

**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

**PROFESSIONAL POSITIONS & ACADEMIC APPOINTMENTS**

- 2023-present Associate Professor (tenure-track), School of the Environment,  
San Francisco State University
- 2017-2023 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 & PUBLICATIONS**

***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.

#### **Peer-reviewed proceedings and presentations**

\*SFSU graduate student author; \*\*SFSU undergraduate student author

#### *Published Conference Abstracts*

2023 **Baguskas SA**, Oliphant AO, Clemesha RE, Loik ME. Water and Light-Use Efficiency Are Enhanced Under Summer Coastal Fog in a California Agricultural System. 9th International Conference on Fog, Fog Collection, and Dew (FOGDEW23), Fort Collins, Colorado

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]

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 CO<sub>2</sub> 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

### *Mentored Student Presentations*

- 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]

### *Selected Published Conference Abstracts*

- 2017 Invited Speaker/Panelist. *Influence of Summer Fog on Patterns of Diversity along the California Coast* Northern California Botanist Symposium, CSU-Chico
- 2016 Speaker. *Impact of coastal fog on the water, carbon, and energy balance of a Californian agricultural system*, American Geophysical Union Fall Meeting, San Francisco, CA
- 2015 Speaker. *Impact of historic drought on the population structure of a Bishop pine (Pinus muricata) forest on Santa Cruz Island, California*, Ecological Society of America Meeting, Baltimore, MD
- 2015 Speaker. *Using coastal fog to support sustainable water use in a California Agricultural System*, USDA-NIFA Project Director Meeting, Washington DC
- 2014 Poster. *Modeling the effects of tree-to-shrub type conversion on streamflow in California's Sierra Nevada*, American Geophysical Union Fall Meeting, San Francisco, CA
- 2014 Poster. *Potential effects of tree-to-shrub type conversion on streamflow in California's Sierra Nevada*, Critical Zone Observatory All-Hands Meeting, Fish Camp, CA
- 2012 Speaker. *Fog and its influence on the water relations of a California coastal pine forest*, 8<sup>th</sup> California Islands Symposia, Ventura, CA
- 2012 Speaker. *Tree mortality, drought stress, and water relations in a California coastal pine forest*, Annual California Native Plant Society (CNPS), San Diego, CA
- 2010 Poster. *Understanding the spatial patterns of tree mortality in a coastal pine forest in California*, American Geophysical Union Fall Meeting, San Francisco, CA
- 2010 Poster. *Understanding the spatial and temporal variability of tree mortality in a coastal pine forest in California*, Southern California Botanist Graduate Symposium, San Jose, CA
- 2010 Poster. *Understanding the spatial and temporal variability of tree mortality in a coastal pine forest in California*, MntClim 2010 Conference, HJ Andrews Experimental Forest, Blue River, OR

### *Invited Research Presentations*

- 2025 *Coastal fog matters, and here's why*, UCSB Climate Speaker Series, Host: Dr. Leila Carvalho
- 2024 *Coastal fog matters, and here's why*, Estuary & Ocean Science Speaker Series, SFSU, Host: Dr. Ellen Hines

- 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'Brian

## GRANTS, CONTRACTS, AND AWARDS

### *Funded while at SFSU*

- 2025 **Heising-Simons Foundation**, *Coastal Fog: Basic Science, Water Resources, and Future Change*, Baguskas SA (PI, SFSU), O'Brien TE (PI, Indiana University), Clemesha RE (PI, UCSD), Weiss P (PI, UCSC), Fernandez D (PI, CSUMB), Summer 2025- 2030, \$729,972
- 2023 **University of Illinois Urbana-Champaign (Dr. Kaiyu Guan Lab)**, *Greenhouse gas fluxes from a California strawberry field*, **Baguskas, SA (PI)**, Oliphant AJ (co-PI), Summer 2023 – Fall 2023, \$9,469
- 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)

### ***Funded prior to 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

### **HONORS AND AWARDS**

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

### **COURSES TAUGHT**

#### ***San Francisco State University***

##### *Core courses*

- GEOG160: Lecture & Lab
- GEOG316: Biogeography
- GEOG690: Senior Seminar in Geography & Environmental Science)
- GEOG810: Graduate seminar in Physical Geography

##### *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

#### ***University of California – Santa Cruz***

- ENVS104A: Introduction to Environmental Field Methods (S16)

#### ***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

### ***Invited Guest Lectures***

- 2023 Hamlin School 4<sup>th</sup> grade Fog-Collector Showcase
- 2021 Summer Speaker Series for NSF-Research Experience for Undergraduate Fellow: Sustainable Groundwater Resources
- 2021 GEOG801: Graduate Seminar: Scope & Methods in Geography, SFSU
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- 2019 GEOG801: Graduate Seminar: Scope & Methods in Geography, SFSU  
2018 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  
2016 ENVS 169: Global Change Ecology, Environmental Studies Department, UCSC  
2016 ENVS 196: Senior Seminar, Introduction to Photosynthesis Measurements, Environmental Studies Department, UCSC  
2016 Middle School Science Class, Spring Hill Middle School, Santa Cruz, CA  
2015 ENVS 169: Global Change Ecology, Environmental Studies Department, UCSC

## **MASTERS DEGREE COMMITTEE MEMBERSHIP**

### **Current – Chair**

Harvey Hightower, M.A. in Geography, Resource Management and Environmental Planning, Spring 2025-present, *Influence of grazing on plant biodiversity and carbon/water relations in a California coastal fog-influenced grassland*, Committee members: Dr. Sara Baguskas (Chair), TBD.

Rachael Jadot, M.A. in Geography, Resource Management and Environmental Planning, Spring Fall 2024-present, *Butterfly conservation efforts within the Green Hairstreak Corridor in San Francisco, and the ways in which community science has contributed to species regeneration*. Committee members: Dr. Sara Baguskas (Chair), Dr. Nancy Wilkinson.

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

Sage Keyner, M.A. in Geography, Resource Management and Environmental Planning, Fall 2022-present, *Plant-based approaches to mitigating Climate Change through Meadow Restoration: Community Outreach*, Committee members: Dr. Sara Baguskas (Chair), Dr. Nancy Wilkinson, Dr. Kevin Simonin

### **Current – Committee Member**

Vanessa Michael, M.A. in Geography, Resource Management and Environmental Planning, Evaluating Carbon Stocks in a Tropical Urban Mangrove Forest, Suva, Fiji., Committee members: Dr. Andrew Oliphant (Chair), Dr. Sara Baguskas, Dr. Leo Blesius

Marina Bozinovic, M.S. in Geographic Information Science, Assessing noise exposure to beaked and sperm whales in the California Current, Committee members: Dr. Ellen Hines, Dr. Anne Simonis, Dr. Sara Baguskas

### **Completed – Chair**

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.

Current position: GIS Data Specialist, CalFIRE

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

### **Completed – Committee Member**

Ray LeBeau, M.S. in Geographic Information Science, *Biogeomorphic Effects of Beaver Dam Analogs on Stream Systems in Red Clover Valley*, Spring 2023

Patrick Ehhalt, M.A. in Geography, *Investigating variability in CO<sub>2</sub> 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 CO<sub>2</sub> 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  
*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**

Kap William Rodrigues Hopfe, *Evaluating grassland phenology in a coastal fog-influenced post-fire ecosystem*, Summer 2023 (student researcher) and Fall 2023 (GEOG699: Independent Study)

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

## **CONTRIBUTIONS TO CAMPUS AND COMMUNITY**

### **PROFESSION**

Peer-reviewer of manuscripts in the following scientific journals *or* grant applications to funding agencies. Number of articles reviewed within each journal is in parentheses.

2025: Ecohydrology (1), Conservation Physiology (1)  
2023: Water Resources Research (1), Oecologia (1)  
2022: Global Change Biology (1), Oecologia (1)  
2021: Geophysical Research Letters (1)  
2020: Ecohydrology (1), Plant Biology (1), NSF Career Award (1)  
2019: Conservation Physiology (1), Journal of Geophysical Research Letters (1)  
2018: Journal of Geophysical Research Letters (1)  
2017: Tree Physiology (1), New Phytologist (1), Forest Ecology & Management (1)  
2016: Atmospheric Science Letters (1)

### ***Professional Societal Memberships***



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

## **CAMPUS**

### ***Contributions to Geography & Environment Department***

#### Departmental Committees & Service

- Current: Hiring committee, RTP committee, Scholarships committee, Lecturer Evaluation committee; Curriculum revision committee for Masters Degree program
- Advisor for B.S. Environmental Science F22-present
- DEI committee F21-SP22
- Forum Committee SP18-2020
- Curriculum Committee F17-F21
- M.S. Environmental Science Planning Committee Fall 2017-2018
- Faculty Advisor, Geography & Environment Club Fall 2017-2019

Provide letters of recommendation and professional reference for undergraduate and graduate students that resulted in employment, internships, research experiences, or awards.

### ***Contributions to SFSU Campus***

- CEETL Advisory Board Fall 2025-
- Contribute to Oral Competency Report Spring 2024
- 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 '18, '19, '23

## **COMMUNITY**

### ***Contributions to Community***

- 2019 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>