CONTACT

NAME: *Matheus Fagundes*
INSTITUTION: *Department of Marine and Coastal sciences, Rutgers University*
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http://upwelling.stanford.edu/

EDUCATION

2023 - Postdoctoral researcher under the supervision of John Wilkin
Rutgers University, NJ

2019 - 2023 PhD in Engineering with emphasis in Environment and Water
University of Georgia, Athens, GA

2016 - 2018 MSc in Marine Sciences
University of Georgia, Athens, GA

2010 - 2016 BS in Oceanography
Universidade Federal do Maranhao, Brazil

2012 - 2013 Exchange Program in Physical Oceanography
Memorial University and Marine Institute, NL, Canada

PROFESSIONAL ENGAGEMENTS IN SCIENCE AND RESEARCH

Session chair at OCB2023 summer workshop: "Marginal sea biogeochemical cycling in the Anthropocene" (https://web.whoi.edu/ocb-workshop/plenary-sessions-ocb2023/).

Volunteer reviewer for PNAS (Proceedings of the National Academy of Sciences of the United States of America).

PUBLICATIONS IN PREPARATION

Fagundes, Matheus & Woodson, C. Brock. **Development of a simple oxygen flux rate for kelp forests**, *in preparation for* Ocean Modeling journal.

Fagundes, M. *et al.* **Kelp forest model development in a regional ocean model**, *in preparation for* Geoscientific Model Development journal.

PUBLICATIONS

Stephen Monismith, Maha Alnajjar, Margaret Daly, Arnoldo Valle-Levinson, Braulio Juarez, Matheus Fagundes, Tom Bell & C. Brock Woodson. **Kelp Forest Drag Coefficients Derived from Tidal Flow Data**, 2022. https://link.springer.com/article/10.1007/s12237-022-01098-2.

Valle-Levinson, A., A. Daly, M.; Juarez, B.; Fagundes, M.; Woodson, C. B.; Monismith, S. G. **Influence of kelp forests on flow around headlands**, Journal: Science of the Total Environment, 2022. https://www.sciencedirect.com/science/article/abs/pii/S0048969722010440.

Omidvar, S.; Fagundes, M.; Woodson, C.B. **Modification of internal wave generation and energy conversion in the nearshore due to tide-tide and tide-wind interactions**, JGR Oceans, 2022. https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2021JC017986.

Fagundes, M. *et al.* **Downscaling global ocean climate models improves estimates of exposure regimes in coastal environments**, Nature *Scientific Reports*,2020. https://www.nature.com/articles/s41598-020-71169-6

Fagundes, M. *et al.* **The eventual presence of freshwater of Amazonas river over the continental shelf of the state of Maranhão - Brazil.**, AIP Conference Proceedings (2018). https://aip.scitation.org/doi/abs/10.1063/1.5079164

Conference Presentations

Jan. $7^{th} - 12^{th}$, 2023	**Modeling kelp forest in COAWST** (Oral) Fagundes, M., Woodson, C.B. Joint at 103rd AMS Annual Meeting.
Feb. $11^{th} - 16^{th}$, 2018	**Investigating hypoxia in a Climate Change scenario in a region of upwelling.** Fagundes, M., Omidvar, S., Woodson, C.B. Poster at 2018 Ocean Sciences Meeting
Feb. $11^{th} - 16^{th}$, 2018	**THE GENERATION OF INTERNAL WAVES BY VARIABLE WIND STRESS AND TIDAL FLOW INTERACTIONS IN THE NEARSHORE.** Omidvar, S., Fagundes, M., Woodson, C.B. Oral Presentation at 2018 Ocean Sciences Meeting
Oct $06^{th} - 09^{th}$, 2015	**Superficial Circulation on the Equatorial Atlantic in periods of extremes EL-NINO and LA-NINA: Preliminary results of a Regional Model.** Fagundes, M., Campos, P.C., Parise, C.K., Pezzi, L.P., Junior, A.R.T.,Sutil, U.A., Gouveia, M.B. poster at XI OMARSAT (Symposium of waves, tides, oceanic engineering and satellite oceanography (title translated))
Oct $25^{th} - 29^{th}$, 2014	**Wave Tides propagation at Itapecuru's river basin: a study.** Soares, R., Fagundes, M., Torres, A.R.T., Quadros, E., Azevedo, J., Castro, A.C., Campos, G., poster at VI Brazilian Congress on Oceanography (title translated)

Internships

May 2022 - Aug 2022 **Hydrodynamic and wave modeling, data analysis**
Advisor: Dr. Muthukumar Narayanaswamy

2014-2016 **Coastal Circulation on the Internal Continental Shelf of the Brazilian Equatorial Margin using ROMS**
Advisor: Dr. Audálio Rebelo Torres Junior

Summer 2014 **Scientific training to run the Regional Ocean Modeling System (ROMS) and participation in seminars in physical oceanography and meteorology fields**
Advisor: Dr. Luciano Ponzi Pezzi

Summer 2013 **Modeling potential Energy in Internal Gravity Waves using python**
Advisor: Dr. James R. Munroe

Computer Skills

Basic knowledge:	Cloud Computing and ML/AI
Intermediate knowledge:	CDO, Fortran, and LaTeX
Advanced knowledge:	R, Linux/Unix, bash and MATLAB
Proficient knowledge:	Python
Numerical Models:	Coupled-Ocean-Atmosphere-Wave-Sediment transport (COAWST) Modeling System Community Earth System Model (CESM2)

Interests and Activities

During my "spare time" I look for flights to visit Central America and parts of the US. Trying to improve my skill to keep things alive. I can now keep plants and fish alive!! On Sundays, I coach volleyball to 7th and 8th-grade girls; I hope one day I will watch an international volleyball match and see one of them playing. I am also training to run a half marathon in 6 months and a marathon in a year! I recently got into playing racquetball.

References

Dr. Brock Woodson - Assistant Professor at Engineering Department, University of Georgia
Email: bwoodson@uga.edu

Dr. Narayanaswamy - Associate Vice President at Michael Baker International
Email: MNarayanaswamy@mbakerintl.com

Dr. Kooperman - Assistant Professor at Department of Geography, University of Georgia
Email: kooperman@uga.edu