

BIOGRAPHICAL SKETCH FOR DAVID J. DEMASTER

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EDUCATION

B.S. (Chemistry) University of Wisconsin, Madison, 1973.
M.S. (Marine Geochemistry) Dept. of Geology and Geophys., Yale Univ., 1975.
Ph.D. (Marine Geochemistry) Dept. of Geology and Geophys., Yale Univ., 1979.

PROFESSIONAL EXPERIENCE

Professor, Dept. of Marine, Earth, and Atmospheric Sciences, North Carolina State University, 1990-Present.
Assoc. Professor; Dept. of MEAS, North Carolina State University, 1984-1990.
Asst. Professor; Dept. of MEAS, North Carolina State University, 1978-1984.

PROFESSIONAL SOCIETIES AND AFFILIATIONS

American Geophysical Union, Sigma Xi, Phi Beta Kappa

AREAS OF EXPERTISE

Radiochemistry, Nutrient Cycling in Rivers and Estuaries, Global Biogeochemical Cycles, Particle Mixing in Marine Sediments, Antarctic Benthic-Pelagic Coupling

SERVICE TO FEDERAL AGENCIES

1995: Member of NAS Committee on Arctic Research Platforms (Rapporteur for Chem. Oceanography)
1998: Member of NSF FOCUS Workshop (Futures of Chemical Oceanography in the US; Rapporteur for 2 subcommittees)
1999: NSF Chemical Oceanography Panel
2002: NSF Workshop on the N.B. Palmer Replacement
2003: NSF Workshop on the North American Carbon Project
2006: NSF Water and Carbon Panel

5 MOST RELEVANT PUBLICATIONS

- 2008 Smith, C.R. and D.J. DeMaster (guest editors). **FOODBANCS** (Food for Benthos on the Antarctic Continental Shelf). Special Issue describing our NSF project in Deep-Sea Research II (volume contains 11 papers associated with our **FOODBANCS** Project, DSR II, v. 55, no. 22-23).
- 2008 Purinton, B.L., D.J. DeMaster, C.J. Thomas, and C.R. Smith. ^{14}C as a tracer of labile carbon in Antarctic benthic food webs. *Deep-Sea Research II*, 55, 2438-2450.
- 2008 McClintic, M.A., D.J. DeMaster, C.J. Thomas, and C.R. Smith, Testing the **FOODBANCS** Hypothesis: Seasonal variations in near-bottom particle flux, bioturbation intensity, and deposit feeding based on ^{234}Th measurements. *Deep-Sea Research II*, 55, 2425-2437.

2006 Synthesis of benthic-pelagic coupling on the Antarctic shelf: Food banks, ecosystem inertia and global climate change. C.R. Smith and D.J. DeMaster. *Deep-Sea Research II*, **53**, 875-894.

2005 Persistence of labile organic matter and microbial biomass in Antarctic shelf sediments: Evidence of a sediment food bank. S.L. Mincks, C.R. Smith, and D.J. DeMaster. *Marine Ecology Progress Series*, **300**, 3-19.

5 ADDITIONAL PUBLICATIONS

2004 DeMaster, D.J. The diagenesis of biogenic silica: Chemical transformations occurring in the water column, seabed, and crust. In: *Treatise of Geochemistry, Volume 7* (Ed. F.T. Mackenzie), pp. 87-98.

2002 DeMaster, D.J., C.J. Thomas, N.E. Blair, W.L. Fornes, G. Plaia, L.A. Levin. Deposition of bomb C-14 in continental slope sediments of the Mid-Atlantic Bight: assessing organic matter sources and burial rates. *Deep-Sea Research II*, **49**, 4667-4686.

2002 Verity, P.G., J.E. Bauer, C.N. Flagg, D.J. DeMaster, and D.J. Repeta. The Ocean Margins Program: an interdisciplinary study of carbon sources, transformations, and sinks in a temperate continental margin. *Deep-Sea Research II*, **49**, 4273-4295

2002 DeMaster, D.J. The accumulation and cycling of biogenic silica in the Southern Ocean: revisiting the marine silica cycle. *Deep-Sea Research II*, **49**, 3155-3167.

2002 Thomas, C.J., M. Alperin, N. Blair, D.J. DeMaster, R. Jahnke, C. Martens, and L. Mayer. A benthic carbon budget for the continental slope off Cape Hatteras, NC. *Deep-Sea Research II*, **49**, 4687-4709

SYNERGISTIC ACTIVITIES

Co-coordinator of Special Session on Benthic-Pelagic Coupling in High Latitudes at 2002 AGU/ASLO meeting in Honolulu; Chair of the 2003 Chemical Oceanography Gordon Research Conference; Session leader for session on "Understanding the Physical and Biological Coupling of Marine Population Dynamics: Physical and Biological Processes in Shelf Ecosystems" at 2004 AGU Ocean Sciences Meeting in Portland; Teach Introductory Earth System Science course at NCSU to 90-100 undergraduates each year with simulated Kyoto Summit; Website for Antarctic Field Program 2008 and 2009 (FOODBANCS-2; <Antarctica-ncsu.blogspot.com>).

RECENT COLLABORATORS AND OTHER AFFILIATIONS:

Craig Smith (University of Hawaii), Carrie Thomas (NCSU), Sarah Mincks (U. of Alaska, Fairbanks), Olivier Ragueneau (U. of Brest)

PH.D. ADVISOR: K. Turekian (Yale U.)

GRADUATE ADVISEES: Ph.D. (5) B. McKee (UNC-Chapel Hill), S. Kuehl (VIMS), C. Alexander (SKIO), R. Pope, W. Fornes (Purdue); M.S. 15 students total.

POST DOCS: (2 advised) O. Ragueneau (U. of Brest, France), C.J. Thomas (NCSU)