

CURRICULUM VITAE
Jeremy T. Mathis
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EDUCATION

- B.S. Chemical Engineering, May 2003, McNeese State University
- Ph.D. Marine Chemistry, November 2006, University of Miami-RSMAS
Advisor – Dr. Dennis A. Hansell
Dissertation Title: Cycle and Fate of Carbon as Part of the Western Arctic Shelf Basin Interactions Project

PROFESSIONAL EXPERIENCE

- Assistant Professor (Tenure Track) – University of Alaska Fairbanks, 09/07 – Present
- Postdoctoral Scientist – University of Miami. Physical Chemistry Lab, 12/06 – 8/07.
- Research Assistant – University of Miami. Biogeochemistry Lab, 06/03 – 11/06.
- Teaching Assistant – McNeese State University, Chemistry Department, 08/02 – 05/03.
- Chemical Engineer Intern – CITGO Petroleum Cooperation, 08/00 – 05/02.

RESEARCH INTERESTS

The main focus of my research is the distribution, transformations and fate of carbon and nitrogen in the Arctic Ocean and the impact that physical and biogeochemical processes both in the marine and terrestrial environment have on the carbon system in coastal and ocean margin environments.

Peer-Reviewed Publications

1. **Mathis, J.T.**, Hansell, D.A., Bates, N.R. (2005) Strong hydrographic controls on spatial and seasonal variability of dissolved organic carbon in the Chukchi Sea (Deep-Sea Research II, 52, 3245-3258).
2. Bates, N.R., Moran, S.B., Hansell, D.A., **Mathis, J.M.** (2006). An increasing CO₂ sink in the Arctic Ocean due to sea-ice loss? (Geophys. Res. Letters., 33, L23609).
3. **Mathis, J.T.**, Pickart, R.S., Hansell, D.A., Kadko, D., Bates, N.R. (2007a). Eddy transport of organic carbon and nutrients from the Chukchi Shelf: Impact on the upper halocline of the western Arctic Ocean. (J. of Geophys. Res. 112, C05011, doi: 10.1029/2006JC003899).
4. **Mathis, J.T.**, Hansell, D.A. Kadko, D., Bates, N.R., Cooper, L.W (2007b). Determining net dissolved organic carbon production in the hydrographically complex western Arctic Ocean. (Limnol. Oceanogr., 52(5), 1789–1799).

Manuscripts In Press

5. Lepore, K., Moran, S.B., Grebmeier, J. M., Cooper, L.W., Lalande, C., Maslowski, W., Hill,

- V., Bates, N.R., Hansell, D.A., **Mathis, J.T.**, Kelly, R.P. Seasonal and interannual changes in POC export and deposition in the Chukchi Sea. (Journal of Geophysical Research, 2007).
6. **Mathis, J.T.**, Bates, N.R., Hansell, D.A., Babila, T. Interannual Variability of Net Community Production Over the Northeast Chukchi Sea Shelf (Deep Sea Research II).
 7. Llinas, L., Smith, S., **Mathis, J.T.**, Weingartner, T.J. The effects of eddy transport on zooplankton biomass and community composition in the western Arctic. (Deep Sea Research II).
 8. Kadko, D., Pickart, R.S., **Mathis, J.T.**, Age Characteristics of a Shelf-Break Eddy in the Western Arctic and Implications for Shelf-Basin Exchange. (Journal of Geophysical Research).

Manuscripts In Review

9. **Mathis, J.T.**, Hansell, D.A., Bates, N.R., Byrne, D.A., Beal, L.M., Duncombe Rae, C., Interbasin Transport of Anthropogenic CO₂ in the Agulhas Current System. (Geophysical Research Letters).

Other Publications and Reports

Book Review

1. **Mathis, J.T.** and D.A. Hansell (2004). *The Organic Carbon Cycle in the Arctic Ocean* by R. Stein and R.W. Macdonald (eds.) Springer. Marine Chemistry 91, 253-254.

Abstracts

1. **Mathis, J.T.**, Swift, J.H., Hansell, D.A., SBI data comparison for 2002-2003: Temperature, salinity, dissolved oxygen, and silicate at repeated sections in the western Arctic, ASLO/TOS Ocean Sciences Meeting, Honolulu, Hawaii, February 2004.
2. **Mathis, J.T.**, Hansell, D.A., Kadko, D., Bates, N.R., Pickart, R.S. Eddy Transport of Carbon from the Chukchi Sea Into The Western Arctic Ocean, ASLO Conference, Santiago, Spain, June 2005.
3. **Mathis, J.T.**, Hansell, D.A., Bates, N.R., Byrne, D.A., Beal, L.M., Duncombe Rae, C., Carbon in the Agulhas Current and Ring System: Transport Between Major Ocean Basins. ASLO/TOS Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.
4. **Mathis, J.T.**, Hansell, D.A., Kadko, D., Bates, N.R., Eddy Transport of Carbon in the Western Arctic Ocean and the Biogeochemical Preconditioning Necessary for Shelf-Basin Exchange. ASLO/TOS Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.
5. Kadko, D., Pickart, R.S., **Mathis, J.T.**, Weingartner, T.J., Age Characteristics of a Shelf-Break Eddy in the Western Arctic and Implications for Shelf-Basin Exchange. ASLO/TOS Ocean Sciences Meeting, Honolulu, Hawaii, February 2006.

Workshops Attended

1. OCCC Planning Meeting – Woods Hole Oceanographic Institute, 2005 and 2006.
2. SOLAS Summer School – Institut Scientifiques de Cargèse in Corsica, France. 2005
3. Arctic Terrestrial and Freshwater Ecosystems Summer School, Fairbanks, Alaska. 2006.

Field Work

1. Western Arctic Ocean

- Science: DOC/N and DIC measurements, eddy surveys, shelf-basin carbon exchange
2. Southwestern Indian Ocean (Agulhas Current and Retroflexion)
Science: DOC/N and DIC measurements, eddy survey, inter-ocean basin carbon exchange
 3. Indian Ocean – CLIVAR I-9 Hydrographic Cruise
Science: Total Alkalinity, pH and DIC measurements in the context of decadal changes

Awards Received

1. Rosenstiel Fellowship – graduate study endowment for outstanding undergraduate achievement.
2. Mary Roche Fellowship - \$10,000 endowment for outstanding research at sea.
3. ASLO Student Paper Award – 2006 Ocean Sciences Meeting, Honolulu, HI.