

GERMÁN D. SILVA

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

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

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*

April 2022 – June 2022

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

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 review*
 “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*. *In press*
- 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

- “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

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

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

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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

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, <i>Association of Pacific Coast Geographers</i>	October 2023
UCSB AS Coastal Fund, \$6515.60	June 2023
Ladies of Landsat Manuscript Highlight	November 2022
Geosystems Award, <i>California Geographical Society</i>	April 2021
First Place in 33 rd Annual Student Research Competition	March 2018

California State University Stanislaus
David Lantis Scholarship Award, *California Geographical Society*

April 2018