

## MARGARET L. ESTAPA

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School of Marine Sciences  
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## RESEARCH INTERESTS

Oceanic biogeochemical processes mediated by organic and inorganic particles in open ocean, coastal, and near-bottom environments; validation and application of novel observational methods for marine organic matter; autonomous platforms for ocean observations; ocean color remote sensing; photochemical reactions of suspended particulate matter.

## EDUCATION

Ph.D., Oceanography, 2011. University of Maine, Orono, ME.  
B.A., Chemistry, *Magna cum laude*, 2001. Carleton College, Northfield, MN.

## PROFESSIONAL APPOINTMENTS

Libra Assistant Professor of Chemical Oceanography, School of Marine Sciences, University of Maine, 2020-present.  
Assistant Professor, Department of Geosciences, Skidmore College, 2016-2020.  
Visiting Assistant Professor, Department of Geosciences, Skidmore College, 2014-2016.  
Postdoctoral Scholar and Investigator, Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, 2011-2014.  
Graduate Research Assistant and Fellow, School of Marine Sciences, University of Maine, Orono, ME, 2005-2011.  
Assistant Scientist, Sea Education Association, Woods Hole MA, 2001-2005.

## FELLOWSHIPS AND AWARDS

Robert H. Goddard Group Honor Award for Science, EXPORTS Project Science Team, 2021.  
NASA New Investigator Program in Earth Sciences awardee, 2014.  
Woods Hole Oceanographic Institution Postdoctoral Scholarship, 2011.  
Dissertation Symposium in Chemical Oceanography selectee, 2010.  
NASA Earth Systems Science Graduate Fellowship, 2008.  
Woods Hole Oceanographic Institution Summer Student Fellowship, 2003.  
Hypercube Scholar Award in Computational Chemistry, 2001.  
Beckman Scholar Award, 1999-2000.

## SIGNIFICANT PUBLICATIONS (\* = my student, \*\* = collaborators' students)

*For full list, please see [website](#) or [Google Scholar profile](#)*

**Estapa, M. L.**, C. A. Durkin, W. H. Slade, C. L. Huffard, S. P. O'Neill, and M. M. Omand. 2023. A new, global optical sediment trap calibration. *Limnology & Oceanography: Methods* lom3.10592. doi:[10.1002/lom3.10592](https://doi.org/10.1002/lom3.10592)

Durkin CA, Buesseler KO, Cetinić I, **Estapa ML**, Kelly RP, Omand M. 2021. A Visual Tour of Carbon Export by Sinking Particles. *Global Biogeochem Cycles* **35**(10). doi:[10.1029/2021GB006985](https://doi.org/10.1029/2021GB006985)

- Estapa M.L.**, Buesseler KO, Durkin CA, Omand MM, Benitez-Nelson CR, Breves E, Kelly RP, Pike SM, Roca-Martí M. 2021. Biogenic sinking particle fluxes and sediment trap collection efficiency at Ocean Station Papa. *Elementa: Science of the Anthropocene* 9(1). doi: 10.1525/elementa.2020.20.00122
- Baker, C. A.\*\*\*, **M. L. Estapa**, M. Iversen, R. Lampitt, and K. Buesseler. 2020. Are all sediment traps created equal? An intercomparison study of carbon export methodologies at the PAP-SO site. *Progress in Oceanography* 184: 102317. doi:10.1016/j.pocean.2020.102317
- Estapa, M.**, J. Valdes, K. Tradd, J. Sugar, M. Omand, and K. Buesseler. 2020. The Neutrally Buoyant Sediment Trap: Two Decades of Progress. *Journal of Atmospheric and Oceanic Technology*. 37: 957–973. doi:10.1175/JTECH-D-19-0118.1
- Estapa, M.L.**, M. Feen\*, and E. Breves, 2019. Direct observations of biological carbon export from profiling floats in the subtropical North Atlantic. *Global Biogeochemical Cycles*, 282–300.
- Estapa, M.L.**, Siegel, D.A., Buesseler, K.O., Stanley, R.H.R., Lomas, M.R., Nelson, N.B., 2015. Decoupling of net community production and export production at submesoscale fronts in the Sargasso Sea. *Global Biogeochemical Cycles*, 29, doi:10.1002/2014GB004913.
- Estapa, M.L.**, Breier, J.A., German, C.R., 2015. Particle dynamics in the rising plume at Piccard Hydrothermal Field, Mid-Cayman Rise: new applications of optical sensors. *Geochemistry, Geophysics, Geosystems*, 16, doi:10.1002/2015GC005831.
- Estapa, M.L.**, Buesseler, K.O., Boss, E., Gerbi, G.P., 2013. Autonomous, high-resolution observations of particle flux in the oligotrophic ocean. *Biogeosciences*, 10: 5517-5531.
- Estapa, M.L.**, Boss E., Mayer L.M., Roesler C.R., 2012. Role of iron and organic carbon in mass-specific light absorption by particulate matter from Louisiana coastal waters, *Limnology and Oceanography*, 57(1): 97-112.
- Estapa, M. L.**, Mayer, L.M., 2010. Photooxidation of particulate organic matter. *Marine Chemistry*, 122: 138-147.

## SELECTED COURSES TAUGHT

*For full list of 16 courses including 11 originated as primary instructor, please inquire by email*

**Instructor: Marine Carbon Dioxide Removal** (graduate), University of Maine

**Instructor: Semester-by-the-Sea: Marine Environmental Change** (undergrad), University of Maine

**Co-instructor: Calibration and Validation for Ocean Color Remote Sensing** (graduate; with colleagues from University of Maine, Bowdoin College, NASA GSFC, and elsewhere), University of Maine

**Instructor: Chemical Oceanography** (graduate), University of Maine

**Instructor: Introduction to Oceanography** (undergrad), Skidmore College

**Instructor: Deep Seafloor Exploration** (first-year), Skidmore College

**Instructor: The Coastal Ocean** (undergrad), Skidmore College

**Instructor: Remote Sensing of the Earth and Environment** (undergrad), Skidmore College

## **KEY SERVICE CONTRIBUTIONS**

Member, University of Maine School of Marine Sciences Peer Committee, Sept 2024-present.

Member, University of Maine School of Marine Sciences Ad Hoc Committee on Diversity,  
Equity, Inclusion, and Climate, 2022-present

Co-lead, Northeast Regional Node, Ocean Carbon and Biogeochemistry mCDR Working Group,  
2023-present

Member, Biogeochemical Argo Technology Task Team, 2023-present

Member, Exploring Ocean Iron Solutions (ExOIS), 2022-present.

Member, EXPORTS Science Definition Team, NASA Ocean Biology and Biogeochemistry,  
2015-2016.

Reviewer of manuscripts and proposals for journals, NSF, NASA, and NERC.