

# GERMÁN D. SILVA

Ph.D. Candidate | Department of Geography

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## EDUCATION

**Ph.D., Geography, University of California, Santa Barbara** exp. Dec 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"

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## 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

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## PUBLICATIONS

**Silva, G.D.** "Leveraging ChatGPT as a tool for teaching AI and climate media literacy" *In Review*  
*California Geography*

**Silva, G.D.**, Roberts, D.A., Byrd, K.B., Chadwick, K.D., Walker, I.J., and King, J.Y. Aug. 2025  
"Using imaging spectroscopy and elevation in machine learning to estimate  
soil salinity in intermittently tidal wetlands." *Ecosphere* 16 (8): e70356.  
<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).  
<https://doi.org/10.1002/ecs2.70194> Mar. 2025

**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>

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## 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 Fall 2025

Estimate Wetland Soil Salinity"	
<b>Physical Geology at Moorpark College, "Wetlands and Resilience"</b>	<b>Spring 2024</b>
<i>Pedagogical Training</i>	
<b>Certificate in College and University Teaching</b>	<b>Sept. 2025</b>
<b>Certificate in Inclusive Teaching</b>	<b>Mar. 2025</b>
<b>Summer Teaching Institute for Associates (STIA)</b>	<b>Sept. 2024</b>

**GRANTS & FELLOWSHIPS**

Eugene Cota-Robles Fellow, <i>UC Santa Barbara Graduate Division</i>	<b>2019 – 2025</b>
UCSB Associated Students Coastal Fund, \$6515.60	<b>2023</b>
Graduate Research Fellow, <i>National Science Foundation</i>	<b>2019 – 2022</b>
Ronald E. McNair Scholars Program, <i>California State University, Stanislaus</i>	<b>2018 – 2019</b>

**MENTORSHIP EXPERIENCE**

*Graduate Student Peer Mentor, University of California, Santa Barbara*  
 Sebastian Alvarez (2024 – Present), Wenxin Yang (2024 – Present), Xue Yan (2024 – Present), Sarah Payne (2023 – Present), My-Thu Tran (2023 – 2024)

*Undergraduate Students, University of California, Santa Barbara (\* Indicates independent research project)*

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)

**PRESENTATIONS**

"Leveraging ChatGPT as a tool for teaching AI and climate literacy"	<b>2025</b>
Paper, California Geographical Society	
"Field and Model Implications for Estimation of Wetland Soil Salinity with Hyperspectral Imagery"	<b>2024</b>
Paper, Association of Pacific Coast Geographers	
"Integrating Imaging Spectroscopy and Elevation in Machine Learning for Soil Salinity Estimation in Coastal Wetlands"	<b>2024</b>
Paper, Ecological Society of America Annual Meeting	
"Elevating Remotely Sensed Data to Estimate Wetland Soil Salinity"	<b>2024</b>
Paper, California Geographical Society Conference	
"Remote Predictors of Soil Salinity in an Intermittently Tidal Wetland"	<b>2023</b>
Poster, American Geophysical Union Annual Conference	
"Shifts in Salt Marsh Vegetation Landcover Following Debris Flow Deposition"	<b>2022</b>
Paper, European spatial data for Coastal and Marine Remote Sensing	
"Change Detection in Carpinteria Salt Marsh Following the Montecito Debris Flow"	<b>2021</b>
Paper, California Geographical Society Conference	
"Using Remotely Sensed Data to Map Extent of Debris in a Californian Salt Marsh"	<b>2020</b>
Poster, National oSTEM Conference	
"Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach"	<b>2019</b>
Paper, 33 <sup>rd</sup> Annual Student Research Competition at CSU Stanislaus	
"Effect of California's Drought on Pickleweed Health in Salinas River National Wildlife Refuge: A Remote Sensing Approach"	<b>2018</b>
Poster, Association of Pacific Coast Geographers	
"Did the California Drought Affect Geomorphology and Ecological Succession on the Tuolumne River"	<b>2018</b>
Poster, California Geographical Society	

**SERVICE**

<i>University of California, Santa Barbara</i>	
Geography Grad Student Peer Mentor	<b>2022 – Present</b>
S. California Student Representative, California Geographical Society	<b>2022 – Present</b>
Faculty Meeting Student Rep., Department of Geography	<b>2022 – 2024</b>
Exploratorium After Dark: Pride in Our Work Guest Speaker	<b>2022</b>
Outreach Committee, Department of Geography	<b>2021 – 2022</b>
oSTEM Co-President	<b>2021 – 2022</b>
oSTEM Graduate Student Mentor	<b>2021 – 2022</b>
oSTEM Graduate Student Liaison	<b>2020 – 2021</b>
Search Committee, Graduate Student Representative	<b>2020</b>
Geography Awareness Week Presenter	<b>2019</b>
Geography Student Representative, Graduate Student Association	<b>2019 – 2020</b>

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**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

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**AWARDS & HONORS***Department of Geography, UC Santa Barbara*

David S. Simonett Memorial Award for Service (2025)

*California Geographical Society*

1<sup>st</sup> 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 (2022)