

GERMÁN D. SILVA

Pronouns: They/Them/Theirs | Ph.D. Candidate | Department of Geography
University of California Santa Barbara, Ellison Hall 5803, Santa Barbara, CA | german.silva@geog.ucsb.edu

EDUCATION

Ph.D., Geography, University of California, Santa Barbara **Expected Dec. 2025**

Committee: Jennifer King (Co-Chair), Dar Roberts (Co-Chair), Ian Walker, Kristin Byrd
Research Interests: Wetland ecology, coastal restoration, salinity and plant dynamics, remote sensing, greenhouse experimentation
Dissertation: TBD

M.A., Geography, University of California, Santa Barbara **Aug. 2021**

Committee: Jennifer King (Co-Chair), Dar Roberts (Co-Chair), Joe McFadden
Research Interests: Wetland ecology, remote sensing, ecological disturbance
Thesis: *"The Influence of the Montecito Debris Flows on Landcover in Carpinteria Salt Marsh"*

B.A., Geography, California State University, Stanislaus, Summa Cum Laude **May 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

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|---|--------------------------------|
| Graduate Research Fellow, University of California, Santa Barbara | Sept. 2019 – Present |
| 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 – August 2019 |

TEACHING AND PEDAGOGICAL EXPERIENCE

Instructor of Record

GEOG W8 Intro to Global Warming **Aug. 2024 – Sept. 2024**
University of California, Santa Barbara

Course provided students with an overview of global warming and climate change processes. Course focused on developing critical thinking and writing skills related to climate related topics from the physics of climate change to social, economic, and environmental impacts of climate change. Assignments included guided article discussions, AI and climate literacy, and personal reflection of climate change.

Teaching Assistant

GEOG 176A Intro to Geographic Information Systems **Sept. 2021 – Dec. 2021**
University of California, Santa Barbara

Course provided students with an introductory overview of the theory and techniques of geographic information systems. As a teaching associate, I provided supplementary lectures of weekly topics, led weekly computer labs, and assisted students with GIS project design and execution for final projects.

Pedagogical Training

Certificate in College and University Teaching **Expected Dec. 2025**
University of California, Santa Barbara

The UCSB Certificate in College and University Teaching (CCUT) is designed for students who wish to demonstrate superior competence and experience in teaching at the university or college level. Certificate requirements include completion or attainment of several teaching-related skills and experiences culminating in independent instruction

of an entire course with the support of a UCSB faculty mentor. Requirements include development of course materials, the completion of an evidence-based pedagogical project, analysis of student evaluations, and more.

Certificate in Inclusive Teaching

Mar. 2025

University of California, Santa Barbara

The Certificate in Inclusive Teaching (CIT) is designed for UCSB graduate students and postdocs, to help them foster inclusive classrooms, effectively mentor a diverse student body, and enhance their professional development. Students are required to attend and engage in workshops from the following categories: Course Design, Instruction, Mentorship & Student Support, Professional Development.

Summer Teaching Institute for Associates (STIA)

Sept. 2024

University of California, Santa Barbara

The UCSB Summer Teaching Institute for Associates (STIA) supports graduate student instructors who have responsibility for an undergraduate course during Summer Sessions. The STIA Associate has completed a series of online assignments, cooperative peer review, pedagogical skills training activities, and mentoring meetings with a UC faculty member. Specific topics include: course planning; syllabus design and review, student learning outcomes, course and lecture planning, giving lectures, active learning, designing and grading assessments, giving and receiving feedback on learning, issues common to first time instructors, online teaching and learning.

RESEARCH EXPERIENCE

Surface Biology & Geology High Frequency Timeseries (SHIFT)

Feb. 2022 – Sep. 2022

University of California, Santa Barbara

Research field campaign to collect wetland plant traits and soil salinity samples as part of the NASA Jet Propulsion Lab's pathfinder campaign for future sensors.

GRANTS & FELLOWSHIPS

Eugene Cota-Robles Fellow, *UC Santa Barbara Graduate Division*

Sep 2019 – Present

UCSB Associated Students Coastal Fund, \$6515.60

June 2023

Graduate Research Fellow, *National Science Foundation*

Sep 2019 – Sep 2022

Ronald E. McNair Scholars Program, *California State University, Stanislaus*

Jan 2018 – May 2019

MENTORSHIP EXPERIENCE

Graduate Student Peer Mentor

Sebastian Alvarez, *University of California, Santa Barbara*, PhD student

Aug. 2024 – Present

Wenxin Yang, *University of California, Santa Barbara*, PhD student

Jan. 2024 – Present

Xue Yan, *University of California, Santa Barbara*, PhD student

Jan. 2024 – Present

Sarah Payne, *University of California, Santa Barbara*, PhD student

Oct. 2023 – Present

My-Thu Tran, *University of California, Santa Barbara*, PhD student

Oct. 2023 – May 2024

Undergraduate Students (Indicates independent research project)*

Danae Stathatos*, *University of California, Santa Barbara*

April 2024 – Present

Kathryn Kolb*, *University of California, Santa Barbara*

Oct. 2023 – Present

Lacy Shifflette, *University of California, Santa Barbara*

Oct. 2024 – Dec. 2024

Damian Padilla, *University of California, Santa Barbara*

Oct. 2024 – Dec. 2024

Aidan Flynn, *University of California, Santa Barbara*

Oct. 2024 – Dec. 2024

Abby Nestor, *University of California, Santa Barbara*

Oct. 2024 – Dec. 2024

Evelyn Tsang, *University of California, Santa Barbara*

April 2024 – Sept. 2024

Marian Walker*, *University of California, Santa Barbara*

Jan. 2021 – March 2024

Ruiming Song, *University of California, Santa Barbara*

April 2022 – Dec. 2022

Ella Phillips, *University of California, Santa Barbara*

April 2022 – June 2022

Brianna Lee, *University of California, Santa Barbara*
 Madi Arndt, *University of California, Santa Barbara*
 Chenjia Liu, *University of California, Santa Barbara*

April 2022 – June 2022
 April 2022 – June 2022
 Jan. 2022 – June 2022

PUBLICATIONS

- Silva, G.D.**, Roberts, D.A., Byrd, K.B., Chadwick, K.D., Walker, I.J., and King, J.Y. *In press*
 “Using imaging spectroscopy and elevation in machine learning to estimate soil salinity in intermittently tidal wetlands.” *Ecosphere*
- 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). **March 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>
- Silva, G.**, “Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach.” *Honors Program Journal of Exploratory Research* **Spring 2019**

PRESENTATIONS

- “Leveraging ChatGPT as a tool for teaching AI and climate literacy” **2025**
 Paper, California Geographical Society
- “Field and Model Implications for Estimation of Wetland Soil Salinity with Hyperspectral Imagery” **2024**
 Paper, Association of Pacific Coast Geographers
- “Integrating Imaging Spectroscopy and Elevation in Machine Learning for Soil Salinity Estimation in Coastal Wetlands” **2024**
 Paper, Ecological Society of America Annual Meeting
- “Elevating Remotely Sensed Data to Estimate Wetland Soil Salinity” **2024**
 Paper, California Geographical Society Conference
- “Remote Predictors of Soil Salinity in an Intermittently Tidal Wetland” **2023**
 Poster, American Geophysical Union Annual Conference
- “Shifts in Salt Marsh Vegetation Landcover Following Debris Flow Deposition” **2022**
 Paper, European spatial data for Coastal and Marine Remote Sensing
- “Change Detection in Carpinteria Salt Marsh Following the Montecito Debris Flow” **2021**
 Paper, California Geographical Society Conference
- “Using Remotely Sensed Data to Map Extent of Debris in a Californian Salt Marsh” **2020**
 Poster, National oSTEM Conference
- “Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach” **2019**
 Paper, 33rd 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” **2018**
 Poster, Association of Pacific Coast Geographers
- “Did the California Drought Affect Geomorphology and Ecological Succession on the Tuolumne River” **2018**
 Poster, California Geographical Society
- “CSU Stanislaus Exterior Lighting” **2017**
 Poster, CSU Stanislaus GIS Day
- “Distribution of Waterfowl at CSU Stanislaus in the Month of October” **2016**
 Poster, CSU Stanislaus GIS Day

SERVICE

University of California, Santa Barbara

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| Geography Grad Student Peer Mentor | 2022 – Present |
| S. California Student Representative, California Geographical Society | 2022 – Present |
| Faculty Committee, 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 |

California State University, Stanislaus

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| Campus Tree Interactive Web Map | 2018 |
| Showcased on the University Website , Turlock Journal , and CBS 13 Sacramento News | |
| GIS Intern for Merced County through Office of Service Learning | 2018 |
| Maps can be found here | |
| Student Representative, University Student Union Board of Directors | 2017 – 2019 |
| Student Representative, Committee for Sustainable Futures | 2017 – 2019 |
| Gamma Theta Upsilon Honor Society President | 2017 – 2019 |
| Social Media Coordinator, Geography Club | 2017 – 2019 |
| Volunteer, Geocaching activity at Science Day | 2017 |
| Director of Environment, Associated Students, Inc. Board of Directors | 2016 – 2017 |
| Treasurer, Geography Club | 2016 – 17/2018 – 2019 |

MEMBERSHIPS

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

GRANTS & FELLOWSHIPS

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

AWARDS & HONORS

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|---|--------------|
| 1 st place Tom McKnight Graduate Paper Award <i>California Geographical Society</i> | April 2025 |
| Tom McKnight and Joan Clemons Award for an Outstanding Paper <i>Association of Pacific Coast Geographers</i> | October 2024 |
| 1 st place Graduate Paper Presentation, <i>California Geographical Society</i> | April 2024 |

Geosystems Award for Applied/Physical Geography,
Association of Pacific Coast Geographers
UCSB AS Coastal Fund, \$6515.60
Ladies of Landsat Manuscript Highlight
Geosystems Award, *California Geographical Society*
First Place in 33rd Annual Student Research Competition
California State University Stanislaus
David Lantis Scholarship Award, *California Geographical Society*

October 2023

June 2023

November 2022

April 2021

March 2018

April 2018