

## Kelly Ann Gibson

University of South Carolina Aiken, Biology and Geology  
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<b>EDUCATION</b>	Ph.D. Marine Geology and Geophysics University of Miami, RSMAS, Miami FL Advisor: Dr. Larry Peterson Dissertation: <i>“Rapid Climate Change in the Tropics: A Half-Million Year Long Geochemical Record from the Cariaco Basin, Venezuela”</i>	2006-2012
	B.S. Geology The College of William and Mary, Williamsburg VA Advisor: Dr. Jesse Mc Ninch, Virginia Institute of Marine Science Thesis: <i>“The Use of Seismic Technology in Identifying Scour Resistant Layers: A Study of the Wreck Site of the Queen Anne’s Revenge and the Control of Underlying Geology on the Process of Scour and Burial”</i>	2000 – 2004

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<b>EMPLOYMENT &amp; POSITIONS HELD</b>	<i>Assistant Professor</i> , Biology and Geology, University of South Carolina Aiken <i>Instructor</i> , Biology and Geology, University of South Carolina Aiken <i>Adjunct Assistant Professor</i> , School of the Earth, Ocean, and Environment University of South Carolina (USC) <i>Postdoctoral Associate</i> , Earth and Ocean Sciences, USC <i>Research Assistant</i> , Marine Geology and Geophysics, RSMAS <i>Teaching Assistant</i> , Marine Science, RSMAS	2019 – present 2017 – 2019 2016 – present  2013 – 2016 2006 – 2012 2007 – 2009
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<b>RESEARCH INTERESTS</b>	- Reconstruction of abrupt climate/environmental change from marine sediments/microfossils - The role of the tropics in the global climate system, particularly during periods of reorganization/major change - Biogeochemical cycling of nutrients, minor and trace elements in the ocean - Paleoproxy development (foraminiferal; stable isotope; trace element)
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<b>PUBLICATIONS</b>	Windler, G., Tierney, J.E., DiNezio, P.N., <b>Gibson, K.</b> , Thunell, R., 2019. Shelf exposure influence on Indo-Pacific Warm Pool climate for the last 450,000 years, <i>Earth and Planetary Science Letters</i> , 516, 66-76, <a href="https://doi.org/10.1016/j.epsl.2019.03.038">https://doi.org/10.1016/j.epsl.2019.03.038</a> . Pearson, P. N. and IODP Expedition 363 Shipboard Scientific Party: A deep-sea agglutinated foraminifer tube constructed with planktonic foraminifer shells of a single species, <i>J. Micropalaeontol.</i> , 37, 97-104, <a href="https://doi.org/10.5194/jm-37-97-2018">https://doi.org/10.5194/jm-37-97-2018</a> , 2018. <b>Gibson, K.A.</b> , Thunell, R.C., Machain-Castillo, M.L., Fehrenbacher, J., Spero, H., Wejnert, K. E., Nava- Fernandez, X., Tappa, E.J., 2016. Planktonic foraminifera as recorders of water column hydrography in the Eastern Tropical North Pacific, <i>Earth and Planetary Science Letters</i> , 452, 90-103, doi:10.1016/j.epsl.2016.07.039 <b>Gibson, K.A.</b> , Thunell, R.C., Tappa, E.J., Peterson, L.C., McConnell, M., 2015. The influence of millennial-scale climate change on nitrogen isotope dynamics in the Cariaco Basin during marine isotope stage 3. <i>Paleoceanography</i> , 30, doi:10.1002/2014PA002684 <b>Gibson, K. A.</b> , Peterson, L.C., 2014. A 0.6 million year record of millennial-scale climate variability in the tropics, <i>Geophysical Research Letters</i> , 41, 969–975, doi:10.1002/2013GL058846.
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Meckler, A.N., Sigman, D.N., **Gibson, K.A.**, François, R., Martínez-García, A., Jaccard, S.L., Röhl, U., Peterson, L.C., Tiedemann, R., Haug, G.H, 2013. Deglacial pulses of deep ocean silicate into the subtropical North Atlantic Ocean, *Nature*, 495, 495-498, doi:10.1038/nature12006

**Gibson, K.A.**, 2012. Rapid Climate Change in the Tropics: A Half-Million Year Long Geochemical Record from the Cariaco Basin, Venezuela, University of Miami, Miami,FL.

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**GRANTS AND AWARDS**

USCA HAS Travel Award	2017, 2019
<i>"Tropical Pacific Nutrient Dynamics Across the Mid Pleistocene Transition"</i> USC Research Initiative for Summer Engagement (RISE) Program ( <b>\$2987</b> )	2018
<i>"Nutrient dynamics and productivity in the Western Pacific Warm Pool: regional responses to remote and local forcings from the Late Pliocene to the Mid-Pleistocene Transition"</i> USSSP Post Expedition Award IODP Exp 363 ( <b>\$15000</b> )	2017 – 2019
<i>"Ba/Ca in Planktonic Foraminifera as a Recorder of Freshwater Input to the Ocean: Proxy Refinement in the Gulf of Papua, Papua New Guinea"</i> USC Advanced Support for Innovative Research Excellence (ASPIRE) ( <b>\$5000</b> )	2015 – 2017
<i>"The influence of recent climate change on northward advection of the North Pacific denitrification signal along the California Coast"</i> Chief Scientist in Training Cruise ( <b>\$1200</b> )	2014
<i>"Calibration of qualitative scanning X-ray fluorescence records from the Cariaco Basin"</i> Geological Society of America Student Research Grant ( <b>\$1549</b> )	2010
RSMAS Fellowship, RSMAS, University of Miami	2006 – 2007
<u>Mentored Student Awards:</u>	
<i>"Benthic Foraminifera as Indicators of Ecosystem Health in North Inlet"</i> Student: Sarah Rebecca Shealy, USCA, USCA Summer Scholars Institute ( <b>\$3000 student/\$4000 faculty</b> )	2019
<i>"Paleoproductivity Changes in the Indo Pacific Across the Mid-Pleistocene Transition: Understanding CO<sub>2</sub>, Sensitivity, and Orbital Forcing in the Tropics"</i> Student: Mina Surprenant, USC, Magellan Scholars Program ( <b>\$3000</b> )	2019

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**TEACHING AND MENTORING**

<i>Instructor</i> , Biology and Geology, USCA, Aiken, SC Courses: Intro to Physical Geology (Geol 101), Integrated Earth Science (Geol 201), Paleontology (Geol 311), Global Biogeochemical Cycles (Geol 398)	2017 – present
<i>Adjunct Faculty</i> , Marine Science Program, USC, Columbia, SC Courses: Chemistry of the Seas (MSCI 313), Oceans and Society (MSCI 210)	2016 – present
<i>Guest Lecturer</i> , Marine Science Program, USC, Columbia, SC Courses: Chemical Oceanography (MSCI 782), Paleoclimate (MSCI/GEOL 711) Intro to Marine Science (MSCI 101),	2015

*Trace Metals Instructor*, Marine Sediments Research Lab, USC, Columbia, SC 2013 – 2016

*Teaching Assistant*, Marine Science Program, University of Miami, Miami, FL 2008, 2009, 2012  
Courses Taught: Origin and Geology of the Galapagos Islands (MSCI 424),  
two-week field-based geology course; Introduction to Marine Science (MSCI 111)

Undergraduates Mentored

*Paleoclimatology Lab, USCA, Aiken, SC* 2017 – present  
Angel Owiriwa, Joshua Grubb, Sarah Rebecca Shealy, Joseph Costello (USCA)

*Marine Sediments Research Lab, USC, Columbia, SC* 2014 – present  
Mina Surprenant (USC), Txai Mitt Schwamborn (Universidade Federal de Rio Grande, Brazil), Courtney Swink (USC) Emily Townsend (USC)

*Paleoclimatology Lab, RSMAS, University of Miami, Miami, FL* 2008 – 2009  
Hannah Marsh (UM), Brittney Price (UM), Angela Rosenberg (UM)

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**INVITED  
TALKS**

**Gibson, K.A.**, 2017, Taking the Pulse of Paleoproductivity in the Western Pacific Warm Pool, Central Savannah River Area Geologic Society, Aiken, SC

**Gibson, K.A.**, 2015, Planktonic Foraminifera as Recorders of Sea Surface Hydrography in the Eastern Tropical North Pacific: Climate Connections and Paleoproxy Development, Virginia Institute of Marine Science Department of Physical Science Seminar, Gloucester Point, VA

**Gibson, K.A.**, 2013, Rapid Climate Change in the Tropics: A Half-Million Year Long Geochemical Record from the Cariaco Basin, Venezuela, Department of Marine Science Seminar, University of South Carolina, Columbia, SC.

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**ABSTRACTS**

Eichler, P.P.B, Billups, K., **Gibson, K.**, Viatl, H., Gomes, M.P., and IODP Expedition 363 Scientists, 2017. Foraminiferal tolerance to physical pressure in recent and past sediments of WPWP (IODP Exp.363), COLCAMAR17, Balenario Camboriu, Santa Catarina, Brasil.

**Gibson, K.**, Mitt Schwamborn, T., Thunell, R., C., Tuten, E.C., Swink, C., Tappa, E., 2017. Paleoproductivity and Nutrient Cycling on the Sumatra Margin during the Past Half Million Years, AGU, San Francisco, CA.

Hammes, U., **Gibson, K.**, Peterson, L, Ruppel, S, 2015. Sedimentologic and paleoceanographic controls of anoxia in the Holocene Cariaco Basin (Venezuela): implications for control of source rock deposition of Cretaceous (Eagle Ford) and Jurassic (Haynesville) mudrocks. AAPG.

**Gibson, K.**, Thunell, R., Machain-Castillo, M., Wejnert, K., Nava-Fernandez, X., Rodriguez Ramirez, A., Fehrenbacher, J., Spero, H., Tappa, E., 2014. Planktonic foraminifera as recorders of sea surface hydrography in the Eastern Tropical North Pacific (Gulf of Tehuantepec, MX). AGU, San Francisco, CA.

Scher, H., Romans, B., Buckely, W., **Gibson, K.**, Moffitt, Z., 2013. Terrigenous input, deep water circulation, and bottom current intensity in the late Eocene to late Oligocene North Atlantic, ICP, Barcelona, Spain.

**Gibson, K.A.**, Thunell, R.C., Tappa, E.J., Peterson, L.C., McConnell, M. 2014. The Influence of Rapid, Millennial-Scale Climate Change on Nitrogen Isotope Dynamics of the Cariaco Basin during Marine Isotope Stage 3, Southeastern Biogeochemistry Symposium, Atlanta, GA.

**Gibson, K.A.**, Peterson, L.C., 2013. A half million years of suborbital variability from the Cariaco Basin: A proxy for Greenland "ice core" records?, Goldschmidt, Florence, Italy.

- Gibson, K.**, Peterson, L.C., 2011. A Half-Million Year Geochemical Record of Climate from Cariaco Basin, INQUA Congress, Bern, Switzerland.
- Gibson, K.A.**, Peterson, L.C., 2010. Elemental Records of the Penultimate Glacial-Interglacial Cycle in the Cariaco Basin, Venezuela, AGU, San Francisco, CA.
- Gibson, K.A.**, Peterson, L.C., Yurco, L.N., 2009. A multi-proxy, high resolution record of the Younger Dryas in Cariaco Basin, AGU, San Francisco, CA.
- Peterson, L.C., **Gibson, K.A.**, Black, D.E., Thunell, R.C., Lea, D.W., Haug, G.H., 2007. The History and Dynamics of Anoxia in Cariaco Basin, invited talk, AGU, San Francisco, CA.

<b>FIELD EXPERIENCE</b>	Sediment trap turnaround cruises	
	Gulf of Mexico	2019
	Santa Barbara Basin, CA; Cariaco Basin, VZ	2013-2014
	IODP Exp 363, Inorganic Geochemist	2016
	Chief Scientist in Training Cruise, Moss Landing CA	2014
	IODP-799 Site Survey Cruise, Western Pacific Warm Pool	2013
	Modern carbonate sedimentology (Exumas, Little Bahama Bank, Bahamas; Florida Keys, FL)	2007 – 2008
	Colorado Plateau Field Camp	2003

<b>PROFESSIONAL DEVELOPMENT</b>	ACCU Transforming STEM Higher Education: Confirming the Authority of Evidence, Atlanta, GA	2018
	Paleontological Society, NSF and EarthRates: PBDB, Macrostrat, Rockd, Neotoma Teaching “Hackathon”, Washington DC	2018
	USCA Center for Teaching Excellence Lunch and Learn Seminars	2017
	Preparing Future Faculty Program, USC Center for Teaching Excellence	2016
	Marine Geoscience Leadership Symposium, Washington DC	2015
	Integrated Ocean Discovery Program Short Course (AGU)	2014
	Preparing for an Academic Career in the Geosciences Workshop, University of North Carolina - Chapel Hill	2012
	International Workshop on XRF Core Scanning, Royal Institute for Sea Research, Texel, Netherlands	2010

<b>SERVICE, OUTREACH, &amp; LEADERSHIP</b>	Peer Reviewer for: Earth and Planetary Science Reviews, Continental Shelf Research, Biogeosciences Discussions, Journal of Foraminiferal Research; NSF MG&G/OCE/P2C2 proposal reviewer	2015 – present
	USCA New Faculty Orientation Committee	2019 – present
	American Geophysical Union (AGU) Outstanding Student Poster Award Judge	2017, 2018
	USCA Bio/Geo Retention and Recruitment Committee	2018 – present
	USCA Microbiology Faculty Search Committee	2017
	USCA Judicial Board Jury Pool	2017 – present
	USC Discovery Day/Discover Presentation Judge	2014, 2017-2018
	USC Postdoc Association Secretary/Treasurer	2014 – 2015
	USC Region II Science and Engineering Fair Judge	2014
	USC Marine Science REU Symposium judge	2013
	Marine Science Outreach with Third Grade at Columbia Jewish Day School	2013
	National Ocean Science Bowl Judge	2011

Tour Guide, RSMAS	2008 – 2012
Treasurer, Marine Science Graduate Student Organization (MSGSO), RSMAS	2007 – 2008
“Geotopics” departmental seminar Co-Organizer, RSMAS	2006 – 2007

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**AFFILIATIONS**

National Association of Geoscience Teachers	2016 – present
Earth Science Women’s Network	2011 – present
American Geophysical Union	2006 – present
Geological Society of America	2006 – present

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