Biographical Sketch

Cesar B. Rocha

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Professional Preparation

University of São Paulo	São Paulo, Brazil	Oceanography	B.Sc., 2011
University of São Paulo	São Paulo, Brazil	Physical Oceanography	M.Sc., 2013
Scripps Institution of Oceanography, University of California San Diego	La Jolla, CA	Physical Oceanography	Ph.D., 2018
Woods Hole Oceanographic Institution	Woods Hole, MA	Physical Oceanography	2018-present

Appointments (Post Ph.D. Award)

Postdoctoral Scholar	Woods Hole Oceanographic Institution	Woods Hole, MA	2018–present

Publications

Five proposal-relevant papers

1. **Rocha, C. B.**, I. C. A. da Silveira, B. M. Castro, and J. A. M. Lima. Vertical structure, energetics, and dynamics of the Brazil Current System at 22S–28S. *J. Geophys. Res. Oceans*, 119:52–69, January 2014. doi:10.1002/2013JC009143

2. **Rocha, C. B.**, T. Chereskin, S. T. Gille, and D. Menemenlis. Mesoscale to submesoscale wavenumber spectra in Drake Passage. *J. Phys. Oceanogr.*, 46:601–620, February 2016. doi:10.1002/2013JC009143

3. **Rocha, C. B.**, S. T. Gille, T. K. Chereskin, D. Menemenlis. Seasonality of submesoscale dynamics in the Kuroshio Extension. *Geophys. Res. Lett.*, 43:11304–11311, November 2016. doi:10.1002/2016GL071349

4. Ardhuin, F., S. T. Gille, D. Menemenlis, **C. B. Rocha**, N. Rascle, B. Chapron, J. Gula, , J. Molemaker. Small-scale open-ocean currents have large effects on wind-wave heights. *J. Geophys. Res. Oceans*, 122:4500–4517, June 2017. doi:10.1002/2016JC012413

5. Chereskin, T. K., **C. B. Rocha**, S. T. Gille, D. Menemenlis, and M. Passaro. Characterizing the transition from balanced to unbalanced motions in the southern California Current. *J. Geophys. Res. Oceans*, 124:2088–2109, March 2019. doi:10.1029/2018JC014583

Five other significant papers

1. **Rocha, C. B.**, A. Tandon, I. C. A. da Silveira, and J. A. M. Lima. Traditional quasi-geostrophic modes and surface quasi-geostrophici solutions in the Southwestern Atlantic. *J. Geophys. Res. Oceans*, 118:2734–2745, April 2013. doi:10.1002/jgrc.20214

2. **Rocha, Cesar B.**, W. R. Young, and I. Grooms. On Galerkin approximations of the surface-active quasigeostrophic equations. *J. Phys. Oceanogr.*, January 2016. doi:10.1175/JPO-D-15-0073.1.

3. **Rocha, C. B.**, G. L. Wagner, W. R. Young. Stimulated generation: extraction of energy from balanced flow by near-inertial waves. *J. Fluid Mechanics*, 847:417–451, May 2018. doi:10.1017/jfm.2018.308

4. **Rocha, C. B.**, T. Bossy, S. G. Llewellyn-Smith, and, W. R. Young. Improved bounds on horizontal convection. *J. Fluid Mechanics*, 883, A41-1-A41-21. doi:10.1017/jfm.2019.850.

5. D. C. Napolitano, I. C. A. da Silveira, **C. B. Rocha**, G. R. Flierl, P. H. R. Calil, and R. P. Martins. On the steadiness and instability of the Intermediate Western Boundary Current between 24S and 18S. *J. Phys. Oceanogr.*, 49,3127-3143. doi:10.1175/JPO-D-19-0011.1

Scientific, Technical, And Management Performance

Rocha was a NASA Earth & Planetary Sciences Graduate Fellow while conducting his doctoral studies at Scripps and has been involved with NASA's SWOT Science Team through PIs S. Gille (Scripps) and J. T. Farrar (WHOI). Rocha is currently leading the Saildrone efforts in the NASA-funded Submesoscale Ocean Dynamics Experiment. As reflected in his publication record, Rocha is equally apt at working with observations, theory, and numerical simulations.

Recent Synergistic Activities

1. **Mentoring**
   (i) Thomas Bossy, Visiting Undergraduate Student, Scripps Institution of Oceanography, 2018 (co-supervised with William R. Young).
   (ii) Roger Wu, Summer Student Fellow, Woods Hole Oceanographic Institution, 2019 (co-supervised with J. Thomas Farrar).

2. **Referee**
   (i) Journals: Climate Dynamics, Deep-Sea Research–I; Geophysical Research Letters; Journal of Atmospheric and Oceanic Technology; Journal of Fluid Mechanics; Journal of Geophysical Research–Oceans; Journal of Marine Systems; Journal of Physical Oceanography; Nature Communications; Ocean Modelling; Remote Sensing.
   (ii) Agency: The National Science Foundation

3. **Conference service**
   (i) Co-organizer of session: "Interactions between internal waves and mesoscale/submesoscale currents: Physics and impacts on ocean energetics and mixing," Ocean Sciences Meeting, San Diego, CA, February 2020.

4. **Outreach**
   Judge of K-6 and high-school projects, Public School Science & Engineering Fair, Falmouth, MA, February 2019.