Justin B. Ries
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Curriculum Vitae
September, 2011

EDUCATION

Ph.D.	2005	Biogeochemistry	The Johns Hopkins University
M.A.	2002	Biogeochemistry	The Johns Hopkins University
B.A. (abroad)	1996	Geosciences	Edinburgh University
B.A.	1998 (GPA 3.87) Magna cum Laude	Geosciences	Franklin and Marshall College

PROFESSIONAL EXPERIENCE

2008-present: *Assistant Professor*, The University of North Carolina – Chapel Hill
2007-2008: *Postdoctoral Scholar*, The Woods Hole Oceanographic Institution
2006: *Postdoctoral Fellow*, The California Institute of Technology
2005-2006: *Postdoctoral Fellow*, The Johns Hopkins University
2005-2006: *Visiting Scientist*, The University of Maryland Center for Marine Biotechnology
2004-2006: *Teaching Fellow*, The Johns Hopkins University
2000-2004: *Teaching Assistant*, The Johns Hopkins University
1999-2000: *Financial Analyst*, Constellation Power Source (Goldman Sachs/Constellation Energy Group)

AWARDS AND HONORS

2010	2009 *Geology* paper "Marine calcifiers exhibit mixed responses to CO_2-induced ocean acidification" recognized by Thomson Reuters News Agency as one of most cited papers of 2010 ("Hot new paper" designation)
2010	RJ Reynolds/UNC-CH Junior Faculty Development Award ($7500)
2007 – 2008	WHOI Ocean and Climate Change Postdoctoral Scholar Fellowship
2004 – 2005	Howard Hughes Teaching Fellowship
2003, 2001	J. Brien Key Award
2002	Sigma Xi Award
1998	Phi Beta Kappa Honor Society
1998	Nancy Juerges Geomorphology Award
1994 – 1998	John Marshall Scholar
1996 – 1997	Dana Scholar

PUBLICATIONS (2002 – present, *indicates student or postdoc)

Ries, J.B., 2011, Acid ocean cover up. Nature Climate Change 1: 294–295. doi:10.1038/nclimate1204

Ries, J.B., 2011, Skeletal mineralogy in a high-CO_2 world. Journal of Experimental Marine Biology and Ecology 403: 54-64.

Ries, J.B., 2011, A physicochemical framework for interpreting the biological calcification response to CO_2-induced ocean acidification. Geochimica et Cosmochimica Acta 75: 4053-4064.

*Castillo, K.D., **Ries, J.B.**, Weiss, J.M., 2010, Declining coral skeletal extension for forereef colonies of *Siderastrea siderea* on the Mesoamerican Barrier Reef System, southern Belize. PLoS ONE 6 (2): e14615. doi:10.1371/journal.pone.0014615.

Ries, J.B., 2010, Shell-shocked: How different creatures deal with an acidifying ocean. Earth Magazine, 55 (3): 46-53.

Ries, J.B., Cohen, A.L., McCorkle, D.C., 2010, A nonlinear calcification response to CO_2-induced ocean acidification by the coral *Oculina arbuscula*, Coral Reefs 29: 661-674.

Ries, J.B., 2010, Geological and experimental evidence for secular variation in seawater Mg/Ca (calcite-aragonite seas) and its effects on marine biological calcification. Biogeosciences 7: 2795–2849.

Stanley, S.M., **Ries, J.B.**, Hardie, L.A., 2010, Increased production of calcite and slower growth for the major sediment-producing alga *Halimeda* as the Mg/Ca ratio of seawater is lowered to a "calcite sea" level, Journal of Sedimentary Research 80: 6-16.

Ries, J.B., Cohen, A.L., McCorkle, D.C., 2009, Marine calcifiers exhibit mixed responses to CO_2-induced ocean acidification. Geology 34: 1131-1134.

Ries, J.B., 2009, Effects of secular variation in seawater Mg/Ca ratio (calcite–aragonite seas) on $CaCO_3$ sediment production by the calcareous algae *Halimeda*, *Penicillus* and *Udotea* – evidence from recent experiments and the geological record. Terra Nova 21:323-339.

Ries, J.B., Fike, D.A., Pratt, L.M, Lyons, T.W., and Grotzinger, J.P., 2009, Super-heavy pyrite ($\delta^{34}S_{pyr}$ > $\delta^{34}S_{CAS}$) in the terminal Proterozoic Nama Group, Southern Namibia: A consequence of low seawater sulfate at the dawn of animal life. Geology 37 (8): 743-746.

Ries, J.B., 2008, Seeing changes in a changing sea. Nature Geosciences 1: 497-498.

Ries, J.B., Anderson, M.A., Hill, R.T., 2008, Seawater Mg/Ca controls polymorph mineralogy of microbial CaCO3: A potential proxy for calcite-aragonite seas in Precambrian time. Geobiology 6: 106-119.

Ries, J.B., Stanley, S.M., Hardie, L.A., 2006, Scleractinian corals produce calcite, and grow more slowly, in artificial Cretaceous seawater. Geology 34 (7): 525-528.

Ries, J.B., 2006, Mg fractionation in crustose coralline algae: Geochemical, biological, and sedimentological implications of secular variation in the Mg/Ca ratio of seawater. Geochimica et Cosmochimica Acta 70: 891-900.

Ries, J.B., 2006, Aragonitic algae in calcite seas: effect of seawater Mg/Ca on codiacean biomineralization. Journal of Sedimentary Research 76: 515-523.

Ries, J.B., 2005, Experiments on the effect of secular variation in seawater Mg/Ca (calcite and aragonite seas) on calcareous biomineralization. Johns Hopkins University Ph.D. dissertation thesis, 235 p.

Ries, J.B., 2005, Aragonite production in calcite seas: effect of seawater Mg/Ca ratio on the calcification and growth of the calcareous alga *Penicillus capitatus*. Paleobiology 31 (3): 449-462.

Stanley, S.M., **Ries, J.B.**, Hardie, L.A., 2005, Seawater chemistry, coccolithophore population growth, and the origin of Cretaceous chalk. Geology 33 (7): 593-596.

Ries, J.B., 2004, The effect of ambient Mg/Ca on Mg fractionation in calcareous marine invertebrates: A record of Phanerozoic Mg/Ca in seawater. Geology 32 (11): 981-984.

Stanley, S.M., **Ries, J.B.**, Hardie, L.A., 2002, Low-magnesium calcite produced by coralline algae in seawater of Late Cretaceous composition. Proceedings of the National Academy of Sciences 99 (24): 15323-15326.

RESEARCH REPORTS

Band, L., Characklis, G., Leuttich, R., McKee, B., Noble, R., Paerl, H., Piehler, M., Ries, J., Rodriguez, T., West, J., and White, P. 2009. Environmental impacts (Chapter 2) *in* The University of North Carolina at Chapel Hill Climate Change Committee Report (eds. L. Band and D. Salvesen), 180 p.

RECENT RESEARCH GRANTS

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION – Climate Change Research "Using multielement-isotope coral paleothermometry to reconstruct the thermal history of seawater across a Carribbean barrier reef system over the past century and evaluation of its impact on coral extension rates" *(PI: J. Ries; Co-PI: K. Castillo)*	$231,933	2011-2014
NATIONAL SCIENCE FOUNDATION – Ocean Acidification Research "Investigation of the effects of $CaCO_3$ saturation state & temperature on the calcification rate & skeletal properties of benthic calcifiers" *(PI: J. Ries)*	$655,688	2010-2013
AMERICAN CHEMICAL SOCIETY – New Investigator/Geochemistry "Geochemical and petrographic investigation of a novel calcite-aragonite sea transition in terminal Proterozoic time (549-548 Ma)" *(PI: J. Ries)*	$100,000	2010-2012
CALERA CORPORATION – Geochemistry "Utilization of natural brines and mafic-ultramafic rocks in CO_2 sequestration" *(PI: J. Ries)*	$140,775	2009-2012
DEPARTMENT OF ENERGY/LBNL – Biomineralization "Developing novel methods in synchrotron micro-X-ray diffraction for characterizing variations in the skeletal mineralogy of calcifying marine organisms resulting from CO_2-induced ocean acidification" (*ALS-03974: beamline 12.3.2/21 shifts; PI: J. Ries*)	$40,099 (est.)	2010
W.H.O.I. TROPICAL RESEARCH INSTITUTE – Biogeochemistry "An Experimental Investigation of the Impact of Ocean Acidification on Coral Calcification" *(PI: A. Cohen; Co-PIs: D. McCorkle; N. Shimuzu; J. Ries; M. Holcomb)*	$57,000	2007-2008

W.H.O.I. OCEAN & CLIMATE CHANGE FELLOWSHIP – Biogeochemistry "Experiments on the Effects of Ocean Acidification on Calcareous Biomineralization" *(PI: J. Ries)*	$83,000	2007-2008
HOWARD HUGHES MEDICAL INSTITUTE -- Geobiology Research grant for post-doctoral teaching and course development Tropical Marine Ecology Field Course *(PI: J. Ries)*	$26,500	2004-2006
DAVID ELLIOT FUND FOR RESEARCH – Geobiology "Effect of Seawater Mg/Ca on Calcareous Biomineralization" *(PI: J. Ries)*	$10,000	2004-2005
GLASSMANN GRANT FOR FIELD RESEARCH – Geobiology "Effect of Oceanic Mg/Ca on Paleozoic Reef-Building Organisms" *(PI: J. Ries)*	$12,000	2001-2004
NASA DELAWARE SPACE GRANT – Geosciences *(PI: J. Ries)*	$15,000	1996-1998

INVITED PRESENTATIONS

Zentrum für Marine Tropenökologie (ZMT; Bremen, Germany), "Impact of Ocean Acidification on Marine Biological Calcification: Patterns and Processes" November 2011

North Carolina State University, "Impacts of ocean acidification on marine calcification" October 2011

Franklin & Marshall College, "Acidifying the oceans: Impacts on the growth of skeletons by marine organisms and their potential ecological consequences" September 2011

UNC Humanities Program of the College of Arts and Sciences and the General Alumni Association (Blue gold: water resources in the world today), "Acidic oceans: The underwater CO_2 problem" September 2011

Duke University, "Impacts of ocean acidification on calcareous biomineralization: a geochemical perspective" September 2011

National Shellfisheries Association, "The varied responses of marine calcifiers to CO2-induced ocean acidification: how and why?" March 2011

Southern Methodist University, "Marine calcification in a high CO2 world," November 2010.

University of North Carolina at Wilmington, "A physicochemical explanation for the mixed responses of marine calcifiers to CO_2-induced ocean acidification," October 2010.

National Oceanographic and Atmospheric Administration, "Anthropogenic CO_2 and the fate of benthic marine calcifiers," October 2010.

Institute of Marine Sciences, University of North Carolina, "Marine calcifiers exhibit mixed responses to CO2-induced ocean acidification – how and why?" October 2010.

Eastern Carolina University, "The effects of CO_2-induced ocean acidification on marine biocalcification," September 2010.

Paleo-Ocean Acidification Workshop, Catalina Is., California, "Impact of seawater Mg/Ca (calcite-aragonite seas) and CO_2-induced ocean acidification on the mineralogy of marine calcifiers throughout Phanerozoic time," August 2010.

Calera Corporation, Los Gatos, California, "Utilizing continental flood basalts as a source of alkalinity and divalent cations in the Calera process: Characterization of Snake River floods basalts and plan for fluid-basalt reaction experiments," June 2010.

Calera Corporation, Los Gatos, California, "Mechanisms of formation, stabilization, and transformation of amorphous calcium carbonate and their relevance to carbon sequestration: Exploiting disorder," May 2010.

Marine Conservation Biology Institute: Puget Sound Ocean Acidification Workshop, "Impact of CO_2-induced ocean acidification on the calcification and skeletal properties of benthic marine calcifiers," March 2010.

Calera Corporation, Los Gatos, California, "Brine utilization in CO_2 sequestration processes," January 2010.

University of North Carolina (Dept. of Geological Sciences), "Super-heavy pyrite ($\delta^{34}S_{pyr} > \delta^{34}S_{cas}$) in the terminal Proterozoic Nama Group, Southern Namibia: A consequence of low seawater sulfate at the dawn of animal life," March 2009.

American Geophysical Union, "The mineralogical responses of marine calcifiers to CO_2-induced ocean acidification," December 2008.

Yale University – Global Change Seminar Series, "Secular variation in seawater Mg/Ca: impacts on biotic and abiotic carbonates," November 2008

Duke University – 22nd Annual D/UNCOC Symposium, "Marine calcification in a high CO_2 world," November 2008

Appalachian State University, "Marine calcification under high-CO_2 atmospheres," September 2008.

Association of Monterey Bay Area Governments, "Sequestering fossil-fuel carbon through the production of green cement," August 2008.

Bodega Bay Marine Lab (University of California – Davis), "Marine calcifiers exhibit positive and negative responses to CO_2-induced ocean acidification – how and why?" June 2008.

Calera Corporation, Los Gatos, California, "The calcification site proton pump – a biological model for calcification-based carbon sequestration," June 2008.

Ohio State University, "Benthic marine calcifiers exhibit mixed responses to CO_2-induced ocean acidification," May 2008.

Woods Hole Oceanographic Institution, "Winners and losers of ocean acidification," May 2008.

Stanford University, "Effect of secular variation in oceanic Mg/Ca on calcareous biomineralization - experiments and observations," April 2008.

Massachusetts Institute of Technology, "Marine calcification under high-CO_2 atmospheres," November 2007.

American Society of Limnology and Oceanography, "Biocalcification – state of the knowledge," February 2007.

Woods Hole Oceanographic Institution, "The evolution of biocalcification in a chemically-dynamic ocean," February 2007.

American Geophysical Union, "Effect of secular variation in oceanic Mg/Ca on calcareous biomineralization," December 2006.

Center of Marine Biotechnology (University of Maryland), "Minerals, microbes, marine invertebrates, and magma: the effect of tectonically-forced variations in seawater Mg/Ca on calcareous biomineralization," May 2006.

University of North Carolina, Department of Marine Sciences, "Effect of secular variation in seawater chemistry (calcite/aragonite seas) on calcareous biomineralization: linking plate tectonics to paleobiology via marine geochemistry," April, 2006.

California Institute of Technology, Division of Geological and Planetary Sciences (Division Seminar), "The effect of secular variation in seawater Mg/Ca (calcite and aragonite seas) on calcareous biomineralization," September, 2005.

University of Maryland, Department of Geology (Geochemistry Seminar), "Secular variation in the Mg/Ca ratio of seawater (calcite/aragonite seas) and its effect on calcareous biomineralization," October, 2005.

PUBLISHED ABSTRACTS

Ries, J.B., 2011. A physicochemical framework for interpreting the biological calcification response to CO_2-induced ocean acidification. Eos Transactions AGU, Fall Meet. Suppl. (55).

Westfield, I.T., Kendall, T., Ries, J.B., 2011. Mineralization of atmospheric CO2 via fluid reaction with mafic/ultramafic rocks. Eos Transactions AGU, Fall Meet. Suppl. (55).

Johnston, D.T., Gill, B.C., Ries, J.B., O'Brien, T., Macdonald, F.A., 2011. Toward a unifying model for the late Neoproterozoic sulfur cycle. Eos Transactions AGU, Fall Meet. Suppl. (55).

Ries, J.B., 2011. The responses of estuarine calcifiers to CO2-induced ocean acidification. 11th International Estuarine Biogeochemistry Symposium.

Ries, J.B., 2011. The varied responses of marine calcifiers to CO2-induced ocean acidification: how and why? National Shellfisheries Association Annual Meeting 2011, p. 108.

Ries, J.B. 2010. The effect of CO_2-induced ocean acidification on calcification rates and shell properties of two species of bimineralic marine calcifiers. Eos Transactions AGU, Fall Meet. Suppl. (54), Abstract OS31E-06.

Ries, J.B. 2010. CO_2-induced ocean acidification influences calcite Mg:Ca ratio and calcite:aragonite ratio in some (but not all) calcifying marine organisms. Eos Transactions AGU, 91 (26), Ocean Sciences Meeting Supplement, Abstract PA31A-07.

Castillo, K.D., Ries, J.B.; Weiss, J.M. 2010. Declining skeletal extension rates in forereef colonies of Siderastrea siderea on the Mesoamerican Barrier Reef System, southern Belize. Benthic Ecology Meeting 2010, p. 34.

Ries, J.B., Cohen, A.L., McCorkle, D.C. 2009. The varied responses of marine biocalcifiers to pCO_2-induced ocean acidification. Skidaway Institute of Oceanography Symposium on Chemical Oceanography, Abstract no. 10.

Ries, J.B., Cohen, A.L., McCorkle, D.C. 2008. The mineralogical responses of marine calcifiers to CO_2-induced ocean acidification. Eos Transactions AGU, 89(53), Fall Meet. Suppl., Abstract OS33E-04.

Ries, J.B., Cohen, A.L., McCorkle, D.C. 2008. Marine biocalcifiers exhibit mixed responses to CO_2-induced ocean acidification. International Coral Reef Symposium, Abstract 25-8, 229.

Ries, J.B., McCorkle, D.C., Cohen, A.L. 2008. Effects of pCO_2-driven reductions in seawater $CaCO_3$ saturation state on the biomineralization of aragonitic and low-to-high Mg calcitic marine invertebrates and algae. Eos Transactions AGU, Ocean Sciences Joint Meeting, OS003, Abstract 2884.

Ries, J.B. 2007. Biocalcification – state of the knowledge. ASLO Aquatic Sciences Meeting Abstracts Volume, 154.

Ries, J.B., Stanley, S.M. 2006. Effect of secular variation in oceanic Mg/Ca on calcareous biomineralization. Eos Transactions AGU, 87(52) Fall Meet. Suppl., Abstract B21D-07.

Ries, J.B. 2006. Effect of secular variation in oceanic Mg/Ca on calcareous biomineralization: from stromatolites to serpulid worms. Astrobiology Science Conference Abstracts Volume, 117.

Ries, J.B. 2005. Polymorph mineralogy of cyanobacterial $CaCO_3$ is controlled by the Mg/Ca ratio of seawater: implications for stromatolites over deep geologic time. Geological Society of America Abstracts with Program, 37(7):401.

Stanley, S.M., J.B. Ries, and L.A. Hardie. 2005. Cretaceous versus modern carbonate sediment mineralogy: evidence from experiments with *Halimeda*. Geological Society of America Abstracts with Program, 37(7):183.

Ries, J.B., S.M. Stanley, and L.A. Hardie. 2005. Effect of secular variation in oceanic Mg/Ca on calcareous biomineralization. North American Paleontology Convention Programme and Abstracts, 25(2):99.

Ries, J.B. 2004. Aragonite production in calcite seas: effect of seawater Mg/Ca ratio on the calcification and growth of the calcareous algae *Penicillus*, *Halimeda* and *Udotea*. Eos Transactions AGU, 85(47), Fall Meet. Suppl., Abstract PP34A-02.

Ries, J.B. 2004. Modern scleractinian corals produce calcite in experimental Mid-Paleozoic/Cretaceous seawater. Geological Society of America Abstracts with Program, 36(5):544.

Stanley, S.M., J.B. Ries, and L.A. Hardie. 2004. How an increase in the Mg/Ca ratio of seawater after the Cretaceous depressed chalk production and caused some coccolithophores to secrete high-Mg calcite. Geological Society of America Abstracts with Program, 36(5):96.

Ries, J.B. 2004. Marine animals that secrete high-Mg calcite in modern seas produce low-Mg calcite in seawater of mid-Cretaceous composition. Ecological Society of America Mid-Atlantic Chapter Meeting 1:2.

Ries, J.B. 2003. Modern high-magnesium calcite organisms produce low-magnesium calcite in experimental mid-Cretaceous seawater. Geological Society of America Abstracts with Program 34(7):204-205.

Stanley, S.M., J.B. Ries, and L.A. Hardie. 2002. Production of low-magnesium calcite by three species of coralline algae grown in artificial seawater with the magnesium/calcium ratio of Late Cretaceous seas. Geological Society of America Abstracts with Program 34(6):167.

Ries, J.B., D. Merritts, D.J. Harbor, T. Gardner, P.A. Erickson and M. Carlson. 1998. Increased rates of fluvial bedrock incision in the Central Appalachian Mountains, Virginia. Geological Society of America Abstracts with Program 30(7):140.

Ries, J.B. 1998. Modes and rates of fluvial bedrock incision in the Valley and Ridge Province, southwestern Virginia. Keck Research Symposium in Geology 11:254-257.

Monteleone, B. and J.B. Ries. 1997. The Hydrology and geochemistry of the Cougar Creek watershed, McCall, Idaho. Keck Research Symposium in Geology 10:41-44.

TECHNICAL EXPERTISE

Geologica/geochemical: Laser ablation inductively coupled plasma mass spectrometry (ICP-MS); light isotope mass spectrometry ($\delta^{13}C$, $\delta^{18}O$, $\delta^{34}S$); scanning electron microscopy (SEM); Raman spectroscopy; microprobe (energy dispersive spectrometry, wave dispersive spectrometry); X-ray diffraction (XRD); cathodoluminescence; atomic force microscopy (AFM); high precision seawater DIC/alkalinity determinations

Geomicrobiological: Microbial culture; denaturing gradient gel electrophoresis (DGGE); clone library construction

ACADEMIC SERVICE

2011	Invited participant in the 2011 NSF-sponsored Principal Investigator Ocean Acidification Workshop in Woods Hole, Massachusetts, 2011
2010	Invited participant in the 2010 NSF-sponsored Paleo-Ocean Acidification Workshop on Catalina Island, California, 2010
2010	Organized UNC-CH Department of Marine Science external speaker seminar series
2010	Letter of clarification submitted to US Senate after 2009 Geology article on ocean acidification was reviewed as part of the April 22nd US Senate Commerce, Science, and Transportation Subcommittee (SR-253) hearing on The Environmental and Economic Impacts of Ocean Acidification (http://tinyurl.com/2bmoead; 72:30; 75:30; 100:00; 102:30)

2010	Faculty search committee – Biological Oceanographer, UNC-CH
2010	Invited participant in the 2010 NOAA Ocean Acidification Instrumentation and Research Needs Workshop in St. Petersburg, FL
2010	Invited speaker at the Marine Conservation Biology Institute/Puget Sound Ocean Acidification Workshop in Seattle, WA
2010	Conceived of and designed the Aquarium Research Center in the new Venable Hall, UNC-CH (became operational in Fall 2010)
2009	Participated in the 2009 NSF-funded Early Career Geoscience Faculty Workshop: On the Cutting Edge, College of William and Mary (competitive application)
2009	Contributor to the 2009 UNC Climate Change Committee Report submitted to the North Carolina General Assembly
2009	Session chair for the 2009 American Society of Limnology and Oceanography (ALSO) Meeting – "Coral reefs and coral communities in a changing environment"
2009	Contributed images and information from my research at UNC to the twelve-part Public Television series "Changing Seas"
2008	NOAA Panel on Ocean Acidification Research
2002 – 2006	Johns Hopkins University Diving Safety Control Board
2005 – 2006	JHU-WISE (Johns Hopkins University-Women in Science and Education) Mentor

JOURNAL EDITORSHIP

Editor, Global Biogeochemical Cycles (2011 – present)
Editor, Journal of Earth Science and Climate Change (2010 – present)

PEER REVIEW

Manuscripts: Science; Geology; Nature Geosciences; Geochimica et Cosmochimica Acta; Geological Society of America Bulletin; Journal of Geophysical Research; Biogeosciences; Journal of Sedimentary Research; Journal of the Geological Society of London; Proceedings of the International Coral Reef Symposium; Biogeosciences; FEMS Microbiology; Marine Ecology Progress Series, Earth and Planetary Sciences Letters; Journal of Experimental Marine Biology and Ecology; PLoSONE; Diversity; Aquatic Biology

Grant proposals: National Science Foundation; National Oceanic and Atmospheric Administration; Petroleum Research Fund; United States Geological Survey; Washington State Sea Grant; Estonia National Science Foundation; Czech National Science Foundation

POPULAR PRESS

HD VIDEO: "Researchers study coral growth in Mesoamerican barrier reef," by Rob Holliday. *UNC News*, May 2011 (http://www.youtube.com/watch?v=nvy7hFhiMZU)
"Diving deep into coral science: UNC marine biologist explores offshore in Belize to learn why coral health has declined," by Tyler Dukes. *Raleigh News and Observer/Charlotte Observer*, April 2011
"Unexplained Explosion" by Mark Derewicz, *Endeavors Magazine* (UNC), December 2009
"Shell game," by Roberta Kwok. *Conservation Magazine*, March 2010
"Giant lobsters from rising greenhouse gases?" by Guy Raz. *All Things Considered – National Public Radio*, December 2009.
"Ocean acidification: a risky shell game – How will climate change affect the shells and skeletons of sea life?" by Kate Madin. *Oceanus*, December 2009.
"Acidic oceans may be a boon for some marine dwellers," by DeLene Beeland. *Science*, December 2009
"Consider the lobster," by Olive Heffernan. *Nature – Climate Change*, December 2009
"At Copenhagen global warming conference, alarms on ocean acidification" by Peter Spotts. *Christian Science Monitor*, December 2009.

"Climate change creates shell-size surprise," by Daniel Cressey. *Nature*, December 2009
"Some lobsters, crabs withstand ocean's CO_2 increases," by Dan Vergano. *USA Today*, December 2009
"Acid ocean test looks to the past," by DeLene Beeland. *Science in the Triangle*, December 2009
"Extra carbon dioxide bulks up lobsters," by Sarah Everts. *Chemical and Engineering News*, December 2009
"Off-balance ocean," by Rachel Petkewich. *Chemical and Engineering News*, February 2009
"The many dangers of greenhouse gases," by Richard Kerr. *Science*, January 2009
"Marine calcifiers in a high-CO_2 ocean," by Victoria Fabry. *Science*, April 2008.
"Surprise! Corals switch their skeleton as seawater changes," by Lisa DeNike. *The Gazette*, July 2006
"Corals adapt to sea change," by Carolyn Gramling. *Geotimes*, September 2006.
"Corals undergo sea change," by Ken Ferguson. *Frontiers in Ecology and the Environment*, August 2006.
"Coral polyps can adjust skeletons to water chemistry," by Sara Goudarzi. *FOXNews.com*, July, 2006.
"Sea change: skeletons of ancient corals different from today's," by Lisa DeNike. *The Gazette*, November 2004.
"Sea change had major effect on coral reefs: Ocean chemistry led to death, rebound, JHU student finds," by Dennis O'Brien. *The Baltimore Sun*, November, 2004.

TEACHING

The Marine Environment (Fall 2008 = 93 students; Fall 2009 = 106 students; Spring 2011 = 106 students)
Marine Geology (Spring 2009 = 8 students, Fall 2010 = 21 students; Fall 2011 = 11 students)
Coral Reefs and Climate Change (Co-taught with J. Bruno & K. Castillo; Fall 2009 = 11 students)
Undergraduate Research in Marine Science (Fall 2009 = 1 student; Spring 2010 = 5 students
Fall 2010 = 4 students; Spring 2011 = 4 students; Fall 2011 = 6 students)
Seminar in Oceanography (Fall 2010 = 3 students)
Master's Research in Marine Science (Fall 2009 = 1 student, Spring 2010 = 1 student)
Doctoral Research in Marine Sciences (Fall 2009 = 1 student, Spring 2010 = 1 student, Fall 2010 = 1 student, Spring 2011 = 1 student, Fall 2011 = 3 students)
Tropical Marine Ecology Field Course (Roátan, Honduras; Winter term 2005 & 2006)

ADVISING

Postdoctoral researchers supervised

Dr. Karl Castillo: Reconstructing 100-year changes in seawater temperature, sedimentation and pollution across the Mesoamerican Barrier Reef System (southern Belize), and their effects on calcification rates within the major reef-building coral *Siderastrea siderea* (2008 – present)

Graduate students and visiting scholars supervised

Isaac Westfield (Doctoral): "Ophiolitic carbonates: their origin, evolution, composition, contribution to the global carbon cycle, and application to anthropogenic CO_2-sequestration" (2009 – present)
Kimmaree Horvath (Doctoral): Ocean acidification of reef systems
Brian Connolly (Doctoral): Impacts of ocean acidification on marine calcifiers
Rosaleen Gilmore (Visiting scholar from UCLA): Impacts of ocean acidification on coccolithophorids

Thesis committees served

Isaac Westfield (Ph.D., Marine Sciences, UNC-CH, 2009 – present)
Sara Coleman (Ph.D., Marine Sciences, UNC-CH, 2011 – present; Major advisor: Joel Fodrie)
Luke Dodd (Master's, Marine Sciences, UNC-CH, 2011 – present; Major advisor: Mike Piehler)
Ting Wang (Ph.D., Geological Sciences, UNC-CH, 2009 – present; Major advisor: Donna Surge)
Ian Winkelstern (Master's, Geological Sciences, UNC-CH, 2010 – present; Major advisor: Donna Surge)
Julie Schram (Doctoral, Biology Dept., U. Alabama at Birmingham, 2010 – present; Major advisor: James McClintock)

Robin Mattheus (Ph.D., Marine Sciences, UNC-CH, 2008 – 2009; Major advisor: Tony Rodriguez)

Undergraduate students supervised
Deepti Schroff (Fall 2011)
Kruti Patel (Spring 2011, Fall 2011)
Elaine Chow (Fall, 2011)
Blake Elder (Spring 2011, Fall 2011)
Travis Courtney (Spring 2010, Fall 2010, Spring 2011, Fall 2011)
Andrea Brandt (Spring 2011)
Veronica Butler (Spring 2011, Fall 2011)
Samuel Spalding (Spring 2011)
Bradley Fleck (Fall 2010)
Bradley Pence (Spring 2010, Fall 2010)
Christopher Presnell (Spring 2010, Fall 2010)
Areeg Rehman (Spring 2010)
Brittany Worthington (Spring 2010)
Laura Brown (Fall 2008, Spring 2009)
Jane Lee (Fall 2009)

PROFESSIONAL SOCIETIES
American Society of Limnology and Oceanography
Geological Society of America
American Geophysical Union