

Christopher R. Kelble**Present Address**

National Oceanic and Atmospheric Administration
 Atlantic Oceanographic and Meteorological Laboratory
 Ocean Chemistry & Ecosystems Division
 4301 Rickenbacker Causeway
 Miami FL, 33149
 Phone: (305) 361-4330 e-mail: chris.kelble@noaa.gov

Education

1998	B.S.	Marine Science Biology	University of Miami, Coral Gables, FL
2003	M.S.	Marine Biology & Fisheries	RSMAS, U. Miami, Virginia Key, FL
2010	Ph.D.	Marine Biology & Fisheries	RSMAS, U. Miami, Virginia Key, FL

Professional Experience

2011-	NOAA/OAR/AOML	Supervisory Research Oceanographer
1999-2011	University of Miami	Research Associate, Research Assistant, Senior Research Associate, Assistant Scientist,

Scientific Committees

2017-	NOAA Research Council Ecosystem Indicators Working Group
2011-	NOAA Integrated Ecosystem Assessment Steering Committee, Chair (2012-2018)
2007-	Science Coordination Group, South Florida Ecosystem Restoration Task Force
2014-	South Florida/Biscayne Bay Habitat Blueprint Focus Area, Co-Lead
2007-	CERP Southern Coastal System Assessment, Evaluation and Project Team
2012-2013	US Interagency Blue Carbon Working Group
2009-2011	NOAA Environmental Modeling Strategic Planning Science Team
2006-2008	CERP/ Florida Bay/Florida Keys Feasibility Study Project Development Team
2007-2009	NOAA Autonomous Underwater Vehicle Working Group
2007-2009	NOAA's Ecosystem Research Program management committee
2007-	Coastal and Estuarine Research Federation Member
2009-	Association for the Sciences of Limnology and Oceanography, member

Refereed Journal Publications

- 1) Montes, E, A Djurhuus, FE Muller-Karger, D Otis, CR Kelble, MT Kavanaugh. 2020. "Dynamic Satellite Seascapes as a Biogeographic Framework for Understanding Phytoplankton Assemblages in the Florida Keys National Marine Sanctuary, United States." *Frontiers in Marine Science*.
<https://www.frontiersin.org/article/10.3389/fmars.2020.00575>.

- 2) Zink, IC, JA Browder, CR Kelble, E Stabenau, C Kavanagh, ZW Fratto. 2020. “Hurricane-Mediated Shifts in a Subtropical Seagrass Associated Fish and Macroinvertebrate Community.” *Estuaries and Coasts*. <https://doi.org/10.1007/s12237-020-00715-2>.
- 3) Millette, N. C., C. Kelble, A. Linhoss, S. Ashby, L. Visser. 2019. “Using Spatial Variability in the Rate of Change of Chlorophyll a to Improve Water Quality Management in a Subtropical Oligotrophic Estuary.” *Estuaries and Coasts*. <https://doi.org/10.1007/s12237-019-00610-5>.
- 4) Cannizzaro, JP, BB Barnes, C Hu, AA Corcoran, KA Hubbard, E Muhlbach, WC Sharp, LE Brand, CR Kelble. 2019. “Remote Detection of Cyanobacteria Blooms in an Optically Shallow Subtropical Lagoonal Estuary Using MODIS Data.” *Remote Sensing of Environment* 231: 111227. <https://doi.org/https://doi.org/10.1016/j.rse.2019.111227>.
- 5) Karnauskas, M., RJ Allee, JK Craig, M Jepson, M., CR Kelble, M Kilgour, R Methot, SD Regan, 2019. Effective Science-Based Fishery Management is Good for Gulf of Mexico’s “Bottom Line” – But Evolving Challenges Remain. *Fisheries*, 44(5), 239–242. <https://doi.org/10.1002/fsh.10216>
- 6) Wachnicka, A, J Browder, T Jackson, W Louda, C, Kelble, O Abdelrahman, E Stabenau, C Avila. 2019. Hurricane Irma’s Impact on Water Quality and Phytoplankton Communities in Biscayne Bay (Florida, USA). *Estuaries and Coasts*. <https://doi.org/10.1007/s12237-019-00592-4>
- 7) Sawaya, N, A Djurhuus, CJ Closek, M Hepner, E Olesin, L Visser, C Kelble, K Hubbard, M Breitbart. 2019. Assessing eukaryotic biodiversity in the Florida Keys National Marine Sanctuary through environmental DNA metabarcoding. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.4742>
- 8) Trifonova, N, M Karnauskas, C Kelble. 2019. Predicting ecosystem components in the Gulf of Mexico and their responses to climate variability with a dynamic Bayesian network model. *PLoS ONE* 14(1): e0209257.
- 9) Kelble, C, M Karnauskas, K Hubbard, G Goni, C Streeter, 2019: Sidebar 3.2 2018 Florida Red Tide Bloom. [in “State of the Climate in 2018”]. *Bull. Amer. Meteor. Soc.*, 100 (9), S88–S89, doi:10.1175/2019BAMSStateoftheClimate.1.
- 10) Muller-Karger, FE, P Miloslavich, NJ Bax, S Simmons, MJ Costello, I Sousa Pinto, G Canonico, W Turner, M Gill, E Montes, B Best, J Pearlman, P Halpin, D Dunn, A Benson, C Martin, L Weatherdon, W Appeltans, P Provoost, E Klein, C Kelble, RJ Miller, F Chavez, K Iken, S Chiba, D Obura, LM Navarro, HM Pereira, V Allain, S Batten, L Benedetti-Cecchi, J. Emmett Duffy, RM Kudela, LM Rebelo, Y Shin, G Geller. 2018. Advancing Marine Biological Observations and Data Requirements of the Complementary Essential Ocean Variables (EOVs) and Essential Biodiversity Variables (EBVs) Frameworks. *Frontiers in Marine Science*. doi:10.3389/fmars.2018.00211
- 11) Millette NC, Kelble C, Linhoss A, Ashby S, Visser L. 2018. Shift in baseline chlorophyll a concentration following a three-year *Synechococcus* bloom in southeastern Florida. *Bulletin of Marine Science* 94:3-19.
- 12) Sandifer PA, Knapp LC, Collier TK, Jones AL, Juster RP, Kelble CR, Kwok RK, Miglarese JV, Palinkas LA, Porter DE. 2017. A conceptual model to assess stress-associated health effects of multiple ecosystem services degraded by disaster events in the Gulf of Mexico and elsewhere. *GeoHealth* 1:17-36.

- 13) Holsman K, Samhouri J, Cook G, Hazen E, Olsen E, Dillard M, Kasperski S, Gaichas S, Kelble CR, Fogarty M. 2017. An ecosystem-based approach to marine risk assessment. *Ecosystem Health and Sustainability* 3(1).
- 14) Harvey CJ, Kelble CR, Schwing FB. 2016. Implementing “the IEA”: using integrated ecosystem assessment frameworks, programs, and applications in support of operationalizing ecosystem-based management. *ICES Journal of Marine Science* 74:398-405.
- 15) Cormier R, Kelble CR, Anderson MR, Allen JI, Grehan A, Gregersen Ó. 2016. Moving from ecosystem-based policy objectives to operational implementation of ecosystem-based management measures. *ICES Journal of Marine Science: Journal du Conseil* .
- 16) Lee, T.N., N. Melo, N. Smith, E.M. Johns, C.R. Kelble, R.H. Smith, P.B. Ortner. 2016. Circulation and Water Renewal of Florida Bay. *Bulletin of Marine Science*. 92(2): 153-180.
- 17) Kearney, K.A., M. Butler, R. Glazer, C. Kelble, J.E. Serafy, E. Stabenau. 2015. Quantifying Florida Bay habitat suitability for fishes and invertebrates under climate change scenarios. *Environmental Management*. 55: 836-856.
- 18) Karnauskas, M., MJ Schirripa, JK Craig, GS Cook, CR Kelble, JJ Agar, BA Black, DB Enfield, D Lindo-Atichati, BA Muhling, KM Purcell, PM Richards, C Wang. 2015. Evidence of climate-driven ecosystem reorganization in the Gulf of Mexico. *Global Change Biology*. 21(7): 2554-2568. doi: 10.1111/gcb.12894
- 19) Fletcher, P.J., Kelble, C.R., Nuttle, W.K., Kiker, G.A., 2014. Using the integrated ecosystem assessment framework to build consensus and transfer information to managers. *Ecological Indicators*. 44: 11–25. doi:10.1016/j.ecolind.2014.03.024
- 20) Loomis, D.K., Ortner, P.B., Kelble, C.R., Paterson, S.K., 2014. Developing integrated ecosystem indices. *Ecological Indicators*. 44: 57–62. doi:10.1016/j.ecolind.2014.02.032
- 21) Smith, R.H., Johns, E.M., Goni, G.J., Trinanes, J., Lumpkin, R., Wood, A.M., Kelble, C.R., Cummings, S.R., Lamkin, J.T., Privoznik, S., 2014. Oceanographic conditions in the Gulf of Mexico in July 2010, during the Deepwater Horizon oil spill. *Cont. Shelf Res*. 77, 118–131. doi:10.1016/j.csr.2013.12.009
- 22) Conmy, R.N., Coble, P.G., Farr, J., Wood, a M., Lee, K., Pegau, W.S., Walsh, I.D., Koch, C.R., Abercrombie, M.I., Miles, M.S., Lewis, M.R., Ryan, S. a, Robinson, B.J., King, T.L., Kelble, C.R., Lacoste, J., 2014. Submersible optical sensors exposed to chemically dispersed crude oil: wave tank simulations for improved oil spill monitoring. *Environ. Sci. Technol*. 48: 1803–10. doi:10.1021/es404206y
- 23) Cook, G.S., Fletcher, P.J., Kelble, C.R., 2014. Towards marine ecosystem based management in South Florida: Investigating the connections among ecosystem pressures, states, and services in a complex coastal system. *Ecological Indicators*. 44: 26–39. doi:10.1016/j.ecolind.2013.10.026
- 24) Levin, P., Kelble, C., Shuford, R., Ainsworth, C., de Reynier, Y., Dunsmore, R., Fogarty, M.J., Holsman, K., Howell, E., Monaco, M., Oakes, S., Werner, F., 2014. Guidance for implementing integrated ecosystem assessments : a US perspective. *ICES Journal of Marine Science*. 71: 1198–1204.
- 25) Kelble, C. R., D. K. Loomis, S. Lovelace, W. K. Nuttle, P. B. Ortner, P. Fletcher, G. S. Cook, J. J. Lorenz, and J. N. Boyer. 2013. The EBM-DPSER Conceptual Model: Integrating Ecosystem Services into the DPSIR Framework. *Plos One* 8(8), e70766.
- 26) Cannizzaro, J. P., C. Hu, K. L. Carder, C. R. Kelble, N. Melo, E. M. Johns, G. A. Vargo,

- and C. A. Heil. 2013. On the Accuracy of SeaWiFS Ocean Color Data Products on the West Florida Shelf, *Journal of Coastal Research* **29**(6):1257-1272.
- 27) Kelble, C. R. 2013. Low Salinity Predation Refugia Could Cause HAB Initiation. *Journal of Phycology* **49**:18-19.
 - 28) Kelble, C. R., P. B. Ortner, G. L. Hitchcock, M. J. Dagg, and J. N. Boyer. 2010. Temporal and spatial variability of mesozooplankton in a shallow sub-tropical bay: Influence of top-down control. *Estuaries and Coasts* **33**:723-737.
 - 29) Zhang, J. Z., C. R. Kelble, C. J. Fischer, and L. Moore. 2009. Hurricane Katrina induced nutrient runoff from an agricultural area to coastal waters in Biscayne Bay, Florida. *Estuarine Coastal and Shelf Science* **84**(2):209-218.
 - 30) Boyer, J. N., C. R. Kelble, P. B. Ortner, and D. T. Rudnick. 2009. Phytoplankton bloom status: Chlorophyll a biomass as an indicator of water quality condition in the southern estuaries of Florida, USA. *Ecological Indicators* **9**:S56-S67.
 - 31) Serafy, J.E., C.R. Kelble, T.R. Capo, S.A. Luthy and P.B. Ortner. 2008. Vertical movement rates of captive larval billfishes (Istiophoridae) collected from the Straits of Florida. *Florida Scientist* **71**:23-30.
 - 32) Hitchcock, G.L., W.S. Arnold, M. Frischer, C.R. Kelble, and R.K. Cowen. 2008. Short-term dispersal of an intentionally-released patch of larval *Mercenaria* Spp. In the Indian River Lagoon, Florida, USA. *Bulletin of Marine Science* **82**: 41-57.
 - 33) Lee, T. N., N. Melo, E. Johns, C. Kelble, R. Smith, and P. Ortner. 2008. On water renewal and salinity variability in the northeast subregion of Florida Bay. *Bulletin of Marine Science* **82**: 83-105.
 - 34) Kelble, C. R., E. M. Johns, W. K. Nuttle, T. N. Lee, R. H. Smith, and P. B. Ortner. 2007. Salinity patterns of Florida Bay. *Estuarine Coastal and Shelf Science* **71**: 318-334.
 - 35) Serafy, J. E., T. R. Capo, and C. R. Kelble. 2006. Live capture of larval billfishes: Design and field testing of the continuous access neuston observation net (CANON). *Bulletin of Marine Science* **79**: 853-857.
 - 36) Kelble, C. R., P. B. Ortner, G. L. Hitchcock, and J. N. Boyer. 2005. Attenuation of photosynthetically available radiation (PAR) in Florida Bay: Potential for light limitation of primary producers. *Estuaries* **28**: 560-571.
 - 37) Hitchcock, G. L., T. N. Lee, P. B. Ortner, S. Cummings, C. Kelble, and E. Williams. 2005. Property fields in a Tortugas Eddy in the southern straits of Florida. *Deep-Sea Research Part I-Oceanographic Research Papers* **52**: 2195-2213.
 - 38) Hu, C. M. F. E. Muller-Karger, C. Taylor, K. L. Carder, C. Kelble, E. Johns, and C. A. Heil. 2005. Red tide detection and tracing using MODIS fluorescence data: A regional example in SW Florida coastal waters. *Remote Sensing of Environment* **97**: 311-321.
 - 39) Lawrence, D., M. J. Dagg, H. B. Liu, S. R. Cummings, P. B. Ortner, and C. Kelble. 2004. Wind events and benthic-pelagic coupling in a shallow subtropical bay in Florida. *Marine Ecology-Progress Series* **266**: 1-13.
 - 40) Zhang, J. Z., C. R. Kelble, and F. J. Millero. 2001. Gas-segmented continuous flow analysis of iron in water with a long liquid waveguide capillary flow cell. *Analytica Chimica Acta* **438**: 49-57.

Technical Reports

Towle, E, E Geiger, J Grove, S Groves, S Viehman, M Johnson, J Blondeau, J Stein, M Gorstein, A Borque, A Acosta, M Johnson, M Feeley, F Pagan, L MacLaughlin, K Lohr, C Lustic, K Bohnsack, J Bohnsack, D Manzello, I Enochs, J Koss, K Edwards, P Edwards, A Bruckner, S Thanner, J

- Herbig, K Montenero, D Wusinich-Mendez, K Gregg, C Kelble, T Moore, L Rutten, P Kramer, P Quinn, E Ault, J Ault, S Fangman, C Fleming, D Gilliam, K Kilfoyle, B Walker, D Lirman. 2020. Coral reef condition: A status report for Florida's Coral Reef.
- Karnauskas, M., Schirripa, M.J., Kelble, C.R., Cook, G.S., Craig, J.K., 2013. Ecosystem Status Report for the Gulf of Mexico. Miami, FL USA.
- Kelble, C. R., J. Browder, and A. Powell. 2010. 2010 Juvenile Sportfish Monitoring in Florida Bay, Everglades National Park Annual Report. United States Army Corps of Engineers.
- Kelble, C. R., and J. N. Boyer. 2009. Southern Coastal System Hypothesis Cluster - Water Quality, p. 20. *In* C.E.R.P. Assessment Team [ed.], 2009 System Status Report.
- Kelble, C. R., J. Browder, and A. Powell. 2009. 2009 Juvenile Spotted Seatrout Monitoring in Florida Bay, Everglades National Park Annual Report. United States Army Corps of Engineers.
- Kelble, C. R., and J. N. Boyer. 2007. Southern Estuaries Hypothesis Cluster - Water Quality, p. 22. *In* C.E.R.P. Assessment Team [ed.], 2007 System Status Report.

Conference Presentations (only presentations where I was primary presenter

- Kelble, C. R., Trifonova, N., Reum, J., Wildermuth, R., Harvey, C., & Lucey, S. (2020, February). Comparing Conceptual Model Simulations for Ecosystem-Based Management. *In Ocean Sciences Meeting 2020*. AGU.
- Kelble, C., Karnauskas, M., McPherson, M., & Walter, J. F. (2019, November). Applying an IEA for fishing communities affected by red tide on Florida's West Coast. *In 2019 CERF Biennial Conference*. CERF.
- Kelble, C, M Karnauskas, C Streeter, I Smith, K Hubbard, B Kirkpatrick. 2019. Engaging Commercial Fishermen to Fill Critical Gaps for Red Tide. 10th Us Symposium on Harmful Algae.
- Kelble, C, M Monaco, R Shuford, E Spooner. 2019. "IEA science in the first 10-years" IEA face-to-face meeting.
- Kelble, C, M Karnauskas, S Giordano, M McPherson, S Martin, S Blake, et al. 2019. "Gulf of Mexico IEA update" IEA face-to-face meeting.
- Kelble, C, J Browder, I Smith, I Zink. 2019. "Trends in Juvenile Sportfish recruitment in Florida Bay" Greater Everglades Ecosystem Restoration Conference.
- Kelble, C, J Browder. 2019. "Biscayne Bay Habitat Focus Area changes in water quality" Habitat Focus Area National Meeting.
- Kelble, C, J Browder. 2018. "Seagrass die-off impacts on fish communities. Greater Everglades Ecosystem Restoration Conference.
- Kelble, CR, M Karnauskas, N Trifonova, S Regan. 2018. The Response of Ecosystem Indicators to Oil Spills and other Events in the Gulf of Mexico. Gulf of Mexico Oil Spills and Ecosystems Symposium.
- Kelble, CR, M Karnauskas, N Trifonova, S Regan. 2017. Measuring the Response of Ecosystem Indicators to Events in the Gulf of Mexico. ICES Annual Science Meeting.
- Kelble, CR, J Browder, L Visser, C Quenee. 2017. Applying a sportfish performance measure to estuarine restoration. American Fisheries Society.
- Kelble, CR, J Browder, L Visser, C Quenee. 2017. Applying a sportfish performance measure to estuarine restoration. Greater Everglades Ecosystem Restoration Conference.
- Kelble, CR. 2016. Investigating the Resiliency of Ecosystem Services to Climate Change in south Florida coastal ecosystems
- Kelble, CR, J Browder, L Visser, P Pitts. 2016. Restoration Targets for Juvenile Sportfish in Florida Bay. National Conference on Ecosystem Restoration.

- Kelble, CR, M Karnauskas, C Carollo, M Jepson, A Freitag, S Regan. 2016. Using a comprehensive indicator suite to measure the ecosystem effect of the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill and Ecosystem Conference.
- Kelble, CR, K Puglise. 2016. Investigating the Resiliency of Ecosystem Services to Climate Change in south Florida coastal ecosystems. Gulf and Caribbean Fisheries Institute.
- Kelble, CR. 2015. NOAA'S Integrated Ecosystem Assessments: Using Ecosystem Services To Improve Decision Making. Greater Everglades Ecosystem Restoration Conference.
- Kelble, CR, GS Cook, D Loomis, P Ortner. 2014. Integrating Human Dimensions and natural sciences in south Florida's Coastal Ecosystem. Ocean Sciences Meeting. Honolulu, HI
- Kelble, CR, D Loomis, P Ortner, J Lorenz, P Fletcher. 2012. EBM DPSER: Integrating Ecosystem Services with DPSIR. The Coastal Society. Miami, FL
- Kelble, C.R. and P. Ortner. 2012. Marine and Estuarine Goal Setting. The Coastal Society. Miami, FL
- Kelble, C.R. and J. Browder. 2011. Setting Juvenile Sportfish Performance Measures for Everglades Restoration. 2011 ASLO meeting. February 16-20, 2011, San Juan, Puerto Rico
- Kelble, C. R. and J. Browder. 2010. Juvenile Sportfish Populations in Florida Bay: Influence of Salinity. Page 168 in Greater Everglades Ecosystem Restoration. University of Florida, IFAS, Naples, FL USA.
- Kelble, C.R., P.B. Ortner, G.L. Hitchcock. 2010. Salinity and the correlation between mesozooplankton and bay anchovy, *Anchoa mitchilli*. 2010 Ocean Sciences Meeting, Portland, OR USA, Feb. 22-26, 2010.
- Kelble, C.R., P.B. Ortner, G.L. Hitchcock, D.L. DeAngelis. 2009. Salinity, mesozooplankton and *Anchoa mitchilli* in Florida Bay. Conference of the Coast & Estuarine Research Foundation. Portland, OR, Nov. 2-5, 2009.
- Kelble, C.R., P.B. Ortner, G.L. Hitchcock, M.J. Dagg. 2008. Relationship of mesozooplankton to water quality in Florida Bay. 2008 Florida Bay and Adjacent Marine Systems Science Conference, Naples, FL, December 8-11, 2008, 112-113.
- Kelble, C.R., C.E. Porch, A.B. Powell, M. Lacroix, M. Greene, J. Browder. 2008. Juvenile spotted seatrout power analysis and monitoring for Florida Bay. 2008 Florida Bay and Adjacent Marine Systems Science Conference, Naples, FL, December 8-11, 2008, 109-110.
- Kelble, C.R., J.N. Boyer, D. Rudnick, P.B. Ortner. 2008 Water Quality monitoring in the southern estuaries. 2008 Greater Everglades Ecosystem Resoration Conference, Naples, FL USA, July 28-August 1, 2008, 213.
- Kelble, C.R., P.B. Ortner, G.L. Hitchcock, M.J. Dagg, Johns, E.M.. 2008. Salinity and mesozooplankton communities in Florida Bay. 2008 Ocean Sciences Meeting, Orlando, FL USA, March 2-7, 2008.
- Kelble, C.R., E.M. Johns, P.B. Ortner, W.K. Nuttle, T.N. Lee, C.D. Hittle, and R.H. Smith. 2005. Salinity patterns of Florida Bay. Proceedings, 2005 Florida Bay and Adjacent Marine Systems Science Conference, Duck Key, FL, December 11-14, 2005. University of Florida, 137-138
- Kelble, C.R., G.L. Hitchcock, P.B. Ortner, and J.N. Boyer. A recent study of the light environment in Florida Bay. 2003. Joint Conference on the Science and Restoration of the Greater Everglades and Florida Bay Ecosystem from Kissimmee to the Keys, Palm Harbor, FL, April 13-18, 2003. University of Florida Office of Conferences and Institutes, 48-50 (CD-ROM)

Invited Workshop Presentations:

- Kelble, C.R., P. Ortner, D. Rudnick, J. Boyer, H. Briceno, M. Butler, P. Hall, C. Madded, M. Marshall. 2010. Florida Bay Nutrient Knowledge: A System on the Edge. Estuary and Coastal Numeric Nutrient Criteria Development Meeting. Miami, FL USA. March 2-3, 2010
- Kelble, C. R., E.M. Johns, J.Z. Zhang, N. Melo, T. Lee and P. Ortner. 2008. Climatology, Connectivity, Residence Times, and Water Quality in Florida Bay. Florida Keys National Marine Sanctuary Algal Bloom Workshop. Homestead, FL USA. April 14, 2008.
- Kelble, C. R. and P.B. Ortner. The Algal Bloom in the Sounds of South Biscayne Bay. Florida Keys National Marine Sanctuary Advisory Committee. Marathon, FL USA. February 23, 2007
- Kelble, C. R. and P.B. Ortner. The Algal Bloom in the Sounds of South Biscayne Bay. Biscayne Bay Regional Restoration Coordination Team. Miami, FL USA. February 13, 2007

Journal Editor:

Bulletin of Marine Science

Journal Reviewer:

Bulletin of Marine Science, Continental Shelf Research, Ecological Indicators, Environmental Monitoring and Assessment, Estuarine Coastal and Shelf Science, Estuaries and Coasts, Fisheries Oceanography, International Journal of Environment and Pollution, Journal of Environmental Management, Limnology, Marine Ecology Progress Series, Marine Policy, PLoS One

Proposal Reviewer:

NOAA Coral Reef Conservation Program, NOAA Habitat Blueprint Habitat Focus Area FFO, NOAA/NOS Center for Sponsored Coastal Ocean Research

Interns Mentored:

Hallee Meltzer (Center for Advanced Studies, High School), Rachel Martin (Hollings Scholar, Ohio University), Philip Bellamy (Center for Coastal and Marine Ecosystems, NOAA Experiential Research and Training Opportunity), Brianna Alannis (Center for Coastal and Marine Ecosystems, NOAA Experiential Research and Training Opportunity), David Lecusay (Center for Coastal and Marine Ecosystems, NOAA Experiential Research and Training Opportunity), Dylan Sinnickson (RSMAS MPS program)

Student Committees:

Mallory Brooks	Bethune-Cookman University	MS	2020
Charline Quenee	University of Miami	MS	2019

Curriculum vitae

Christopher R. Kelble

Benjamin Vandine	University of Florida	MS	2018
Philip Bellamy	Bethune-Cookman University	MS	2017
Dylan Sinnickson	University of Miami	MPS	2017
David Bouck	University of Miami	MS	2017
Rachel Kotkowski	Florida International University	MS	2013