

# GERMÁN D. SILVA, Ph.D.

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## EDUCATION

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| <b>Ph.D., Geography, University of California, Santa Barbara</b>   | <b>2025</b> |
| 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" |             |
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| <b>M.A., Geography, University of California, Santa Barbara</b>  | <b>2021</b> |
| 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"   |             |
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| <b>B.A., Geography, California State University, Stanislaus, Summa Cum Laude</b>   | <b>2019</b> |
| 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

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

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## PUBLICATIONS

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| <b>Silva, G.D.</b> "Leveraging ChatGPT as a tool for teaching AI and climate media literacy" <i>California Geography</i>   | <b>In Revision</b> |
| <b>Silva, G.D.</b> , 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." <i>Ecosphere</i> 16 (8): e70356. <a href="https://doi.org/10.1002/ecs2.70356">https://doi.org/10.1002/ecs2.70356</a> | <b>Aug. 2025</b>   |
| Chadwick KD, and many coauthors including <b>Silva, G.D.</b> "Unlocking ecological insights from subseasonal visible-to-shortwave infrared imaging spectroscopy: The SBG High Frequency Time Series (SHIFT) campaign." <i>Ecosphere</i> 16 (3). <a href="https://doi.org/10.1002/ecs2.70194">https://doi.org/10.1002/ecs2.70194</a>          | <b>Mar. 2025</b>   |
| <b>Silva, G.</b> , Roberts, D., McFadden, J., King, J., "Shifts in Salt Marsh Vegetation Landcover Following Debris Flow Deposition." <i>Remote Sensing</i> 14(12):2819. <a href="https://doi.org/10.3390/rs14122819">https://doi.org/10.3390/rs14122819</a>   | <b>June 2022</b>   |

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## GUEST LECTURES AND PEDAGOGICAL EXPERIENCE

**University of California, Santa Barbara**

*Instructor of Record*

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| <b>GEOG W8 Intro to Global Warming</b> | <b>Aug. 2024 – Sept. 2024</b> |
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*Teaching Assistant*

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| <b>GEOG 176A Intro to Geographic Information Systems</b> | <b>Sept. 2021 – Dec. 2021</b> |
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*Guest Lectures*

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| <b>GIS Applications for Planning at CalPoly SLO</b> , "Using Raster Data to Estimate Wetland Soil Salinity" | <b>Fall 2025</b> |
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| <b>Physical Geography 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**

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|---|--------------------|
| 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**

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| <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> |

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| 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 (Nov. 2022)