

## **Curriculum Vitae: Mitchell A. Roffer**

### **Education & Professional Experience:**

**Ph.D.** Biological Oceanography, University of Miami, Rosenstiel School of Marine and Atmospheric Science, Division of Biology and Living Resources, Miami, Florida.

**President** – Fishing Oceanography Inc. Melbourne Beach, FL. 04/18-present. Founder. Chief Operating Officer, Chief Scientist, Development, Marketing. Fisheries oceanography and environmental advocacy.

**President** – Roffer's Ocean Fishing Forecasting Service™, Inc. (ROFFS™) West Melbourne, FL. 12/86 – 04/18. ([www.roffs.com](http://www.roffs.com)). Founder, Chief Operating Officer, Chief Scientist, Development, Marketing.

**Adjunct Faculty - Guest Faculty** – Florida Institute of Technology, Department of Ocean Engineering and Marine Science. Melbourne, FL. 06/06 - present.

**Investigator** – 08/14 – 07/19. “National Marine Sanctuaries as Sentinel Sites for a Demonstration Marine Biodiversity Observation Network (MBON).” PI Frank Muller-Karger. NOAA-NOS—IOOS-2014-2003803. NNX14AP62A.

**Investigator** – 10/17 – 9/18. “Identification of Potential Fishing Zones in Tanzanian Waters.” Tanzanian Fisheries Research Institute (TAFRI), Dar es Salaam, Tanzania.

**Principal Investigator** – 12/17 – 04/18. National Aeronautics and Space Administration funded project “Monitoring of the Hurricane Harvey Plume in the Gulf of Mexico.” Rapid Response and Novel Research in Earth Science Grant #80NSSC18K0286.

**Co-Principal Investigator** - 05/16 – 12/17. Atlantic States Marine Fisheries Commission (ASMFC) Mid-Atlantic Collaborative Fisheries Research project “Collaborative Development of a Winter Habitat Model for Atlantic Mackerel for the Identification of Cryptic Habitats and Estimation of Population Availability to Assessment Surveys and the Fishery.”

**Principal Investigator** - 04/15 – 04/17. Bonefish Tarpon Trust project “Bonefish Larval Drift Modeling.” Funded by the Bonefish Tarpon Trust.

**Principal Investigator** – 09/11 – 09/16. National Aeronautics and Space Administration four year funded (\$1.7M) project, “Management and Conservation of Atlantic Bluefin Tuna (*Thunnus Thynnus*) and Other Highly Migratory Fish in the Gulf of Mexico Under IPCC Climate Change Scenarios: A Study Using Regional Climate and Habitat Models” (10-BIOCLIM10-14).

**Principal Investigator** – 09/11 – 09/15. NOAA IOOS Southeast U.S. Coastal Ocean Observing Regional Association project, “Providing Oceanographic Data in Support of Ecosystem Based Fisheries Management.”

**Principal Investigator** – 06/11 – 12/11. NOAA – Cooperative Institute for Marine and Atmospheric Studies funded project, “Ocean conditions in the Gulf of Mexico.”

**Principal Investigator** – 08/10 – 08/12. British Petroleum/Florida Institute of Oceanography Block Award Project – Gulf Oil Spill Prevention, Response & Recovery Grant entitled “Early Warning 4-D Remote Sensing System to Assess Threats to Coastal Ecosystems of Florida and of Adjacent States and Nations: Oil Oceanographic Analyses: Satellite Mapping the Water Masses Containing Oil.”

**Principal Investigator** – 06/10 – 9/11. NOAA – Cooperative Institute for Marine and Atmospheric Studies funded project, “Integrated satellite and ocean data products in support of ecosystem studies in the Gulf of Mexico and Straits of Florida.”

**Principal Investigator** – 05/08 – 05/11. National Aeronautics and Space Administration funded project, “Improving the NOAA NMFS and ICCAT Atlantic Bluefin Tuna Fisheries Management Decision Support System.”

**Principal Investigator** – 01/08-06/08. Florida Department of Environmental Protection – Florida Oceans and Coastal Council funded project “Florida COOS Consortium Task 8: Florida Specific Remote Sensing.”

**Principal Investigator** – 02/04 – 02/08. National Aeronautics and Space Administration three-year funded project, “Study of Ocean Environmental Parameters to Forecast the Effects of Climate Variability on Pelagic Fish Resources.”

### **Selected Publications and Presentations:**

Zeng, X., A. Adams, M.A. Roffer and R. He. 2018. Potential Connectivity Among Spatially Distinct Management Zones for Bonefish (*Albula vulpes*) via Larval Dispersal. *Envir. Biol. Fish.* <https://doi.org/10.1007/s10641-018-0826-z>.

Muller-Karger, F. E. et al., including M. Roffer 2018. Satellite Sensor Requirements for Monitoring Essential Biodiversity Variables of Coastal Ecosystems. *Ecol. Appl.* <https://doi.org/10.1002/eap.1682>.

Muller-Karger, F., D. Rueda-Roa, F. Chavez, M. Kavanaugh, and M.A. Roffer. 2017. Megaregions Among the Large Marine Ecosystems of the Americas. *J. Environ. Develop.* 22: 52-62.

Muhling, B. A., Brill, R., Lamkin, J. T., Roffer, M. A., Lee, S.-K., Liu, Y., and Muller-Karger, F. 2016. Projections of future habitat use by Atlantic bluefin tuna: mechanistic vs. correlative distribution models. *ICES J. of Mar. Sci.*, doi:10.1093/icesjms/fsw215.

Hobday, A. J., B.A. Muhling, E. L. Hazen, H. Arrizabalaga, J. Paige Eveson, M.A. Roffer and J.R. Hartog. 2016. Predicting the Distribution of Bluefin Tunas in a Changing Ocean. In *Bluefin Futures Symposium Book*.

Goni, G.J, J. A. Trinanes, A. MacFadyen, D. Streett, M.J Olascoaga, M.L. Imhoff, F. Muller-Karger and M.A. Roffer, 2015. Variability of the Deepwater Horizon Surface Oil Spill Extent and Its Relationship to Varying Ocean Currents and Extreme Weather Conditions, pp. 1-22 in *Mathematical Modeling and Numerical Simulation of Oil Pollution Problems Vol. 2 The Reacting Atmosphere*, Ehrhardt, Matthias Ed. Springer Internat. Publ.

Liu, Y., S.-K., Lee, D.B. Enfield, B.A. Muhling, J.T. Lamkin, F.E. Muller-Karger, and M.A. Roffer. 2015. Impact of global warming on the Intra-Americas Sea: part-1. A dynamic downscaling of the CMIP5 model projections. *J. Mar. Syst.* 148:56-69.

Muller-Karger, F.E., J.P. Smith, S. Werner, R. Chen, M. Roffer, Y. Liu, B. Muhling, D. Lindo-Atichati, J. Lamkin, S. Cerdeira-Estrada, and D.B. Enfield. 2015. Natural Variability of Surface Oceanographic Conditions in the Offshore Gulf of Mexico. *Prog. In Ocean.* 134 (2015): 54-76.

Muhling, B.A., Y. Liu, S.-K. Lee, J.T. Lamkin, M.A. Roffer, F.E Muller-Karger, and J.F. Walter III. 2015. Potential impact of climate change on the Intra-Americas Sea: Part-2. Implications for Atlantic bluefin tuna and skipjack tuna adult and larval habitats. *J. Mar. Syst.* 148: 1-13.

Lamkin, J.T., B.A. Muhling, E. Malca, R. Laiz-Carrión, T. Gerard, S. Privoznik, Y. Liu, S.K.Lee, G.W. Ingram Jr., M.A. Roffer, F. Muller-Karger, J. Olascoaga, L. Fiorentino, W. Nero & W. J. Richards, 2014. Do Western Atlantic Bluefin Tuna Spawn Outside of The Gulf Of Mexico? Results From A Larval Survey In The Atlantic Ocean In 2013. *ICCAT SCRS/2014/176* 12p.

Muller-Karger, F.; Roffer, M.; Walker, N.; Oliver, M.; Schofield, O.; Abbott, M.; Graber, H.; Leben, R.; Goni, G., 2013. "Satellite Remote Sensing in Support of an Integrated Ocean Observing System," *Geoscience and Remote Sensing Magazine, IEEE*, 1 (4):8-18, 2013 doi: 10.1109/MGRS.2013.2289656

Muhling, B.A., P. Reglero, L. Ciannelli, D. Alvarez-Berastegui, F. Alemany, J.T. Lamkin, and M. A. Roffer. 2013. A comparison between environmental characteristics of larval bluefin tuna (*Thunnus thynnus*) habitat in the Gulf of Mexico and western Mediterranean Sea. *Marine Prog. Ser.* 486:257-276.

Muhling, B.A., M.A. Roffer, J.T. Lamkin, G.W. Ingram, Jr., M.A. Upton, G. Gawlikowski, F.E. Muller-Karger, S. Habtes, and W.J. Richards. 2012. Overlap between Atlantic bluefin tuna spawning grounds and observed Deepwater Horizon surface oil in the northern Gulf of Mexico. *Marine Pollution Bull.* 64(4):697-687.

Acker, J., P. Lyon, F. Hoge, S. Shen, M. Roffer, and G. Gawlikowski. 2009. Interaction of Hurricane Katrina with Optically Complex Water in the Gulf of Mexico: Interpretation Using Satellite-Derived Inherent Optical Properties and Chlorophyll Concentration. *IEEE Geoscience and Remote Sensing Letters* 6(2): 209-213.

Hoffmayer, E.R., W.B. Driggers, J.S. Franks, D.S. Hanisko, M.A. Roffer, and L.E. Cavitt. 2011. Recent occurrences of basking sharks, *Cetorhinus maximus* (Gunnerus, 1765) [Chondrichthyes: Cetorhinidae], in the Gulf of Mexico. *Marine Biodiversity Records* 4(e87): 1-4.

Mariano, A, V. Kourafalou, H. Kang, G.R. Halliwell, A. Srinivasan, E. Ryan, and M.A Roffer. 2011. On the Modeling of the 2010 Gulf of Mexico Oil Spill. *J. Dynamics of Atmos. and Oceans* 52: 322-340.

Muhling, B.A., J.T. Lamkin, J.M. Quatro, R.H. Smith, M.A. Roberts, M.A. Roffer, and K. Ramirez. 2011. Collection of Larval Bluefin Tuna (*Thunnus thynnus*) Outside Documented Western Atlantic Spawning Grounds *Bull. Mar. Sci.* 87(3):687-694.

Muhling, B.A., J.T. Lamkin, and M.A. Roffer. 2010. Predicting the Occurrence of Bluefin Tuna (*Thunnus thynnus*) Larvae in the Northern Gulf of Mexico: Building a Classification Model from Archival Data. *Fish. Oceanogr.* 19:6, 526-539.

Wall, C.C., F.E. Muller-Karger, M.A. Roffer, and L. Garcia-Rubio. 2009. Linkages between environmental conditions and recreational king mackerel catch off west-central Florida. *J. Fish. Oceanogr.* 18(3): 185-199.

Wall, C.C., F.E. Muller-Karger, M.A. Roffer, C. Hu, W. Yao, and M.E. Luther. 2008. Satellite remote sensing of surface ocean fronts in coastal waters of west-central Florida. *Remote Sens. Environ.* 112: 2963-2976.

### **Additional Professional Contributions**

Member, Indian River Lagoon Consortium Science, Technology, Engineering, and Math (STEM) Advisory Committee. 2018- present.

NASA Earth Science's Biodiversity and Ecological Forecasting Science Team, 2004-present.

NASA Ocean Color Science Team, 2004-present.

Institutional Host and Board Member of The U.S. Integrated Ocean Observing System (IOOS) Southeast Coastal Ocean Observing Regional Association (SECOORA) 2008-present.

Lifetime Member of the Billfish Foundation

Lifetime Member of the International Gamefish Association

Member of the Bonefish and Tarpon Trust

Co-Organized "Climate Variability and Fisheries Workshop: Setting Science Priorities for the Gulf of Mexico, South Atlantic, and Caribbean Regions," St. Petersburg, FL Oct., 2015.