D. Alex Beebe

Department of Earth Sciences, University of South Alabama

5871 USA Drive North
Life Science Building, Room 136
Mobile, AL 36688-0002

Phone: (251) 460-7575
Fax: (251) 461-1487
Email: dbeebe@southalabama.edu

EDUCATION

Clemson University Clemson, SC
Ph.D., Environmental Engineering and Science, Clemson University, 2013.
Dissertation: *Renovation of Ammonia Contaminated Produced Water Using Constructed Wetlands*. Advisor: J.W. Castle

University of South Alabama Mobile, AL
Bachelor of Science, Geology and Biology, Cum Laude, 2007.
Additional marine biology and geology coursework completed through the Dauphin Island Sea Lab.

ACADEMIC AND PROFESSIONAL EXPERIENCE

August 2019 – Present Associate Professor of Geology, Department of Earth Sciences, University of South Alabama, Mobile, AL.

August 2013 – August 2019 Assistant Professor of Geology, Department of Earth Sciences, University of South Alabama, Mobile, AL.

August 2012 – August 2013 Graduate Teaching Assistant, Department of Environmental Engineering and Earth Science, Clemson University.

August 2008 – August 2012 Graduate Research Assistant, Department of Environmental Engineering and Earth Science, Clemson University.

January 2008 – August 2008 Environmental Geologist, Environmental Consulting Department, Southern Earth Sciences, Inc., Mobile, AL.

September 2006 – December 2008 Environmental Geology Intern, Environmental Consulting Department, Southern Earth Sciences, Inc., Mobile, AL.

TEACHING EXPERIENCE

Courses Prepared and Taught (University of South Alabama)

Graduate Research (EXT599)
Directed Studies (EXT594)
Graduate Level Hydrology (GY575)
Directed Studies (GY494)
Field Geology (GY480)
Senior Thesis (Advisor, AIS430)
Hydrology (GY425)
Geophysics (GY305)
Geomorphology (GY301)
Earth History (GY112)
Earth History Lab (GY112L)
Physical Geology (GY111)
Physical Geology Lab (GY111L)

Courses Prepared and Taught (Clemson University)

Surficial Geology Laboratory (Assistant, GEOL4050)
Physical Geology Laboratory (GEOL1030)

Mentored Undergraduate Directed Studies Students

Adele Magaud, 2022
Jacob Chambliss, 2022
Rachel Rhodes, 2021
Matt Harris, 2020
Nick Barton, 2020
Mary Brandon Scott, 2019
Samuel Barber, 2017-2018
Sheena Parker, 2017-2018
Kaylyn Bellais, 2016, 2018
Thomas Casteel, 2017
Jacqueline Pledger, 2017
Rebecca McClaurine, 2016
Michelle Labelle, 2016
Rian Engle, 2016
Joseph Patterson, 2015
Jordan Hollinghead, 2015
Beverly Lowery, 2014-2015
Jennifer Jackson, 2014-2015
Dane Leach, 2014-2015
Daniel Little, 2015
Chen Yu Chuan Gu, 2015
David Morrison, 2015
Emil Johnson, 2014
Tyler Hayaski, 2014
Joe Connors, 2014
Levi Brown, 2014

Graduate Committees

Mai Fung, Current, Ph.D. Marine Sciences, University of South Alabama
Debbrota Mallick, Current, Ph.D. Marine Sciences, University of South Alabama
Carlos Sankone, Current, M.S. Biology, University of South Alabama
Joseph Pavelites, Current, M.S. Environmental Toxicology, University of South Alabama
William Sterrett, Current, M.S. Biology, University of South Alabama
Zach Peoples, 2022, M.S. Geology, Mississippi State University
Elizabeth Winter, 2022, M.S. Civil Engineering, University of South Alabama
Katelyn Giles, 2022, M.S., Geology, Memphis University
Mary Brandon Huettemann, 2022, M.S. Geology, University of Alabama
Ross Colburn, 2020, M.S. Environmental Toxicology, University of South Alabama (Chair)
Katherine Beck, 2020, M.S. Environmental Toxicology, University of South Alabama
Dane Leach, 2020, M.S. Environmental Sciences, University of West Florida
Joseph French, 2020, M.S. Geology, Mississippi State University
Nickolas Moreno, 2019, M.S. Biology, University of South Alabama
Patrick Hautau, 2018, M.S. Civil Engineering, University of South Alabama
Beverly Lowery, 2018, M.S. Environmental Sciences, University of West Florida
Amy Schwarber, 2018, M.S. Environmental Toxicology, University of South Alabama
Darius Hixon, 2016, M.S. Environmental Toxicology, University of South Alabama
Steven Stokes, 2016, M.S. Marine Sciences, University of South Alabama
Bryan Gorza, 2016, M.S. Civil Engineering, University of South Alabama
Caroline Novy, 2015, M.S. Environmental Toxicology, University of South Alabama (Chair)
Kari Servold, 2015, M.S. Civil Engineering, University of South Alabama
Frankie White, 2015, M.S. Environmental Toxicology, University of South Alabama

SCHOLARLY ACTIVITIES

*Peer Reviewed Publications (Undergraduate student authors underlined; *Corresponding Author)*

Affuso, E.*, J.R. Cummings, **D.A. Beebe**, S. Schultze, 2022. Waterways Sustainability and Economic Growth in the Alabama Black Belt. *Sustainability* (Submitted July, 2022: Result: Accepted pending revisions)

Mallick, D., X. Wang*, and **D.A. Beebe**, 2022. Impact of Estuaries on Fluvial Cr Input into the Ocean: Perspectives from the Mobile Bay Estuary, Northern Gulf of Mexico. *Geochimica et Cosmochimica Acta* (Accepted Aug. 2022), Pre-print Online

Waselkov, G.A.*, **D.A. Beebe**, H. Cyr, E.L. Chamberlain, J.M. Mehta, and E.S. Nelson, 2022. History and Hydrology: Engineering Canoe Canals in Estuaries of the Gulf of Mexico. *Journal of Field Archaeology*, Online

Beebe, D.A.*, M.B. Huettemann, B.M. Webb, and W.T. Jackson, Jr., 2022. Atmospheric Groundwater Forcing of a Subterranean Estuary: A Seasonal Seawater Recirculation Process. *Geophysical Research Letters*, 49(7): e2021GL096154

Jackson, Jr., W.T.*, M. McKay, **D. Beebe**, C. Mullins, A. Ionescu, B. Shaulis, and D. Barbeau, 2021. Detrital Zircon U-Pb ages and Th/U Reveal a Southern Appalachian Piedmont Provenance along the Eastern Gulf Coastal Plain (USA) during Late Cretaceous. *Journal of Sedimentary Research*, 91(10): 1025-1039

Bellais, K.C., S.T. Barber, **D.A. Beebe***, and M.W. Clark, 2020. Lake or Estuary? Sedimentary and Benthic Foraminiferal Characterization of a Gulf of Mexico Coastal Dune Lake. *Gulf and Caribbean Research*, 31(1): 46-52

Beebe, D.A*. and B.A. Lowery, 2018. Seawater Recirculation Drives Groundwater Nutrient Loading from a Developed Estuary Shoreline with On-site Wastewater Treatment Systems: Mobile Bay, USA. *Environmental Earth Science*, 77(10), Online #372

Beebe, D.A.*, J.W. Castle, and J.H. Rodgers, 2015. Biogeochemical Process-Based Design for Treating Ammonia Using Constructed Wetland Systems. *Environmental Engineering Science*, 32(5): 394-406

Beebe, D.A.*, J.W. Castle, F.J. Molz, and J.H. Rodgers, 2014. Effects of Evapotranspiration on Treatment Performance in Constructed Wetlands: Experimental Studies and Modeling, *Ecological Engineering*, 71: 394-400

Beebe, D.A.*, J.W. Castle, and J.H. Rodgers, 2013. Treatment of Ammonia in Pilot-scale Constructed Wetland Systems with Clinoptilolite. *Journal of Environmental Chemical Engineering*, 1: 1159-1165

Alley, B.*, **D.A. Beebe**, J.H. Rodgers Jr., and J.W. Castle, 2011. Chemical and Physical Characterization of Produced Waters from Conventional and Unconventional Fossil Fuel Resources. *Chemosphere*, 85(1): 74-82

Manuscripts in Preparation

Miller, M.M., **D.A. Beebe**, P.G. Matson, A.E. Wilson, and A. Robertson*, 2022. Effect of Salinity on Coastal Cyanobacterial Bloom Dynamics and Toxin Distribution: Implications for Coastal Risk Management of Freshwater Harmful Algal Blooms. Prepared for submission to *Science of the Total Environment*

Giles, K., D. Larson, Y. Kwon, **D.A. Beebe**, and W.T. Jackson Jr.*, 2022. Modern Sediment Input, Alongshore Transport, and Coastal Sediment Mixing in the Northeastern Gulf of Mexico (USA) Based on Detrital Zircon Geochronology. Prepared for submission to *Journal of Sedimentary Research*

Beebe, D.A.*, R.E. Colburn, P. Norris, and P. Harvey, 2022. Nutrient Sources, Fate, and Transport through Coastal Aquifer to a Groundwater Dominated Lagoon: Little Lagoon, AL (USA). Prepared for submission to *Estuaries and Coasts*

Other Publications

Cummings, J.R., E. Affuso, K.D. White, D.A. Beebe, S.R. Schultze, and J. Stupavsky, 2021. Gulf Intracoastal Waterway Economic Assessment. Report prepared for the Delta Regional Authority, October.

Thibaut, T., J. Cebrian, J. Goff, M. Cook, **A. Beebe**, R. Carmichael, B. Webb, S. Smallegan, J. Lehrter, A. Hagemeyer, and B. Dzwonkowski, 2021. *Fowl River Marsh Spit Health and Restoration Study*. Report prepared for the Mobile Bay National Estuary Program, March.

Castle, J.W., J.H. Rodgers, B. Alley, **A. Beebe**, R. Coffey, K. Jurinko, M. Pardue, T. Ritter, and M.M. Spacil, 2013. *Innovative Water Management Technology to Reduce Environmental Impacts of Produced Water*. Technical Report prepared for the U.S. Department of Energy, August.

Peer Reviewed Educational Materials

Beebe, A. and M. Hausner, 2021. *Aquifer Characterization: A Case Study of Snake Valley, Nevada*, HydroLearn Education Platform. https://edx.hydrolearn.org/courses/course-v1:USA_DRI+GY425+2021_T1/about

Brown, M., A. Vankeuren, **A. Beebe**, A. Farough, A. Jolley, and B. Mulvey, 2020. *Go with the Flow: A Virtual Experience on Groundwater Flow*, National Association of Geoscience Teachers (NAGT), Teaching with Online Field Experiences. https://serc.carleton.edu/NAGTWorkshops/online_field/activities/237415.html

Published Abstracts (Undergraduate students underlined)

Miller, M.M., **D.A. Beebe**, A.E. Wilson, P.G. Matson, T. Davis, and A. Robertson, 2021. Cyanobacterial Harmful Algal Bloom Dynamics in the Northern Gulf of Mexico: Implications for Coastal Risk Management. 19th International Conference on Harmful Aglae.

Miller, M.M., **D.A. Beebe**, A.E. Wilson, P.G. Matson, T. Davis, and A. Robertson, 2021. Coastal Cyanobacterial Harmful Algal Bloom Dynamics in Mississippi and Alabama. Carolinas and Southeast SETAC Joint Regional Chapter Meeting.

Jackson, Jr., W.T., M.P. McKay, **D.A. Beebe**, C. Mullins, B. Shaulis, and D.L. Barbeau, 2020. Late Cretaceous Source to Sink Dynamics along the Eastern Gulf Coastal Plain (USA) Revealed by Detrital Zircon Petrochronology of the Ripley Formation. *Geological Society of America Abstracts with Programs 52:(6*). GSA 2020 Connects Online, October 30.

Allison, D.T and **D.A. Beebe**, 2020. Forced to Improvise: Lessons Learned from a Socially-Distanced, Local Capstone Field Geology Course Utilizing On-Campus Resources, GIS, and Smartphone Apps. *Geological Society of America Abstracts with Programs 52:(6*), GSA 2020 Connects Online, October 28.

M.B. Scott, **D.A. Beebe**, and B.M. Webb, 2019. The effects of weather events on coastal aquifer recharge and submarine groundwater discharge. Coastal and Estuarine Research Federation (CERF) 25th Biennial Conference, November 3-7th, Mobile, AL.

Webb, B., **A. Beebe**, R. Carmichael, J. Cebrian, J. Coogan, M. Cook, B. Dzwonkowski, J. Goff, E. Hieb, H. Horne, J. Kudulis, J. Lehrter, S. Smallegan, and T. Thibaut, 2019. An Interdisciplinary Collaboration Leads to an Assessment of Marsh Health in Fowl River, Alabama, 33rd Annual Alabama Water Resources Conference, September 4th, Orange Beach, AL.

Beebe, D.A., K.C. Bellais, B.C. Faulk, B.M. Webb, and H.E. Horne, 2019. Examining the Disappearing Salt Marsh "Spits" in a Tidal Subestuary of Mobile Bay: Results from Piston Core Analyses, Historic Shoreline Comparisons, and Wave Climate Monitoring, *Geological Society of America Abstracts with Programs: 51(3*), Annual Southeast Regional Meeting, March 28th, Charleston, SC.

Beebe, D.A., K.C. Bellais, B.C. Faulk, and S.T. Barber, 2018. Recent Geological History of Fowl River Marsh Spits Revealed through Piston core Geochronological and Seimentological Analyses, Bays and Bayous Symposium, November 29th, Mobile, AL.

Beebe, A., R.C. Carmichael, J. Cebrian, M. Cook, B. Dzwonkowski, J. Kudulis, J. Lehrter, S. Smallegan, T. Thibaut, B. Vittor and B. Webb, 2018. Fowl River Marsh Study: If You Try Sometimes You Just Might Find You Get What You Need, 32nd Annual Alabama Water Resources Conference, September 6th, Orange Beach, AL.

Parker, S.M., R.E. Colburn, and **D.A. Beebe**, 2018. Investigating Submarine Groundwater Discharge and Subterranean Flow Paths in a Coastal Lagoon Using Field Permeameter and Light-Oil Piezomanometer Observations, *Geological Society of America Abstracts with Programs*: 50(3), Annual Southeast Regional Meeting, April 13th, Knoxville, TN.

Pledger, J.R., T.J. Casteel, and **D.A. Beebe**, 2018. Evaluating the TC1 "Slinky" Seismometer as an Accessible Educational and Research Resource at an Undergraduate Geology Program, *Geological Society of America Abstracts with Programs*: 50(3), Annual Southeast Regional Meeting, April 12th, Knoxville, TN.

Barber, S.T., K.C. Bellais, **D.A. Beebe**, and M.W. Clark, 2017. Modern Geologic Characterization of a Gulf of Mexico Coastal Dune Lake, *Geological Society of America Abstracts with Programs*: 49(6), Annual National Meeting, October 24th, Seattle, WA.

Barber, S.T. and **D.A. Beebe**, 2017. Zonation of Eastern Lake, Walton County, Florida. 19th Annual Undergraduate Research Symposium, October 20th, Mobile, AL.

Labelle, M.M., K.C. Bellais, **D.A. Beebe**, and M.W. Clark, 2016. Benthic Foraminifera as Possible Bio-indicators of Environmental Conditions in Mobile Bay, Bays and Bayous Symposium, November 30th, Biloxi, MS.

Beebe, D.A., D.T. Allison, B.A. Lowery, and M.M. Labelle, 2016. Investigating the Effects of Coastal Residential Development on Nutrient Flux via Submarine Groundwater Discharge in Mobile Bay, Bays and Bayous Symposium, November 30th, Biloxi, MS.

Beebe, D.A., D.T. Allison, B.A. Lowery, and M.M. Labelle, 2016. Investigating Nutrient Release via Submarine Groundwater Discharge Along a Developed Estuary Shoreline, *Geological Society of America Abstracts with Programs*: 48(7), Annual National Meeting, September 27th, Denver, CO.

Beebe, D.A., 2016. Submarine Groundwater Discharge: An Important and Elusive Source of Water and Nutrients to Mobile Bay, USA ORED Research and Scholarly Activities Forum, May 12th, Mobile, AL.

Allison, D.T., **D.A. Beebe**, S.T. Barber, P.B. Bordelon, H.W. Brown, and A.B. Goodwin, 2016. Using Polaris and other Celestial Objects to Establish Precise Geographic North Azimuth with the Total Station, *Geological Society of America Abstracts with Programs*: 48(3), Annual Southeast Regional Meeting, March 31st, Columbia, S.C.

Hollinghead, J.C., C.E. Borgini, J.P. Patrick, and **D.A. Beebe,** 2016. Seasonal Comparison of Submarine Groundwater Discharge to a Northern Gulf of Mexico Estuary, *Geological Society of America Abstracts with Programs*: 48(3), Annual Southeast Regional Meeting, March 31st, Columbia, S.C.

Leach, D.J., **D.A. Beebe**, and D.T. Allison, 2016. Nutrient Input to a Developed Coastal Estuary via Submarine Groundwater Discharge, *Geological Society of America Abstracts with Programs*: 48(3), Annual Southeast Regional Meeting, March 31st, Columbia, S.C.

Hollinghead, J.C., C.E. Borgini, J.P. Patrick, and **D.A. Beebe**, 2016. Seasonal Response of Submarine Groundwater Discharge in Mobile Bay, Southeastern Coastal & Atmospheric Processes Symposium (SECAPS), March 5th, Mobile, AL.

Beebe, D.A., D.J. Leach, and D.T. Allison, 2015. Submarine Groundwater Discharge and Nutrient Dynamics in the Vicinity of Coastal Residences with Onsite Wastewater Treatment, *Geological Society of America Abstracts with Programs*; 47(7), Annual National Meeting, November 4th, Baltimore, MD.

Leach, D. and **A. Beebe**, 2015. Characterizing Submarine Groundwater Discharge in Mobile Bay, AL, 17th Annual UCUR Undergraduate Symposium, October 15th, Mobile, AL.

Lowery, B. and **A. Beebe**, 2015. Application and Effectiveness of Biochar as a Fertilizer and as a Substrate for Removing Harmful Nitrates from the Environment, 17th Annual UCUR Undergraduate Symposium, October 15th, Mobile, AL.

Clark, A., S. Kimball, C. Shafer, W. Terwey, and **A. Beebe**, 2015. Association of Gulf Coast Watershed Historic Discharge Events to Precipitation Rate and Accumulation, 17th Annual UCUR Undergraduate Symposium, October 15th, Mobile, AL.

Clark, A., **A. Beebe**, K. Blackwell, S. Kimball, C. Shafer, and W. Terwey, 2015. Association of High Watershed Discharge Events with Meteorological Environments Favorable for Flash Flooding Along the Gulf Coast. 50th Annual National Collegiate Honors Council.

Novy, C., **A. Beebe**, and A. Whelton, 2015. Environmental Concentrations and Aquatic Toxicity of a Chemical Mixture Spilled into a Drinking Water Supply in Charleston, WV., Fostering Advances in Water Resource Protection and Crisis Communication, Lessons Learned from Recent Disasters (NSF Sponsored Workshop), May 29th, Shepherdstown, WV.

Novy, C., **A. Beebe**, and A. Whelton, 2015. Environmental Fate and Aquatic Toxicology Lessons of the Freedom Industries Chemical Spill in Charleston, WV. Alabama's Water Environment Association 38th Annual Conference, April 17th, Orange Beach, AL.

Novy, C., **A. Beebe**, and A. Whelton, 2015. Environmental Contamination and *Daphina Magna* Toxicity Caused by the Freedom Industries Elk River Chemical Spill, West Virginia. University of South Alabama 22nd Annual Graduate Research Forum, March 18th, Mobile, AL.

Leach, D.J., B.A. Lowery, J.L. Jackson, and **D.A. Beebe**, 2015. Removing Nutrient Pollutants from Urban Stormwater Run-off Using Adsorptive Substrates. *Geological Society of America Abstracts with Programs*: 47(2): 95, Southeast Regional Meeting, March 20th, Chattanooga, TN.

Johnson, E.D., **D.A. Beebe**, and D.T. Allison, 2015. A Gravimetric Investigation of The Subsurface Structural Geology of Northern Mobile Bay, *Geological Society of America Abstracts with Programs*: 47(2): 77, Southeast Regional Meeting, March 20th, Chattanooga, TN.

Clark, A., **A. Beebe**, K. Blackwell, S. Kimball, C. Shafer, and W. Terwey, 2015. Association of Gulf Coast Watershed Historic Discharge Events to Precipitation Rate and Accumulation, Southeastern Coastal & Atmospheric Processes Symposium (SeCAPS), February 21st, 2015, Mobile, AL.

Beebe, A., K. Blackwell, W. Terwey, C. Shafer, and S. Kimball, 2014. Analysis of Historic Rainfall and Flooding Events in the North-Central Gulf Coast, Bays and Bayous Symposium, December 2nd, Mobile, AL.

Beebe, D.A. and T.A. Hayaski, 2014. Enhanced Adsorption and Removal of Nutrient Pollutants in Urban Stormwater Run-off with Novel Substrates, 28th Annual Alabama Water Resources Conference, September 4th, Orange Beach, AL.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2013. Effects of Evapotranspiration on Water Treatment Performance in Constructed Wetlands, Clemson Hydrogeology Symposium, April 4, Clemson, SC.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2012. Evapotranspiration Studies in Small Stand Wetlands. *Geological Society of America Abstracts with Programs*: 44(7): 581, Annual National Meeting, November 7, Charlotte, NC.

Beebe, D.A., B. Alley, J.W. Castle, and J.H. Rodgers, Jr., 2012. Evaluation of Coal-Bed Methane Produced Water in Western Alabama for Use as a Water Resource during Drought, Clemson Hydrogeology Symposium, April 5, Clemson, SC.

Beebe, D.A., B. Alley, J.W. Castle, and J.H. Rodgers, Jr., 2012. Potential for Beneficial Use of Coal-Bed Methane Produced Water in Western Alabama to Augment Water Supplies during Intense Drought. *Geological Society of America Abstracts with Programs*: 44(4): 66, Southeast Regional Meeting, April 2, Asheville, NC.

Beebe, D.A., Y. Song, J.W. Castle, and J.H. Rodgers Jr., 2011. Designing Constructed Wetland Treatment Systems for Ammonia in Produced Water. *Society of Environmental Toxicologists and Chemists, North American 32nd Annual Meeting Abstracts*: p. 377, Annual National Meeting, November, 17, Boston, MA.

Beebe, D.A., Y. Song, J.W. Castle, and J.H. Rodgers Jr., 2011. Pilot Study of Constructed Wetland Treatment Systems Designed for Removal of Ammonia in Oilfield Produced Water. *Geological Society of America Abstracts with Programs*: 43(5): 580, Annual National Meeting, October 12, Minneapolis, MN.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2011. Clinoptilolite as a Dual Purpose Sorbent and Microbial Carrier in Constructed Wetland Treatment Systems Designed to remove Ammonia, Clemson Hydrogeology Symposium, April 7, Clemson, SC.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2011. Evaluation of Clinoptilolite for Use as a Sorptive Microbial Carrier in Constructed Wetland Treatment Systems Designed to Remove Ammonia. *Geological Society of America Abstracts with Programs*: 43(3): 39, South Central Regional Meeting, March 29, New Orleans, LA.

Alley, B., **D.A. Beebe**, J.H. Rodgers Jr., and J.W. Castle, 2010. A Comperative Characterization of Produced Water from Conventional and Unconventional Fossil Fuel Resources. *American Association of Petroleum Geologists Search and Discovery Article*: #90104, Annual National Meeting, April 14, New Orleans, LA.

Castle, J.W., J.H. Rodgers, Jr., B. Alley, M. Spacil, **A. Beebe**, M. Pardue, and Y. Song, 2010. Biogeochemical Processes for Treating Oil and Gas Produced Waters Using Hybrid Constructed Wetland Treatment Systems. *American Association of Petroleum Geologists Search and Discovery Article*: #90104, Annual National Meeting, April 14, New Orleans, LA.

Selected Presentations

Beebe, D.A., 2022. (Invited Presentation) Little Lagoon Watershed Nutrient Assessment and Source Tracking. Invited presentation for the Little Lagoon Preservation Society meeting, July 21st, Gulf Shores, AL.

Beebe, D.A., 2022. (Invited Presentation) Structure from Motion (SfM) Photogrammetry. Invited presentation for the Mobile Bay Bridge Project Workshop, February 22nd, Mobile, AL.

Beebe, D.A., 2019. (Invited Presentation) What's happening to the marshes in Fowl River?: An interdisciplinary approach to identify the drivers of marsh degradation. Invited presentation for the Southwest Alabama Geological Society (SWAG) meeting, July 25th, Mobile, AL.

Beebe, D.A., 2019. (Invited Presentation) Fowl River Marsh and Sediment Dynamics. Mobile Bay National Estuary Program Scientific Advisory Committee Meeting, May 10th, Mobile, AL.

Beebe, D.A., 2019. (Invited Presentation) Fowl River Marsh and Sediment Dynamics. Fowl River Restoration Community Meeting, April 23rd, Mobile, AL.

Beebe, D.A., K.C. Bellais, B.C. Faulk, B.M. Webb, and H.E. Horne, 2019. Examining the Disappearing Salt Marsh "Spits" in a Tidal Subestuary of Mobile Bay: Results from Piston Core Analyses, Historic Shoreline Comparisons, and Wave Climate Monitoring, *Geological Society of America Abstracts with Programs (In Print)*, Annual Southeast Regional Meeting, March 28th, Charleston, SC.

Beebe, D.A., K.C. Bellais, B.C. Faulk, and S.T. Barber, 2018. Recent Geological History of Fowl River Marsh Spits Revealed through Piston core Geochronological and Sedimentological Analyses, Bays and Bayous Symposium, November 30th, Mobile, AL.

Beebe, D.A., 2018. Water: A precious but overlooked natural resource. University of South Alabama Odyssey Program, June 27th, Mobile, AL.

Beebe, D.A., 2017. (Invited Presentation) Submarine Groundwater Discharge, an Elusive Source of Water to Mobile Bay, Mobile Gem and Rock Society Monthly Meeting, August 8th, Mobile, AL.

Beebe, D.A., 2017. (Invited Presentation) Earthquakes as Probes of Earth's Interior. University of South Alabama Odyssey Program, April 14th, Mobile, AL.

Beebe, D.A., D.T. Allison, B.A. Lowery, and M.M. Labelle, 2016. Investigating the Effects of Coastal Residential Development on Nutrient Flux via Submarine Groundwater Discharge in Mobile Bay, Bays and Bayous Symposium, November 30th, Biloxi, MS.

Beebe, D.A., D.T. Allison, B.A. Lowery, and M.M. Labelle, 2016. Investigating Nutrient Release via Submarine Groundwater Discharge along a Developed Estuary Shoreline, *Geological Society of America Abstracts with Programs*: 48(7), Annual National Meeting, September 27th, Denver, CO.

Beebe, D.A., 2016. (Invited Presentation) Submarine Groundwater Discharge: An Important and Elusive Source of Water and Nutrients to Mobile Bay, USA ORED Research and Scholarly Activities Forum, May 12th, Mobile, AL.

Beebe, D.A., D.J. Leach, and D.T. Allison, 2015. Submarine Groundwater Discharge and Nutrient Dynamics in the Vicinity of Coastal Residences with Onsite Wastewater Treatment, *Geological Society of America Abstracts with Programs*; (In press), Annual National Meeting, November 4th, Baltimore, MD.

Beebe, A., K. Blackwell, W. Terwey, C. Shafer, and S. Kimball, 2014. Analysis of Historic Rainfall and Flooding Events in the North-Central Gulf Coast, Bays and Bayous Symposium, December 2nd, Mobile, AL.

Beebe, D.A. and T.A. Hayaski, 2014. Enhanced Adsorption and Removal of Nutrient Pollutants in Urban Stormwater Run-off with Novel Substrates, 28th Annual Alabama Water Resources Conference, September 4th, Orange Beach, AL.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2013. Effects of Evapotranspiration on Water Treatment Performance in Constructed Wetlands, Clemson Hydrogeology Symposium, April 4, Clemson, SC.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2012. Evapotranspiration Studies in Small Stand Wetlands. *Geological Society of America Abstracts with Programs*: 44(7): 581, Annual National Meeting, November 7, Charlotte, NC.

Beebe, D.A., B. Alley, J.W. Castle, and J.H. Rodgers, Jr., 2012. Evaluation of Coal-Bed Methane Produced Water in Western Alabama for Use as a Water Resource during Drought, Clemson Hydrogeology Symposium, April 5, Clemson, SC.

Beebe, D.A., B. Alley, J.W. Castle, and J.H. Rodgers, Jr., 2012. Potential for Beneficial Use of Coal-Bed Methane Produced Water in Western Alabama to Augment Water

Supplies during Intense Drought. *Geological Society of America Abstracts with Programs*: 44(4): 66, Southeast Regional Meeting, April 2, Asheville, NC.

Beebe, D.A., Y. Song, J.W. Castle, and J.H. Rodgers Jr., 2011. Designing Constructed Wetland Treatment Systems for Ammonia in Produced Water. *Society of Environmental Toxicologists and Chemists, North American 32nd Annual Meeting Abstracts*: p. 377, Annual National Meeting, November, 17, Boston, MA.

Beebe, D.A., Y. Song, J.W. Castle, and J.H. Rodgers Jr., 2011. Pilot Study of Constructed Wetland Treatment Systems Designed for Removal of Ammonia in Oilfield Produced Water. *Geological Society of America Abstracts with Programs*: 43(5): 580, Annual National Meeting, October 12, Minneapolis, MN.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2011. Clinoptilolite as a Dual Purpose Sorbent and Microbial Carrier in Constructed Wetland Treatment Systems Designed to Remove Ammonia, Clemson Hydrogeology Symposium, April 7, Clemson, SC.

Beebe, D.A., J.W. Castle, and J.H. Rodgers Jr., 2011. Evaluation of Clinoptilolite for Use as a Sorptive Microbial Carrier in Constructed Wetland Treatment Systems Designed to Remove Ammonia. *Geological Society of America Abstracts with Programs*: 43(3): 39, South Central Regional Meeting, March 29, New Orleans, LA.

GRANTS AND CONTRACTS (Awarded: External $1,259,596, Internal $89,223)

Delta Regional Authority (DRA), 2021. Gulf Intracoastal Waterway Economic Impact Assessment ($100,000). Subcontract from the South Alabama Center for Business Analytics, Real Estate, and Economic Development (SABRE). Submitted May. Result: Funded for Full Amount

Alabama Center of Excellence (ALCoE), 2021. Impacts of Hurricane-Fire Interactions in Coastal Habitats on Estuarine-Terrestrial Carbon Dynamics and Restoration Management ($494,447). Co-PI (Lead PI at USA) with Yanniv Olshansky (PI), Heather Alexander (co-PI), Kelly Major (co-PI), Joel Borden (co-PI), and Scott Phipps (co-PI). Submitted March. Result: Not Funded

Alabama Center of Excellence (ALCoE), 2021. Contamination of Local Coastal Waters by Wild Pigs ($497,238). Co-PI (Lead PI at USA) with Graeme Locakby (PI), Jennifer Bloodgood (co-PI), Elizabeth Bradley (co-PI), Stephen Ditchkoff (co-PI), Latif Kalin (co-PI), and Mark Smith (co-PI). Submitted March. Result: Not Funded

Mobile Bay National Estuary Program (MBNEP), 2020. Little Lagoon Watershed Nutrient Assessment and Source Tracking ($43,028). PI. Submitted September. Result: Funded for Full Amount.

Mobile Bay National Estuary Program (MBNEP), 2020. Twelvemile Creek Stream Restoration: Sediment Transport and Loading ($57,995). PI. Submitted August. Result: Funded for Full Amount.

Alabama Department of Transportation (ALDoT), 2020. Little Lagoon Extended Monitoring Phase IV ($428,834). co-PI with Bret Webb (PI) and Sytske Kimabll (co-PI). Submitted May. Result: Funded for Full Amount

HydroLearn Education Platform Fellowship (NSF Sponsored), 2020. Aquifer Characterization: A Case Study from the Snake Valley, NV ($3,000). PI. Education Module Designer with Mark Hausner. Submitted April. Result: Funded for Full Amount

University of South Alabama Research and Scholarly Development Grant (RSDG), 2020. A Multi-Proxy Approach to Track the Sources and Constrain the Fluxes of Metals into Mobile Bay through Submarine Groundwater Discharge ($24,974), co-PI with Xiangli Wang (PI), Submitted March 1st. Result: Funded for Full Amount.

University of South Alabama Galapagos Travel Award, 2020. Characterizing Submarine Groundwater Discharge Patterns along Geology and Anthropogenic Gradients; The Galapagos Archipelago ($3,000). PI. Submitted September. Result: Funded for Full Amount.

Summer Undergraduate Research Fellowship (SURF), 2019. How do changing hydrometeorological conditions affect groundwater-surface water exchange at the land-sea interface in Little Lagoon, AL? ($2,000), prepared with undergraduate student Mary Brandon Scott, Submitted March. Result: Funded for Full Amount.

University of South Alabama Research and Scholarly Development Grant (RSDG), 2019. Constraining Trace Metal Fluxes into Mobile Bay through Submarine Groundwater Discharge ($24,926) co-PI with Xiangli Wang (PI), Submitted March 1st. Result: Not Funded.

United States Geological Survey (USGS) Water Resources Research Institute (WRRI), 2019, An Automated, Digital Subterranean Estuary Array (SEA) to Investigate High-Resolution Dynamics of Groundwater-Surface Water Exchanges at the Land-Sea Interface ($250,000) PI with Bret Webb (co-PI). Submitted February 15th. Result: Not Funded.

Center for Environmental Resiliency (CER), 2018. Assessing Benthic Foraminifera as Sentinel Biological Indicators for Environmental Resiliency in Coastal Dune Lakes ($20,000) co-PI with Murlene Clark (PI) and David Allison (co-PI), Submitted March 15th. Result: Under Review.

University of South Alabama Research and Scholarly Development Grant (RSDG), 2018. Constraining Trace Metal Fluxes into Mobile Bay through Submarine Groundwater Discharge ($24,926) co-PI with Xiangli Wang (PI), Submitted March 1st. Result: Not Funded.

Mobile Bay National Estuary Program, 2018. Fowl River Marsh Health Investigation Subcontract ($84,934), PI with Brian Dzwonkowski (co-PI) and Bret Webb (co-PI), Submitted February, Result: Funded for Full Amount

Mobile Bay National Estuary Program (MBNEP), 2017. Fowl River Marsh Study ($240,000), co-PI with Just Cebrian (PI), Submitted October, Result: Funded for Full Amount.

Alabama Department of Transportation (ALDoT), 2017. Monitoring the Coastal Processes in the Vicinity of Little Lagoon Pass, ALDOT Research Project 930-841R ($278,853), co-PI with Bret Webb (PI), Submitted March. Result: Funded for Full Amount

Summer Undergraduate Research Fellowship (SURF), 2017. Sedimentological Zonation of a Coastal Dune Lake: Eastern Lake, FL, ($2,048), prepared with undergraduate student Samuel Barber, Submitted March. Result: Funded for Full Amount

Svenskt Stål AB of Alabama (SSAB AL), 2016. Industrial Partnership ($22,952), PI with David Allison (co-PI), Submitted July. Result: Funded for Full Amount

National Academy of Sciences (NAS), Early-Career Gulf Research Fellowship Program (GRFP), 2016. Submarine Groundwater Discharge in Mobile Bay ($76,000) PI, Submitted February. Result: Not Funded

Center for Environmental Resiliency (CER), 2015. Sustainable Development for Environmental Resiliency: Assessing Benefits of Centralized Wastewater Treatment for Residences along Mobile Bay ($19,321) PI with Kevin White (co-PI), Submitted August. Result: Funded for Full Amount.

University of South Alabama University Committee on Undergraduate Research (UCUR), 2015. Characterizing Submarine Groundwater Discharge to Mobile Bay ($2,454.54), prepared with undergraduate student Dane Leach, Submitted March. Result: Funded for Full Amount

University of South Alabama University Committee on Undergraduate Research (UCUR), 2015. Application and Effectiveness of Biochar as a Fertilizer and as a Substrate for Removing Harmful Nitrates from the Environment ($2,446.52), prepared with undergraduate student Beverly Lowery, Submitted March. Result: Funded for Full Amount

University of South Alabama Research and Scholarly Development Grant (RSDG), 2015. Characterization of Submarine Groundwater Discharge to Mobile Bay ($24,984) PI with Brian Dzwonkowski (co-PI) and David Allison (co-PI), Submitted March. Result: Funded for Full Amount.

National Science Foundation Major Research Instrumentation (NSF-MRI), 2015. Acquisition of a Research Grade Wind Tunnel ($432,887) Co-PI with John Cleary (PI), Submitted January. Result: Not Funded

National Science Foundation Major Research Instrumentation (NSF-MRI), 2015. Acquisition of Powder X-ray Diffractometer ($375,260) Major User with Grant Glover (PI), Submitted January. Result: Not Funded

College of Arts and Sciences Support and Development Grant, 2015. Enhancement of the University of South Alabama's Hydrology Well Field ($1,495). PI. Result: Funded for Full Amount.

Alabama Department of Transportation, 2014. Protection of Sensitive Watersheds from Roadway Runoff Pollutants Using "Soil Amended" Vegetated Filter Strips ($111,509) Co-PI with Kevin White (PI). Result: Not Funded

University of South Alabama Faculty Development Grant, 2014. Evaluation of Novel Filter Media for Enhanced Pollutant Removal in Low-impact Development Stormwater Mitigation Structures ($5,000). PI. Result: Funded for Full Amount

National Science Foundation Major Research Instrumentation (NSF-MRI), 2014. Acquisition of Powder X-ray Diffractometer ($375,260) Major User with Grant Glover (PI). Result: Not Funded

Environmental Engineering and Earth Science Department Travel Award, 2012. Travel to the Annual National Geological Society of America Conference in Charlotte, NC. ($1,500). PI. Result: Funded for Full Amount

HONORS AND AWARDS

Excellence in Directed Studies Award, University of South Alabama College of Arts and Sciences 2019

Lisa Bethea Kavanagh Outstanding Young Alumni Award, University of South Alabama National Alumni Association 2019

Teaching Excellence Award, University of South Alabama College of Arts and Sciences 2018

Sally Steadman Azalea Chapter of the Mortar Board Honor Society Top Prof Award, 2018

Outstanding Thesis Award of The Year Award (Caroline Novy), Nominated as best thesis by the University of South Alabama Environmental Toxicology Program, 2018

South Carolina Environmental Scholars Award for Outstanding Performance and Lasting Contributions to Environmental Engineering and Earth Sciences, Clemson University, 2013

Mobile Rock and Gem Society Field School Award, University of South Alabama, 2008

William E. Wiggs Award for Excellence in Paleontology, University of South Alabama, 2008

John Faggard Geology Award for Highest Academic Standing in Geology, University of South Alabama, 2007

Freshman Geology Hammer Award, University of South Alabama, 2004

SCHOLARSHIPS

Presidential Academic Scholarship, University of South Alabama, 2003-2007

SERVICE

Professional Service

Session Chair, Biennial Bays and Bayous Symposium, Mobile, AL., 2022.

Member of the Mobile Bay Stressor Matrix Framework Subcommittee, Mobile Bay National Estuary Program, 2020-Present

Voting Member of the Scientific Advisory Committee, Mobile Bay National Estuary Program, 2014 - Present

Point of Contact for the NOAA Northern Gulf of Mexico Sentinel Site Cooperative, 2014 - Present

Water Quality Session Chair, Biennial Bays and Bayous Symposium, Mobile, AL, 2018

Program Committee Member, Biennial Bays and Bayous Symposium, Mobile, AL, 2018

Habitat Restoration Committee, The Nature Conservancy and Mobile Bay National Estuary Program, 2018

Water Quality Session Chair and Symposium Co-Chair, Biennial Bays and Bayous Symposium, Mobile, AL, 2014

Working Group Member, National Science Foundation Summit on the Future of Undergraduate Geoscience Education, Austin, TX, 2014

Southeast Regional Carbon Sequestration Technology Training Program, 2010-2013

Geology Club, Member (2005 - 2006) and President (2007), University of South Alabama

Peer Review

Geophysical Research Letters, 2022-Present

Gulf and Caribbean Research, 2021-Present

Environmental Earth Sciences, 2017-Present

Ecological Engineering, 2015-Present

Environmental Engineering Science, 2015-Present

Grant Peer Review Panel for the NC Water Resources Research Institute - 2017

Media Appearances

Recorded Television Interview: *Seismic Activity Detected in South Baldwin County late Thursday Morning*, WPMI News, February 10, 2022.

Live Radio Interview: *Tonga Eruption*, Midday Mobile with Sean Sullivan (106.5), January 7th, 2022.

Live Radio Interview: Salt Domes and the Strategic Reserve, Midday Mobile with Sean Sullivan (106.5), December 3rd, 2021

Live Radio Interview: *Earthquakes in Alabama*, Midday Mobile with Sean Sullivan (106.5), September 4th, 2020.

Live Television Interview: *Earthquake reported near Alabama-Florida state line*, WKRG Four on Five, September 3rd, 2020.

Live Television Interview: *Earthquake reported near Alabama-Florida state line*, WPMI News, September 3rd, 2020.

Television Quote and Imagery: *Caribbean earthquake recorded on University of South Alabama seismometer*, FOX10 Evening News, January 28th, 2020.

Recorded Television Interview: *USA's seismometer picked up Friday's shaking in West Mobile*, FOX10 Evening and Morning News, January 24-25th, 2020.

Live Television Interview: *World Soils Day*, Jen Carfagno and Jim Cantore, America's Morning Headquarters, The Weather Channel, December 5th, 2020.

Live Television Interview: *Mississippi Gulf Coast Soils and Flooding for Tropical Storm Barry*, Stephanie Abrams, America's Morning Headquarters, The Weather Channel, July 12th, 2019

Live Radio Interview: *Earthquake Swarms in Flomaton, AL*, Sean Sullivan Talk Show, 106.5 FM WAVH-FM, March 25th, 2019

Recorded Television Interview: *Recent earthquakes explained: University of South Alabama Professor says its normal activity*, WKRG Channel 5 Evening News, March 14th, 2019

Recorded Television Interview: *Two earthquakes near Alabama-Florida line in one week*, WPMI Channel 15 Morning News, March 13th, 2019.

Live Radio Interview: *Earthquakes in Flomaton, AL*, Sean Sullivan Talk Show, 106.5 FM WAVH-FM, March 12th, 2019

Recorded Television Interview: *Two earthquakes near Alabama-Florida line in one Week*, WPMI Channel 15 Evening News, March 12th, 2019.

Live Radio Interview: *Tennessee Earthquakes*, Sean Sullivan Talk Show, 106.5 FM WAVH-FM, December 12th, 2018

Recorded Television Interview on Campus: *Loud 'boom' heard across Mobile & Eastern Shore Triggers Seismographs*, Andrea Ramey, NBC 15 News, November 15th, 2018.

Live Facebook Interview: *Loud 'boom' heard across Mobile & Eastern Shore Triggers Seismographs*, Andrea Ramey, NBC 15 News, November 15th, 2018.

Video Interview: *Transformations: The Butterfly Effect across the Alabama Coast*, Mobile Bay National Estuary Program, 2018

Live Television Interview: *Soils of the Gulf Coast and Tropical Storm Cindy*, Stephanie Abrams, America's Morning Headquarters, The Weather Channel, June 21st, 2017

Recorded Television Interview: *Total Solar Eclipse*, Fox Channel 10 News, August 21st, 2017

Video Interview: *Professional Roles of an Environmental Geologist*, Alabama Coastal Foundation Estuary Corp Program, 2015

Community Academic Service

Mobile Regional Science and Engineering, Judge for Senior Earth Sciences, 2015-Present

University of South Alabama Odyssey Program, 2017-Present

Geology of Mine Craft, ASMS Summer Camp Lecture, 2019

Boy Scouts of America Merit Badge Day, Soil and Water Conservation Merit Badge Counselor, University of South Alabama, March 17th, 2018

Mobile Regional Science Olympiad, Event Designer and Judge, Dynamic Planet, University of South Alabama, 2018

Short Course on the Rock Cycle and Tectonics, Mrs. Powell's 9th Grade Homeschool Students, University of South Alabama, February 9th, 2018.

Interview on Sinkhole Hazards, Mrs. Pollock's 5th Grade Class, Dodge Elementary, August 31st, 2017

Mobile Regional Science Olympiad, Event Designer and Judge, Dynamic Planet, and Hydrogeology, Spring Hill College 2014-2016

EPA Campus Rainworks Challenge Advisor for USA Team, 2015

Alabama Junior Academy of Science Regional Paper Competition, Judge, 2014

College and University Service

Post-COVID Learning Rescue, Core Member, 2022- Present

Faculty Senate Research and Creative Activities Committee, 2021-Present

Arts and Sciences Curriculum Committee, 2020-Present

Arts and Sciences General Education Revision Committee, 2020-Present

Arts and Sciences Registration Committee, 2019-Present

Arts and Sciences Science General Education Assessment Committee, 2018-Present

University Global Curriculum Committee, 2018-Present

Arts and Sciences Faculty Senate Caucus, 2018-Present

Research and Scholarly Development Grant Review Panel, 2017-Present

Environmental Toxicology Master's Program Advisory Board Member, 2014-Present

Arts and Sciences Faculty Awards Committee, 2019-2020

College of Arts and Sciences Grievance Committee, 2017-2019 (Chair, 2018-2019)

Arts and Humanities Seed Grant Review Panel, 2018

Colleges of Arts and Sciences Summer Professional Development Awards Committee Member - 2015

Departmental Service

Geology Schedule Committee Chair, 2019-Present

Sigma Gamma Epsilon Faculty Advisor, 2017- Present

Geology Assessment Committee, 2013-Present (Chair for Geology, 2017-Present)

Geology Webmaster, 2014-Present

USA Recruitment Day, 2013-Present

Recruitment Committee, 2013-Present

Geology Assistant Professor Search Committee, 2020

Geology Instructor Search Committee Chair, 2019

Curriculum Committee Chair, 2015-2017

Alumni Relations Committee, 2014-2017

Geology Instructor Search Committee Member, 2016

Geology Assistant Professor Search Committee Member, 2016

Marine Sciences Geological Oceanographer Search Committee Member, 2016

Library Committee, 2013-2015 (Chair, 2013-2014)

Environmental Engineering and Earth Science Department Student Activity Committee, Clemson University, 2011-2012

Environmental Engineering and Earth Science Department Christmas Band, Bass Player, Clemson University, 2010- 2012

Other Service

Alabama Coastal Fisherman's Association, Newsletter Editor and Executive Board Member, 2019-Present

Dog River Clearwater Revival Fall Fishing Tournament Weigh Master, 2018- Present

Coastal Clean-up Volunteer, Bon Secour River and Dog River,, 2015- Present

Habitat for Humanity Volunteer, Quail Circle, Central, SC, 2010- 2011

Mobile Bay Kayak Fishing Association, Member and Dog River Clean-up Volunteer, Mobile, AL, 2007-2009

Coastal Clean-up Volunteer, Dog River and Mobile Causeway, Mobile, AL, 1999-2007

PROFESSIONAL SOCIETIES

Full Member, Sigma Xi Scientific Research Honor Society

Faculty Mentor, Sigma Gamma Epsilon Earth (SGE) Sciences Honors Society

Member, National Association of Geoscience Teachers (NAGT)

Member, Coastal and Estuarine Research Federation (CERF)

Member, Geological Society of America (GSA)
Environmental and Engineering Geology Division

Member, American Association of Petroleum Geologists (AAPG)

Member, Southwest Alabama Geologic Society (SWAG)

Member, Alpha Chi National Honor Society