

Melissa M. Baustian, Ph.D.
Coastal Ecologist, The Water Institute of the Gulf

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Education

Ph.D. in Oceanography and Coastal Sciences, August 2011
Louisiana State University, Baton Rouge, Louisiana

M.S. in Oceanography and Coastal Sciences, August 2005
Louisiana State University, Baton Rouge, Louisiana

B.S. in Biology, May 2003
Iowa State University, Ames, Iowa

Research Interests

coastal ecology, aquatic ecology, benthic ecology, wetland ecology, benthic-pelagic coupling, hypoxia

Professional Experience:

The Water Institute of the Gulf <ul style="list-style-type: none">• <i>Coastal Ecologist</i>	2013-Present
RESTORE Act Center of Excellence for Louisiana <ul style="list-style-type: none">• <i>Director</i>• <i>Deputy Director</i>	2017-Present <i>2019- Present</i> <i>2017-2018</i>
Louisiana State University, Department of Oceanography and Coastal Sciences <ul style="list-style-type: none">• <i>Adjunct Faculty</i>	2015-Present
Center for Water Sciences, Michigan State University <ul style="list-style-type: none">• <i>Post-doctoral Research Associate</i>	2011-2013
Louisiana State University <ul style="list-style-type: none">• <i>Co-coordinator of EnvironMentors</i>	2010-2011
Louisiana State University & Louisiana Universities Marine Consortium <ul style="list-style-type: none">• <i>Graduate Research Associate (Ph.D.)</i>	2005-2011
Louisiana State University & Louisiana Universities Marine Consortium <ul style="list-style-type: none">• <i>Graduate Research Associate (M.S.)</i>	2003-2005
Limnology Laboratory, Iowa State University <ul style="list-style-type: none">• <i>Undergraduate Research Associate</i>	2002-2003
Boston University Marine Program <ul style="list-style-type: none">• <i>Research Experience for Undergraduates (REU)</i>	summer 2002
Limnology Laboratory, Iowa State University <ul style="list-style-type: none">• <i>Limnology Laboratory Technician</i>	2001-2002

Recent Research Projects

Partnership of our Working Coast Phase II, Port Fourchon, Louisiana (2019-current). Collaborated with natural and social scientists to identify beneficial and nature-based solutions for dredged material to contribute to Louisiana's coastal sustainability efforts, protect coastal communities, and support America's Working Coast. Evaluating the co-benefits of the placement of dredged material for created wetlands, including carbon capture in wetland soils and water quality improvements. Funded by Shell, Chevron, Danos, Greater Lafourche Port Commission and National Fish and Wildlife Foundation.

<https://thewaterinstitute.org/projects/partnership-for-our-working-coast>

Model Improvements for the 2023 Coastal Master Plan – Wetlands, Vegetation, and Soils Team Lead (2019-current). Coordinated a diverse group of scientists and oversaw activities related to improving wetlands, vegetation, and soil dynamics in the modeling efforts for the 2023 Coastal Master Plan. Implemented and led documentation of the improvements via meeting summaries and technical reports. Developed and led work sessions to gain input on model improvement progress and track deadlines. Funded by Coastal Protection and Restoration Authority. <http://coastal.la.gov/our-plan/2023-coastal-master-plan/>

System Wide Assessment and Monitoring Program or SWAMP (2019). The SWAMP was developed to include all coastal basins in Louisiana as a long-term monitoring program to ensure a comprehensive network of data collection activities in natural and human systems is in place to support the development, implementation, and adaptive management of the coastal protection and restoration program within coastal Louisiana. A rigorous statistical analysis, examination of modeling needs, and thorough reviews of previous planning and monitoring efforts were conducted to develop the sampling designs for the natural and human system monitoring plans. Funded by the Coastal Protection and Restoration Authority.

<https://cims.coastal.louisiana.gov/RecordDetail.aspx?Root=0&sid=23567>

Organic Matter Dynamics in Coastal Wetlands (2014-current)

Investigating potential climate change effects on coastal vegetation and ecosystem processes in coastal Louisiana. Estimating coast wide decomposition and soil carbon accumulation rates from four main, salinity driven, marsh habitats within coastal Louisiana to better understand how climate change or management actions could influence long-term changes in salinity and associated ecological processes. Funded by Science and Engineering Plan of the Water Institute of the Gulf, U.S. Geological Survey Ecosystem Program, and Restore Mississippi River Delta Campaign via Coalition to Restore Coastal Louisiana.

<https://thewaterinstitute.org/projects/determining-habitat-function-decomposition-and-carbon-accumulation-across-four-marsh-habitat-types-in-coastal-louisiana>

Incorporating Nutrient Effects into Ecosystem Modeling (2013-current)

Provided technical expertise on the potential impacts of nutrients from proposed sediment diversions to the coastal ecology of Louisiana. Elicited expert input about the influence and uncertainties of nutrient enrichment to wetland vegetation, soils and estuarine pelagic and benthic habitats. Used experts, literature and available data to develop a work plan that incorporated nutrient dynamics into a simulation model known as Integrated Biophysical Model. Coordinated and oversaw project activities related to modeling (Delft3D) the potential nutrient effects from diverted Mississippi River water. Implemented and led estuarine field and laboratory data collection (estuary open water and sediments, wetland vegetation and soils) to help validate the current basin-wide conditions (Barataria and Breton Basins, Louisiana) and for future nutrient effects from proposed sediment diversions. Led collaborative efforts with sub-contractors (e.g., Deltares, ULL, LSU) to meet project deadlines. Developed and led worksessions with external experts to gain input on nutrient-related modeling progress. Managed project budget as well as junior staff, research interns and undergraduate workers. Currently testing scenarios and projects. Funded by Coastal Protection and Restoration Authority.

<https://doi.org/10.1016/j.envsoft.2018.05.019>

Peer-reviewed Publications

Google scholar link: <https://scholar.google.com/citations?user=Gp7ZFvoAAAAJ&hl=en>

- **Baustian, M.M.**, Brooks, Y.M., Baskaran, M., Liu, B., Ostrom, N.E., Stevenson, R.J. and J.B. Rose. Accepted. Paleo-environmental examination of human-driven ecosystem change in Lake St. Clair region of Laurentian Great Lakes basin. *Journal of Paleolimnology*.
- **Baustian, M.M.**, Jung, H., Bienn, H., Barra, M., Hemmerling, S. Wang, Y., White, E., and E. Meselhe. 2020. Engaging Coastal Community Members about Natural and Nature-Based Solutions and Assessing Their Ecosystem Functions. *Ecological Engineering*. <https://doi.org/10.1016/j.ecoena.2019.100015>
- Meselhe, E., Wang, Y., White, E., Jung, H., **Baustian, M.M.**, Hemmerling, S.A., Barra, M., and H. Bienn. 2020. Knowledge-Based Predictive Tools to Assess Effectiveness of Natural and Nature-Based Solutions for Coastal Restoration and Protection Planning. *Journal of Hydraulic Engineering* 146(2): [https://doi.org/10.1061/\(ASCE\)HY.1943-7900.0001659](https://doi.org/10.1061/(ASCE)HY.1943-7900.0001659)
- Hemmerling, S.A., Barra, M., Bienn, H.C., **Baustian, M.M.**, Jung, H., Meselhe, E., Wang, Y. and E. White. 2019. Elevating Local Knowledge through Participatory Modeling: Active Community Engagement in Restoration Planning in Coastal Louisiana. *Journal of Geographical Systems*. <https://doi.org/10.1007/s10109-019-00313-2>
- **Baustian, M.M.** Meselhe, E., Jung, H., Sadid, K, Duke- Sylvester, S., Visser, J., Allison, M., Moss, L., Ramachandirane, C, van Maren, B., Jeuken, M., and Bargu, S. 2018. Development of an Integrated Biophysical Model to represent morphological and ecological processes in a changing deltaic and coastal ecosystem. *Environmental Modeling and Software*. <https://doi.org/10.1016/j.envsoft.2018.05.019>
- **Baustian, M.M.**, Bargu, S., Rabalais, N.N, and W.L. Morrison. 2018. The polychaete, *Paraprionospio pinnata*, is a likely vector of domoic acid to the benthic food web in the northern Gulf of Mexico. *Harmful Algae*. <https://doi.org/10.1016/j.hal.2018.06.002>
- Stagg, C., **Baustian, M.M.**, Perry, C., Carruthers, T. and Hall, C. 2018. Direct and indirect controls on organic matter decomposition in four coastal wetland communities along a landscape salinity gradient. *Journal of Ecology*. <http://onlinelibrary.wiley.com/doi/10.1111/1365-2745.12901/full>
- **Baustian, M.M.**, Clark, R. Jerabek, A.S., Wang, Y. Bienn, H.C., White, E.D. 2018. Modeling current and future freshwater inflow needs of a subtropical estuary to manage and maintain forested wetland ecological conditions. *Ecological Indicators*. <https://www.sciencedirect.com/science/article/pii/S1470160X17306295>
- Price, A., **Baustian, M.M.**, Turner, R.E. Rabalais, N.N., Chmura, G. 2017. Dinoflagellate cysts track eutrophication in the northern Gulf of Mexico. *Estuaries and Coasts*. <https://link.springer.com/article/10.1007/s12237-017-0351-x>
- **Baustian, M. M.**, Stagg, C. L., Perry, C. L., Moss, L., Carruthers, T., and Allison, M. A. 2017. “Relationships between salinity and short-term soil carbon accumulation rates from marsh types across a landscape in the Mississippi River Delta.” *Wetlands*. <https://doi.org/10.1007/s13157-016-0871-3>
- Brooks, Y.M., **Baustian, M.M.**, Baskaran, M., Ostrom, N.E. and J. B. Rose. 2016. “Historic associations of fecal indicator marker concentrations to anthropogenic activities and climate in freshwater sediment cores.” *Environmental Science and Technology*. 50:6902-6911. <http://pubs.acs.org/doi/abs/10.1021/acs.est.6b01372>
- Price, A., **Baustian, M.M.**, Turner, R.E. Rabalais, N.N., Chmura, G. 2016. “*Melitasphaeridium choanophorum* – a living dinoflagellate cyst fossil in the Gulf of Mexico.” *Palynology*. <http://www.tandfonline.com/doi/abs/10.1080/01916122.2016.1205676>
- Bargu, S., **Baustian, M.M.**, Rabalais, N.N., Del Rio, R., Von Korff, B., and R.E. Turner. 2016. “Influence of the Mississippi River on Pseudo-nitzschia spp. Abundance and Toxicity in Louisiana Coastal Waters.” *Estuaries and Coasts*. <http://link.springer.com/article/10.1007/s12237-016-0088-y>
- **Baustian, M.M.**, Hansen, G., de Kluijver, A., Robinson, K., Henry Norton, E., Knoll, L., Rose, K, and C. Carey. 2014. “Linking the bottom to the top in aquatic ecosystems: mechanisms and stressors of benthic-pelagic coupling.” Invited Eco-DAS X chapter for ASLO e-book. http://www.aslo.org/books/ecodas10/ecodas10_025.pdf
- Monk, M.H., **Baustian, M.M.**, Saari, C.R., Welsh, S., D’Elia, C., Gaston, S., and J.E. Powers. 2014. “EnvironMentors: mentoring at-risk high school students through university partnerships.” *International Journal of Environmental and Science Education*. 9:385-397. <http://www.ijese.com/ijese.2014.223a.pdf>

- Hansen, G.A., Sadro, S., **Baustian, M.M.**, and B. Stauffer. 2014. “Shifting career pathways of Ph.D. ecologists: Is it time to redefine the “alternative” career?” *Limnology and Oceanography Bulletin*. 23:2-5. http://aslo.org/bulletin/issues/14_v23_i1.pdf
- **Baustian, M.M.**, G. Mavrommati, et al. 2014. “A one hundred year review of the socioeconomic and ecological systems in Lake St. Clair, North America.” *Journal of Great Lakes Research*, 40:15-26. <http://dx.doi.org/10.1016/j.jglr.2013.11.006>
- Mavrommati, G., **M.M. Baustian**, and E. Dreelin. 2013. “Coupling socioeconomic and lake systems for sustainability: a conceptual analysis using Lake St. Clair region as a case study.” <http://dx.doi.org/10.1007/s13280-013-0432-4>
- **Baustian, M.M.**, Rabalais, N.N., Morrison, W.L. and R.E. Turner. 2013. “Microphytobenthos along the Louisiana continental shelf during mid-summer hypoxia.” *Continental Shelf Research*.52:108-118. <http://dx.doi.org/10.1016/j.csr.2012.10.014>
- **Baustian, M.M.**, Rabalais, N.N., Morrison, W.L. and R.E. Turner. 2011. “Seasonal microphytobenthos on the hypoxic northern Gulf of Mexico continental shelf.” *Marine Ecology Progress Series*. 436: 51–66. <http://dx.doi.org/10.3354/meps09262>
- Qian, S.S., Craig, J.K., **Baustian, M.M.** and N.N. Rabalais. 2009. “A Bayesian hierarchical modeling approach for analyzing observational data from marine ecological studies.” *Marine Pollution Bulletin*. 58:1916–1921. <http://dx.doi.org/10.1016/j.marpolbul.2009.09.029>
- **Baustian, M.M.**, Craig, J.K. and N. N. Rabalais. 2009. “Effects of summer 2003 hypoxia on macrobenthos and Atlantic croaker foraging selectivity in the northern Gulf of Mexico.” *Journal of Experimental Marine Biology and Ecology*. 381:S31-S37. <http://dx.doi.org/10.1016/j.jembe.2009.07.007>
- **Baustian, M.M.** and N.N. Rabalais. 2009. “Seasonal composition of benthic macroinfauna exposed to hypoxia in the northern Gulf of Mexico.” *Estuaries and Coasts*. 32:975–983. <http://dx.doi.org/10.1007/s12237-009-9187-3>
- **Baustian, M.M.**, Bentley, S.J. and J.H. Wandersee. 2008. “Innovative assessment tools for a short, fast-paced, summer field course.” *Journal of College Science Teaching*. 37:37-43. http://learningcenter.nsta.org/product_detail.aspx?id=10.2505/4/jcst08_037_06_37
- **Millman, M.**, Teichberg, M, Martinetto, P and I. Valiela. 2002. “Response of shrimp populations to land-derived nitrogen in Waquoit Bay.” *Biological Bulletin*. 203:263-264 <http://www.biolbull.org/content/203/2/263.full.pdf+html>

Available Data Sets:

- **Baustian, M.M.**, Stagg, C.L, Perry, C.L., Moss, L.C., Carruthers, T.J.B., and M. Allison. In Prep. Long-term carbon sinks in marsh soils of the Mississippi River Deltaic Plain are at risk to wetland loss. (2015-2017): U.S. Geological Survey Data Release.
- **Baustian, M.M.**, Stagg, C.L, Perry, C.L., Moss, L.C., Carruthers, T.J.B., and M. Allison. In Prep. Short-term soil carbon accumulation rates from marsh types across a salinity gradient suggest implications of climate change. (2015-2017): U.S. Geological Survey Data Release.
- Stagg, CL, **Baustian, M.M.**, Perry, CL, Carruthers, TJB, Hall CT. 2017c. Organic Matter Decomposition across a Coastal Wetland Landscape in Louisiana, U.S.A. (2014-2015): U.S. Geological Survey Data Release. <https://doi.org/10.5066/F7639MVK>
- Meselhe, E, **Baustian, M.M.**, Allison, MA. 2015. Basin Wide Model Development for the Louisiana Coastal Area Mississippi River Hydrodynamic and Delta Management study. Mississippi River Hydrodynamics and Delta Management Study Data Portal. <http://mrhdms.coastal.louisiana.gov/>

Awards, Honors:

- Coastal Steward 2018, awarded by Coalition to Restore Coastal Louisiana, given to those that demonstrated outstanding commitment to the coast and made significant contributions to the restoration and conservation of Louisiana’s coastal wetlands. May 2018.
- Awarded travel funds to attend the ASLO-sponsored *Ecological Dissertations in Aquatic Sciences* (Eco-DAS X) week-long symposia that fosters sustained, cross-disciplinary interactions among the top new researchers in ecological oceanography and limnology, Honolulu, HI, October 2012
- Joseph Lipsey, Sr. Memorial Scholarship Award, “For Excellence in the Studies of Marine Sciences,” Department of Oceanography and Coastal Sciences, LSU, Spring 2009

- Dr. Theodore B. Ford Memorial Scholarship, Department Oceanography and Coastal Sciences, LSU, Fall 2008
- Second place for excellent presentation at Graduate Student Symposium, LUMCON, Spring 2008
- SEASPACE, Inc. scholarship for academic excellence, Spring 2006
- Honored in the “Top 50” student presentations at the Estuarine Research Federation conference, Norfolk, VA, Fall 2005
- “Honorable Mention” for an excellent presentation at Graduate Student Symposium, Cocodrie, LA, Spring 2005
- “Outstanding Undergraduate Student Award”, Iowa Water Resources Research Institute, Spring 2003 (given to only one undergraduate in the state of Iowa per year)
- “Outstanding Upperclassman Award,” ISU Biology/Zoology/Genetics Club, ISU, Fall 2002
- Iowa State University Study Abroad Scholarship, ISU, Fall 2002
- Nominated for “Student Employee of the Year” by Animal Ecology Department, ISU, Fall 2001
- Beta, Beta, Beta Biological Honor Society, ISU, 2001 - 2002
- Mortar Board Honor Society, ISU, 2001 - 2002
- Iowa State University Dean’s list: Fall 2001, Fall 2002, Spring 2003
- Iowa Veterans Foundation scholarship, Fall 2000
- *Culver’s* restaurant VIP Leadership scholarship, Fall 1999

Teaching Experience

Introduction to Water Quality – Delft3D modeling short course

Environmental Issues & Public Policy

EnvironMentors

Introduction to Oceanography

Marine Field Geology

Professional Memberships

Member, Association for the Sciences of Limnology and Oceanography (ASLO)

Member, Coastal and Estuarine Research Federation (CERF)

Member, Gulf Estuarine Research Society (GERS)

Science Service and Outreach

- Peer-reviewer for journals: Continental Shelf Research, Ecosystems, Estuaries and Coasts, Freshwater Biology, Global Change Biology, Hydrobiologia, J of Restoration Ecology, Marine Ecology Progress Series, Marine Pollution Bulletin
- Peer-reviewer for institutions: USGS, US EPA
- Peer-reviewer for funding agencies: Florida Sea Grant, Louisiana Sea Grant, National Science Foundation, The Water Institute of the Gulf
- Key note speaker, Joe W. and Dorothy Dorsett Brown Foundation in New Orleans, LA on 6/4/19 for their annual STEM awards reception. This event provides Emmy Noether Awards (up to \$75,000 per award) to top achieving female high school students in the region who are pursuing STEM fields.
- Mississippi River discussion and tour, LSU Chapter of EnvironMentors, Scotlandville Magnet High School, Baton Rouge, LA, 3/18/19
- Guest speaker, Coast and Environment Graduate Organization (CEGO) Career Workshop, Louisiana State University. Gave advice to graduate students about being a research scientist. 3/13/19.
- Guest speaker, Coastal Habitats and Climate Change, University Presbyterian Church, Parks Wilson Class, Environment and Climate Change. 10/27/19.
- Interviewed with journalists and reporters:
 - GRIST online news. Greta Moran. 11/26/18. Discussed why wetlands soils are great at storing carbon. <https://grist.org/article/wetlands-are-a-natural-climate-solution-guess-whos-turning-them-into-big-polluters>
 - NOLA.com, Sara Sneath. Discussed harmful algal blooms. 7/12/18. https://www.nola.com/environment/index.ssf/2018/07/a_tiny_sea_worm_could_be_a_vec.html

- CWWPRA WaterMarks magazine. Sharon Coogle. 5/16/18.
<https://lacoast.gov/new/Data/WaterMarks/Watermarks58WEB.pdf>
- Radio interview (WHYY in Philadelphia) with journalist, Zoe Sullivan about why soil organic matter holds water. 5/10/18
- BRAF Currents (Q1, 2018) – Discussed Atchafalaya SwampBase.
<https://www.braf.org/stories/2018/2/6/fuc3414qh6ob46400vq359ou59atb0>
- Participated in a radio interview about coastal change in Louisiana with Mr. Doug Daigle (30 min), for Environmental Update on 96.9 FM WHYY.org, 9/8/17
- Guest lecturer, Nicholls State University, Dr. Jonathan Willis. 2/27/18.
The Water Institute of the Gulf's Integrated Approach to Applied Research.
- Guest expert scientist for Louisiana Universities Marine Consortium's (LUMCON) inaugural science communication event, OCEANDOTCOMM. Discussed coastal habitats of Louisiana with communicators (n=42) via social media, radio interviews, podcasts, and blogs. Examples out of 26 products are:
 - Pod cast: Coastal Louisiana Coastal Habitat Change - Season 1 Ep4
<https://open.spotify.com/episode/2iKtwwegodKpIH0WVlhX3a?si=Z2AmPOAMOCyIijUS1IXzCQ>
Interviewed by: Sheanna Steingass and Andrew Lewin
 - Radio interview, Instagram story: Bayou Women
<http://www.laseagrant.org/communications/voices/bayou-women/>
- Video Interview (2 hr) for outreach exhibit at State of Louisiana Coastal Protection and Restoration Authority and LSU's Center for River Studies, Water Campus, Baton Rouge, LA 7/26/17
- Hosted a volunteer high school student from St. Joseph's Academy to get exposure to environmental work, 8/2/17
- Answered questions in a telephone interview (30 min) from High School science teacher (Ms. Annie Tete) from S. McGeehee School, New Orleans, LA, 8/11/17
- Discussed swamp ecology with The Lens reporter via telephone interview, 9/28/17
- Applied research outreach presentation to YSI workshop (30 min), 10/19/17
- Interviewed by journalist about mangrove expansion that was published in the Baton Rouge Area Foundation (BRAAF) magazine *Currents*, page 20, June 2017.
https://static1.squarespace.com/static/56bba43086db4378db7e026d/t/58fe18ecbe6594f266ee1b38/1493047544667/Currents+Q217_website.pdf
- Discussed mangrove expansion into salt marshes to educate science teachers that are part of the LSU Coastal Roots program, Baton Rouge, LA, January 2017. <http://coastalroots.lsu.edu/>
- Answered questions via Skype about careers in science from high school girls of McGehee High School (via Ms. Annie Tete), New Orleans, LA, Nov. 2016
- Interviewed for a documentary about nutrient pollution in Mississippi River watershed and impacts to coastal Louisiana led by Water Quality Indiana, a class project from Ball State University. Baton Rouge, LA. Sept. 2016. waterqualityin.com See YouTube video here: <https://youtu.be/1125AxuZ2N8>
- Guest speaker at Pre-K classroom (4-5 year olds) for their ocean theme, developed 3 activities about the ocean, Southdowns PreK, Baton Rouge, LA, May 2015
- Discussed coastal Louisiana habitats and common organisms to general public as part of The Water Institute of the Gulf exhibition at the 2015 Kenilworth STEM Expo, February 2015
- Answered emailed questions about marine science careers from a student at Southeastern University, Hammond, LA, July 2014
- Guest lecturer for Coalition to Restore Coastal Louisiana and Brown University about *Coastal Hypoxia*, Annunciation Mission, New Orleans, LA April 2014.
- Guest lecturer at Mason Area Historical Society about *History of Water Quality in the Great Lakes*, Mason, MI, May 2013. <http://www.masonmuseum.org/Home.html>
- Guest speaker at preschool classroom (2-3 year olds) for their ocean theme, Michigan State University Child Development Laboratory, East Lansing, MI, Feb. 2013
- Mentor for the ASLO Multicultural Program at Aquatic Sciences Meeting. Met with minority students daily to help navigate the meeting and to help meet other scientists. New Orleans, LA, Feb. 2013.
- Conference judge for student oral and poster presentations:

- State of the Coast, New Orleans, LA, June 2018
- American Geophysical Union, New Orleans, LA, Dec. 2017
- Coastal and Estuarine Research Federation, Providence, RI, Nov. 2017
- Gulf Estuarine Research Society, Pensacola Beach, FL, November 2016
- International Association for Great Lakes Research, West Lafayette, IN, May 2013
- Association for Sciences of Limnology and Oceanography, New Orleans, LA, Feb. 2013
- Coastal and Estuarine Research Federation, Daytona Beach, FL, Nov. 2011
- Participant in the development and planning of the state of Louisiana *Environmental Literacy Plan* part of the *No Child Left Inside* initiative, July 2010 to Aug. 2011
- Science Fair Judge:
 - LSU Chapter of *EnvironMentors*, Scotlandville Magnet High School, Baton Rouge, LA, April 2014, April 2015
 - Scotlandville Magnet High School, Baton Rouge, LA, Nov. 2010
 - Terrebonne Parish Science Fair (Jr. High), Baton Rouge, Louisiana, Dec. 2008
 - St. Joseph's Academy, Baton Rouge, Louisiana, 9th-12th grade, Spring 2007
 - Louisiana State Region VII, 9th -12th grade, LSU Field House, Spring 2007
 - Baton Rouge Earth Day Festival volunteer:
 - The Water Institute of the Gulf's activity, *Testing our Coastal Waters*, April 2015
 - The Water Institute of the Gulf's activity, *Testing our Coastal Waters*, April 2014
 - LUMCON's interactive animal specimen display, April 2010
- Volunteer scientist for LUMCON's weekend-long workshop titled *From H-2-O* that helped local science teachers develop lesson plans and activities that engage students in the importance of water quality, Jan. 2009
- Answered emailed questions about careers in science from a student of St. Amant High School, Ascension Parish School District, LA, Jan. 2009
- Mentored an international high school science fair recipient on a research cruise to learn more about hypoxia in aquatic systems, Summer 2008
- Volunteer scientist for the NSF funded program, Centers for Ocean Science Education Excellence (COSEE) - Central Gulf of Mexico Teacher/Scientist Institute, a week-long intensive workshop at LUMCON, Summer 2007
- Education Outreach Coordinator for Marine Environmental Researchers (MER), LSU, Fall 2006 - Spring 2007
- Active volunteer for Louisiana Sea Grant sponsored event, *Ocean Commotion*, Fall 2004 – 2010, 2014, 2016
- Taught first graders at University Laboratory School about the ocean, Baton Rouge, LA, Fall 2007
- Co-lead MER to create a booth at Polk Elementary School Science Fair, Baton Rouge, LA, Fall 2005
- Educated the public about the *Dead Zone* at LUMCON's open house, 2004, 2006, 2008
- Invited K-12 students into the LSU laboratory to teach them about marine macrobenthos, Baton Rouge, LA, Spring 2004

Training Courses

- Macrobenthic Organisms as Indicators of Estuarine Health. November 2016. Pensacola Beach, FL.
- Compass: Communicating Your Science. September 2016. Lacombe, LA.
- R Software Training Workshop, January 14, 2015, Baton Rouge, LA
- Delft3D Water Quality Modeling Workshop, March 16-17, 2014, New Orleans, LA
- Aquatic GIS course, St. Louis University, June 12-14, 2013, St. Louis, MO
- Write Winning Grants course, Michigan State University, January 4, 2012, East Lansing, MI

Invited Seminars

- "Finding the Right Flow: Modeling Current and Future Freshwater Inflow Needs of Lake Maurepas and Maurepas Swamp." Seminar to the School of Renewable Natural Resources, November 2019. Co-presented with Ryan Clark.

- “Model Development for Ecosystem Restoration in Mississippi River Delta: Hydrological and Sedimentary Processes and Potential Influence on Nutrients and Phytoplankton (including HABs).” Webinar to EPA HABs working group. Webinar. January 2017. Co-presented with Hoonshin Jung, Ehab Meselhe, Sibel Bargu, and Tim Carruthers.
- “Mississippi River Hydrodynamics and Delta Management Study: Basin-Wide Model Development and application.” Hypoxia Task Force Meeting, New Orleans, LA. December 2016. Co-presented with Ehab Meselhe.
- “Bayou Vermilion Water quality of Bayou Vermilion: potential impacts and lessons learned from other models and case studies.” Bayou Vermilion Preservation Association. Lafayette, LA. November 2016. Co-presented with Ehab Meselhe.
- “The essential role of coupling in coastal systems, habitats and ecosystem models.” University of Louisiana Lafayette Biology Department Seminar Series. Lafayette, LA. December 2014.
- “The essential role of coupling in coastal systems, habitats and ecosystem models.” LSU School Coast and Environment Seminar Series. Baton Rouge, LA. November 2014.
- “Benthic-pelagic coupling in aquatic ecosystems in relation to nutrient enrichment.” Water Wednesdays, Center for Water Sciences Seminar Series. East Lansing, MI. December 2011.
- “Benthic-pelagic coupling in lakes in relation to nutrient enrichment.” Brown-bag presentation to NOAA Great Lakes Environmental Research Laboratory (GLERL), Ann Arbor, MI. October 2011
- “Microphytobenthos of the northern Gulf of Mexico hypoxic area and their role in oxygen dynamics.” Louisiana Universities Marine Consortium (LUMCON), Cocodrie, LA. July 2011

Conference Oral Presentations

- **Baustian, M.M.**, and N.N. Rabalais. Getting to the Bottom of Coastal Food Webs: Hypoxia Impacts to Benthos. Coastal and Estuarine Research Federation conference. Mobile, AL. November 2019.
- Moss, L.C., Carruthers, T., Swails, E., Settlemyer, S., **Baustian, M.M.**, and S. Simpson. Blue Carbon: A Tool to Help Finance the Protection and Restoration of Coastal Louisiana. Mobile, AL. November 2019.
- **Baustian, M.M.**, Grace, A.O., and A. Dausman. RESTORE Act Center of Excellence for Louisiana. Gulf of Mexico Oil Spill & Ecosystem Science Conference. New Orleans, LA. February 2019.
- Moss, L.C., Carruthers, T., Swails, E., Settlemyer, S., **Baustian, M.M.**, and S. Simpson. Blue Carbon: A tool to help finance the restoration of the Louisiana coast. Restore America’s Estuary. Long Beach, CA. December 2018.
- White, E., Meselhe, E., and **M.M. Baustian**. Working with Local Communities to Develop a Nature-based Defense Assessment and Solution Tool. National Ecosystem Restoration Conference. New Orleans, LA. 30 August 2018.
- **Baustian, M.M.**, Jung, H., Barra, M., Hemmerling, S., and E. Meselhe. Working with Local Communities to Develop a Nature-based Defense Assessment and Solution Tool. Ecological Society of America. New Orleans, LA. 9 August 2018.
- **Baustian, M.M.**, Powell, C., Polito, M., Sable, S., Carruthers, T.J.B., Moss, L.C. and A.S. Jerabek. The essential role of benthos in coastal Louisiana habitats and their implications for coastal restorations. State of the Coast, May 31, 2018, New Orleans, LA.
- Powell, C., **Baustian, M.M.**, and M. Polito, Influence of black mangroves (*Avicennia germinans*) expansion on aquatic communities and food webs of marshes in eastern coastal Louisiana. State of the Coast. 31 May 2018, New Orleans, LA.
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- Carruthers, T.J.B., **Baustian, M.M.**, Moss, L.C., Jerabek, A.S., Hijuelos, A.C. and S.A. Hemmerling: Quantifying ecosystem functions of coastal habitats in Louisiana to improve understanding of ecosystem services. State of the Coast, May 31, 2018, New Orleans, LA.
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- Jerabek, A., **Baustian M.M.**, L. Moss, and T. Carruthers. The Natural Classroom: Increasing environmental stewardship and STEM learning through strategic partnerships. Coastal and Estuarine Research Federation. Providence, RI. November 2017.
- Clark, R., Jerabek, A.S., White, E., Wang, Y., and **M.M. Baustian**. Long-term freshwater inflow needs of a subtropical estuary to manage and maintain forested wetlands. Coastal and Estuarine Research Federation. Providence, RI. November 2017.
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- Powell C.E., **Baustian M.M.** and M. Polito. Influence of black mangrove expansion on salt marsh food webs in coastal Louisiana. Coastal and Estuarine Research Federation. Providence, RI. November 2017.
- Stagg, C.L., Schoolmaster, D.R., **Baustian, M.M.**, Patton, B.A., Piazza, S.C., Perry, C.L., Carruthers, T.J.B., Hall, C.L. Mechanisms of soil carbon accumulation along a landscape gradient in coastal wetlands. Society of Wetland Scientists. San Juan, Puerto Rico, Summer 2017.
- **Baustian M.M.**, Jung, H., Ehab Meselhe, Duke-Sylvester, S., and J. Visser, J. Simulating Ecological Responses to Coastal Ecosystem Restoration: A Case Study of Proposed Sediment Diversion Operation on the Lower Mississippi River. Restore America's Estuary Summit. December 2016.
- Moss, L.C., **Baustian M.M.**, Stagg, C.L, Perry, C.L., Carruthers, T., and M.A. Allison. Carbon Accumulation Rates Across Four Marsh Habitats in Coastal Louisiana. Restore America's Estuary Summit. December 2016.
- Meselhe, E. and **Baustian M.M.** Development and application of a basin wide biophysical model. Presented at Establishing a Cooperative Hypoxic Zone Monitoring Program. Stennis Space Center, MS. September 2016.
- **Baustian M.M.**, Powell, C., Davis, B., Polito, M.. 2016. Moving on Up: The role of black mangroves in introducing and mediating basal carbon sources in estuarine food webs. Gulf Estuarine Research Society Meeting. 3-5 Nov. Pensacola Beach, FL.
- **Baustian M.M.**, Jung, H., Meselhe, E., and J. Smits. 2016. Model Development for Deltaic and Coastal Ecosystem Restoration: Nutrients, Pelagic Primary Production and Sedimentary Processes. State of the Coast. 1-3 June. New Orleans, LA.
- Moss, L., **Baustian M.M.**, Stagg, C.L., Perry, C.L., Carruthers, T., and M. Allison. 2016. Current and historic carbon storage in four marsh habitats in coastal Louisiana. State of the Coast. 1-3 June. New Orleans, LA.
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- Polito, M., Johnson, J., Mauney, M.T., Davis, B., **Baustian M.M.** Olin, J.A., Jensen, O., Lopez-Duarte, P., Able, K., Fodrie, J. 2016. Tracking carbon flow through marsh food webs using compound specific-stable isotope analysis. Gulf of Mexico Oil Spill and Ecosystem Science Conference. 1-4 February 2016. Tampa, Florida.
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- Meselhe, E., **Baustian M.M.**, Jung, H., Khadka, A, Sadid, K., Allison, M. Ramatchandirane, C. Reed, D., Jarrell, E., and J. Pahl. 2015. Predictive Modeling for Planning the Operation of a Proposed Network of Diversion Projects across the South Louisiana Landscape. Coastal and Estuarine Research Federation Biennial Meeting, 8-12 November, Portland, Oregon.

- Carruthers, T.J.B. **Baustian M.M.**, Stagg, C.L., Perry, C.L., Darnell, K.M., and A. C. Hijuelos. 2015. Integrated Ecosystem Function: Using Habitat Suitability Index Models to Assess Linkages to Emergent and Submerged Aquatic Habitats. Coastal and Estuarine Research Federation Biennial Meeting, 8-12 November, Portland, Oregon.
- Stagg, C.L., Piazza, S., **Baustian M.M.**, Perry, C.L., Carruthers, T.J.B., Schoolmaster, D., and G. Snedden. 2015. Identifying Controls on Organic Matter and Decomposition in Coastal Wetlands along a Landscape Salinity Gradient. Coastal and Estuarine Research Federation Biennial Meeting, 8-12 November, Portland, Oregon.
- **Baustian M.M.** and H. Jung. 2015. Mississippi River Hydrodynamics and Delta Management Study Basin-Wide Model Development: Fate of Nutrients. Diversion Expert Panel Workshop, 27 October, Baton Rouge, Louisiana.
- **Baustian M.M.** 2015. Mississippi River Hydrodynamics and Delta Management Study Basin-Wide Model Development: Vegetation Changes. Diversion Expert Panel Workshop, 27 October, Baton Rouge, Louisiana.
- Allison, M.A. and **M.M. Baustian**. 2015. Recent Water Institute observational studies at legacy diversions: Bonnet Carré, West Bay, Davis Pond and Caernarvon. NGO Workshop on Legacy Diversions, 7-8 October, Hammond, Louisiana.
- Ramachandirane, C., Yuill, B., Allison, M.A., **Baustian M.M.** and E. Meselhe. 2015. Observations of basin-wide dynamics along the lower Mississippi River via in-situ and remotely sensed data. American Shore and Beach Preservation Association Meeting, 14-16 October, New Orleans, Louisiana.
- **Baustian M.M.** and E. Meselhe. 2015. Basin Wide Delft3D Model Development for Delta Management Study. Diversion Expert Panel Workshop, 4-5 August, Plaquemines Parish, Louisiana.
- Duke-Sylvester, S.M., Visser, J., **Baustian M.M.** 2015. The Water Institute of the Gulf Delta Management Vegetation Models. Diversion Expert Panel Workshop, 4-5 August, Plaquemines Parish, Louisiana.
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- Carruthers, T.J.B., **Baustian M.M.**, Stagg, C.L., Perry, C.L., Darnell, K.M., and A.C. Hijuelos. 2015. Linking fisheries to emergent and submerged aquatic habitats using habitat suitability index models. Louisiana American Fisheries Society, 28-29 May, Baton Rouge, LA.
- **Baustian M.M.**, Meselhe*, E., Allison, M. et al. 2014. Large Scale Nutrient, Wetland Vegetation and Morphodynamic Modeling for the Lower Mississippi Delta and Surrounding Receiving Basins. Delft Software Days, Delft, The Netherlands, November 2014. *Presenter
- **Baustian M.M.** and L. Moss. Diverting More than Sediment and Water: Nutrient Effects From Proposed Mississippi River Sediment Diversions. Joint Aquatic Sciences Meeting, Portland, OR. May 2014
- Meselhe, E., White, E. **Baustian M.M.**, Couvillion, B., Duke-Sylvester, S., Green, M., Habib, E., Owens, A., Pahl, J., Schindler, J., Reed, D., Rodrigue, M., Visser, J., and B. Yuill. Developing Future Uncertainty Scenarios. State of Coast. New Orleans, LA. March 2014.
- Brooks, Y., **Baustian M.M.**, Baskaran, M. and J.B. Rose. Molecular measurements in sediment cores linking pollution, climate and watershed management. International Association of Great Lakes Research. West Lafayette, IN. June 2013.
- Sexton, C., Morrison, W., **Baustian M.M.**, and N.N. Rabalais. *Pseudo-nitzschia* in the diet of *Paraprionospio pinnata*, a polychaete in the Gulf of Mexico hypoxic zone: potential mechanism for toxin bioaccumulation. Benthic Ecology Meeting. Savannah, GA. March 2013.
- Rose, J.B., Dreelin, E., **Baustian M.M.** and G. Mavrommati. Learning from adaptable water systems. NSF Water, Sustainability and Climate PI meeting. Arlington, VA. March 2013.
- **Baustian M.M.** and R.J. Stevenson. Impacts of nutrient enrichment to the benthic-pelagic coupling mechanisms in the Nation's freshwater lakes. Aquatic Sciences Meeting. Association for the Sciences of Limnology and Oceanography. New Orleans, LA. February 2013.
- **Baustian M.M.** Benthic-pelagic coupling in aquatic ecosystems: identifying the mechanisms and stressors. Ecological Dissertations in Aquatic Sciences (Eco-DAS X). Honolulu, HI. October 2012.
- Gasteyer, S., **Baustian M.M.**, Esselman, P., and G. Mavrommati. Learning from adaptable water systems a 100-year perspective of the Lake St. Clair watershed: Gathering data sets for linking complex models in the Great Lakes. NSF Water, Sustainability and Climate PI meeting. Arlington, VA. November 2011.

- **Baustian M.M.**, Rabalais, N.N. Morrison, W.L., and R.E. Turner. Microphytobenthos and their potential role in the northern Gulf of Mexico hypoxic zone. Coastal and Estuarine Research Federation conference. Daytona Beach, FL. November 2011.
- **Baustian M.M.**, Monk, M.H., Welsh, S., Land, L., D'Elia, C., and S. Gaston. EnvironMentors: a successful multidisciplinary environmental science mentoring program. Coastal and Estuarine Research Federation conference. Daytona Beach, FL. November 2011.
- **Baustian M.M.**, Rabalais, N.N., Morrison, W.L., and R.E. Turner. Presence of microphytobenthos on the Texas-Louisiana continental shelf during summer hypoxia. Benthic Ecology Meeting. Mobile, AL. March 2011.
- **Baustian M.M.**, Rabalais, N.N., and W.L. Morrison. Benthic primary producers on the eutrophic northern Gulf of Mexico continental shelf. School of Coast and Environment Graduate Student Seminar. Baton Rouge, LA. November 2009.
- **Baustian M.M.**, Rabalais, N.N., and W.L. Morrison. Benthic primary producers on the eutrophic northern Gulf of Mexico continental shelf. Coastal and Estuarine Research Federation conference. Portland, OR. November 2009.
- **Baustian M.M.** and N.N. Rabalais. The effect of light on hypoxic bottom-water oxygen concentrations in the northern Gulf of Mexico. Ocean Sciences meeting. Orlando, FL. March 2008.
- **Baustian M.M.** and N.N. Rabalais. The effect of light on hypoxic bottom-water oxygen concentrations in the northern Gulf of Mexico. Graduate Student Symposium. Cocodrie, LA. February 2008.
- **Baustian M.M.** and N.N. Rabalais. Detecting benthic primary producers in the northern Gulf of Mexico hypoxia region. Estuarine Research Federation conference. Providence, RI. November 2007.
- **Baustian M.M.**, Craig, J.K., and N.N. Rabalais. Benthic communities and croaker foraging during summer hypoxia. NOAA sponsored meeting: *Ecological Impacts of Hypoxia*, Bay St. Louis, MS. March 2007.
- **Baustian M.M.**, Craig, J.K., and N.N. Rabalais. Potential benthic prey and selectivity of Atlantic croaker during summer hypoxia. School of Coast and Environment Student Seminar. Baton Rouge, LA. April 2006.
- **Baustian M.M.**, Craig, J.K. and N.N. Rabalais. Benthic communities and croaker foraging during summer hypoxia. NOAA sponsored *Hypoxia Effects on Living Resources in the Gulf of Mexico* meeting. New Orleans, LA. September 2006.
- **Baustian M.M.** Available Prey for Demersal Predators in a Seasonally Hypoxic Area (C6B). School of Coast and Environment Student Seminar. Baton Rouge, LA. April 2005.
- **Baustian M.M.**, Rabalais, N.N. and J.K. Craig. Prey availability for demersal predators in relation to hypoxia in the northern Gulf of Mexico. Estuarine Research Federation conference. Norfolk, VA. October 2005.
- **Baustian M.M.** and N.N. Rabalais. Prey availability for demersal predators in and outside of hypoxia in the northern Gulf of Mexico. Graduate Student Symposium. Cocodrie, LA. January 2005.
- **Baustian M.M.** and N.N. Rabalais. Prey availability for demersal predators in and outside of hypoxia in the northern Gulf of Mexico. Benthic Ecology Meeting. Williamsburg, VA. April 2005.
- **Millman, M.**, Cherrier, C., Ramstack, J., and J.A. Downing. Seasonal succession of the phytoplankton community in the Ada Hayden Lake, Ames, IA. Iowa Women in Natural Resources Conference. Sioux City, IA. February 2003.
- **Millman, M.**, Teichberg, M., Martinetto, P, and I. Valiela. Response of shrimp populations to land-derived nitrogen in Waquoit Bay. Marine Biological Laboratory General Scientific Meetings. Woods Hole, MA. August 2002.

Conference Poster Presentations

- Messina, F., Yuill, B., Bregman, M., Jung, H., **Baustian, M.M.**, Meselhe, E., and K. Sadid. Morphological and Ecological Effects of Mid-Barataria Sediment Diversion in Coastal Louisiana. River, Coastal, and Estuarine Morphodynamics Symposium. Auckland, New Zealand. November 2019.
- Esposito, C., Beltrán-Burgos, M., Nepf, H., and **M.M. Baustian**. Sediment Retention Processes in Coastal Marshes. Coastal and Estuarine Research Federation conference. Mobile, AL. November 2019.

- Guidry, M. and **M.M. Baustian**. Microbes of the Lower Mississippi River. The Water Institute of the Gulf. Baton Rouge, LA. April 2019.
- Jung, H., **Baustian, M.M.**, Meselhe, E., and T. Carruthers. Developing Nitrogen Budgets Using an Integrated Biophysical Model to Investigate Current and Future Phytoplankton Dynamics in a rapidly changing subtropical estuary, Barataria Basin. American Geophysical Union. December 2018. Washington DC.
- Aslan, H., Powell, C., **Baustian, M.M.**, and M. Polito. Impacts of mangrove expansion on salt marsh benthic infaunal communities in the Gulf of Mexico. International Symposium on Fisheries and Aquatic Sciences (FABA). 23 November 2018. Ankara, Turkey. E-book proceedings: ISBN: 978-605-68894-0-0.
- Price, A., **Baustian, M.M.**, Turner, R.E. Rabalais, N.N., and G. Chmura. 2017. Dinoflagellate cysts track nutrient enrichment in the northern Gulf of Mexico. Louisiana State University International Fair. 15 November.
- **Baustian, M.M.**, Stagg, C., Perry, C.L., Moss, L. Carruthers, T. and M. Allison. 2017. Short and long-term soil carbon accumulation in marsh salinity types of the Mississippi River Deltaic Plain: Implications for future global climate change and coastal restoration. American Geophysical Union. 11-15 December, New Orleans, LA.
- Powell C.E., **Baustian M.M.** and M. Polito. 2017. Influence of black mangrove expansion on salt marsh food webs in coastal Louisiana. American Geophysical Union. 11-15 December, New Orleans, LA.
- Powell, C., Davis, B., **Baustian, M.M.**, and M. Polito. 2017. From Marsh to Mangrove: How do vegetation shifts in coastal Louisiana affect species composition, trophic dynamics and carbon flow in estuarine food webs? Gulf of Mexico Oil Spill & Ecosystem Science Conference. 6-9 February, New Orleans, LA.
- Powell, C., Davis, B., **Baustian, M.M.**, and M. Polito. 2016. From Marsh to Mangrove: How do vegetation shifts in coastal Louisiana affect species composition, trophic dynamics and carbon flow in estuarine food webs? Restore America's Estuary Summit. 10-15 December.
- Jung, H., Meselhe, E. and **M.M. Baustian**. 2016. Potential changes in the spatial and temporal patterns of nutrients and phytoplankton taxa in lower Mississippi river basins in response to proposed large sediment diversions. American Geophysical Union. 12-16 December, San Francisco, CA.
- Polito, M. and **M.M. Baustian**. 2016 Branching Out: the role of Mangroves in Coastal Louisiana Fisheries. Louisiana Fisheries Forward Summit. March 2016. New Orleans, LA and The Water Institute of the Gulf Annual Meeting, April 2016.
- Ramatchandirane, C., Yuill, B. Allison, M.A., **Baustian, M.M.**, and E. Meselhe. 2015. Observational network studies of receiving basin dynamics along lower Mississippi River in coastal Louisiana. Coastal and Estuarine Research Federation Biennial Meeting, 8-12 November, Portland, Oregon.
- Davis, B., Polito, M., and **M.M. Baustian**. 2015. Impact of Climate-Driven Vegetation Shifts on Carbon Dynamics in Marsh Food Webs. Louisiana State University Undergraduate Research Conference. 6 November, Baton Rouge, Louisiana.
- Darnell, K, **Baustian, M.M.** Hijuelos, A.C., Moss, L.C., and T.J.B. Carruthers. 2014. Data to decisions: supporting effective coastal management. Gulf Estuarine Research Society Meeting. Port Aransas, TX October 30, 2014.
- Mathurin, J. **Baustian, M.M.**, and S. Bargu. Comparison of Phytoplankton Community Composition in Two Coastal Louisiana Estuaries. LSU Discover, Undergraduate Research Forum. Baton Rouge, LA. April 2015.
- Mavrommati, G., **Baustian, M.M.** and E. Dreelin. A Conceptual framework for coupling socioeconomic and lake systems: the case study of the western shore of Lake St. Clair, North America. International Association of Great Lakes Research. West Lafayette, IN. June 2013.
- Sexton, C., Morrison, W., **Baustian, M.M.**, and N.N. Rabalais. *Pseudo-nitzschia* in a polychaete diet: potential benthic vector for domoic acid bioaccumulation. Odum School of Ecology Graduate Student Symposium. Athens, GA. January 2013.
- **Millman, M.**, Teichberg, M., Martinetto, P., and I. Valiela. Response of shrimp populations to land-derived nitrogen in Waquoit Bay. New England Estuarine Research Society meeting. Groton, CT. October 2002.

Other Publications

- **The Water Institute of the Gulf** (2019). Monitoring Plans for Louisiana's System-Wide Assessment and Monitoring Program (SWAMP), Version IV. Prepared for and funded by the Coastal Protection and

Restoration Authority (CPRA) under Task Order 6, Contract No. 2503-12-58. Baton Rouge, LA. (235p)
<https://cims.coastal.louisiana.gov/RecordDetail.aspx?Root=0&sid=23567>

- Jerabek, A., Hemmerling, S., and **M. Baustian**. 2018. TO 6.6: Activity 1A: Lessons Learned from SWAMP Implementation in Eastern Louisiana. The Water Institute of the Gulf. Prepared and funded by the Coastal Protection and Restoration Authority
- **Baustian, M.M.**, Jung, H. Meselhe, E., and Duke-Sylvester, S. 2018. TO46/48: Vegetation Modeling Experiments, Utilizing Field Observations to Modify Parameters. The Water Institute of the Gulf. Prepared and funded by the Coastal Protection and Restoration Authority
- Yuill, B., Jung, H. Meselhe, E., **Baustian, M.M.**, Allison, M, Jerabek, A. 2018. Port Fourchon Channel Deepening Feasibility Project. The Water Institute of the Gulf. Prepared and funded by EIS, Inc.
- **Baustian, M.M.**, Meselhe, E.A. Jung, H., Liang, M. & Messina, F. 2016. TO35: Barataria Basin Water Quality Data Collection for Model Refinement. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
- Jung, H., **Baustian, M.M.**, & Meselhe, E.A. 2016. TO15/16: Outfall areas in Barataria and Breton Sound: Water quality Model Improvement. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
- Jung, H., **Baustian, M.M.**, & Meselhe, E.A. 2016. TO15/16: Outfall areas in Barataria and Breton Sound: Vegetation Model Improvement. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
- Meselhe, E.A., **Baustian, M.M.**, Allison, M.A. (Eds.) 2015. Basin wide model development for the Louisiana Coastal Area Mississippi River hydrodynamic and delta management study. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority. Baton Rouge, LA.
- Meselhe, E.A., **Baustian, M.M.**, Khadka, A., Jung, H., Sadid, K., Duke Sylvester, S.M., Visser, J.M., Smits, J., van Maren, B., Harezlak, V. & Jeuken, M. 2015. Basin wide Model Development for the LCA Mississippi River Hydrodynamic and Delta Management Study. Report 3: Calibration, and Validation of Delft3D Models. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority under Task Order 27.1. Baton Rouge, LA.
- Allison, M., **Baustian, M.M.**, Moss, L.C., Ramachandirane, C., Yuill, B. and D. Weathers. 2015. Basin wide Model Development for the LCA Mississippi River Hydrodynamic and Delta Management Study. Report 2: Data Collection in the Receiving Basins. The Water Institute of the Gulf. Prepared and funded by the Coastal Protection and Restoration Authority under Task Order 27.1. Baton Rouge, LA.
- Perry, C.L., Pinsonat, C., **Baustian, M.M.**, Stagg, C, and Carruthers, T. 2015. Organic Matter Decomposition and Carbon Storage along a Landscape-scale Gradient in Coastal Louisiana. General Audience Flyer #1.
- Meselhe, E., **Baustian, M.M.**, Khadka, A., Hoonshin, J., Allison, M., Duke-Sylvester, S.M., Visser, J. M., Smits, J., van Maren, B., Harezlak, V., and Jeuken, M. 2014. Basin wide Model Development for the LCA Mississippi River Hydrodynamic and Delta Management Study. Report 1: Delft3D Model Setup and Development. The Water Institute of the Gulf. Funded by the Coastal Protection and Restoration Authority under Task Order 27.1. Baton Rouge, LA
- **Baustian, M.M.** 2014. 2017 Coastal Master Plan: Model Improvement Plan, (Subtask 4.7) Future Scenarios Appendix 5: Mississippi River Total Nitrogen Concentration. Version I. Baton Rouge, LA: Coastal Protection and Restoration Authority.
- Yuill, B.T., **Baustian, M.M.**, Moss, L.C. and M.A. Allison. 2014. Researching Uncertainties Related to Sediment Diversions: Fresh Water, Nutrient and Sediment Effects to Coastal Louisiana Receiving Basins. The Water Institute of the Gulf. Prepared for and funded by the Coastal Protection and Restoration Authority (CPRA) under Task Order 22, Contract No. 2503-12-58. Baton Rouge, LA.
- **Baustian, M.M.**, Meselhe, E., Moss, L. and D. Reed 2014. Incorporating Nutrient Effects into Modeling. Final Study Work Plan. The Water Institute of the Gulf. Funded by the Coastal Protection and Restoration Authority under Task Order 22, Contract No. 2503-12-58. Baton Rouge, LA.
- **Baustian, M.**, Broussard, W., Fielding, R., Lasseigne, J. and R.E. Turner. In prep. "Farming the wetlands of old Acadie: 17th Century Reclamation to Present-day Restoration." Approx. 110 pp book.

- Broussard, W., **Baustian, M.**, Fielding, R. and Lasseigne, J. 2006 – 2010. “Farming the wetlands in old Acadie: 17th century reclamation to present-day restoration.” An educational pictorial and text exhibit about the salt marshes in Nova Scotia and New Brunswick that was displayed at 8 locations in southern Louisiana:
 - a. LSU, School of the Coast and Environment, Baton Rouge, LA, 1-6 December 2006
 - b. Wetlands Acadian Cultural Center, National Park Service, Thibodaux, LA, 11 December 2006 - 2 January 2007
 - c. Louisiana State Museum, Patterson, LA, 5-27 January 2007
 - d. LUMCON, Cocodrie, LA, March 2007
 - e. Cité des Arts, Lafayette, LA, April – July 2007
 - f. Acadian Memorial, St. Martinville, LA, September - November 2007
 - g. University of Louisiana at Lafayette, LA, January 2008
 - h. Permanently housed at the Acadian Museum, Erath, LA, March 2010 - current
- **Baustian, M.M.** 2007. *Rocky Shores and Beaches*. In: Turner, E., Spicer, J., and Mariscal, J. (eds) *A Guide for Exploration in and Around Melaque, Mexico*. Centro Universitario de al Costa Sur, Melaque, Mexico. p. 9-12.
- **Baustian, M.M.** and Bentley, S.J. 2006. *Marine Geology Laboratory Manual*. Developed for Summer 2006 Marine Field Geology course held at LUMCON.