CONTACT

NAME: *Matheus Fagundes*
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http://upwelling.stanford.edu/

EDUCATION

Present– | University of Georgia, Athens, GA
PhD in Engineering with emphasis in Environment and Water

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

2010–2016 | Universidade Federal do Maranhao (Federal University of Maranhao), Sao Luis, MA, Brazil
B.S. in Oceanography

2012–2013 | Memorial University/Marine Institute, St. John's, NL, Canada
Visiting Undergraduate Student

HONORS

August 2019- | **NSF Graduate Research Fellow**, Department of Engineering, Univ. of Georgia

August 2016–2018 | **NSF Graduate Research Fellow**, Department of Marine Sciences, Univ. of Georgia
Modeling exposure time of abalone population under present and future ocean acidification conditions in an upwelling region.

Jan 2014 – Jun 2016 | **Coastal Water Quality and Marine Sediment Program Scholarship Award (title translated)**, Department of Oceanography and Limnology, Federal Univ. of Maranhao
Modeling the sediment transport dynamics of Sao Marcos Bay - Sao Luis - Maranhao - Brazil

Sep 2012 – Dec 2013 | **Scholarship Award by Brazil-Canada (CBIE)**
Science Without Borders Program

INTERNSHIPS

May-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

144 h | **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*

390 h | **Modeling potential Energy in Internal Gravity Waves using python**
Advisor: *Dr. James R. Munroe*

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** 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)

Courses Related

- Marine Sciences Department
  - Estuarine and Coastal Physical Oceanography (Fall 2017)
  - General Physical Oceanography (Spring 2017)
- Engineering Department
  - Advanced Fluid Mechanics (Spring 2018)
  - Transport and Mixing in Natural Flows (Spring 2017)
- Mathematics Department
  - Climate and Mathematics (Fall 2016)
- Geology Department
  - Data Analysis for Geoscientists (Fall 2017)
  - Modeling Earth's Climate System (Spring 2021)
- Statistics Department
  - Applied Regression Analysis (Spring 2019)

Short term courses

June$3^{rd} - 4^{th}$, 2021	**2021 Data for Good Virtual Hackathon** JPMorgan Chase & Co
Aug$9^{th} - 13^{th}$,2021	**2021 CESM Tutorial** National Center for Atmospheric Research (NCAR)
Aug$26^{th} - 30^{th}$, 2019	**OCEANHACKWEEK 2019** University of Washington
Jan$19^{th} - 23^{th}$, 2015	**LINUX for High Performance Computing: an Introduction** Hours: 7.5 h National Laboratory of Scientific Computation (LNCC)
Jan $19^{th} - 23^{th}$, 2015	**FORTRAN for Computational Modeling** Hours: 7.5 h National Laboratory of Scientific Computation (LNCC)

Computer Skills

Basic Knowledge:	Ncview, Cloud Computing, Machine Learning
Intermediate Knowledge:	Climate Data Operators (CDO), FORTRAN90, LaTeX
Advanced Knowledge:	R, Linux/Unix, bash, MATLAB
Proficient Knowledge:	Python
Numerical Model:	Coupled-Ocean-Atmosphere-Wave-Sediment Transport (COAWST) Modeling System, Community Earth System Model (CESM)

Languages

Portuguese:	Native
English:	Full Professional
French:	Basic Knowledge

Others

Practical Guide to build and set up COAWST in the Kerana Cluster, (title translated)
Author: M.S Ueslei Adriano Sutil. Contributed helping with Python codes.

Interests and Activities

During my "spare time" I look for flights to visit Central America and parts of US. Trying to improve my skill to keep things alive. I now, can keep plants and fish alive!! On Sundays, I coach volleyball to 7th and 8th grade girls, I hope one day I will be watching an international volleyball match and see one of them playing. I am also training to run half marathon in 6 months and a marathon in a year! I have been trying to watch more horror movies to overcome my fear of horror movies.

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