Nicole Strickland

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RESEARCH INTERESTS

I am a community ecologist specializing in spatial ecology. My research focuses on developing models to explore how anthropogenic influences and environmental gradients drive species distributions and community assembly across landscapes. Ultimately, my goal is to translate these scientific insights into practical tools and frameworks that inform policy, guide resource management, and advance sustainability and conservation efforts.

SKILLS

- Field work experience
- GIS (ArcGIS, QGIS)
- Large dataset analysis
- Photographing experience
- Photo-id analysis
- Spectrophotometer analysis
- Drone piloting experience
- Remote sensing
- Data visualization
- Otolith processing
- BRUV video analysis
- Programming language (R, Java, C++)
- Aquarium lab experiment
- Microsoft Office suite
- Statistical analysis software (JMP, mini-tab, PRIMER+, SASS, SPSS)
- Grant writing
- Writing & publishing experience
- Public relations coordinator (Social media creator & account manager)
- Community outreach coordinator
- Naval navigation (Quarterdeck qualification)
- Military operations
- Diplomatic liaison
- Mentoring & teaching experience
- Nutrient and biomass lab processing
- Project coordination experience
- Project management
- Creative Design (Inkscape, Adobe Photoshop, Gimp, Canva)

EDUCATION

Florida International University • PhD
Miami, FL, United States • 2017 to currently
Dissertation: Mapping the Marsh: Quantifying Spatial-Temporal Drivers on Aquatic Fauna in the Greater Everglades Ecosystem.

Florida International University • MS
Miami, FL, United States • 2022 • (Completed as part of PhD program)
Dissertation: Mapping the Marsh: Quantifying Spatial-Temporal Drivers on Aquatic Fauna in the Greater Everglades Ecosystem.

Central Michigan University • BS
Mount Pleasant, MI, United States • 2014 to 2017
Monograph: Investigating the Effects of Temperature Change on the Behavioral Characteristics of the Invasive Crayfish (*Orconectes rusticus*)

United States Coast Guard Academy • College Course Credits
New London, CT, United States • 2012 to 2014
Major: Marine Environmental Sciences

Marion Military Institute • Certificate of Scientific Studies
Marion, AL, United States • 2011 to 2012
Major: Military Science and College Prerequisites

RESEARCH EXPERIENCE

PhD Research Assistant • Aquatic Ecology Lab / Florida International University

Miami, FL, United States • 2018 to Current

- Graduate student assistant researcher for the Comprehensive Everglades Restoration Plan (CERP) under the Army Corps of Engineers
- Created vegetation maps to update sample site maps for the LTER CERP monitoring program
- Acquired and geoprocessed satellite imagery for the lab
- Created and maintained the lab's GIS file library
- Conducted geospatial analysis to evaluate sampling bias for the lab's monitoring and sampling practices
- Conducted field work in the Everglades wetlands to collect aquatic fauna for monitoring and assessment of federal restoration programs
- Performed structural equation modeling to assess trophic interactions of the Everglades ecosystem
- Developed field projects to measure habitat resistance for fish distribution
- Conducted species distribution modeling for aquatic fauna of the Everglades
- Mentored and trained lab technicians and undergraduate student volunteers in different techniques used in the laboratory
- Conduct statistical analyses, report and manuscript preparations, grant writing, and budgeting
- Managed and analyzed long-term data spanning 20+ years

Undergraduate Student Research • Tracy Galarowicz Lab / Central Michigan University

Mt. Pleasant, MI, United States • 2015 to 2017

- Baited Remote Underwater Video (BRUV) video processing
- Animal identification from underwater video files
- Conducted aquatic fauna field sampling
- Developed aquarium lab experiments to analyze the effects of temperature on the behavioral characteristics for Great Lakes invasive crayfish
- Conducted statistical analyses, manuscript preparations, grant writing, and budgeting

Research Assistant • Anna Monfils Lab / Central Michigan University

Mt. Pleasant, MI, United States • 2016

- Wetland vegetation sampling in prairie fen wetlands of Michigan
- Field identification and surveying for invasive plant species
- Field sample lab processing
- Drone piloting and assistance
- Spectrophotometer analysis

PROFFESIONAL EXPERIENCE

Geospatial Analyst • Florida International University

Miami, FL, United States • 2017- Present

- Developed sampling design and protocol for Broward Water Conservation Area Assessment Project
- Designed illustrative maps for graduate and undergraduate posters and presentations
- Conducted analysis for the species distribution of the invasive swamp eel (*Monopterus albus*)
- Provided support on research and monitoring projects for data visualization
- Designed presentations for manager and stakeholder meetings

DC Policy University Representative • Florida International University
Miami, FL, United States • August 2025 - Currently

- Facilitated training workshops and advocacy events focused on science policy, federal funding processes, and strategic research communication.
- Coordinated directly with FIU's Washington, DC office to support outreach to policymakers and congressional staff, strengthening institutional relationships at the federal level.
- Supported campus visits and guided tours for policymakers, agency representatives, and distinguished guests, showcasing FIU's research infrastructure, interdisciplinary programs, and strategic campus initiatives.

Psychology Department Office Student Assistant Manager • Central Michigan University
Mt. Pleasant, MI, United States • 2014- 2017

- Delegated daily office tasks for work study interns
- Assisted with creating a monthly work schedule and updated the work calendar
- Processed copy and printing requests from faculty and staff
- Assisted with interviews for office applicants
- Scheduled meetings between faculty and students
- Designed and helped with setup for department public relations events
- Assisted with file maintenance and inputting department data

Active Duty Military • United States Coast Guard
New London, CT, United States • 2011-2014

- Seaman Apprentice in the U.S. Coast Guard
- Assigned as squad leader to help lead platoon in drill operations and conduct inspections
- Assigned as a cadre to help train incoming recruits
- Developed volunteer opportunities for cadets to serve in the community
- Assisted in the creation of morale events throughout the year
- Conducted boat inspections within Hudson Harbor for the Staten Island USCG station
- Partook in boating operations around the New England coast
- Assisted in boating operations and ambassador events within the Caribbeans
- Assisted in diplomatic meetings as an assistant to the company commander
- Curated and led training workshops for cadets
- Developed and assisted in editing regulations and memorandums for various military operations

PUBLICATIONS

Pintar MR, **Strickland ND**, Kline JL, Cook MI, Dorn NJ (2024) Asian swamp eels (Synbranchidae, Monopterus) in Florida: distribution, spread, and range of hydrologic tolerance over twenty-seven years (1997–2023). *Aquatic Invasions* 19(2): 233-258. https://doi.org/10.3391/ai.2024.19.2.124660

PUBLICATIONS IN PROGRESS

Srickland ND, Gann D, Trexler JC. Effects of Spatial Sampling Bias on Aquatic Animal Estimations in Wetland Habitats. *Ecological Indicator*. Status: to be submitted

Srickland ND, Gaiser E, Trexler JC. Analysis of Spatial and Temporal Patterns of Trophic Interactions within the Florida Everglades. *Ecosphere*. Status: to be submitted

Strickland ND and Trexler JC. Maze in the Marsh: How Habitat Structure Directs Fish Movement and Distribution. *Landscape Ecology*. Status to be submitted

GRANTS, SCHOLARSHIPS, AND AWARDS

Provost Dissertation Tuition Fellowship
2025 • Amount: $10,000
Fellowship to support PhD students working on their last year of their dissertation

NSF Center of Research Excellence in Science and Technology (CREST) - Center for Aquatic Chemistry and Environment (CAChE) Travel Funds
2023 • Amount: $1,250
Partial Scholarship to participate in the Ecological Society of America 2023 Annual Conference Meeting in Portland, OR, United States

Student Government Association Travel Award
2023 • Amount: $300
Partial scholarship to participate in the Ecological Society of America 2023 Annual Conference Meeting in Portland, OR, United States

Biology Department/ College of Arts, Sciences & Education (CASE) Travel Award
2023 • Amount: $300
Partial scholarship to participate in the Ecological Society of America 2023 Annual Conference Meeting in Portland, OR, United States

Ecological Society of America Student Group
2023 • Amount: $500
Partial scholarship to participate in the Ecological Society of America 2023 Annual Conference Meeting in Portland, OR, United States

South Florida – Caribbean Cooperative Ecosystem Studies Unit (SFC CESU) Award
2023 • Amount: $395
Sponsorship to participate in the Ecological Society of America 2023 Annual Conference Meeting in Coral Springs, FL, United States

Florida Education Fund McKnight Travel Award
2023 • Amount: $150
Financial assistance to participate in the 2023 McKnight Annual Conference Meeting in Tampa, FL, United States

Florida Education Fund McKnight Doctoral Fellowship
2022 • Amount: $24,500
Competitive fellowship to support students who are pursuing their PhD

UGS Doctoral Research Grant Assistance
2022 • Amount: $10,500
Grant to financially assist students who are pursuing their PhD

Student Government Association Travel Award
2019 • Amount: $300
Partial scholarship to participate in the Ecological Society of America 2019 Annual Conference Meeting in Louisville, KY, United States

Biology Department/ College of Arts, Sciences & Education (CASE) Travel Award
2019 • Amount: $300
Partial scholarship to participate in the Ecological Society of America 2019 Annual Conference Meeting in Louisville, KY, United States

Ecological Society of America Presenter Award
2019 • Amount: $300
Partial scholarship to participate in the Ecological Society of America 2019 Annual Conference Meeting in Louisville, KY, United States

Central Michigan University Biological Sciences Research Grant
2017 • Amount: $10,000
Scholarship provided by Central Michigan University to support undergraduates pursuing research

Central Michigan Biology Research Assistanceship Award
2016 • Amount: $6,500
Scholarship to fund students who will assist in research projects for the semester

INVITED SPEAKING ENGAGEMENTS

Strickland ND. 2024. Applications of Remote Sensing and Geographic Information Sciences (GIS) in Research. Student Geographic Information Science (GIS) Association. Florida State University, Tallahassee, FL, United States.

Strickland ND. 2023. Using Spatially Balanced Vegetation Mapping to Improve Aquatic Animal Abundance Estimates. Greater Everglades Ecosystem Restoration (GEER) conference. Coral Springs, FL.

Strickland ND. 2022. Using Spatially Balanced Vegetation Mapping to Improve Aquatic Animal Abundance Estimates. Florida Coastal Everglades Longterm Ecosystem Research (FCE LTER) Midterm Review Meeting. Miami, FL.

Strickland ND. 2022. Careers in Science: Experiences of a Biology Research Scientist Graduate Student. Broward Public School Joint Assembly, Parkland, FL.

Strickland ND. 2022. Everglades Restoration and the Use of Geographic Information Systems (GIS) To Help It. Community Connection Seminar Series, Miami, FL.

Strickland ND. 2021. Amazon Prime Video, The College Tour Television Show.

CONTRIBUTED PRESENTATIONS

Strickland ND, Gann D, Trexler JC. 2023. Using Spatially Balanced Vegetation Mapping to Improve Aquatic Animal Abundance Estimates. Center for Aquatic Chemistry and Environment (CREST) Annual Meeting. Miami, FL. **Poster.**

Strickland ND, Gann D, Trexler JC. 2023. Using Spatially Balanced Vegetation Mapping to Improve Aquatic Animal Abundance Estimates. McKnight Fellowship Annual Conference. **Talk.**

Strickland ND, Gann D, Gaiser E, Trexler JC. 2021. Vegetation Mapping to Improve Aquatic Animal Biomass Estimates. Ecological Society of America Annual Meeting **Talk.**

Strickland ND, Gann D, Gaiser E, Trexler JC. 2021. Vegetation Mapping to Improve Aquatic Animal Biomass Estimates. Greater Everglades Ecosystem Restoration (GEER) Conference. Virtual Meeting. **Talk.**

Strickland ND, Gann D, Gaiser E, Trexler JC. 2021.Using Spatially Balanced Vegetation Mapping to Improve Aquatic Animal Biomass Estimates. Florida International University Biosymposium Seminar. Virtual Meeting. **Talk.**

Strickland ND, Gann D, Trexler JC. 2019. Wetland Vegetation Maps for Scaling Biomass from Meter Scale to the Landscape Scale. Ecological Society of America Annual Meeting. Louisville, KY, United States. **Poster.**

TEACHING EXPERIENCE

Educational Outreach • Various Locations

Seminars and Outdoor Events • BSC2010L • 08/2018 to current

- Planning and performing outdoor field activities for primary and high school students
- Creating presentations for students in classrooms and creating engaging activities to teach different aspects of conservation biology
- Hosting campus tours showing students research labs and experiment rooms
- Creating several social media accounts to showcase research and engage with a larger audience

Graduate Teaching Assistant (GTA) • Florida International University

General Biology II Lab • BSC2011L • 01/2022 to 04/2022 and 08/2024 to 07/2025

- Assisted faculty with supervising lab coursework and experiments
- Monitored and advised two classes of 20-25 students each
- Mentored students in creating research field projects that were presented at end of the year
- Graded assignments, exams, and final projects of the students

Graduate Teaching Assistant (GTA) • Florida International University

Ecology Lab • BSC2010L • 08/2023 to 04/2024

- Instructed and advised two classes of 20-25 students each, acting as the instructor of the class
- Taught an Introduction to Spatial Analysis using GIS workshop, including hands-on demonstrations of spatial data applications
- Instructed personnel in field research skills, including operation of scientific equipment and application of sampling protocols in wetland ecosystems
- Graded assignments, exams, and final projects of the students

Graduate Teaching Assistant (GTA) • Florida International University

General Biology I Lab • BSC2010L • 08/2017 to 04/2018 and 08/2021 to 12/2022

- Assisted in developing interactive learning activities to reinforce STEM concepts for high schoolers and college students
- Assisted with the modification of the lesson plans to help with the transition of students returning to in-person classes after the COVID-19 hiatus
- Graded assignments, exams, and final projects of the students

SELECTED ONLINE MEDIA

Amazon Prime. The College Tour: Real Resiliency Starts Here
Video segment showcasing my research at Florida International University for the show The College Tour. Debut October 2021. https://youtu.be/VSlmWW5w2kU?si=uVcyrNdv-aE21Qzs

FCE LTER PROGRAM REVIEW MEETING
Self-created video content for the Florida Coastal Everglades Long-Term Ecological Research (FCE LTER) stakeholder review meeting to showcase my research at Florida International University. https://youtu.be/b9ozMddDPLk?si=Tsc3JrFJwQdqY2Yf

PROFESSIONAL AFFILIATIONS

- American Society for Photogrammetry and Remote Sensing (ASPRS) • 2021 to Current
- Ecological Society of America • 2019 to Current
- Sigma Xi • 2019 to 2020
- Tri Beta Biological Honor Society • 2015- 2017

CERTIFICATES

- A100 – Basic Aviation Safety
- A116 – General Awareness Security Training
- A110 – Aviation Transportation of Hazardous Materials
- EPA – Hazardous Waste Removal and Environmental Pollution Prevention
- A200 – Mishap Review
- A312 – Water Ditching and Survival
- First Aid (CPR / AED)