickleweed Health in Salinas River National Wildlife Refuge: A Remote Sensing Approach"</i>	2018
Poster, Association of Pacific Coast Geographers	
<i>"Did the California Drought Affect Geomorphology and Ecological Succession on the Tuolumne River"</i>	2018
Poster, California Geographical Society	
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SERVICE	
<i>University of California, Santa Barbara</i>	
Geography Grad Student Peer Mentor	2022 – Present
S. California Student Representative, California Geographical Society	2022 – Present

Faculty Meeting Student Rep., Department of Geography	2022 – 2024
Exploratorium After Dark: Pride in Our Work Guest Speaker	2022
Outreach Committee, Department of Geography	2021 – 2022
oSTEM Co-President	2021 – 2022
oSTEM Graduate Student Mentor	2021 – 2022
oSTEM Graduate Student Liaison	2020 – 2021
Search Committee, Graduate Student Representative	2020
Geography Awareness Week Presenter	2019
Geography Student Representative, Graduate Student Association	2019 – 2020

MEMBERSHIPS

American Geophysical Union; American Association of Geographers; American Association for the Advancement of Science; Ecological Society of America; Coastal and Estuarine Research Federation; Out in Science, Technology, Engineering, and Mathematics; California Estuarine Research Society; Association of Pacific Coast Geographers; California Geographical Society

AWARDS & HONORS

Department of Geography, UC Santa Barbara

David S. Simonett Memorial Award for Service (2025)

California Geographical Society

1st place Tom McKnight Graduate Paper Award (2025; 2024), Geosystems Award (2021)

Association of Pacific Coast Geographers

Award for an Outstanding Paper (2024), Geosystems Award for Applied/Physical Geography (2023)

Ladies of Landsat

Ladies of Landsat Manuscript Highlight (Nov. 2022)