

Zachary W. Foley

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EDUCATION

- Expected 2027 **PhD.**, *Geography*, GPA 4.0, University of Idaho (Mentor: Dr. Grant Harley)
- May 2024 **M.S.**, *Biology*, GPA 4.0, University of Alabama (Mentor: Dr. Nate Jones)
- May 2024 **B.S.**, *Biology, Minor in Liberal Arts*, GPA 3.8 University of Alabama (Mentor: Dr. Matt Therrell)

RESEARCH EXPERIENCE

- 2024 –2026 **Graduate Research Assistant, Idaho Tree Ring Lab** *Department of Geography*, University of Idaho, Moscow ID (Mentor: Dr. Grant Harley)
- 2025 Summer **Graduate Research Assistant, Environmental Ecology Lab** *School of the Environment*, Washington State University, Pullman WA (Supervisor: Dr. Henry Adams)
- 2024 Fall **Visiting Wood Anatomy Research Assistant, WSL Dendrosciences Unit**, Zürich, Switzerland
- 2022 – 2024 **Undergraduate Research Assistant, Jones Ecohydrology Lab** *Department of Biological Sciences*, University of Alabama, Tuscaloosa AL (Mentor: Dr. Nate Jones)
- 2021 – 2024 **Undergraduate Research Assistant, University of Alabama Dendrochronology Research Lab** *Department of Geography*, University of Alabama, Tuscaloosa AL (Mentor: Dr. Matthew Therrell)
- 2022 **Undergraduate Summer Researcher**, NSF Research Experiences for Undergraduates (REU), Tree Ring Based Streamflow Reconstruction of the St John's River The University of Alabama (Mentor: Dr. Glenn Tootle)
- Workshops: **Quantitative Wood Anatomy Using ROXAS**, September 5-9 2022, University of Padua, San Vito Di Cadore, Italy.

TEACHING EXPERIENCE

- Instructor: Geography 1000 Intro to Planet Earth**, University of Idaho, Summer 2026, Moscow, Idaho.
- Instructor: Geography 1000L Intro to Planet Earth Lab**, University of Idaho, Summer 2026, Moscow, Idaho.
- Instructor: Advanced Climatology Group**, 35th Annual Dendrochronology Field School, May 22-31 2026, Moscow, Idaho.

PUBLICATIONS

2026

Thaxton, R.T., Harley, G.L., Maxwell, J.T., Therrell, M.D., Bregy, J.C., **Foley, Z.**, Tucker, C.S., Yager, E., Zhao, M. (accepted). Emerging Regional Hydrologic Synchrony in the Southeastern United States: Insights from 916 Years of Reconstructed Streamflow. *The Holocene*.

Eldridge, G. M., Stanley, M. F., Harley, G. L., **Foley, Z. W.**, Wilson, D. R., Sparks, A. M., Halsey, C. W., Swanson, S. L., You, R., Adams, H. D., Johnson, D. M., Keefe, R. F., Huang, L., Logan, J. A., & Smith, A. M. S. (2026).

Phoenix of the forest: Assessing top kill and post-fire stem growth in aspen saplings using a pyro-ecophysiology approach. *Fire Ecology*, 22(1), 61. <https://doi.org/10.1186/s42408-026-00497-1>

Foley, Z. W., Harley, G. L., Thaxton, R. D., Therrell, M. D., Jones, C. N., Smith, A. M. S., & Zhao, M. (2026). Dual atmospheric controls amplify streamflow extremes in Alabama. *Environmental Research Communications*, 8(5), 051002. <https://doi.org/10.1088/2515-7620/ac6399>

Foley, Z. W., Jones, C. N., Lackey, K., Harley, G. L., Thaxton, R. D., & Therrell, M. D. (2026). Environmental drivers of xylogenesis in *Taxodium distichum* (bald cypress) in the southeastern United States. *Journal of Geophysical Research: Biogeosciences*, 131(1), e2025JG009004.

2025

Collins-Key, S. A., Rochner, M. L., King, K. E., Kaiser, A. L., Harley, G. L., **Foley, Z.**, Bekker, M., & von Arx, G. (2025). Evaluating the influence of high-resolution image capture on the signal strength of blue intensity and quantitative wood anatomy metrics from whitebark pine. *Dendrochronologia*, 126305.

Partelli-Feltrin, R., Smith, A. M., Sparks, A. M., **Foley, Z. W.**, Rainsford, S. W., Harley, G. L., Moberly JG, Adams HD, Schwilk DW, Tinkham WT, Hardman DD, Kok JR, Thompson RA, Hudak AT, Wilson DR, Hoffman CM, Lutz JA, Blanco AS, Cochrane MA, Kremens RL, Dahlen J, Boschetti L, Huang L, Johnson, D. M. (2025). Methods to assess fire-induced tree mortality: comparing heated water baths to experimental laboratory fires. *International Journal of Wildland Fire*, 34(12), WF24144.

2024

King, K. E., Harley, G. L., Maxwell, J. T., Rayback, S., Cook, E., Maxwell, R. S., Rochner, M.L., Bergan E.V., **Foley, Z.**, Therrell, M. & Bregy, J. (2024). Reconstructed late summer maximum temperatures for the southeastern United States from tree-ring blue intensity. *Geophysical Research Letters*, 51(13), e2024GL109099.

AWARDS AND HONORS

Funding Awarded: (Total: \$2,900)

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| 2025 | Graduate and Professional Student Association Travel Award (\$500) |
| 2024 | Graduate and Professional Student Association Travel Award (\$900) |
| 2023 | University of Alabama Arts and Sciences Support for Undergraduate Research (ASSURE) “Detecting Human Impacts on Streamflow Using Intra-Annual Density Fluctuations in Baldcypress” (\$1,000) |
| 2022 | University of Alabama Arts and Sciences Support for Undergraduate Research (ASSURE) “Blue Light Analysis of Eastern Hemlock as a Temperature Proxy” (\$1,000) |

Honors:

Outstanding Research Poster Graduate Division

University of Idaho College of Science 2026 Student Research Expo

Fulbright Research Semifinalist Switzerland

“High Resolution Streamflow Reconstruction using Baldcypress to Inform Water Policy”

Blount Scholars Program

Interdisciplinary Undergraduate Liberals Arts Program at the University of Alabama

Emerging Scholars Program

Interdisciplinary Undergraduate Research Immersion Program at the University of Alabama

Honors College

Member for Academic Merit University of Alabama

President’s List

Spring 2021, Fall 2022, Spring 2023

Presidential Merit Scholarship

Full Tuition, 4 years
Tutwiler Merit Scholarship
\$20,000 for Academic Merit

PRESENTATIONS

Oral Presentations:

- 2026 **Foley Z.**, S. Collins Key. Quantitative Wood Anatomy. *Dendrochronology Field School Evening Lecture*, 2026. May 28 Moscow, Idaho.
- Foley Z.**, R. Thaxton. Introduction to Crossdating. *Dendrochronology Field School Evening Lecture*, 2026. May 25 Moscow, Idaho.
- Foley Z.** From Cells to Rings: What Bald Cypress can Teach us About a Species Climate Response and Past Streamflow. *University of Idaho Earth and Spatial Sciences Department Seminar*, 2026. April 29 Moscow, Idaho.
- Foley Z.** Reconstructing Streamflow in Alabama. *University of Idaho Geography 1000 Guest Lecture*, 2026. April 23: Moscow, Idaho.
- Foley Z.**, H. Adams, A. Fabijańska, G. Harley. Does Increased Fertilization and Spacing Make Trees Better Defended Against Beetles?. *Idaho Statewide 3 Minute Thesis Competition*, 2026. February 17: Coeur d' Alene, ID.
- 2025 **Foley Z.**, H. Adams, A. Fabijańska, G. Harley. Resin Duct Ratio: Continuity in Tree Defense Allocations Across Planting Densities and Treatments. *University of Idaho 3 Minute Thesis Competition*, 2025. November 19: Moscow, ID.
- Foley, Z.**, N. Jones, K. Lackey, M. Therrell. Environmental Drivers of Xylogenesis in Bald Cypress. *Vandal Science Day*, 2025. October 4: Moscow, ID.
- 2024 **Foley, Z.**, N. Jones, K. Lackey, M. Therrell. Drivers of Cell Development in Bald Cypress. *Vandal Science Day*, 2024. October 4: Moscow, ID.
- Foley, Z.**, M. Therrell, K. King. Blue Light Analysis of Eastern Hemlock at the Edge of it's Range. *Tennessee State Parks Virtual Resource Management Lecture Series*, 2024. February 7: Virtual

Poster Presentations:

- 2026 **Foley Z.**, G. Harley, R. Thaxton, M. Therrell, C. Jones, A. Smith, M. Zhao. Dual Atmospheric Controls Amplify Streamflow Extremes in Alabama. *University of Idaho College of Science Poster Expo*, 2026. March 26: Moscow, ID.
- 2025 **Foley, Z.**, G. Harley, K. King, M. Rochner, S. Collins-Key, M. Bekker, G. von Arx. Instrumental Period QWA Climate Response of *Picea engelmannii* and *Pinus alicaulis* in the Greater Yellowstone Ecoregion. *American Geophysical Union Annual Conference*, 2025. December 15-19: New Orleans, LA.
- Foley, Z.**, N. Jones, K. Lackey, G. Harley, M. Therrell. Environmental Drivers of Xylogenesis in Bald Cypress. *University of Idaho College of Science Research Expo*, 2025. March 20: Moscow, ID.
- Foley, Z.**, N. Jones, K. Lackey, G. Harley, M. Therrell. Environmental Drivers of Xylogenesis in Bald Cypress. *University of Idaho Graduate and Professional Student Association Research Expo*, 2025. April 11: Moscow, ID.

- 2023 **Foley, Z.**, N. Jones, K. Lackey, M. Therrell. Investigating the Impacts of Inundation on Cambium Cell Growth in Bald Cypress. *Alabama Water Institute Symposium*, 2023. April 6-7: Tuscaloosa, AL.
- Foley, Z.**, N. Jones, K. Lackey, M. Therrell. Investigating the Impacts of Inundation on Cambium Cell Growth in Bald Cypress. *Alabama Water Resources Conference*, 2023. September 6-8: Perdido Beach, AL.
- 2022 **Foley, Z.**, M. Therrell. Blue Light Analysis of Eastern Hemlock as a Temperature Proxy. *University of Alabama Undergraduate Research and Creative Activity Conference*, 2022, April 4: Tuscaloosa, AL.

PUBLISHED ART

- 2024 **Foley, Z.** Arboreal Echoes. *The Marr's Field Journal*, 2024. Bald Cypress Cell Image Art.
- 2023 **Foley, Z.** The Blue Collar. *The Marr's Field Journal*, 2023. Handmade Paper from Cotton Shirts
- 2022 **Foley, Z.** Freshman Infection. *The Marr's Field Journal*, 2022. Handmade Paper from Cotton
- 2021 **Foley, Z.** Human Autonomy. *The Marr's Field Journal*, 2021. Wood Block Print

MENTORING AND SERVICE ACTIVITIES

- 2026 **President**, University of Idaho Graduate and Professional Student Association
Chair of Initiatives, University of Idaho Graduate and Professional Student Association
Student Fee Committee, University of Idaho
Idaho Student Union Building Committee, University of Idaho
Grad Council, Student representative to the College of Graduate Studies Council University of Idaho
Faculty Senate, Student representative
Outreach, Arbor day tabling
Mentoring, Undergraduate students in the Idaho Tree Ring Lab on tree ring analysis
- 2025 **Chair of Initiatives**, University of Idaho Graduate and Professional Student Association
Mentoring, Undergraduate students in the Idaho Tree Ring Lab on tree ring analysis
Outreach, Teaching High School aged TRIO Summer Program students about tree rings
Outreach, Vandal Science day tabling to high school students
Grad Council, Student representative to the College of Graduate Studies Council University of Idaho
- 2024 **Outreach**, Vandal Science day tabling to high school students
- 2023 **Vice President**, University of Alabama Club Swim
Peer Mentor, Biology Graduate Student Association, University of Alabama
Assistant Moderator, Alabama Water Resources Conference
Outreach Volunteer, University of Alabama Arboretum Halloween Outreach
- 2022 **President**, University of Alabama Club Swim
Traditional Gardening Booth Volunteer, Moundville Native American Festival
Spider Biodiversity Instructor, University of Alabama Arboretum Halloween Outreach
Biomes Outreach Instructor, Earth day outreach instructor at Northridge Middle School
- 2021 **Secretary**, University of Alabama Club Swim
- 2020 **Honors Action**, Volunteer program at University of Alabama to help underserved public schools.