

SURESH CHANDRA SUBEDI, Ph.D.

Assistant Professor of Biology

Norfolk State University

Email: [scsubedi@nsu.edu](mailto:scsubedi@nsu.edu)

Phone: (757)-823-8612

**RESEARCH INTERESTS:** My research focuses on microbe–plant interactions and plant responses to environmental change, especially in coastal ecosystems under salinity and sea-level rise. I integrate experimental, ecological, and modeling approaches to uncover mechanisms of stress tolerance and predict climate change impacts to guide conservation and sustainability.

## EDUCATION

**Ph.D. in Plant Biology**, Florida International University, Miami, Florida, USA. 2017.

**M.S. in Environmental Studies**, Florida International University, Miami, Florida, USA. 2011.

**M.Sc. in Botany**, Tribhuvan University, Nepal. 2006.

## PROFESSIONAL EXPERIENCE

**Assistant Professor.** Norfolk State University, Norfolk, VA. Spring 2024 - Current

**Assistant Professor.** Arkansas Tech University, Russellville, Arkansas, USA. 2020 Fall- 2023 Fall

**Quantitative Ecologist/Data Analyst.** Everglades National Park, Homestead, FL. 2020-2021.

**Postdoctoral Associate.** Wetland and Aquatic Research Center, United States Geological Survey, Gainesville, FL, USA. 2019-2020

**Postdoctoral Associate.** University of Miami, Coral Gables, Florida, USA. 2018 Jan-2019 Feb.

**Research Associate,** Southeast Environmental Research Center, Florida International University. 2011-2012

**Graduate Research Assistant,** Freshwater Biogeochemistry lab (Dr. Scinto lab) Florida International University. LILA (Loxahatchee Impoundment Landscape Assessment) Tree Island, Ridge, Slough Studies and Site Management. 2009-2010.

**Field technician:** project “Study of rangeland management status in Sagarmatha National Park and Buffer zone and Langtang National Park in the Sacred Himalayas Landscape, Nepal, supported by EV-K2-CNR/RONAST” (Drs. Gianumberto Caravello and Alberto Baroni, Padova University, Italy). 2005-2007

**Field technician,** Tribhuvan University, Nepal, "Local Effects of Large-Scale Global Changes: A Case Study in Himalayas Nepal (Project ID: PR 04/2002). 2002-2004.

## PUBLICATIONS

31. Subedi et al. **Deciphering Genetic and Microbial Synergies to Enhance Abiotic Stress Resilience in Poplar for Sustainable Bioenergy Solutions.** (Under preparation)
30. Bhandari S, **Suresh C Subedi**, Binaya Adhikari, Rakshya Basnet, Kedar Baral, and Hari P Sharma. **Increasing tiger population in Nepal: threats, challenges and opportunities.** (Under preparation)
29. Adhikar B., **Subedi SC**, Lamichhane S, Bhandari, S. **Temporal activity pattern of leopard and other sympatric mammalian species in the mid-hills of Nepal.** (Drafted).
28. Carrington ME, Ross MS, **Subedi S.C.** 2025. **Successional change in species and community-weighted functional traits in tropical hardwood hammocks of the Florida Keys.** *Journal of Ecology* (Submitted).
27. **Subedi et. al.** 2025. **Mapping oak diversity and habitat suitability using multi-species niche modeling.** *Frontiers in Forests and Global Change.* (Under Revision).
27. Bhandari, S., Adhikari, B., Baral, K. and **Subedi, S.C.** 2025. **Bengal tiger (*Panthera tigris*) diet landscape in the Indian subcontinent: a review.** *Oryx* (in press).
26. **Subedi, S. C.**, Epps, S., Ankrah, N., & Bhandari, S. (2025). **Soil microbes' role in plant germination and growth under salt stress.** *Journal of Environmental Management*, 386, 125841. <https://doi.org/10.1016/j.jenvman.2025.125841>
25. Ross, M. S., Stoffella, S. L., Ruiz, P. L., **Subedi, S. C.**, Meeder, J. F., Sah, J. P., ... & Zhang, K. (2024). **Transient vegetation dynamics in a tropical coastal wetland: Sea-level rise, glycophyte retreat, and incipient loss in plant diversity.** *Journal of Vegetation Science*, 35(3), e13267. <https://doi.org/10.1111/jvs.13267>
24. **Subedi, S. C.**, Drake, S., Adhikari, B., & Coggeshall, M. V. (2024). **Climate-change habitat shifts for the vulnerable endemic oak species (*Quercus arkansana* Sarg.).** *Journal of Forestry Research*, 35(1), 23. <https://doi.org/10.1007/s11676-023-01673-8>
23. Kaylee Freeman\*, **Subedi, SC**, Michael S Ross (2024). **Coastal dry tropical forests in Florida and the Caribbean in peril: A review.** *Biotropica*, 56(1), 185-197. <https://doi.org/10.1111/btp.13285>
22. **Subedi, SC**, Boone Ruston\*, J. Aaron Hogan<sup>3</sup>, Mark V. Coggeshall (2023). **Defining the extent of suitable habitat for the endangered Maple-Leaf oak (*Quercus acerifolia*).** *Frontiers of Biogeography*, 15(3). <http://doi.org/10.21425/F5FBG58763>
21. Adhikari B\*, Bhandari S\*, and **Subedi SC** (2023). **Predicted decline in climatically suitable habitat of endemic spiny babbler.** *Ecosphere*, 14(6), e4584. <https://doi.org/10.1002/ecs2.4584>

20. Ripu M Kunwar, Khum Thapa Magar, **Suresh C Subedi**, et al. (2023). **Distribution of medicinal plants in Nepal under climate change: Past, Present and Future**. Journal of Ecological Indicator, 146, 109879. <https://doi.org/10.1016/j.ecolind.2023.109879>
19. Bhattarai KR and **Subedi SC**. (2023). Important Medicinal and Aromatic Plants – Nepal. **Book chapter in UNESCO - Encyclopedia Life Support Systems (UNESCO-EOLSS)**. [https://www.eolss.net/ebooklib/sc\\_cart.aspx?File=E6-79a-54](https://www.eolss.net/ebooklib/sc_cart.aspx?File=E6-79a-54)
18. Adhikari B\*, Bhandari S\*, and **Subedi SC** (2022). **Raptors in risk: attributes of mortality in anthropogenic landscape of mid hills, Nepal**. Global Ecology and Conservation, 38: e02258. <https://doi.org/10.1016/j.gecco.2022.e02258>
17. Adhikari B\*, Bhandari S\*, Baral K. and **Subedi SC** (2022). Causes of wildlife mortality: a retrospective study from wildlife rescue center. **Conservation Science and Practice**. DOI: <https://doi.org/10.1111/csp2.12799>
16. **Suresh SC**, Susan Walls, William J. Barichivich, Ryan Boyles, Michael S. Ross, J. Aaron Hogan\*, John Tupy (2022). Future changes in habitat availability for two specialist snake species in South Florida. **Conservation Science and Practice**. DOI: <https://doi.org/10.1111/csp2.12802>
15. \*Bhandari, S., \*Adhikari, B., Baral, K. and **Subedi, S.C.**, 2022. Greater one-horned rhino (*Rhinoceros unicornis*) mortality patterns in Nepal. **Global Ecology and Conservation**, p.e02189. <https://doi.org/10.1016/j.gecco.2022.e02189>
14. Kunwar, RM, **Subedi SC** et.al. 2022. Ethnomedicinal Landscape: Distribution of Medicinal Plants in Use in Nepal. **Journal of Ethnobiology and Ethnomedicine**, 18(1), pp.1-11. <https://doi.org/10.1186/s13002-022-00531-x>
13. **Subedi SC**, Allen Preston\*, Rosario V.\*, Sternberg L., Ross, M., Afkhami M. 2022. Salinity Legacy: Microbiome's history affects mutualist-conferred salinity tolerance. **Ecology**, e3679. <https://doi.org/10.1002/ecy.3679>
12. Ross MR, Susana Stoffella, Rosario Vidales\*, Jack Meeder, **David Kadko**, Leonard Scinto, **Suresh C Subedi**, Jed Redwine. 2022. Sea-level rise and the persistence of tropical hardwoods in coastal tree islands. **Ecosystems** 25(3), pp.586-602. <https://doi.org/10.1007/s10021-021-00673-1>
11. Thapa S\*, Kunwar RM, Adhikari B\*, Paudel HR, and **Subedi SC**. 2021. *Trillium govanianum* (Himalayan Trillium): production, distribution and use in Nepal. **Nordic Journal of Botany**. <https://doi.org/10.1111/njb.03356>
10. Bhandari K.B.\*, **Subedi S.**, Kunwar R.M., Bussmann R.W., Paniagua-Zambrana N.Y. (2021) *Grewia disperma* Rottler ex Spreng. Malvaceae. In: Kunwar R.M., Sher H., Bussmann R.W. (eds) Ethnobotany of the Himalayas. **Ethnobotany of Mountain Regions**. Springer, Cham. [https://doi.org/10.1007/978-3-030-45597-2\\_112-1](https://doi.org/10.1007/978-3-030-45597-2_112-1)
9. **Subedi SC**, Bhattarai, KR, Perez\*, T., Sah JP 2020. Gymnosperm distribution patterns in the Himalayas and Rapoport's rule. **Frontiers of Biogeography**, 12.1, e44232. <http://dx.doi.org/10.21425/F5FBG44232>

8. **Subedi SC**, J. Aaron Hogan\*, Michael Ross, Jay P Sah, Christopher Baraloto 2019. Evidence for trait-based community assembly patterns in hardwood hammock forests. **Ecosphere**: e2956. <https://doi.org/10.1002/ecs2.2956>
7. **Subedi SC**, Sternberg L., DeAngelis D., Ogurcak D., Ross M. 2019. Using field data to verify predictions of a model simulating the interaction between coastal plant communities and their effect on sea-level rise. **Ecosystems**, 1-16. <https://doi.org/10.1007/s10021-019-00423-4>
6. **Subedi SC**, Ross MS, Sah JP, Redwine J., Baraloto, C. 2019. Trait-based community assembly pattern along a forest succession gradient in seasonally dry sub-tropical forest Florida Keys USA. **Ecosphere** 10(4): e02719. <https://doi.org/10.1002/ecs2.2719>
5. **Subedi SC**, Ross MR, Vilades\* R, Sah JP, Sternberg L, 2018. Variation in stomatal characteristics of *Bursera simaruba*, a dominant tree species of tropical hardwood hammock forest across a habitat gradient in the Florida Keys. **American Journal of Plant Sciences**, 9, 2120-2139. <https://doi.org/10.4236/ajps.2018.910154>
4. Ross MR, Sah JP, Ruiz PL, Spitzig A, **Subedi SC**, 2016. Inferring implications of climate change in patchy tropical dry forests through analysis of metacommunity structure. **Diversity and Distribution**. 22:7, 783-796. <https://doi.org/10.1111/ddi.12442>
3. **Subedi SC**, Bhattarai KR, Chaudhary RP, 2015. Distribution patterns of Manang's species along the whole Himalayan gradient and their fate against global warming. **Journal of Mountain Science**, 12(6): 1345-1354. <https://doi.org/10.1007/s11629-015-3495-9>
2. Bhattarai, KR, Inger Måren, **Suresh Subedi** 2014. Biodiversity and invasibility: distribution patterns of invasive alien plant species in the Himalayas. **Journal of Mountain Science**, 11(3):1-9. <https://doi.org/10.1007/s11629-013-2821-3>
1. **Subedi, S.C.**, Ross, M.S. and Scinto, L.J., 2012. Nutrient limitation in two everglades tree species planted on constructed tree islands. **Wetlands**, 32(6), pp.1163-1173. <https://doi.org/10.1007/s13157-012-0346-0>

## TECHINICAL REPORT

- Subedi, SC, Walls S (2021). Informing Future Condition Scenario Planning for Habitat Specialists of the Imperiled Pine Rockland Ecosystem of South Florida. Submitted to US Fish and Wildlife Service to aid in developing their Species Status Assessments. <https://www.sciencebase.gov/catalog/item/5ba00122e4b08583a5c277a8>
- Sah, J. P., Ross, M. S., Ruiz, P. L. and Subedi, S. 2012. Monitoring of Tree Island Condition in the Southern Everglades. Annual Report-2011 submitted to US Army Corps and Engineer Research and Development Center.
- Leonard J. Scinto, René Price, and Mike Ross 2011. LILA (Loxahatchee Impoundment Landscape Assessment Tree Island, Ridge, Slough Studies and Site Management. Annual report submitted to South Florida Water Management District (SFWMD, West Palm Beach, FL).

## PRESENTATIONS (As a presenter)

- Subedi SC (2025). Soil microbes' role in plants growth and germination under salt stress. International Association for Vegetation Science 2025 Annual Meeting, Greeley, CO, Aug 28-Sep 3, 2025.
- Subedi SC, Jacobson D. (2025). Deciphering Genetic and Microbial Synergies to Enhance Abiotic Stress Resilience in Poplar, PMI (Plant- Microbe Interface) Meeting, Oak Ridge National Lab, Oak Ridge, TN, 08/20/2025.
- Subedi SC (2024). Functional traits of trees in south Florida hammocks. North American Forest Ecology Workshop, Asheville North Carolina USA, June 24 - 27, 2024.
- Subedi SC and Boone Ruston (2023). Defining the extent of suitable habitat for the endangered Maple-Leaf oak (*Quercus acerifolia*). Ecological Society of America (ESA). Aug 6-Aug 11, 2023.
- Subedi SC (2022). Oak diversity in Arkansas and local assembly processes. International Oak Society Conference, Las Cruces, NM. Aug 30-Sep 2, 2022.
- Subedi SC (2021). Environmental Legacy: Microbiome's history affects mutualist-conferred stress tolerance in plants. Biology seminar series, Arkansas Tech University. Sep 13th, 2021.
- Subedi SC (2021). Oak diversity and biogeography. Arkansas Native Plant Society. Aug 4th, 2021.
- Subedi SC (2020). Predicting the impacts of future sea level rise on specialist snake species in Pine Rockland habitat in Florida. Webinar as part of Southeast Climate Adaptation Science Center Science Series in December 2020. North Carolina State University and US Geological Survey.
- Subedi SC (2019). Predicting the impacts of future sea level rise on specialist snake species in Pine Rockland habitat in Florida. Southeast Climate Adaptation Science Center Regional Science Symposium. North Carolina State University and US Geological Survey, Nov 13-15, 2019, New Orleans, LA.
- Mary E Carrington\*, Michael S Ross, Suresh C Subedi\* (2019). Successional change in species and community-weighted functional traits in tropical hardwood hammocks of the Florida Keys. Ecological Society of America, Louisville, Kentucky (Aug 11-16).
- Subedi SC (2018). Using field data to verify predictions of a model simulating the interaction between coastal plant communities and their effect on sea level rise. American Geophysical Union Fall meeting, Washington DC, USA. Dec 10-14, 2018.
- Subedi SC (2017). Trait-based community assembly pattern along a forest succession gradient in seasonally dry sub-tropical forest Florida Keys. American Geophysical Union, San Francisco, CA, USA. Dec 12-16, 2016.
- Subedi SC (2016). Variation in stomatal density of *Bursera simaruba*, a dominant tree species of tropical hardwood hammock forest across a habitat gradient in the Florida Keys. International Biogeography Society Conference, Fort Lauderdale, FL. Aug 9-14, 2016.

- Subedi SC (2015). Patterns of plant trait–environment relationships along a forest succession gradient in Florida Keys. Ecological Society of America, Aug 9-14, Baltimore, MD, 2015.
- Bhattarai KR (2014). Biodiversity and invasibility: distribution patterns of invasive alien plant species in the Himalayas, Nepal. Himalayan studies conference, Yale University. Mar 14-16, New Haven, CT, 2014.
- Subedi SC (2013). The relationship between seed size and establishment conditions in tropical hardwood hammocks of the Florida Keys. Ecological Society of America, Aug 4-9, Minneapolis, MN, 2013.
- Subedi SC (2011). Determination of nutrient limitation on trees growing in Loxahatchee Impoundment Landscape Assessment (LILA) tree islands, Florida. 8th North American Forest Ecology Conference, Roanoke, VA. June 19-23, 2011.
- Subedi SC (2010). Determination of nutrient limitation on trees growing in LILA tree islands. GEER (Greater Everglades Ecosystem Restoration) 2010 Conference: The Everglades- A Living Laboratory of Change. Naples, FL, July 12-16, 2010.

#### **STUDENT RESEARCH PROJECTS SUPERVISED**

20. Nilah Ankrah, Project Title: “Microbes help plants survive in adverse environments due to salinity levels rising”. Norfolk State University.
19. Sherwood Ebbs, Project: “Can microbes help plants survive in adverse environments due to salinity levels rising?”. Norfolk State University.
18. Skhy Findlater, Project: “Soil Microbe Culture from Coastal Plant Species and Identification”. Norfolk State University.
17. Rizpah Forris, Project Title: “Tissue Culture of Native Plant Species from Coastal Virginia”. Norfolk State University.
16. Rebecca Morse (2022)- Honors thesis on “The effects of arbuscular mycorrhizal fungi on native Arkansas plants”. Department of Biological Sciences, Arkansas Tech University.
15. Kayla Medina, Harley Hines, and Andurin Rivero (2022)- undergraduate research on “Investigating antibacterial activity of extracts from American beautyberry, Devil’s walking stick, and Winged sumac”. Department of Biological Sciences, Arkansas Tech University.
14. Katie Huffman and Raven Turner (2022)- undergraduate research on “Evaluation of Antibacterial Activity of Native Plants, *Aesculus Pavia* and *Celtis laevigata*”. Department of Biological Sciences, Arkansas Tech University.
13. Kade Zeiner (2022)- Project on “Riparian vegetation patterns in Arkansas River and underlying assembly processes”. Undergraduate project. Department of Biological Sciences, Arkansas Tech University.
12. Kaylee Freeman (2022)- Project on “Coastal dry tropical forests in Florida and the Caribbean in peril”. Undergraduate project. Department of Biological Sciences, Arkansas Tech University.
11. Anju Ghimire (2022–)- Masters in Fisheries and Wildlife. Arkansas Tech University, Russellville, AR. (As Master thesis committee member). Fisheries and Wildlife Program, Department of Biological Sciences, Arkansas Tech University.

10. Alexander Gillies (2021-)- Project on “Can stomatal traits be used to measure plant stress?” (BS in Fisheries and Wildlife, Arkansas Tech University).
9. Jonathan Augirre (2021-)- Project on “Study of plant diversity in remnant herbaceous plant dominant communities (grasslands and prairies) in Arkansas River Valley.” (BS in Environmental science, Arkansas Tech University).
8. Boone Ruston (2020-)- Project on “Distribution pattern of oak species (*Quercus sp.*) in Arkansas and local assembly processes”. (BS in Fisheries and Wildlife, Arkansas Tech University).
7. Hannah Bridges (2020-)- Project on “Distribution pattern of oak species (*Quercus sp.*) in Arkansas and local assembly processes”. (BS in Fisheries and Wildlife, Arkansas Tech University).
6. Preston Allen (201802019)- Project on “Leaf endophyte communities in Red Mangrove (*Rhizophora mangle* L.) and their role in salt-tolerant for host plant”. (BS in environmental studies, University of Miami)
5. Tonio K\_Tori (2015-2016)- Project on “Soil nutrient analysis methods and their applications in environmental science”. (BS in environmental studies, Florida International University, 2016)
4. Cheldina Jean (2016) – Project on “Variation in soil characteristics across the habitat gradient in Florida Keys and Everglades National Park”. (Miami Beach Senior high school).
3. Rosario Vidales (2013-2014) – Project on “Stomatal traits variation in tropical hardwood hammock species and its significance in adaptation across environmental gradient in the Florida Keys”. (BS in environmental studies, Florida International University).
2. Leah Ramnath (2014)- Project on “Plant species response across stress gradient in South Florida”. (BS in environmental studies, Florida International University, 2014).
1. Juan Rodriguez (2015)- Project on “Variation in hardwood hammock tree species’ response to change in environment: A case study in Long Pine Key, Everglades National Park Florida”. (BS in environmental studies, Florida International University)

## AWARDS

- 2025- Visiting Faculty Position, Oak Ridge National Lab, Funded by Department of Energy (DOE) Summer Research Program.
- 2025- Outstanding Researcher of the Year, Department of Biology, Norfolk State University, Norfolk, VA.
- 2024- Preserving the Future of the Vulnerable Endemic Species *Quercus arkansana*, International Oak Society (\$10K- funded)
- 2024 "Impacts of Mesophication and Whole-Tree Harvesting on Native Plant Communities in Appalachian Oak Forests: Lessons from Virginia's Ridge and Valley Province Virginia" submitted to Native Plant Society (\$10K - Pending)
- 2023 Wetland Assessment Project, U.S. Environmental Protection Agency (collaboration with Alliance Technical Group) – (\$62K)- (Not funded)
- 2023 Outstanding Faculty Research, Department of Biological Sciences, Arkansas Tech University.

2023 Professional Development Grant (2023), Arkansas Tech University - \$2000

2022-2023 NSF AEDC DART Seed Grant (subcontract)- \$2,800

2023 Undergraduate Research Grant (Arkansas Tech University) - \$2,000

2023 Acquisition of a Fluorescence and Absorbance Spectrometer for Research (AR INBRE Grant) - \$ 28,938.00 (Co-PI)

2023 Arkansas Division of Higher Education (SURF)- Research- \$4,000

2022 Acquisition of a fluorescence microscope for research (AR INBRE Grant) - \$ 29,984.65 (Co-PI)

2022- Travel grant (Arkansas Tech University, Dean Office)- 2,000

2022 Arkansas Division of Higher Education (SURF)- Research- \$8,000

2021 Undergraduate Research Grant (Arkansas Tech University) - \$4,000

2021 Arkansas Native Plant Society (ANPS) – Student research- \$2,000

2021 Arkansas Division of Higher Education (SURF)- Research- \$4,000

2016 International Center for Tropical Botany (ICTB) Graduate Research Fellowship (\$8, 500)

2016 ICTB Graduate Student Research Award (\$8,000)

2016 Doctoral Evidence Acquisition Award, Florida International University (\$8,300)

2014 Graduate Scholarly Forum Award, Florida International University (\$2,000)

2014 Kelly Foundation Tropical Botany Scholarship (\$2,000)

2013 FCE-LTER Student Travel Award (\$1,250)

### **GIS AND REMOTE CENSING CERTIFICATE:**

Environmental GIS, Geospatial and Environmental Analysis; Fundamental of GIS; GIS Data Formats, Design, and Quality; Remote Sensing

### **DATA SCIENTIST IN R:**

Cleaning Data in R; Cluster Analysis in R; Importing and Cleaning Data in R (Part I and II): Case studies; Data Visualization in R; Hierarchical and Mixed Effects Models in R; Inference for Numerical Data in R; Intermediate R; Introduction R; Induction to Writing Function R; R for Finance; Introduction to the Tidyverse; R Programming Language for Biologist

### **MINOR IN STATISTICS:**



Introduction to Statistics; Biostatistics; Experimental Design; Advanced Regression Analysis; Multivariate Analysis; Non-parametric Analysis

**PROFESSIONAL ORGANIZATION:**

American botanical society (member); Ecological society of America (member), American Geophysical Society (member), International Oak Society (member), Arkansas Native Plant Society (member)