HANNAH V. HERRERO

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RESEARCH INTERESTS

My research interests are based on the study of human-environment interactions within the fields of Remote Sensing, Land Change Science, and Conservation. All of my research is undertaken with highly interdisciplinary research teams, which involve both physical and social scientists. Within such interdisciplinary teams, my particular strengths lie in the remote sensing of vegetation dynamics, land use and land cover change, and protected area management - including both parks and people. Specifically, my work focuses on novel classification/algorithm applications. My work currently focuses on southern African savannas and seagrass meadows in Florida, but my interests are global.

EDUCATION

PhD	2019	University of Florida	Geography with Digital Geography and GIS
MS	2015	University of Florida	Geography
BA	2013	University of Florida	Geography with Environmental Geosciences

ACADEMIC APPOINTMENTS

August 2019-Present	Assistant Professor, Department of Geography & Sustainability, University of Tennessee, Knoxville
August 2019-Present	Courtesy Faculty, Department of Geography, University of Florida
December 2021-December 2022	Inaugural United Nations Global Sustainable Development Faculty Fellow through the Center for Global Engagement at the University of Tennessee

PUBLICATIONS

Peer Reviewed Articles

2023	Yang, Di, Chiung-Shiuan Fu, **Hannah Victoria Herrero**, Jane Southworth, and Michael Binford. (2023). "Linking forest management to surrounding lands: a citizen-based approach towards the regional understanding of land-use transitions." *Frontiers in Remote Sensing*. Special Issue: Women in Remote Sensing. DOI: 10.3389/frsen.2023.1197523

2023	**Herrero, Hannah V.**, Southworth, Jane, Khatami, Reza, and Muir, Carly. (2022). Examining the relationship between vegetation decline and precipitation in the National Parks of the Greater Limpopo Transfrontier Conservation Area in the 21st Century. *Frontiers in Environmental Science.* Special Issue: Conservation Grassland Agriculture and Ecology Research with Multisource Remote Sensing. doi: 10.3389/fenvs.2023.1106849
2023	Jane Southworth, Sadie Jane Ryan, **Hannah Victoria Herrero**, Reza Khatami, Erin L Bunting, Mehedy Hassan, Carly S Muir and Peter Waylen. (2023). Latitudes and Land Use: Global Biome Shifts in Vegetation Persistence Across Three Decades. *Frontiers in Remote Sensing.* Special Issue: Women in Remote Sensing. https://doi.org/10.3389/frsen.2023.1063188
2022	*Gene Bailey, Yingkui Li , Nathan McKinney, Daniel Yoder, Wesley Wright, **Hannah Herrero**. (2022). Comparison of Ground Point Filtering Algorithms for High Density Point Clouds Collected by Terrestrial LiDAR. *Remote Sensing,* 14(19), 4776. Section: Environmental Remote Sensing. https://doi.org/10.3390/rs14194776
2022	*Rivarola, M. D., Dein, J., Simberloff, D., & **Herrero, H. V.** (2022). Assessing Protected Area Zoning Effectiveness With Remote Sensing Data: The Case of Nahuel Huapi National Park, Argentina. *Frontiers in Remote Sensing*, 52. Special Issue: Women in Remote Sensing, 2022. https://doi.org/10.3389/frsen.2022.901463
2021	Muir, Carly, Southworth, Jane, Khatami, Reza, **Herrero, Hannah**, and Akyapi, Berkay. (2021). Vegetation Dynamics and Climatological Drivers in Ethiopia at the Turn of the Century. *Remote Sensing*, 13(16), 3267. Special Issue: Remote Sensing Applications for Earth Observations and Global Change Detection. https://doi.org/10.3390/rs13163267
2020	**Herrero, Hannah Victoria** and Southworth, Jane. Special Issue on Dynamics of the Global Savanna and Grasslands Biomes. (2020). *Applied Sciences.* 10(22), 8043. Editorial. Special Issue: Special Issue: Dynamics of the Global Savanna and Grasslands Biomes. https://doi.org/10.3390/app10228043
2020	*Blentlinger, Luke, and **Herrero, Hannah V.** (2020). A tale of grass and trees: Characterizing Vegetation Change in Payne's Creek National Park, Belize from 1975 to 2019. *Applied Sciences, 10(12), 4356.* Special Issue: Dynamics of the Global Savanna and Grasslands Biomes. Featured Paper. https://doi.org/10.3390/app10124356
2020	*Burow, Daniel, **Herrero, Hannah,** and Ellis, Kelsey. (2020). Damage analysis of three long-track tornadoes using high-resolution satellite imagery. *Atmosphere, 11*(6), 613. https://doi.org/10.3390/atmos11060613
2020	**Herrero, H. V.,** Southworth, J., Muir, C., Khatami, R., Bunting, E., and Child, B. (2020). An evaluation of vegetation persistence in and around southern African national parks during the 21st century. *Applied Sciences, 10*(7), 2366. Special Issue:

Dynamics of the Global Savanna and Grasslands Biomes.
https://doi.org/10.3390/app10072366

2020   **Herrero, H.,** Waylen, P., Southworth, J., Khatami, R., Yang, D., & Child, B. (2020). A Healthy Park Needs Healthy Vegetation: The Story of Gorongosa National Park in the 21st Century. *Remote Sensing*, *12*(3), 476. Special Issue: Remote Sensing of Savannas and Woodlands. https://doi.org/10.3390/rs12030476

2019   **Herrero, H. V.**, Southworth, J., Bunting, E., Kohlhaas, R., and Child, B. (2019). Integrating Surface-Based Temperature and Vegetation Abundance Estimates into Land Cover Classifications for Conservation Efforts in Savanna Landscapes. *Sensors, 19*(16), 3456. https://doi.org/10.3390/s19163456

2019   Yang, D., Yang, A., Qiu, H., Zhou, Y., **Herrero, H.**, Fu, C. S., ... & Tang, J. (2019). A Citizen-Contributed GIS Approach for Evaluating the Impacts of Land Use on Hurricane-Harvey-Induced Flooding in Houston Area. *Land*, *8*(2), 25. Special Issue: Yes: Geospatial Social Data and Participatory Mapping for Landscape Change and Socio-Environmental Systems. https://doi.org/10.3390/land8020025

2018   Southworth J., Bunting, E., Zhu, L., Ryan, S., **Herrero, H.V.,** Waylen, P., Munoz-Carpena, R., Campo-Bescos, M, and Kaplan, D. (2018). Using a Coupled Dynamic Factor-Random Forest Analysis (DFRFA) to Reveal Drivers of Spatiotemporal Heterogeneity in the Semi-Arid Regions of Southern Africa. *PloS one 13.12 (2018): e0208400.* https://doi.org/10.1371/journal.pone.0208400

2018   Bunting, E., Southworth, J., **Herrero, H. V.**, Ryan, S. J., Waylen, P. (2018). Understanding long-term savanna vegetation persistence across three drainage basins in southern Africa. *Remote Sensing,* 10(7), 1013. https://doi.org/10.3390/rs10071013

2017   **Herrero, H. V.**, Southworth, J., Bunting, E., & Child, B. (2017). Using Repeat Photography to Observe Vegetation Change Over Time in Gorongosa National Park. *African Studies Quarterly*, 17(2): 65-82. http://asq.africa.ufl.edu/files/Herrero.HD-ed_a4.pdf

2016   **Herrero, H. V.**, Southworth, J., & Bunting, E. (2016). Utilizing Multiple Lines of Evidence to Determine Landscape Degradation within Protected Area Landscapes: A Case Study of Chobe National Park, Botswana from 1982 to 2011. *Remote Sensing,* 8(8): 623. Special Issue: Remote Sensing of Land Degradation and Drivers of Change. https://doi.org/10.3390/rs8080623

2015   Southworth, J., Zhu, L., Bunting, E., Ryan, S. J., **Herrero, H.**, Waylen, P. R., & Hill, M. J. (2015). Changes in vegetation persistence across global savanna landscapes, 1982–2010. Journal of Land Use Science, 11(1): 7-32. https://doi.org/10.1080/1747423X.2015.1071439

* = Student led

Non-Peer Reviewed Articles

2023	**The National Geographic Society Magazine.** (January 2023). My research team is included in the feature story "We rallied to save manatees once. Can we do it again?" by Gena Steffens, Jason Gulley, and Erika Larsen.
2022	Millie, Kerr. (2022). Wilder: How Rewilding is Transforming Conservation and Changing the World. Comments by Dr. Jane Goodall. "Chapter One: A Park for the People". *Bloomsbury Publishing*. ISBN: 9781472990402, 1472990404.
2022	**Herrero, Hannah V.** & McGowan, Jamie. (2022.) Engaging the UN Sustainable Development Goals in Higher Education. *The IEEE Networker Magazine*. Special Issue: UN Sustainable Development Goals.

Book Chapters

2016	Jane Southworth, Harini Nagendra, Sadie J. Ryan, Erin Bunting, Cerian Gibbes, **Hannah Herrero**, and Arun Agarwal. (2016). Protected Areas, Climate Change and Ecosystem Sustainability. INVITED (Southworth) Book Chapter Contribution for: Book #9 in "Remote Sensing Applications for Societal Benefits". Editor: Dr. Stephen Walsh, as part of the series on *Comprehensive Remote Sensing: Reference Module in Earth Systems and Environmental Sciences* edited by Shunlin Liang at the University of Maryland and published by Elsevier. https://doi.org/10.1016/B978-0-12-409548-9.10432-4

PRE-DOCTORAL ACADEMIC ENGAGEMENTS

May 2017 – Aug. 2019	PhD: Graduate Student Fellow, Researcher, Department of Geography, The Graduate School, University of Florida

- This research is supervised by Jane Southworth, Ph.D., Brian Child, Ph.D., Peter Waylen, Ph.D. and Greg Kiker, Ph.D.
- This research is the intersection of remote sensing, long-term vegetation monitoring, vegetation-herbivore interactions, climate, socio-economics, and management of savanna protected areas in southern Africa
  - The ultimate goal is to have meaningful research theoretically that is also useful to park managers
- Multiple field seasons have been conducted in South Africa, Zambia, Botswana, and Mozambique (2011-2018)
- Special emphasis is put on machine-learning algorithms and geospatial statistics, for implementation in advanced classification techniques and land cover change trajectories in protected area landscapes
- Other statistical metrics are also used for evaluating long-term vegetation health in and around protected areas

May – June 2018	Study Abroad Developer/Instructor: UF in South Africa, People, Parks, and Conservation in Africa, Department of Geography, International Center, University of Florida
May 2015 – May 2017	PhD: Graduate Student Fellow, Instructor, Department of Geography, The Graduate School, University of Florida • Geography of Africa, Spring 2016, 2017 • Remote Sensing Lab, Fall 2015, 2016 • Physical Geography, Summer 2015
Dec. 2015 – Aug. 2016	Project Manager: Logistics and Researcher, Zambia, United Nations Development Program • $150,000 grant received by Brian Child, Ph.D., University of Florida/University of Stellenbosch • Responsible for all logistical coordination for the implementation of the United Nations grant • Collected vegetation training samples • Supported a field team of 22 people in and around South Luangwa National Park that conducted socio-economic surveys
May – Aug. 2014, 2015, 2016	Science Content Expert in the Teacher Transformation Series: Instructor and Researcher, College of Education, University of Florida, National Science Foundation • NSF Grant received by Leela Kumaran, Ph.D. and Rose Pringle, Ph.D., University of Florida, College of Education • Responsible for providing geographic content to middle school science teachers for their curriculums in North Florida • Assisted in leading science education workshops for teachers
Aug. 2013 – May 2015	Master's Degree: Instructor and Researcher, Department of Geography, University of Florida • Instructor: Geography of Africa, Fall 2013, 2014 and Spring 2014, 2015 • Research: supervised by Jane Southworth, Ph.D., Brian Child, Ph.D., and Michael Binford, Ph.D. • A biological investigation in Chobe National Park, Botswana examining land cover change and vegetation degradation, including drivers, over time using remote sensing and GIS for geospatial quantitative analysis • A separate project was a biological investigation in Ordway-Swisher Biological Station, Melrose, FL as a part of a NSF-funded macrosystems biology project using remote sensing and GIS to examine land-use legacies, specifically the involvement of natural resources and the consequences of that on biodiversity today
Aug. 2010 – May 2013	Undergraduate Researcher: Geomorphology Lab, Department of Geography, University of Florida • The Geomorphology Lab at UF is managed by Joann Mossa, Ph.D. • Processed soil by running tests such as sediment size analysis and loss on ignition, as well as preforming data analysis in Microsoft Excel for the Kissimmee River Restoration Project

	• Mapped and analyzed river features using GIS
Aug. –	Intern: Discovery Room, Education Programs, Florida Museum of Natural History,
Dec. 2012	University of Florida

- Mapped and analyzed river features using GIS

Aug. – Dec. 2012

Intern: Discovery Room, Education Programs, Florida Museum of Natural History, University of Florida
- Developed and supervised the interactive Discovery Room through education programs for non-scientific audiences
- Developed an exhibit on evolutionary biogeography using the genetics of Bellflowers in the Mediterranean for non-scientific audiences

May – Aug. 2012

Researcher: Department of Science, Gorongosa National Park, Moz.
- This research was supervised by Marc Stalmans, Ph.D., Brian Child, Ph.D., and Michael Binford, Ph.D.
- Independent fieldwork for my undergraduate honors thesis in biogeography: a repeat photography project evaluating vegetation change over time through replicating fixed point photography from historic photographs
- Managed a cost estimate plan and obtained an independent grant to carry out this field study (Carr Foundation 2012) to understand vegetation change over time in this park

Jan. – May 2012

Intern: Department of Education, The National Geographic Society
- This work was supervised by Elizabeth Wolzak, M.S.
- Wrote educational content for their website in the education department for non-scientific audiences
    - Project areas included the Turkana Basin in Kenya, the Mayan Civilization in Mexico, and the Mustang region of Nepal
- Attended lectures and took minutes for our department on various topics across the sciences and humanities
- Completed photo research to be used on their website
  Assisted with "National Geographic Live!" events

May – June 2011

Study Abroad: Costa Rica, Geomorphology, University of Georgia
- This study was lead by David Leigh, Ph.D.
  Field studies courses through the University of Georgia in physical geography and geomorphology

AWARDS & HONORS

2022	Faculty Environmental Leadership Award, Office of Sustainability, University of Tennessee
2019	Remote Sensing Specialty Group of the American Association of Geographers Student Honors Paper Competition Finalist
2018	Top Published Student Research Article in "Earth System Science" (Herrero et al., 2017), $500, Department of Geography, University of Florida

2018	Little Family Student Fellowship Award, $1500, Department of Geography, University of Florida
2018	John and Fawn Dunkle Award for Graduate Student Travel, $1000, Department of Geography, University of Florida
2018	Best Graduate Student Paper Presentation, $150, Florida Society of Geographers Annual Meeting
2017	The Ryan Poehling Fellowship, $1500, Department of Geography, University of Florida (Ph.D.)
2017	University Women's Club Graduate Scholarship, $1000, University of Florida
2015	Best Graduate Student Paper Presentation, $150, Florida Society of Geographers Annual Meeting
2014	The Ryan Poehling Fellowship, $1500, Department of Geography, University of Florida (Master's)
2013	The John Dunkle Award, $1,000, Department of Geography, University of Florida
2013	Anderson Scholar-Highest Distinction, University of Florida
2010 - 2013	Dean's List, University of Florida
2012	Phi Kappa Phi Honor Society
2012	Gamma Theta Upsilon Honor Society
2012	Golden Key International Honor Society
2012	Delta Epsilon Iota Academic Honor Society

PROFESSIONAL DEVELOPMENT

2020-Present	National Aeronautics & Space Administration (NASA) Land Cover Land Use Change (LCLUC) Webinar Series (Topics Variable)
2023	Member of an invited UT delegation to Rwanda and Kenya to sign MoUs and develop research relationships with universities, NGOs, and other entities.
2023	National Science Foundation (NSF) National Ecological Observatory Network (NEON) Landscape Exchange Network for Socio-environmental systems (LENS) Workshop at Oak Ridge National Laboratory (ORNL)
2023	Minds Behind Maps Webinar: Estimating flood extent using cloud computing and open-source GIS (Microsoft Planetary Computer/Google Earth Engine/QGIS)

2022	Florida Department of Environmental Protection, Innovative Technology Grant: *Communicating the Bloom Series* - Demonstrating a Statewide Collaboration Tool and Dashboard [GeoCollaborate] for HAB's in Florida (presented by the Indian River Lagoon National Estuary Program & Storm Center Communications)
2020	NASA Applied Remote Sensing Training Program (ARSET): Using the UN Biodiversity Lab to Support National Conservation and Sustainable Development Goals
2019	Planet Labs: Introducing Planet Basemaps
2019	Wetland Mapping Consortium Webinar: Mapping Wetland Inundation Dynamics and Wetland Change using Google Earth Engine
2019	American Society for Photogrammetry & Remote Sensing (ASPRS) GeoByte Webinar: Utilizing the 30+ Year Landsat Record to Detect and Characterize Historical Land Change

GRANTS

Under Review 2023	Florida Department of Environmental Protection (FDEP) Innovative Technology for Harmful Algal Blooms: "Prediction and monitoring designed to identify ways to better predict and monitor the formation of algal blooms"
Under Review 2023	NSF Biodiversity on a Changing Planet (BoCP): Linking Organisms, Mechanisms, and Processes for Supporting Standardized Biodiversity Monitoring During Dryland Shifts Under Global Climate Change"

PRESENTATIONS

INTERNATIONAL MEETINGS

2022	Global Challenges University Alliance, Swedish University of Agricultural Sciences. Uppsala, Sweden. May 2022.
2022	Times Higher Education, Innovation and Impact Summit. Stockholm, Sweden. April 2022.

NATIONAL MEETINGS

2023	Co-organizer and Co-chair: Women in Remote Sensing Special Sessions I, II, & III. Women in Remote Sensing Panel. Women in Remote Sensing Mentoring Event. American Association of Geographers Annual Meeting. Denver, CO. March 2023.
2023	Evaluating Ecosystem Degradation and Stakeholder Livelihood in a Marine Protected Area: A Case Study in Mosquito Lagoon, Florida. Women in Remote Sensing Special Session. American Association of Geographers Annual Meeting. Denver, CO. March 2023.

2023	Latitudes and Land Use: Global Biome Shifts in Vegetation Persistence Across Three Decades. Co-presenter. Women in Remote Sensing Special Session. American Association of Geographers Annual Meeting. Denver, CO. March 2023.
Accepted, but postponed: COVID	On the road to recovery? Exploring vegetation trends in Gorongosa National Park, Mozambique. Conservation GIS Special Session. American Association of Geographers Annual Meeting. Denver, CO. April 2020.
2019	Evaluating savanna vegetation in national parks of southern Africa during the 21st Century. Remote Sensing Specialty Group Student Paper Honors Competition Special Session. American Association of Geographers Annual Meeting. Washington, D.C. April 2019.
2018	**Hannah Herrero** and Jane Southworth. Examining vegetation changes in Eastern Zambia savanna landscapes from 1984-2016: an integrated approach. Applications of Time Series Remote Sensing at the Global to Landscape Scale Session. American Association of Geographers Annual Meeting. New Orleans, LA. April 2018.
2017	**Hannah Victoria Herrero** and Jane Southworth. Temporal and spatial specificity of vegetation changes in Eastern Zambia savanna landscapes. Land Systems Science Symposium. American Association of Geographers Annual Meeting. Boston, MA. April 2017.
2017	Jane Southworth, Sadie Ryan, **Hannah Herrero**, Erin Bunting, Michael Hill, Peter Waylen, Likai Zhu Global biome shifts in greenness persistence across three decades: climate and anthropogenic drivers differ by hemisphere, and forests are in trouble. American Association of Geographers Annual Meeting. Boston, MA. April 2017.
2016	Southworth, J., Likai Zhu, Erin Bunting, Sadie Ryan, **Hannah Herrero**, Peter Waylen, Michael Hill. Changes in vegetation persistence across global savanna landscapes, 1982-2010. Association of Geographers Annual Meeting. San Francisco, CA. April 2016.

REGIONAL MEETINGS

2023	Organized the "Mosquito Lagoon Stakeholder Focus Group" at Hell's Bay Boatworks in Titusville, FL, where my remote sensing and socioeconomic work was presented and then stakeholder led discussion occurred. ~75 people in attendance.
2023	Evaluating Ecosystem Degradation and Stakeholder Livelihood in a Marine Protected Area: A Case Study in Mosquito Lagoon, Florida. Indian River Lagoon Symposium 2023: IRL Seagrass. Fort Pierce, FL. February 2023.
2023	Geophysical Science Session Chair. Geosym 2023: Spatiality & Sustainability. Knoxville, TN. February 2023.
2021	On the road to recovery? Exploring vegetation trends in Gorongosa National Park, Mozambique. Southeastern Division of the American Association of Geographers Annual Meeting. Florence, AL. November 2021.
2021	Co-presenter (with Clancy Oliver and William B. Wolfson): Utilizing Random Forest Classification of Landsat imagery to map coastal landscape degradation: a case study of

seagrass loss in Mosquito Lagoon, Florida during the 21st Century. Southeastern Division of the American Association of Geographers Annual Meeting. Florence, AL. November 2021.

2021   Early Career Student Panel 2021 Member. Tennessee Geographic Information Council Annual Meeting. Virtual (Zoom). April 2021.

2021   Co-presenter (with Clancy Oliver): Utilizing Google Earth Engine to map coastal landscape degradation: a case study of seagrass in Mosquito Lagoon, Florida, from 2000 to 2020. Tennessee Geographic Information Council Annual Meeting. Virtual (Zoom). April 2021.

2021   Co-presenter (with Clancy Oliver): Utilizing Random Forest   classification of Landsat imagery to map coastal landscape degradation: a case study of seagrass in Mosquito Lagoon, United States, from 2000 to 2020. Geography Symposium (GeoSym) Annual Meeting. Virtual (Zoom). March 2021.

2019   A Healthy Park Needs Healthy Vegetation: The Story of Gorongosa National Park. Southeastern Division of the American Association of Geographers Annual Meeting. Wilmington, NC. November 2019.

2019   Evaluating savanna vegetation persistence in national parks of southern Africa during the 21st Century. Florida Society of Geographers Annual Meeting. Orlando, FL. February 2019.

2018   Evaluating savanna vegetation in national parks of southern Africa during the 21st Century. Southeastern Division of the American Association of Geographers Annual Meeting. Johnson City, TN. November 2018.

2018   Examining Multi-Scalar Vegetation Changes in an Eastern Zambia
Savanna, South Luangwa National Park, from 1984-2016: An Integrated Approach. Florida Society of Geographers Annual Meeting. Melbourne, FL. February 2018.

2015   Utilizing Multiple Lines of Evidence to Determine Landscape Degradation within Protected Area Landscapes: A Case Study of Chobe National Park, Botswana from 1982 to 2011. Florida Society of Geographers Annual Meeting. Jacksonville, FL. February 2015.

2014   Utilizing Multiple Lines of Evidence to Determine Landscape Degradation within Protected Area Landscapes: A Case Study of Chobe National Park, Botswana from 1982 to 2011. Southeastern Division of the American Association of Geographers Annual Meeting. Athens, GA. November 2014.

2012   Using Repeat Photography to Observe Vegetation Change Over Time in Gorongosa National Park. Southeastern Division of the American Association of Geographers Annual Meeting. Asheville, NC. November 2012.

INVITED LECTURES

2023   "Evaluating Ecosystem Degradation and Stakeholder Livelihood in a Marine Protected Area: A Case Study in Mosquito Lagoon, Florida". Brevard County Save Our Indian River Lagoon Project Plan Citizen Oversight Committee meeting.

2023	Socioeconomic impact of ecosystem collapse in Mosquito Lagoon, FL. Center for the Study of Social Justice. University of Tennessee.
2019 & 2022	Remote Sensing Applications in Anthropology. Guest Lecture. Seminar in Zooarchaeology Course, University of Tennessee.
2020	"Sensors and Scales in Southern Africa: An Analysis of Vegetation Health, Protected, and Parks" Howard H. Baker Jr. Center for Public Policy at the University of Tennessee. Energy and Environment Lecture Series.
2020	"A Healthy Park Needs Healthy Vegetation: The Story of Gorongosa National Park" Oak Ridge National Laboratory at the University of Tennessee. The American Society for Photogrammetry and Remote Sensing: The Imaging and Geospatial Information Society, Guest Lecture.
2017	Trophy Hunting, Wildlife Economics, and Conservation in Africa. Guest Lecture. Physical Geography Course, University of Florida.
2016	Remote Sensing and Conservation in Africa. Guest Lecture. Conservation of Resources Course, University of Florida.
2016	Trophy Hunting, Wildlife Economics, and Conservation in Africa. Guest Lecture. Geography of a Changing World Course, University of Florida.
2016	Wildlife Economics and Conservation in Africa. Guest Lecture. Economic Geography Course, University of Florida.
2015	The Economics of Trophy Hunting and How This Plays into Conservation in Africa. Guest Lecture. Economic Geography Course, University of Florida.
2015	Graduate Student Panelist. Senior Seminar Course, University of Florida.

COURSES TAUGHT

Graduate Level

- Conservation in Africa, University of Tennessee

- Advanced Remote Sensing, University of Tennessee

- Remote Sensing of the Environment, University of Tennessee

- Remote Sensing of the Environment Lab, University of Florida

Undergraduate Level

- Geography of Africa, University of Tennessee

- Advanced Remote Sensing, University of Tennessee

- People and Environment, University of Tennessee

- Remote Sensing of the Environment, University of Tennessee

- Digital Image Processing Lab, University of Florida

- Digital Image Processing, Lab Online, University of Florida

- Geography of Africa, University of Florida

- Field Techniques for Conservation and Landscape Analysis, Study Abroad in South Africa, University of Florida

- Economics and Governance of Wildlife and Parks in Africa, Study Abroad in South Africa, University of Florida

- Physical Geography, University of Florida

SERVICE

University Service

2022-Present   Member, Sustainable Development Goals Advisory Committee

2022-Present   Member, Sustainability Working Group

2021-Present   Member, Committee on the Campus Environment

2020-Present   Member, Conservation Science Group

2021-2022   Provost's Junior Faculty Fellows Advisory Council (Dean Nominated)

2021   Haslam Scholars Program Faculty Interviewer, Haslam College of Business

Departmental Service

2023-Present   Recruitment Chair, Graduate Program Committee Member

2022-Present   VolCore Designated Submission Faculty Member

2021-Present   Department of Geography Executive Committee, University of Tennessee

2020-2022	Associate Director of the Undergraduate Program, University of Tennessee
2020-2022	Director of the Bachelor of Science in Geographic Information Science and Technology Degree Program, University of Tennessee
2021	Early Career Student Panel
2020-2021	Undergraduate Geography Advisor, University of Tennessee
2020-2021	Advisor to the Geography Club, University of Tennessee
2020-2021	Curriculum Committee, University of Tennessee
2020-2021	Special Events Coordinating Committee, University of Tennessee
2020	Colloquium Coordinator, University of Tennessee
2020	Search committee, GIST Lecturer, University of Tennessee
2020	New B.S. Degree in GIST Proposal Writing Team, University of Tennessee
2019-2020	VolCore General Education Curriculum, Global Citizen International, Writing Team, University of Tennessee
2017 - 2019	Assisting with departmental renovations, University of Florida
2016 - 2019	Graduate Liaison and Social Chair. Geography Graduate Student Organization, University of Florida
2013	President of the Gamma Theta Upsilon Geography Honors Society, University of Florida
2011 - 2013	President of the Geography Student Organization, University of Florida

Other Academic Service

July 2023-Present	STEM Advisory Committee Member. Indian River Lagoon National Estuary Program, Indian River Lagoon Council, One Lagoon.
February 2022-Present	AmericaView, TenneesseeView Chapter, Invited Member. This is a nationwide, university-based, and state-implemented network that advances Earth observation education through remote sensing science, applied research, workforce development, technology transfer, and community outreach.
November 2021-Present	Guest Editor, Invited (normally reserved for Associate Professors), *Frontiers in Remote Sensing*, Special Issue: Inaugural issue of "Women in Remote Sensing 2022"
September 2021-Present	Guest Editor, Invited, *Land*, Special Issue: Land Surface Monitoring of Vegetation Condition, a diversity issue

February 2021- Present	Co-founder and Director of Science, Lagoon Waterman Alliance. (Board of Directors, Invited Member) This is the Mosquito Lagoon chapter of Captains for Clean Water (a FL waterways conservation organization using science to inform policymakers)

- My ongoing project on seagrass in ML has helped to quantify what the loss has been over the last decade and suggest potential drivers. My work has even been featured in the ML episode of the TV show they participate in "Guiding Flow TV".

February 2021- Present	Co-founder, #SixtySecondsOfScience weekly video series by *Sister Scientists* on Instagram, Twitter, and TikTok. "Promoting science and diversity in the 21st century. #WomenInSTEM"
December 2019- Present	Editorial Review Board, Invited Member, *Applied Sciences* (open access peer reviewed MDPI journal)
July 2019- November 2020	Guest Editor, Invited, *Applied Sciences*, Special Issue: Dynamics of the Global Savanna and Grasslands Biomes

PROFESSIONAL MEMBERSHIPS

2022	Global Challenges University Alliance (GCUA)
2016-Present	American Association of Geographers (AAG)
2012-Present	Southeastern Division of the American Association of Geographers (SEDAAG)

GRADUATE STUDENTS

Master's Student Supervision

2021-2023	Makwerere, Livingstone; **Advisor**, *Department of Geography*. Understanding deforestation extent and drivers in Mutare, Zimbabwe
2021-2023	Oliver, Clancy; **Advisor**, *Department of Geography*. Using satellite imagery to quantify seagrass loss in Mosquito Lagoon, FL
2021-Present	Spining, Jack; **Advisor,** *Department of Geography.* Understanding vineyard health in South Africa using remote sensing
2020-Present	Hudson, MonTré Deshaun; **Advisor**, *Department of Geography*. Mapping Gatlinburg fires using remote sensing imagery

Master's Student Committees

2019-Present	Panos, Brittany; **Committee Member**, *Department of Forestry, Wildlife, and Fisheries. UTIA.* The relationship between land cover in Knoxville and select bird populations over time

2020-2022	Bailey, Gene Nathan; **Committee Member**, *Department of Geography.* Using different statistical models combined with LiDAR data to determine hillslope erosion amounts with the lowest error
2021-2023	Sapkota, Aakriti; **Committee Member,** *Department of Geography.* Fire modeling in Nepal.
2021-2023	Steckler, Morgan; **Committee Member,** *Department of Geography.* Classifications to categorize severe weather producing storms.

Doctoral Student Supervision

2021-Present	Insalaco, Stephanie Ann; **Advisor**, *Department of Geography*. Socio-ecological implications of seagrass loss in Mosquito Lagoon, FL

Doctoral Student Committees

2022-Present	Denton, Elsie; **Committee Member**, *Department of Eoclogy and Evolutionary Biology.* Vegetation recovery on Mount St. Helens, WA.
2019-2021	Alumbaugh, Jamie L; **Comprehensive Exam Committee Member**, *Department of Geography.* Biogeography
2019-Present	Shen, Ming; **Committee Member**, *Department of Geography*. Using remote sensing data combined with Random Forest to differentiate vegetation types
2020-2022	Rivarola, Daniela; **Committee Member**, *Department of Ecology and Evolutionary Biology*. Protected area conservation and remote sensing in Argentina
2019-2022	Grondin, Nicholas; **Committee Member**, *Department of Geography.* Three Studies on the Hurricane Climatology of the North Atlantic and Eastern North Pacific: Tropical Cyclone Occurrence Dates, Seasonal Forecasting, and Landfall Behavior

MANUSCRIPT REVIEWS

1. *Atmosphere* — 2016
2. *Sustainability* — 2016
3. *Forests* — 2018
4. *International Journal of Geo-Information* — 2018
5. & 6. *Ecosphere* (2) — 2019 x2
7. *Land Degradation & Development* — 2019
8. through 15. *Remote Sensing* (8) — 2019 x3; 2020 x2; 2021 x3
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