

Sandy Sum

PH.D. CANDIDATE · ECONOMICS & ENVIRONMENTAL SCIENCE

☎ (805) 708-5448 | ✉ sandysum@ucsb.edu | 🏠 www.sandysum.com

Education

UC Santa Barbara (UCSB)

PH.D. ECONOMICS & ENVIRONMENTAL SCIENCE

2019 - 2025 (expected)

Committee: Tamma Carleton (Chair), Chris Costello, Olivier Deschênes, Kyle Meng

Natural science advisor: Ashley Larsen

UC Santa Barbara

M.A., ECONOMICS

2015 - 2016

National University of Singapore

B.A., ECONOMICS

2009 - 2013

Research Positions

2024 **Graduate Student Researcher**, Green Water Economics, UCSB [Environmental Markets Lab](#) (emLab)
PI: Tamma Carleton & Ram Fishman

2023-2024 **Graduate Associate**, UCSB Broom Center for Demography

2020-2021 **Graduate Student Researcher**, California EPA Carbon Neutrality Study, UCSB emLab

2016-2019 **Research Analyst**, Quantifying Sustainable Development, UC Berkeley [Global Policy Lab](#)
PI: Solomon Hsiang

2015-2016 **Ecological Data Intern**, National Center for Ecological Analysis and Synthesis

Publications

Sum, S. “Impact of Droughts on Served Drinking Water Disparities in California, 2007–2020” *Am. J. Public Health*, August 2024.

Deshmukh, R., Weber, P., Deschenes, O., Hernandez-Cortes, D., Kordell, T., Mallow, C., Magin, T., Meng, M., **Sum, S.**, Thivierge, V., Uppal, A., Lea, D., & Meng, K. “Well setbacks limit California’s oil supply with larger health benefits and employment losses than excise and carbon taxes” *Nature Energy*. Policy Brief, June 2023.

Deshmukh, R., Weber, P., Deschenes, O., Hernandez-Cortes, D., Kordell, T., Mallow, C., Magin, T., Meng, M., **Sum, S.**, Thivierge, V., Uppal, A. & Meng, K. “Equitable low-carbon transition pathways for California’s oil extraction” *Nature Energy*, May 2023.

Working Papers

Sum, S. “[Trading Water and Work: Labor and Production Shifts under California’s Groundwater Markets](#)”
(**Job market paper**)

Proctor, J., Carleton, T., and **Sum, S.** “[Parameter recovery with remotely sensed variables](#)”
Revisions requested at *Journal of the Association of Environmental and Resource Economists*
(equal authorship; order randomized)

Sum, S., Carleton, T., Fishman, R., et al. “The Unequal Economic Risks and Opportunities of Global Atmospheric Moisture Recycling” (In prep)

Selected Works in Progress

“Parched Lands, Polluted Air: Respiratory Health Impacts of Agricultural Water Savings” (with Anna Boser)

“Risk-Return Tradeoffs of Small Farms under Increased Climate Variability” (with Olivier Deschênes and Bryan Leonard)

“Tracking Agricultural Return Flows: Implications for Satellite-Based Water Monitoring” (with Anna Boser)

Policy Reports

“[The Economics of Water: Valuing the Hydrological Cycle as a Global Common Good](#)”
Commissioned report for [Global Commission on the Economics of Water](#), 2024

“[Enhancing equity while eliminating emissions in California’s supply of transportation fuels](#)”
Commissioned report for California EPA with emLab, 2021

Awards, Fellowships, & Grants

- 2024 **Graduate Summer Research Fellowship**, Property & Environmental Research Center (PERC)
- 2023 **Bren Summer Research Fellowship**, UCSB Bren School
- 2022 **California Coastal Regional Equity Research Award***, UCSB Blum Center
H. William Kuni Research Award*, (with Anna Boser) UCSB Bren School
Berkeley Summer School in Environmental and Energy Economics Diversity Fellow, UC Berkeley & Sloan Foundation
Bren Summer Research Fellowship, UCSB Bren School
Travel Grant (x3), UCSB Bren School & Graduate Student Association
- 2021 **Graduate Summer Fellowship Grant***, California Policy Lab
Bren PhD student grant for equity research, UCSB Bren School

* indicates grant is over \$10K

Presentations

- 2024 **Environmental & Resource Economics Workshop**, CU Boulder
Water Markets for Conservation Workshop, PERC
Summer Seminar Series, PERC
Summer Conference, Association of Environmental and Resource Economists (AERE)
Interdisciplinary PhD Workshop on Sustainable Development, Columbia University
- 2023 **Engaging The World panel on Health Equity**, Chapman University
The Bren School PhD Research Symposium, UCSB Bren School
The Occasional Workshop in Environmental and Resource Economics, UCSB
- 2022 **The Workshop in Environmental Economics and Data Science**, University of Oregon
Social Cost of Water Pollution Workshop, Cornell Atkinson Center for Sustainability & US EPA
Berkeley/Sloan Summer School in Environmental and Energy Economics, UC Berkeley
Annual Environmental Justice Symposium, UCSB Bren School
Interdisciplinary PhD Workshop on Sustainable Development, Columbia University
- 2021 **The Bren School PhD Research Symposium**, UCSB Bren School

Teaching Experience

Teaching Assistant, University of California, Santa Barbara

- Spring 2025 **Master's Capstone Project Course II (EDS 411B)**, Prof. Carmen Galaz García
- Winter 2024 **Master's Capstone Project Course I (EDS 411A)**, Prof. Carmen Galaz García
- Spring 2022 & 2023 **Economics of Environmental Management (ESM 204)**, Profs. Christopher Costello and Tamma Carleton
- Fall 2022 & 2023 **Statistics for Environmental Data Science (EDS 222)**, Prof. Tamma Carleton
- Winter 2021 **Environmental Economics (ECON 115)**, Prof. Kyle Meng

Student Q&A respondent

- November 2023 **BREAD-IGC Virtual PhD Course on Environmental Economics**, Prof. Tamma Carleton

Professional Activities

- 2023 **Bren School Masters in Environmental Data Science Lecturer Search Committee**, Student Representative
- 2022-present **Economics and Environmental Science Student Group**, Student Representative
- 2021-2022 **The Bren School PhD Research Symposium**, Committee Member
- 2024 **AERE Summer Conference, Agricultural Water Management**, Reviewer