

Sara A. Baguskas, Ph.D.

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EDUCATION

- 2014 Doctor of Philosophy (Ph.D.), Geography
Department of Geography, University of California – Santa Barbara
Dissertation: *Influence of coastal fog on the physiology and distribution of Bishop pine on Santa Cruz Island, California*
Advisor: Dr. Christopher J. Still, co-advisor: Dr. Jennifer Y. King,
- 2005 Bachelor of Arts (B.A.), Biology
Department of Biology, Lewis & Clark College, Portland, Oregon

ACADEMIC APPOINTMENTS

- 2017-present Assistant Professor (tenure-track), Department of Geography & Environment,
San Francisco State University
- 2015-2017 USDA-NIFA Postdoctoral Research Fellow, Department of Environmental
Studies, University of California – Santa Cruz
- 2014-2015 Postdoctoral Research Associate, Department of Environmental Science, Policy,
and Management, University of California – Berkeley

RESEARCH

Peer-reviewed publications (*Student author)

- Gomes SE*, **Baguskas SA** (2022) Coastal fog enhances physiological function of seaside daisies (*Erigeron glaucus*). *Western North American Naturalist*, 82(3)
- Baguskas SA**, Oliphant AO, Clemesha RE, Loik ME (2021) Water and light-use efficiency are enhanced under summer coastal fog in a California agricultural system. *Journal of Geophysical Research: Biogeosciences*, 126(5), e2020JG006193.
- Oliphant AO, **Baguskas SA**, Fernandez DM (2021) Impacts of low cloud and fog on surface radiation fluxes for ecosystems in coastal California. *Theoretical and Applied Climatology*, 144(1), 239-252.
- Baguskas SA**, Clemesha RE, Loik ME (2018) Coastal fog increases water-use efficiency of strawberry crops in a California agricultural system. *Agricultural and Forest Meteorology*, 252, 109-120.

Baguskas SA, King JY, Fischer DT, D'Antonio CM, Still CJ (2016) Impact of fog-drip versus fog immersion on the physiology of Bishop pine saplings. *Functional Plant Biology*, 44(3), 339-350.

Baguskas SA, Still CJ, Fischer DT, D'Antonio CM, King JY (2016) Coastal fog during summer drought improves the water status of sapling trees more than adult trees in a California pine forest. *Oecologia*, 181(1), 137-148.

Rastogi B, Williams AP, Fischer DT, Iacobellis S, McEachern K, Carvalho L, Jones C, **Baguskas SA**, Still CJ (2016) Spatial and temporal patterns of cloud cover and fog inundation in coastal California: Ecological implications. *Earth Interactions*, 20(15), 1-19.

Fischer DT, Still CJ, Ebert CM, **Baguskas SA**, Williams PA (2016) Fog drip maintains dry season ecological function in a California coastal pine forest. *Ecosphere*, 7(6).

Baguskas SA, Peterson SH, Bookhagen B, Still CJ (2014) Evaluating spatial patterns of drought-induced tree mortality in a coastal California pine forest. *Forest Ecology & Management*, 315, 43-53.

Selected peer-reviewed proceedings and presentations

(*SFSU graduate student author, **SFSU undergraduate student author)

2021 Martin C*, Simonin KA, Oliphant AJ, **Baguskas SA**. *Impacts of drought and restoration on montane meadow plant phenology and productivity*, Poster B35P-1607, American Geophysical Union Fall Meeting, New Orleans, LA [in-person]

Maciel C*, De Anda J*, Oliphant AJ, **Baguskas SA**. *Impact of compost tea and roe management on orchard greenhouse gas emissions and soil properties*, Poster GC45R-06, American Geophysical Union Fall Meeting, San Francisco, CA [Virtual]

2020 Sarah Gomes*. *Interactions between coastal fog and physiological function of Seaside daisies (Erigeron glaucus)*. Oral Presentation, *Western North American Naturalist: Symposium of Climate Change* [Virtual] (Mentored student presentation)

2019 **Baguskas SA**, Nanus L, Torregrosa A, Obedzinski M, Esch CC**, Salvador Sanchez Olsen T**. *Coastal fog events buffer stream temperature change in salmonid habitat in California*, Poster A33N-2905, American Geophysical Union Fall Meeting, San Francisco, CA

Physioc K*, Davis JD, **Baguskas SA**, Blesius L, Studwell A, LeBeau R*. *Scaling carbon fluxes from canopy to meadow-scale using remote sensing and field approaches*, Poster B11G-2342, American Geophysical Union Fall Meeting, San Francisco, CA

Mousavi S*, Oliphant AJ, **Baguskas SA**, Simonin KA. *Observations of Ecosystem CO₂ Exchanges in a Montane Meadow in Northern Sierra Nevada, California*, Poster EP51E-2149, American Geophysical Union Fall Meeting, San Francisco, CA

Simonin KA, **Baguskas SA**, Oliphant AJ, Davis JD, Nanus L, Blesius L, Physioc, K*, LeBeau R*, Mousavi S*, Studwell A, Clark Q. *Montane Meadow Restoration: Quantifying the Impact of Biogeomorphic Change on Ecosystem Function*, Poster EP51E-2145, American Geophysical Union Fall Meeting, San Francisco, CA

Hann RN*, Oliphant AJ, **Baguskas SA**. *Investigations of the internal variability in the urban heat island in San Jose, California*, Poster CG21H, American Geophysical Union Fall Meeting, San Francisco, CA

Invited Research Presentations

- 2019 *Coastal fog increases crop water use efficiency in a California agricultural system*, University of California—Merced, Dept. of Life and Environmental Sciences Seminar Series, Host: Dr. Jason Sexton
- 2018 *Ecological impacts of coastal fog: From farms to forests*, SFSU Dept. of Earth & Climate Science Department Seminar Series, Host: Dr. Jason Gurdak
- 2017 *Ecological impacts of coastal fog: From farms to forests*, SFSU Biology Department Seminar Series, Host: Dr. Kevin Simonin
- 2016 *Using coastal fog to support sustainable water use in a California Agricultural System*, Brown Bag Lunch series, Earth System Science Department, Lawrence Berkeley National Laboratory, Berkeley, CA, Host: Dr. Travis O'Brien

HONORS AND AWARDS

- 2013 Excellence in Teaching Award, Dept. of Geography, UC – Santa Barbara
- 2005 David Martinsen Award, Dept. of Biology, Lewis & Clark College

TEACHING

COURSES TAUGHT

San Francisco State University

Core courses

- GEOG160: Lecture & Lab (F17, F18, F19, F20, F21)
- GEOG316: Biogeography (F17, F18, S19, F19, F20, F21)
- GEOG690: Senior Seminar in Geography & Environmental Science (F22)
- GEOG810: Graduate seminar in Physical Geography (S19, S20, S22)

Other courses

- GEOG688: Geographic Internship (S19)
- GEOG699/899: Independent study (F18, S19, F19, S20, S21, F21, S22)
- GEOG785: College Teaching of Geography (S22, F22)
- GEOG896: Directed Reading in Geography (S20, F20)
- GEOG898: Master's Thesis Supervision (F20, S22)
- Graduate Teaching Assistant Support Program (F22)

University of California – Santa Cruz

- ENVS104A: Introduction to Environmental Field Methods

University of California – Santa Barbara

- ENVS111/GEOG149: California Channel Islands *Teaching Assistant (UCSB)*
 - ES166BT: Biotechnology, Food, and Agriculture
 - ES100: Environmental Ecology

- GEOG167: Biogeography
- GEOG195: Biogeochemistry
- ENVS111/GEOG149: California Channel Islands
- GEOG3B: Land, Water, Life

MENTORING

Masters Students

Thor Salvador Sanchez Olsen, M.A. in Geography, Resource Management and Environmental Planning, Fall 2020-present, *The buffering effects of microclimate on salmonid habitats during seasonal drought*, Committee members: Dr. Sara Baguskas (Chair), Dr. Leora Nanus [Thor will submit his PCE in Fall 2022]

Jessica Solis, M.A. in Geography, Resource Management and Environmental Planning, Fall 2022-present, *Investigating the impact of wildfire disturbance and microclimate on carbon and water fluxes in a coastal fog-influenced grassland ecosystem*, Committee members: Dr. Sara Baguskas (Chair), Dr. Andrew Oliphant, Dr. Jerry Davis

Ray LeBeau, M.S. in Geographic Information Science
Fall 2018-present, *Biogeomorphic Effects of Beaver Dam Analogs on Stream Systems in Red Clover Valley*, Committee members: Dr. Jerry Davis (Chair), Dr. Sara Baguskas

Sarah Gomes, M.A. in Geography, Resource Management and Environmental Planning
Impact of coastal fog on Green Hairstreak butterfly habitat in San Francisco, May 2022
Committee members: Dr. Sara Baguskas (Chair), Dr. Andrew Oliphant, Dr. Nancy Wilkinson, Dr. Laura Burkle (Montana State University)
Current position: Naturalist, Hayward Area Recreation and Park District

Chloe Martin, M.A. in Geography, Resource Management and Environmental Planning
Dynamics of climate, phenology, and productivity across a hydrologic gradient in a montane meadow, August 2022
Committee members: Dr. Sara Baguskas (Chair), Dr. Jerry Davis, Dr. Kevin Simonin
Current position: GIS Analyst, Institute for Geographic Information Science, SFSU

Patrick Ehhalt, M.A. in Geography, *Investigating variability in CO₂ fluxes in urban gardens, Oakland, California*, May 2022

Caroline Erikson, M.S. in Ecology, Evolution, and Conservation Biology, *Does leaf size predict herbaceous plant water use strategy?*, May 2022

Shamim Mousavi, M.A. in Geography, Resource Management and Environmental Planning
Observations of ecosystem CO₂ exchanges in a montane meadow in northern Sierra Nevada, California, December 2021

Bellal Naderi, M.S. in Ecology, Evolution, and Conservation Biology, *Circadian regulation of gas exchange in ferns*, December 2021

Reese Hann, M.A. in Geography, Resource Management and Environmental Planning

C.V. Baguskas October 2022

Investigations of the internal variability in the urban heat island in San Jose, California,
December 2020

Kang Xiong, M.S. in Geographic Information Science, *A Remote Sensing Analysis of Pitch
Canker in Bishop Pines at Point Reyes National Seashore*, January 2019

Undergraduate students

Natalie Mandez, *Evaluating soil properties along a hydrologic gradient in a montane meadow,
Sierra Nevada, California: Implications for plant water relations*, NSF-Research Experience
for Undergraduate Fellow: Sustainable Groundwater Resources, Summer 2022

Victoria Budke, *Root biomass distribution along a hydrologic gradient in a montane meadow,*
NSF-Research Experience for Undergraduate Fellow: Sustainable Groundwater Resources,
Summer 2022

Kenedi Edmunds, *Investigating plant-pollinator relationships in restored urban habitats.* Climate
Career Corps Intern, Enterprise for Youth, Summer 2022

Tenzin Dechen Santapau, *Analyzing spatial and temporal variability of stream temperature in
juvenile salmonid habitat*, SFSU, NSF-Research Experience for Undergraduate Fellow:
Sustainable Groundwater Resources, Summer 2021

AWARDS AND FORMAL RECOGNITION FOR TEACHING AND/OR ADVISING

- 2022 Certificate of Completion Quality Learning & Teaching, CEETL, SFSU
(for completing Online Teaching Lab, JEDI PIE, and Teaching Square)
- 2021 Certificate of Completion, Center for Equity and Excellence in Teaching and Learning
(CEETL) Teaching Square
- 2021 Certificate of Completion, Justice, Equity, Diversity and Inclusion Pedagogies
for Inclusive Excellence (PIE) Institute
- 2020 Certificate of Completion, Quality Learning & Teaching Online Teaching Lab
- 2018 Affordable Instructional Materials Award, Academic Technology, SFSU (\$750)
- 2018 Certificate of Completion, SFSU Evidence-based Teaching Institute, SEPAL
(29 July-1 August)
- 2017 Certificate of Completion, Academic Technology Summer Institute (8-10 August)

CURRICULAR IMPROVEMENTS & INNOVATIONS

Developed GTA Support Program	Spring 2022
Developed & implemented a new Graduate Meadow Reading Group	Fall 2018, Spring 2019
Participated in Small Group Instructional Feedback (CEETL)	Fall 2018

Invited Guest Lectures

- Summer Speaker Series for NSF-Research Experience for Undergraduate Fellow:
Sustainable Groundwater Resources [2021]
- GEOG801: Graduate Seminar: Scope & Methods in Geography, SFSU [2018-2022]
- GEOG 314: Bioclimatology, Geography & Environment Department, SFSU [2018]

- GEOG 657: Natural Resource Management, Geography & Environment Department, SFSU [2018]
- GEOG 690: Senior Seminar, Geography & Environment Department, SFSU [2018]
- ENV5 169: Global Change Ecology, Environmental Studies Department, UCSC [2016]
- ENV5 196: Senior Seminar, Introduction to Photosynthesis Measurements, Environmental Studies Department, UCSC [2016]
- Middle School Science Class, Spring Hill Middle School, Santa Cruz, CA [2016]
- ENV5 169: Global Change Ecology, Environmental Studies Department, UCSC [2015]

GRANTS, CONTRACTS, AND AWARDS

- 2021 **SFSU Research, Scholarship and Creative Activities (RSCA) Award**, *Reinvigorating research with external funding and a student-authored publication*; **Baguskas, SA (Awardee)**, Spring 2022, \$9,385
- 2019 **SFSU Development of Research and Creativity (DRC) Award**, *Coastal fog and butterflies: How does microclimate impact butterfly habitat in San Francisco?*; **Baguskas, SA (PI)**; 2019-2021, \$10,000
- 2019 **California Department of Food & Agriculture, Healthy Soils Demonstration Projects**, *Impact of orchard mulch and compost practices on soil greenhouse gas emissions*; Hoorn J (PI, Gold Ridge Resource Conservation District); co-PIs (SFSU sub-contractors): Oliphant AJ, **Baguskas SA**, Blesius L; 2019-2022, \$129,186 (SFSU)
- 2019 **California Sea Grant College Program, Special Focus Awards for New Faculty**, *Fog and Fish: Stream temperature reduction due to coastal fog in central California's anadromous salmonid habitat*; **Baguskas SA (PI)**; co-PIs: Nanus L (SFSU), Torregrosa A (USGS); 2019-2022, \$69,806
- 2019 **California Department of Fish & Wildlife and California Climate Investments, Wetland Greenhouse Gas Reduction Program**, *Ecosystem and Community Resiliency in the Sierra Nevada: Restoration of the Red Clover Valley Ranch*, Monohan C (PI, The Sierra Fund); co-PIs (SFSU sub-contractors): Oliphant AJ, **Baguskas SA**, Simonin KA, Davis JD, Nanus L, Blesius L, Studwell A, and Clark Q; 2019-2023, \$381,679 (SFSU)
- 2015 USDA-NIFA Postdoctoral Fellowship, UC-Santa Cruz
- 2012 Dangermond Travel Scholarship, Dept. of Geography, UC-Santa Barbara
- 2011 Grant. A. Harris Research Instruments Fellowship, Decagon Devices Inc.
- 2010 Kearney Foundation of Soil Science Graduate Fellowship, UC-Santa Barbara
- 2009 Olivia Long Converse Fellowship, UC-Santa Barbara
- 2008 Mildred E. Mathias Graduate Research Grant, UC-Natural Reserve System

SERVICE

Peer-review manuscripts in the following scientific journals:

Global Change Biology, Oecologia, Journal of Geophysical Research Letters, Ecohydrology, Plant Biology, NSF Career Award, Conservation Physiology, Tree Physiology, New Phytologist, Forest Ecology & Management, Atmospheric Science Letters

Professional Societal Memberships

- Member of American Geophysical Union
- Honorary Member of the California Native Plant Society (Yerba Buena Chapter) (2018)

Contributions to Geography & Environment Department

- Advisor for B.S. Environmental Science Fall 2022-
- DEI committee Fall 2021-present
- Forum Committee* Spring 2018-2020
- Curriculum Committee Fall 2017-present
- M.S. Environmental Science Planning Committee Fall 2017-2018
- Faculty Advisor, Geography & Environment Club Fall 2017-2019

Contributions to SFSU Campus

- COVID Field Research Committee Summer 2020
- Served on Climate Change Certificate Program Committee Fall 2019-present
- Contributed to a proposal for the Student Success in the Majors Initiative for a Multidisciplinary Minor (led by Dr. Amy Dorie, Dept of Family, Interiors, Nutrition, & Apparel) October 2019
- Participant in SFSU's Biology Department REU student event at SFSU's Sierra Nevada Field Campus July 2019
- Member of SFSU Women In Science (WiSE) Fall 2017-present
- Judge for CoSE Student Poster Showcase Spring 2018, 2019

Contributions to Community

- Co-organizer and science-activity leader for *Careers in the Environment* event funded by the National Environmental Education Foundation (NEEF) and hosted by Nature In The City, a non-profit organization in San Francisco. [2019]
- Baguskas, S.A. (November 28, 2019). *Pulse of Plants: Dr. Sara Baguskas* [Radio broadcast]. RadioBio. <https://www.stitcher.com/podcast/qsb-radiobio/radiobio/e/65629644> [2019]