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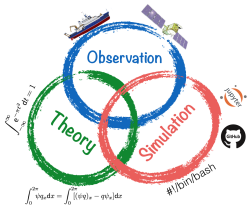
05 May, 2017



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 (Honors), MSc in Oceanography, University of São Paulo, Brazil

Experience/Employment

2016–Current, Graduate Writing Consultant, UCSD Writing Hub
Support graduate writers on campus.

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

Peer-reviewed

6. Ardhuin, F., Gille, S., Menemenlis, D., **Rocha, C. B.**, Rascle, N., Chapron, B., Gula, J., Molemaker, J.: Small scale currents have large effects on ocean wave heights, , J. Geophys. Res. Oceans, in press, doi: 10.1002/2016JC012413.

5. **Rocha, C. B.**, Gille, S. T., Chereskin, T. K., and Menemenlis, D.: Seasonality of submesoscale dynamics in the Kuroshio Extension, *Geophys. Res. Lett.*, 43, 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`.

The gray 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.

Honors & Awards

2016, NASA Earth & Space Science Graduate Fellowship
2015, Geophysical Fluid Dynamics Fellowship, Woods Hole Oceanographic Institution
2011, Best Honor Thesis in Oceanography, University of Sao Paulo

Service

Referee

Journals: Deep Sea Research-I, Journal of Geophysical Research–Oceans, Geophysical Research Letters, Journal of Fluid Mechanics, Nature Communications, Ocean Modelling.

Student committee member

2016, SIO faculty search in large-scale observational physical oceanography.
2015, SIO teaching award.

Mentorship

2015–2017, SIO open house student host.
2015, Mentor for first-year SIO PhD students.

Software

Core developer for "Python quasigeostrophic model" (PyQG),
`doi.org/10.5281/zenodo.30517`

Core developer for "Spectral Analysis in Python" (PySpec),

`doi.org/10.5281/zenodo.31596`

Contributor to several open source projects on github.

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

Epistemology, History of science, and Free software.