

# CAITLIN C. MOTHES, PH.D.

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## PROFESSIONAL APPOINTMENTS

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2021 (July) – Present      **Research and Program Coordinator (Research Associate III)**  
Geospatial Centroid, Colorado State University

2021 (May – August)      **Postdoctoral Associate**  
University of Miami

## EDUCATION

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2016-2021      **Ph.D. Conservation Ecology**  
University of Miami

2016-2018      **Graduate Certificate in Geospatial Technology**  
University of Miami

2012-2016      **B.S. Zoology**  
**B.S. Fisheries, Wildlife and Conservation Biology**  
North Carolina State University, *Summa Cum Laude*

## Professional Development Courses

2019      Managing Ecological Data in R, Smithsonian-Mason School of Conservation

2018      Software Carpentry Python Workshop, University of Miami

2017      Conservation Genomics Workshop, UCLA La Kretz Center for California Conservation Science

## TECHNICAL SKILLS

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**Programming:**      R (*Advanced*), CSS, Git, HTML, Markdown, Matlab, Python

**Software:**      ArcGIS (*Advanced*), IDRISI, JMP

## PUBLICATIONS († = Joint First Author, \* = Undergraduate Mentee)

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2021      **Caitlin C. Mothes**, Leyna R. Stemle, Theresa N. Fonseca\*, Stephanie L. Clements, Hunter J. Howell, Christopher A. Searcy. Protect or perish: quantitative analysis of state-level protection supports preservation of the Endangered Species Act. ***Conservation Letters***, e12761.

2021      Stephanie L. Clements, Emily A. Powell, **Caitlin C. Mothes**, Christopher A. Searcy. Assessing the conservation risk of *Sphaerodactylus notatus*, the U.S. herpetofaunal species most vulnerable to sea level rise. ***Biodiversity and Conservation***. <https://doi.org/10.1007/s10531-020-02080-9>.

- 2020 **Caitlin C. Mothes**, Hunter J. Howell, Christopher A. Searcy. Habitat suitability models for the imperiled Wood Turtle (*Glyptemys insculpta*) raise concerns for the species' persistence under future climate change. *Global Ecology and Conservation*, 24: e01247.
- 2020 James T. Stroud†, **Caitlin C. Mothes**†, Winter Beckles, Robert J. P. Heathcote, Colin M. Donihue, Jonathan B. Losos. Community-wide convergence in cold tolerance following an extreme cold selection event. *Biology Letters*, 16: 20200625.  
<https://doi.org/10.1098/rsbl.2020.0625>. † indicates co-first authors
- 2020 **Caitlin C. Mothes**. *Anolis cristatellus* (Puerto Rican crested anole) and *Hemidactylus mabouia* (Tropical house gecko). Diet and Predation. *Herpetological Review*, 51(2): 325.
- 2019 **Caitlin C. Mothes**, Stephanie L. Clements, Dishane K. Hewavithana, Hunter J. Howell, Aaron S. David, Nicole D. Leventhal\*, Christopher A. Searcy. Use of standardized methods to improve extinction-risk classification. *Conservation Biology*, 34(3): 754-761.
- 2019 Hunter J. Howell, **Caitlin C. Mothes**, Stephanie L. Clements, Shantel V. Catania, Betsie B. Rothermel, Christopher A. Searcy. (2019). Amphibian responses to livestock use of wetlands: new empirical data and a global review. *Ecological Applications*, 29(8): e01976.
- 2019 **Caitlin C. Mothes**, James T. Stroud, Stephanie L. Clements, Christopher A. Searcy. Evaluating ecological niche model accuracy in predicting biotic invasions using South Florida's exotic lizard community. *Journal of Biogeography*, 46(2): 432-441.
- 2019 **Caitlin C. Mothes**, James T. Stroud, Stephanie L. Clements, Christopher A. Searcy. Predicting the invasion dynamics of anoles (and other lizards) using ecological niche modeling. *Anolis Newsletter VII*, p. 194-205. Eds. Stroud, J.T., Geneva, A.J., Losos, J.B. Washington University, St. Louis MO

#### ORAL PRESENTATIONS (\* = Invited Presentation)

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- 2020 *Quantitative review of U.S. state imperiled species acts: assessing state-level coverage of the IUCN Red List and the Endangered Species Act.* UM Biology Graduate Student Symposium, Coral Gables, FL  
**\*\*Awarded Best Talk**
- 2019 *Using iNaturalist in the Classroom: results from the University of Miami Ecology Lab.* UM Biology Department Seminar
- 2019 *Amphibian responses to livestock use of wetlands: new empirical data and a global review.* Florida Herpetology Conference, Gainesville, FL
- 2018 *Investigating the impacts of cattle on amphibian communities.* UM Biology Department Seminar

- 2018 *Evaluating Maxent's ability to accurately predict biotic invasions using South Florida's exotic lizard community.* Florida Herpetology Conference, Gainesville, FL
- 2018 *Using South Florida's exotic lizard community to evaluate the use of ecological niche models in predicting biotic invasions.* Anolis Symposium\*, Coral Gables, FL
- 2018 *Evaluating invasion predictions using South Florida's exotic lizard community.* UM Biology Graduate Student Symposium, Coral Gables, FL
- 2017 *Evaluating Invasion Predictions with Physiological Data.* UM Biology Department Seminar

#### **Invited Lectures and Workshops**

- 2019 *Talks: The Do's and Don'ts for giving a great presentation*, BIL 675 – First Year Graduate Student Professional Skills Course, University of Miami
- 2018 *Climates and Ecological Niche Model Applications*, BIL 330 – Ecology, University of Miami
- 2018 *Applying Ecological Niche Models to Invasive Species Management*, Biological Invasions and Modern Applications Workshop, Southeastern Ecology and Evolution Conference, Miami, FL
- 2018 *Biogeochemical Cycles*, BIL 330 - Ecology, University of Miami

#### **POSTER PRESENTATIONS**

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- 2019 *California's imperiled herpetofauna illustrate the importance of standardized methods for classifying extinction risk.* Florida Herpetology Conference, Gainesville, FL
- 2019 *The importance of standardized methods for classifying extinction risk in imperiled species: a case study of California's threatened herpetofauna.* UM Biology Graduate Student Symposium, Coral Gables, FL
- 2018 *Historic and future impacts of urbanization and climate change on suitable habitat for the imperiled Wood Turtle, *Glyptemys insculpta*.* Southeastern Ecology and Evolution Conference, Miami, FL  
**\*\*Awarded Honorable Mention**
- 2017 *Climate Change Impacts on Reptile and Amphibian Distributions.* GIS Day, Miami, FL  
**\*\*Awarded Best Poster**
- 2017 *Evaluating Invasion Predictions with Florida's Exotic Lizard Community.* International Urban Wildlife Conference, San Diego, CA
- 2017 *Validation of Ecological Niche Models.* UM Biology Graduate Student Symposium,

## FELLOWSHIPS, GRANTS, AND AWARDS

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2021	Best Graduate Student Paper, University of Miami Department of Biology
2020	Best Talk, Biology Graduate Student Symposium, University of Miami; \$100
2020	Best Graduate Student Paper, University of Miami Department of Biology
2019	Outstanding Teaching Assistant, University of Miami Department of Biology
2018-19	Kushlan Fund; \$1900
2018	Honorable Mention Poster Award, Southeastern Ecology and Evolution Conference
2016-18	Holmes Fellowship; \$10,000
2017	First Place Poster Award, GIS Day, University of Miami; \$300
2017	GAFAC Travel Award; \$375
2017	Kriloff Travel Fund; \$250

## LEADERSHIP POSITIONS

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2019-20	Executive Board Member, UM Biology Graduate Student Organization
2018	Faculty Search Committee (Graduate Representative), UM Department of Biology
2018	Graduate Activity Fee Allocations Committee, UM College of Arts and Sciences Representative
2017-18	Organization Committee Member, Southeastern Ecology and Evolution Conference
2017-18	Graduate Academic Admissions Committee (Graduate Representative), UM Department of Biology

## TEACHING POSITIONS

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Spring 2017-21	BIL 331-Ecology Lab, <i>Lead TA since Fall 2018</i> , University of Miami <b><u>**Awarded 2019 Outstanding Teaching Assistant</u></b> by the Department of Biology
Spring 2020	BIL 163-HHMI Integrated Biology and Chemistry Lab, University of Miami
Fall 2016	BIL 151-General Biological Laboratory, University of Miami

## RESEARCH POSITIONS

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2017	<b>Research Assistant</b> , Impacts of livestock on amphibian communities. <i>MacArthur Agro-ecology Research Center</i> , Lake Placid, FL, <u>PI: Dr. Chris Searcy</u>
2016	<b>Research Assistant</b> , Dispersal patterns of pond-breeding amphibians. <i>Koffler Scientific Reserve</i> , Toronto, ON, <u>PI: Dr. Christopher Searcy</u>
2015-16	<b>Undergraduate Independent Research</b> , Comparative genomics of southern flounder populations.

- 2014-16 *North Carolina State University, Raleigh, NC, PI: Dr. Martha Burford Reiskind*  
**Research Assistant**, Various mammal tracking projects.  
*North Carolina Museum of Natural Sciences, Raleigh, NC, PI: Dr. Roland Kays*  
 2014 **Research Internship**, Captive Japanese Macaque behavioral research.  
*Minnesota Zoo, Apple Valley, MN*

#### **REVIEWER FOR:**

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Biological Invasions  
 Diversity and Distributions  
 Ecology and Evolution  
 Hydrobiologica

#### **OUTREACH AND MENTORSHIP**

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- 2019-20 Undergraduate Research Assistant- Theresa Fonseca (University of Chicago)  
 2017-19 BioReach Youth Education Program, University of Miami, Miami, FL  
 2018 BioBlitz Reptile and Amphibian Educator, Deering Estate, Miami, FL  
 2017-18 BioBlitz Reptile and Amphibian Educator, Vizcaya Museum and Gardens,  
 Miami, FL  
 2017 Graduate Student Peer Mentorship Program  
 2017 Undergraduate Research Assistant-Giacomo Delgado (University of Miami)  
 2016-17 Undergraduate Research Assistant-Jessica Cothorn (University of Miami)