# Jeffery B. Cannon, PhD

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## **Education**

PhD, Plant Biology (2015) University of Georgia, Athens, GA
MS, Biology (2011) University of Mississippi, Oxford, MS
BS, Biological Science (2009) Mississippi State University, Starkville, MS

summa cum laude summa cum laude summa cum laude

# **Positions Held**

2024 – present	Landscape Ecologist, Associate Scientist, The Jones Center at Ichauway. Newton, GA.
2019 – 2024	Landscape Ecologist, Assistant Scientist, The Jones Center at Ichauway. Newton, GA.
2016 – 2019	Asst. Director of Research (Research Associate IV 2016-2018), Colorado Forest Restoration
	Institute, Dept. of Forest and Rangeland Stewardship, Colorado State University.
2011 – 2015	Graduate Research & Teaching Assistant (PhD), Dept. of Plant Biology, University of Georgia.
2009 – 2011	Graduate Research & Teaching Assistant (MS), Dept. of Biology, University of Mississippi.
2009 – 2011	Physical Science Technician, US Department of Agriculture, Natural Resources Conservation
	Service, Natural Products Utilization Unit.
2008 – 2011	Assistant Curator, Institute of Botanical Exploration Herbarium
2007 – 2009	Undergraduate Research Assistant, Department of Biological Science, Mississippi State
	University

#### **Other Appointments**

2023 – present Member, Board of Trustees & Exhibitions Committee, Albany Museum of Art, Albany, GA.
2023 – present Affiliate Graduate Faculty, Dept. of Geography, The University of Alabama, Tuscaloosa, AL.
2022 – present Affiliate Graduate Faculty, Agriculture and Natural Resources, Univ. of Missouri, Columbia, MO.
2021 – present Courtesy Assistant Professor, Forest, Fisheries, & Geomatic Sci., Univ. of Florida, Gainesville, FL.
2021 – present Affiliate Assistant Research Professor, Forestry & Wildlife Science, Auburn Univ., Auburn, AL.
2020 – present Adjunct Graduate Faculty, Department of Plant Biology, University of Georgia. Athens, GA.

# **Publications**

**Refereed Publications** (\*post-doctoral, \*graduate student; or \*\*undergraduate student co-author)

- Cannon, JB, BT Rutledge, JJ Puhlick, JL Willis, DG Brockway (2024). Tropical cyclones stimulate cone production in the masting species longleaf pine (*Pinus palustris* Mill.). *New Phytologist* in press. doi: 10.1111/nph.19381
- Whelan, AW, SW Bigelow, C Staudhammer, G Starr, JB Cannon (2024). Damage prediction for planted longleaf pine in extreme winds. *Forest Ecology and Management* 560: 121828. doi: 10.1016/j.foreco.2024.121828
- Willis, JL, DC Bragg, JB Cannon, KJK Gandhi, KR Kidd, AD Polinko, JJ Puhlick, D Saenz, MA Sayer, CM Schalk, AB Self, CM Siegert, JM Varner (2024). Does pine species identity affect woodland ecosystem services in the southeastern United States? *Restoration Ecology* in press. <u>doi: 10.1111/rec.14119</u>

- 4. Hill, EM, MD Redmond, **JB Cannon**, S Ex, TW Ocheltree (2024). Canopy-mediated microclimate refugia do not match narrow regeneration niches in a managed dry conifer forest. *Forest Ecology and Management*, in press. doi: 10.1016/j.foreco.2023.121566
- \*Arko, A, JB Cannon, A Himes, A Polinko (2024). The effects of a moderate severity hurricane on gap characteristics in a longleaf pine (*Pinus palustris* Mill.) woodland. *Forest Ecology and Management* 551: 121502. doi: 10.1016/j.foreco.2023.121502
- 6. **Cannon, JB**, CJ Peterson, C Godfrey, AW Whelan (2023) Hurricane wind regimes for forests of North America. *Proceedings of the National Academy of Sciences* 120: e2309076120. <u>doi: 10.1073/pnas.2309076120</u>
- \*Younger, S, JB Cannon, ST Brantley (2023). Impacts of longleaf pine (*Pinus palustris* Mill.) on long-term hydrology at the watershed scale. *Science of the Total Environment* 902: 165999. doi: 10.1016/j.scitotenv.2023.165999.
- Whelan, AW, JB Cannon, SW Bigelow, BT Rutledge, AJ Sánchez Meador (2023). Improving generalized models of forest structure in complex forest types using area- and voxel-based approaches from lidar. *Remote Sensing of Environment* 284: 113362. doi: 10.1016/j.rse.2022.113362
- 9. \*Blaydes, SH, **JB Cannon**, DP Aubrey (2023). Modeling needle fuel dispersal in longleaf pine-dominated forests. *Fire Ecology* 19: 56. doi: 10.1186/s42408-023-00209-z
- 10. \*Pope, CA, **JB Cannon**, SW Bigelow, A Sharma (2023). Effects of hurricane canopy gaps on longleaf pine and upland oak sapling growth. *Forest Ecology and Management* 529: 120684. <u>doi: 10.1016/j.foreco.2022.120684</u>
- Cannon, JB, LT Warren, GC Ohlson, JK Hiers, \*M Strestha, C Mitra, \*EM Hill, SJ Bradfield, TW Ocheltree (2022). Applications of low-cost environmental monitoring systems for fine-scale abiotic measurements in forest ecology. *Agricultural and Forest Meteorology* 321:108973. doi: 10.1016/j.agrformet.2022.108973.
- 12. **Cannon, JB**, SW Bigelow, JK Hiers, SB Jack (2022) Effects of silvicultural selection treatments on spatial pattern and dynamics in a *Pinus palustris* Mill. woodland. *Forest Ecology and Management* 505:119888. doi 10.1016/j.foreco.2021.119888.
- Cannon, JB, \*\*S Elliott, KJ Warnick, JS Briggs (2022). Comparing changes in spatial pattern between collaborative restoration treatments and wildfires in the Colorado Front Range. *Ecological Applications* 32:2490 doi: 10.1002/eap.2490.
- 14. Gong, Yuan, CL Staudhammer, S Wiesner, Y Zhang, **JB Cannon**, G Starr (2022). Uncertainty in parameterizing a flux-based phenological model with ecosystem respiration: Evidence from two longleaf pine sites. *Ecosphere* 13:4101. doi: 10.1002/ecs2.4101.
- 15. Latif, QS, **JB Cannon** EJ Chabot, RA Sparks, (2022). Simulated treatment effects on bird species occupancy and richness inform landscape-scale dry conifer forest management. *Ecological Applications* 32:e2555. <u>doi</u> 10.1002/eap.2555.
- Peterson, CJ and JB Cannon (2021) Modelling wind damage to southeastern U.S. trees: effects of wind profile, gaps, neighborhood interactions, and tree spatial distribution. *Frontiers in Forests and Global Change* 4:719813 doi: 10.3389/ffgc.2021.719813.
- 17. Barrett, KJ, \*\*A Schuetter, **JB Cannon**, AS Cheng (2021). Effects of collaborative restoration and adaptive management on forest structure and composition the Colorado Front Range. *Forest Ecology and Management* 488:119018 doi: 10.1016/j.foreco.2021.119018.

- 18. Rutledge, BT, **JB Cannon**, RK McIntyre, AM Holland, SB Jack (2021). Tree-, stand-, and landscape-level factors contributing to hurricane damaging in a coastal plain forest: Post-hurricane assessment in a longleaf pine dominated landscape. *Forest Ecology and Management* 481:118724 <u>doi: 10.1016/j.foreco.2020.118724</u>.
- Bigelow, SW, CL Looney, JB Cannon (2021). Hurricane effects on climate-adaptive silviculture treatments to longleaf pine woodland in southwestern Georgia, USA. Forestry: An International Journal of Forest Research, cpaa042 doi: 10.1093/forestry/cpaa042.
- Cannon, JB, BM Gannon, JA Feinstein, EA Padley, LJ Metz (2020) Incorporating spatially complex restoration objectives in planning and prioritization of dry conifer forests. *Landscape Ecology* 35: 2301–2319 doi: <u>10.1007/s10980-020-01111-8.</u>
- 21. **Cannon, JB**, \*\*RK DeAngelis, WT Tinkham, \*EM Hill, MA Battaglia (2019). Variability in mixed conifer spatial structure changes understory light environments. *Forests* 10: Paper 1015 doi: 10.3390/f10111015.
- 22. **Cannon, JB**, BM Gannon, JA Feinstein, BH Wolk (2019) An assessment framework for dry forest conservation. *Rangelands* 41: 205–210 doi: 10.1016/j.rala.2019.07.002.
- 23. **Cannon, JB**, \*\*SK Henderson, \*\*MH Bailey, CJ Peterson (2019) Interactions between wind and fire disturbance in forests: Competing amplifying and buffering effects. *Forest Ecology and Management*, 436: 117–128. <u>doi:</u> 10.1016/j.foreco.2019.01.015.
- Peterson, CJ, GHP Ribeiro, R Negrón-Juárez, D Marra, JQ Chambers, N Higuchi, A Lima, JB Cannon (2019) Estimates of wind speeds necessary to topple central Amazon trees suggest that wind may be an extremely common agent of disturbance. *Forestry* 92: 444–459 doi: 10.1093/forestry/cpz025.
- \*Gannon, BM, Y Wei, LH MacDonald, SK Kampf, KW Jones, JB Cannon, BH Wolk, AS Cheng, RN Addington, MP Thompson (2019). Prioritizing fuels reduction for water supply protection. *International Journal of Wildland Fire* 28: 785–803. doi: 10.1071/WF18182.
- 26. Cannon, JB, KJ Barrett, \*BM Gannon, RN Addington, MA Battaglia, PJ Fornwalt, GH Aplet, AS Cheng, JL Underhill, JS Briggs, PM Brown (2018). Effects of collaborative restoration treatments on forest structure and spatial patterns in ponderosa pine (*Pinus ponderosa*) forests of Colorado. *Forest Ecology and Management* 424: 191–204. doi: 10.1016/j.foreco.2018.04.026.
- Cannon, JB, CJ Peterson, JJ O'Brien, JS Brewer (2017). A review and classification of interactions between forest disturbance from wind and fire. *Forest Ecology and Management* 409: 381–390. doi: 10.1016/j.foreco.2017.07.035.
- Jones KW, JB Cannon, FA Saavedra, SK Kampf, RN Addington, AS Cheng, LH MacDonald, C Wilson, B Wolk (2017). Return on investment from fuel treatments to reduce severe wildfire and erosion in a watershed investment program in Colorado. *Journal of Environmental Management* 198: 66–77. doi: <u>10.1016/j.jenvman.2017.05.023.</u>
- 29. **Cannon, JB**, J Hepinstall–Cymerman, CM Godfrey, and CJ Peterson (2016). Landscape-scale patterns of forest tornado damage in mountainous terrain. *Landscape Ecology* 31: 2097–2114. <u>doi: 10.1007/s10980-016-0384-8</u>.
- \*Ribeiro, G, JQ Chambers, CJ Peterson, SE Trumbore, DM Marra, C Wirth, JB Cannon, RI Negron-Juarez, A Lima, E de Paula, J Santos, N Higuchi (2016). Mechanical vulnerability and resistance to snapping and uprooting for Central Amazon tree species. *Forest Ecology and Management* 380: 1–10. doi: 10.1016/j.foreco.2016.08.039.

- 31. Chaudhary, V, M Rúa, A Antoninka, J Bever, **JB Cannon**, A Craig, et al. (2016). MycoDB: A global database of plant response to mycorrhizal fungi. *Scientific Data* 3: 160028. <u>doi: 10.5061/dryad.723m1.</u>
- 32. **Cannon, JB**, \*\*MA Barrett, and CJ Peterson (2015). Effect of species, size, failure mode, and fire-scarring on tree stability. *Forest Ecology and Management* 356: 196–203. <u>doi: 10.1016/j.foreco.2015.07.014.</u>
- 33. **Cannon, JB**, and P Brickman (2015). Helping students save: Assigning textbooks early can save money and enhance learning. *Journal of College Science Teaching* 44: 38–41. <u>https://www.jstor.org/stable/43631846</u>.
- Cannon, JB, JJ O'Brien, EL Loudermilk, MB Dickinson, and CJ Peterson (2014). The influence of experimental wind disturbance on forest fuels and fire characteristics. Forest Ecology and Management 330: 294-303. doi: 10.1016/j.foreco.2014.07.021
- Cannon, JB, and JS Brewer (2013). Effects of tornado damage, prescribed fire, and salvage logging on natural oak (*Quercus* spp.) regeneration in a xeric southern USA coastal plain oak–pine forest. *Natural Areas Journal* 33: 39–49. doi: 10.3375/043.033.0105.
- Cannon, JB, CL Cantrell, T Astatkie, and VD Zheljazkov (2013). Modification of yield and composition of essential oils by distillation time. *Industrial Crops and Products* 41: 214–220. doi: 10.1016/j.indcrop.2012.04.021.
- Brewer, JS, CA Bertz, JB Cannon, JD Chesser, and EE Maynard (2012). Do natural disturbances or the forestry practices that follow them convert forests to early-successional communities? *Ecological Applications* 22: 442– 458. doi: 10.1890/11-0386.1.
- Zheljazkov, VD, CL Cantrell, T Astatkie, and JB Cannon (2011). Lemongrass productivity, oil content, and composition as a function of nitrogen, sulfur, and harvest time. *Agronomy Journal* 103: 805–812. doi: <u>10.2134/</u>agronj2010.0446.

#### **Publications in Review**

- 1. Smidt, M, M Musah, D Mitchell, **JB Cannon**, BK Via. (in review) Determining the extent of damage in snapped southern yellow pine trees with acoustic testing. Submitted 4/19/2024 to *Forest Products Journal*.
- 2. **JB Cannon**, SH Scully, RS Taylor, CJ Peterson, T Newson. (in review) Soil moisture increases stability of some tree species in sand soils. Submitted 1/31/2024 to *Forest Ecology and Management*.
- 3. \*Goncalves Lazzaro, L, **JB Cannon**, MJ Aspinwell, HD Alexander (in review). Overstory and fuel traits interactively drive moisture dynamics in mesophytic and pyrophytic fuels. Submitted 1/31/2024 to *Fire Ecology*.
- 4. \*Rocha, KD, A Sharma, JB Cannon, MA Karasinski, RV Leite, MB Schlickmann, J Xia, J Vogel, A Singh, JW Atkins, AT Hudak, C Klauberg, AJ Sánchez Meador, A Cardil, CA Silva (in review). Estimating longleaf pine (*Pinus palustris* Mill.) tree age using terrestrial laser scanning and multiple linear regression modeling. Submitted 10/10/2023 to *Forest Ecology and Management*.
- \*English, CJ, ‡SE Younger, JB Cannon, ST Brantley, D Markewitz P Dwivedi (in review). Longleaf Pine Restoration for Water Yield: Economic Analysis with Federal Cost-share Programs. Submitted 3/22/2024 to *Trees, Forests, and People.*
- 6. \*Nation, RE, HD Alexander, JL Willis, M Aspinwell, **JB Cannon** (in review). Does longleaf pine cone production correlate with seed production, size, and germination rate? Submitted 7/20/2023 to *Proceedings of the 22nd*

*Biennial Southern Silvicultural Research Conference*. Gen. Tech Rep. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station

- 7. Willis, JL, DC Bragg, JB Cannon, KJK Gandhi, KR Kidd, AD Polinko, JJ Puhlick, D Saenz, MA Sayer, CM Schalk, AB Self, CM Siegert, JM Varner (in review). Does restoring woodland structure with off-site pine species produce desirable ecosystem function? Submitted 7/20/2023 to *Proceedings of the 22nd Biennial Southern Silvicultural Research Conference*. Gen. Tech Rep. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station.
- 8. **Cannon, JB**, BT Rutledge, JJ Puhlick, JL Willis, DG Brockway (in review). Hurricanes stimulate cone production in longleaf pine woodlands. Submitted 7/20/2023 to Proceedings of the 22nd Biennial Southern Silvicultural Research Conference. Gen. Tech Rep. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station
- Lazzaro, LG, HD. Alexander, JB Cannon, MJ Aspinwall (in review). Influences of overstory pyrophytic and mesophytic trees and understory solar irradiance on leaf litter and woody debris fuel moisture retention. Submitted 7/20/2023 to *Proceedings of the 22nd Biennial Southern Silvicultural Research Conference*. Gen. Tech Rep. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station.

### Manuscripts in preparation (draft available)

- 1. \*Jensen, GL, BO Knapp, **JB Cannon**, SW Bigelow (in prep). Effects of aggregated longleaf pine saplings on fuels, fire behavior, and fire effects. In preparation for *Fire Ecology*
- 2. Zampieri, NE, C Fortuin, F Gilliam, WJ Platt, A Sharma, **JB Cannon**. (in prep) Advancing hurricane ecology to improve ecological resilience in endangered systems. In preparation for *BioScience*

### Outreach, Technical Reports, and Book Chapters

- 2024 **Cannon, JB**, AW Whelan (2024). Hurricane regimes offer ecological insights to forests of North America. The Jones Center at Ichauway. <u>Publication Brief</u>
- 2024 **Cannon, JB** (2024). "Pardon our smoke". Albany Herald 2/1/2024 p. A1, A3.
- 2023 Younger, SE, **JB Cannon**, ST Brantley (2023). Management of longleaf pine as open woodlands leads to water savings. The Jones Center at Ichauway. <u>Publication Brief</u>.
- 2023 Cannon, JB (2023). "The demise and reprise of an American emblem". Albany Herald 7/4/2023 p. A1, A6.
- 2023 **Cannon, JB** (2023). "Journey back in time: Canoeing Kinchafoonee Creek offers natural sights, glimpse into deep past". *Albany Herald* 6/7/2023 p. A1, A3.
- 2023 Whelan, AW, **JB Cannon** (2023). Improving lidar techniques for measuring diverse longleaf pine forests. The Jones Center at Ichauway. <u>Publication Brief</u>.
- 2022 **Cannon, JB**. Fire & Wind. In Rutledge, BT and RK McIntyre (eds). 2022. Prescribed fire at The Jones Center at Ichauway: A 28-year case study. Newton, Georgia: The Jones Center at Ichauway. 29 p. doi: 10.58497/50713.
- Bigelow, SW, AW Whelan, JB Cannon, G Starr, C Staudhammer, GR Kenney, ST Brantley (2022). Planted longleaf pine stands in the face of a tropical cyclone. *In* Willis, JL, AB Self, CM Siegert, eds. 2022. Proceedings of the 21st Biennial Southern Silvicultural Research Conference. Gen. Tech Rep. SRS-268. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station. doi: 10.2737/SRS-GTR-268
- 2022 **Cannon, JB**, BT Rutledge, RK McIntyre, AM Holland, SB Jack (2022). Understanding wind risk to forests: Towards mechanistic models of wind risk in the southeastern Coastal Plain. *In* Willis, JL, AB Self, CM

Siegert, eds. 2022. Proceedings of the 21st Biennial Southern Silvicultural Research Conference. Gen. Tech Rep. SRS-268. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station. doi: 10.2737/SRS-GTR-268

- 2021 Latif, QS, DC McNitt, EJ Chabot, and **JB Cannon**. 2021. A map package and framework to inform multiobjective management of dry conifer forests along the Colorado Front range: Report. Bird Conservancy of the Rockies. Brighton, Colorado, USA. (pdf)
- 2021 **Cannon, JB**, BT Rutledge (2021). How do hurricanes shape longleaf pine ecosystems? *The Longleaf Leader Volume XIV* (3) <u>Fall 2021</u>.
- 2019 **Cannon, JB**, BM Gannon, Z Wurtzebach (2019). Report on potential application of landscape-scale analyses for assistance with Forest planning. Colorado Forest Restoration Institute. *CFRI-1910*. (pdf)
- 2019 Morici, K, and **JB Cannon** (2019). Photoload calibration of fine woody fuels in montae forests of Colorado: 2015-2018. Colorado Forest Restoration Institute. *CFRI-1910*. (pdf)
- 2019 **Cannon, JB**, BM Gannon, Z Wurtzebach (2019). Application of CFLRP monitoring to Forest Plan Monitoring of the Arapaho Roosevelt National Forest. Colorado Forest Restoration Institute <u>CFRI-1909</u>.
- 2019 **Cannon, JB** (2019). Application of tools for modeling stand-level restoration effects on landscape-scale heterogeneity: Pilot study for Jefferson County Open Space. <u>*CFRI-1907*</u>.
- 2019 Morici, K, **JB Cannon**, B Wolk (2019). Mary's Lake Monitoring Summary. Colorado Forest Restoration Institute. *CFRI-1906*. (pdf)
- 2019 Morici, K, B Wolk, AS Cheng, **JB Cannon**, EC Williams, MD Caggiano, H Brown, CM Hoffman (2019). Colorado Wildfire Risk Reduction Grant Program Monitoring Final Report. <u>*CFRI-1903*</u>.
- 2019 Williams, EC, **JB Cannon**, (2019). Upper South Platte Partnership Ecological Resilience Monitoring. Colorado Forest Restoration Institute. *CFRI-1902*. (pdf)
- 2019 Morici, K, B Wolk, **JB Cannon**, B Gannon, R Addington (2019). 2018 Ecological Monitoring Report for Peaks to People Water Fund Demonstration Sites. Peaks to People Water Fund. *CFRI-1901*. (pdf)
- 2018 Morici, K, and **JB Cannon** (2018). Photoload calibration of fine woody fuels in montane forests of Colorado: 2016–2017. Colorado Forest Restoration Institute. *CFRI-1812*. (pdf)
- 2018 **Cannon, JB**, KJ Barrett, BM Gannon (2018). Report on the potential application of CFLRP monitoring tools for development of Forest Plan monitoring. Colorado Forest Restoration Institute. *CFRI-1811*. (pdf)
- 2018 Chambers, ME, and **JB Cannon** (2018). Uncompany Plateau Collaborative Forest Landscape Restoration Program: Ecological Impacts. Colorado Forest Restoration Institute. *CFRI-1806*. (pdf)
- 2018 Chambers, ME, and **JB Cannon** (2018). Uncompany Plateau CFLRP Gambel oak understory response to mowing and prescribed burning treatments study summary. Colorado Forest Restoration Institute. *CFRI-1801*. (pdf)
- 2018 **Cannon, JB**, JS Briggs, and ME Chambers (2018). Effects of forest restoration treatments and wildfires on tree spatial patterns in the Colorado Front Range. 2017 Association of Fire Ecology, Fire Congress Research Highlight. (pdf)
- 2017 Gannon, B, B Wolk, Y Wei, S Kampf, K Jones, L MacDonald, R Addington, T Cheng, **JB Cannon** (2017). Connecting forests and water: Fuel treatment assessment and planning tools. *Colorado Water* 3: 9–11. (pdf)
- 2017 Barrett, KJ, PM Brown, J Clement, **JB Cannon**, B Wolk, AS Cheng (2017). Front Range Roundtable Collaborative Forest Landscape Restoration Project: 2017 Ecological Social and Economic Monitoring Plan. Colorado Forest Restoration Institute. *CFRI-1705*. (pdf)
- 2017 **Cannon, JB**, ME Chambers, and AS Cheng (2017). Monitoring trends in forest spatial patterns: Uncompanyer Collaborative Landscape Restoration Program. Colorado Forest Restoration Institute. *CFRI-1703*. (pdf)

- 2016 Chambers, ME, **JB Cannon** (2016). Uncompany Plateau CFLRP Gambel oak understory response to mowing and prescribed burning treatments study summary. Colorado Forest Restoration Institute. *CFRI-1603*. (pdf)
- 2016 **Cannon, JB**, KJ Barrett (2016). 2016 Front Range CFLRI Monitoring: Progress, Outcomes, and Recommendations. Colorado Forest Restoration Institute. *CFRI-1601*. (pdf)
- 2016 Peterson, CJ, **JB Cannon**, and CM Godfrey (2016). First steps toward defining the wind disturbance regime in Central Hardwoods Forests. In *Natural Disturbances and Historic Range of Variation: Type, Frequency, Severity, and Post-disturbance Structure in Central Hardwood Forests, USA*, C. Greenberg and V Collins, eds. Springer. (html)

# **Grants and Fellowships**

Total grants awarded: \$6.8 million (\$2.5M as PI; \$4.3M as co-PI); \$5.8 million active; \$1.0 million pending

### Pending awards

Pending \$1,023,017 requested. Identifying and Sustaining Mature and Old Growth Structural Characteristics in Fire-Adapted Forests. USDA Forest Service. [Lead PI: Willis, co-PI: Cannon et al.]

### Active awards

2024-2028	\$2,976,918	RaMP: Woods to Water (W2W) for Training the Next Generation of Ecologists and Natural Resource Managers. <i>National Science Foundation, Division of Biological Infrastructure</i> [PI: Staudhammer, Co-PI: Cannon, <i>et al.</i> ]
2024-2027	\$552,800	Prescribed burning practices and smoke emissions: Implications for environmental justice in the southeastern U.S. <i>Natural Resource Conservation Service, Conservation Effects</i> <i>Assessment Project—Grazing Lands Division</i> [PIs: Cannon, Fuller, co-PI: Goodrick]
2024-2025	\$289,478	Safeguarding America's Native Nut Tree: Climate-smart practices to reduce hurricane risk in pecan. USDA, Agriculture and Food Research Initiative. [Lead PI: Wells, co-PI: Cannon]
2024-2027	\$605,700	Developing tools and knowledge to improve restoration in wetlands and associated longleaf pine forests on private lands in Georgia. <i>Natural Resource Conservation Service,</i> <i>Conservation Effects Assessment Project—Grazing Lands Division</i> [PI: Cannon; co-PI Brantley, Younger]
2024-2026	\$264,842	Reach Characterization Under Low Flows using UAV and terrestrial lidar. US Fish and Wildlife Service. Cooperative Endangered Species Conservation Fund: Conservation Planning Assistance. [PI: Masters, Co-PI: Golladay, Cannon]
2023-2027	\$492,200	ICESat-4D: Monitoring Forest Resistance and Post-Hurricane Recovery Dynamics in Southern Forests by the Synergism of ICESat-2, SAR, and Optical Data and an Ecosystem Demography Model. <i>National Aeronautics and Space Administration, Science Mission</i> <i>Directorate</i> . [PI: Silva, Co-I: Cannon <i>et al.</i> ]
2022-2023	\$41,300	Automating a mapping framework and evaluating potential extensions to inform dry conifer forest management along the Colorado Front Range. <i>Natural Resources Conservation Service, Conservation Effectiveness Assessment Project—Wildlife Division</i> [PI: Latif; co-PIs: Chabot, Sparks, Cannon]
2021-2026	\$650,000	Quantifying landscape-scale ecosystem benefits of restoration in longleaf pine forests. Natural Resource Conservation Service, Conservation Effects Assessment Project—Grazing Lands Division [PI: Cannon; co-PI: Brantley, Golladay, McIntyre].

## **Completed** awards

2022	\$2,800	Line-of-sight analysis to improve deployment of sensor network in the Congo Basin, Haut-Nyong, Cameroon. <i>Field Kit/Multiplier,</i> [PI: Cannon, <i>ERS LLC</i> ]
2021-2022	\$87,600	Mapping potential for natural resource conservation with forest restoration on the
		Colorado Front Range. Natural Resources Conservation Service, Conservation Effects Assessment Project—Wildlife Division [PI: Q Latif; co-PI: Cannon].
2019-2020	\$9,500	Development of tools for assessing restoration effects on landscape-scale processes in
2019-2020	\$9, <b>3</b> 00	Jefferson County Open Space [PI: Cannon].
2019-2020	\$55,000	Expansion of Conservation Effectiveness Assessment Program for forests of the Colorado
	. ,	Front Range. Natural Resource Conservation Service, Conservation Effects Assessment
		Project—Grazing Lands Division [PI: JB Cannon; co-PI: Gannon, Cheng].
2018-2019	\$100.000	Tree regeneration niches and microsites are the keys to maintaining resilience of
	+ • • • , • • •	Colorado forests to disturbance. <i>McIntire–Stennis Grant, Warner College of Natural</i>
		Resources, Colorado State University [PI: Ex; co-PI: Cannon, Ocheltree].
2017-2019	\$172.000	Conservation effects assessment for forests of the Colorado Front Range. Natural
	. ,	Resource Conservation Service, Conservation Effects Assessment Project—Grazing Lands
		Division [PI: Cannon; co-PI: Cheng, Wolk]
2017-2018	\$25,000	Comparing changes in spatial patterns between collaborative restoration treatments and
	. ,	wildfires in the Colorado Front Range. US Geological Survey, Geosciences and
		Environmental Change Science Center. [PI: Cannon; co-PI: Cheng]
2017-2018	\$8,000	Does the spatial pattern of forest restoration treatments impact treatment longevity
		outcomes? A mechanistic approach to understanding the influence of restoration
		treatments on forest stand dynamics. <i>McIntire–Stennis Grant, Warner College of Natural</i>
		Resources, Colorado State University [PI: Ex, co-PI: Cannon]
2017-2020	\$400,000	Science-Based Support to Sustain the Resilience of Colorado's Front Range Forests,
		Watersheds and Communities to Wildfire. US Forest Service, Arapaho-Roosevelt National
		Forest. [PI: Cheng; co-PIs: Wolk, Caggiano, Cannon]
2016-2017	\$75,000	Modeling conservation effects in Rocky Mountain dry forest systems, National Resource
		Conservation Service, Conservation Effects Assessment Project—Grazing Lands Division [Pi:
		Cheng, co-Pls: Wolk, Cannon]
2016-2017	\$5,000	Development of an integrated system to maximize the return of investing in fire resilient
		watersheds in the Interior West. Pre-Catalyst for Innovative Partnerships, Colorado State
		University [Pi: Wei, co-Pls: Cheng, Wolk, Miao, Cannon, Jones, Kampf]
2015-2016	\$25,000	Dissertation Completion Award for excellence in research, teaching, and service (One year
		graduate fellowship). University of Georgia Graduate School. [Pl: Cannon]
2015-2016	\$18,900	Tornado damage risk and patterns in Great Smoky Mountains National Park. George
		Menendez Wright Climate Change Youth Initiative Fellowship, National Park Service. [PI:
		Cannon]
2012-2014	\$4,000	Graduate Travel and Research Awards (Various). Univ. of Georgia, Dept. of Plant Biology,
		Graduate School, Plant Biology Graduate Student Association, Sigma Xi. [PI: Cannon]

# **Mentoring and Teaching**

#### **Post-Doctoral Scientists supervised**

- 2024–present **Dr. Behnoosh Abbasnezhad**, PhD. University of Georgia. Prioritizing and improving restoration outcomes in longleaf pine forests.
- 2023–present **Dr. Nicole Zampieri**, PhD. Florida State University. Spatial patterns of recruitment, mortality, and growth in a longleaf pine–oak sandhill. Co-advisor: JM Varner
- 2021–present **Dr. Seth E. Younger**, PhD. University of Georgia. Quantifying landscape-scale ecosystem restoration benefits in longleaf pine forests. Co-advisor: ST Brantley

#### Graduate Students, Advisor/Co-advisor

2024-present Morné le Roux, MS. The effects of repeated canopy scorch on resistance and resilience of longleaf pine. Co-advisor: TS Shearman, Auburn University

- 2021-2023 Luiza Lazzaro, MS. Spatial drivers of fuel conditions in mixed oak–pine ecosystems. Auburn University. Co-advisor: HA Alexander. Current Position: *PhD student, Dept. of Ecology Penn State University.*
- 2021-2023 Andrew Arko, MS. Assessing effects of Hurricane Michael on forest structure using airborne LiDAR. Mississippi State University. Co-advisor: A Himes. Current Position: *Forester, Washing State* Department of Natural Resources.
- 2021-2023 Chambers J. English, MS. Quantifying economic and ecological benefits of longleaf pine restoration. University of Georgia. Co-advisor: P Dwivedi. Current Position: *Nature Based Solutions Associate, Milliken Advisors*
- 2020-2022 George Jensen, MS. Effects of adaptive silviculture for climate change on fuel and fire behavior. University of Missouri. Co-advisor: BO Knapp. Current Position: *SW Georgia Prescribed Burn Association Coordinator, Tall Timbers Research Station*
- 2020-2022 Suzie (Henderson) Blaydes, MS. Effects of overstory spatial pattern on leaf litterfall in southeastern forest ecosystems. University of Georgia. Co-advisor: D Aubrey. Current Position: *Minister, UGA Catholic Center*
- 2020-2021 Cody Pope, MS. LiDAR-based assessment of Hurricane Michael impacts on a *Pinus palustris* forest. University of Florida. Co-Advisor: A Sharma. Current Position: *Training Specialist, Longleaf Alliance*

#### Graduate Students, Graduate Committee

- 2023-Present Basanta Strestha (MS in progress). Estimating carbon storage, fuel loading, and fire behavior consequences in hurricane-impacted, fire-dependent forests of the southeastern U.S. Auburn University. Advisor: H Alexander
- 2020-2024 Austin Menzmer (PhD) Short- and long-term effects of wind disturbance and salvage logging on herbaceous communities in the southeastern U.S. University of Georgia. Advisor: CJ Peterson

#### **Undergraduate Students**

- 2022 Evan Quigley. Patterns of overstory structure and composition and structure in a longleaf pine-xeric oak sandhill community. University of Florida, Directed Independent Study
- 2019 Geon Ho Kim. National analysis of interactions between compounded forest disturbances from tornado and fire over 30 years. Colorado State University, F495 Directed Independent Study.

- 2018 Wesley Hartman. Effect of tree spatial patterns on microsite conditions following restoration treatments in the Colorado Front Range. Colorado State University, F495 Directed Independent Study.
- 2018 Alexandra Schuetter. Effect of adaptive management on the evolution of collaborative restoration treatments. Colorado State University, F495 Directed Independent Study.
- 2017 Spencer Elliott. Spatial and temporal effects of collaborative restoration on Front Range ponderosa pine dominated forests. Colorado State University, F495 Directed Independent Study. *Recipient of 2018 Warner College of Natural Resources Undergraduate Research Award*
- 2017 Ryan DeAngelis. Effects of spatial heterogeneity on understory solar radiation in a mixed conifer forest. Colorado State University, F495 Directed Independent Study.
- 2015 Brandon White. Effects of wind damage on soil respiration in northeast and central Georgia forests. University of Georgia, PBIO 4960 Directed Independent Study.
- 2014 Suzie Henderson. Assessing the effects of simulated wind disturbance on sapling structure and composition at the Piedmont National Wildlife Refuge. University of Georgia, PBIO 4960 Directed Independent Study
- 2013 Michael Bailey. Developing allometric equations for understanding plant community responses following wind and fire disturbance in forests. University of Georgia, PBIO 4960 Directed Independent Study

## **Courses Taught**

2017-2019 **Instructor of Record**, Dept. of Forest & Rangeland Stewardship, Colorado State University F495 Independent Research in Forest Ecology and Restoration (1-2 students Upper: 6×)

2013-2015 **Instructor of Record**, Division of Life Sciences, University of Georgia BIOL 4960 Directed Independent Study (1-2 students Upper: 3×) PBIO 2500E Natural History of Georgia Plants (Online, 20 students Upper: 1×) PBIO 4650/6650 Plant Taxonomy Laboratory (6 students Upper: 1×) PBIO 1210L Principles of Plant Biology Laboratory (40 students Lower: 2×) BIOL 1108 Principles of Biology II (36 students Lower: 2×)

#### **Invited Guest Lectures**

Plant Ecology (2022, Oglethorpe University), Longleaf Pine Management (2022, University of Florida), Fire Dynamics (2022, Florida State University), Seminar Series (2022, Auburn University), Seminar Series (2020, University of Georgia), Biological Science Seminar Series (2020, Albany State University); Fire Ecology (2018, 2019, Colorado State University), Forest Ecology (2017, 2018, Colorado State University).

# Professional Presentations (Oral = §; Poster = +; Invited = \*)

#### Recent (past 12 mo)

- 2024 **Shrestha, B**, HD Alexander, Y Olshansky, **JB Cannon**. Comparative analysis of organic soil horizon characteristics and carbon sequestration potential in oak and pine forests of the Southeastern U.S. International Oak Symposium. Knoxville, TN. October 7-10, 2024, forthcoming.
- 2024 Perkins, K, ST Brantley, F O'Donnell, **JB Cannon**, SE Younger, B Clayton, OS Stuber, SW Golladay. Can longleaf pine restoration restore hydrology of geographically isolated wetlands? 15<sup>th</sup> Biennial Longleaf Alliance Conference. Sandestin, FL, 2024, forthcoming.
- 2024 §Cannon, JB, CJ English, MV Ivey, JS Fraser, BO Knapp, LT Warren, AW Whelan, NE Zampieri. From the ground up: Understanding wind resistance traits in longleaf pine. 15<sup>th</sup> Biennial Longleaf Alliance Conference. Sandestin, FL, 2024, forthcoming.
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- 2024 §Latif, Q, J Timmer, B Nuse, C Kilner, and **JB Cannon**. Leveraging broad-scale environmental and population monitoring to inform spatial prioritization and planning of forest management. 2024 Annual Meeting. Estes Park, CO. October 1-5, forthcoming.
- 2024 **§Whelan, AW**, SW Bigelow, CL Staudhammer, G Starr, **JB Cannon**. Longleaf pine damage in extreme winds. 2024 Society of American Foresters National Convention. Loveland, CO. September 17-20, 2024, forthcoming.
- 2024 §Shrestha, B, HD Alexander, T Milton, G Sorrell, JB Cannon, Y Olshansky. Forest resilience and carbon dynamics following first entry prescribed fire: A case study in a wind-damaged montane longleaf ecosystem. Ecological Society of America. Long Beach, CA, August 4-9, 2024, forthcoming.
- 2024 **§Lamounier Moura, A**, HD Alexander, **JB Cannon**, JL Willis, Z Fan, MJ Aspinwall. Fuelbed structure and fire behavior trajectories following canopy loss in two contrasting fire-dependent forests. Ecological Society of America. Long Beach, CA, August 4-9, 2024, forthcoming.
- 2024 \*§Bigelow, SW, **AW Whelan**, C Looney, **JB Cannon**. Promoting wind storm resilience in off-site pine woodlands: Insights from Hurricane Michael. 14<sup>th</sup> North American Forest Ecology Workshop, Asheville, NC. June 24-27, 2024, forthcoming.
- 2024 \*SZampieri, NE, JB Cannon, C Fortuin, FS Gilliam, WJ Platt, A Sharma. Advancing hurricane ecology to improve ecological resilience in endangered systems. 14<sup>th</sup> North American Forest Ecology Workshop, Asheville, NC. June 24-27, 2024, forthcoming.
- 2024 \*§Cannon, JB, CJ English, MV Ivey, JS Fraser, BO Knapp, LT Warren, AW Whelan, NE Zampieri. Hurricane ecology: Wind resistance traits in southern pines vary along a hurricane frequency gradient. 14<sup>th</sup> North American Forest Ecology Workshop, Asheville, NC. June 24-27, 2024, forthcoming.
- 2024 \*§Lamounier Moura, A, HD Alexander, JB Cannon, JL Willis, Z Fan, MJ Aspinwell, KM Robertson. Linking canopy disturbances, fuelbed structure and fire behavior: insights Insights from two contrasting fire-dependent forests. 14<sup>th</sup> North American Forest Ecology Workshop. Asheville, NC. June 24-27, 2024, forthcoming
- 2024 **§Lamounier Moura, A**, HD Alexander, JL Willis, Z Fan, MJ Aspinwell, KM Robertson, **JB Cannon**. Mesophication in Southeastern U.S. forests: new perspectives on flammability, functional strategies, and management. 14<sup>th</sup> North American Forest Ecology Workshop. Asheville, NC. June 24-27, 2024, forthcoming
- 2024 §Golladay, SW, C Sweeney, **JB Cannon, AW Whelan**, K Rowles, G Cowie, M Masters. Estimating stream inundation characteristics for freshwater mussel conservation in the lower Flint River Basin, Georgia. 2024 Society for Freshwater Science annual meeting. Philadelphia, PA. June 2-6, 2024, forthcoming.
- 2024 §Atkinson, CL, AJ Shogren, H Benstead, **JB Cannon**, B Fugate, LM Giencke, SW Golladay, N Marzolf, E Moss, B Pine, G Starr, C Staudhammer. Woods to Water (W2W): Leveraging the unique biodiversity of the Southeastern USA for training in ecology and resource management. Special session: Communicating Science in an Ever-Changing World. 2024 Society for Freshwater Science annual meeting. Philadelphia, PA. June 2-6, 2024, forthcoming.
- 2024 \*§Staudhammer, C, G Starr, **JB Cannon**, S Wiesner. Drought, fire, and statistics: using long-term eddy covariance data to model forest carbon dynamics. Special Session: Long-term experiments to study the effects of silvicultural interventions and climate change on forest dynamics. International Union of Forest Research Organizations World Congress. Stockholm, Sweden. June 2024, forthcoming
- 2024 \*§**Younger, SE**, ST Brantley, SW Golladay, and **JB Cannon**. Simulated longleaf pine restoration effects on hydrology in four Southeast U.S. watersheds. Apalachicola-Chattahoochee-Flint Waters Conference, Albany, GA. April 23-25, 2024.
- 2024 §Menzmer, A, JB Cannon, LM Giencke, CJ Peterson. Windthrow and salvage logging alters herbaceous species composition but not Shannon diversity in short-term study of Georgia longleaf pine woodlands. 84<sup>th</sup> Annual meeting of the Association of Southeastern Biologists. Winston-Salem NC. March 23-26, 2024.
- 2024 **§Lamounier Moura, A**, HD Alexander, **JB Cannon**. Fuelbed structure and fire behavior trajectories following canopy loss in two contrasting fire-dependent forests. Central Hardwoods Forest Conference. 2024 Central Hardwoods Forest Conference. Lexington, KY. March 2024.
- 2024 \*§Cannon, JB, ML Wells, AW Whelan. Safeguarding America's Native Nut Tree: Climate-smart practices to reduce hurricane risk in pecan. Georgia Pecan Growers Association. 2024 Annual Conference and Trade Show. March 20, 2024.
- 2024 \*§Cannon, JB. Field and remote sensing studies of hurricane ecology in longleaf pine forests of the southeastern U.S. Stakeholder workshop for RapidFEM4Dm hurricane mapping platform. February, 28, 2024.
- 2024 \*§Cannon, JB, NE Zampieri. Disturbance ecology of longleaf pine: New disturbance studies in the Ichauway Forest Dynamics Plot. Smithsonian ForestGEO Seminar Series. January 17, 2024.
- 2023 §Rocha, DK, Sharma, A, Leite, RV, Karasinski MA, **Cannon, JB**, Schlickmann, MB, Xia, J, Vogel, J, Singh, A, Atkins, J, Hudak, AT, Klauberg, C, Sánchez Meador, AJ, Silva, CA. Fusing high resolution terrestrial laser scanner data and multiple linear regression models for the estimation of longleaf pine (*Pinus palustris* Mill) ages. (December 2023). American Geophysical Union. San Francisco, CA.
- 2023 §Silva, CA, Atkins, J, **Cannon, JB**, Hudak, AT, Rocha, DK, Schlickmann, MB, Xia, J, Bueno IT, Valle, D, Batista, EKL, Longo, M, Hamamura, C, Sharma, A, Brock, K, Klauberg, C. Fusing NASA's ICESat-2 and Landsat 8 OLI data to assess forest recovery posthurricane disturbance in Southern forests. (December 2023). American Geophysical Union. San Francisco, CA.
- 2023 §Younger, SE, Cannon, JB, Brantley, ST. Impacts of longleaf pine (*Pinus palustris* Mill.) on long-term hydrology at the watershed scale (December 2023). American Geophysical Union. San Francisco, CA.

- 2023 §Howze, JM, **JB Cannon**, LL Smith (2023). Effects of experimental wind disturbance on vertebrate use of pine treefalls. 45th Annual Gopher Tortoise Council Meeting. Gopher Tortoise Council. Tifton, GA. November 18, 2023.
- 2023 §Willis, JL, DC Bragg, **JB Cannon**, KJK Gandhi, KR Kidd, AD Polinko, JJ Puhlick, D Saenz, MA Sayer, CM Schalk, AB Self, CM Siegert, JM Varner (2023). The impact of pine species identity on woodland ecosystem services. Society of Ecological Restoration World Conference. Darwin, NT, Australia. September 28, 2023
- 2023 §Brantley, ST, **CJ English, SE Younger**, P Dwivedi, and **JB Cannon**. Managing forests for increased water yields: Economic and ecological tradeoffs. Alabama Water Resources Conference. September 6-8, 2023. Orange Beach, AL.
- 2023 **§English, CJ, Younger, SE, Cannon, JB**, Brantley, ST, Markewitz, D, Dwivedi, P. Managing forestlands for increased water yields: economic and ecological tradeoffs. Alabama Water Resources Conference. September 6-8, 2023. Orange Beach, AL.
- 2023 \*§Klepzig, KD, TN Sheehan, **JB Cannon**. Frequent Fire as a Driver of Diversity, Health and Resilience in Longleaf Pine. School of Forestry, Northern Arizona University. Flagstaff, AZ, USA.
- 2023 §Rocha, KD, Sharma, A, Vogel, J, Singh, A, Hudak, A, **Cannon, JB**, Karasinksi, MA, Leite, RV, and Silva, C. Modeling longleaf pine (Pinus palustris Mill.) ages from terrestrial laser scanning data. 18<sup>th</sup> annual SilviLaser Conference. University College London, London, UK.
- 2023 **\*Shrestha, B**, HD Alexander, T Milton, Y Olshansky, **JB Cannon** (August 2023). Carbon storage, fuel loading, and fire behavior consequences of wind disturbances on fire-dependent forests of the southeastern U.S.? Ecological Society of America 2023 Annual Meeting. Portland, OR, USA.
- 2023 §Nation, RE, HD Alexander, JL Willis, MJ Aspinwall and **JB Cannon** (August 2023). Does longleaf pine cone production correlate with seed production, size, and germination rate? Ecological Society of America 2023 Annual Meeting. Portland, OR, USA.
- 2023 \*§Cannon, JB, CJ Peterson, CM Godfrey, AW Whelan (August 2023). Hurricane regimes for forests of eastern North America. Special Session: *Hurricane Ecologies: The Role of Tropical Storms and Hurricanes in Shaping Southeastern Ecosystems*. Ecological Society of America 2023 Annual Meeting. Portland, OR, USA.
- 2023 \*Lamounier Moura, A, HD Alexander, JB Cannon (2023). Fuelbed structure and fire behavior trajectories following canopy loss in two contrasting fire-dependent forests. 7<sup>th</sup> Fire in Eastern Oak Forests Conference, Oak Woodlands & Forests Fire Consortium. Tyler, TX, USA.
- 2023 \*Lazzaro, LG, HD Alexander, JB Cannon, M Aspinwall (2023). Effects of pyrophytic and mesophytic trees on fire behavior, microclimate, and regeneration. 7<sup>th</sup> Fire in Eastern Oak Forests Conference, Oak Woodlands & Forests Fire Consortium. Tyler, TX, USA.
- 2023 §Yedinak, K, JK Hiers, **JB Cannon**, B Potter, **AW Whelan** (2023). The role of the dappled canopy: Diurnal patterns in surface fuel micrometeorology. 14<sup>th</sup> Fire and Forest Meteorology Conference, American Meteorological Society. Minneapolis, MN, USA
- 2023 §Younger SE, ST Brantley, SW Golladay, CJ English, JB Cannon (2023). Simulating hydrologic responses of longleaf pine (*Pinus palustris*) restoration across southeastern U.S. river basins. Georgia Water Resources Conference, River Basin Center, University of Georgia. Athens, GA, USA.
- 2023 §Lazzaro, LG, HD Alexander, JB Cannon, M Aspinwall (2023). Influences of overstory pyrophytic and mesophytic trees and understory solar irradiance on leaf litter and woody debris fuel moisture retention. 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA
- 2023 **§Cannon, JB**, BT Rutledge, JP Puhlick, JL Willis, D Brockway (2023). Tropical cyclones stimulate cone production in longleaf pine woodlands. 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA
- 2023 §Willis, JL, DC Bragg, JB Cannon, KJK Gandhi, KR Kidd, AD Polinko, JJ Puhlick, D Saenz, MA Sayer, CM Schalk, AB Self, CM Siegert, JM Varner (2023). Impact of pine species identity on woodland ecosystem services. 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA.
- 2023 **†Ivey MV, JB Cannon** (2023) Modeling crown characteristics related to wind stability in slash pine (*Pinus elliottii*). 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA
- <sup>2023</sup> <sup>†</sup>Nation, RE, HD Alexander, JL Willis, M Aspinwall, **JB Cannon** (2023). Does longleaf pine cone production correlate with seed production, size, and germination rate? 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA.
- 2023 **†Arko, A, JB Cannon**, A Himes (2023). The effects of a moderate severity hurricane on landscape-scale heterogeneity in a longleaf pine woodland? 22<sup>nd</sup> Biennial Southern Silviculture Research Conference, Nacogdoches, TX, USA.

#### Selected

- 2023 \*§**Cannon, JB**, (2023) The role of hurricanes in shaping forests of the southeastern U.S. College of Agriculture, Food and Natural Resources, University of Missouri. Columbia, MO, USA.
- 2023 \*§Latif, QS, EJ Chabot, JM Timmer, and **JB Cannon**. Mapping where dry forest management could benefit ecological function to inform planning. Invited Presentation to Upper South Platte Partnership, CO, USA.
- 2022 §Younger SE, JB Cannon, ST Brantley (2022). Hydrology of longleaf pine (*Pinus palustris*) across southeast U.S. watersheds: from simulated restoration to long term watershed water balances. The Longleaf Alliance, 14th Biennial Longleaf Conference. Wilmington, NC.

- 2022 §Jensen, GL, BO Knapp, JB Cannon (2022). Turning up the heat: Effects of climate adaptive silviculture and fire on longleaf pine. The Longleaf Alliance, 14th Biennial Longleaf Conference. Wilmington, NC.
- 2022 **§Cannon, JB**, CJ Peterson, CM Godfrey, **AW Whelan** (2022). Estimating hurricane wind regimes in longleaf pine forests. The Longleaf Alliance, 14th Biennial Longleaf Conference. Wilmington, NC.
- 2022 \*§Cannon, JB. (2022). Understanding the role of hurricane disturbance regimes in eastern U.S. forests. Colloquium, Department of Geography, Florida State University.
- 2022 \*§Brantley, ST, J Qi, **SE Younger, JB Cannon**, SW Golladay. (2022) Restoring streamflow in southeastern watersheds: simulated forest restoration and irrigation reduction have similar effects. Alabama Water Resources Conference. Auburn University Water Resources Center. Sept 7-9, 2022. Auburn, AL
- 2022 \*§English, CJ, P Dwivedi, JB Cannon, ST Brantley, SE Younger (2022). Water scarcity and longleaf pine: Balancing ecosystem services and economics in the Coastal Plain. Georgia Environmental Conference. August 23-26. Jekyll Island, Georgia.
- 2022 §Whelan, AW, JB Cannon, AJ Sanchez–Meador (2022). Voxel-based metrics from lidar improve predictions of wood volume in structurally diverse forests. Ecological Society of America Meeting. August 2022. Montreal, Québec, Canada.
- 2022 §Blaydes, SH, JB Cannon, JJ O'Brien, RM Holdo, DP Aubrey (2022) Modeling needle fuel dispersal in longleaf pine-dominated forests. Warnell Graduate School Symposium. Warnell School of Forestry and Natural Resources, Athens, GA.
- 2022 §Hill, EM, MD Redmond, **JB Cannon**, and S Ex (2022) Forest microclimate variation impacts survival patterns for early-stage seedlings. Front Range Student Ecology Symposium, Colorado State University. February 2022 Fort Collins, CO.
- 2022 **\*Younger, SE**, ST Brantley, **JB Cannon**. Simulating restoration of Longleaf pine (*Pinus taeda*) forests across southeastern U.S. River basins. Frontiers in Hydrology Meeting 2022. American Geophysical Union, San Juan, Puerto Rico. July 2022.
- <sup>2022</sup> \*Nation, R, HD Alexander, JL Willis, M Aspinwall, **JB Cannon** (March 2022). Does longleaf pine cone production correlate with seed production, size, and germination rate? Auburn Research: A showcase of research and creative scholarship. Auburn, AL.
- 2022 **†Lazzaro, L**, HD Alexander, **JB Cannon**, M Aspinwall (March 2022) Overstory tree influence on microclimate, fuels, fire behavior, and tree regeneration. Auburn Research: A showcase of research and creative scholarship. Auburn, AL.
- 2021 \*§Cannon, JB, KJ Warnick, S Elliott, JS Briggs. (2021) Using remote sensing to compare mechanical treatments and low- and moderate-severity fire for meeting landscape restoration objectives in ponderosa pine forests. Special session "Remote Sensing of Large-Scale Changes and Disturbances over Broad Landscapes" International Association of Landscape Ecology 2021 Annual Meeting. April 14, 2021
- 2021 \*§Cannon, JB, ST Brantley, AW Whelan. (2021) Adaptive Silviculture in longleaf pine dominated forests. National Adaptive Silviculture for Climate Change Network Webinar. March 5, 2021
- 2021 \*§Cannon, JB. (2021). "Ecological forestry: What can patterns of wind and fire disturbances teach us about forest management?" Department of Biological Sciences, Florida International University. February 2, 20201
- 2021 **§Cannon, JB**, SW Bigelow, JK Hiers, SB Jack (November 2021). Effects of silvicultural selection treatments on spatial pattern and dynamics in a longleaf pine (*Pinus palustris*) woodland: implications for management with fire. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL.
- 2021 **§Whelan, AW, JB Cannon**, SW Bigelow (November 2021) Comparing two methods of estimating longleaf pine wood volume using aerial LiDAR. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL.
- 2021 **§Cannon, JB**, SW Bigelow, JK Hiers, SB Jack (2021) Ecological forestry in a longleaf pine woodland: Spatial patterns and dynamics. 2021 Society of American Foresters National Convention. Reno, NV (virtual). November 5, 2021.
- 2021 §Peterson, C, Nagel L, Looney C, SW Bigelow, **JB Cannon** (2021) Adaptive Silviculture for Climate Change Network. 2021 Society of American Foresters National Convention. Reno, NV (virtual) November 5, 2021.
- 2021 §Latif, Q, **JB Cannon**, E Chabot, R Sparks (November 2021) Mapped predictions indicate where and how dry forest management could benefit birds on the Colorado Front Range. The Wildlife Society, 28th Annual Conference.
- 2021 §Bigelow, SW, AW Whelan, JB Cannon, G Starr, C Staudhammer, G Kenney (March 2021) Tree size, stand density, and crown position influence a hurricane's damage to planted longleaf pines. 21st Biennial Southern Silvicultural Research Conference. Virtual Conference. March 16, 2021
- 2021 **§Cannon, JB**, BT Rutledge, RK McIntyre, AM Holland, SB Jack (March 2021) Understanding wind risk to forests: Towards mechanistic models of wind risk in the southeastern Coastal Plain. 21st Biennial Southern Silvicultural Research Conference. Virtual Conference. March 16, 2021.
- 2021 **†Younger, SE, JB Cannon**, ST Brantley (2021) Quantifying watershed scale longleaf pine (*Pinus palustris*) evapotranspiration effects on streamflow using the long-term water balance. American Geophysical Union Fall Meeting, New Orleans, LA.
- 2021 <sup>†</sup>Baker, KV, **JB Cannon, SH Scull**y, KJK Ghandi, JT Vogt, BP Bullock, D Johnson. (2021). Simulated Wind Damage on Longleaf Pine Trees: What Doesn't Kill You, Might Kill You Slowly. American Geophysical Union Fall Meeting, New Orleans, LA.
- 2021 **\*Blaydes, SH, JB Cannon**, RM Holdo, DP Aubrey (2021). Modeling needle fuel dispersal in longleaf pine-dominated forests. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL (virtual)
- 2021 <sup>+</sup>Jensen, GJ, BO Knapp, JB Cannon, SW Bigelow, MC Stambaugh, PS Market (November 2021). Turning up the heat: Effects of climate-adaptive silviculture on high-intensity prescribed burns in longleaf pine. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL (virtual)

- 2021 <sup>†</sup>Ohlson, GC, CM Hoffman, AC Wilson, JB Cannon, SM Pokwinski, JK Hiers (2021) Micrometerological sensing of nocturnal temperature inversions in Southeastern longleaf pine systems. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL (virtual)
- 2021 **\*Scully, SH, RS Taylor**, CJ Peterson, **JB Cannon**. (2021). Effects of soil moisture on windfirmness in hurricane prone and fire-adapted pine species using experimental tree winching. 9th International Fire Ecology and Management Congress, Association for Fire Ecology. Miramar Beach, FL (virtual)
- 2021 **+Scully, SH, RS Taylor**, CJ Peterson, **JB Cannon**. (2021). Experimentally measuring effects of soil moisture on windfirmness in *Pinus elliottii* using static winching. 21st Biennial Southern Silvicultural Research Conference. Virtual poster session.
- 2021 **\*Pope, C**, A Sharma, S Bigelow, **JB Cannon, A Whelan** (2021). A Research Prospectus: Effects of Canopy Gaps Created by Hurricane Michael on Longleaf Pine Regeneration and Community Reorganization. 21st Biennial Southern Silvicultural Research Conference. Virtual poster session.
- 2021 **†English, CJ, JB Cannon**, KJ Hier (2021) Longleaf and Lasers: Improving Models for Wind Susceptibility in the Coastal Plain. 21st Biennial Southern Silvicultural Research Conference. Virtual poster session.
- 2020 \*§**Cannon, JB**. (2020). "Towards a multiscale and mechanistic model of forest wind disturbance". Catastrophic Wind Disturbances in the Anthropocene: Patterns, Processes, and Ecosystem Management. Wind disturbance workshop. November 2020, Newton, GA (virtual workshop).
- 2020 \*§**Cannon, JB**, L Metz (2020). From "counting acres" to "making acres count": Quantifying restoration outcomes in frequent fire forests. NRCS Conservation Outcomes Webinar Series. July 2020, Webinar
- 2020 \*§Bigelow, SW, M Stambaugh, SB Jack, A Rollosson, CE Looney, **JB Cannon** (2020). Longleaf pine growth and survival in the Anthropocene. The Jones Center at Ichauway seminar series. Newton, GA.
- 2020 §Henderson, SK, JB Cannon, JJ O'Brien, DP Aubrey (2020) Modeling pine litter dispersal and assessing impacts of needle loading on longleaf pine seedlings after prescribed burn. Warnell Graduate Student Symposium. Warnell School of Forestry. Athens, GA.
- 2020 **§Cannon, JB**, BM Gannon, JA Feinstein, EA Padley, LJ Metz (2020) Incorporating spatially complex restoration objectives in planning and prioritization of dry conifer forests. 2020 Society of American Foresters National Convention. Providence, RI.
- 2020 **§Cannon, JB**, BT Rutledge, RK McIntyre, AM Holland, SB Jack (2020) Wind susceptibility of pines and oaks: Lessons from Hurricane Michael. 2020 13th Biennial Longleaf Conference.
- 2020 §Bigelow, SW, **AW Whelan**, ST Brantley, GR Kenney, CL Staudhammer, G Starr, and **JB Cannon** (2020) Planted longleaf pine stands in the face of a tropical cyclone: Allée effects? 105th annual meeting of the Ecological Society of America: Harnessing the ecological data revolution. Salt Lake City, UT.
- 2020 **§Whelan, A**, SW Bigelow, **JB Cannon** (2020). Estimation of wood volume and hurricane damage from remotely sensed data. 105th annual meeting of the Ecological Society of America: Harnessing the ecological data revolution. Salt Lake City, UT.
- 2020 **<sup>†</sup>Warnick, KJ, JB Cannon** (2020). Changes in forest structure in Ponderosa pine-dominated ecosystems following restoration treatments. Cross-Boundary Landscape Restoration Workshop. Albuquerque, NM
- 2019 \*§**Cannon, JB, G-h Kim**, CJ Peterson (2019). The role of buffering effects in compounded disturbances from wind and fire. Special session "Towards a mechanistic understanding of interactions between fire and previous disturbances: Recent advances and new surprises". 8th International Fire Ecology and Management Congress, Association for Fire Ecology. Tucson, AZ.
- 2019 \*§**Cannon, JB** (2019). Wind, fire, and forest restoration: Linkages between spatial patterns and forest dynamics following disturbances. School of Forestry and Wildlife Sciences, Auburn University. April 2019.
- 2019 §Peterson, CJ, **JB Cannon**, CM Godfrey. (2019). Estimates of the range of wind speeds that cause tree failure for specific trees within forest stands in Brazil and Georgia. Tornado Hazard Wind Assessment and Reduction Symposium. Champaign, IL.
- 2019 **§Cannon, JB, R DeAngelis**, WT Tinkham, MA Battaglia (2019). Spatial patterns of restoration treatments in a mixed-conifer forest: impact on forest structure and light availability. 2019 Annual meeting of the US Chapter of the International Association for Landscape Ecology. Fort Collins, CO.
- 2019 **§Cannon, JB, R DeAngelis**, WT Tinkham, MA Battaglia, (2019). Modeling the effects of heterogeneous restoration treatments on understory light environment in a mixed-conifer forest. 2019 HAR-CeRSER Conference. High Altitude Revegetation Committee and Central Rockies chapter of the Society for Ecology Restoration. Fort Collins, CO.
- 2019 **\*Warnick, KJ, JB Cannon** (2019). Changes in forest structure in Ponderosa pine-dominated ecosystems following restoration treatments. 8th International Fire Ecology and Management Congress, Association for Fire Ecology. Tucson, AZ.
- 2019 \*Kim, G-h, JB Cannon (2019). National analysis of interactions between compounded forest disturbances from tornado and fire over 30 years (1984-2014). 2019 Annual meeting of the US Chapter of the International Association for Landscape Ecology. Fort Collins, CO.
- 2018 \*§ Cannon, JB, BM Gannon, JA Feinstein, L Metz, Padley (2018). Assessing tradeoffs among conservation practices in southern Rocky Mountain dry forests: A framework for NRCS. Conservation Effects Assessment Program: Grazing Lands Component. Webinar. October 2018.
- 2018 \*§Cannon, JB, BM Gannon, KJ Barrett (2018). Application of CFLRP tools for the development of Forest Plan monitoring. 2018 National Resource Inventory and Monitoring Coordinators Meeting, US Forest Service. April 2018. Fort Collins, CO.

- 2018 \*§Barrett, K, A Schuetter, JB Cannon (2018). Adaptive management in the Front Range CFLRP: Assessing changes in stand-scale forest structure and composition. 2018 Front Range Collaborate Forest Landscape Restoration Program (CFLRP) Annual Monitoring Meeting. April 2018. Golden, CO.
- 2018 **\*Schuetter, A, JB Cannon, KJ Barrett** (2018). Effects of restoration treatments and adaptive management on forest structure in ponderosa pine forests of the Colorado Front Range. Celebrate Undergraduate Research and Creativity Showcase. April 2018. Fort Collins, CO.
- 2018 **\*Elliott, S, JB Cannon**, JS Briggs (2018) Spatial and temporal effects of collaborative restoration on Front Range ponderosa pine dominated forests. Front Range Student Ecology Symposium, Colorado State University, February 2018, Fort Collins, CO.
- 2017 \*§**Cannon, JB**, ME Chambers, JS Briggs (2017) Effects of forest restoration treatments and wildfires on tree spatial patterns in the Colorado Front Range. Association for Fire Ecology Fire Congress. December 2017, Orlando, FL.
- 2017 \*§Addington, R, **JB Cannon**, and C Ekarius (2017) **Testimony to Colorado Congress**, "Benefits from and barriers to expand application of prescribed fire and mechanical forest treatments". Wildfire Matters Review Committee, September 8, 2017. State Capitol, Denver, CO.
- 2017 §Wilson, C, Jones, K, R Addington, JB Cannon, A Cheng, B Gannon, SK Kampf, F Saavedra, Y Wei, B Wolk. (2017). Do investments in wildfire risk reduction lead to downstream watershed service outcomes? An integrated wildfire-erosion-economic analysis of return on investment from fuel treatments in Colorado. 37th Annual American Geophysical Union Hydrology Days Conference. Fort Collins, CO.
- 2016 \*§**Cannon, JB**, BM Gannon, MA Battaglia, PM Brown, PJ Fornwalt (2016). Effect of collaborative forest restoration treatments on finescale spatial heterogeneity in the Colorado Front Range. 3rd Southwest Fire Ecology Conference, Association for Fire Ecology. Tucson, AZ.
- 2016 §Jones, K, R Addington, **JB Cannon**, A Cheng, B Gannon, SK Kampf, F Saavedra, C Wilson, Y Wei, B Wolk (2016). Do investments in wildfire risk reduction lead to downstream watershed service outcomes? An integrated wildfire-erosion-economic analysis of return on investment from fuel treatments in Colorado. 2016 Annual Meeting of the American Geophysical Union. San Francisco, CA. Abstract
- 2016 **§Cannon, JB**, MA Barrett, and CJ Peterson (2015). Wind and fire interactions: Does prescribed fire reduce tree stability in windstorms? Presented at the 12th Annual Southeastern Ecology and Evolution Conference Annual Meeting, Athens, GA.
- 2015 **\*Henderson, S, MH Bailey, JB Cannon**, and CJ Peterson (2015). Assessing the effects of simulated wind disturbance on sapling structure and composition at the Piedmont National Wildlife Refuge. Presented at the Southeastern Ecology and Evolution Conference Annual Meeting, Athens, GA.
- 2015 **\***§**Cannon, JB** (2015). Forest disturbances and interactions in a changing world. Presented at the National Parks Conservation Association Southeast Regional Council meeting, Gatlinburg, TN.
- 2014 **§Cannon, JB**, J Hepinstall-Cymerman, EL Loudermilk, JJ O'Brien, and Peterson, CJ (2014). Crash and burn: The influence of wind damage and landscape pattern on forest fuels and fire behavior. Presented at the Ecological Society of America Annual Meeting, Sacramento, CA.
- 2014 \*§**Cannon, JB**, CJ Peterson, and J Hepinstall–Cymerman (2014). Oh the damage done: Assessing patterns of wind damage in the Great Smoky Mountains. Presented at the Great Smoky Mountains National Park Science Colloquium, Gatlinburg, TN.
- 2013 <sup>†</sup>Peterson, CJ, **JB Cannon**, and J Hepinstall–Cymerman (2013). Carbon transferred from living to decomposing in the late April 2011 tornado outbreak. Presented at the American Geophysical Union Annual Meeting, San Francisco, CA.
- 2012 §Brewer, JS, and JB Cannon. Can disturbance increase competition? Presented at the Ecological Society of America Annual Meeting, Portland, OR.
- 2012 **Cannon, JB**, J Hepinstall–Cymerman, LJ Snyder, and CJ Peterson. Patch characteristics of forest tornado damage in rugged terrain. Presented at the Ecological Society of America Annual Meeting, Portland, OR.
- 2010 **†Cannon, JB**, and JS Brewer. Effects of tornado damage and salvage logging on recruitment in an upload oak–shortleaf pine forest in Mississippi. Presented at the Ecological Society of America Annual Meeting, Pittsburg, PA.

# Media coverage

- 2024 <u>Hurricanes: an unexpected mechanism linking disturbance and seed production in trees</u>. Pearse, IS and AP Wion. *New Phytologist*. Commentary highlighting Cannon et al. (2024) *New Phytologist*
- 2023 "<u>Research grant aims to improve hurricane guidelines for Georgia pecan growers</u>" Albany Herald 12/14/2023 p A1, A4.
- 2023 "ForestGEO welcomes its 77th Forest Dynamics plot: Ichauway" Smithsonian ForestGEO News Blog 10/30/2023.
- 2023 "<u>Restoration of longleaf pine woodlands addresses conservation issues</u>." *Albany Herald* 9/11/2023 p. A1, A4.
- 15

- 2023 **PBS** *America's Forests: Georgia*, hosted by Chuck Lavelle. "<u>Exploring Longleaf pine resilience at the</u> <u>Jones Center</u>". Webisode. Research feature.
- 2023 Howard, Fallon. "<u>Ossoff helps launch bill to strengthen Ga. forestry industry</u>" WALB 10 News. 27 June 2023. *Television policy interview*.
- 2023 Simpson, Christi. "Jones Center shares natural wonders with visitors" Mitchell County Enterprise Journal. 29 March 2023.
- 2022 <u>Hurricane Michael: A Forest Landscape Ecology Research Spotlight</u>. The Jones Center at Ichauway. Research video interview.
- 2021 Cannon, JB, BT Rutledge (2021). <u>How do hurricanes shape longleaf pine ecosystems?</u> The *Longleaf Leader Volume XIV* (3) Fall 2021.
- 2020 National Earth Observatory Network "<u>Mapping the aftermath of a hurricane</u>" National Science Foundation NEON Observatory blog. 15 July 2020.

# Leadership and Service

### Symposia and Workshops Co-organized

2024	14 <sup>th</sup> North American Forest Ecology Workshop. Organized Session: Hurricane ecology and management in tropical cyclone-prone forests of the US (Lead Organizer)
2023	108 <sup>th</sup> Annual Ecological Society of America Meeting. Organized Session: Hurricane Ecologies: The
	Role of Tropical Storms and Hurricanes in Shaping Southeastern Ecosystems (Co-Organizer)
2021-pres.	Seminar Chair, The Jones Center at Ichauway Seminar Series
2021	9 <sup>th</sup> International Fire Ecology and Management Congress, Association for Fire Ecology
	(Sponsorships Committee Chair)
2021	9 <sup>th</sup> International Fire Ecology and Management Congress, Destin, FL. Virtual Field Trip: "The
	Longleaf Pine Ecosystem at the Jones Center at Ichauway" (Co-organizer)
2019	8 <sup>th</sup> International Fire Ecology and Management Congress, Tucson, AZ. Special Session: "Towards a
	mechanistic understanding of interactions between fire and previous disturbances: Recent
	advances and new surprises" (Co-organizer)
2017-2019	Front Range Round Table Landscape Resilience Team Monitoring Symposium and Field Trips
	(Monitoring Team Chair; 3×)
2015	2015 Southeastern Ecology and Evolution Conference, Athens, GA (Co-Chair)

#### **Editorial Service**

2021–pres.	Associate Editor, Forest Science
2014–2015	Editor-in-Chief, Athens Science Observer
2013–2014	Associate Editor, Athens Science Observer

<u>Peer-Reviewer, Manuscripts</u>: Biodiversity and Conservation (2019), Diversity (2019), Ecology and Evolution (2023), Ecosystems (2023), Forest Ecology and Management (2020 ×2, 2022, 2023 ×2), Forest Policy and Economics (2020), Forests (2019, 2020), Global Change Biology (2024), Journal of Applied Ecology (2022), Journal of Ecology (2024), Journal of Forestry Research (2020), Nature: Scientific Reports (2019, 2023), New Forests (2020), PLOS One (2020), Southeastern Naturalist (2023 ×2), Trees (2024) <u>Peer-Reviewer, Proposals</u>: Joint Fire Science Program GRIN reviewer panel (2023), National Science Foundation *ad hoc* (2022)

### Professional affiliations and outreach roles

- 2023-2029 Trustee, Albany Museum of Art, Albany, GA.
- 2023, 2024 Panelist, Graduate School Advisor Panel, Coastal College of Georgia
- 2023 pres. Contributing columnist, Albany Herald, Science and Nature columns
- 2013 2014 Treasurer, UGA Plant Biology Graduate Student Association
- 2010 2011 Mississippi Native Plant Society, Honorary Member
- 2008 2009 MSU Society of Scholars
- 2005 2009 Mississippi State University Honors Program

## Institutional Service

2022 – 2023	Seminar Series Chair, The Jones Center at Ichauway
2023	Faculty Search Committee Member, Hydrologist, The Jones Center at Ichauway
2022	Faculty Search Committee Member, Silviculture, The Jones Center at Ichauway
2018 – 2019	Forest and Rangeland Stewardship Undergraduate Faculty Mentor
2018 – 2019	FRS Online Silviculture Certificate Steering Committee, Member
2017 – 2019	Founder/Coordinator, FRS Semester of Undergraduate Research in Forest Ecology and
	Restoration (SURFER) Program
2016 – 2017	Faculty Search Committee Member, Biometrician, CSU Dept. of FRS
2013 – 2015	Research Mentor, UGA Peterson Lab Undergraduate Research Program

## Trainings and Certifications

2024 – pres	Certified Remote Pilot (FAA Remote Pilot 14 CFR Part 107 Small Unmanned Aircraft Systems)
2023	Writing and Designing Winning NSF Proposals Workshop. Grant Training Center. Virtual
2022	Institute for Georgia Environmental Leadership Fellow
2022 – pres.	Wildland Firefighter (Certified FF Type 1), National Wildfire Coordinating Group, Piedmont
	National Wildlife Refuge
2022	Grant Proposal Writing Workshop. Grant Writers' Seminars and Workshops. Virtual
2022	High Impact Communications On-Line, CI International, Online.
2022	Stop the Bleed Course, American Red Cross, Newton, GA.
2013 – 2022.	Wildland Firefighter (Certified FFT2), National Wildfire Coordinating Group
2021	"Sustaining Biological Infrastructure: Strategies for Success" (5-week distributed workshop),
	Ecological Society of America
2021	Mobile Elevated Work Platform Operator Training, (Type 3B, ANSI A92.22, 24 Standards)
2020 – pres.	Adult, Child, Baby First Aid/CPR/AED training, American Red Cross
2020	Terrestrial Lidar system, Certified Operator (Riegl VZ-400i)
2019	Mindset for Supervisors training workshop, Supervisor Development Program, Colorado State
	University, Fort Collins, CO.
2019	Search Chair training session, Office of Equal Opportunity, Colorado State Univ., Fort Collins, CO.
2019	"Inclusive Communications", "Invisible Diversity: Examining the Online Student", and "Encouraging
	metacognitive reflection in your large undergraduate course". Professional Development Institute,
	Colorado State University, Fort Collins, CO.

- 2018 Natural Resources Leadership Academy. Organized by Colorado and Wyoming Society of American Foresters. Fort Collins, CO.
- 2018 Early Career Investigator Grant Seminar. CSU Office of the Vice President for Research. Fort Collins, CO.
- 2017 NSF Day. Organized by National Science Foundation and University of Wyoming, Laramie, WY.
- 2017 Search Committee training session, Office of Equal Opportunity, Colorado State University, Fort Collins, CO.