

Giovanna McClenachan

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EDUCATION

- Ph.D. **Louisiana State University**, Baton Rouge, LA
Department of Oceanography and Coastal Sciences, 2016
Advisor: R. Eugene Turner
Dissertation Title: Coastal ecosystem resiliency and adaptability after major disturbances.
- B.S. **Dickinson College**, Carlisle, PA
Environmental Science, Magna Cum Laude

PROFESSIONAL APPOINTMENTS

- 2020-present Assistant Professor of Biology, Nicholls State University, LA
- 2018-2020 Preeminent Postdoctoral Fellow at University of Central Florida
Department of Biology
PI: Linda Walters
- 2018-2020 Senior Science Fellow at Coalition to Restore Coastal Louisiana
- 2016- 2018 Science Director at Coalition to Restore Coastal Louisiana

PUBLICATIONS

- In revision **McClenachan, G.**, M. Witt, and L. Walters. 2020. Replacement of oyster reefs by mangrove islands: unexpected climate-driven ecosystem shifts. *Global Change Biology*.
- In revision Walters, L.J., E.J. Philips, S. Badylak, **G. McClenachan**, P.E. Sacks, M.J. Donnelly. 2020. Effects of brown tide *Aureoumbra lagunensis* on recruitment and adult survival of the eastern oyster *Crassostrea virginica*: Field results. *PloS ONE*.
- 2020 Cannon D, K. Kibler, M. Donnelly, **G. McClenachan**, L. Walters, A. Roddenberry, J. Phagan. 2020. Hydrodynamic habitat thresholds for mangrove vegetation on the shorelines of a microtidal estuarine lagoon. *Ecological Engineering*. 158: 106070. <https://doi.org/10.1016/j.ecoleng.2020.106070>.
- 2020 **McClenachan, G.**, M. Donnelly, P. Sacks, M. Shaffer, and L. Walters. 2020. Does size matter?: Quantifying the cumulative impact of small-scale living shoreline and oyster reef restoration projects on shoreline erosion. *Restoration Ecology*. <https://doi.org/10.1111/rec.13235>.

- 2019 Morris, R., D. Bilkovic, M. Boswell, D. Bushek, J. Cebrian, J. Goff, K. Kibler, M. La Peyre, **G. McClenachan**, J. Moody, P. Sacks, J. Shinn, E. Sparks, N. Temple, L. Walters, B. Webb, and S. Swearer. 2019. The application of oyster reefs in shoreline protection: are we over-engineering for an ecosystem engineer? *Journal of Applied Ecology*. 56(7): 1703-1711.
- 2019 Turner R.E., N.N. Rabalais, E.B. Overton, B.M. Meyer, **G. McClenachan**, E.M. Swenson, M. Besonen, M.L. Parsons, and J. Zingre. 2019 Oiling of the continental shelf and coastal marshes over eight years after the 2010 Deepwater Horizon oil spill. *Environmental Pollution*. 252 (B): 1367-1376.
- 2018 Turner, R.E. and **G. McClenachan**. 2018. Reversing wetland death from 35,000 cuts: Opportunities to restore Louisiana's dredged canals. *PloS ONE*. 13 (12), e0207717.
- 2016 Turner, R.E., **G. McClenachan**, and A.W. Tweel. 2016. Islands in the oil: Quantifying salt marsh shoreline erosion after the Deepwater Horizon oiling. *Marine Pollution Bulletin*. 10(1): 316-232.
- 2016 **McClenachan, G.** 2016. Coastal ecosystem resiliency after major disturbances. *LSU Doctoral Dissertations*. 3161. https://digitalcommons.lsu.edu/gradschool_dissertations/3161.
- 2014 Hooper-Bui, L.M., N.N. Rabalais, A.S. Engel, R.E. Turner, **G. McClenachan**, B. Roberts, E.B. Overton, D. Justic, K. Sturdivant, K. Brown, and J. Conover. 2014. Key insights into the coastal effects of the Macondo Blowout from the Coastal Waters Consortium: A GoMRI Consortium. International Oil Spill Conference, Savannah, Georgia, 5-8 May, 2014 (1): 604-617.
- 2014 Turner, R.E., E.B. Overton, B.M. Ashton, M.S. Miles, **G. McClenachan**, L. Hooper-Bui, A. Summer Engel, E.M. Swenson, J.M. Lee, C.S. Milan, and H. Gao. 2014. Distribution and recovery trajectory of Macondo (Mississippi Canyon 252) oil in Louisiana salt marshes. *Marine Pollution Bulletin*, 87(1-2): 57-67.
- 2013 **McClenachan, G.**, R.E. Turner, and A.W. Tweel. 2013. Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion. *Environmental Research Letters*. 8(4): 044030.
- 2012 Kapur, A., C. Baldwin, M. Swanson, N. Wilberforce, **G. McClenachan**, and M. Rentschler. 2012. Comparative life cycle assessment of conventional and Green Seal-compliant industrial and institutional cleaning products. *The International Journal of Life Cycle Assessment*. 17(4): 377-387.

GRANTS AND FELLOWSHIPS

Funded/In progress

- 2020 **McClenachan, G.** Mapping small-scale anthropogenic alterations to the Louisiana coastal zone, 1932-present. Nicholls State University Research Council Grants. **\$3,225**.

Funded/Complete

- 2018/19 Kibler, K., L. Walters, M. Donnelly, V. Kitsikoudis, **G. McClenachan**, A. Roddenberry. Developing a Shoreline Restoration Suitability Model for North IRL and Mosquito Lagoon, Phase II. Indian River Lagoon National Estuary Program. **\$117,546.**
- 2017 **McClenachan, G.** Fishing for Data: Collecting baseline data on fish populations and environmental conditions in southeastern Louisiana using fishermen citizen scientists. Restore the Mississippi River Delta. **\$99,440.**
- 2017 **McClenachan, G.** Oyster reef ecosystem benefits monitored via time-lapse photography. Restore the Mississippi River Delta. **\$11,157.**
- 2010-2014 Board of Regents Graduate Fellowship, Louisiana Board of Regents.
- Not funded**
- 2020 Whitaker, J. (PI), Bonvillain C. (Co-PI), Breithaupt J. (Co-PI), David S. (Co-PI), **McClenachan, G.** (Co-PI), Willis, J. (Co-PI). Assessing landscape scale effects of restored canals in coastal Louisiana marshes by characterizing water-level regimes, soil biogeochemistry, and biodiversity. **National Academies of Sciences - Gulf Research Program: Healthy Ecosystems Grant 4: Advancing Understanding of Coastal Ecosystem Function and Dynamics in the Coupled Natural-Human System of the U.S. Gulf Coast.** To McClenachan: **\$167,661.**

TEACHING EXPERIENCE

Nicholls State University: Department of Biology
 BIOL 552 Marine and Environmental Biology (Graduate)
 BIOL 473 Applied GIS for Biologist (Split level)
 BIOL 483 Marine & Estuarine Biology (Split level)
 BIOL 284 Intro to Marine Biology Lab (Undergrad)
 BIOL 156 Biology II (Undergrad)

University of Central Florida: Department of Biology
 PCB4932 Resilience and Disturbance Ecology (Spring 2019- Undergrad)

Louisiana State University: Department of Oceanography and Coastal Sciences
 Introduction to Oceanography (TA, Fall 2015)
 Wetland field workshop (Summer 2013)

Guest Lecturer: Wetland loss, Restoration, and Management (Fall 2017)

CONFERENCE PRESENTATIONS

Papers Presented

- 2019 Coastal and Estuarine Research Federation Conference. "Replacement of oyster reefs by mangrove islands: unexpected climate-driven ecosystem shifts." Mobile, AL. Nov 3-7.
- 2019 Indian River Lagoon Conference. "Ecosystem trends in Mosquito Lagoon: Are oyster reefs being replaced by mangrove islands?" Fort Pierce, FL, Feb 7, 2019.

- 2018 State of the Coast. “Why isn’t everyone backfilling? History of rationales for the lack of backfilling.” New Orleans, LA. May 30- June 1.
- 2017 Coastal and Estuarine Research Federation Conference. “Salt marsh resiliency shifts after the Deepwater Horizon oil spill.” Providence, RI. Nov 5-9.
- 2017 Gulf of Mexico Oil Spill and Ecosystem Science Conference.
“Salt marsh resiliency shifts after the Deepwater Horizon oil spill.” New Orleans, LA. Feb 6-9.
- 2016 Restore America’s Estuaries Conference.
“Documenting marsh shoreline erosion over days, months and a year: The legacy effects of disturbances.” New Orleans, LA. Dec 12-15.
- 2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference.
“Louisiana commercial fishing industry response to the Deepwater Horizon oil spill.” Tampa, FL. Feb 1-4.
- 2015 Coastal and Estuarine Research Federation Conference.
“Coastal erosion and disturbances: Documenting the impact of micro-bay formation.” Portland, OR, November 7-12.
- 2015 Gulf of Mexico Oil Spill and Ecosystem Science Conference.
“Rate and trajectory of erosion along the Louisiana coast after the Deepwater Horizon oil spill.” Houston, TX, February 16-19
- 2015 Student Conference on Conservation Science.
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.” Brisbane, Australia, January 19-29.
- 2013 Coastal and Estuarine Research Federation Conference.
“Louisiana commercial fishing industry response to the Deepwater Horizon oil spill.” San Diego, CA. November 3-7.
- 2013 Association for the Sciences of Limnology and Oceanography (ASLO).
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.” New Orleans, LA. February 17-22.
- 2013 Gulf of Mexico Oil Spill and Ecosystem Science Conference.
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.” New Orleans, LA. January 21-23.
- 2012 International Wetlands Conference (INTECOL).
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.” Orlando, FL. June 3-8.
- 2011 Coastal and Estuarine Research Federation Conference.
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.” Daytona Beach, FL. November 6-11.

Posters

- 2018 Restore America’s Estuaries.

“Does size matter? Quantifying landscape scale impacts of small scale restoration.”

Long Beach, CA December 8-13

- 2014 Association for the Sciences of Limnology and Oceanography (ASLO).
“Effects of oil on the rate and trajectory of Louisiana marsh shoreline erosion.”
Honolulu, HI, February 23rd-28th.
- 2014 Gulf of Mexico Oil Spill and Ecosystem Science Conference.
“Louisiana commercial fishing industry response to the Deepwater Horizon oil
spill.” Mobile, AL. January 26th-29th, 2014.

INVITED TALKS

- 2018 University of Central Florida, Orlando FL
2017 New College of Florida, Sarasota FL
2017 Louisiana State University, Baton Rouge LA

PROFESSIONAL SERVICE

Journal Reviewer: *Aquatic Invasions, Marine Pollution Bulletin, Marine Ecology Progress Series, Southeastern Naturalist*

Conference session organizer: State of the Coast 2018. New Orleans, LA. “Backfilling canals: Progress and Pratfalls.”

Grant reviewer: National Fellowship of GWIS

SCIENCE OUTREACH AND MENTORING

- 2018-2020 **Undergraduate mentor and advisor.** University of Central Florida
Mentored undergraduates in independent research in coastal lagoon work.
- 2018-2019 **Poster Judge**
University of Central Florida Undergraduate research symposium
- 2017 **AmeriCorps supervisor.** Coalition to Restore Coastal Louisiana
Mentored and supervised a graduate student in GIS research.
- 2017 **Undergraduate research mentor.** Tulane University
Worked with 2 students using GIS to explore restoration effects.
- 2013-2015 **Ocean Commotion.** Louisiana State University
Developed and presented science education for elementary and middle schoolers
- 2011-2015 **Environmentors.** Louisiana State University
Yearlong science mentoring for underprivileged high school students.

AWARDS

- 2016 Outstanding Dissertation Award, Dept. of Oceanography and Coastal Sciences, LSU.
- 2015 Ted Ford Scholarship Award, Dept. of Oceanography and Coastal Sciences, LSU.
- 2014 Gulf of Mexico Research Initiative Scholar, Coastal Waters Consortium.
- 2014 1st place, 2014 Graduate Student Seminar Competition, Dept. of Oceanography and Coastal Sciences, LSU.
- 2005 1st place, Senior Research Symposium, Dickinson College.

RESEARCH EXPERIENCE

- 2018-2020 University of Central Florida, Orlando, FL. Landscape scale historical ecosystem changes in the Indian River Lagoon system.
- 2016-2018 Coalition to Restore Coastal Louisiana, New Orleans, LA
Interdisciplinary research on effects of climate change, restoration activities, land loss, and other disturbances on fish and fishermen communities.
- 2010-2016 Louisiana State University, Baton Rouge, LA.
Field and statistical research on the effect of natural and anthropogenic disturbances on marsh shoreline erosion and commercial fisheries.

RELEVANT WORK EXPERIENCE

- 2007-2010 Environmental Scientist, Green Seal, Washington, DC.
- 2006-2007 Associate Research Support Specialist, Institute of Ecosystem Studies, Baltimore, MD.
- 2005-2006 Assistant Research Specialist, Institute of Ecosystem Studies, Baltimore, MD.

REFERENCES

R. Eugene Turner

Boyd Professor

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