

DIANE M. STYERS

Western Carolina University
Department of Geosciences and Natural Resources
Cullowhee, NC 28723 USA
Phone: (828) 227-3819
Email: dmstyers@wcu.edu

EDUCATION

- Ph.D. Forestry and Ecology (minor) | Auburn University 2008
Specialization: Forest Ecology, Air Pollution Effects on Forests, Remote Sensing
"Urban Sprawl and Atmospheric Pollution Effects on Forests in the Georgia Piedmont"
- M.A. Geography | Georgia State University 2005
Specialization: Environmental Geography, GIS, Geospatial Analysis
"Ozone Damage Potential to Loblolly Pine Ecosystems in Atlanta, Georgia"
- B.S. Human Development & Family Studies | University of North Carolina, Greensboro 1997
Specialization: Education, Cognition and Learning, Psychology

PROFESSIONAL EXPERIENCE

- Department Head, Geosciences and Natural Resources, WCU 7/2019-present
Associate Professor, Western Carolina University 7/2017-present
Assistant Professor, Western Carolina University 2011-2017
Postdoctoral Research Associate, University of Washington 2010-2011
Research and Teaching Assistant, Auburn University 2004-2008
Teaching Assistant, Georgia State University 2003-2004
Assistant to the Editor, *Professional Geographer* 2002-2003

COURSES TAUGHT

Western Carolina University * *indicates courses taught regularly*

- ES 480: Independent Study in Environmental Science
ES 495: Senior Research Seminar in Environmental Science
GEOG 150: Environmental Geography
GEOG 221: Introduction to Geospatial Analysis*
GEOG 300: Weather and Climate*
GEOG 324: Introduction to Remote Sensing*
GEOG 491/591: GIS for Mapping and Decision Making
NRM 140: Natural Resource Conservation & Management*
NRM 210: Methods in Natural Resource Management (Lab)
NRM 440: Integrated Resource Management*
NRM 472: Geospatial Analysis*
NRM 480: Independent Study in Natural Resources*
NRM 493: Post-fire Ecology

Elsewhere

- ESRM 430: Remote Sensing, University of Washington, Guest Lecturer
FORY 3100: Dendrology, Auburn University, Teaching Assistant
GEOG 1112: Weather & Climate, Georgia State University, Instructor
GEOG 1113: Landforms, Georgia State University, Instructor

REFEREED PUBLICATIONS *indicates student author

- Reiskind, M.H., **D.M. Styers**, I. Hayes*, S.L. Richards, M. Doyle, E.M.X. Reed, B.W. Hollingsworth, and B.D. Byrd. 2020. Taking the Pulse: Container *Aedes* spp. (Diptera: Culicidae) Presence and Abundance is Associated with Fine-scale Landscape Factors in North Carolina, USA. *Environmental Health Insights* 14:1-9. [doi:10.1177/1178630220952806](https://doi.org/10.1177/1178630220952806).
- Gannon, JP, D. Kinner, **D.M. Styers**, M. Lord. 2020. Diel discharge variations in dormant and growing seasons in a headwater catchment suggest potential sources of an evapotranspiration signal. *Hydrological Processes* 34(5):1228-1236. [doi:10.1002/hyp.13670](https://doi.org/10.1002/hyp.13670).
- Biedenweg, K., K.A. Williams*, L.K. Cervený, and **D.M. Styers**. 2019. Is recreation a landscape value?: Exploring underlying values in Landscape Values Mapping. *Landscape and Urban Planning* 185:24-27. [doi:10.1016/j.landurbplan.2018.12.005](https://doi.org/10.1016/j.landurbplan.2018.12.005).
- Tanner, B.R., M.L. Douglas*, C.H. Greenberg, J.N. Chamberlin*, and **D.M. Styers**. 2018. A Macroscopic Charcoal and Multiproxy Record From Peat Recovered From Depression Marshes in Longleaf Pine Sandhills, Florida, USA. *Quaternary* 1(3):25. [doi:10.3390/quat1030025](https://doi.org/10.3390/quat1030025).
- Styers, D.M.**, G.R. Dobbs, L. Cervený, and I. Hayes*. 2018. Geovisualization of Socio-Spatial Data on Outdoor Activities and Values in the Southern Appalachians. *International Journal of Applied Geospatial Research* 9(3):55-80. [doi:10.4018/IJAGR.2018070104](https://doi.org/10.4018/IJAGR.2018070104).
- Bates, P.C., J.R. Miller, **D.M. Styers**, K. Langdon, C. Burda, R. Davis, T. Martin, B. Kloeppel, and S. McFarland. 2018. Natural Resource Condition Assessment for Great Smoky Mountains National Park. Natural Resource Report NPS/GRSM/NRR—2018/1626, 478 pp. National Park Service, Fort Collins, Colorado. <https://irma.nps.gov/2253044>.
- Styers, D.M.** 2018. Using big data to engage undergraduate students in authentic science. *Journal of Geoscience Education*, 66(1):12-24. [doi:10.1080/10899995.2018.1411699](https://doi.org/10.1080/10899995.2018.1411699).
- Richards, S.L., J.G. Balanay, B.D. Byrd, M.H. Reiskind, **D.M. Styers**. 2017. Regional Survey of Mosquito Control Knowledge and Usage in North Carolina. *Journal of the American Mosquito Control Association*, 33(4):331-339. [doi:10.2987/17-6669.1](https://doi.org/10.2987/17-6669.1).
- Bates, P.C., J.R. Miller, **D.M. Styers**, C. Burda, R. Davis, T. Martin, and B. Kloeppel. 2017. Natural Resource Condition Assessment for Carl Sandburg Home National Historic Site. Natural Resource Report NPS/CARL/NRR—2017/1373, 202 pp. National Park Service. Fort Collins, Colorado. <https://irma.nps.gov/2237916>.
- Bates, P.C., J.R. Miller, **D.M. Styers**, C. Burda, R. Davis, T. Martin, and B. Kloeppel. 2017. Natural Resource Condition Assessment for Guilford Courthouse National Military Park. Natural Resource Report NPS/GUCO/NRR—2017/1372, 163 pp. National Park Service. Fort Collins, Colorado. <https://irma.nps.gov/2237912>.
- Zhang, Z.*, A. Kazakova, L.M. Moskal, and **D.M. Styers**. 2016. Object-Based Tree Species Classification in Urban Ecosystems Using LiDAR and Hyperspectral Data. *Forests*, Special Issue LiDAR Remote Sensing of Forest Resources, 7(6):122. [doi:10.3390/f7060122](https://doi.org/10.3390/f7060122).
- Styers, D.M.**, L.M. Moskal, J.J. Richardson, and M.A. Halabisky*. 2014. Evaluation of the contribution of LiDAR data and post-classification procedures to object-based classification accuracy. *Journal of Applied Remote Sensing*, 8(1):083529 (2014). [doi:10.1117/1.JRS.8.083529](https://doi.org/10.1117/1.JRS.8.083529).
- Moskal, L.M., **D.M. Styers**, and M. Halabisky*. 2011. Monitoring Urban Forest Canopies Using Object-Based Image Analysis and Public Domain Remotely Sensed Data. *Remote Sensing*, 3(10):2243-2262. [doi:10.3390/rs3102243](https://doi.org/10.3390/rs3102243).

- Styers, D.M.**, A.H. Chappelka, and G.L. Somers. 2011. Determination of Alterations in Forest Condition Using Various Measures of Land Use Change along an Urban-Rural Gradient in the West Georgia Piedmont, USA. *ISRN Ecology*, Vol. 2011, Article ID 461310. [doi:10.5402/2011/461310](https://doi.org/10.5402/2011/461310).
- Styers, D.M.**, A.H. Chappelka, L.J. Marzen, and G.L. Somers. 2010. Scale matters: Indicators of ecological health along the urban-rural interface near Columbus, Georgia. *Ecological Indicators*, 10(2):224-233. [doi:10.1016/j.ecolind.2009.04.018](https://doi.org/10.1016/j.ecolind.2009.04.018).
- Styers, D.M.**, A.H. Chappelka, L.J. Marzen, and G.L. Somers. 2010. Developing a land-cover classification to select indicators of forest ecosystem health in a rapidly urbanizing landscape. *Landscape and Urban Planning*, 94(3-4):158-165. [doi:10.1016/j.landurbplan.2009.09.006](https://doi.org/10.1016/j.landurbplan.2009.09.006).
- Styers, D.M.** and A.H. Chappelka. 2009. Urbanization and Atmospheric Deposition: Use of Bioindicators in Determining Patterns of Land-Use Change in West Georgia. *Water, Air, and Soil Pollution*, 200(1-4):371-386. [doi:10.1007/s11270-008-9919-1](https://doi.org/10.1007/s11270-008-9919-1).
- Diem, J.E. and **D.M. Styers***. 2008. Ozone exposure and potential for foliar injury within the Atlanta, Georgia USA metropolitan area. *Southeastern Geographer*, 48(2):172-183. [doi:10.1353/sgo.0.0020](https://doi.org/10.1353/sgo.0.0020).
- Zhang, C.*, H. Tian, A.H. Chappelka, W. Ren*, H. Chen, S. Pan, M. Liu, **D.M. Styers***, G. Chen*, and Y. Wang. 2007. Impacts of climatic and atmospheric changes on carbon dynamics in the Great Smoky Mountains National Park. *Environmental Pollution*, 149(3):336-347. [doi:10.1016/j.envpol.2007.05.028](https://doi.org/10.1016/j.envpol.2007.05.028).
- *Google Scholar Citations: <https://scholar.google.com/citations?hl=en&user=qpLXwd4AAAAJ>

MANUSCRIPTS IN REVIEW

- Styers, D.M.**, J.L. Schafer, S.E. Scanga, M.B. Kolozsvary, L.J. Anderson, K.M. Brubaker, and J.J. Mitchell. Teaching biodiversity and spatial scale concepts using open-access nested-plot vegetation datasets from the National Ecological Observatory Network (NEON). *In review*. Submitted to *Ecology and Evolution* on June 23, 2020. Revise and resubmit decision on July 30, 2020.

MANUSCRIPTS IN PREPARATION *indicates student author

- Styers, D.M.**, I.T. Hayes*, J. Dell, and P. Bates. Determining Wildfire Burn Severity in the Southern Appalachians from Lidar Point Cloud Data. In preparation for submission to *Remote Sensing Special Issue, "3D Point Clouds in Forest Remote Sensing"* in November 2020.
- Styers, D.M.**, I.T. Hayes*, J. Dell, and P.C. Bates. Developing Remote Sensing-based Indices for Assessing Fire Severity in Central Hardwood Forests of the Southern Appalachians. In preparation for submission to *Frontiers in Ecology and the Environment*.
- Bates, P.C., **D.M. Styers**, I.T. Hayes*, and T. Martin. Determining the Ability of dNBR to Analyze Low-Moderate Intensity Burn Severity in the Southern Appalachians. In preparation for submission to *Open Journal of Forestry*.
- Waters-Tormey, C., **D.M. Styers**, K. Allen*, and I. Hayes*. Public domain airborne LiDAR ground model and geologic map data: an under-utilized resource for bedrock fracture characterization. In preparation for submission to *Geology*.

OTHER PUBLICATIONS

- Moskal, L.M., **D.M. Styers**, and J. Kirsch, 2011. Tacoma Canopy Cover: Final Report, submitted to Washington Department of Natural Resources, Olympia, Washington, 7p. <http://depts.washington.edu/rsgalwrk/canopy/materials/FinalReport.pdf>

Moskal, L.M., **D.M. Styers**, and J. Kirsch, 2011. Geospatial Canopy Cover Assessment Workshop, 58p. http://depts.washington.edu/rsgalwrk/canopy/materials/UWRSGAL_OBIACanopy_Workshop.pdf

GRANTS AND CONTRACTS

Rivercane: New Geospatial Tools and Approaches, Cherokee Preservation Foundation, Revitalization of Traditional Cherokee Artisan Resources Grant, **D.M. Styers** and G.R. Dobbs, co-PIs (**\$39,998**) September 2020.

WCU Campus Tree Inventory Expansion and Geodatabase Enhancement, North Carolina Urban and Community Forestry Grant and Western Carolina University, Sustainable Energy Initiative Project Grant; **D.M. Styers**, PI (**\$20,927**) May 2020 (declined NCFS portion July 2020; remainder awarded by SEI September 2020).

WCU Campus Tree Inventory, Assessment, and Geodatabase Construction, North Carolina Urban and Community Forestry Grant and Western Carolina University, Sustainable Energy Initiative Project Grant; **D.M. Styers**, PI and Lauren Bishop, co-PI (**\$29,376**) May 2018.

Hidden sediment sources: Locating and studying road-draining gullies using a geospatial model and field measurements, Water Resources Research Institute of the UNC System; J.P. Gannon, **D.M. Styers**, M. Lord, and D. Kinner, co-PIs (**\$104,505**) December 2017.

A Fire Severity Index for Eastern Hardwood Forests, Western Carolina University, Provost External Funding Support Grant (FY 2016-17); Peter Bates, PI and **D.M. Styers**, senior consultant (**\$10,000**), April 2017.

Mosquito Survey and Resistance Testing (2017), Centers for Disease Control and Prevention via NC Department of Health and Human Services, B.D. Byrd, PI; S.L. Richards and M.H. Reiskind, Co-PIs; **D.M. Styers**, Contractor (\$189,957.64; Styers's portion **\$10,740**) May 2017.

WCU Campus Tree Map, Western Carolina University, Sustainable Energy Initiative Project Grant; **D.M. Styers**, PI (**\$8,150**) May 2016.

Isolated Wetlands - a WCU, USFS Collaboration, Western Carolina University, Provost External Funding Support Grant (FY 2015-16); **D.M. Styers** and B. Tanner, co-PIs (**\$10,000**) January 2016.

Response of the Soil Microbiome to Invasive Species Management, Western Carolina University, Provost External Funding Support Grant (FY 2014-15); T. Driscoll, C. Kelly, **D.M. Styers**, and B. Bintz, co-PIs (**\$15,000**) July 2014. *Note: project ended prior to completion because 2 PIs left WCU.*

Land use/Land cover and Community Demographics: Implications to Natural Resource Management in and around Olympic and Great Smoky Mountains National Parks (extension to existing grant), USDA Forest Service; **D.M. Styers** and L.K. Cervený, co-PIs (**\$10,000**) June 2014.

Community Demographics and Landscape Values: Implications to Natural Resource Management in Great Smoky Mountains National Park, Nantahala National Forest, and southwestern North Carolina, Western Carolina University, Provost External Funding Support Grant (FY 2013-14); **D.M. Styers**, PI (**\$9,829**) May 2014.

Land use/Land cover and Community Demographics: Implications to Natural Resource Management in and around Olympic and Great Smoky Mountains National Parks, USDA Forest Service; **D.M. Styers** and L.K. Cervený, co-PIs (**\$14,996**) June 2012.

Characterizing Southern Appalachian Forest Stands using LiDAR Data and Object-Based Image Analysis, Western Carolina University, Faculty Research Award; **D.M. Styers**, PI (**\$5,000**) January 2012.

Geospatial Relationships of Urban Forest Conditions, Stewardship Activity and Environmental Equity, University of Washington, Royalty Research Fund; L. Monika Moskal, PI **(\$27,777)** June 2011.

Tacoma Canopy Cover Assessment, Washington State Department of Natural Resources, Urban and Community Forestry Program; L. Monika Moskal, PI **(\$29,888)** August 2010.

Urban Natural Resources Stewardship: Geospatial Data Assessment and Management - Supplement and Extension, USDA Forest Service; L. Monika Moskal, PI **(\$8,000)** August 2010.

PROPOSALS IN REVIEW

Developing a watershed prioritization index to guide restoration initiatives in the Upper Little Tennessee River Basin, Water Resources Research Institute of the UNC System; W.K. Gibbs, PI; **D.M. Styers** and T.H. Martin, co-PIs **(\$120,000)**. Pre-proposal submitted for review on May 26, 2020.

GRADUATE STUDENT THESIS COMMITTEES

Wind, M., Range wide Carolina hemlock demographics and community characteristics; August 2017-present

Monar, K., Role of the Persistent Soil Seed Bank in Southern Appalachian Wildfire Response; Graduated May 2018

Hawk, A.M., Habitat Modeling of a Rare Endemic Trillium Species (*Trillium Simile* Gleason): A Comparison of the Methods Maxent and Domain for Modeling Rare Species-Rich Habitat; Graduated August 2017

UNDERGRADUATE STUDENT SENIOR THESIS COMMITTEES

Wisher, K.A., Landscape Analysis of Song Sparrows, *Melospiza melodia*, in Rural and Urban Populations; Graduated December 2016

OTHER UNDERGRADUATE STUDENT RESEARCH PROJECTS DIRECTED

Vang, M., Vegetation Phenology in Great Smoky Mountains National Park, Fall 2013

Johnston, R.W., Mapping Forest Community Types Using Segmentation Analysis of LiDAR Data, Fall 2011

AWARDS

22nd Annual Undergraduate Exposition's Keynote Speaker Research Award **(\$500)**

Faculty Institute on Community Engagement Project Award, Western Carolina University **(\$1000)**

Community Engagement STAR Project Award, Western Carolina University **(\$500)**

SCHOLARLY PRESENTATIONS BY STUDENTS *indicates student author

MacDonald, A.* and **D. Styers**. A Walk on Campus: How Trees Benefit People and the Environment at Western Carolina University. Presented at the 22nd Annual Undergraduate Exposition, March 25, 2020, Cullowhee, NC (cancelled due to COVI-19, but presented online).

MacDonald, A.* and **D. Styers**. A Walk on Campus: How Trees Benefit People and the Environment at Western Carolina University. Abstract accepted for presentation at the Society of American Foresters National Convention, October 30-November 3, 2019, Louisville, KY (not presented).

Wright, C.*, H. Hogan*, H. Duggins*, JP Gannon, **D. Styers**, M. Lord, and D.A. Kinner. Developing a Method to Remotely Locate Road-Draining Gullies Using a High Resolution Digital Elevation

- Model. Presented at the American Geophysical Union Annual Meeting, December 9-13, 2019, San Francisco, CA.
- Hogan, H.*, C. Wright*, J.P. Gannon, **D. Styers**, D. Kinner, and M. Lord. Developing a method to remotely locate erosional features using a high resolution Digital Elevation Model. Presented at the Southeastern Section of the Geological Society of America 68th Annual Meeting, March 28-29, 2019, Charleston, SC.
- Richardson, J.* Old Edwards Inn Sustainability Audit: Environmental Science Senior Capstone Project 2017. Presented at the 7th Annual Appalachian Energy Summit, July 30-Aug 1, 2018, Boone, NC. (Faculty Sponsor)
- Prather, J.* Old Edwards Inn Sustainability Audit: Environmental Science Senior Capstone Project 2017. Presented at the 32nd Annual National Conference on Undergraduate Research, April 4-7, 2018, Oklahoma City, OK. (Faculty Sponsor)
- Prather, J.*, J. Richardson*, A. Hiltbrand*, and T. McRoberts*. Old Edwards Inn Sustainability Audit: Environmental Science Senior Capstone Project 2017. Presented at the 20th Undergraduate EXPO, March 21, 2018, Cullowhee, NC. (Faculty Sponsor)
- Prather, J.*, J. Richardson*, A. Hiltbrand*, and T. McRoberts*. Old Edwards Inn Sustainability Audit: Environmental Science Senior Capstone Project. Presented at the Collegiate Recyclers Coalition of the Carolina Recycling Association Meeting, March 19, 2018, Cullowhee, NC. (Faculty Sponsor)
- Waters-Tormey, C., **D. Styers**, R. Pedigo*, and E. Hurst*. Combining outcrop, magnetic, and airborne LiDAR data in a course-based undergraduate research experience (CURE): interpretation of bedrock fracturing in the northeastern Deep River Basin and adjacent basement, North Carolina. Presented at the American Geophysical Union Annual Meeting, December 11-15, 2017, New Orleans, LA.
- Allen, K.*, C. Waters-Tormey, **D. Styers**. Combining Geological Mapping and Lidar Data to Analyze the Contribution Of "Local" Versus "Regional" Bedrock Fracture Sets In Western North Carolina. Presented at the Southeastern Section of the Geological Society of America 66th Annual Meeting, March 30-31, 2017, Richmond, VA.
- Douglas, M.*, **D.M. Styers**, B.R. Tanner, and C. Greenberg. Tree-ring analysis of longleaf pines (*Pinus palustris*) in Ocala National Forest, Florida. Presented at the Association of Southeastern Biologists 78th Annual Meeting, March 29-31, 2017, Montgomery, AL.
- Hayes, I.*, T.J. Nicholson*, **D.M. Styers**, J.P. Gannon. Eco-Hydrologic Impacts of Invasive Evergreen Shrub Species in a Headwater Catchment Area. Presented at the Association of Southeastern Biologists 78th Annual Meeting, March 29-31, 2017, Montgomery, AL.
- Douglas, M.*, B. Tanner, and **D. Styers**. Paleoclimate Record for Ocala National Forest. Presented at the Geological Society of America Annual Meeting, September 25-28, 2016, Denver, CO.
- Hayes, I.*, **D. Styers**, and P. Bates. Determining the Ability of NDVI to Analyze Low Intensity Burn Severity in the Southern Appalachians. Presented at the Society of American Foresters National Convention, November 2-5, 2015, Baton Rouge, LA.
- Schumaker, M.*, **D. Styers**, C. Greenberg, and B. Tanner. Examining the Role of Oak Encroachment in Longleaf Pine Ecosystems in Ocala National Forest. Presented at the Society of American Foresters National Convention, November 2-5, 2015, Baton Rouge, LA.
- Brown, K.*, M. Frazier*, L. Street*, B. Bintz, **D. Styers**, C. Kelly, and T. Driscoll. Invasive species and the soil microbiome I: DNA extraction and microbiome profiles. Presented at the Molecules in the Mountains Symposium, April 9, 2015, Cullowhee, NC.

Street, L.*, K. Brown*, M. Frazier*, B. Bintz, **D. Styers**, T. Driscoll, and C. Kelly. Invasive species and the soil microbiome II: Assessment of soil properties, nitrogen mineralization and microbial biomass. Presented at the Molecules in the Mountains Symposium, April 9, 2015, Cullowhee, NC.

Barnett, R.B.*, Examination of the relationship between evergreen health and precipitation in Mount LeConte, Tennessee using satellite-derived NDVI data. Presented at the Annual Meeting of the SouthEastern Division of the Association of American Geographers 69th Annual Meeting, November 23-25, 2014, Athens, GA. (Faculty Sponsor)

Powell, P.J.*, Estimating fire severity in the southern Appalachians from Landsat dNBR and other indices. Presented at the Annual Meeting of the SouthEastern Division of the Association of American Geographers, November 23-25, 2014, Athens, GA. (Faculty Sponsor)

SCHOLARLY PRESENTATIONS (ALL PEER-REVIEWED) **indicates student author*

Styers, D., J. Shafer, S. Scanga, M.B. Kolozsvary, L. Anderson, K. Brubaker, and J. Mitchell. Using National Ecological Observatory Network (NEON) open-access nested-plot vegetation datasets to teach biological diversity and spatial scale concepts. To be presented at the Ecological Society of America 105th Annual Meeting, August 2-7, 2020, Salt Lake City, UT.

Scanga, S., **D. Styers**, L. Anderson, K. Brubaker, M.B. Kolozsvary, J. Shafer, D. Barnett, J.-L. Machado, M. Madritch, and J. Mitchell. Macroscale Ecology in the Classroom: An EREN Partnership Using NEON Data. Presented at the Northeast Natural History Conference, April 12-14, 2019, Springfield, MA.

Styers, D.M. and P.C. Bates. Utilizing a remote sensing derived NDVI normal dataset and vegetation field data to assess post-fire effects and ecosystem recovery in the southern Appalachians. Presented at the Association of Southeastern Biologists 80th Annual Meeting, April 3-6, 2019, Memphis, TN.

Styers, D.M. and J.L. Schafer. Assessing patterns of plant richness and terrestrial productivity in Great Smoky Mountains National Park using data from the National Ecological Observatory Network (NEON). Presented at the Association of Southeastern Biologists 80th Annual Meeting, April 3-6, 2019, Memphis, TN.

Gannon, J.P., **D. Styers**, D. Kinner, and M. Lord. Examining the effects of resolution and roads on DEM-derived drainage networks. Presented at the Southeastern Section of the Geological Society of America 68th Annual Meeting, March 28-29, 2019, Charleston, SC.

Waters-Tormey, C., **D. Styers**, K. Allen*, and I. Hayes*. Public domain airborne LiDAR ground model and geologic map data: an under-utilized resource for bedrock fracture network characterization. Presented at the Southeastern Section of the Geological Society of America 68th Annual Meeting, March 28-29, 2019, Charleston, SC.

Gannon, J.P., D. Kinner, M. Lord, and **D. Styers**. Year-Round Daily Discharge Fluctuations Indicate Evapotranspiration Signal from Near-Stream Vegetation. Presented at the American Geophysical Union Annual Meeting, December 10-14, 2018, Washington, D.C.

Styers, D., P. Bates, I. Hayes*, and A. Percival*. A mixed-methods approach for assessing fire severity and ecosystem response in southern Appalachian forests. Presented at the American Association of Geographers 113th Annual Meeting, April 10-14, 2018, New Orleans, LA.

Tanner, B., M. Douglas*, J. Chamberlin*, K. Greenberg, and **D. Styers**. Macroscopic charcoal analysis of organic-rich sediment from depression marshes located within Florida's longleaf pine sandhills suggests frequent fire. Presented at the American Association of Geographers 113th Annual Meeting, April 10-14, 2018, New Orleans, LA.

- Styers, D.M.**, B.R. Tanner, C. Greenberg. Spatio-temporal variations in climate-growth relationships of longleaf pines (*Pinus palustris*) in Ocala National Forest, Florida. Presented at the Association of Southeastern Biologists 78th Annual Meeting, March 29-31, 2017, Montgomery, AL.
- Gannon, J.P., D. Kinner, M. Lord, and **D. Styers**. Generation and Implications of Winter Diel Discharge Fluctuations in a Headwater Catchment In Western NC, USA. Presented at the Southeastern Section of the Geological Society of America 66th Annual Meeting, March 30-31, 2017, Richmond, VA.
- Cervený, L., **D. Styers**, and G.R. Dobbs. Gendered Differences in Resource Use and Landscape Values in Western North Carolina. Presented at the Society for Applied Anthropology 77th Annual Meeting, March 28-April 1, 2017, Santa Fe, NM.
- Byrd, B., M. Reiskind, S. Richards, **D. Styers**, J. Stewart, L. Michael, J. Casani, and C. Williams. A survey for container-inhabiting *Aedes* of public health importance: North Carolina (2016). Presented at the American Mosquito Control Association 83rd Annual Meeting, February 13-17, 2017, San Diego, CA.
- Waters-Tormey, C., **D. Styers**, K. Allen*, and I. Hayes*. Combining Geological Mapping and LiDAR Data to Characterize Fracture Patterns in Poorly Exposed Crystalline Bedrock in the Southern Appalachians, Western NC. Presented at the Geological Society of America Annual Meeting, September 25-28, 2016, Denver, CO.
- Styers, D.M.**, L. DeWald, G. Wasserberg, and B. Byrd. Integration of mosquito ecology laboratory exercises into biological, geoscience, and environmental science courses: using ovitraps to create authentic learning experiences. Presented at the American Mosquito Control Association 82nd Annual Meeting, February 7-11, 2016, Savannah, GA.
- Styers, D.M.**, L.K. Cervený, R.B. Barnett*, and G.R. Dobbs. Mapping Human-Environment Interactions for Land-use Planning and Resource Management in Western NC. Presented at the Association of American Geographers 110th Annual Meeting, April 21-25, 2015, Chicago, IL.
- Styers, D.M.** Examination of MODIS-Derived Vegetation Phenology in Great Smoky Mountain NP. Presented at the Association of American Geographers 109th Annual Meeting, April 8-12, 2014, Tampa, FL.
- Styers, D.M.** Characterizing Southern Appalachian Forest Stands using LiDAR Data and Object-Based Image Analysis. Presented at the Association of American Geographers 108th Annual Meeting, April 9-13, 2013, Los Angeles, CA.
- Styers, D.M.**, L.M. Moskal, and J. Richardson*. Improving Land Use/Land Cover Classification Accuracy Using High Density Aerial LiDAR. Presented at the Association of American Geographers 107th Annual Meeting, February 24-28, 2012, New York, NY.
- Moskal, L.M., M.D. Dunbar, **D.M. Styers**, and K. Wolf. Geospatial Relationships of Urban Forest Conditions, Stewardship Activity and Environmental Equity. Presented at the Association of American Geographers 107th Annual Meeting, February 24-28, 2012, New York, NY.
- Moskal, L.M. and **D.M. Styers**. Monitoring Seattle, Olympia and Tacoma Forest Canopies Using Object-Based Image Analysis and Public Domain Remotely Sensed Data. Presented at the Washington URISA Conference, May 9th-11th, 2011, Lynnwood, WA.
- Moskal, L.M. and **D.M. Styers**. Mapping impervious surfaces and canopy cover using object-based image analysis and public domain remotely sensed data. Presented at the University of Washington Water Symposium, April 18, 2011, Seattle, WA.
- Styers, D.M.**, L.M. Moskal, K. Wolf, M. Halabisky*, J. Richardson*, A. Kazakova*, and J. Kirsch*. Monitoring Urban Forest Canopies Using Object-Based Image Analysis and Public Domain

Remotely Sensed Data. Presented at the Association of American Geographers 106th Annual Meeting, April 12-16, 2011, Seattle, WA.

Kazakova, A.*, L.M. Moskal, **D.M. Styers**. Hyperspectral remote sensing of urban tree species.

Presented at the Association of American Geographers 106th Annual Meeting, April 12-16, 2011, Seattle, WA.

Styers, D.M.* and A.H. Chappelka. A Landscape-Scale Ecological Assessment of the West Georgia Piedmont, USA. Presented at the Ecological Society of America 92nd Annual Meeting, August 5-10, 2007, San Jose, CA.

Styers, D.M.* and A.H. Chappelka. Use of Lichens as Bioindicators of Urbanization and Atmospheric Deposition in the West *Georgia Piedmont, USA*. Presented at Auburn University's Earth Day Science Poster Competition, April 19, 2007, Auburn, AL. Awarded 1st place.

Styers, D.M.* and A.H. Chappelka. Use of Lichens as Bioindicators of Urbanization and Atmospheric Deposition in the West Georgia Piedmont, USA. Presented at the Emerging Issues along Urban/Rural Interfaces II Conference, April 9-12, Atlanta, GA.

Styers, D.M.* and A.H. Chappelka. Developing a Land Cover Classification to Select Indicators of Forest Health in a Rapidly Urbanizing Landscape in West Georgia Piedmont, USA. Presented at the 3rd Annual GIS Symposium, November 1, 2006, Auburn, AL.

Styers, D.M.* and A.H. Chappelka. Urbanization and atmospheric deposition: Use of bioindicators in determining patterns of land use change. Presented at the 22nd Biannual Meeting of the International Union of Forest Research Organizations (IUFRO) Group 7.01 22nd Biannual Meeting, September 10-15, 2006, Riverside, CA.

Styers, D.M.* and A.H. Chappelka. Urbanization effects on forest condition in the Georgia Piedmont. Presented at the Ecological Society of America 91st Annual Meeting, August 6-11, 2006, Memphis, TN.

Styers, D.M.* and A.H. Chappelka. Urbanization effects on forest condition in the Georgia Piedmont. Presented at Auburn University's Earth Day Science Competition, April 20, 2006, Auburn, AL.

Styers, D.M.* and A.H. Chappelka. Urbanization effects on forest condition in the Georgia Piedmont. Presented at the 38th Annual Air Pollution Workshop, April 10-13, 2006, Charlottesville, VA.

Styers, D.M.* and A.H. Chappelka. Urbanization Effects on Forests near Columbus, Georgia. Presented at Auburn University's Earth Day Science Competition, April 14, 2005, Auburn, AL.

Styers, D.M.* and A.H. Chappelka. Urbanization Effects on Forest Health in Columbus, Georgia. Presented at the 37th Annual Air Pollution Workshop, April 25-28, 2005, Banff, Alberta, Canada.

Styers, D.M.* and A.H. Chappelka. Urbanization Effects on Forest Health in the Vicinity of Columbus, Georgia. Presented at the Urban/Rural Interfaces Conference, March 13-16, 2005, Atlanta, GA.

CONFERENCE SESSIONS CHAIRED/ORGANIZED

Session Chair at the Association of American Geographers 108th Annual Meeting, Los Angeles, CA, "Remote Sensing and Vegetation" April 2013.

Session Chair/Co-organizer with Matthew D. Dunbar at the Association of American Geographers 106th Annual Meeting, Seattle, WA, "Urban Forestry, Ecology, & Natural Resources" April 2011.

INVITED LECTURES AND WORKSHOPS

Styers, D.M. See the forest for more than the trees: exploring the benefits of trees on WCU's campus. Selected by a committee to present at the 22nd Annual Undergraduate Exposition's Keynote Address, March 25, 2020, Cullowhee, NC (cancelled due to COVID-19).

Styers, D.M. Remote Sensing-based Methods for Assessing Fire Effects in Central Hardwood Forests of the Southern Appalachians. Presented at Warren Wilson College, October 2, 2017, Asheville, NC.

Styers, D.M. The Mystery of Spatio-temporal variations in climate-growth relationships of longleaf pines (*Pinus palustris*) in Ocala National Forest, Florida. Presented at Stetson University, April 11 2017, DeLand, FL.

Styers, D.M. Using Big Data to Engage Undergraduate Students in Authentic Science. Prepared for presentation at the North Carolina Project Kaleidoscope (PKAL) 2015 Spring Regional Network Meeting, March 27, 2015, Winston-Salem, NC (*meeting cancelled*).

Styers, D.M. Scale Matters: Ecological Health along the Urban-Rural Interface near Columbus, Georgia. Presented at the USDA Forest Service PNW Research Station, March 6, 2008, Seattle, WA.

PROFESSIONAL MEMBERSHIPS

American Association for the Advancement of Science, 2018-present

Association of American Geographers, 2003-present

Ecological Research as Education Network, 2012-present

Ecological Society of America, 2005-2009, 2019

PROFESSIONAL DEVELOPMENT

NSF-sponsored Early NEON Science Workshop II: Using NEON Field and Airborne Observatory Platform (AOP) Data to Map Biodiversity. Swarthmore College, October 16-18, 2019.

NSF-sponsored Early NEON Science Workshop I: Calculating Biodiversity Measurements from NEON Field Data; Appalachian State University, July 11-13th, 2018. Workshop to calculate diversity metrics from NEON field data and develop class lab tutorials.

Faculty Institute on Community Engagement, Western Carolina University, January-May, 2018. Service-learning and community engagement theory, best practices, assessment, and scholarship.

Institute on Project-Based Learning, Worcester Polytechnic Institute, June 25-27, 2015. Bringing together teams to work on projects to advance project based learning on their campuses.

Community Scholarship Incubator, Western Carolina University, February 27-28, 2015. Bringing together community partners and WCU faculty/staff to collaboratively pursue research.

Ecological Research as Education Network (EREN) Meeting, Augustana College, June 25-27, 2014. Incorporating EREN research into undergraduate teaching and development of assessment tool.

Consortium for Geospatial Information, University of Washington, 2010-2011. Participant in University-wide group promoting the education and use of geospatial technologies.

Center for Studies in Demography and Ecology, University of Washington, 2010-2011. Participant in weekly seminars.

Northwest Center for Public Health, Healthy Places Research Group, University of Washington, 2011. Participant in monthly training meetings.

Fundamentals of Ecosystem Ecology (FEE), Cary Institute of Ecosystem Studies, January 2007.

Participant in intensive short course in ecosystem science (modules taught by Institute scientists).

SERVICE TO PROFESSION

Topic Editor

Forests, Journal Topic Editorial Board; https://www.mdpi.com/journal/forests/topic_editors, March 2020-Present.

Guest Editor

International Journal of Applied Geospatial Research, Special Issue Geospatial Appalachia: Multidisciplinary Explorations of a Region. Guest Editors: G.R. Dobbs and D.M. Styers. Call for papers issued on December 4, 2018; special issue forthcoming in January 2021.

Peer Reviewer

Professional Academic Journals

Environmental Monitoring and Assessment (2019)

Forests (2020)

International Journal of Environmental Research and Public Health (2013)

International Journal of Remote Sensing (2018)

Journal of Applied Remote Sensing (2015)

Journal of Vegetation Science (2016)

Land (2020)

Papers of the Applied Geography Conference (2014)

Plants, People, Planet (2019)

PLOS ONE (2019)

Remote Sensing (2012, 2019, 2020)

Science of the Total Environment (2011, 2019)

Other

External reviewer for tenure application at North Carolina Central University (2020)

External reviewer for tenure application at Hobart and William Smith Colleges (2017)

SERVICE TO UNIVERSITY (WCU)

Western Carolina University Community (also Scholarship of Integration and Application)

WCUTrees. 2018. Freely-available mobile application for identifying most trees on WCU's campus.

Project directed by **D.M. Styers**; app developed by WCU alumni Chris Ward and Tyler Allen;

<https://news-prod.wcu.edu/2017/03/students-team-provide-wcu-first-campus-tree-map/>

<https://news-prod.wcu.edu/2018/09/collaboration-of-students-faculty-and-an-alumnus-leads-to-wcutrees-app/>

WCU OpenTreeMap. 2019. Website containing inventory of Western Carolina University's campus trees. Project directed by **D.M. Styers**; website developed by Chris Ward.

<https://otm.wcu.edu/wcu/map/>.

Tree Campus USA, 2018. Researched requirements and helped initiate the process, contributed to related events, and provided data and information for the application. Awarded in January 2019; renewed in January 2020.

Western Carolina University

Campus Tree Advisory Committee, January 2018-present

STEM Building Selection Committee, May 2015-May 2018

Information Technology Council, April 2015-May 2017

Curriculum Committee, August 2015-December 2015

College of Arts and Sciences

Academic Appeals Committee, July 2016-present
Collegial Review Committee, August 2017-March 2018
Curriculum Committee, January 2014-December 2015

Department of Geosciences and Natural Resources

Environmental Science Program Council, August 2016-August 2020
GIS Lab Manager and IT Liaison, August 2014-present
Collegial Review Committee (TPR and AFE), academic year 2017-18, 2018-19
Collegial Review Committee (AFE), academic years 2013-14, 2014-15, 2015-16
Curriculum Committee, academic years 2016-17, 2017-18
Resources Committee, academic years 2013-14, 2014-15, 2015-16, 2016-17
Program Review Steering Committee, academic year 2014-15
Faculty Affairs Committee, academic years 2011-12, 2012-13, 2018-19

Faculty Search Committees

Administrative Support Associate (chair), Spring 2020
Human Geography Instructor Position (chair), Spring 2020
Assistant Professor in Geosciences, Hydrology, Spring 2020
Assistant Professor in NRCM, Forestry, Spring 2019
Assistant Professor in NRCM, Water Resources, Spring 2019
Assistant Professor in ES (chair), Spring and Fall 2018
Visiting Assistant Professor in NRCM and ES, Spring 2017
Visiting Assistant Professor in NRCM, Spring 2015
Human Geography Instructor Position, Spring 2014
Human Geography Lecturer Position, Spring 2013
Assistant Professor in NRCM, Watershed Management, Spring 2013

Other Institutional Service

FEM in STEM Club, Faculty Advisor, 2018-present
Green Zone certification, Fall 2017
Safe Zone certification, Spring 2015
Western Regional Science Fair, Judge, 2012-2018
Freshman Move-In Day, 2012-2018
Open House, 2012-2018
Organized and Hosted LiDAR Workshop and Talk by Dr. L. Monika Moskal, Associate Professor,
College of Environmental and Forest Sciences, University of Washington, October 29, 2015
Presented at the Biology Department's Paul Burton Seminar Series, *Seeing the Forest for More than
the Trees: Mapping and Valuing Forest Ecosystem Services* on October 25, 2013