

Sam Blakesley

Scientist



Education and Credentials

M.A., Ocean & Coastal Resource Management; International Environmental Policy, Middlebury Institute of International Studies, Monterey, California, 2019

B.A., Environmental Studies, University of California, Santa Cruz, California, 2016

Continuing Education and Training

Hazardous Waste Operations and Emergency Response 40-Hour Certification (2020)

Professional Profile

Sam Blakesley is an environmental scientist with 8 years of experience studying ocean and coastal resource management, climate change, and the interaction of science and policy. He has chaired ocean conservation nonprofit chapters, served as coordinator for multiple long-term water quality monitoring programs, and has been involved in a wide variety of coastal resilience projects ranging from sea level rise vulnerability assessments and watershed restoration projects to economic valuations of resources. Most recently, Mr. Blakesley worked with executive leadership for the State of California on marine science, policy, economics, and environmental justice to inform coastal and climate change resilience strategies.

Relevant Experience

Coastal Resiliency

State Science and Policy Fellowship, Sacramento, California— Awarded an executive level Sea Grant fellowship, affording the opportunity to be involved in a wide array of state level policy development and adaptation planning. The primary focus of the fellowship was to proactively plan for sea level rise. Facilitated the development, review, and synthesis of legislatively mandated Assembly Bill 691 reports for the California State Lands Commission. The reports were required from all major ports, harbors, and wharves in California and included vulnerability assessments, economic impacts, and potential adaptation strategies such as beneficial reuse of dredge sediment for mudflat augmentation and levee protection. Reviewed remedial action plans for contaminated sites to ensure that mitigation strategies are consistent with sea level rise projections. Scored and recommended improvements to research proposals with regard to coastal sediment movement, living shorelines, and the placement of dredged material in San Francisco Bay. Supported the State's marine renewable energy efforts by acting as a liaison for the State Marine Renewable Energy Working Group.

Mangrove Restoration Project, Rincon Del Mar, Colombia— Collected baseline carbon stock data to support decision making processes and provided the local community with economic incentives to restore and protect 500+ hectares of mangrove forest.



Based on carbon estimation methodologies and monitoring guidelines, this project secured international partnerships for Blue Carbon funding. This project accelerated practical action at the local level to clean and restore the mangrove and develop waste management programs while increasing fish nursery habitat.

Water Quality Monitoring and Education Program, Santa Cruz, California—Directed a long-term water quality monitoring and education program that required the training and management of an evolving team of 15+ volunteer citizen scientists, coordination of all sample collection, and oversight of laboratory operations. The project culminated in a large coastal water quality database for Santa Cruz and was the largest, most consistent citizen-science water quality program in the U.S. The data collected ultimately helped the Cowell Beach Water Quality Working Group identify and mitigate bacteria pollution hot spots, which resulted in the removal of Cowell Beach from the #1 spot on the “Beach Bummer” list.

Younger Lagoon Reserve Scientific Tour Curriculum, Santa Cruz, California—Utilized basic scientific tools to develop methods for assessing abiotic factors such as dissolved oxygen, temperature, salinity, turbidity, nutrients, and soil testing in Younger Lagoon, part of the University of California Natural Reserve System. Once methods were developed, built a curriculum for Seymour Marine Discovery Center docents to follow when leading student and public tours. The information and data collected from these tours are used to understand both short- and long-term dynamics within the lagoon and the surrounding coastal ecosystem.

West Cliff Drive Adaptation and Management Plan Survey, Santa Cruz, California—Conducted contingent valuation surveys to simulate willingness-to-pay for the utility that local residents and visitors receive from West Cliff Drive’s natural resources and ecosystem services. This survey assessed projected sea level rise and erosion scenarios and how they will affect future access.

Fieldwork Mentorship, San Lorenzo Valley, California—Guided student fieldwork, data collection, and water quality sampling sessions for a high school’s environmental monitoring program. Once data were collected, led students through laboratory processes and methodologies to help them develop their senior projects and follow QA/QC protocols. Reviewed students’ reports and judged final products at the school district’s science fair.

Sustainability

Middlebury Institute Sustainability Council, Monterey, California—Conducted audits of greenhouse gas emissions resulting from campus wide electricity, trash, water, and fuel usage; presented technical findings to the council; and identified cost saving opportunities through efficiency improvements. Acted as liaison between the school administration and student body to promote and fundraise for sustainable initiatives on campus.

Publications

Wright, D.M., and S.G. Blakesley. 2014. A geospatial analysis of fecal indicator bacteria concentrations in coastal riparian systems. Lower San Lorenzo River Watershed, Santa Cruz,



County, CA, Water Year 2014. Surfrider Foundation. Available at:
publicfiles.surfrider.org/SantaCruz_WrightDaniel_BacteriaPollutionAnalysis_161005.pdf

Invited Presentations

Emergency and Long-Range Planning. Propeller Club's Storms, Flooding, and Sea-level Defense Conference. December 3, 2019.

AB691: Proactively Planning for Sea-Level Rise. California Association of Harbor Masters and Port Captains 71st Annual Conference. September 5, 2019.

Presentations/Posters

Blakesley, S. 2016. In the bowels of Cowell's: An analysis of fecal indicator bacteria water quality impairment at Cowell Beach. 2016 University of California, Santa Cruz Environmental Symposium. Santa Cruz, CA.

Blakesley, S. 2015. The Blue Water Task Force. California State University Monterey Bay and Monterey Bay Marine Sanctuary Currents Symposium. Seaside, CA.

