

# Riley X. Brady

COMPUTATIONAL CLIMATE SCIENCE · OCEAN BIOGEOCHEMISTRY · DATA VISUALIZATION

Institute of Arctic and Alpine Research, University of Colorado, Campus Box 450, Boulder, CO 80309

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## Education

### University of Colorado at Boulder

M.S. AND PH.D. IN ATMOSPHERIC & OCEANIC SCIENCES

*Boulder, CO*

*Expected 2021*

### University of South Carolina

B.S. IN MARINE SCIENCE (EMPHASIS IN PHYSICAL OCEANOGRAPHY)

Magna Cum Laude, Honors College, Phi Beta Kappa, Leadership Distinction in Research

*Columbia, SC*

*2012 – 2016*

### Otto-Friedrich Universität Bamberg

GERMAN STUDIES

*Bamberg, Germany*

*March – July 2014*

## Research Experience

### Ocean Biogeochemistry Research Group

INSTITUTE OF ARCTIC AND ALPINE RESEARCH

*Boulder, CO*

*June 2016 – Present*

Advisor: Nicole Lovenduski

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

### Ecosystem Oceanography & Climate Change Lab

UNIVERSITY OF SOUTH CAROLINA

*Columbia, SC*

*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 critical physical ocean processes in response to a changing climate.
- Forecasted multi-decadal changes in the California Current Upwelling System while considering uncertainty due to natural variability.

### Physical Sciences Division

NOAA EARTH SYSTEM RESEARCH LAB

*Boulder, CO*

*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.
- Participated in meetings with NCAR, NOAA, and CU Boulder researchers.

### Coastal Fisheries Ecology Lab

UNC INSTITUTE OF MARINE SCIENCES

*Morehead City, NC*

*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 (2 recipients)
- 2016 **Outstanding Undergraduate in Marine Science**, Marine Science Program (2 recipients)
- 2014 **Magellan Research Scholar**, Office of Undergraduate Research
- 2012 **Science Undergraduate Research Fellow**, South Carolina Honors College
- 2012 **McNair Scholar**, University of South Carolina (20 out-of-state recipients)

### MEETINGS

- 2015 **Best Student Talk**, Eastern Pacific Ocean Conference
- 2014 **Outstanding Student Presentation Award**, Ocean Sciences Meeting

## Publications

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1. Brady, RX, MA Alexander, and RR Rykaczewski, 2016: Emergence of anthropogenic trends in California Current upwelling. In preparation for submission to *Geophys. Res. Lett.*

## Selected Presentations

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1. Brady, RX, Rykaczewski, RR, Alexander, MA. *Emergence of anthropogenic trends in California Current upwelling in the presence of internal climate variability*. CESM Workshop: Breckenridge, CO. June 2016. (Talk)
2. Brady, RX, Rykaczewski, RR, 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)
3. Brady, RX, Rykaczewski, RR, Alexander, MA. *The influence of natural variability on future California Current upwelling*. AGU Fall Meeting: San Francisco, CA. December 2015. (Talk)
4. Brady, RX, Alexander, MA, Rykaczewski, RR. *Quantifying natural and anthropogenic variation in California Current upwelling*. Eastern Pacific Ocean Conference: Lake Tahoe, CA. September 2015. (Talk)
5. Brady, RX, Rykaczewski, RR. *Consequences of changing high-pressure zones on future coastal upwelling*. Ocean Sciences Meeting: Honolulu, HI. February 2014. (Poster)

## Skills & Interests

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<b>Computer Language</b>	MATLAB, Shell Scripting, LaTeX
<b>Data &amp; Databases</b>	CESM1 Large Ensemble, CMIP5 Project, NetCDF
<b>Foreign Language</b>	English (native), German (proficient)
<b>Music</b>	Acoustic Guitar, Blues Harmonica, Vocals
<b>Hobbies</b>	Running, Road Cycling, Hiking