

CURRICULUM VITAE

Joseph N. Boyer

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Director and Professor

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EDUCATION:

Degree: B.S. Year: 1978 Institution: American University Area: Microbiology

Degree: Ph.D. Year: 1987 Institution: College of William & Mary Area: Marine Science

RECENT WORK EXPERIENCE:

2012-present Director & Professor, Center for the Environment, Plymouth State University

2009-2012 Director, Southeast Environmental Research Center, FIU

2010-2012 Associate Professor, Dept. of Earth & Environment, FIU

2003-2009 Associate Director, SERC, FIU

2001-2009 Associate Scholar/Scientist, SERC, FIU

1995-2001 Assistant Scholar/Scientist, SERC, FIU

SCIENTIFIC ADVISORY PANEL/BOARD MEMBERSHIP:

Current

NH EPSCoR Academic Leadership Advisory Board

Florida Keys National Marine Sanctuary, Technical Advisory Committee (FKNMS)

Southeast Florida Coral Reef Initiative, Technical Advisory Committee (SEFCRI)

Past

Board Member, Florida Coastal Ocean Observing System Caucus (FLCOOS)

Board Member, Florida Institute of Oceanography Council (FIO)

Board Member, Southeast Coastal Ocean Observing Regional Association (SECOORA)

Gulf of Mexico Alliance

Southern Association of Marine Laboratories (SAML)

Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA)

Florida Keys National Marine Sanctuary Advisory Council (SAC)

FDEP Numeric Nutrient Criteria Technical Advisory Committee (MTAC)

Association of Marine Laboratories of the Caribbean Organizing Board (AMLC)

Rookery Bay NERR Research Advisory Committee

Big Cypress Basin Science Panel

EPA Technical Expert Panel on Gulf of Mexico Estuarine Hypoxia (2000)

NOAA Gulf of Mexico Estuarine Eutrophication Assessment (1996)

REFEREED PUBLICATIONS: (OF 58)

1. BRICEÑO, H. O., J. N. BOYER, J. CASTRO, AND P. HARLEM. 2013. Biogeochemical classification of South Florida's estuarine and coastal waters. *Marine Pollution Bulletin* (in press).
2. YAMASHITA, Y., J. N. BOYER AND R. JAFFÉ. 2013. Evaluating the distribution of terrestrial dissolved organic matter in a complex coastal ecosystem using fluorescence spectroscopy. *Continental Shelf Research* 66: 136–144.
3. 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. doi:10.1371/journal.pone.0070766.

4. TROXLER, T. G., M. IKENAGA, L. SCINTO, J. N. BOYER, R. CONDIT, R. PEREZ, G. GANN, AND D. L. CHILDERS. 2012. Patterns of soil bacteria and canopy community structure related to tropical peatland development. *Wetlands* 32: 769–782.
5. RIVERA-MONROY, V. H., R. R. TWILLEY, S. E. DAVIS III, D. L. CHILDERS, M. SIMARD, R. CHAMBERS, R. JAFFE, J. N. 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. B. 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(S1): 633–669.
6. WACHNICKA, A., E. GAISER, L. COLLINS, T. FRANKOVICH, AND J. N. BOYER. 2010. Distribution of diatoms and development of diatom-based inferences of environmental change in Florida Bay and adjacent coastal wetlands of South Florida. *Estuaries and Coasts* 33: 1080–1098.
7. IKENAGA, M., R. GUEVARA, C. PISANI, A. DEAN, AND J. N. BOYER. 2010. Changes in community structure of sediment bacteria along the Everglades marsh, mangrove forest, and Florida Bay seagrass meadows gradient. *Microbial Ecology* 59: 284–295.
8. BRICEÑO, H. O., AND J. N. BOYER. 2010. Climactic controls on nutrients and phytoplankton biomass in a sub-tropical estuary, Florida Bay, USA. *Estuaries and Coasts* 33: 541–553.
9. BOYER, J. N., C. R. KELBLE, P. B. ORTNER, AND D. T. RUDNICK. 2009. Phytoplankton bloom status: An indicator of water quality condition in the southern estuaries of Florida, USA. *Ecological Indicators* 9s: s56-s67.
10. GIBSON, P., J. N. BOYER, AND N. P. SMITH. 2007. Nutrient mass flux between Florida Bay and the Florida Keys National Marine Sanctuary. *Estuaries and Coasts* 31: 21-32.
11. CACCIA, V. G. AND J. N. BOYER. 2007. A nutrient loading budget for Biscayne Bay, Florida. *Marine Pollution Bulletin* 54: 994–1008.
12. BOYER, J. N., S. K. DAILEY, P. J. GIBSON, M. T. ROGERS, AND D. MIR-GONZALEZ. 2006. The role of DOM bioavailability in promoting cyanobacterial blooms in Florida Bay: Competition between bacteria and phytoplankton. *Hydrobiologia* 269: 71-85.
13. BOYER, J. N. 2006. Shifting N and P limitation along a north-south gradient of mangrove estuaries in South Florida. *Hydrobiologia* 269: 167-177.
14. CHILDERS, D. L., J. N. BOYER, S. E. DAVIS, C. J. MADDEN, D. T. RUDNICK, AND F. H. SKLAR. 2006. Relating precipitation and water management to nutrient concentrations in the oligotrophic “upside-down” estuaries of the Florida Everglades. *Limnology and Oceanography* 51: 602-616.
15. FOURQUREAN, J. W., J. N. BOYER, M. J. DURAKO, L. N. HEFTY, AND B. J. PETERSON. 2003. Forecasting responses of seagrass distributions to changing water quality using monitoring data. *Ecological Applications* 13: 474-489.
16. HU, C., F. E. MULLER-KARGER, Z.-P. LEE, K. L. CARDER, B. ROBERTS, J. J. WALSH, R. H. WEISBERG, R. HE, E. JOHNS, T. LEE, N. KURING, J. PATCH, J. IVEY, P. G. COBLE, C. HEIL, G. A. VARGO, R. G. ZEPP, K. STEIDINGER, G. MCRAE, J. BOYER, R. JONES, G. KIRKPATRICK, E. MUELLER, R. PIERCE, J. CULTER, B. KELLER, AND J. HUNT. 2002. Satellite images track “black water” event off Florida coast. *EOS* 83: 281, 285.
17. BOYER, J. N., AND R. D. JONES. 2001. A view from the bridge: External and internal forces affecting the ambient water quality of the Florida Keys National Marine Sanctuary, p. 601-620. *In* J. W. Porter and K. G. Porter (eds.), *The Everglades, Florida Bay, and Coral Reefs of the Florida Keys*. CRC Press, Boca Raton, FL.
18. BOYER, J. N., J. W. FOURQUREAN, AND R. D. JONES. 1999. Seasonal and long-term trends in water quality of Florida Bay (1989-97). *Estuaries* 22: 417-430.
19. RUDNICK, D., Z. CHEN, D. CHILDERS, T. FONTAINE, AND J. N. BOYER. 1999. Phosphorus and nitrogen inputs to Florida Bay: the importance of the Everglades watershed. *Estuaries* 22: 398-416.
20. BOYER, J. N., J. W. FOURQUREAN, AND R. D. JONES. 1997. Spatial characterization of water quality in Florida Bay and Whitewater Bay by principal component and cluster analyses: Zones of similar influence (ZSI). *Estuaries* 20:743-758.

NON-REFEREED PUBLICATIONS (OF 61):

1. BRANDT, L.A., J. BOYER, J. BROWDER, M. CHERKISS, R.F. DOREN, P. FREDERICK, E. GAISER, D. GAWLIK, S. GEIGER, K.HART, B. JEFFERY, C. KELBLE, J. LAYNE, J. LORENZ, C. MADDEN, F. J. MAZZOTTI, P. ORTNER, M. PARKER, M. ROBLEE, L. RODGERS, A. RODUSKY, D. RUD-NICK, B. SHARFSTEIN, J. TREXLER, A. VOLETY. 2012. System-wide Indicators for Everglades Restoration. 2012 Report. South Florida Ecosystem Restoration Task Force Technical Report. 90 pp.
2. BRICENO, H. O. AND J. N. BOYER. 2013. FY2012 Annual Report of the Water Quality Monitoring Project for the Florida Keys National Marine Sanctuary. EPA Agreement #X7-96410604-6. SERC Tech. Report #T-XXX. [2012FKNMS.pdf](#)
3. LAND-BASED SOURCES OF POLLUTION TECHNICAL ADVISORY COMMITTEE. 2013. A Quick Guide to Southeast Florida's Coral Reefs. Southeast Florida Coral Reef Initiative. 4p.
4. HARLEM, P. W., J. N. BOYER, H. O. BRICEÑO, J. W. FOURQUREAN, P. R. GARDINALI, R. JAFFÉ, J. F. MEEDER AND M. S. ROSS. 2012. Assessment of natural resource conditions in and adjacent to Biscayne National Park. Natural Resource Report NPS/BISC/NRR—2012/598. National Park Service, Fort Collins, Colorado. [BISC_Coastal.pdf](#)
5. LIGIA COLLADO-VIDES, L., S. BLAIR, C. AVILA, D. LIRMAN, T. THYBERG, W. ANDERSON, J. BOYER, P. SWEENEY, S. LESER. 2012. An evaluation of the expansion of the Anadyomene complex bloom in Biscayne Bay. A study of their nutrient and stable isotope content. Report to FDEP Biscayne Bay Aquatic Preserve. SERC Technical Report #560.
6. BRICEÑO, H. O., J. N. BOYER, AND P. HARLEM. 2010. Proposed Methodology for the Assessment of Protective Numeric Nutrient Criteria for South Florida Estuaries and Coastal Waters. Submitted to EPA Science Advisory Board on Numeric Nutrient Criteria for South Florida. SERC Contribution #T-501.

NON-REFEREED PRESENTATIONS (OF 121):

1. Things people care about: Ecosystem services of the South Florida coastal marine ecosystem. Coastal & Estuarine Research Federation, Daytona, FL – Nov. 6-10, 2011.
2. Derivation of Protective Numeric Nutrient Criteria for South Florida Estuaries and Coastal Waters. Coastal & Estuarine Research Federation, Daytona, FL – Nov. 6-10, 2011.
3. Water Management for the Florida Reef Tract. US Coral Reef Task Force, Ft. Lauderdale, FL. Oct. 21, 2011.
4. Effect of phosphorus and nitrogen compounds on cyanobacterial community structure in Florida Bay. FCE LTER All Scientists Meeting January 6-7, Fairchild Tropical Botanic Garden, Coral Gables, FL – Jan 2011.
5. Compound Interest: The Value of Long-Term Water Quality Monitoring in the FKNMS. Linking Science to Management: A Conference & Workshop on the Florida Keys Marine Ecosystem. Hawks Cay, FL – Oct. 20, 2010.
6. Florida Keys Water Quality Integrated Conceptual Ecosystem sub-Model (ICEM) with Potential Indicators. Linking Science to Management: A Conference & Workshop on the Florida Keys Marine Ecosystem. Hawks Cay, FL – Oct. 20, 2010.
7. Climate driven changes in water quality and an attempt to quantify hurricane impact on phytoplankton biomass, Biscayne Bay, Florida. 2009 Coastal and Estuarine Research Federation Conference, Portland, OR – Nov. 1-5, 2009.
8. Relative Contribution of Land-Based vs. Far Field Nutrient Inputs to the Florida Keys Reef Tract. NOAA-AOML seminar, Miami, FL – June 3, 2009.
9. Bacterial community structure in sediment and water samples from freshwater marsh, mangrove and seagrass, in the Florida Everglades. NSF LTER All Scientists Meeting, CO – Sep. 14-16, 2009.
10. A Tale of Two Estuaries: Hydrology and Nutrient Loading in Biscayne and Florida Bays, USA. Estuarine Research Conference, Providence, RI – Nov. 6, 2007.

FUNDED PROJECTS: (OF \$18M)

Total Funded Projects – FY013 to date: \$21,549

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary and Southeast Florida Coral Reef Initiative. \$350,000 (\$21,549 PSU subcontract).
2. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$820,000 total, \$69,878 to JB (at FIU).

Total Funded Projects – FY012: \$538,700

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary and Southeast Florida Coral Reef Initiative. \$350,000 (at FIU).
2. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$820,000 total, \$48,700 to JB (at FIU).
3. DOI – Provide office services and operational technical support to the South Florida Ecosystem Restoration Task Force, Office of Executive Director. \$140,000 (at FIU).

Total Funded Projects – FY011: \$885,767

1. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary and Southeast Florida Coral Reef Initiative. \$420,000 (continuing).
2. NOAA/CSCOR – Marine and estuarine goal setting for South Florida (MARES). \$35,000 (supplement).
3. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$820,000 total, \$48,700 to JB (continuing).
4. NOAA/CSCOR – Marine and estuarine goal setting for South Florida (MARES). \$1,471,157 for 3 years, \$194,465 for FIU (continuing).
5. NOAA/CRCP – Water quality monitoring for the SEFCRI region. Subcontract through Nova Southeastern University \$37,602 (new).
6. DOI – Provide office services and operational technical support to the South Florida Ecosystem Restoration Task Force, Office of Executive Director. \$140,000 (supplement).
7. NOAA/CHAMP – Integrated Marine Protected Area Climate Tools (IMPACT). \$10,000.

Total Funded Projects – FY010: \$1,417,904

1. NOAA/CSCOR – Marine and estuarine goal setting for South Florida (MARES). \$1,471,157 for 3 years, \$195,033 for FIU (continuing).
2. NSF/LTER – Coastal oligotrophic ecosystems research - the Florida Coastal Everglades (FCE). \$67,224 (continuing).
3. US-EPA – Water quality monitoring for the Florida Keys National Marine Sanctuary. \$580,000 (continuing).
4. DOI – Provide office services and operational technical support to the South Florida Ecosystem Restoration Task Force, Office of Executive Director. \$383,140 (continuing).
5. DOI-NPS – Vital signs indicator Postdoctoral fellowship. \$135,507 (new).
6. DOI/NPS – Supplement for developing numeric nutrient criteria for National Park Service. \$57,000 (new).

PROFESSIONAL ASSOCIATION MEMBERSHIP AND PARTICIPATION:

American Geophysical Union, American Institute of Biological Sciences, American Society of Limnology and Oceanography, American Society for Microbiology, Association of Marine Laboratories of the Caribbean, Ecological Society of America, Coastal & Estuarine Research Federation, International Society for Microbial Ecology, Southeast Estuarine Research Society

CONSULTING:

Scientific Peer Review of Hydrobiological Monitoring Program in Five Waterbodies Potentially Affected by Tampa Bay Water Supply (2012)

Scientific Peer Review of Minimum Flow and Levels for Weeki Wachee Springs (2008)

Scientific Peer Review of Minimum Flow and Levels for Lower Peace River (2007)

Scientific Peer Review of Minimum Flow and Levels for Lower Hillsborough River (2006)