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updated: 2025 March

## Education

**University of North Carolina at Greensboro.** *Greensboro, NC.*

PhD Geography, 2024.

Post-Baccalaureate Coursework, Statistics.

Advisor: Paul Knapp.

Dissertation: Radial growth responses of four southeastern USA pine species to precipitation event types, intense rainfall, and the North Atlantic Subtropical High

**University of North Carolina at Greensboro.** *Greensboro, NC.*

MA Applied Geography, 2019.

Advisor: Paul Knapp.

Thesis: Tropical Cyclone Frequency Inferred from Intra-annual Density Fluctuations in Longleaf Pine

**University of West Florida.** *Pensacola, FL.*

BS Environmental Science, 2017.

Advisor: Jason Ortengren.

## Employment

**University of Wyoming.** *Laramie, WY.*

Post Doctoral Research Associate

Department of Ecosystem Science and Management

Colaborative for Intersectoral Modeling of the Earth System

*January 2025–current*

**Esri.** *Charlotte, NC.*

Premium Support Analyst

*August 2024–December 2024*

Support Analyst

*March 2023–August 2024*

**University of North Carolina at Greensboro.** *Greensboro, NC.*

Graduate Assistant, Research Assistant, Teaching Assistant, Teaching Associate

Department of Geography, Environment, and Sustainability

*August 2017–July 2022*

Editorial Assistant, *Southeastern Geographer*

*July 2019–July 2023*

**University of West Florida.** *Pensacola, FL.*

Research Assistant

Hal Marcus College of Science and Engineering

*July 2017–August 2017*

Research Assistant

Department of Earth and Environmental Sciences

*May 2016–August 2016*

## Publications

Strelkow A, Mitchell TJ, Knapp PA, Ortegren JT (2025) Assessing the frequency, duration, and spatial extent of summertime extreme dew point conditions in the Southeastern USA, 1973–2022. *Atmosphere*, 16(3), 265.

<https://doi.org/10.1007/s00484-024-02619-3>

Knapp PA, Soulé PT, Mitchell TJ, Catherwood AA, Lewis HS (2024) Increasing radial growth in old-growth high-elevation conifers in Southern California, USA, during the exceptional “hot drought” of 2000–2020. *International Journal of Biometeorology*, 68(4), 743–748.

<https://doi.org/10.1007/s00484-024-02619-3>

Mitchell TJ, Knapp PA (2024) Reconstructing Historical Intense and Total Summer Rainfall in Central North Carolina Using Tree-Ring Data (1770–2020). *Water*, 16(4), 513.

<https://doi.org/10.3390/w16040513>

Carlton G, Knapp PA, Mitchell TJ (2023) Global patterns of antioxidant-rich food crops based on geographical origins. *Professional Geographer*, 75(6), 947–957.

<https://doi.org/10.1080/00330124.2023.2207632>

Catherwood AA, Mitchell TJ, Knapp PA (2023) A dendroecological method to examine summer-time soil-moisture changes: A case study from North Carolina, USA. *Trees: Structure and Function*, 37(2), 599–607.

<https://doi.org/10.1007/s00468-022-02353-6>

Rother MT, Patterson TW, Knapp PA, Mitchell TJ, Allen N (2022) A tree-ring record of historical fire activity in a piedmont longleaf pine (*Pinus palustris* Mill.) woodland in North Carolina, USA. *Fire Ecology*, 18, 34.

<https://doi.org/10.1186/s42408-022-00161-4>

Mitchell TJ, Knapp PA (2022) Radial growth responses of four southeastern USA pine species to summertime precipitation event types and intense rainfall events. *Atmosphere*, 13(10), 1731.

<https://doi.org/10.3390/atmos13101731>

Mitchell TJ, Knapp PA, Ortegren JT (2022) Observations on the Frequency, Duration, and Geographical Extent of Summertime Cold Front Activity in the Southeastern USA: 1973–2020. *Meteorology*, 1(2), 211–219.

<https://doi.org/10.3390/meteorology1020014>

Catherwood AA, Knapp PA, Mitchell TJ (2022) Loblolly Pine Traumatic Resin Ducts Serve as Indicators of Cool-Season Weather Events at Nags Head, North Carolina. *Castanea*, 86(2), 296–304.

<https://doi.org/10.2179/0008-7475.86.2.296>

Soulé PT, Knapp PA, Maxwell JT, Mitchell TJ (2021) A comparison of the climate response of longleaf pine (*Pinus palustris* Mill.) trees among standardized measures of earlywood, latewood, adjusted latewood, and totalwood radial growth. *Trees: Structure and Function*, 35(3), 1065–1074.

<https://doi.org/10.1007/s00468-021-02093-z>

Knapp PA, Soulé PT, Maxwell JT, Ortegren JT, Mitchell TJ (2021) Tropical cyclone precipitation regimes since 1750 and the Great Suppression of 1843–1876 along coastal North Carolina, USA. *International Journal of Climatology*, 41(1), 200–210.

<https://doi.org/10.1002/joc.6615>

Mitchell TJ, Knapp PA, Patterson TW (2020) The importance of infrequent, high-intensity rainfall events for longleaf pine (*Pinus palustris* Mill.) radial growth and implications for dendroclimatic research. *Trees, Forests and People*, 1, 100009.

<https://doi.org/10.1016/j.tfp.2020.100009>

Foglietti RV, Mitchell TJ, Ortegren JT (2020) US tornado outbreak climatologies based on different definitions of "outbreak," 1975–2014. *Southeastern Geographer*, 60(1), 6–22.

<https://doi.org/10.1353/sgo.2020.0002>

Mitchell TJ, Knapp PA, Patterson TW (2019) Changes in southeastern USA summer precipitation event types using instrumental (1940–2018) and tree-ring (1790–2018) data. *Environmental Research Communications*, 1(11), 111005.

<https://doi.org/10.1088/2515-7620/ab4cd6>

Mitchell TJ, Knapp PA, Ortegren JT (2019) Tropical cyclone frequency inferred from intra-annual density fluctuations in longleaf pine in Florida, USA. *Climate Research*, 78(3), 249–259.

<https://doi.org/10.3354/cr01573>

Mitchell TJ, Patterson TW, Knapp PA (2019) Comparison of climate–growth responses of montane and piedmont longleaf pine (*Pinus palustris* Mill.) chronologies in North Carolina. *Trees: Structure and Function*, 33(2), 615–620.

<https://doi.org/10.1007/s00468-019-01823-8>

## Awards and funding

*2019–2022 Minerva Scholar*, UNC Greensboro Graduate School.

*2019–2022 Greensboro Graduate Scholar Award*, UNC Greensboro Graduate School.

*2021 Research Capstone Fund*, UNC Greensboro Graduate School. Mitchell TJ, Catherwood AA, Lewis HS.

*2020 Diversity Initiatives Mini-Grant*, UNC Greensboro College of Arts and Sciences.

Lane JM, Mitchell TJ, Catherwood AA, Harward M. Teaching Geography to K–12 Students Using National Geographic’s Giant Map.

*2020 D. Gordon Bennett Award for Outstanding Geography Graduate Student*, UNC Greensboro Department of Geography, Environment, and Sustainability.

*2019 Outstanding Graduate Research Award*, UNC Greensboro Department of Geography, Environment, and Sustainability.

*2019 Michael E. Lewis Graduate Teaching Award for Outstanding Classroom Performance*, UNC Greensboro Department of Geography, Environment, and Sustainability.

*2018 Best Masters Paper Award*, Southeastern Division of the American Association of Geographers.

*2018 Michael E. Lewis Graduate Teaching Award for Outstanding Classroom Performance*, UNC Greensboro Department of Geography, Environment, and Sustainability.

*2017 GeoCUR Award for Excellence in Student Research*, National Council on Undergraduate Research - Geoscience Division.

*2017 Research Experience Away Fellowship*, UWF Hal Marcus College of Science and Engineering.

*2016 Summer Undergraduate Research Fellowship*, UWF Hal Marcus College of Science and Engineering.

## Teaching

**UNC Greensboro** (*Instructor of Record*)

GES103: Introduction to Earth Science (2020 Fall, 2022 Spring)

GES103L: Earth Science Laboratory (2021 Spring)

GEO106L: Geosystems Science Laboratory (2018 Spring, 2019 Spring)

GES111L: Physical Geology Laboratory (2021 Fall)  
GEO311L: Climatology Laboratory (2018 Fall, 2019 Fall)

**UNC Greensboro, Northwest Florida State College** (*Guest Lecturer*)

GES103: Introduction to Earth Science (2019 Fall)  
GES106: Our Dynamic Planet (2021 Fall, 2022 Spring)  
BSC1005C: General Biology (2020 Summer–2021 Spring, 2022 Fall)  
BSC1005L: General Biology Laboratory (2020 Summer–2021 Summer, 2022 Fall)

**Invited presentations, outreach, and service**

"Applications of dendrochronology: Examining the climatic sensitivity of longleaf pine (*Pinus palustris*) in North Carolina, USA". University of West Florida Spring Seminar Series. (2022)

Departmental Representative, UNC Greensboro Graduate Student Association. (2018–2022)

Co-President, UNC Greensboro Geography Graduate Student Association. (2021–2022)

Treasurer, UNC Greensboro Geography Graduate Student Association. (2019–2021)

Judge, SEDAAAG Undergraduate Student Poster Competition. (2019)

"How to apply for and prepare for graduate school". University of West Florida College of Science and Engineering GeoScholars Professional Development Workshop. (2019)

Panelist, University of West Florida College of Science and Engineering Summer Undergraduate Research Program Workshop. (2017)

Departmental Representative, University of West Florida Hal Marcus College of Science and Engineering Open House. (2017)

"Oceanic Precursors to U.S. Tornado Outbreaks". University of West Florida Donor Dinner. (2016)

Chemistry Judge, West Panhandle Regional Science and Engineering Fair. (2016)

Engineering Judge, West Panhandle Regional Science and Engineering Fair. (2015)

**Data and herbarium contributions**

Mitchell TJ (2024) Uwharrie National Forest *Pinus echinata* + *Pinus virginiana* tree cores. University of North Carolina at Chapel Hill Herbarium.

<https://sernecportal.org/portal/collections>

Mitchell TJ (2024) Pilot Mountain State Park *Pinus rigida* tree cores. University of North Carolina at Chapel Hill Herbarium.

<https://sernecportal.org/portal/collections>

Mitchell TJ, Knapp PA, Patterson TW (2020) Uwharrie National Forest – *Pinus palustris* latewood radial growth measurements – ITRDB NC028.

<https://www.ncdc.noaa.gov/paleo/study/29272>

Mitchell TJ (2020) Gulf Islands National Seashore – *Pinus palustris* tree cores – University of North Carolina at Chapel Hill Herbarium.

<https://sernecportal.org/portal/collections>

**Journal referee**

Climate Research, Environmental Research Letters, Frontiers in Forests and Global Change, Journal of Hydrology: Regional Studies, North Carolina Geographer

**Non-peer reviewed writing**

(2023) How To: Use emojis in fields for Portal for ArcGIS or ArcGIS Online  
<https://tinyurl.com/arcgisemoji>

Gentry C, Harley G, Maxwell S, Hefner A, Mitchell T, Mustoe N, Rachman R, Scott J, Spriggs J, Struble W, Waldron J, Wind M (2017) Comparing site specific chronologies of Lodgepole pine and Engelmann spruce in the Shoshone National Forest, Wyoming, 27th Annual North American Dendroecological Fieldweek Final Report.

**Professional organizations**

American Geophysical Union, Gamma Theta Upsilon, North Carolina Native Plant Society