

VITAE - WILLIAM J. SHOWERS
PROFESSOR

PERSONAL DATA:

Email: w_showers@ncsu.edu

Webpages: <http://www.meas.ncsu.edu/faculty/showers/showers.htm> Faculty Web Page

<http://rivernet.ncsu.edu/> RiverNet Program

<http://rivernet.ncsu.edu/sil/> NCSU Stable Isotope Lab

EDUCATION:

Ph.D. Oceanography, University of Hawaii, 1982

M.S. Geology, University of California, Davis, 1978

B.A. Geology, University of California, Santa Barbara, 1973

PROFESSIONAL EXPERIENCE:

PROFESSOR, Department of Marine, Earth & Atmospheric Sciences, North Carolina State University, May 2009 - Present

VICE CHAIRMAN North Carolina Water Quality Workgroup 1999-Present

DIRECTOR RiverNet Program 1998-present

ASSOCIATE PROFESSOR, Department of Marine, Earth & Atmospheric Sciences, NCSU, May 1988 - Present

DIRECTOR, NCSU Stable Isotope Regional Analytical Facility June 1983 - Present

ASSISTANT PROFESSOR, Department of Marine, Earth & Atmospheric Sciences, NCSU, September 1982 - May 1988

VISITING PROFESSOR, Department of Geology, Duke University, January, 1984 - June, 1984

LECTURER, ARCS FELLOW, RESEARCH ASSISTANT, Department of Oceanography, University of Hawaii, June 1978 - August 1982.

RESEARCH ASSISTANT, United States Antarctic Research Program (USARP), Ross Ice Shelf Project (RISP), October 1977 - March 1978 Palmer Station, Antarctica; over-winter group, Dec. 1974 - March 1976

PROFESSIONAL SOCIETIES:

Sigma Xi

American Geophysical Union (AGU)

Geological Society of America (GSA)

International Geologic Correlation Program (IGCP) Project #156 (Phosphates)

Cushman Foundation for Foraminiferal Research

Geochemical Society

American Association for the Advancement of Science (AAAS)

North Carolina Section of American Water Resources Association (NCWRA)

HONORS AND ORGANIZATIONAL POSITIONS:

Member, North Carolina Program for Forensic Sciences

Vice-Chairman North Carolina Water Quality Workgroup 2000-present

National Center for Caribbean Coral Reef Research (NCORE-EPA) Scientific Advisory Committee 2000-2005

Co-Convener, Geochemical Tracers Hydrology Session, AGU Spring Meeting 1999

Chair, AGU Committee on Paleoceanography and Paleoclimatology 1996-1998

Co-Convener, ODP Drilling Results Atlantic Ocean Session, AGU Spring Meeting 1996

Ocean Sciences Program Committee Member, AGU Fall/Spring Meeting 1995

AGU Secretary of Marine Geology & Geophysics, 1995

ODP Leg 155 Initial Results Editorial Board, Amazon Fan Drill Leg, Oct. 1994

ODP Leg 155 Micropaleontologist, Amazon Fan Drill Leg, March-May, 1994

CoConvener: Stable Isotope Workshop, Internat. Conf. on Paleoceanography IV, Kiel Germany, 1992

National Research Council Travel Grant Recipient, INQUA CONGRESS VII, Beijing China, 1991

NCSU Emerging Issues Forum "Global Change" Organizing Committee, 1990

SEPM Mid-Year Meeting Finance Committee Chairman, 1986

Graduate Faculty Member, North Carolina State University, 1982

ARCS Fellowship, Honolulu Chapter, 1979-81

Antarctic Service Medal 1976

RESEARCH INTERESTS:

Stable Isotope Geochemistry, Paleoceanography, Paleoclimatology, Groundwater Hydrology and Stable Isotope Tracers, Nitrogen Isotope Pollution Tracers, Carbon Cycling and Accumulation in Modern and Ancient Environments, Antarctic Geochemistry, Oxygen Isotopes of Phosphates and Silicates, Paleobiology of Vertebrates.

PUBLICATIONS:

JOURNAL ARTICLES (10 Selected Articles out of 81)

- 2006 **William J. Showers¹, C.M. Williams², Gregory D. Jennings³** Impact of Large Poultry Operations on Groundwater : Stable ¹⁵N Isotopes of Nitrate Assessment International Journal of Poultry Science 5 (4): 318-329.
- 2006 **Corliss BH, Sun X, Brown CW, Showers, WJ.** 2006 Influence of seasonal primary productivity on delta C-13 of North Atlantic deep-sea benthic foraminifera DEEP-SEA RESEARCH PART I-OCEANOGRAPHIC RESEARCH PAPERS 53 (4): 740-746.
- 2006 **Sun XC, Corliss BH, Brown CW, Showers, WJ.** 2006 The effect of primary productivity and seasonality on the distribution of deep-sea benthic foraminifera in the North Atlantic DEEP-SEA RESEARCH PART I-OCEANOGRAPHIC RESEARCH PAPERS 53 (1): 28-47.
- 2007 **Kenneth S. Johnson, Joseph Needoba, Steven Riser, and William Showers** 2007 Chemical Sensor Networks for the Aquatic Environment. Chemical Reviews 10.1021: 1-18.
- 2007 **Lori Gustafson, Jay Levine Michael Stroskopf, Tom Kwak, William Showers** Temporal and spatial variability in stable isotope compositions of a freshwater mussel: implications for biomonitoring. Oecologia 152: 140-150.
- 2007 **Bucci, J.P., Rebach, S., DeMaster, D., Showers, W.J., 2007.** A comparison of blue crab and bivalve $\delta^{15}\text{N}$ tissue enrichment in two North Carolina estuaries. ENVIRONMENTAL POLLUTION 145 (1): 299-308 JAN 2007
- 2007 **Bucci, J.P., Showers, W.J., Rebach, S., DeMaster, D., Genna, B.** Stable isotope analyses (delta N-15 and delta C-13) of the trophic relationships of Callinectes sapidus in two north Carolina estuaries. ESTUARIES AND COASTS Vol 30(6): 1049-1059
- 2008 **William J. Showers , Bernie Genna, Timothy McDade, Rick Bolich, and John C. Fountain** Nitrate Contamination in Ground Water on an Urbanized Dairy farm. ES&T Vol 42(13) 4683.
- 2008 **Bucci, J.P., Showers, W.J., Levine, J., Usry, B.,** Valve gape response to turbidity in two freshwater bivalves (Corbicula fluminea and Lampsilis radiata). Journal of Freshwater Ecology. 23 (3): 479-483.
- 2008 **Occhipinti, C., Aneja, V.P., Showers, W.J., Niyogi, D.** Back-Trajectory Analysis and Source-Receptor Relationships: Particulate Matter and Nitrogen Isotopic Composition in Rainwater. J. Air & Waste Manage. Assoc. 58:1215-1222, 2008.
- 2009 **Michael J. Kimball^{1,4}, William Showers², Sinead McCartan³, Bernard Genna²,** ¹⁸O analysis of *Littorina littorea* shells from Ferriter's Cove, Dingle Peninsula: Preliminary results and interpretations, in *Finlay, N., McCartan, S., Milner, N. and Wickham-Jones, C. (eds) 2009 From Bann flakes to Bushmills. Papers in honour of Professor Peter Woodman, Prehistoric Society Research Paper No 1, Oxford: Oxbow*
- submitted* **Lori Gustafson, JF Levine, W Showers, G Cope, S Hanlon, T Kwak and MK Stoskopf** Non-lethal evaluation of nutritional condition in the freshwater mussel, *Elliptio complanata*: possible measures and dietary implications. North American Benthological Society
- submitted* **William J. Showers, John Bucci, Lori Gustafson, Jay Levine, Michael Stoskopf, Art Bogan³ Timothy Lewis, Sharon Taylor** Isotopic Determination of Growth Rates in freshwater mussels (Bivalvia: Unionidae *Elliptio complanata*) Freshwater Biology

Collaborators

Gerald Wefer, Univ. Bremen, Bruce Corliss, Duke University, Paul Baker, Duke University, Gary Dwyer, Duke University, Jon Karr, Duke, Dave DeMaster, NCSU, Wendell Gilliam, NCSU, Jay Levine, NCSU CVM, Michael Stroskopf, NCSU DVM, Jeff Chanton, Florida State University, W. Berry Lyons, Byrd Polar Center, Ohio State University, Mary Schweitzer, NCSU, Julia Clark, UT

MS Advisor: Jere Lipps, UC Berkeley

PhD Advisors: Stanely Margolis UC Davis (deceased), Peter Kroopnick, IT Corporation

Graduate Student – Current Advisees

Jon Bucci, MS Completed 12-2003

Brian Usry, MS Completed 1-2006

Matthew Fountain, MS Completed 5-2006

Jon Bucci, PhD Completed 12-2006

Tim McDade, MS Completed 9-2007

Jonathan Harris MS Completed 6-2008

Micha Reyes, MS in progress

Walt Gurley, PhD in progress

Undergraduate Student Advisees

15 undergraduate majors supported by the Stable Isotope Lab over the past 10 years, 1 currently support

Graduate Student Committee Member (18 Students): NCSU, Duke, UNC-Chapel Hill, East Carolina University