Paul Julian II

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Professional Summary

I wear many hats. I am an ecosystem and landscape ecologist, and aquatic biogeochemist that uses statistical and empirical modeling to analyze temporal and spatial data.

Education

2018 **Ph.D. Soil and Water Science** University of Florida
Gainesville, Florida
- Dissertation: Biogeochemical controls of water column productivity and nutrient cycling in semitropical wetlands. A case study from the Everglades Stormwater Treatment Areas.

2010 **M.Sc. Environmental Science** Florida Gulf Coast University
Fort Myers, Florida
- Thesis: Habitat Selection by the Florida Panther in Response to Melaleuca Removal within Big Cypress National Preserve.

2005 **B.Sc. Biochemistry** Benedictine College
Atchison, Kansas
- Senior Project: The Quantitative Study of Mercury in Atchison Area Water Sources.

Professional Experience

2021 - Present **Hydrologic Modeler** Sanibel-Captiva Conservation Foundation
Sanibel, Florida 40 hr/wk
- Participate in interdiscipline synthesis related to the effects of restoration, water management, development, sea-level rise, water quality, and ecological integrity of the Everglades and Southwest Florida estuarine ecosystems.
- Produce analytical summaries of model outputs
- Evaluate and summarise modeled scenarios
- Install and operate modeling and statistical software to evaluate restoration and water management activities
- Work collaboratively with stakeholders and state (FDEP and SFWMD) and federal (NPS, USACE, USGS, USFWS) efforts to restore, preserve and protect natural resources
- Perform periodic project briefings for management and staff across organizations and agencies
- Conduct statistical analyses of data using R and use version control systems (i.e. Git/Github)
- Disseminate research results across a broad range of audiences and media (i.e. peer-review, technical paper, citizen group presentations)
- Maintain a daily automated conditions tracking webpage using data across various agencies and organizations.
- Review and provide technical input on Environmental Assessments (EA) and Environmental Impact Statements (EIS).

2022 - Present **Post-Doctoral Associate** University of Montreal
Montreal, Quebec 20 hr/wk

- Evaluate lake water quality as it relates to algae dynamics, harmful algal blooms, and cyanotoxins.
- Perform statistical analysis using R and other programming languages such as Julia and Python.
- Perform periodic project briefings with project staff and collaborate with individuals across various institutions
- Conduct statistical analyses of data using R and use version control systems (i.e. Git/Github)
- Disseminate research results across a broad range of audiences and media (i.e. peer-review, technical paper, citizen group presentations)

2011 - 2021 **Everglades Technical Lead** Florida Department of Environmental Protection
Fort Myers/Tallahassee, Florida 40 hr/wk

- Participate in multi-agency regulatory and science review team.
- Perform water quality compliance calculations.
- Conduct data mining and analysis of environmental data.
- Synthesize and author technical reports.
- Technical review of submittals consistent with the Clean Water Act.
- Support federal and state restoration planning efforts.
- Perform periodic project briefings for management and staff across organizations and agencies
- Install and operate modeling and statistical software to evaluate restoration and water management activities
- Maintain an Everglades water quality database using R, ODBC and MS Access

2018 - 2022 **Post-Doctoral Associate** Whitney Laboratory for Marine Bioscience - University of Florida
St Augustine, Florida 20 hr/wk

- Develop manuscripts
- Mentor graduate students
- Seek funding oppurtunities

2016 - 2018 **Graduate Research Assistant** University of Florida
Gainesville/Fort Pierce, Florida 20 hr/wk

- Analysis of water quality and soil nutrient data.
- Aid in writing quarterly and annual reports.
- Participate in project workshops and present project-related results to stakeholders, and scientific communities at national and international conferences.

2015 - 2015 **Adjunct Faculty** Florida Gulf Coast University
Fort Myers, Florida 20 hr/wk

- Instructor of undergraduate Scientific Process

2010 - 2011 **Biological Scientist** Florida Fish and Wildlife Research Institute
Saint Petersburg, Florida 40 hr/wk

- Hours worked per week: 40
- Operation of boats in marine and estuarine environments.
- Collect environmental samples (i.e. water, vegetation, sediment/soil) for analysis according to acceptable standardized methods.
- Geostatistical analysis, photo-interpretation, spatial analysis, and writing reports/summaries

2008 - 2009 **HLB Lab Manager** University of Florida
Immokalee, Florida 40 hr/wk

- Analysis of plant samples for agricultural pathogens including Huanglongbing (HLB; Citrus Greening).
- Analyses include advanced molecular biological techniques including DNA/RNA isolations, RFPL, PCR, RT-PCR and qPCR.
- Field sampling, data entry and report writing.
- Maintain everyday laboratory operation.
- Interact and consult with growers.

2007 - 2008 **Graduate Research Assistant** Florida Gulf Coast University
Fort Myers, Florida 20 hr/wk

- Analysis of existing water quality data to aid in the selection of water quality targets for southwest Florida.

2007 - 2008 **Technical Director/Chemist** HBEL Inc.
Lehigh Acres/Fort Myers, Florida 40 hr/wk

- Analyze drinking water, waste water and environmental samples according approved protocols.
- Writing technical reports and grants, data entry and field sampling.
- Maintain everyday laboratory operation.
- Interact with current and potential clients.

2005 - 2007 **Staff Chemist II** Mote Marine Laboratory
Sarasota, Florida 40 hr/wk

- Operation of boats in marine and estuarine environments.
- Collect and analyse sediment and water samples from marine, estuarine and freshwater environments.
- Maintain a variety of instruments, manage field operations, and data entry.

Funding

1. Santos R (PI), J Rehage, J Rodemann, TZ Osborne, P **Julian**, J Lorenz, C Madden, B Furman (Submitted). An examination of sediment resuspension and algal bloom dynamics in Florida Bay: Spatio-temporal drivers and dynamics in a unique subtropical estuary. $746,017. United States Environmental Protection Agency.
2. Osborne TZ, P **Julian**. 2021. Taylor Slough Soil Phosphorus Assessment. Everglades National Park. $80,000. Everglades National Park.

3. Osborne TZ, KR Reddy, P **Julian**. 2020. Sediment and Nutrient Mapping of Lake Okeechobee. South Florida Water Management District. $200,000. South Florida Water Management District.

Informatics and Programming

Expertise: R, R-Studio, Git/Github, Markdown, LaTex, MS Access
Familiarity: Python, QGIS, HTML, Inkscape, Google Earth Engine
Learning: Julia, Fortran, Java Script

1. Julian, P. (2021). *CalSalMod: Caloosahatchee estuary salinity model.* https://github.com/SwampThingPaul/CalSalMod
2. Julian, P. (2021). *LORECOVER: Lake okeechobee stage envelope performance measure calculation.* https://github.com/SwampThingPaul/LORECOVER
3. Julian, P., & Helsel, D. (2021). *NADA2: Data analysis for censored environmental data.* https://github.com/SwampThingPaul/NADA2
4. Julian, P. (2020). *EPGMr: Implementation of the everglades phosphorus gradient model.* https://github.com/swampthingpaul/EPGMr
5. Julian, P. (2020). *LimnoPalettes: A limnology themed palette generator.* https://github.com/SwampThingPaul/LimnoPalettes
6. Julian, P. (2019). *AnalystHelper: Helper functions developed over the years to extract and format data.* https://github.com/swampthingpaul/AnalystHelper

Publications

Google Scholar Citations = 210 H-Index = 9 i10-Index = 7

In Prep/Submitted

1. **Julian**,P. (*In Prep*). Upstream water management and its role in estuary health, evaluation of freshwater management and subtropical estuary function. Estuaries and Coasts.
2. **Julian**,P et al. (*In Prep*). Ice on the water, a fire in the sky: changes in nutrient concentrations in a hypereutrophic lake during a changing climate. Climate Change.
3. **Julian**,P et al. (*Submitted*). Changes in the spatial distribution and entrainment potential for total phosphorus in sediment of a shallow subtropical lake. Lake and Reservoir Management.
4. **Julian**,P, et al. (*Submitted*). Long-term spatiotemporal patterns and trends in water quality reveal a coastal continuum of disturbance legacies. L&O.
5. **Julian**,P, T.Z. Osborne & R. Ellis (*Accepted*). Evaluation of biogeochemical changes in channelized and restored portions of a subtropical floodplain. Hydrobiology.
6. **Julian**,P & Z. Welch (*Accepted*). Understanding the ups and downs, application of hydrologic restoration measures for a large Subtropical Lake. Lake and Reservoir Management.
7. Marazzi, L, P **Julian**, and R Mazebedi (*Accepted*). "Wetland Monitoring: Understanding Variability and Change in Ecological Condition." In: *Ramsar Wetlands: Value, Assessment, Management.* Ed by P Gell, N Davidson, and M Finlayson.

Peer Review

1. Julian, P., Osborne, T. Z., Bhomia, R. K., & Villapando, O. (2021). Knowing your limits: Evaluating aquatic metabolism in a subtropical treatment wetland. *Hydrobiologia.* https://doi.org/10.1007/s10750-021-04617-7

2. Kominoski, J. S., Gaiser, E. E., Castaneda-Moya, E., Davis, S. E., Dessu, S., Julian, P., Lee, D. Y., Marazzi, L., Rivera-Monroy, V. H., & Sola, A. (2020). Disturbance legacies increase and synchronize nutrient concentrations and bacterial productivity in coastal ecosystems. *Ecology*, *101*(5).
3. Julian, P. (2020). Getting the science right to protect and restore our environment. A critique of Lapointe et al. (2019) Nitrogen enrichment, altered stoichiometry, and coral reef decline at Looe Key, Florida Keys, USA: A 3-decade study. *Marine Biology*, *167*(5), 68. https://doi.org/10.1007/s00227-020-3667-1
4. Schafer, T., Ward, N., Julian, P., Reddy, K. R., & Osborne, T. Z. (2020). Impacts of Hurricane Disturbance on Water Quality across the Aquatic Continuum of a Blackwater River to Estuary Complex. *Journal of Marine Science and Engineering*, *8*(6), 412. https://doi.org/10.3390/jmse8060412
5. Julian, P., Gerber, S., Bhomia, R. K., King, J., Osborne, T. Z., & Wright, A. L. (2020). Understanding stoichiometric mechanisms of nutrient retention in wetland macrophytes: Stoichiometric homeostasis along a nutrient gradient in a subtropical wetland. *Oecologia*. https://doi.org/10.1007/s00442-020-04722-9
6. Julian, P., Gerber, S., Bhomia, R. K., King, J., Osborne, T. Z., Wright, A. L., Powers, M., & Dombrowski, J. (2019). Evaluation of nutrient stoichiometric relationships among ecosystem compartments of a subtropical treatment wetland. Do we have "Redfield wetlands?" *Ecological Processes*, *8*(1), 20. https://doi.org/10.1186/s13717-019-0172-x
7. Julian, P. (2019). Spatial Ecology and Conservation Modeling. Applications with R. Robert Fletcher, Marie-Josee Fortin: Book Review. *Austral Ecology*. https://doi.org/10.1111/aec.12791
8. Carey, J., Jankowski, K., Julian, P., Sethna, L., Thomas, P., & Rohweder, J. J. (2019). Exploring Silica Stoichiometry on a Large Floodplain Riverscape. *Frontiers in Ecology and Evolution*, *7*, 346.
9. Julian, P., & Osborne, T. Z. (2018). From lake to estuary, the tale of two waters: A study of aquatic continuum biogeochemistry. *Environment Monitoring and Assessment*, *190*(96), 1–24. https://doi.org/https://doi.org/10.1007/s10661-017-6455-8
10. Marazzi, L., Finlayson, C. M., Gell, P. A., Julian, P., Kominoski, J. S., & Gaiser, E. E. (2018). Balancing wetland restoration benefits to people and nature. *Solutions Journal*, *9*(3).
11. Julian, P., Chambers, R., & Russell, T. (2017). Iron and Pyritization in Wetland Soils of the Florida Coastal Everglades. *Estuaries and Coasts*, *40*(3), 822–831. https://doi.org/10.1007/s12237-016-0180-3
12. Julian, P. (2017). Assessment of Upper Taylor Slough water quality and implications for ecosystem management in Everglades National Park. *Wetlands Ecology and Management*, *25*(2), 191–209. https://doi.org/10.1007/s11273-016-9509-8
13. Julian, P. (2017). Letter to the 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. *Wetlands Ecology and Management*, 1–3. https://doi.org/10.1007/s11273-017-9571-x
14. Julian, P., Gerber, S., Wright, A. L., Gu, B., & Osborne, T. Z. (2017). Carbon pool trends and dynamics within a subtropical peatland during long-term restoration. *Ecological Processes*, *6*(1), 43–57. https://doi.org/10.1186/s13717-017-0110-8
15. Julian, P., Gu, B., & Wright, A. L. (2016). Mercury Stoichiometric Relationships in a Subtropical Peatland. *Water, Air, & Soil Pollution*, *227*(12), 472. https://doi.org/10.1007/s11270-016-3180-9

16. 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*, *108*, 333–337.
17. Julian, P., Wright, A. L., & Osborne, T. Z. (2016). Iron and sulfur porewater and surface water biogeochemical interactions in subtropical peatlands. *Soil Science Society of America Journal*, *80*(3), 794–802.
18. Julian, P., Gu, B., & Redfield, G. (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. https://doi.org/10.1007/s00267-014-0377-9
19. Julian, P., & Gu, B. (2015). Mercury accumulation in largemouth bass (Micropterus salmoides Lacépède) within marsh ecosystems of the Florida Everglades, USA. *Ecotoxicology*, *24*(1), 202–214. https://doi.org/10.1007/s10646-014-1373-9
20. Julian, P. (2015). South Florida Coastal Sediment Ecological Risk Assessment. *Bulletin of Environmental Contamination and Toxicology*, *95*(2), 188–193.
21. 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. https://doi.org/10.1007/s00128-014-1389-0
22. Julian, P., & Cunningham, M. W. (2013). Total mercury concentration in Florida black bear (Ursus americanus floridanus). *Florida Scientist*, *76*(1).
23. Julian, P. (2013). Comment on Spatial and temporal phosphorus distribution changes in a large wetland ecosystem by X. Zapata-Rios et al.: Commentary. *Water Resources Research*, *49*(4), 2312–2313. https://doi.org/10.1002/wrcr.20162
24. Julian, P. (2013). Mercury Bio-concentration Factor in Mosquito Fish (Gambusia spp.) In the Florida Everglades. *Bulletin of Environmental Contamination and Toxicology*, *90*(3), 329–332. https://doi.org/10.1007/s00128-012-0939-6
25. Julian, P. (2013). Mercury hotspot identification in Water Conservation Area 3, Florida, USA. *Annals of GIS*, *19*(2), 79–88. https://doi.org/10.1080/19475683.2013.782469
26. Julian, P., Everham III, E. M., & Main, M. B. (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, Florida. *Southeastern Naturalist*, *11*(2), 337–348.
27. Julian, P. (2011). Home range dynamics of female Florida panthers in reponse to kitten production. *Florida Scientist*, *74*(4).

Technical

1. Julian, P., Gilhooly, A. R., Payne, G. G., & Xue, S. K. (2021). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2021 South Florida Environmental Report*. South Florida Water Management District.
2. Julian, P., Gu, B., & Weaver, K. (2021). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2021 South Florida Environmental Report*. South Florida Water Management District.
3. Julian, P. (2021). *Technical Review: FDEP DRAFT Evaluation of Waters for Dissolved Oxygen Site Specific Alternative Criteria (SSAC) Development* (p. 29). Sanibel-Captiva Conservation Foundation. https://doi.org/10.5281/zenodo.4776313

4. Julian, P. (2021). *DRAFT: Evaluation of Algal bloom potential for the Caloosahatchee River Estuary* (p. 12). Sanibel-Captiva Conservation Foundation. https://doi.org/10.5281/zenodo.4876353
5. Julian, P., Gilhooly, A. R., Payne, G. G., & Xue, S. K. (2020). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2020 South Florida Environmental Report*. South Florida Water Management District.
6. Julian, P., Gu, B., & Weaver, K. (2020). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2020 South Florida Environmental Report*. South Florida Water Management District.
7. Julian, P., Frietag, A. R., Payne, G. G., & Xue, S. K. (2019). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2019 South Florida Environmental Report*. South Florida Water Management District.
8. Julian, P., Gu, B., & Weaver, K. (2019). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2019 South Florida Environmental Report*. South Florida Water Management District.
9. Julian, P. (2018). *Biogeochemical controls of water column productivity and nutrient cycling in semitropical wetlands: A case study from the everglades stormwater treatment areas* [PhD thesis]. University of Florida.
10. Julian, P., Frietag, A. R., Payne, G. G., & Xue, S. K. (2018). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2018 South Florida Environmental Report*. South Florida Water Management District.
11. Julian, P., Gu, B., & Weaver, K. (2018). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2018 South Florida Environmental Report*. South Florida Water Management District.
12. Julian, P., Payne, G. G., & Xue, S. K. (2017). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2017 South Florida Environmental Report*. South Florida Water Management District.
13. Julian, P., & Bhomia, R. (2017). Transect Study: Surface Water Quality Monitoring and Analysis. In K. R. Reddy (Ed.), *Evaluation of Soil Biogeochemical Properties Influcing Phosphorus Flux in the Everglades Stormwater Treatment Areas (STAs): 2016-17 Annual Report* (pp. 317–444). University of Florida.
14. Julian, P. (2017). *Numeric Interpretation of Narrative Standards for the L-28 Interceptor Canal and Big Cypress National Preserve.* (p. 21). Florida Department of Environmental Protection.
15. Julian, P., Gu, B., & Weaver, K. (2017). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2017 South Florida Environmental Report*. South Florida Water Management District.
16. Julian, P., Payne, G. G., & Xue, S. K. (2016). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2016 South Florida Environmental Report*. South Florida Water Management District.
17. Julian, P., Gu, B., Redfield, G., & Weaver, K. (2016). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2016 South Florida Environmental Report*. South Florida Water Management District.
18. Julian, P., Payne, G. G., & Xue, S. K. (2015). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2015 South Florida Environmental Report*. South Florida Water Management District.

19. Julian, P., Gu, B., Redfield, G., Weaver, K., Lange, T., Federick, P., McCray, J. M., Wright, A. L., Dierberg, F. E., DeBusk, T. A., Jerauld, M., DeBusk, W. F., Bae, H., & Ogram, A. (2015). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2015 South Florida Environmental Report*. South Florida Water Management District.
20. Julian, P., Gu, B., Frydenborg, R., Lange, T., Wright, A. L., & McCray, J. M. (2014). Chapter 3B: Mercury and Sulfur Environmental Assessment for the Everglades. In *2014 South Florida Environmental Report*. South Florida Water Management District.
21. Julian, P., Payne, G. G., & Xue, S. K. (2014). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2014 South Florida Environmental Report*. South Florida Water Management District.
22. Julian, P., Payne, G. G., & Xue, S. K. (2013). Chapter 3A: Water Quality in the Everglades Protection Areas. In *2013 South Florida Environmental Report*. South Florida Water Management District.
23. Julian, P., & Hill, S. (2012). *A.R.M. Loxahatchee National Wildlife Refuge Total Phosphorus Outlier Analysis and Proposed Alternative Screening Criterion: Distribution Independent Outlier Analysis*. Everglades Technical Oversight Committee.
24. Carlson, P. R., Yarbro, L., Ritzmann, A., McKnight, H., Viaud, A., Almeida, K., Nosach, C., & Julian, P. (2011). *Seagrass recovery in Tampa Bay: Fine-scale spatial analyses to assess progress and refine restoration targets* (F2698-F). Florida Fish; Wildlife Conservation Commission.
25. Julian, P. (2010). *Habitat Selection by the Florida Panther in Response to Melaleuca Removal Within Big Cypress National Preserve* [PhD thesis]. Florida Gulf Coast University.
26. Dixon, L., & Julian, P. (2005). *Philippi creek optical brigtener investigation*. Mote Marine Laboratory.

Presentations

- Numerous technical presentations not listed here have been presented at meetings including technical, environmental policy, restoration project planning and general public audiences at public meetings, workshops and technical meetings.

Invited

1. Julian, P. (n.d.). Multivariate Statistics Tips and Tricks: Intro to PCA. *Newcastle University; Modeling, Evidence and Policy Research Group Seminar.*, 2020. https://github.com/SwampThingPaul/PCA_Workshop

Oral

1. Julian, P., Everham, E. M., & Main, M. B. (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. *76th Florida Academy of Science Annual Meeting.*.
2. Schafer, T., Julian, P., Jones, P., & Osborne, T. Z. (2022). *Spatial Changes of Sediment Distribution and Biogeochemistry Over 30 Years in Lake Okeechobee*.
3. Johnson, K., Carey, J., Jankowski, K., Julian, P., Heindel, R., Jones, J., McDowell, W. H., Abbott, B., McKnight, D., Sethna, L., Shogren, A., Thomas, P., Wymore, A., & Sullivan, P. (2022). *Developing typologies of river silicon seasonality across biomes to understand controls on changing exports*.

4. Julian, P., Osborne, T. Z., Thorton, A., Schafer, T., & Jones, P. (2021). I'm Calling To You Like A Long Lost Friend: Legacy Phosphorus In Lake Okeechobee. *Greater Everglades Ecosystem Restoration.*
5. Julian, P., Osborne, T. Z., Thorton, A., Schafer, T., & Jones, P. (2021). Big Water, Big Nutrients. The tale of legacy Phosphorus in Lake Okeechobee. *Society of Freshwater Science.*
6. Gu, B., Avila, C., Niemeyer, N., & Julian, P. (2021). Variations in Total Mercury Concentration of Mosquitofish from Everglades Protection Area. *Greater Everglades Ecosystem Restoration.*
7. Hill, T. D., Julian, P., & Surratt, D. (2021). Thirty Years of Water Quality and Salinity Regime Change in Florida Bay. *Greater Everglades Ecosystem Restoration.*
8. Julian, P., Miles, M., Nelson, N., & Milbrandt, E. (2021). The water sustains me without even trying: Influences on nearshore Karenia brevis in southwest Florida. *Coastal & Estuarine Research Federation.*
9. Carey, J. C., Jankowski, K., Julian, P., Sethna, L. R., & Thomas, P. K. (2020). Including Si in fluvial stoichiometry: Results from a longitudinal analysis of the Upper Mississippi River. *ASLO-SFS. Madison, WI.*
10. Julian, P., August, K., Simpson, L., Osborne, T. Z., & Surratt, D. (2019). Hydrologic restoration of a shallow oligotrophic marl wetland. What is the soil telling us? *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
11. Julian, P., Gerber, S., Reisinger, A. J., & Larios., K. (2018). Let's take a ride downstream. Translating nutrient spiraling concepts to wetland ecosystems. *Society of Wetland Scientists Annual Meeting. Denver, CO.*
12. Julian, P., & Fletcher, G. (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 Annual Meeting. Denver, CO.*
13. Julian, P., Gerber, S., Bhomia, R. K., King, J., Osborne, T. Z., Wright, A. L., Powers, M., & Dombrowski, J. (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 Annual Meeting. Denver, CO.*
14. Julian, P., Gerber, S., Bhomia, R. K., King, J., Osborne, T. Z., Wright, A. L., Powers, M., & Dombrowski, J. (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.*
15. Villapando, O., King, J., Bhomia, R. K., & Julian, P. (2018). Biogeochemical response of selected STA flow-ways to different flow scenarios. *12th International Symposium on Biogeochemistry of Wetlands. Coral Springs, FL.*
16. Osborne, T. Z., Clark, M. W., Julian, P., Ward, N., Collins, R., Philips, E. J., & Fletcher, P. (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.*
17. Julian, P., Bhomia, R., Wright, A., & Osborne, T. Z. (2017). Aquatic Productivity in Subtropical Marsh – Observations from the Everglades Stormwater Treatment Areas. *Society of Wetland Scientists Annual Meeting. San Juan, Puerto Rico.*
18. Julian, P., Gu, B., & Freitag, A. (2017). Limiting Factors in Mercury Methylation Hotspot Development: The Tangled Web. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*

19. Julian, P., Wright, A. L., Bhomia, R., Osborne, T. Z., & Villapando, R. (2017). Aquatic Productivity in a Subtropical Marsh Along a Soil Nutrient Gradient–an Assessment of the Everglades Stormwater Treatment Areas. *ASA, CSSA and SSSA International Annual Meetings. Tampa, FL.*
20. Julian, P., Wright, A. L., Chambers, R., Kominoski, J., Troxler, T., & Osborne, T. Z. (2017). Pyrite Formation in the Coastal Everglades: Can a Fool's Gold Indicate Sea-Level Rise?. *ASA, CSSA and SSSA International Annual Meetings. Tampa, FL.*
21. Ward, N., Dye, T., Julian, P., & Osborne, T. Z. (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.*
22. Osborne, T. Z., Bhomia, R., Julian, P., & Reddy, K. R. (2017). Spatial Distribution of Soil Biogeochemical Properties in Stormwater Treatment Area 3/4 Cells 3A and 3B. *ASA, CSSA and SSSA International Annual Meetings. Tampa, FL.*
23. Gu, B., & Julian, P. (2017). High Biotic Mercury in South Florida Wetlands: Fish Trophic Position and Wading Bird Redistribution. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
24. Villapando, O., Bhomia, R. K., & Julian, P. (2017). Water Quality Along inflow to Outflow Gradient of the Everglades Stormwater Treatment Areas. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
25. Gerber, S., Larios, K., & Julian, P. (2017). Data Integration and Synthesis Framework for Understanding the Phosphorus Cycling and Reduction Mechanisms in STA Flow-ways. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
26. Julian, P., Gu, B., & Weaver, K. (2016). Status and Trends of Landscape-Scale Mercury in South Florida and the Everglades. *7th SETAC World Congress/SETAC North America 37th. Orlando, FL.*
27. Julian, P., Osborne, T. Z., Sadle, J., & Ellis, L. R. (2016). Effects Of Water Management on Water and Soil Quality in Taylor Slough. *South Florida and Caribbean Cooperative Ecosystem Studies Unit. Homestead, FL.*
28. Julian, P., & Bhomia, R. (2016). Flow way Water Quality Assessment STA-2 Cell 1 and Cell 3. *P-Flux Annual Workshop. West Palm Beach, FL.*
29. 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.*
30. Julian, P., Osborne, T. Z., Castro, J., Sadle, J., & Ellis, L. R. (2016). Interpreting effects of water management on soil nutrient cycling in an oligotrophic subtropical wetland. *Society of Wetland Scientists Annual Meeting. Corpus Christi, TX.*
31. Julian, P., & Wright, A. L. (2016). Can soil nutrient stoichiometry determine mercury hotspot formation in a subtropical peatland? An Everglades case study. *Society of Wetland Scientists Annual Meeting. Corpus Christi, TX.*
32. Osborne, T. Z., Simpson, L. T., Schafer, T. B., Camacho, M., Julian, P., Ward, N. D., & Laplaca, L. (2016). Alteration of hydrology by mangrove encroachment in saltmarsh ecosystems and potential impacts to ecosystem services. *Ecological Society of American. Fort Lauderdale, FL.*
33. Osborne, T. Z., Simpson, L. T., Schafer, T. B., Camacho, M., Julian, P., Ward, N. D., & Laplaca, L. (2016). Carbon biogeochemical processes along a Mangrove-Salt Marsh ecotone. *Mangrove & Macrobenthos Meeting 4. St Augustine, FL.*
34. Julian, P., Gu, B., Redfield, G., & Weaver. (2015). An Overview of Everglades Mercury Issues: Critical Questions Remain. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*

35. Gu, B., Julian, P., & Redfield, G. (2015). Spatial and Temporal Variation of Total Mercury in Mosquitofish from Everglades Marshes. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
36. Julian, P. (2014). Large-Scale Water Quality Improvement Projects: An Everglades Perspective. *SLER Con. Orlando, FL.*
37. Julian, P., Everham, E. M., Hartley, A. E., Main, M. B., & Burch, J. (2010). Reduction of Home Range Size by the Florida Panther Following Melaleuca Removal in Big Cypress National Preserve. *15th Annual Exotics Species Workshop for Southwest Florida..*
38. Julian, P., Bovard, B., Brooks, B., Cassani, M. K., Ceilley, D. W., Cruz-Alvarez, M., Demers, N. E., Everham, E. M., Hartley, A. E., Knight, T., Leisure, R., Burch, J., & Main, M. B. (2008). Melaleuca research at Florida Gulf Coast University. *13th Annual Exotics Species Workshop for Southwest Florida.. Fort Myers, FL.*
39. Julian, P., Atteberry, M., & Steinbach, P. (2005). The Quantitative Study of Mercury in Atchison Area Water Sources. *Benedictine College Discovery Day. Atchison, KS.*

Poster

1. Julian, P., Chambers, R., Kominoski, J., & Troxler, T. (2017). Pyrite in the Coastal Everglades, It's more than Fool's Gold. *Florida Coastal Everglades Long Term Ecological Research Annual Scientist Meeting. Miami, FL.*
2. Osborne, T. Z., Bhomia, R., Julian, P., & Reddy, K. R. (2017). Spatial Distribution of Soil Biogeochemical Properties in Stormwater Treatment Area 3/4 Cells 3A and 3B. *ASA, CSSA and SSSA International Annual Meetings. Tampa, FL.*
3. Julian, P., Kominoski, J. S., Gaiser, E. E., & Wymore, A. (2018). Is the Everglades Ecosystem a stoichiometric deviant? An investigation of ecological stoichiometry along the aquatic continuum of the Everglades ecosystem. *Florida Coastal Everglades Long Term Ecological Research Annual Scientist Meeting. Miami, FL.*
4. Julian, P., Fletcher, G., & Wright, A. L. (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.*
5. Schafer, T. B., Ward, N., Julian, P., Reddy, K. R., & Osborne, T. Z. (2018). Effects of Hurricane Irma on dissolved organic carbon fluxes along a salinity gradient. *12th International Symposium on Biogeochemistry of Wetlands. Coral Springs, FL.*
6. August, K., Julian, P., & Osborne, T. Z. (2018). Soil nutrient enrichment post hydrologic management: A temporal analysis of Taylor slough. *12th International Symposium on Biogeochemistry of Wetlands. Coral Springs, FL.*
7. Julian, P., Powers, M., Bhomia, R., Wright, A., & Dombrowski, J. (2017). Key Factors Controlling Wetland Aquatic Productivity in the Everglades Stormwater Treatment Areas. *Greater Everglades Ecosystem Restoration. Coral Springs, FL.*
8. Gu, B., Niemeyer, N., & Julian, P. (2016). Removal of mercury from surface water by constructed wetlnds in South Florida, USA. *7th SETAC World Congress/SETAC North America 37th. Orlando, FL.*
9. Julian, P., Redfield, G., & Wright, A. (2015). Total Phosphorus and Total Nitrogen trends in Upper Taylor Slough, Everglades National Park, Florida. *24th Annual Southwest Florida Water Resources Conference. Fort Myers, FL.*
10. Julian, P. (2014). Ecosystem Sampling Suitability: Do my monitoring locations represent the water body? *Rookery Bay GIS Symposium. Naples, FL.*

11. 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.*
12. Julian, P., Everham, E. M., Hartley, A. E., Main, M. B., & Burch, J. (2010). Plant community changes in Big Cypress National Preserve in Response to Melaleuca Removal. *15th Annual Exotics Species Workshop for Southwest Florida..*
13. Julian, P., & Naccarato, A. (2010). Latitudinal Photo Documentation of Mangrove response to a prolonged "freeze" event. *Florida Gulf Coast University Research Day. Fort Myers, FL.*
14. Julian, P., & Estevez, E. D. (2009). Historic Bathymetric Analysis of Tampa Bay. *5th Tampa Bay Area Scientific Information Symposium. St Petersburg, FL.* http://www.tbeptech.org/index.php?option=com_content&view=article&id=89:5th-tampa-bay-area-scientific-information-symposium-proceedings&catid=31:basis&Itemid=57
15. Julian, P., Waterman, S., & Claus, M. (2004). Determination of Metal Concentration in the Missouri River, Atchison, Kansas. *Benedictine College Discovery Day. Atchison, KS.*

Professional Service

Several technical and restoration planning projects including Appendix A Water Quality Subteam, Western Everglades Planning Project, Lake Okeechobee Watershed Planning Project, Combined Operations Plan, Lake Okeechobee System Operating Manual and Biscayune Bay Southeastern Everglades Ecosystem Project.

2020 - Present **From Poles to Tropics: A multi-biome synthesis investigating the controls on river Si exports.**
Long Term Ecological Research

2019 - 2021 **Statewide Ecosystem Assessment of Coastal and Aquatic Resources**
Florida Department of Environmental Protection

2016 - 2018 **Biogeochemistry Working Group**
Florida Coastal Everglades Long Term Ecological Research

2019 **Silicon Stoichiometry Working Group**
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2017 **All Scientist Meeting Program Committee**
Long Term Ecological Research

2017 **Student Organization, Off-Campus Representative**
Florida Coastal Everglades Long Term Ecological Research

2017 **Mercury and Sulfur Special Session co-organizer**
Greater Everglades Ecosystem Restoration Conference

2015 **Mercury and Sulfur Special Session co-organizer**
Greater Everglades Ecosystem Restoration Conference

Peer Review

- *Land, Water Research, Communications Earth & Environment, Wetlands, Journal of Agriculture, Ecotoxicology, Lake and Reservoir Management, Environmental Management, Ecological Engineering, Science of the Environment, Ecology and Evolution, Journal of Paleolimnology, Ecosystems, Marine Pollution, Environmental Science and Pollution Research, Lake and Reservoir Management, Annal of GIS*

Technical Review

- *South Florida Environmental Report (2011 - 2021), Florida State Clearinghouse, Everglades Technical Oversight Committee, Aquifer Storage and Recover Pilot Project Technical Data Review, Minnesota Sea Grant*

Science Communication

05/2019 **Co-organizer Society of Freshwater Science Twitter poster session**
https://biotweep.wordpress.com/2018/08/27/270818-pauljulian/

05/2018 **Biotweep Visiting Curator**
https://github.com/SwampThingPaul/SFSPosterUp