Riley X. **Brady**

Ocean Biogeochemistry · Climate Science · Data Visualization

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Education

University of Colorado at Boulder — *Boulder, CO*
Ph.D. in Atmospheric & Oceanic Sciences — *In Progress*

University of South Carolina — *Columbia, SC*
B.S. in Marine Science (Emphasis in Physical Oceanography) — *2012 – 2016*
Magna Cum Laude, Honors College, Phi Beta Kappa, Leadership Distinction in Research

Otto-Friedrich Universität Bamberg — *Bamberg, Germany*
German Studies — *March – July 2014*

Research Experience

Ocean Biogeochemistry Research Group — *Boulder, CO*
Institute of Arctic and Alpine Research — *June 2016 – Present*
Advisor: Nicole Lovenduski

- Investigating the response of modeled biogeochemistry in the four major eastern boundary currents to perturbations from anthropogenic climate change and internal climate variability.

Ecosystem Oceanography & Climate Change Lab — *Columbia, SC*
University of South Carolina — *September 2012 – May 2016*
Advisor: Ryan Rykaczewski

- Analyzed atmospheric and oceanic output of General Circulation Models (GCMs) from the CMIP5 Project to investigate potential changes to California Current upwelling in response to a changing climate.

Physical Sciences Division — *Boulder, CO*
NOAA Earth System Research Lab — *May – July 2015*
Advisor: Michael Alexander

- Used a state-of-the-art perturbed initial conditions climate model ensemble to investigate the relative influence of anthropogenic and natural climate variability on future California Current upwelling.

Coastal Fisheries Ecology Lab — *Morehead City, NC*
UNC Institute of Marine Sciences — *May – July 2013*
Advisors: Joel Fodrie and Michael Piehler

- Constructed a mesocosm experiment to investigate the impact of *Mercenaria mercenaria* filtration on shallow-water estuarine primary production; Gained experience in organic matter analysis, fluorometry, trawling, and species identification.

Honors & Awards

National

2016 **Computational Science Graduate Fellow**, Department of Energy
2015 **Barry M. Goldwater Scholar**, United States Congress
2014 **Ernest F. Hollings Scholar**, National Oceanic and Atmospheric Administration

Institutional

2016 **Algernon Sydney Sullivan Award**, University of South Carolina (3 recipients)
2016 **Outstanding Undergraduate in Marine Science**, Marine Science Program (2 recipients)
2016 **Outstanding Senior Award**, University of South Carolina
2014 **Magellan Research Scholar**, South Carolina Office of Undergraduate Research
2012 **Science Undergraduate Research Fellow**, South Carolina Honors College
2012 **McNair Scholar**, University of South Carolina (Valued at $130,800)

Meetings

2016 **1st Place, Oceanography**, Earth System and Space Science Poster Conference
2015 **Best Student Talk**, Eastern Pacific Ocean Conferece
2014 **Outstanding Student Presentation Award**, Ocean Sciences Meeting
2013 **1st Place, Morning Oral STEM Session**, South Carolina Discovery Day

Publications

1. Brady, RX, MA Alexander, NS Lovenduski, and RR Rykaczewski 2017: Emergent anthropogenic trends in California Current upwelling. *Geophys. Res. Lett.*, 44. doi:10.1002/2017GL072945.

Selected Presentations

1. Brady, RX, and Lovenduski, NS. *CO_2 Flux Variability in Eastern Boundary Upwelling Systems.* 10^{th} International Carbon Dioxide Conference: Interlaken, Switzerland. August 2017. (Poster)

2. Brady, RX, Rykaczewski, RR, and Alexander, MA. *Emergence of anthropogenic trends in California Current upwelling in the presence of internal climate variability.* CESM Workshop: Breckenridge, CO. June 2016. (Talk)

3. Brady, RX, Rykaczewski, RR, and Alexander, MA. *Emergence of anthropogenic trends in California Current upwelling in the presence of natural climate variability.* Ocean Sciences Meeting: New Orleans, LA. February 2016. (Poster)

4. Brady, RX, Rykaczewski, RR, and Alexander, MA. *The influence of natural variability on future California Current upwelling.* AGU Fall Meeting: San Francisco, CA. December 2015. (Talk)

5. Brady, RX, Alexander, MA, and Rykaczewski, RR. *Quantifying natural and anthropogenic variation in California Current upwelling.* Eastern Pacific Ocean Conference: Lake Tahoe, CA. September 2015. (Talk)

6. Brady, RX and Rykaczewski, RR. *Consequences of changing high-pressure zones on future coastal upwelling.* Ocean Sciences Meeting: Honolulu, HI. February 2014. (Poster)

Workshops

2017	**Scientific Visualization with Paraview**, Center for Research Data and Digital Scholarship	*Boulder, CO*
2015-2017	**CESM Workshop**, National Center for Atmospheric Research	*Breckenridge, CO*
2017	**Parallel Programming in Matlab**, CU Boulder Research Computing	*Boulder, CO*
2014	**Marine Resources Population Dynamics Workshop**, NMFS/University of Florida (competitive)	*Layton, FL*

Skills & Interests

Computer Languages	Python, Shell Scripting, Matlab
Python Packages	xarray, pandas, numpy, matplotlib, cartopy, seaborn
Data & Databases	CESM Large Ensemble, CMIP5 Project, NetCDF4
Design	HTML, CSS, LaTeX, Vector Graphics
Affiliations	American Geophysical Union (AGU), The Oceanography Society (TOS)
Foreign Language	English (native), German (proficient)
Music	Acoustic Guitar, Blues Harmonica, Vocals
Hobbies	Trail Running, Road Cycling, Hiking, Weight Lifting