

Matthew Erickson

Department of Geology and Geophysics
Woods Hole Oceanographic Institution
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POSITIONS

2013 – present: Research Associate II, Woods Hole Oceanographic Institution
Supervisors, Dr. Jessica Tierney and Dr. Scott Wankel
2005- 2013: Senior Research Assistant III, Marine Biological Laboratory.
Supervisor, Dr. Hugh Ducklow
2001-2005: Research Coordinator, University of Georgia.
Supervisor, Dr. Samantha Joye
2000-2001: Research Technician, University of Hawaii-Manoa.
Supervisor, Dr. David Karl
1998-2000: Research Assistant, University of Wisconsin-Oshkosh.
Advisor, Dr. Michael Lizotte

EDUCATION

2000: M.S., Biology. University of Wisconsin-Oshkosh
1998: B.S., Biology. University of Wisconsin-Oshkosh

FIELD EXPERIENCE

2005-2012: PAL-LTER Annual cruise. Western Antarctic Peninsula. *R/V Lawrence M. Gould*. Microbiology and biogeochemistry.
2006-2008: PAL-LTER Palmer Station, Antarctica season. Microbiology, biogeochemistry and small boat operations.
2009-2012: Partnership with Coalition for Buzzards Bay. Water Quality Analysis
2001-2005: GCE-LTER and LUCES projects. Georgia and South Carolina tidal marsh sediment/ water biogeochemistry.
2002-2005: GCE-LTER project quarterly cruises. Georgia coast. *R/V Savannah*. 9 cruises; chief scientist, March 2003-2005.
2003: GEOMAR SO174-1 project. Gulf of Mexico. *R/V Sonne*. Coring, sediment biogeochemistry, radioisotope work.
2002: LExEn02 project. Gulf of Mexico. *R/V Seward Johnson II*. Sediment biogeochemistry using cores and submersible.
2001: MANTRA-PIRANA project. Atlantic Ocean. *R/V Knorr*. Water column biogeochemical sampling, oxygen and salinity analysis, mooring recovery.
2001: MANTRA-PIRANA. Pacific Ocean. *R/V Wecoma*. Water column biogeochemical sampling, mooring deployment.
2001: MANTRA-PIRANA. Atlantic Ocean. *R/V Seward Johnson I*. Water column biogeochemical sampling, mooring deployment.
2000-2001: HOT program. Station ALOHA. *R/V Ka'imikai O Kanaloa (KOK)*. Water column biogeochemical sampling, mooring recovery. Cruises 119-121, 123, 124, 126; chief scientist, cruise 126.
1998: ROAVERRS project. Ross Sea, Antarctica. *R/V N.B. Palmer*. Pigment analysis.

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MANAGEMENT SKILLS

Cruise Chief Scientist
Scientific Deck Boss
Hazardous Waste Manager
Radiation Safety Manager
Ordering, Billing and Budget

Data Management
Equipment Maintenance
Training: Scientists and Students
Undergraduate Employee Supervisor
Logistics: Domestic and International

TECHNICAL SKILLS

Flow Cytometry
Epifluorescence Microscopy
HPLC
 Pigments, VFAs
Lachat, Alpkem Auto Analyzers
 Br, NH₄, NO₂/NO₃, PO₄, Si
Spectroradiometry
 PRR, PUV
Ocean mooring deployment/ recovery/
 sample analysis
Spectrophotometry
 Fe, PO₄, TDP, PFe, PPO₄, Mn,
 NH₄, Chl, H₂S, NO₂, NO₃
Fluorometric methods
 Chl, NH₄
Radioisotope
DIC Coulometer
Alkalinity Titration

3H, 14C, 35S
Dionex Ion Chromatography
 cation, anion, VFAs
Shimadzu TOC
 TDN, DOC, DIC, TOC
Thermo-Finnigan FlashEA1112
 soils, plants, total suspended
 solids (CN, CNS)
Computer Skills
 Excel, Word, PeakSimple,
 MATLAB
Antek NO₂/NO₃ Analyzer
Winkler Oxygen Titration
Autosal Salinometer
Mass Spectrometry

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PUBLICATIONS

- Ducklow, H. W., O. Schofield, M. Vernet, S. Stammerjohn, M. Erickson. (2012). Multiscale control of bacterial production by phytoplankton dynamics and sea ice along the western Antarctic Peninsula: A regional and decadal investigation. *Journal of Marine Systems*. 98-99: 26-39
- Lunau, M., M. Voss, M. Erickson, C. Dziallas, K. Casciotti, H. Ducklow. (2012). Excess nitrate loads to coastal waters reduces nitrate removal efficiency: mechanism and implications for coastal eutrophication. *Environmental Microbiology*. DOI: 10.1111/j.1462-2920.2012.02773.x
- Grzymski, J. J., C. S. Riesenfeld, T. J. Williams, A. M. Dussaq, H. Ducklow, M. Erickson, R. Cavicchioli, A. E. Murray. (2012). A metagenomic assessment of winter and summer bacterioplankton from Antarctica Peninsula coastal surface waters. *Multidisciplinary Journal of Microbial Ecology*. DOI: 10.1038/ismej.2012.31.
- Moran, X. A. G., H. W. Ducklow, M. Erickson. (2011). Single-cell physiological structure and growth rates of heterotrophic bacteria of a temperate estuary (Waquoit Bay, Massachusetts). *Limnology and Oceanography*. 56(1):37-48.
- Ducklow, H. W., K. M. Myers, M. Erickson, J.-F. Ghiglione, Murray, A. E. (2011). Response of a summer time Antarctic marine bacterial community to glucose and ammonium enrichment. *Aquatic Microbial Ecology*. 64:205-220.
- Ducklow, H. W., M. Erickson, J. Kelly, M. Montes-Hugo, C. A. Ribic, R. C. Smith, S. E. Stammerjohn, D. M. Karl. (2008). Particle export from the upper ocean over the continental shelf of the west Antarctic Peninsula: A long-term record, 1992-2007. *Deep Sea Research Part II*. 55 (18-19): 2118-2131.
- Weston, N. B., W. P. Proubsky, V. A. Samarkin, M. Erickson, S. E. Macavoy, S. B. Joye. (2006). Porewater stoichiometry of terminal metabolic products, sulfate, and dissolved organic carbon and nitrogen in estuarine intertidal creek-bank sediment. *Biogeochemistry*. 77(3):375-408.
- Joye, S. B., A. Boetius, B. N. Orcutt, J. P. Montoya, H. N. Schulz, M. J. Erickson, S. K. Lugo. (2004). The anaerobic oxidation of methane and sulfate reduction in sediments from Gulf of Mexico cold seeps. *Chemical Geology*. 205(3-4):219-238.

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Erickson, M. J. (2000) Ultraviolet Absorbing Compounds in Phytoplankton of the Ross Sea, Antarctica. M.S. Thesis, University of Wisconsin-Oshkosh. 53 pp.