

Paul Julian

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Webpage:

<https://swampthingpaul.github.io/>

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EDUCATION

- Ph. D. Soil and Water Science. 2018.
University of Florida, Gainesville, Florida
Committee: Alan L. Wright (Primary), Stefan Gerber, Todd Z. Osborne, Susan Newman, and Mark Brenner
Dissertation: Biogeochemical controls of water column productivity and nutrient cycling in semitropical wetlands – A case study from the Everglades Stormwater Treatment Areas.
- M.Sc. Environmental Sciences. 2010
Florida Gulf Coast University, Fort Myers, Florida
Committee: Edwin M. Everham (Primary) Anne Hartley, and Martin B. Main (UF).
Thesis: Habitat Selection by the Florida Panther in Response to Melaleuca Removal within Big Cypress National Preserve.
- B.Sc. Biochemistry. 2005
Benedictine College, Atchison, Kansas
Advisor: Aileen Beard
Senior Project: The Quantitative Study of Mercury in Atchison Area Water Sources.

PROFESSIONAL AND ACADEMIC APPOINTMENTS

- 2011 – Present, Everglades Technical Lead, Florida Department of Environmental Protection.
- 2016 – 2018, Graduate Research Assistant, University of Florida.
- 2015, Adjunct Faculty, Florida Gulf Coast University
- 2010 – 2011, Biological Scientist, Florida Fish and Wildlife Research Institute
- 2008 – 2009, Lab Manager, University of Florida
- 2007 – 2008, Graduate Research Assistant, Florida Gulf Coast University
- 2007 – 2008, Technical Director and Staff Chemist, Harbor Branch Environmental Lab
- 2005 – 2007, Staff Chemist, Mote Marine Laboratory

ACADEMIC AWARDS

- Professional Wetland Scientist (PWS # 2905), Society of Wetland Scientists (2018)
- Sam Polston Award (2016)
- Wetland Biogeochemistry Laboratory Graduate Fellowship (2015)
- Institute of Food and Agricultural Sciences Travel Awards (2015 & 2016)
- Chemistry Department Service Award (2005)
- Discovery Scholar (2004 & 2005)
- Athletic Scholarship (2001)

SYNERGISTIC ACTIVITIES

Extracurricular

- Long Term Ecological Research. All Scientist Meeting workshop organizer (2018)
- Florida Coastal Everglades Long Term Ecological Research, (2018 - Present)
- Florida Coastal Everglades Long Term Ecological Research, Student Member (2016 - 2018)
- Long Term Ecological Research, 2018 All Scientist Meeting Program Committee (2017-2018)
- Florida Coastal Everglades Long Term Ecological Research Student Organization, Off-Campus Representative (2017 - 2018)
- Global Lake Ecological Observatory Network (2017 - 2018)
- Greater Everglades Ecosystem Restoration Conference, Mercury and Sulfur Special Session co-organizer (2015 and 2017)

Society memberships

- Florida Association of Environmental Soil Scientist (2014 - Present)
- Soil Science Society of America (2017 - Present)
- Association for the Science of Limnology and Oceanography (2017 – Present)

Peer and Technical Review

- Peer Review: Wetlands, Journal of Agriculture, Ecotoxicology, Lake and Reservoir Management, Environmental Management, Ecological Engineering (and many more)
- Technical Review: South Florida Environmental Report, Everglades Technical Oversight Committee, Aquifer Storage and Recover Pilot Project Technical Data Review

Working Groups and Subteams

- Western Everglades Restoration Planning Project, Water Quality Subteam
- Loxahatchee River Restoration Planning Project, Water Quality Subteam
- Global Lake Ecological Observatory Network, Signal Processing Working Group
- Florida Coastal Everglades Long Term Ecological Research, Biogeochemistry Working Group

Social Media

- Biotweeps Curator 27 August 2018. [Archive Link](#)

PUBLICATIONS

In Preparation

- **Julian, P.**, et al. *In Prep.* Nutrient stoichiometric relationships amongst ecosystem compartments of a subtropical treatment wetland. Ecological Processes.
- **Julian, P.**, S. Gerber, J. King, and A.L. Wright *In Prep.* Nutrient homeostasis and mechanisms related to nutrient retention by wetland macrophytes in a subtropical wetland. Wetlands.
- **Julian, P.**, S. Gerber and A.J. Reisinger. *In Prep.* Translating stream spiraling concepts to wetland nutrient uptake and transport mechanisms in a subtropical treatment wetland. Environmental Monitoring and Assessment.
- August, K.A., L.T. Simpson, **P. Julian** and T.Z. Osborne. *In Prep.* Reduced soil nutrient enrichment and *Typha domingensis* expansion due to restoration efforts. A temporal analysis of Taylor Slough in Everglades National Park. Journal of Environmental Quality.
- Schafer, T., N. Ward, **P. Julian**, K.R. Reddy and T.Z. Osborne. *Submitted.* Impacts of hurricane disturbances across the aquatic continuum of a black-water river to estuary complex. Estuaries and Coast.

Peer-Reviewed

- Marazzi, L., M. Finlayson, P.A. Gell, **P. Julian**, J.S. Kominoski and E.E. Gaiser. 2018. Balancing Wetland Restoration Benefits to People and Nature. The Solutions Journal. 9(3). <https://www.thesolutionsjournal.com/article/balancing-wetland-restoration-benefits-people-nature/>
- **Julian, P** and T.Z. Osborne. 2018. Estuarine biogeochemistry of a highly-managed ecosystem. An aquatic continuum case study of the C-43 Canal and Caloosahatchee River Estuary. Environmental

- Monitoring and Assessment. Pre-Print: <https://t.co/DcRiwr8wBx>.
- **Julian, P.** 2017. Letter to editor regarding Surratt D, Shindle D, Yongshan W, et al. Letter to the Editor Regarding: Julian P, 2017. Assessment of Upper Taylor Slough water quality and implications for ecosystem management in Everglades National Park. *Wetland Ecology and Management*.
 - **Julian, P.,** S. Gerber, A.L. Wright, B. Gu and T.Z. Osborne. 2017. Carbon pool trends and dynamics within a subtropical peatland during long-term restoration. *Ecological Processes*. 6(1):43 – 57
 - **Julian, P.** 2017. Assessment of Upper Taylor Slough water quality and implication of ecosystem status in Everglades National Park. *Wetlands Ecology and Management*. 25(2):191-209
 - **Julian, P.,** R. Chambers and T. Russell. 2017. Iron and pyritization in wetland soils of the Florida Coastal Everglades. *Estuaries and Coasts*. 40(3): 191-209
 - **Julian, P.,** B. Gu and A. Wright. 2016. Mercury stoichiometric relationships in a subtropical peatland. *Water, Air & Soil Pollution*. 227(12):472
 - **Julian, P.** 2016. Commentary on “Mitsch et al 2015, Protecting the Florida Everglades wetlands with wetlands: Can stormwater phosphorus be reduced to oligotrophic conditions?” *Ecological Engineering*.
 - **Julian, P.,** A. Wright, and T. Osborne. 2016. Iron and Sulfur porewater and surface water biogeochemical interactions in a subtropical peatlands. *Soil Science Society of America Journal*. 80(3):794-802.
 - **Julian, P.** 2015. South Florida Coastal Sediment Ecological Risk Assessment. *Bulletin of Environmental Contamination and Toxicology*. 95(2):188-193
 - **Julian, P.** and B. Gu. 2015. Mercury accumulation in Largemouth Bass (*Micropterus salmoides* Lacépède) within marsh ecosystems of the Florida Everglades, USA. *Ecotoxicology*. 24(1):202-214
 - **Julian, P.,** B. Gu and G. Redfield. 2015. Comment on and reinterpretation of Gabriel et al., (2014) ‘Fish mercury and surface water sulfate relationships in the Everglades Protection Area.’ *Environmental Management*. 55(1):1-5
 - **Julian, P.** 2014. Reply to “Mercury Bioaccumulation and Bioaccumulation Factors for Everglades Mosquitofish as Related to Sulfate: A Re-Analysis of Julian II (2013).” *Bulletin of Environmental Contamination and Toxicology*. 93(5):517-521
 - **Julian, P.** 2013. Comment on spatial and temporal phosphorous distribution changes in a large wetland ecosystem. *Water Resources Research*. 49(4), 2312-2313.
 - **Julian, P.** 2013. Mercury Hotspot Identification in Water Conservation Area 3. *Annals of GIS*. 19(2):79-88
 - **Julian, P.** 2013. Mercury Bioconcentration Factor in Mosquito Fish (*Gambusia spp.*) in the Florida Everglades. *Bulletin of Environmental Contamination and Toxicology*. 90(3):329- 332.
 - **Julian, P.,** and M.W. Cunningham. 2013. Total Mercury concentrations in Florida Black Bears (*Ursus americanus floridanius*). *Florida Scientist*. 76(1): 1-6.
 - **Julian, P.,** E.M. Everham, and M.B. Main. 2012. Influence of large-scale removal of an invasive plant (*Melaleuca quinquenervia* Blake) on home range size and habitat selection by female Florida panthers (*Puma concolor coryi* Bangs) within Big Cypress National Preserve, Florida U.S.A. *Southeastern Naturalist*. 11(2): 337-348.
 - **Julian, P.** 2011. Home range dynamics of female Florida panthers in response to kitten production. *Florida Scientist*. 74(4): 215 – 223.

Technical

- **Julian, P.**, G. Payne and S. Xue. *In Prep.* Chapter 3A: Status of water quality in the Everglades Protection Area. In: *2018 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, et al. *In Prep.* Chapter 3B: Mercury and sulfur environmental assessment for the Everglades. In: *2018 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, et al. 2017. Numeric Interpretation of Narrative Standards for the L-28 Interceptor Canal and Big Cypress National Preserve. Technical Support Document: Western Everglades Planning Project. Florida Department of Environmental Protection, Tallahassee, FL.
- **Julian, P.**, G. Payne and S. Xue. 2017. Chapter 3A: Status of water quality in the Everglades Protection Area. In: *2017 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, et al. 2017. Chapter 3B: Mercury and sulfur environmental assessment for the Everglades. In: *2017 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, G. Payne and S. Xue. 2016. Chapter 3A: Status of water quality in the Everglades Protection Area. In: *2016 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, et al. 2016. Chapter 3B: Mercury and sulfur environmental assessment for the Everglades. In: *2016 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, G. Payne and S. Xue. 2015. Chapter 3A: Status of Water Quality in the Everglades Protection Area. In: *2015 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, et al. 2015. Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In: *2015 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, G. Payne and S. Xue. 2014. Chapter 3A: Status of Water Quality in the Everglades Protection Area. In: *2014 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.**, B. Gu, R. Fydenborg, T. Lange, A.L. Wright and J.M. McCray. 2014. Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In: *2014 South Florida Environmental Report – Volume I*, South Florida Water Management District, West Palm Beach, FL, USA.
- **Julian, P.** 2013. Water Quality Improvements within the Everglades Protection Area. Florida Department of Environmental Protection – Technical White Paper. Tallahassee, FL.
- **Julian II, P.**, G. Payne and S. Xue. 2013. Chapter 3A: Status of Water Quality in the Everglades Protection Area. In: *2013 South Florida Environmental Report – Volume I*, South Florida Water Management District.
- **Julian, P.**, E. Marks and S. Hill. 2012. A.R.M. Loxahatchee National Wildlife Refuge Total Phosphorous Outlier Analysis and Proposed Alternative Screening Criterion: Distribution Independent Outlier Analysis. Everglades Technical Oversight Committee. May 2012.
- Carlson, P.R., L. Yarbrow, A. Ritzmann, H. McKnight, A. Viaud, K. Almeida, C. Nosach and **P. Julian**. 2011. Seagrass recovery in Tampa Bay: Fine-scale spatial analyses to assess progress and refine restoration targets. Florida Fish and Wildlife Conservation Commission. St Petersburg, FL.
- Dixon, L.K. and **P. Julian**. 2005. Philippi creek optical brightener investigation. Mote Marine Laboratory Technical Report No. 1038.

PRESENTATIONS

Oral

- Multiple technical presentations not listed here have been presented at meetings including technical, environmental policy, restoration project planning and general public audiences.
- **Julian, P.** and G. Fletcher. 2018. Don't wave the river red gums goodbye. The role of environmental flows in restoring river water quality and riparian zones along the Wimmera River. Society of Wetland Scientists. Denver, CO.
- **Julian, P.,** S. Gerber. A.J. Reisinger, K. Larios. 2018. Let's take a ride downstream. Translating nutrient spiraling concepts to wetland ecosystems. Society of Wetland Scientists. Denver, CO.
- **Julian, P.,** et al. 2018. Did you guess which thing was not like the others? Evaluation of wetland nutrient stoichiometry and homeostasis in a subtropical treatment wetland. Society of Wetland Scientists. Denver, CO.
- Osborne, T.Z., M.W. Clark, **P. Julian**, N. Ward, R. Collins, E.J. Philips and P. Fletcher. 2018. Translating the effects of sea-level rise in urban systems to the coastal ecosystem interface. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- Villapando, O., J. King, R.K. Bhomia and **P. Julian**. 2018. Biogeochemical response of selected STA flow-ways to different flow scenarios. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- **Julian, P.,** et al. 2018. One of these things is not like the other. Evaluation of wetland nutrient stoichiometry and homeostasis in a subtropical treatment wetland. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- Ward, N., T. Dye, **P. Julian** and T.Z. Osborne, 2017. Examining the effects of hurricanes Matthew and Irma on water quality in the inter-coastal waterway, St. Augustine, FL. American Geophysical Union. New Orleans, LA.
- **Julian, P.,** R Bhomia, S. Gerber, and A.L. Wright. 2017. Stoichiometric relationships amongst ecosystem compartments of a treatment wetland. Southeastern Ecology and Evolution Conference. Ft Myers, FL.
- **Julian, P.,** R. Chambers, J. Kominoski, T. Troxler, A. Wright, and T.Z. Osborne. 2017. Pyrite formation in the Coastal Everglades: Can a fool's gold indicate sea-level rise? SSSA Annual Meeting. Tampa, FL.
- **Julian, P.,** R. Bhomia, A. Wright, and T.Z. Osborne. 2017. Aquatic Productivity in Subtropical Marsh along a soil nutrient gradient – An assessment of the Everglades Stormwater Treatment Areas. SSSA Annual Meeting. Tampa, FL.
- Osborne, T.Z., R. Bhomia, **P. Julian** and K.R. Reddy. 2017. Spatial Distribution of Soil Biogeochemical Properties in Stormwater Treatment Area 3/4 Cells 3A and 3B. SSSA Annual Meeting. Tampa, FL.
- **Julian, P.,** R. Bhomia, A. Wright and T.Z. Osborne. 2017. Aquatic Productivity in Subtropical Marsh – Observations from the Everglades Stormwater Treatment Areas. 2017 Society of Wetland Scientist Annual Meeting, San Juan, Puerto Rico.
- **Julian, P.,** B. Gu and A. Freitag. 2017. Limiting Factors in Mercury Methylation Hotspot Development: The Tangled Web. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
- Gerber, S., K. Larios and **P. Julian** 2017. Data Integration and Synthesis Framework for Understanding the Phosphorus Cycling and Reduction Mechanisms in STA Flow-ways. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
- Gu, B and **P. Julian**. 2017. High Biotic Mercury in South Florida Wetlands: Fish Trophic Position and Wading Bird Redistribution. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
- Villapando, O., R. Bhomia, J. King and **P. Julian**. 2017. Water Quality Along inflow to Outflow Gradient of the Everglades Stormwater Treatment Areas. Greater Everglades Ecosystem Restoration, Coral Spring, FL.

- **Julian, P.**, B. Gu, K. Weaver and A. Wright. 2016. Status and Trends of Landscape-Scale Mercury in South Florida and the Everglades. 7th SETAC World Congress/SETAC North America 37th Annual Meeting. Orlando, FL.
- Osborne, T.Z., L.T. Simpson, T.B. Schafer, M. Camacho, **P. Julian II**, N.D. Ward, and L. Laplace. 2016. Alteration of hydrology by mangrove encroachment in saltmarsh ecosystems and potential impacts to ecosystem services. Ecological Society of America, Fort Lauderdale, FL.
- Osborne, T.Z., L.T. Simpson, T.B. Schafer, M. Camacho, **P. Julian II**, N.D. Ward, and L. Laplace. 2016. Carbon biogeochemical processes along a Mangrove-Salt Marsh ecotone. Mangrove & Macrobenthos Meeting 4, St Augustine, FL.
- **Julian, P.**, T.Z. Osborne, J. Castro, J. Sadle and L.R. Ellis. 2016. Interpreting effects of water management on soil nutrient cycling in an oligotrophic subtropical wetland. Society of Wetland Scientist Annual Meeting. Corpus Christi, TX.
- **Julian, P.** and A. Wright. 2016. Can soil nutrient stoichiometry determine mercury hotspot formation in a subtropical peatland? An Everglades case study. Society of Wetland Scientist Annual Meeting. Corpus Christi, TX.
- **Julian, P.** 2016. Hydrologic restoration of the Taylor Slough Region of Everglades National Park. Changes in water quality and implications for ecosystem management. 5th University of Florida Water Institute Symposium. Gainesville, FL.
- **Julian, P.**, B. Gu, G. Redfield, and K. Weaver. 2015. An Overview of Everglades Mercury Issues: Critical Questions Remain. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
- Gu, B., **P. Julian** and G. Redfield. 2015. Spatial and Temporal Variation of Total Mercury in Mosquitofish from Everglades Marshes. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
- **Julian, P.** 2014. Large-Scale Water Quality Improvement Projects: An Everglades Perspective. SLER Con 2014. Orlando, FL.
- **Julian, P.**, E.M. Everham, and M.B. Main. 2012. Influence of a large-scale removal of an invasive plant (*Melaleuca quinquenervia*) on home range size and habitat selection by female Florida panthers (*Puma concolor coryi*) within Big Cypress National Preserve. 75th Florida Academy of Science Annual Meeting. Tampa, FL.
- **Julian, P.** E.M. Everham, A.E. Hartley, M.B. Main and J. Burch. 2010 Reduction of Home Range Size by the Florida Panther Following Melaleuca Removal in Big Cypress National Preserve. 15th Annual Exotic Species Workshop for Southwest Florida. Ft Myers, FL.
- **Julian, P.**, et al. 2008. Melaleuca research at Florida Gulf Coast University. 13th annual Exotics Species Workshop for Southwest Florida. Ft Myers, FL.
- **Julian, P.**, M. Atteberry and P. Steinbach. 2005. The Quantitative Study of Mercury in Atchison Area Water Sources. Atchison, KS.

Poster

- **Julian, P.**, J.S. Kominoski, E.E. Gaiser and A Wymore. 2018. Is the Everglades Ecosystem a stoichiometric deviant? An investigation of ecological stoichiometry along the aquatic continuum of the Everglades ecosystem. 2018 Florida Coastal Everglades Long Term Ecological Research Annual Scientist Meeting, Miami, FL.
- Schafer, T.B., N. Ward, **P. Julian**, K.R. Reddy and T.Z. Osborne. 2018. Effects of Hurricane Irma on dissolved organic carbon fluxes along a salinity gradient. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- August, K., **P. Julian** and T.Z. Osborne. 2018. Soil nutrient enrichment post hydrologic management: A temporal analysis of Taylor slough. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- **Julian, P.**, G. Fletcher and A.L. Wright. 2018. River runs through it. Evaluation of groundwater

- and surface water connectivity and its implications on riparian biogeochemistry and ecology. 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL.
- **Julian, P.**, R. Chambers, J. Kominoski and T. Troxler. 2017. Pyrite in the Coastal Everglades, It's more than Fool's Gold. 2017 Florida Coastal Everglades Long Term Ecological Research Annual Scientist Meeting, Miami, FL.
 - **Julian, P.**, M. Powers, R. Bhomia, A. Wright and J. Dombrowski. 2017. Key Factors Controlling Wetland Aquatic Productivity in the Everglades Stormwater Treatment Areas. 2017 Greater Everglades Ecosystem Restoration, Coral Spring, FL.
 - Osborne, T.Z., R. Bhomia, **P. Julian** and K.R. Reddy. 2017. Spatial Distribution of Soil Biogeochemical Properties in Stormwater Treatment Area 3/4 Cells 3A and 3B. Greater Everglades Ecosystem Restoration, Coral Spring, FL.
 - Gu, B., N. Niemeyer and **P. Julian**. 2016. Removal of Mercury from Surface Water by Constructed Wetlands in South Florida, USA. 7th SETAC World Congress/SETAC North America 37th Annual Meeting. Orlando, FL.
 - **Julian, P.**, G. Redfield and A. Wright. 2015. Total Phosphorus and Total Nitrogen trends in Upper Taylor Slough, Everglades National Park, Florida. 24th Annual Southwest Florida Water Resources Conference. Ft. Myers, FL.
 - **Julian, P.** 2014. Ecosystem Sampling Suitability: Do my monitoring locations represent the water body? 2014 Rookery Bay GIS Symposium. Naples, FL.
 - **Julian, P.** 2012. Panthers in EDEN, Florida panther (*Puma concolor coryi*) home range responses to hydrologic change. 75th Florida Academy of Science Annual Meeting. Tampa, FL.
 - **Julian, P.** E.M. Everham, A.E. Hartley, M.B. Main and J. Burch. 2010. Plant community changes in Big Cypress National Preserve in Response to Melaleuca Removal. 15th Annual Exotic Species Workshop for Southwest Florida. Ft Myers, FL.
 - **Julian, P.** and A. Naccarato 2010 Latitudinal Photo Documentation of Mangrove response to a prolonged "freeze" event. Florida Gulf Coast University Research Day. Ft Myers, FL.
 - **Julian, P.** and E.D. Estevez. 2009. Historic Bathymetric Analysis of Tampa Bay. 5th Tampa Bay Area Scientific Information Symposium Proceedings. St Petersburg, FL.
 - **Julian, P.**, S. Waterman, M. Claus. 2004. Determination of Metal Concentration in the Missouri River, Atchison, Kansas. Benedictine College Discovery Day. Atchison, KS.