

RAE TAYLOR-BURNS

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EDUCATION

PhD Student in Ocean Sciences (2018 – 2023 expected)

University of California, Santa Cruz, Santa Cruz, CA

Research: Advised by Chris Edwards and Patrick Barnard; Graduate Student Researcher at the United States Geological Survey Pacific Coastal and Marine Science Center

Master of Environmental Science and Management (2016 - 2018)

Specialization in Coastal and Marine Resource Management

Bren School of Environmental Science & Management - University of California, Santa Barbara

Fellowships/Awards: Summer Internship Fellowship, Graduate Student Association Excellence in Teaching Award Nominee, Gordon and Betty Moore Foundation Fellowship, James S. Bower Foundation Fellowship

Highlighted Coursework: Environmental Modeling, ArcGIS, Remote Sensing, Physical Oceanography, Geological Oceanography, CEQA/NEPA, Environmental Law, Coastal and Marine Policy

Dual Bachelor of Science in Environmental Engineering and Environmental Studies (2011 - 2015)

Yale College, New Haven, CT

Honors/Awards: Scholar in Yale Climate and Energy Institute, Distinction in Major of Environmental Studies, Environmental Summer Fellowship (2013, 2014)

Study Abroad: School for Field Studies, Center for Marine Resource Management, Turks and Caicos
Researched tidal migration and spotted eagle ray behavior on Caicos Bank (Fall 2013)

WORK AND RESEARCH

California Current Ocean Acidification Analysis for West Coast Ocean Data Portal (2017 – 2018)

- Spearheaded analysis as part of a multidisciplinary team to investigate West Coast ocean acidification.
- Developed assessment of acidification in the California Current based off raw data to determine which MPAs are located in ocean acidification hotspots and how colocation affects ecosystem resilience to acidification.
- Analyzed gaps in the West Coast ocean acidification monitoring network based off a monitoring inventory.

Central Coast Wetlands Group at Moss Landing Marine Labs, Moss Landing, CA

Researcher and Project Assistant (2017)

- Finalized ArcGIS-based sea level rise adaptation plans for Santa Cruz, Capitola, Santa Cruz County and Monterey County. Created metadata for all layers and four page summary documents for each municipality.
- Completed ArcGIS based economic analyses on cost of at risk infrastructure for the City of Santa Cruz.
- Authored the 40 page 2017 Climate Change Chapter of the Monterey County Integrated Regional Water Management Plan and presented findings to 20 municipal water resource managers at countywide meeting.
- Led and completed several other research projects including a treatment wetland literature summary and a synthesis of California's lagoon breaching permit conditions.

Research Assistant (May 2014 – August 2014)

National Park Service National Seashore North Atlantic Coastal Laboratory, Truro, MA

- Assisted with data collection and project planning for a salt marsh vulnerability assessment.
- Collected grass decomposition data in Cape Cod salt marshes to measure effect of relative sea level rise on salt marshes in comparison to the rate of sediment creation from decomposition.

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TEACHING

Spring 2018: Teaching Assistant, Geog 20: Geography of Surfing, UCSB

Winter 2018: Teaching Assistant and lead TA, Physics 6BL: Introductory Experimental Physics (lab), UCSB

Fall 2017: Teaching Assistant, Geog 12: Mapping and Spatial Reasoning (lab), UCSB

Spring 2017: Teaching Assistant, Physics 4L: Physics Laboratory (magnetism, circuits and optics), UCSB

Winter 2017: Teaching Assistant, Physics 4L: Physics Laboratory (magnetism, circuits and optics), UCSB

Fall 2017: Teaching Assistant, Physics 6AL: Introductory Experimental Physics (lab), UCSB

Education Program Assistant – Provincetown Center for Coastal Studies, Provincetown, MA (2015)

Environmental Education Intern – Sitka Conservation Society, Sitka, AK (2013)

CONFERENCES AND SEMINARS

Presenter, 2019 Young Coastal Scientist and Engineers Conference - Americas. Presented methods for first chapter of PhD dissertation. Corvallis, OR, August 2019.

Presenter, 2019 Climate Communicator Showcase. Presented USGS research. Santa Cruz, CA, April 2019.

Attendee, Living Shorelines and Resilience for the California Coast Workshop. Stinson Beach, CA, April 2019.

Attendee, “Salish Sea Ecosystem Conference,” Seattle, WA, April 2018

Presenter, 2018 Ocean Sciences Meeting. Presented master’s thesis research. Portland, OR, February 2018.

Presenter, West Coast Regional Planning Body 2017 Annual Meeting. Presented master’s thesis research. Long Beach, CA, December 2017

Presenter, Monterey County IRWMP Member Meeting. Presented updates to the Climate Change Chapter of the Monterey County Integrated Regional Water Management Plan (IRWMP). Salinas, CA, July 2017

Attendee, “Drought Resilience in California’s Central Coast Region,” Salinas, CA, July 2017

Attendee, “Advancing Coastal Resiliency in California and Beyond,” Irvine, CA, July 2017

SERVICE

Yale College Volunteer Alumni Interviewer – Yale College, New Haven, CT (2018 – present)

Bren Masters Thesis Proposal Review Committee – UCSB, Santa Barbara, CA (2017)

Committee Member – Surfrider South Bay Chapter, Manhattan Beach, CA (2015 – 2016)

PUBLICATIONS

- Taylor-Burns, R., C. Cochran, K. Ferron, M. Harris, C. Thomas, A. Fredston-Hermann, and B. Kendall. Locating gaps in the California Current Ocean Acidification Monitoring Network. In review.
- 2017 Climate Change Chapter – Monterey County Integrated Regional Water Management Plan.
- Taylor-Burns, Rae. “Cape Wind: An obvious choice for a younger generation.” *Cape Cod Today*, 19 Aug. 2014. Op-ed.

SKILLS AND CERTIFICATIONS

Computer: X-Beach; Delft3D-FLOW; SWAN; Matlab; R; ArcGIS; Tableau

Art Showings: Art Inspired of Capitola (2018); Featured Artist at East Cliff Brewing Company (Summer 2019); The Zero Shop Capitola (Fall 2019)

Certifications: Certified Practitioner of the California Rapid Assessment Method for Wetland Assessment, Open Water NAUI SCUBA, CPR First Aid