



Filipe Bitencourt Costa

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ABOUT ME

I have a PhD on physical oceanography and initially worked with the Hybrid Coordinate Ocean Model and ensemble assimilation methods. I was part of the Oceanographic Modelling and Observation Network (REMO) till 2023, where I was responsible for developing, implementing, and evaluating the REMO Ocean Data Assimilation System (RODAS). Since October 2023 I have been working for Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) supporting developments for the 3DVAR assimilation scheme, OceanVar. I am fast learning, proactive, very productive working with other people as well as autonomously and a really like to learn and work with programming languages.

WORK EXPERIENCE

Post-Doc

Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) [01/11/2023 – Current]

City: Lecce | Country: Italy

- Development of new data assimilation techniques
- Support the evolution of the Copernicus Marine Black Sea analysis and forecast system.

Oceanography research scientist

Oceanographic Modelling and Observation Network (REMO) [01/01/2014 – 31/10/2023]

City: Salvador | Country: Brazil

- Implementation of assimilation methods into ocean models (mainly HyCOM)
- Improvement of the REMO Ocean Data assimilation System (RODAS)
- Elaboration and conduction of experiments involving data assimilation
- Elaboration of scripts (mainly PYTHON, but also MATLAB) in order to evaluate experiments results
- Assist other students and colleagues to configure and conduct data assimilation experiments
- Implementation of new data assimilation methods in to the RODAS.

EDUCATION AND TRAINING

PhD

Universidade Federal Da Bahia (UFBA) [01/07/2016 – 31/07/2021]

Address: Rua Barão de Jeremoabo, 40170-115 Salvador (Brazil)

Master Degree

Universidade Federal Da Bahia (UFBA) [01/03/2011 – 15/12/2014]

City: Salvador | Country: Brazil

Graduation

Universidade Federal Da Bahia (UFBA) [01/03/2006 – 15/12/2010]

City: Salvador | Country: Brazil

Crash Course on Data Assimilation

Nansen Environmental and Remote Sensing Center, NERSC [20/05/2018 – 29/05/2018]

City: Bergen | Country: Norway | Website: <https://www.nersc.no/>

Operational Oceanography.

Global Ocean Data Assimilation Experiment, GODAE [02/10/2017 – 13/10/2017]

City: Mallorca | Country: Spain

LANGUAGE SKILLS

Mother tongue(s): Portuguese

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Fortran 77-90-95-03-08-18 and related numerical libraries (BLAS LAPACK DISLIN) / Shell | Shell Scripting / Microsoft Powerpoint / Microsoft Word / Microsoft Office / Linux: Intermediate user / Nodejs nivel intermediar / NodeJS + ExpressJS / Node JS (Express.js and MongoDB) / Linux (Terminal Commands, Bash/Shell) / programming (C, C++, Fortran, python, IDL, Matlab,) / Git, Git Hub, SVN

PUBLICATIONS

[2024]

Seasonal variation of the sea surface salinity in the western tropical North Atlantic on two contrasting years of precipitation in the Amazon Basin

Matias, A.; Tanajura, C. A. S.; Pereira, J.; Costa, F. B.

[2022]

On the impact of vertical coordinate choice for innovation when assimilating hydrographic profiles into isopycnal ocean models. Costa, F. B.; Tanajura, C. A. S.

[2020]

A New Approach for Estimating Salinity in the Southwest Atlantic and Its Application in a Data Assimilation Evaluation Experiment. Dorfschäfer, G. S.; Tanajura, C. A. S.; Costa, F. B.; Santana, R. C.

[2019]

Assessing the extended-range predictability of the ocean model HYCOM with the REMO ocean data assimilation system (RODAS) in the South Atlantic. Carvalho, J. P. S.; Mignac, D.; Costa, F. B.; Tanajura, C. A. S.

[2019]

Model sensitivity experiments on data assimilation, downscaling and tides for the representation of the Cape São Tomé Eddies. Santana, R.; Costa, F. B.; Mignac, D.; Santana, A. N.; Vidal, V. F. S.; Zhu, J.; Tanajura, C. A. S.

[2019]

Observing system experiments over the Atlantic Ocean with the REMO ocean data assimilation system (RODAS) into HYCOM. Tanajura, C. A. S.; Mignac, D.; Santana, A. N.; Costa, F. B.; Lima, L. N.; Belayev, K. P.; Zhu, J.

[2015]

Assimilation of sea-level anomalies and Argo data into HYCOM and its impact on the 24 hour forecasts in the western tropical and South Atlantic. Costa, F.B.; Tanajura, C. A. S.

[2013]

Assimilation of sea surface height anomalies into HYCOM with an optimal interpolation scheme over the Atlantic Ocean Metarea V. Tanajura, C. A. S.; Costa, F. B.; da Silva, R. R.; Ruggiero, G. A.; Daher, V. B.

CONFERENCES AND SEMINARS

[18/05/2021 – 21/05/2021] Online

Assessing Impacts of Ensemble Kalman Filter (EnKF) on the Remo Ocean Data Assimilation System (RODAS) Over the South Western Atlantic. Costa, F. B.; Tanajura, C. A. S.

Joint ECMWF/OceanPredict workshop on Advances in Ocean Data Assimilation

Link: <https://events.ecmwf.int/event/199/contributions/1978/>

[06/05/2019 – 10/05/2019] Halifax, Nova Scotia, Canada

The Impact of XBTs data into HYCOM+RODAS in the Metarea V. Dorfschäfer, G. S.; Tanajura, C. A. S.; Costa, F. B.

GODAE OceanView Symposium 2019 - OceanPredict '19

Link: https://www.godae.org/~godae-data/OP19/posters/P21-Banner_v2.pdf

[06/05/2019 – 10/05/2019] Halifax, Nova Scotia, Canada

Model sensitivity experiments on Data Assimilation, Downscaling and Tides for the representation of the Cape São Tomé Eddies. Santana, R. C.; Costa, F. B.; Mignac, D.; Santana, A. N.; Tanajura, C. A. S.; Zhu, J.

GODAE OceanView Symposium 2019 - OceanPredict '19

Link: https://www.godae.org/~godae-data/OP19/4.3.2-santana_et_al_2019_remo_OP19_revised.pdf

[24/06/2018 – 27/06/2018] Santos, São Paulo, Brazil

Impacts of Different Strategies to Assimilate Argo Data Into The Hybrid Coordinate Ocean Model Over The South Atlantic. Costa, F. B.; Tanajura, C. A. S.

The 10th International Workshop on Modeling the Ocean.

Link: http://www.master.iag.usp.br/iwmo2018/files/FilipeCosta_IWMO.pdf

[04/11/2016 – 07/11/2016] Salvador, Bahia, Brazil

Comparação do Impacto do Rodas no Hycom de Baixa e Alta Resolução Horizontal. Costa, F. B.; Mignac, D.; Santana, A. N.; Tanajura, C. A. S.; Santana, R. C.

VII Congresso Brasileiro de Oceanografia.

[02/06/2015 – 04/06/2015] Copenhagen, Denmark

The REMO Ocean Data Assimilation System into HYCOM. Mignac, D. ; Santana, A. N. ; Costa, F. B. ; Tanajura, C. A. S.

Layered Ocean Model Workshop.

Link: https://www.coaps.fsu.edu/LOM/pdf/033_D_Mignac.pdf

[02/06/2015 – 04/06/2015] Copenhagen, Denmark

Impacts Of Remo Ocean Data Assimilation System (Rodas) On The 24 Hour Forecast Of HYCOM 1/12°. Costa, F. B.; Mignac, D.; Santana, A. N.; Carvalho, J. P. S.; Tanajura, C. A. S.

Layered Ocean Model Workshop.

Link: https://www.coaps.fsu.edu/LOM/pdf/034_F_B_COSTA.pdf