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

RESEARCH INTERESTS

- Regional Numerical Modeling
- Global Numerical Modeling
- Data Analysis
- Nearshore processes
- Climate Change
- Ocean Acidification

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

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

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 (*in revision*).
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

Conference Presentations

Mar $14^{th} - 18^{th}$, 2018	**The Eventual Presence of Freshwater of Amazonas River Over the Continental Shelf of the State of Maranhão – Brazil,** Torres Junior, A.R., Fagundes, M., da Silva Dias, F.J., de Castro, A.C.L., Santos, E.D.V., Soares, R. A., Neta, R.N.F.C. Oral Presentation at 14th International Conference of Computational Methods in Science and Engineering – ICCMSE 2018
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)
  - Computational Engineering (Fall 2016)
- 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), FORTRAN, 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:	Mothertongue
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

Hiking, fishkeeping,
Volleyball coach, semi-pro volleyball player,
Travelling.

References

Upon request.