

Matthew D. Grossi

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Education

- 2021** Ph.D., Meteorology & Physical Oceanography, University of Miami (UM), Coral Gables, FL
2010 M.S., Oceanography, University of Delaware (UD), Newark, DE
2008 B.S., Physical Oceanography, Florida Institute of Technology, Melbourne, FL
Minor: Meteorology · *cum laude*

Professional Appointments

- 2023-pres.** **Physical Scientist** | Data Scientist
NOAA Fisheries, Southeast Fisheries Science Center (SEFSC), Beaufort, NC
2021-2023 **Physical Scientist** | Uncrewed Systems Data Coordinator
NOAA National Centers for Environmental Information (NCEI), Stennis Space Center, MS
2014-2016 **Research Associate**
Ocean Observing Laboratory, School for Marine Science and Technology (SMAST),
University of Massachusetts Dartmouth (UMD), New Bedford, MA

Research, Cruises, and Field Work (selected)

- 2018** Measuring surface currents from drones, Biscayne Bay, FL
2017 Submesoscale Processes and Lagrangian Analysis on the Shelf (SPLASH) experiment: 3-week multi-platform field campaign investigating the movement of material across the shelf, into coastal waters, and onto the shore in the Louisiana Bight (several cruises, R/V *Argus*, UM)
2016 Miami Bay Drift experiment: deployment of GPS-tracked surface Lagrangian drifters, floating bamboo plates, and wooden drift cards in Biscayne Bay (1 cruise, chartered small boat)
2014-16 Maintenance and repair of high-frequency coastal ocean dynamics applications radar (CODAR) sites in Cape Cod, MA; Martha's Vineyard, MA; Nantucket, MA; Block Island, RI
2014-16 Deployment and recovery of Slocum glider (several cruises, R/V *Lucky Lady*, UMD)
2015 Offshore deployment of Satlantic hyperspectral and multispectral radiometers at the Martha's Vineyard Coastal Observatory Air-Sea Interaction Tower (1 cruise, R/V *Tioga*, Woods Hole Oceanographic Institution)
2011 Satellite-tagging sand tiger sharks with acoustic and Pop-off Archival Satellite Tag (PSAT) transmitters in Delaware Bay (1 cruise, R/V *Stanley*, Delaware State University)
2009-10 Deployment and recovery of Slocum glider (several cruises, R/V *Hugh R. Sharp*, UNOLS/UD; R/V *Donna M.*, UD; and R/V *Caleta*, Rutgers University)
2008-09 Mapping photosynthetic quantum yield in the mid-Atlantic coastal ocean and Delaware Bay (13 cruises, R/V *Hugh R. Sharp*, UNOLS/UD)
2007 Florida Tech Marine Field Projects interdisciplinary research cruise in Florida Atlantic coastal waters (1 cruise, R/V *Gulf Stream Eagle*)

Select Publications and Presentations

Peer-Reviewed Publications.....

1. **Grossi, M.D.**, M. Kubat, T.M. Özgökmen (2020) Predicting particle trajectories in oceanic flows using artificial neural networks, *Ocean Modelling*, 156, 101707.
2. Geiger, E.F., **M.D. Grossi**, A.C. Trembanis, J.T. Kohut, M.J. Oliver (2011) Satellite-Derived Coastal Ocean and Estuarine Salinity in the Mid-Atlantic, *Continental Shelf Research*, doi:10.1016/j.csr.2011.12.001.

In prep.: **Grossi, M.D. et al.**: Surface drifter prediction in the Gulf of Mexico using neural networks

Conference Proceedings.....

1. Shah, C., M.M. Nabi, S.Y. Alaba, R. Caillouet, J. Prior, M. Campbell, **M.D. Grossi**, F. Wallace, J.E. Ball, and R. Moorhead (2024) Active detection for fish species recognition in underwater environments, *Proc. SPIE 13061, Ocean Sensing and Monitoring XVI, 130610D*, 6 June 2024, <https://doi.org/10.1117/12.3013344>.
2. Alaba, S.Y., J.H. Prior, C. Shah, M.M. Nabi, J.E. Ball, R. Moorhead, M.D. Campbell, F. Wallace, and **M.D. Grossi** (2024) Multifish tracking for marine biodiversity monitoring, *Proc. SPIE 13061, Ocean Sensing and Monitoring XVI, 130610E*, 6 June 2024, <https://doi.org/10.1117/12.3013503>.

Technical Reports (not peer-reviewed).....

1. **Grossi, M.D.**, M. Monim, A. Gangopadhyay (2017) Global Climate Patterns: An Overview of Arctic Oscillation, Pacific Decadal Oscillation, Pacific/North American Pattern, and El Niño Southern Oscillation, University of Massachusetts Dartmouth School for Marine Science and Technology Technical Report SMAST-17-0401, doi:10.13140/RG.2.2.34586.44480.
2. W.S. Brown and **M. Grossi** (2016) Pre- and Post-Mission-6 Glider CTD Comparison Measurements: 11 June and 22 July 2015, University of Massachusetts Dartmouth School for Marine Science and Technology Technical Report SMAST-16-0501.
3. W.S. Brown and **M. Grossi** (2015) Pre- and Post-Mission Glider CTD Comparison Measurements: 19 June 2014 and 6 February 2015, University of Massachusetts Dartmouth School for Marine Science and Technology Technical Report SMAST-15-06-01.

Presentations, Posters, and Contributed Abstracts.....

1. **Grossi, M.D.** (2022) From Good to Great: Strengthening the FAIRness of underwater glider data through community metadata implementation, Underwater Glider User Group Workshop, Seattle, WA.
2. **Grossi, M.D.**, K. Weathers, J. Bowers (2022) Beyond the Archive: Connectivity between community DACs and NCEI products, NOAA Integrated Ocean Observing System Data Management and Cyber-infrastructure Meeting (virtual/online).
3. **Grossi, M.D.** (2022) Migrating the Surface Underway Marine Database to the Cloud: Challenges and Lessons Learned, NOAA Environmental Data Management Workshop (virtual/online).
4. **Grossi, M.D.**, M. Kubat, T.M. Özgökmen (2020) Can Neural Networks Learn Realistic Ocean Trajectories?, Gulf of Mexico Oil Spill and Ecosystem Science Conference, Tampa, FL.
5. **Grossi, M.D.**, M. Kubat, T.M. Özgökmen (2019) Predicting Oil Transport in Oceanic Flows: Are Neural Networks Up to the Task?, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA.
6. **Grossi, M.D.**, T.M. Özgökmen (2018) Can artificial intelligence predict the dispersion of spilled oil?, Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA.
7. **Grossi, M.D.**, E.F. Geiger, A.J. Irwin, F. Veron, M.J. Oliver (2010) Predicting Open Ocean Density Profiles from Satellite Observations, Ocean Sciences Meeting, Portland, OR.

8. Splitt, M.E., **M.D. Grossi** (2008) Evaluation of the Real-Time Ocean Forecast System in Florida Atlantic Coastal Waters, Ocean Sciences Meeting, Orlando, FL.
9. **Grossi, M.D.** (2007) Evaluation of the Real-Time Ocean Forecast System in Florida Atlantic Coastal Waters, Florida Institute of Technology Department of Marine and Environmental Systems Summer Symposium, Melbourne, FL. (both oral and poster presentation)