Seth Villanueva

sethvillanueva@bren.ucsb.edu | (951) 536-6802 | LinkedIn | Santa Barbara, CA

EDUCATION

Master of Environmental Science and Management, 3.85 GPA (Expected June 2024)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)
Specializations: Energy and Climate, Economics and Politics of the Environment
Selected Courses: Climate Change Impacts & Adaptation, Urban and Environmental Systems Analysis, Environmental Planning, Energy Demand Analysis, Cost-Benefit Analysis

Bachelor of Arts in Economics | Minor in Mathematics, High Honors, 3.77 GPA (June 2019)
University of California, Santa Barbara (UCSB)
Awards/Honors: Dean's Honors (4 quarters), 2nd Place in 2019 UCSB Economics Data Hack
Transfer Education: Associate of Arts in Fine and Applied Arts with Great Distinction, 3.74 GPA and Dean's Honor List (all 4 semesters) – Riverside City College, Riverside, CA (December 2017)

EXPERIENCE

University of California, Santa Barbara, Environmental Studies Department, Santa Barbara, CA
Teaching Assistant (9/23–present)
- Instructed and prepared curriculum for three 150-student classes on environmental economics, energy technology, and quantitative thinking in environmental studies.
- Worked closely with students to strengthen environmental problem-solving skills and improve learning outcomes through seminars, lectures, and interactive simulations.

California Governor's Office of Business and Economic Development (GO-Biz), Sacramento, CA (remote)
Hydrogen Market Research Analyst (7/23–2/24)
- Prepared technical briefs on hydrogen energy policies and international hydrogen strategy to inform GO-Biz statewide hydrogen planning.
- Provided analytical support on hydrogen energy research and market dynamics to the Governor's senior advisor on clean infrastructure and mobility.
- Led the development of a location optimization model that can optimize the siting of hydrogen production infrastructure statewide to cost-effectively serve projected transportation demand.

Environmental Markets Lab (emLab), Bren School of Environmental Science & Management, Santa Barbara, CA
Student Assistant (1/23–9/23)
- Researched the vulnerability of California communities to climate change impacts on human mortality, labor supply, energy costs, and flood-related property damage.
- Contributed to the development of a more geographically detailed metric of climate vulnerability for California, enhancing our ability to evaluate climate equity outcomes compared to previous methods.

Resources for the Future (RFF), Washington, DC
Senior Research Analyst (10/21–8/22)
- Performed policy, econometric, and spatial analyses; prepared literature reviews; and performed coding and data management in support of a variety of climate and energy policy research projects.
- Harmonized data from energy outlooks on technology and public policies produced by international organizations, synthesizing insights into 3 annual Global Energy Outlook intercomparison reports.
- Crafted a methodology to downscale modeled census region emissions to the county level to evaluate the health impacts of national carbon pricing on various demographic groups.

- Initiated and organized regular professional and social virtual events for research analysts. Led the summer Junior Staff Seminar Series to connect interns and analysts to senior RFF researchers.

Research Analyst (10/20–10/21) | **Research Assistant** (11/19–10/20)

- Evaluated the efficacy of federal transportation vehicle electrification programs to inform research and policy priorities, identifying elements from past programs with the greatest measured impact.
- Quantified the value to society of the free HYSPLIT air dispersion model and NOAA's Digital Coast coastal management tool online platform.
- Assessed federal policy impact on energy transitions, environmental justice, and green stimulus.
- Developed and maintained an interactive webtool illustrating global energy and climate projections.

Economics Department, UCSB, Santa Barbara, CA

Research Assistant (7/19–10/19)

- Wrote literature reviews for the economics of political representation and gerrymandering.

Gretler Research Fellow (10/18–6/19)

- Consolidated PRISM climate data using R and mapped GIS wind data to counties using Python.
- Conducted literature review of energy demand and power system cost trends to study the localized economic effects of wind power generation.

PwC Programming Module Instructor (9/18–6/19)

- Prepared curriculum and taught Stata in 3 workshops of 20+ undergraduate students.

SKILLS & CERTIFICATIONS

Computer: R, Python, GIS, Stata, Microsoft Office (Excel, Word, PowerPoint)
Certifications: Machine Learning with Python—From Linear Models to Deep Learning, MITx on edX (Dec 2021)

REPORT PUBLICATIONS

Art, K., Irish, H., Liu, L., Snyder, N., Villanueva, S. (2024). California's Hydrogen Hub: Meeting 2030 Demand. https://bren.ucsb.edu/sites/default/files/2024-04/H2GO%20Final%20Report_1.pdf

Roy, N., Domeshek, M., Burtraw, D., Palmer, K., Rennert, K., Shih, JS., and Villanueva, S. (2022). Beyond Clean Energy: The Financial Incidence and Health Effects of the IRA. https://www.rff.org/publications/reports/beyond-clean-energy-the-financial-incidence-and-health-effects-of-the-ira

Palmer, K., Prest, B., Iler, S., and Villanueva, S. (2022). Options for EIA to Publish CO2 Emissions Rates for Electricity. https://www.rff.org/publications/reports/options-for-eia-to-publish-co2-emissions-rates-for-electricity

Raimi, D., Campbell, E., Newell, R.G., Prest, B., Villanueva, S., and Wingenroth, J. (2022). Global Energy Outlook 2022: Turning Points and Tension in the Energy Transition. https://www.rff.org/publications/reports/global-energy-outlook-2022

Burtraw, D., Shih, JS., Domeshek, M., Villanueva, S., and Lambert, K.F. (2022). The Distribution of Air Quality Health Benefits from Meeting US 2030 Climate Goals. https://www.rff.org/publications/reports/the-distribution-of-air-quality-health-benefits-from-meeting-us-2030-climate-goals

Newell, R.G., Raimi, D., Villanueva, S., and Prest, B. (2021). Global Energy Outlook 2021: Pathways from Paris. https://www.rff.org/publications/reports/global-energy-outlook-2021-pathways-from-paris

Villanueva, S., Cleary, K., and Krupnick, A. (2021). The Societal Value of the HYSPLIT Air Dispersion Model. https://www.rff.org/publications/reports/the-societal-value-of-the-hysplit-air-dispersion-model

Cleary, K., Krupnick, A., Villanueva, S., and Thompson, A. (2021). The Societal Value of NOAA's Digital Coast. https://www.rff.org/publications/reports/the-societal-value-of-noaas-digital-coast

Newell, R.G., Raimi, D., Villanueva, S., and Prest, B. (2020). Global Energy Outlook 2020: Energy Transition or Energy Addition? https://www.rff.org/publications/reports/global-energy-outlook-2020