

Curriculum Vitae

Edward Castaneda, Ph.D.

Research Assistant Professor
Southeast Environmental Research Center (SERC), Institute of Environment
Florida International University
11200 SW 8th St., Bldg. OE 148 Miami, FL 33199
(337) 322-5158 (Cell); (305) 348-7479 (Office); (305) 348-4096 (Fax)
ecastane@fiu.edu

Education:

- Postdoc** **2010-2013. Nutrient biogeochemistry in coastal wetlands.** Louisiana State University, Baton Rouge, LA, USA.
- Ph.D.** **2010. Oceanography and Coastal Sciences, Official Minor in Applied Statistics.** Louisiana State University, Baton Rouge, LA, USA.
Dissertation title “Landscape patterns of community structure, biomass and net primary productivity of mangrove forests in the Florida Coastal Everglades as a function of resources, regulators, hydroperiod, and hurricane disturbance”.
- M.S.** **2003. Biology.** University of Louisiana at Lafayette, Lafayette, LA, USA.
Thesis title “Spatial patterns of mangrove forest structure in a dry environmental setting, the Gulf of Fonseca, Honduras”.
- B.S.** **1998. Marine Biology.** Universidad Jorge Tadeo Lozano, Colombia.
Thesis title “Reproductive phenology of *Avicennia germinans* and *Rhizophora mangle* in the delta-lagoon complex Ciénaga Grande de Santa Marta, Colombian Caribbean.

Research Interests:

Estuarine and coastal ecosystems
Ecology and biogeochemistry of coastal wetlands
Landscape modeling of coastal ecosystems
Restoration and management of coastal systems
Carbon and nutrient dynamics in coastal environments

Research Experience:

My research as a wetland ecologist focuses on nutrient biogeochemistry and ecosystem dynamics of coastal wetlands, including mangrove forests and marshes. I study the effect of large-scale natural (hurricanes) and human (freshwater diversions) disturbances on carbon and nutrient dynamics and vegetation succession to understand trajectories of ecosystem structure and function. My research also includes the implementation of self-activating sensors to continuously monitor net ecosystem exchange (eddy covariance technique), coastal eutrophication, water quality, and sediment transport in coastal and estuarine systems.

Professional Experience:

2019-Present: Research Assistant Professor, SERC, FIU.

2016-2018: Visiting Research Associate, SERC, FIU.

2014-2016: Research Associate V, Dept. Oceanography and Coastal Sciences (DOCS), LSU.

2010-2013: Postdoctoral Research Associate IV, DOCS, LSU.

2008-2010: Research Assistant, DOCS, LSU. Project “Coastal oligotrophic ecosystem research, the coastal Everglades—mangrove biogeochemical processes”. FCE-LTER Phase II. Supervisor: Dr. Robert R. Twilley. Funding: National Science Foundation, USA.

2007-2008: Research Assistant. DOCS, LSU. Project “Nitrogen cycling in freshwater and estuarine wetlands of Taylor Slough and its influence on nitrogen exchange between Taylor River and Florida Bay”. Supervisor: Dr. Victor H. Rivera-Monroy. Funding: National Oceanic and Atmospheric Administration, USA.

2006-2007: Laboratory Manager – Research Associate IV, Coastal Biogeochemistry Laboratory, DOCS, LSU. Supervisor: Dr. Robert R. Twilley.

2004-2006: Research Assistant, DOCS, LSU. Project “Coastal oligotrophic ecosystem research, the coastal Everglades—mangrove biogeochemical processes”. FCE-LTER Phase I. Supervisor: Dr. Robert R. Twilley. Funding: National Science Foundation, USA.

2002-2004: Research Assistant, University of Louisiana at Lafayette. Project: “Coastal oligotrophic ecosystem research, the coastal Everglades—mangrove biogeochemical processes”. FCE-LTER Phase I. Supervisor: Dr. Robert R. Twilley. Funding: National Science Foundation, USA.

2000-2002: Research Assistant, University of Louisiana at Lafayette. Project “Hurricane Mitch: integrative management and rehabilitation of mangrove resources to develop sustainable shrimp mariculture in the Gulf of Fonseca, Honduras”. Supervisor: Dr. Robert R. Twilley. Funding: US Geological Survey.

1998-2000: Research Assistant, Marine Research Institute (INVEMAR), Colombia. Project “Structure and function of a mangrove ecosystem along a restoration trajectory following landscape-level disturbance”. Supervisor: Dr. Victor H. Rivera-Monroy. Funding: COLCIENCIAS (National Science Foundation, Colombia).

Analytical and Technical Experience:

Proficiency in the operation of equipment and techniques used for the analysis of water and soil chemistry, stable isotope analysis, general biogeochemistry, and eddy covariance technique in coastal wetlands and estuarine systems.

Instrumentation:

- 1) Eddy covariance flux towers to measure water vapor, carbon dioxide, and energy flux exchanged between wetland ecosystems and the atmosphere. Experience: Four years.
- 2) Elemental analyzer (Costech Analytical Technologies, Inc., Valencia, California). Analysis of nutrient concentrations (total carbon and nitrogen) in plant and soil material. Experience: Fifteen years.
- 3) Segmented flow analysis Flow Solution IV autoanalyzer (OI Analytical, College Station, Texas). Water quality analysis (inorganic and organic nutrients) determined by colorimetric analysis. Experience: Fifteen years.

- 4) Isotope Ratio Mass Spectrometer, Europa Scientific 20-20 Analyser coupled with a Roboprep-CN and Roboprep-G plus systems. Analysis of isotopic samples (natural abundance and enrichment). Experience: Nine years.
- 5) Membrane inlet mass spectrometer, Pfeiffer Prisma coupled to a silicone membrane inlet (Bay Instruments, Easton, MD) for the analysis of dissolved gases in water. Experience: Two years.
- 6) Telemetry: Construction, operation, and maintenance of a field Observatory with self-activating sensors (i.e., water level pressure transducer, Acoustic Doppler Velocimeter – ADV, nitrate sensor – SUNA V2, turbidity meter, temperature and conductivity) using a wireless telemetry system to evaluate coastal eutrophication, water quality, and sediment transport in coastal and estuarine ecosystems. This field Observatory was active from March 2014 to July 2019 in coastal marshes of Wax Lake Delta (WLD), Louisiana, as part of an NSF project (award #1135427) funded through the Frontiers and Earth System Dynamics (FESD) program. Lead PI: Dr. David Mohrig, University of Texas at Austin.

Research Grants/Contracts:

Awarded:

- Castañeda-Moya, E.**, T. Troxler, J. Kominoski, D. Lagomasino, and J. Sah. Hurricane Irma effects on Florida Everglades Mangroves: Assessment of Resilience and Trajectories of Recovery. US Department of Interior – National Park Service. \$337,239. May 2020 – December 2022.
- Castañeda-Moya, E. (co-PI)**. Delta-X – Enabling deltas to thrive in a century of rising seas. NASA. JPL NASA Subcontract \$420,000. June 2019 – May 2022.
- Gaiser, E (Lead PI). FCE IV: Drivers of Abrupt Change in the Florida Coastal Everglades. National Science Foundation. **Castañeda-Moya, E.**, subcontract, \$314,551. December 2018 – November 2020.
- Troxler, T.G. (PI), **E. Castañeda-Moya**, and S. Malone. Direct measurement of Net Ecosystem Exchange (NEE) in coastal mangroves of Everglades National Park. US Department of Interior – National Park Service. \$84,876. October 2019 – September 2020.
- Troxler, T.G. (PI) and **E. Castañeda-Moya**. Ecological monitoring of southern Everglades wetlands, mangrove transition zone and “white zone” interactions with Florida Bay. South Florida Water Management District. \$492,000. February 2017 – March 2021.
- Troxler, T.G. (PI) and **E. Castañeda-Moya**. Surface water-groundwater interaction in tree islands in Water Conservation Area 3: monitoring ecological function of tree islands. South Florida Water Management District. \$436,750. October 2015 – January 2021.
- Rivera-Monroy, V.H. (PI), R.R. Twilley, **E. Castañeda-Moya**, J. Supak. Carbon stocks in south Louisiana coastal wetlands. COYPU Foundation. \$44,000. February 2014 – February 2015.
- Rivera-Monroy, V.H. (PI), R.R. Twilley, **E. Castañeda-Moya**. Identifying mangrove performance criteria for mangrove forests using conceptual and simulation models of mangrove restoration and rehabilitation. South Florida Water Management District. \$50,000. May – November 2005.

Publications:

Refereed Publications (35):

2020:

- Christensen, A., R.R. Twilley, C.S. Wilson, and **E. Castañeda-Moya**. 2020 (In Press). Simulating hydrological connectivity and water age within a coastal deltaic floodplain of the Mississippi River Delta. *Estuarine, Coastal and Shelf Science*.
- Zhao, X., V.H. Rivera-Monroy, H. Wang, Z.G. Xue, C.F. Tsai, C. Wilson, **E. Castañeda-Moya**, and R.R. Twilley. 2020 (In Press). Modeling soil porewater salinity in mangrove forests (Everglades, Florida, USA) impacted by hydrological restoration and a warming climate. *Ecological Modelling*.
- Castañeda-Moya, E.**, V.H. Rivera-Monroy, R.M. Chambers, X. Zhao, L. Lamb-Wotton, A. Gorsky, E.E. Gaiser, T.G. Troxler, J.S. Kominoski, and M. Hiatt. 2020. Hurricanes fertilize mangrove forests in the Gulf of Mexico (Florida Everglades, USA). *PNAS* 117(9): 4831-4841. doi.org/10.1073/pnas.1908597117.
- Kominoski J.S., E.E. Gaiser, **E. Castañeda-Moya**, S.E. Davis, S. Dessu, P. Julian, D.Y. Lee, L. Marazzi, V.H. Rivera-Monroy, A. Sola, U. Stingl, S. Stumpf, D. Surratt, R. Travieso, and T. Troxler. 2020. Disturbance legacies synchronize fluctuations in nutrient concentrations and bacterial productivity in coastal ecosystems. *Ecology*. doi.org/10.1002/ecy.2988.
- Rastetter, E.B., M.D. Ohman, K.J. Elliott, J.S. Rehage, V.H. Rivera-Monroy, R.E. Boucek, **E. Castañeda-Moya**, T.M. Danielson, L. Gough, P.M. Groffman, C.R. Jackson, C.F. Miniati, and G.R. Shaver. 2020. Future trajectories for ecosystems of the U.S. Long Term Ecological Research Network: The importance of time lags. *Ecosphere*. *In Press*.

2019:

- Jensen, D., K.C. Cavanaugh, M. Simard, G.S. Okin, **E. Castañeda-Moya**, A. McCall, and R.R. Twilley. 2019. Integrating imaging spectrometer and synthetic aperture radar data for estimating wetland vegetation aboveground biomass in coastal Louisiana. *Remote Sensing*. 11, 2533. [doi:10.3390/rs11212533](https://doi.org/10.3390/rs11212533).
- Twilley, R.R., J.W. Day, A.E. Bevington, **E. Castañeda-Moya**, A. Christensen, G. Holm, L.R. Heffner, R. Lane, A. A. McCall, A. Aarons, S. Li, A. Freeman, and A.S. Rovai. 2019. Ecogeomorphology of coastal deltaic floodplains and estuaries in an active delta: Insights from the Atchafalaya Coastal Basin. *Estuarine Coastal and Shelf Science*. [doi:10.1016/j.ecss.2019.106341](https://doi.org/10.1016/j.ecss.2019.106341).
- Ribeiro, R.D.A., A.S. Rovai, R.R. Twilley, and **E. Castañeda-Moya**. 2019. Spatial variability of mangrove primary productivity in the neotropics. *Ecosphere* 10(8). e02841.
- Rohli, H., S.A. Ates, V.H. Rivera-Moroy, M.J. Polito, S.R. Midway, **E. Castañeda-Moya**, A.J. Gold, E. Uchida, M.M. Mangora, and S. Makoto. 2019. Inter-annual hydroclimatic variability in coastal Tanzania. *International Journal of Climatology*. [doi:10.1002/joc.6103](https://doi.org/10.1002/joc.6103)
- Thomas, N., M. Simard, **E. Castañeda-Moya**, K. Byrd, L. Windham-Myers, A. Bevington, and R.R. Twilley. 2019. High-resolution mapping of biomass and distribution of marsh and forested wetlands in southeastern coastal Louisiana. *International Journal of Applied Earth Observations and Geoinformation* 80: 257-267.
- Rivera-Monroy, V.H., T.M. Danielson, **E. Castañeda-Moya**, B.D. Marx, R. Travieso, X. Zhao, E.E. Gaiser, and L.M. Farfan. 2019. Long-term demography and stem productivity of

Everglades mangrove forests (Florida, USA): Resistance to hurricane disturbance. *Forest Ecology and Management* 440: 79-91.

Marazzi, L., E.E. Gaiser, M.B. Eppinga, J.P. Sah, L. Zhai, **E. Castañeda-Moya**, and C. Angelini. 2019. Why do we need to document and conserve foundation species in freshwater wetlands? *Water* 11, 265. doi:10.3390/w11020265.

Simard, M., L. Fatoyinbo, C. Smetanka, V.H. Rivera-Monroy, **E. Castañeda-Moya**, N. Thomas, and T. Van der Stocken. 2019. Mangrove canopy height globally related to precipitation, temperature and cyclone frequency. *Nature Geosciences* 12 40-45.

2018:

Rovai, A., R.R. Twilley, **E. Castañeda-Moya**, P. Riul, M. Cifuentes-Lara, M. Manrow-Villalobos, P.A. Horta, J.C. Simonassi, A.L. Fonseca, and P.R. Pagliosa. 2018. Global controls of carbon storage in mangrove soils. *Nature Climate Change* 8: 534-538.

Davis, S.E., R. Boucek, **E. Castañeda-Moya**, S. Dessu, E. Gaiser, J. Kominoski, J.P. Sah, D. Surratt, and T. Troxler. 2018. Episodic disturbances drive nutrient dynamics along freshwater-to-estuary gradients in a subtropical wetland. *Ecosphere* 9(6): e02296. doi:10.1002/ecs2.2296.

Hiatt, M., **E. Castañeda-Moya**, R.R. Twilley, B.R. Hodges, and P. Passalacqua. 2018. Channel-island connectivity affects water exposure time distributions in a coastal river delta. *Water Resources Research* 54. <https://doi.org/10.1002/2017WR021289>.

Dornelas, M., (**E. Castañeda-Moya**, and 198 co-authors in alphabetical order). 2018. BIoTIME: A database of biodiversity time series for the Anthropocene. *Global Ecology and Biogeography* 27: 760-786. doi:10.1111/geb.12729.

2017:

Danielson, T.M., V.H. Rivera-Monroy, **E. Castaneda-Moya**, H. Briceno, R. Travieso, B.D. Marx, E. Gaiser, and L.M. Farfan. 2017. Assessment of Everglades mangrove forest resilience: Implications for above-ground net primary productivity and carbon dynamics. *Forest Ecology and Management* 404: 115-125.

Breithaupt, J.L. J.M. Smoak, V.H. Rivera-Monroy, **E. Castañeda-Moya**, R.P. Moyer, M. Simard, C.J. Sanders. 2017. Partitioning the relative contributions of organic matter and mineral sediment accretion rates in carbonate platform mangrove soils. *Marine Geology* 390: 170-180.

2016:

Jerath, M., M. Bhat, V.H. Rivera-Monroy, **E. Castañeda-Moya**, M. Simard, and R.R. Twilley. 2016. The role of economic, policy, and ecological factors in estimating the value of carbon stocks in Everglades mangrove forests, south Florida, USA. *Environmental Science & Policy*, 66: 160-169.

Rovai, A.S., P. Riul, R. R. Twilley, **E. Castañeda-Moya**, V. H. Rivera-Monroy, A. A. Williams, M. Simard, M. Cifuentes-Jara, R. R. Lewis, S. Crooks, P. A. Horta, Y. Schaeffer-Novelli, G. Cintrón, M. Pozo-Cajas, and P. R. Pagliosa. 2016. Scaling mangrove aboveground biomass from site-level to continental-scale. *Global Ecology and Biogeography*. doi:10.1111/geb.12409.

2015:

Gaiser, E., M.P. Anderson, **E. Castañeda-Moya**, L. Collado-Vides, J. Fourqurean, M. Heithaus, R. Jaffer, D. Lagomasino, N. Oehm, R. Price, V.H. Rivera-Monroy, R. Chowdhury, and T. Troxler. 2015. New perspectives on an iconic landscape from comparative international long-term ecological research. *Ecosphere* 6:1-17.

2013:

Castañeda-Moya, E., R.R. Twilley, and V.H. Rivera-Monroy. 2013. Allocation of biomass and net primary productivity of mangrove forests along environmental gradients in the Florida Coastal Everglades, USA. *Forest Ecology and Management* 307: 226-241.

Troxler, T.G., E. Gaiser, J. Barr, J.D. Fuentes, R. Jaffé, D.L. Childers, L. Collado-Vides, V.H. Rivera-Monroy, **E. Castañeda-Moya,** W. Anderson, R. Chambers, M. Chen, C. Coronado-Molina, S.E. Davis, V. Engel, C. Fitz, J. Fourqurean, T. Frankovich, J. Kominoski, C. Madden, S.L. Malone, S.F. Oberbauer, P. Olivas, J. Richards, C. Saunders, J. Schedlbauer, L.J. Scinto, F. Sklar, T. Smith, J.M. Smoak, G. Starr, R.R. Twilley, and K. Whelan. 2013. Integrated carbon budget models for the Everglades terrestrial-coastal-oceanic gradient: Current status and needs for inter-site comparisons. *Oceanography* 26(3): 98–107. <http://dx.doi.org/10.5670/oceanog.2013.51>.

2011:

Castañeda-Moya, E., R.R. Twilley, V.H. Rivera-Monroy, B.D. Marx, C. Coronado-Molina, and S.M. L. Ewe. 2011. Patterns of root dynamics in mangrove forests along environmental gradients in the Florida Coastal Everglades, USA. *Ecosystems* 14: 1178-1195. doi:10.1007/s10021-011-9473-3.

Rivera-Monroy V.H., R.R. Twilley, J.E. Mancera-Pineda, C.J. Madden, A. Alcantara-Eguren, E.B. Moser, B.F. Jonsson, **E. Castañeda-Moya,** O. Casas-Monroy, P. Reyes-Forero, and J. Restrepo. 2011. Salinity and chlorophyll *a* as performance measures to rehabilitate a mangrove-dominated deltaic coastal system region: the Ciénaga Grande de Santa Marta-Pajarales Lagoon Complex, Colombia. *Estuaries and Coasts* 34: 1-19.

Rivera-Monroy V.H., R.R. Twilley, S.E. Davis III, D. Childers, M. Simard, R. Chambers, R. Jaffe, J. Boyer, D. Rudnick, K. Zhang, **E. Castañeda-Moya,** S. Ewe, C. Coronado-Molina, M. Ross, T.J. Smith III, B. Michot, E. Meselhe, W. Nuttle, T. Troxler, and G. Noe. 2011. The role of the Everglades Mangrove Ecotone Region (EMER) in regulating nutrient cycling and wetland productivity in south Florida. *Critical Reviews in Environmental Science and Technology* 41(6): 633-669.

2010:

Castañeda-Moya, E., R.R. Twilley, V.H. Rivera-Monroy, K. Zhang, S.E. Davis III, and M. Ross. 2010. Sediment and nutrient deposition associated with Hurricane Wilma in mangroves of the Florida Coastal Everglades. *Estuaries and Coasts* 33: 45-58.

Rivera-Monroy, V.H., P. Lenaker, R.R. Twilley, R.R. Delaune, C.W. Lindau, R.W. Fulweiler, W. Nuttle, E. Habib, and **E. Castañeda-Moya.** 2010. Denitrification in coastal Louisiana: A spatial assessment and research needs. *Journal of Sea Research* 63:157-172.

2008:

Bouillon, S., A. Borges, **E. Castañeda-Moya,** K. Diele, T. Dittmar, N. Duke, E. Kristensen, S. Lee, C. Marchand, J. Middelburg, V.H. Rivera-Monroy, T. Smith, and R.R. Twilley. 2008. Mangrove production and carbon sinks: a revision of global budget estimates. *Global Biogeochemical Cycles* 22, GB2013. doi:10.1029/2007GB003052.

Simard, M., V.H. Rivera-Monroy, E. Mancera-Pineda, **E. Castañeda-Moya,** and R.R. Twilley. 2008. A systematic method for 3D mapping of mangrove forests based on Shuttle Radar Topography Mission elevation data, ICESat/GLAS waveforms and field data: Application to Ciénaga Grande de Santa Marta, Colombia. *Remote Sensing of Environment* 112: 2131-2144.

2007:

Rivera-Monroy, V.H., K. de Mutsert, R.R. Twilley, **E. Castañeda-Moya**, M. Romigh, and E.S. Davis, III. 2007. Patterns of nutrient exchange in a riverine mangrove forest in the Shark River Estuary, Florida, USA. *Hidrobiologica* 17 (2): 169-178.

2006:

Castañeda-Moya, E. V.H. Rivera-Monroy, and R.R. Twilley. 2006. Mangrove zonation in the dry life zone of the Gulf of Fonseca, Honduras. *Estuaries* 29:751-764.

Rivera-Monroy, V.H., R.R. Twilley, E. Mancera, A. Alcantara-Eguren, **E. Castañeda-Moya**, O. Casas, P. Reyes, J. Restrepo, L. Perdomo, E. Campos, G. Cotes, and E. Vilorio. 2006. Aventuras y Desventuras en Macondo: Rehabilitación de la Ciénaga Grande de Santa Marta, Colombia. *Ecotropicos* 19: 72-93.

Simard, M., K. Zhang, V.H. Rivera-Monroy, M. Ross, P. Ruiz, **E. Castañeda-Moya**, R.R. Twilley, and E. Rodriguez. 2006. Mapping height and biomass of mangrove forests in Everglades National Park with SRTM elevation data. *Photogrammetric Engineering & Remote Sensing* 72 (3): 299–311.

2005:

Mancera, J.E., G.C. Meche, P.P. Cardona-Olarte, **E. Castañeda-Moya**, R.L. Chiasson, N.A. Geddes, L.M. Schile, H.G. Wang, G.R. Guntenspergen, and J.B. Grace. 2005. Fine-scale spatial variation in plant species richness and its relationship to environmental conditions in coastal marshlands. *Plant Ecology* 178: 39-50.

2004:

Grijalba-Bendeck, M., **E. Castañeda-Moya**, and A. Acero. 2004. Structure of a hard bottom-fish assemblage in the Colombian Caribbean using the stationary visual census technique (SVCT). *Actualidades Biológicas* 26 (81): 197-211.

Refereed Book Chapters (8):

2019:

Uchida, E., V.H. Rivera-Monroy, S.A. Ates, **E. Castañeda-Moya**, A.J. Gold, T. Guilfoos, M.F. Hernandez, R. Lokina, M.M. Mangora, S.R. Midway, C. McNally, M.J. Polito, M. Robertson, R.V. Rohli, H. Uchida, L. West, and X. Zhao. 2019. Collaborative Research Across Boundaries: Mangrove Ecosystem Services and Poverty Traps as a Coupled Natural-Human System. Chapter 4. *In: Collaboration Across Boundaries for Social-Ecological Systems Science. Experiences Around the World. S.G. Perz (Editor)*. Palgrave Macmillan, Springer Nature Press.

Twilley, R.R., V.H. Rivera-Monroy, A.S. Rovai, **E. Castañeda-Moya**, S. Davis. 2019. Mangrove biogeochemistry at local to global scales using ecogeomorphic approaches. Chapter 21. *In: Coastal Wetlands: An Integrated Ecosystem Approach. G.M.E. Perillo, E. Wolanski, D. Cahoon, and C.S. Hopkins (Editors)*. Second edition. Elsevier B.V.

Davis, S.E. III., **E. Castañeda-Moya**, and R. Boucek, R. Chambers, L. Collado, C. Fitz, J. Fuentes, E. Gaiser, M. Heithaus, J. Rehage, V.H. Rivera-Monroy, J. Sah, F. Sklar, and T. Troxler. 2019. Exogenous drivers – What has disturbance taught us? *In: The Coastal Everglades: The dynamics of socio-ecological transformation in the south Florida landscape. D.L. Childers, E. Gaiser, and L. Ogden*. Oxford University Press.

Rivera-Monroy, V.H., J. Cattelino, J.R. Wozniak, K. Schwartz, G.B. Noe, **E. Castañeda-Moya**, G.R. Koch, J.N. Boyer, and S.E. Davis. 2019. The life of P: A biogeochemical and sociopolitical challenge in the Everglades. *In: The Coastal Everglades: The dynamics of*

socio-ecological transformation in the south Florida landscape. D.L. Childers, E. Gaiser, and L. Ogden. Oxford University Press.

Troxler, T.G., G. Starr, J.N. Boyer, J.D. Fuentes, R. Jaffe, S. Malone, J. Barr, S. Davis, L. Collado-Vides, J. Breithaupt, A. Saha, R. Chambers, C. Madden, J.D. Smoak, J. Fourqurean, G. Koch, J. Kominoski, L. Sciento, S. Oberbauer, V.H. Rivera-Monroy, **E. Castañeda-Moya**, N. Schulte, S. Charles, J. Richards, D. Rudnick, and K. Whelan. 2019. The life of P: A biogeochemical and sociopolitical challenge in the Everglades. *In: The Coastal Everglades: The dynamics of socio-ecological transformation in the south Florida landscape. D.L. Childers, E. Gaiser, and L. Ogden. Oxford University Press.*

2018:

Vegh, T., T. Troxler, K. Zhang, G. Guannel, **E. Castañeda-Moya**, A. Sutton-Grier, L. Pendleton, and B. Murray. 2018. Ecosystem services and economic valuation: co-benefits of coastal wetlands. *In: A Blue Carbon Primer: The State of Coastal Wetland Carbon Science, Practice and Policy. L. Windham-Myers, S. Crooks, and T.G. Troxler (Editors). CRC Marine Science Series. CRC Press.*

2017:

Twilley, R.R., **E. Castañeda-Moya**, V.H. Rivera-Monroy, A. Rovai. 2017. Productivity and carbon dynamics in mangrove wetlands. *In: Mangrove Ecosystems: A Global Biogeographic Perspective. Structure, Function, and Services. V.H. Rivera-Monroy, S.Y. Lee, E. Kristensen, and R.R. Twilley (Editors). Springer. Switzerland.*

2013:

Rivera-Monroy, V.H., **E. Castañeda-Moya**, J.G. Barr, V. Engel, J.D. Fuentes, T.G. Troxler, R.R. Twilley, S. Bouillon, T.J. Smith III, and T.L. O'Halloran. 2013. Current Methods to Evaluate Net Primary Production and Carbon Budgets in Mangrove Forests. *In: Methods in Biogeochemistry of Wetlands. R.D. DeLaune, K.R. Reddy, P. Megonigal, and C. Richardson (Editors). Soil Science Society of America Book Series.*

In Review/Revision Publications:

Medina-Calderon, J.H., J.E. Mancera-Pineda, **E. Castañeda-Moya**, and V.H. Rivera-Monroy. Hydroperiod and salinity interactions control mangrove root dynamics in a karstic oceanic island in the Caribbean Sea (San Andres, Colombia). *Frontiers. August 2020.*

Lagomasino, D., T. Fatoyinbo, **E. Castañeda-Moya**, B.D. Cook, P. Montesano, C. Neigh, L.A. Corp, L. Ott, S. Chavez, and D.C. Morton. Storm surge, not wind, caused mangrove dieback in southwest Florida following Hurricane Irma. *Nature Communications. June 2020.*

Rovai, A. R.R. Twilley, **E. Castañeda-Moya**, S.R. Midway, D.A. Friess, et al. (21 authors). Testing macroecological patterns and drivers of mangrove carbon stocks across biogeographic regions and coastal morphologies. *Global Ecology and Biogeography. March 2020.*

Sendrowski, A., **E. Castañeda-Moya**, R. Twilley, and P. Passalacqua. Biogeochemical and hydrological variables synergistically influence nitrate variability in coastal deltaic wetlands. *Journal of Geophysical Research – Biogeosciences. March 2020.*

Technical Reports:

- Rivera-Monroy, V.H., A. Williams, **E. Castañeda-Moya**, T. Danielson, J. Supak, and L. Stone. 2015. Carbon stocks in south Louisiana coastal wetlands. Final Report. Funded by the COYPU Foundation.
- Twilley, R.R., V.H. Rivera-Monroy, A. Bevington, **E. Castañeda-Moya**, B. Branoff. 2012. Nitrogen mass balance in wetlands receiving diverted Mississippi River water: utility to development of conceptual ecological models. Final Report. Project R/MMR-33. Funded by Louisiana Sea Grant.
- Rivera-Monroy, V.H., **E. Castañeda-Moya**, R.R. Twilley. 2011. Mangrove forest functioning in response to hurricane disturbance. Final Report. Sub award 4126-LSU-TU-L600. Funded by the National Institute for Climatic Change Research (NICCR) Coastal Center at Tulane University. Office of Biological and Environmental Research (BER) of the U.S. Department of Energy (DOE).
- Rivera-Monroy, V.H. and **E. Castañeda-Moya**. 2009. Nitrogen cycling in freshwater and estuarine wetlands of Taylor Slough and its influence on nitrogen exchange between Taylor River and Florida Bay". Final Report. Grant Number: NA06NOS4780099 (LSU). Funded by National Oceanic and Atmospheric Administration, USA.
- Rivera-Monroy, V.H., R.R. Twilley, **E. Castañeda-Moya**, de Mutsert, K., and C. Jesch. 2005. Identifying Mangrove Performance Criteria for Mangrove Forests Using Conceptual and Simulation Models of Mangrove Restoration and Rehabilitation. Final Report. Contract No. PC-P501850. Wetland Biogeochemistry Institute, Louisiana State University and Everglades and Watershed Management Divisions South Florida Water Management District.
- Rivera-Monroy, V.H., R.R. Twilley, and **E. Castañeda-Moya**. 2005. Large-scale assessment of landscape changes and recovery in forest structure of mangrove wetlands subject to human (shrimp mariculture, silviculture, agricultural chemicals), freshwater diversion, and natural disturbances (hurricanes, other severe storms, climate and sea level change) using enhanced Shuttle Radar Topography Mission data. Final Report. Project NASA/IDS/03-0151-0113. Contract No. 593265.
- Rivera-Monroy, V.H., R.R. Twilley, and **E. Castañeda-Moya**. 2003. Hurricane Mitch: integrative management and rehabilitation of mangrove resources to develop sustainable shrimp mariculture in the Gulf of Fonseca, Honduras. USGS Open File Report 03-177.
- Rivera-Monroy, V. H., B. F. Jonsson, R.R. Twilley, O. Casas-Monroy, **E. Castañeda-Moya**, R. Montiel, E. Mancera, W. Troncoso, F. Daza-Monroy. 2002. Ciénaga Grande de Santa Marta: a tropical coastal lagoon in a deltaic geomorphic setting. In: LOICZ/UNEP Estuarine systems of the Latin American region (Regional Workshop V) and estuarine systems of the Arctic Region: carbon, nitrogen and phosphorus fluxes. LOICZ Reports & Studies No. 23. Camacho-Ibar, V., V. Dupra, F. Wulff, S.V. Smith, J.I. Marshall Crossland, and C.J. Crossland (eds). Pages: 22-27, LOICZ IPO, Texel, The Netherlands.
<http://data.ecology.su.se/MNODE/South%20America/cienegagrande/cienegagrandebud.htm>
- Rivera-Monroy, V.H., J.E. Mancera-Pineda, R.R. Twilley, O. Casa-Monroy, **E. Castañeda-Moya**, J. Restrepo, F. Daza-Monroy, L. Perdomo, P. Reyes-Forero, E. Campos, M. Villamil, and F. Pinto. 2001. Estructura y Función de un Ecosistema de Manglar a lo Largo de una Trayectoria de Restauración en Diferentes Niveles de Perturbación: El caso

de la Ciénaga Grande de Santa Marta. Final Report (Codigo: 2105-09-13080). Pages 242. Center for Ecology and Environmental Technology, University of Louisiana-Lafayette, Lafayette, Louisiana USA and Instituto de Investigaciones Marinas y Costeras (INVEMAR), Colombia.

Publications in Preparation:

Castañeda-Moya, E., J. Kominoski, D.J. Lee, and E. Ashberry. Belowground root dynamics in Everglades mangrove forests following Hurricane Irma. *To be submitted to Ecosystems. Summer 2020.*

Castañeda-Moya, E., R.R. Twilley, and G. Snedden. Surface water hydrology and nutrient dynamics in delta islands of prograding Wax Lake Delta, Louisiana. *To be submitted to Limnology and Oceanography. Fall 2020.*

Papers/Presentations at Meetings/Conferences:

A) Invited Lectures and Seminars:

Castañeda-Moya, E. Extreme events and foundation species change: The case of Florida Everglades Mangrove Forests. Lecture on September 6, 2019. Graduate Course on Foundation species change in coastal habitats. Organizer: Steve Pennings. University of Houston. Fall 2019.

Troxler, T. and **Castañeda-Moya, E.** Monitoring for potential water quality along the eastern boundary of Everglades National Park, including Taylor Slough. Seminar, Everglades National Park. July 2018.

Castañeda-Moya, E. Biogeochemical processes in wetland soils that cause production and consumption of greenhouse gases. Graduate Course OCS 7129, Global Climate Change and Wetlands. Dept. Oceanography and Coastal Sciences, LSU. Fall 2015.

Castañeda-Moya, E. Water quality surveys of island interiors and Delta Observatory in Wax Lake Delta, Louisiana. TU Delft Intercontinental Study Trip Program, Delft University of Technology, Visit to LSU. Fall 2014.

Castañeda-Moya, E. Coastal Wetlands. Graduate Course OCS 4372, Estuarine Ecology. Dept. Oceanography and Coastal Sciences, LSU. Fall 2012.

B) Presentations at Scientific Conferences:

2020:

Castañeda-Moya, E., V.H. Rivera-Monroy, R.M. Chambers, X. Zhao, L. Lamb-Wotton, A. Gorsky, E.E. Gaiser, T.G. Troxler, J.S. Kominoski, and M. Hiatt. 2020. Hurricanes fertilize mangrove forests in the Gulf of Mexico (Florida Everglades, USA). Hurricane conference. East Carolina University. Greenville, North Carolina.

2019:

Chavez, S., S. Wdowinski, D. Lagomasino, L. Fatoyinbo, B. Cook, **E. Castañeda-Moya**, R.P. Moyer, K. Radabaugh, and J. Smoak. 2019. Observing changes in the mangrove forests of the south Florida Everglades following Hurricane Irma using remote sensing measurements. American Geophysical Union 100 meeting. San Francisco, California.

Jensen, D., K.C. Cavanaugh, M. Simard, G.S. Okin, **E. Castañeda-Moya**, A. McCall, and R.R. Twilley. 2019. Integrating imaging spectrometer and synthetic aperture radar data for

- estimating wetland vegetation aboveground biomass in coastal Louisiana. American Geophysical Union 100 meeting. San Francisco, California.
- Castañeda-Moya, E.**, V.H. Rivera-Monroy, R.M. Chambers, X. Zhao, L. Lamb-Wotton, A. Gorsky, E.E. Gaiser, T.G. Troxler, J.S. Kominoski, and M. Hiatt. 2019. Hurricanes fertilize coastal wetlands in the Gulf of Mexico: The case of Florida Everglades mangroves. 25th Biennial Conference of the Coastal and Estuarine Research Federation. Mobile, Alabama.
- Twilley, R.R., A. Rovai, **E. Castañeda-Moya**, P. Pagliosa, A. Fonseca, and P. Riul. 2019. Ecosystem level carbon stocks and sequestration rates across coastal morphology explain mangrove blue carbon mitigation. 25th Biennial Conference of the Coastal and Estuarine Research Federation. Mobile, Alabama.
- Zhao, X., V.H. Rivera-Monroy, **E. Castañeda-Moya**, R. Travieso, E. Gaiser, and L. Farfan. 2019. Accounting for carbon fluxes caused by pulsing disturbances in mangrove wetlands carbon budgets (Everglades, USA). 25th Biennial Conference of the Coastal and Estuarine Research Federation. Mobile, Alabama.
- Upreti, K., K. Maiti, V.H. Rivera-Monroy, A. Giblin, and **E. Castañeda-Moya**. 2019. Evaluating dissimilatory nitrate reduction to ammonia in emerging and eroding wetlands of Louisiana delta plain. 25th Biennial Conference of the Coastal and Estuarine Research Federation. Mobile, Alabama.
- Gaiser, E., **E. Castañeda-Moya**, J. Kominoski, J. Rehage, T. Troxler, and K. Zhang. 2019. Hurricanes interact with disturbance legacies to effect ecosystem resilience. ESA meeting. Louisville, KY.
- Zhao, X., V.H. Rivera-Monroy, M.W. Mangora, **E. Castañeda-Moya**, M. Jumbe, M.T. Sanga, and T. Blanchard. 2019. Carbon storage assessment in a small mangrove-dominated estuary (Kijongo) in coastal Tanzania. MMM5 meeting. Singapore.
- Rivera-Monroy, V.H., **E. Castañeda-Moya**, and T. Danielson. 2019. Do not forget phosphorus! A critical driver controlling mangrove carbon storage in the Everglades mangrove ecotone region, Florida USA. MMM5 meeting. Singapore.
- Lagomasino, D., L. Fatoyinbo, D. Morton, B. Cook, P. Montesano, C. Neigh, L. Ott, **E. Castañeda-Moya**, R. Moyer, K. Radabaugh, J. Smoak, and T. Troxler. 2019. Winners and losers after Hurricane Irma in the Everglades mangrove forests: A NASA perspective. GEER conference. Coral Springs, Florida.
- Rovai, A.S., R.R. Twilley, **E. Castañeda-Moya**, E. P.R. Pagliosa, A. Fonseca, and P. Riul. 2019. Adjusting the contribution of mangroves to global carbon stocks. ASLO. Aquatic Sciences Meeting. San Juan, Puerto Rico.
- Marazzi, L., M.B. Eppinga, L. Zhai, C. Angelini, **E. Castañeda-Moya**, E.E. Gaiser, and J.P. Sah. 2019. Why do we need to document and conserve foundation species in freshwater wetlands? ASLO. Aquatic Sciences Meeting. San Juan, Puerto Rico
- 2018:**
- Castañeda-Moya, E.** 2018. Mangrove forest dynamics in a subtropical karstic environmental setting: the Florida Coastal Everglades. National Science Foundation LTER Network meeting. Pacific Grove, CA.
- Castañeda-Moya, E.**, D. Lagomasino, T. Troxler, and E. Gaiser. 2018. Effects of Hurricane Irma on mangrove forest structure in the Florida Coastal Everglades (FCE). National Science Foundation LTER Network meeting. Pacific Grove, CA.

- Lagomasino, D.L., L. Fatoyinbo, B. Cook, D. Morton, **E. Castañeda-Moya**, R. Moyer, K. Radabaugh, I. Paynter, and D. Smoak. 2018. Structural gradients of hurricane damage across the mangrove forest of South Florida. ForestSAT meeting. College Park, MA.
- Thomas, N., M. Simard, S. Howard, V. Rivera-Monroy, **E. Castañeda-Moya**, S. Lee, and L. Fatoyinbo. 2018. Mangrove forests of Ecuador: Extent, biomass and forty years of change. ForestSAT meeting. College Park, MA.
- Kominoski, J., E. Gaiser, **E. Castañeda-Moya**, S.E. Davis, S. Dessu, D.Y. Lee, L. Marazzi, V.H. Rivera-Monroy, A. Sola, D. Surrat, R. Travieso, T. Troxler. 2018. Enhanced marine and freshwater connectivity increases spatiotemporal synchrony of phosphorus and aquatic heterotrophy in coastal wetlands. ASLO Summer meeting. Victoria, BC, Canada.

2017:

- Christensen, A., R.R. Twilley, and **E. Castañeda-Moya**. 2017. Seasonal changes in connectivity and nitrate processing in deltaic floodplains. American Geophysical Union meeting. New Orleans, LA.
- Rohli, R.V., S.A. Ates, V.H. Rivera-Monroy, M.J. Polito, S.R. Midway, **E. Castañeda-Moya**, A.J. Gold, E. Uchida, M.M. Mangora, and S. Makoto. 2017. Spatial and seasonal climatic variation in coastal Tanzania. American Geophysical Union meeting. New Orleans, LA.
- Sendrowski, A., P. Passalacqua, W. Wagner, D. Mohrig, K. Sadid, E. Meselhe, **E. Castañeda-Moya**, and R.R. Twilley. 2017. Networks of interacting processes: Relationships between drivers and deltaic variables to understand water and sediment transport in Wax Lake Delta, coastal Louisiana. American Geophysical Union meeting. New Orleans, LA.
- Thomas, N., M. Simard, K. Byrd, L. Windham-Myers, and **E. Castañeda-Moya**. 2017. High-resolution mapping of tidal marsh distribution and biomass with L-band radar. American Geophysical Union meeting. New Orleans, LA.
- Rivera-Monroy, V.H., T. Danielson, **E. Castañeda-Moya**, M. Kellsall, E. Gaiser, R. Travieso, X. Zhao, and J. Kominoski. 2017. Effects of phosphorus availability and hurricane disturbance interactions on the elemental stoichiometry of mangrove litterfall. 24th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Rovai, A., R.R. Twilley, **E. Castaneda-Moya**, P. Riul, M. Cifuentes-Lara, M. Manrow-Villalobos, P.A. Horta, J.C. Simonassi, A.L. Fonseca, and P.R. Pagliosa. 2017. Global controls of carbon storage in mangrove soils. 24th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Zhao, X., V.H. Rivera-Monroy, C. Tsai, R.R. Twilley, C. Wilson, Z. Xue, **E. Castañeda-Moya**, and C. Coronado-Molina. 2017. Modeling water and salt budgets (2002-2016) in mangrove forests (Everglades, Florida) impacted by hydrological restoration. 24th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Kominoski, J.S., **E. Castañeda-Moya**, S.E. Davis, E.E. Gaiser, L. Marazzi, V.H. Rivera-Monroy, A. Sola and D. Surratt. 2017. Shifting long-term biogeochemical baselines: enhanced marine connectivity increases nutrient availability in coastal wetland ecosystems. ASLO meeting. Honolulu, Hawaii.

2016:

- Byrd, K., L. Ballanti, D. Nguyen, M. Simard, N. Thomas, L. Windham-Myers, **E. Castañeda-Moya**, K. Kroeger, M. Gonnee, J. Suttles, P. Magonigal, T. Troxler, L. Schile, and M. Davis. 2016. A national-scale remote sensing-based methodology for quantifying tidal marsh biomass to support “Blue Carbon accounting. American Geophysical Union meeting. San Francisco, CA.

- Christensen, A., R.R. Twilley, C.S. Wilson, E. Meselhe, L. Larsen, **E. Castañeda-Moya**, and G. Snedden. 2016. Patterns and interactions between hydrodynamics and the fate of nitrate in newly emergent coastal deltaic floodplains. American Geophysical Union meeting, San Francisco, CA.
- Castañeda-Moya, E.**, R.R. Twilley, and V.H. Rivera-Monroy. 2016. Carbon storage and burial rates in riverine and scrub mangrove forests of the Florida Coastal Everglades, USA. MMM4 meeting. St. Augustine, Florida.
- Castañeda-Moya, E.**, G. Snedden, and R.R. Twilley. 2016. Seasonal and spatial variation of surface water nitrate concentrations and water flow in delta islands of Wax Lake Delta, Louisiana. State of the Coast Conference. New Orleans, LA.
- Aarons, A., R.R. Twilley, **E. Castañeda-Moya**, and A. Bevington. 2016. Successional patterns of soil nutrient stoichiometry observed along a chronosequence of coastal deltaic floodplain development. State of the Coast Conference. New Orleans, LA.
- Christensen, A., R.R. Twilley, C. Wilson, E. Meselhe, and **E. Castañeda-Moya**. 2016. Importance of hydrodynamic forcing in modeling the fate of nitrate in a coastal deltaic floodplain. State of the Coast Conference. New Orleans, LA.
- Elliton, C., K. Xu, V. Rivera-Monroy, R.R. Twilley, and **E. Castañeda-Moya**. 2016. Riverine sediment pulsing and plant-sediment interactions drive changes in sediment dynamics in naturally created deltas. State of the Coast Conference. New Orleans, LA.
- Heffner, L., **E. Castañeda-Moya**, A. Christensen, and R.R. Twilley. 2016. The fate of nitrate in wetlands of prograding Wax Lake Delta, an emergent coastal deltaic floodplain. State of the Coast Conference. New Orleans, LA.
- 2015:**
- Hiatt, M., **E. Castañeda-Moya**, R.R. Twilley, B. Hodges, and P. Passalacqua. 2015. River delta network hydraulic residence time distributions and their role in deltaic floodplain nutrient biogeochemistry. American Geophysical Union Fall Meeting, San Francisco, California.
- Sendrowski, A., P. Passalacqua, **E. Castañeda-Moya**, and R.R. Twilley. 2015. Characterizing delta-scale connectivity using entropic measure. American Geophysical Union Fall Meeting, San Francisco, California.
- Simard, M., L. Fatoyinbo, V.H. Rivera-Monroy, **E. Castañeda-Moya**, and R. Chowdhury. 2015. Global trends and vulnerabilities of mangrove forests. American Geophysical Union Fall Meeting, San Francisco, California.
- Castañeda-Moya, E.**, R.R. Twilley, and G. Snedden. 2015. Surface water hydrology and nitrate dynamics in delta islands of prograding Wax Lake Delta. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Aarons, A., A. McCall, A. Bevington, A. Christensen, **E. Castañeda-Moya**, and R.R. Twilley. 2015. Patterns of soil nutrient stoichiometry across age and elevation gradients in a coastal deltaic floodplain. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Bojarski, A., R.R. Twilley, and **E. Castañeda-Moya**. 2015. Biotic and abiotic processes controlling soil formation in Louisiana coastal marshes. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.
- Christensen, A., R.R. Twilley, C. Wilson, E. Meselhe, **E. Castañeda-Moya**, and L. Heffner. 2015. Testing the capability of Delft3D-Water Quality to model nitrogen processes in a deltaic floodplain. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.

Danielson, T., V.H. Rivera-Monroy, H. Briceno, **E. Castañeda-Moya**, R. Travieso, E. Gaiser, A. Williams, and C. Coronado-Molina. 2015. Mangrove productivity responses to natural disturbance regimes in the Florida Everglades. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.

Heffner, L., **E. Castañeda-Moya**, A. Christensen, and R.R. Twilley. 2015. Using continuous flow-through systems to measure nitrogen dynamics in a newly emergent coastal deltaic floodplain. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.

McCall, A., R.R. Twilley, **E. Castañeda-Moya**, A. Bevington, and M. Simard. 2015. Above- and belowground biomass growth models across nutrient and chronosequence gradients of emerging deltaic floodplains. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.

Rovai, A.S., P. Riul, R.R. Twilley, **E. Castañeda-Moya**, V.H. Rivera-Monroy, A.A. Williams, M. Simard, M. Cifuentes-Jara, R. R. Lewis, S. Crooks, P.A. Horta, Y. Schaeffer-Novelli, G. Cintrón, M. Pozo-Cajas, and P.R. Pagliosa. 2015. Scaling mangrove aboveground biomass from site-level to continental-scale. 23rd Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon.

2014:

Twilley, R.R., **E. Castañeda-Moya**, K. Henry, and A. Bevington. 2014. Nutrient biogeochemistry during the early stages of development in the Mississippi River Deltaic Plain. State of the Coast Conference. New Orleans, Louisiana.

2013:

Twilley, R.R., J. Day, A. Bevington, **E. Castañeda-Moya**, V.H. Rivera-Monroy, D. Edmonds, and W. Nardin. 2013. Wetlands and water quality: how an ecogeomorphic approach may resolve a pendulum of scientific paradigms, policies, and applications. 22nd Biennial Conference of the Coastal and Estuarine Research Federation. San Diego, California.

Castañeda-Moya, E., R.R. Twilley, V.H. Rivera-Monroy, C. Lindau, and A. Bevington. 2013. Seasonal patterns of denitrification and nutrient fluxes in coastal marshes of a prograding delta, Wax Lake, Louisiana. 22nd Biennial Conference of the Coastal and Estuarine Research Federation. San Diego, California.

2012:

Castañeda-Moya, E., V.H. Rivera-Monroy, E. Gaiser, R. Travieso, R.R. Twilley. 2012. Mangrove leaf litter and root decomposition dynamics as a function of fertility and hydroperiod gradients in Shark River Estuary, southwestern Florida Everglades. All Scientists Meeting - Long Term Ecological Research-Florida Coastal Everglades, Florida, USA.

2011:

Castañeda-Moya, E., V.H. Rivera-Monroy, R.R. Twilley. 2011. Carbon and nutrient storage in riverine and scrub mangrove forests of the Florida Coastal Everglades. 21st Biennial Conference of the Coastal and Estuarine Research Federation. Daytona Beach, Florida.

Branoff, B., R.R. Twilley, V.H. Rivera-Monroy, A. Bevington, **E. Castañeda-Moya**. 2011. Nitrogen transformation in a prograding Louisiana delta: a modeling approach. 21st Biennial Conference of the Coastal and Estuarine Research Federation. Daytona Beach, Florida.

Coronado, C., F. Sklar, **E. Castañeda-Moya**, V.H. Rivera-Monroy, R.R. Twilley. 2011. The role of biotic processes on soil accretion and elevation change in mangrove forests in south

- Florida. 21st Biennial Conference of the Coastal and Estuarine Research Federation. Daytona Beach, Florida.
- Saunders, C., C. Coronado-Molina, **E. Castañeda-Moya**, R. Chambers, V.H. Rivera-Monroy, C. Fitz, F. Sklar, D. Rudnick. 2011. Synthesis of soil organic matter and nutrient accumulation in the Everglades southern coastal ecotone: implications for hydrologic restoration. 21st Biennial Conference of the Coastal and Estuarine Research Federation. Daytona Beach, Florida.
- Twilley, R.R., V.H. Rivera-Monroy, A. Bevington, **E. Castañeda-Moya**, K. Henry, B. Branoff. 2011. Sediment and nutrient tradeoffs in restoring Mississippi River Delta. 21st Biennial Conference of the Coastal and Estuarine Research Federation. Daytona Beach, Florida.
- Engel, V. J.G. Barr, J.D. Fuentes, V.H. Rivera-Monroy, **E. Castañeda-Moya**, T. Troxler, D.T. Ho, S. Ferron-Smith, J. Smoak, T.J. Smith III, R.R. Twilley. 2011. Net ecosystem carbon balance in a tidal mangrove forest. Ameriflux Science Meeting & 3rd NACP All-Investigators Meeting. New Orleans, USA.
- Rivera-Monroy, V.H., **E. Castañeda-Moya**, R.R. Twilley. 2011. Patterns of above- and belowground biomass, net primary productivity, and carbon in coastal Everglades mangrove forests, Florida, USA. Ameriflux Science Meeting & 3rd NACP All-Investigators Meeting. New Orleans, USA.
- 2009:**
- Castañeda-Moya, E.**, V.H. Rivera-Monroy, B. Marx, C. Coronado-Molina, S. Ewe, R.R. Twilley. 2009. Nutrient availability controls root dynamics in Florida Coastal Everglades Mangroves. 20th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon, USA.
- Lenaker, P., V.H. Rivera-Monroy, **E. Castañeda-Moya**, R.R. Twilley. 2009. The Isotope Pairing Technique: The influence of water temperature on denitrification estimates across different habitats of a transgressive Mississippi River delta complex. 20th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon, USA.
- Rivera-Monroy, V.H., R.R. Twilley, **E. Castañeda-Moya**, S. Davis, B. Michot, E. Meselhe, D. Rudnick, D. Childers, C. Madden. 2009. Phosphorus regulates nitrogen cycling in mangrove-dominated wetlands of Taylor River, Florida: A nitrogen budget. 20th Biennial Conference of the Coastal and Estuarine Research Federation. Portland, Oregon, USA.
- 2008:**
- Castañeda-Moya, E.**, R.R. Twilley, V.H. Rivera-Monroy. 2008. Hurricane impacts on mangrove forests in the Florida Coastal Everglades: The importance of sediment deposition in the biogeochemistry and fertility of mangrove soils. Greater Everglades Ecosystem Restoration Conference. Naples, Florida, USA.
- Rivera-Monroy, V.H., S. Davis, R.R. Twilley, D.L. Childers, D. Rudnick, **E. Castañeda-Moya**, T. Troxler, C. Coronado-Molina, G.E. Noe. 2008. The role of the mangrove ecotone region in regulating nutrient cycling and wetland productivity in south Florida. Greater Everglades Ecosystem Restoration Conference. Naples, Florida, USA.
- 2007:**
- Castañeda-Moya, E.**, V.H. Rivera-Monroy, R.R. Twilley, S. Ewe, D.L. Childers, C. Coronado-Molina. 2007. Long-term patterns of above- and belowground primary productivity of two Florida Coastal Everglades mangrove forests. 19th Biennial Conference of the Estuarine Research Federation. Providence, Rhode Island, USA

Rivera-Monroy, V.H., R.R. Twilley, **E. Castañeda-Moya**, L. Lenaker. 2007. Nutrient cycling on estuarine wetlands of Taylor River, Florida. 19th Biennial Conference of the Estuarine Research Federation. Providence, Rhode Island, USA.

2004:

Castañeda-Moya, E., R.R. Twilley, V.H. Rivera-Monroy, K. deMutsert, C. Coronado-Molina. 2004. Spatial and temporal variability of porewater variables in mangrove forests along Shark River and Taylor Sloughs, south Florida. ASM - Long Term Ecological Research-Florida Coastal Everglades, Florida, USA.

de Mutsert, K., R.R. Twilley, V.H. Rivera-Monroy, **E. Castañeda-Moya**, C. Coronado-Molina. 2004. Forest structure and productivity of mangrove forests in the Everglades, Florida. ASM - Long Term Ecological Research-Florida Coastal Everglades, Florida, USA.

2003:

Castañeda-Moya, E., Rivera-Monroy, V.H., R.R. Twilley. 2003. Structure of mangrove in the southern region of the Gulf of Fonseca, Honduras: Integrating mangrove resources and shrimp mariculture. Society of Wetland Scientist meeting, New Orleans, Louisiana, USA.

Twilley, R.R., V.H. Rivera-Monroy, N. Cormier, **E. Castañeda-Moya**, D. Cahoon. 2003. Accretion rates and soil dynamics among mangrove wetlands in different environmental setting: testing assumptions with the Numan model. 17th Biennial Conference of the Estuarine Research Federation. Seattle, Washington, USA.

Twilley, R.R., N. Cormier, V.H. Rivera-Monroy, **E. Castañeda-Moya**, E. Mancera. 2003. Above- and belowground productivity along fertility gradients in mangrove forests of south Florida and Micronesia. 17th Biennial Conference of the Estuarine Research Federation. Seattle, Washington, USA.

Rivera-Monroy, V.H., R.R. Twilley, **E. Castañeda-Moya**, D. Martinez, E. Mancera, A. Alcantara-Eguren. 2003. The effect of large-scale disturbances on the salinity regimes of the Cienaga Grande, Colombia and the San Bernardo-Pedregal estuaries, Honduras. 17th Biennial Conference of the Estuarine Research Federation. Seattle, Washington, USA.

2001:

Castañeda-Moya, E., Rivera-Monroy, V.H., R.R. Twilley. 2001. Structure of mangrove in the Gulf of Fonseca, Honduras: Integrating mangrove resources and shrimp mariculture. 16th Biennial Conference of the Estuarine Research Federation. St. Peter Beach, Florida, USA.

Rivera-Monroy, V.H., **E. Castañeda-Moya**, E. Mancera, F. Daza-Monroy, W. Troncoso, C. Madden. 2001. Spatial and temporal distribution of chlorophyll a and salinity in a tropical coastal lagoon under rehabilitation. 16th Biennial Conference of the Estuarine Research Federation. St. Peter Beach, Florida, USA.

1999:

Castañeda-Moya, E., J.E. Mancera-Pineda, P.P. Cardona-Olarte. 1999. Reproductive phenology of *Avicennia germinans* in the lagoon complex Cienaga Grande de Santa Marta, Colombia. 15th Biennial International Conference of the Estuarine Research Federation. New Orleans, Louisiana, USA.

Rivera-Monroy, V.H., R.R. Twilley, E. Mancera, **E. Castañeda-Moya**. 1999. Soil salinity as a performance criterion to rehabilitate mangrove forests in the neotropics. 15th

Biennial International Conference of the Estuarine Research Federation. New Orleans, Louisiana, USA.

Manuscript Reviewer:

BioScience, Limnology and Oceanography, Estuaries and Coasts, Wetland Ecology and Management.

Graduate Student Committees Served:

Tess M. Danielson, M.S. Dept. Oceanography and Coastal Sciences, LSU, graduated 2016.

Synergistic Activities:

Member and active collaborator FCE-LTER program (2001-present).

Lead of the FCE IV mangrove research program.

Co-lead of the Primary Production Working Group FCE IV.

Mentoring and Training:

Mentor graduate students at the Dept. of Oceanography and Coastal Sciences, LSU. Spring 2012 to Fall 2015.

Mentor undergraduate students as part of the Undergraduate Research Program at the Dept. of Oceanography and Coastal Sciences, LSU. Fall 2013 to Spring 2014.

Mentor undergraduate student as part of the Undergraduate Research Opportunities Program (UROP) funded by Louisiana Sea Grant. Spring to Fall 2012 and Fall 2013.

Mentor undergraduate students as part of the Research Experience for Undergraduates (REU) program sponsored by NSF and the National Center for Earth-surface Dynamics. Summer 2010.

Courses Taught:

Rivera-Monroy, V.H., E. Castañeda-Moya, J. Carrasco, and V. Caviedes. Protocols for measuring and monitoring above- and belowground carbon stocks in mangrove ecosystems.

Mangrove course taught as part of the Integrated Coastal Zone Management Program for Mangrove Ecosystems in Guatemala, Honduras, and Nicaragua. Funded by the United Nations Environment Programme (UNEP). La Ceiba, Honduras. April 8-13, 2013.

Awards and Scholarships:

Outstanding Dissertation Award. Department of Oceanography and Coastal Sciences, LSU, 2010.

Professional Memberships:

Ecological Society of America (ESA)

Coastal and Estuarine Research Federation (CERF)

Professional References:

Dr. Robert R. Twilley

Professor, Oceanography and Coastal Sciences

Executive Director, Louisiana Sea Grant College Program

Louisiana State University

Phone: (225) 578-6445

Edward Castaneda

Fax: (225) 578-6331
rtwilley@lsu.edu

Dr. Evelyn E. Gaiser
Lead PI Florida Coastal Everglades LTER program
Professor, Dept. of Biological Sciences and
Southeast Environmental Research Center
Florida International University
Phone: (305) 348-6145
Fax: (305) 348-4096
gaisere@fiu.edu

Dr. John S. Kominoski
Associate Professor, Dept. of Biological Sciences and
Southeast Environmental Research Center
Florida International University
Phone: (305) 348-7117
Fax: (305) 348-1986
jkominos@fiu.edu

Dr. Marc Simard
Senior Scientist
Jet Propulsion Laboratory (JPL) - NASA
Radar Science and Engineering Section
Phone: (818) 354-4321
marc.simard@jpl.nasa.gov

Dr. Victor H. Rivera-Monroy
Associate Professor
Department of Oceanography and Coastal Sciences
Louisiana State University, Baton Rouge, LA 70803
Phone: (225) 578-2745
Fax: (225) 578-6423
vhrivera@lsu.edu

Dr. Tiffany Troxler
Director of Science, Sea Level Solutions Center
Research Associate Professor
SERC & Dept. of Biological Sciences, FIU
Phone: (305) 348-1453
Fax: (305) 348-4096
troxlert@fiu.edu

Dr. John W. Day.
Professor Emeritus
Department of Oceanography and Coastal Sciences

Edward Castaneda

Louisiana State University, Baton Rouge, LA 70803

Phone: (225) 773-7165

johnday@lsu.edu

Dr. Rudolf Jaffé

Professor, Southeast Environmental Research Center and

Department of Chemistry

Florida International University

Phone: (305) 348-2456

Fax: (305) 348-4096

jaffer@fiu.edu

Dr. Dan Childers

Director, Central Arizona-Phoenix LTER, Global Institute of Sustainability

Professor, School of Sustainability

Arizona State University

PO Box 875502

Tempe, AZ 85287

Phone: (480) 965-2320

Fax: (480) 965-8087

dan.childers@asu.edu

Dr. Stephen E. Davis, III

Wetland Ecologist

Everglades Foundation

18001 Old Cutler Rd., suite 625

Palmetto Bay, Miami, FL 33157

Phone: (786) 249-4460

Cell Phone: (979) 571-4739

Fax: (305) 251-0039

sdavis@evergladesfoundation.org

Dr. Robinson W. Fulweiler

Assistant Professor

Associate Director of BU Marine Program

Departments of Earth and Environment and Biology

Boston University

675 Commonwealth Ave.

Boston, MA 02215

Office Phone: (617) 358-5466

Lab Phone: (617) 358-5690

Cell Phone: (401) 932-2464

Fax: (617) 353-3290

rwf@bu.edu