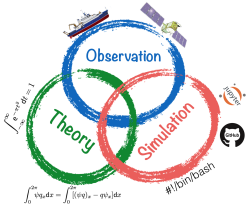


crocha@ucsd.edu  
crocha700.github.io  
github: crocha700  
vimeo: crocha700

ORCID: 0000-0003-4063-5468

18 Dec, 2016



# Cesar B Rocha

## Physical oceanographer

**Research** I combine theory, computer simulations, and observations to study how the ocean flows and shapes the climate. My motivation stems from genuine curiosity and the societal relevance of oceanography in the anthropocene. Lately, my research efforts have targeted the turbulent and wavy dynamics of the upper ocean at horizontal scales between 1-300 km.

## Education

Ongoing, PhD in Oceanography, University of California, San Diego  
BSc, MSc in Oceanography, University of São Paulo, Brazil (*summa cum laude*)

## Experience

### 2015, Fellow in Geophysical Fluid Dynamics, GFD Program, WHOI

Coupled reduced equations for strongly stratified flows.

### 2013–Current, Graduate Student Researcher, SIO/UCSD

Stratified planetary turbulence and dynamics of the upper ocean.

### 2012, Visiting student, University of Massachusetts Dartmouth

Quasigeostrophic modes and surface quasigeostrophic solutions.

### 2011–2013, Master Student, University of Sao Paulo

Energetics and dynamics of the Brazil Current System.

## Publications

### Submitted

2. Ardhuin, F., Gille, S., Menemenlis, D., **Rocha, C. B.**, Rasche, N., Chapron, B., Gula, J., Molemaker, J.: Small scale currents have large effects on ocean wave heights, under review for JGR-Oceans.

### Peer-reviewed

5. **Rocha, C. B.**, Gille, S. T., Chereskin, T. K., and Menemenlis, D.: Seasonality of submesoscale dynamics in the Kuroshio Extension, *Geophys. Res. Lett.*, in press, doi: 10.1002/2016GL071349.

4. **Rocha, C. B.**; Chereskin, T. K.; Gille, S. T. and Menemenlis, D., 2016: “Mesoscale to submesoscale wavenumber spectra in Drake Passage”, *J. Phys. Oceanogr.*, 46 (2), 601-620, doi:10.1175/JPO-D-15-0087.1.

3. **Rocha, C. B.**; Young, W. R. and Grooms, I., 2016: “On Galerkin approximations of the surface-active quasi-geostrophic equations”, *J. Phys. Oceanogr.*, 46 (1), 125-139, doi:10.1175/JPO-D-15-0073.1

2. **Rocha, C. B.**; da Silveira, I. C. A., Castro, B., M. and Lima, J. A. M., **2014**: “Vertical structure, energetics and dynamics of the Brazil Current System at 22°S-28°S”, *J. Geophys. Res.*, 119, doi:10.1002/2013JC009143.

1. **Rocha, C. B.**; Tandon, A.; da Silveira, I. C. A. and Lima, J. A. M., **2013**: “Traditional Quasi-geostrophic modes and Surface Quasi-geostrophic solutions in the Southwestern Atlantic”, *J. Geophys. Res.*, 118 (5), doi:10.1002/jgrc.20214.

## Grey literature

1. **Rocha, C. B.**, 2015: Coupled reduced equations for strongly stratified flows, Proceedings of the Geophysical Fluid Dynamics Program, Woods Hole Oceanographic Institution, Woods Hole, MA.

## Service

Ongoing: Referee for Deep Sea Research-I, Geophysical Research Letters, Journal of Fluid Mechanics, Nature Communications, Ocean Modelling.

2016: Member of student committee as part of the SIO faculty search in large scale observational physical oceanography.

2015-2016: Mentor for 1st yr SIO Graduate Students.

2015: Member of student committee for the SIO teaching award.

## Invited Seminars

1. Oceans and Cryosphere Seminar Series, Jet Propulsion Laboratory, Fall 2015

## Software

3. Core developer for “Python quasigeostrophic model” (PyQG),  
[doi.org/10.5281/zenodo.30517](https://doi.org/10.5281/zenodo.30517)

2. Core developer for “Spectral Analysis in Python” (PySpec),  
[doi.org/10.5281/zenodo.31596](https://doi.org/10.5281/zenodo.31596)

1. Contributor to a number of open source projects on github.

## Honors & Awards

2016, NASA Earth & Space Science Graduate Fellowship

2015, Geophysical Fluid Dynamics Fellowship, Woods Hole Oceanographic Institution

2011, Best BSc thesis in Oceanography, University of Sao Paulo

## Skills

### Programming

Python , C, Fortran 90, Shell-Script, Matlab, git, mercurial, markdown

### Languages

English (fluent), Portuguese (native), Spanish (professional fluency)

## Membership

American Geophysical Union, The Oceanography Society, NumFOCUS

## Other interests

Data science, Scientific reproducibility, Free software, Open science, History and philosophy of science