

John W. Nowlin, PhD GISP

Assistant Professor, College of Agriculture, Arkansas State University
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Education

University of North Carolina, Greensboro

Ph.D. in Geography (Dec 2017)

Dissertation: *The Geography of Wine in North Carolina: Terroir, Site Selection Efficacy, and Implications for Pierce's Disease Resistant Grape Varieties in the Southeastern U.S.*

Committee: Rick Bunch (advisor), Corey Johnson, Jeffery Patton, Michael Pretes, Gregory V. Jones

University of North Carolina, Greensboro

M.A. in Applied Geography & Post Baccalaureate GIS Certificate (May 2013)

Thesis: *A mesoscale geophysical capability/suitability model for Vitis vinifera vineyard site selection in the North Carolina Piedmont Triad region, case study: Rockingham County NC.*

Committee: Rick Bunch (advisor), Dan Royall, Zhi-Jun Liu

University of North Carolina, Greensboro

B.A. in Geography *Summa Cum Laud, Phi Beta Kappa, Gamma Theta Upsilon* (Dec 2010)

Concentrations in GIScience & Earth Science

Guilford Technical Community College

A.A. in General Studies (May 2008)

A.A.S. in Electrical Electronics Technology (Dec 2006)

Experience

Assistant Professor, College of Agriculture | Arkansas State University (Fall 2018 – present)

(Appointment: 75% teaching, 15% research, 10% service)

Fundamentals of GIS/GPS, AGST 3543 (nine semesters, '18 – '22)

Agricultural Spatial Technology I, AGST 3503, *renamed* (Fall '18)

Adv. Geographic Information Science, AGST 6543, *renamed* (Spr '19)

Adv. GIS for Agriculture & Natural Resources, AGST 4543 *renamed* (Spr '19 – Fall '19)

Agricultural Biosystems II, AGRI 3823 (Spr '19, '20)

Geospatial Data Applications, AGST 3505 (six semesters '19 – '22)

Understanding GIS, AGST 4543/5763/5543 (five semesters '19 – '22)

Independent Study, Special Problems/Topics Courses (seven semesters '19 – '22),

Graduate Communication Skills | Professional Writing AGRI 6362 (Fall '19 – '20)

Geospatial Data and Models, AGST 6543 (three semesters '20 – '22)

Internships in Agriculture, AGRI 420V (Spr '20)

Agricultural Systems Technology Capstone, AGST 4843 (three semesters '20 – '22)

Applied Geospatial Research, AGST 6843 (three semesters '20 – '22)

Thesis, AGRI 619V or ESCI 689V (four students '21 – '22)

Lecturer, Department of Geography, Environment & Sustainability | University of North Carolina, Greensboro (Fall 2017 – Summer 2018) & Adjunct Instructor (Spring 2017)

Introduction to Earth Science (Spr '17 – Spr '18)

Introduction to Geographic Information Science (Fall '17 – Spr '18)

Introduction to Sustainability Studies (Fall '17 – Spr '18)

Introduction to Environmental Studies (Spr '18 – Sum '18)

Capstone Seminar in Environmental Studies (Fall '17 – Spr '18)

Systems Developer & Tech Support Specialist (National Service), Installation Coordinator & Field Service Representative (Southeast Regional Service) | Stiles Machinery (Jun 1998 – Aug 2017)

GIS Database Development in ArcGIS: Desktop, Server, and Online; MS Access

Intranet Developer: SharePoint 365 Site Owner

Installation, Maintenance, and Repair of Industrial Woodworking Machinery

Teaching Assistant, Electrical/Electronics Program | GTCC (2006 – 2007), *part time*

Developed Blackboard curriculum: AC/DC, Electrical Computations, Wiring.

Lab Assistant: AC/DC Theory, Electrical Computations, Motors & Controls, Wiring, Industrial Safety.

Fire Controlman Second Class | U.S. Navy (1992 – 1998), *Honorable Discharge*

USS Hayler DD-997, NATO Sea Sparrow Missile System

USS Comte de Grasse DD-974, Mk 23 Target Acquisition System

Work Center Supervisor for maintenance and operation

Extensive travel in South America, The Caribbean, Europe & The Middle East

Research Interests

topographic modeling, agricultural conservation, regenerative agriculture, precision agriculture, niche agricultural suitability, site selection, terroir, geography of viticulture

Publications

Teague, T.G., A.M. Mann, N.R. Benson, J.W. Nowlin. 2022. "Thrips injury, seeding rate, and cover crop management effects on maturity and yield of Midsouth cotton." In: S. Boyd, M. Huffman, L. Krogman, and A. Sarkissian (Eds.), Proc. of the 2022 Beltwide Cotton Conferences, National Cotton Council, Memphis, TN, pp601–615. <https://www.cotton.org/beltwide/proceedings/2005-2022/data/conferences/2022/paper/21965.pdf>

Teague, T.G. N.R. Benson, J. Nowlin, and C. Wilson. 2022. "Cotton response to sidedress Nitrogen fertilizer when grown in a cotton-peanut rotation." In: N.A. Slaton (ed.). W.E. Sabbe Arkansas Soil Fertility Studies 2021, pp82–91. University of Arkansas Agricultural Experiment Station Research Series in press. Fayetteville. <https://scholarworks.uark.edu/cgi/viewcontent.cgi?article=1206&context=aaesser>

Teague, T.G., A.J. Baker, A. Mann, N.R. Benson, J. Nowlin. 2021. "Interactions of Nitrogen Fertilizer, Cotton Seeding Rate, and Late Season Insecticide for Tarnished Plant Bug Control in Midsouth Cotton." Proc. of the 2021 Beltwide Cotton Conferences, National Cotton Council [virtual], pp568–577. <https://www.cotton.org/beltwide/proceedings/2005-2022/data/conferences/2021/paper/20827.pdf>

- Teague, T.G., J. Krob, A.J. Baker, J. Nowlin, and N.R. Benson. 2020. “Interactions of cotton seeding rate, cover crop termination timing and pest insect control.” In: F.M. Bourland (Ed.), *Summaries of Arkansas Cotton Research 2020*, Arkansas Agricultural Experiment Station Research Series 668, pp90–99. https://agcomm.uark.edu/agnews/publications/668_Summaries_Arkansas_Cotton_Research_2019.pdf
- Teague, TG, NR Benson, J Krob, A Baker, JW Nowlin. 2020. “On-Farm Evaluation of Reduced Cotton Seeding Rates in a Mid-South System Incorporating a Winter Cover Crop with Two Termination Times”, *Proc. of the 2020 Beltwide Cotton Conferences*, National Cotton Council, Austin, TX, pp614–627. <https://www.cotton.org/beltwide/proceedings/2005-2022/data/conferences/2020/paper/20033.pdf>
- Nowlin, J.W., R.L. Bunch, and G.V. Jones. 2019. “Viticultural Site Selection: Testing the Effectiveness of North Carolina’s Commercial Vineyards.” *Applied Geography*. 106 (May), pp22–39. <https://doi.org/10.1016/j.apgeog.2019.03.003>
- Krob, J, J.W. Nowlin, and T.G. Teague. 2019. “Within-field variability: A case study to evaluate factors affecting maturity and yield in a commercial cotton field in northeast Arkansas.” In: F.M. Bourland (Ed.), *Summaries of Arkansas Cotton Research 2018*, Arkansas Agricultural Experiment Station Research Series 660, pp83–88. <https://scholarworks.uark.edu/cgi/viewcontent.cgi?article=1155&context=aaesser>
- Teague, T.G., K.D. Wilson, N.R. Benson, J.W. Nowlin, and B. Robertson. 2019. “Seeding rate and winter cover crop effects on maturity and yield of Mid-South cotton.” *Proc. of the 2019 Beltwide Cotton Conferences*, National Cotton Council, Memphis, TN, pp632–645. <https://www.cotton.org/beltwide/proceedings/2005-2022/data/conferences/2019/papers/19303.pdf>
- Nowlin, J.W., and R.L. Bunch. 2016. “Geography of Wine in North Carolina: Geospatial Concepts Applied to Physical Terroir.” *Proceedings of the XI International Terroir Congress 2016*, pp482–87. Linfield College, McMinnville OR: Southern Oregon University. <https://www.calameo.com/read/004433976949ab8885344>
- Nowlin, J.W., and R.L. Bunch. 2016. “A Model for Selecting Viticultural Sites in the Piedmont Triad Region of North Carolina.” *International Journal of Applied Geospatial Research* 7 (3), pp38–70. <https://www.igi-global.com/article/a-model-for-selecting-viticultural-sites-in-the-piedmont-triad-region-of-north-carolina/153925>

In Preparation

- Roy, Dilip, Ahmed Hashem, Michele L. Reba, Deborah Leslie, and John Nowlin. (2023) “A maximal overlap discrete wavelet packet transform coupled with LSTM deep learning model for improving multilevel groundwater level forecasts,” Submitted to *Water Resources Management Journal* December 2022.
- Shults, Daniel, John W. Nowlin, Joseph H. Massey, Michele L. Reba, Ahmed A. Hashem. (2023) “Automated Detection of On-Farm Irrigation Reservoirs in Two Critical Groundwater Regions of Arkansas: A Precursor for Conjunctive Water Management,” [planned submission Feb 2023]
- Shults, Daniel, Michele L. Reba, John W. Nowlin, and Joseph H. Massey. (2023) “Temporal Assessment of Current On-Farm Reservoirs in the Cache River Critical Groundwater Area, Arkansas,” [planned submission Mar 2023]
- Shults, Daniel, John W. Nowlin, Joseph H. Massey, Michele L. Reba. (2023) “Agricultural Field Grading Assessment in Northeastern Arkansas,” [planned submission Apr 2023]
- Pickett, Richard, John W. Nowlin, Ahmed A. Hashem, Joseph H. Massey, Michele L. Reba. “Comparison of RTK Relative Elevations between Utility Vehicle collected points and an

- sUAS collected photogrammetric surface of a cotton field in Eastern Arkansas.” [planned submission Apr 2023]
- Pieri, Allegra, M.L. Reba, D. Leslie, J. Nowlin, J. Massey, and A. O’Reilly. (2023) “Construction of two on-farm infiltration galleries in the Lower Mississippi River Basin,” [planned submission August 2023]
- Nowlin, John W, Gill Giese and others. Potential for Pierce’s Disease Resistant U.C. Davis released *V. vinifera* Hybrids across the Southeastern U.S.” [planned submission Aug 2023]

Funding

- U.S. Fish and Wildlife - Endangered Species Recovery Implementation (Cat. Nbr. 15.657). “Toward the recovery of pondberry (*Lindera melissifolia*): combining demography, soil-borne microbes, population genetics, and modeling to inform best management practices.” PI: S. Mangan, A-State, CoPIs: T. Marcico, J. Nowlin, D. Soteropoulos (Arkansas Natural Heritage Commission), J. Blackstock (USDA) 2023–2026, Total \$602,566, J. Nowlin salary (\$18,962). [submitted Oct 2022]
- NASA EPSCoR, “Investigating Extreme Weather Impacts on Agriculture using Pixel-based Time Series Analysis with Multiple Satellite Platforms.” PI: K. Hudson, UALR NASA HQ, Sci I A Shew, 2023 – 2025, Total: \$650,000; U of A CAST Co Is: A Shew, C Angel, Z Ahmed, O Obembe (\$470,000); A-State Subaward Co I :John Nowlin (\$79,960). [not funded]
- NASA Remote Sensing of Water (ROSES) 2021, “Investigating land use impacts on water quality with multi-platform Earth Observation Systems in the Ozark Plateau and Mississippi Alluvial Plain” PI Aaron Shew, Co Is: Joshua M. Blackstock, Brian Haggard, John Nowlin, Michele Reba, 2022 – 2024 Total \$650,000; A-State PI John Nowlin (\$48,522). [not funded]
- USDA-ARS (Delta Water Management Research: Jonesboro, AR) + Arkansas State NACA: 58-6024-1-005 & “Preserving Groundwater for Agriculture in the Lower Mississippi Basin.” Micro-topographic modeling in low relief irrigated agricultural fields. June & July 2022. Total: \$20,662.
- Arkansas Soil Testing and Research Fund. “Optimizing Fertilizer Management in Arkansas Cotton in Rotation with Peanut.” PI Wilson, C, T.G. Teague, J. Nowlin. 2021 – 2023. \$60,000.
- American Conservation Experience: USFWS Directorate Fellows Program. “Using ArcGIS Pro to examine landscape factors for Pondberry restoration” (DFP-LR4-14). PI Steven Rimer (USFWS); Lead A-State Collaborator and Intern Mentor: John W Nowlin, Graduate Student Intern: Valerie Kearny. May–Jul 2021. \$540/week x 11 = \$5,940
- USDA- NIFA, Capacity Building for Non-Land Grant Colleges of Agriculture (NLGCA). Funding Opportunity: USDA-NIFA-NLGCA-007392. UEI: 0735100670000 “Managed Aquifer Recharge of the Mississippi River Valley Alluvial Aquifer: Advancing Agro-Hydro-GIS Research in the Delta” PD: John W Nowlin, CoPDs: Deborah L Leslie, Nicolas E. Quintana Ashwell. \$748,996. Submitted Oct 2020 [not funded]
- Swords to Plowshares Agro-Applications Exploration & Development (SPAED) Project, in the Arkansas Mississippi River Alluvial Plain, Cooperative Research and Development Agreement between Meta Special Aerospace and Arkansas State University. Jul 2020 – Dec 2020. PI: John W. Nowlin, CoIs: Michele Reba, Joseph Massey. \$46,906. Jul 2020.
<https://www.astate.edu/news/nowlin-is-conducting-high-tech-agricultural-research>
- Arkansas Rice Research and Promotion Board proposal. “Development of Tutorials on Levee/Spot sUAS Weed Control & Nutrient Application” PIs: John W. Nowlin, Ahmed Hashem; CoIs: Jason Davis, Tim Burcham, Ed Brown, Aaron Shew. \$60,500. Submitted Nov 2019 [not funded]

- USDA- NIFA, CFDA 10.326 Capacity Building for Non-Land Grant Colleges of Agriculture (NLGCA). Funding Opportunity: USDA-NIFA-NLGCA-006780. “Managed Aquifer Recharge of the Mississippi River Valley Alluvial Aquifer: Advancing Agro-Hydro-GIS Research and Training in the Delta” PD: John W Nowlin, CoPDs: Deborah L Leslie, Nicolas E. Quintana Ashwell. \$749,911. Submitted October 2019 [not funded]
- A-State Faculty Research Awards Committee (FRAC) faculty research award. PI: John W Nowlin. \$5000. Jul 2019.
- Resilient Agricultural Systems in the Arkansas Delta (RASAD) - University of Arkansas Division of Agriculture: Arkansas State University Research Unit (XASU). PI: JW Nowlin, CoPIs: Michele Reba, Joe Massey, Mary Yaeger. located at: Arkansas State University and USDA-ARS Jonesboro. \$60,860. Jul 2019 – Jun 2021.
- USDA-ARS (Delta Water Management Research: Jonesboro, AR) + Arkansas State NACA: 58-6024-6-006 & “Preserving Groundwater for Agriculture in the Lower Mississippi Basin.” Lidar based topographic modeling to detect on-farm surface water reservoirs and rice levees. \$42,485. June 2019 – Aug2021
- AR NSF EPSCorR Track 1 – G2F Maize. “Integrated Data Enabled Architecture (IDEA): Predicting More Resilient Corn Hybrids for Arkansas”. Argelia Lorence (PI), Co-PIs: Elizabeth Hood, Steven Green, Aaron Shew, John Nowlin, and Ahmed Hashem. \$100,000. Submitted Jan 2019 [not funded]

Secondary Research & Teaching Affiliations

- Affiliated Faculty, Data Science/Data Analysis B.S. Program, Arkansas State University (2021 – present)
- Affiliated Researcher, University of Arkansas Division of Agriculture, Arkansas State University Research Station (XASU), Jonesboro, AR (2019 – present)
- Affiliated Researcher, United States Department of Agriculture-Agricultural Research Service, Delta Water Management Research Unit, Jonesboro, AR (2019 – present)
- Affiliated Faculty, Environmental Science PhD. & M.S Program, Arkansas Stte University (2019 – present)

Scholarly Review

- Reviewer for Southern Studies, (Feb 2022) <https://cjhss.nsula.edu/southern-studies/>
- Reviewer for The Geographical Bulletin, Gamma Theta Upsilon, (2021 – present) <https://www.gammathetaupsilon.org/geographical-bulletin.html>
- Internal Reviewer for USDA-ARS Delta Water Management Research Unit, Jonesboro AR (2020 – present) <https://www.ars.usda.gov/southeast-area/jonesboro-ar/delta-water-management-research/>
- Invited External Examiner for master’s research thesis by Paula Pipan “Effect of fine scale spatial climate variability on modelled and observed grapevine phenology” School of Agriculture and Wine Science, Charles Sturt University, Wagga Wagga, NSW, Australia., Andrew Hall Advisor. (May 2020). \$278
- Reviewer for Applied Geography, Elsevier, (2020 – present) <https://www.journals.elsevier.com/applied-geography>
- Reviewer for International Journal of Applied Geospatial Research, I.G.I. Global, (2019 – present) <https://www.igi-global.com/journal/international-journal-applied-geospatial-research/>

Presentations

- Pickett, Richard, John W. Nowlin (presenter), Michele L. Reba, Joseph H. Massey. “Comparison of RTK Relative Elevations between Utility Vehicle collected points and an sUAS collected photogrammetric surface of a cotton field in Eastern Arkansas.” (paper), SEDAAG – Atlanta, GA, Georgia Tech. (20 – 21 Nov 2022)
- Dill, T, A. Shew, J Nowlin, J Massey, M. Reba. “Remote sensing of winter flooded agricultural fields for migratory birds in the Mississippi Alluvial Plain” (presentation) Soil and Water Conservation Society. International Annual Conference. Denver, CO (31 Jul – 3 Aug 2022)
- Nowlin, J.W. “New Pierce's Disease Resistant Grape Varieties: Implications for Southeastern Viticulture” (paper) AAG – NY, NY [virtual] (25 Feb – 1 Mar 2022)
- Teague, T.G., N.R. Benson (presenter), and J.W. Nowlin. 2022. Thrips injury, seeding rate, and cover crop management effects on maturity and yield of Midsouth cotton. Beltwide Cotton Conference, San Antonio, TX (4–6 Jan 2022)
- Daniel Shults, John W. Nowlin (presenter), Michele L. Reba, Joseph H. Massey. “Automated Modeling of on-farm Reservoirs using NAIP and LiDAR derived DEMS” (paper), SEDAAG – Florence, AL. (21 – 22 Nov 2021)
- Nowlin, J.W. “Identifying Arkansas Vineyard Sites using GIS” (invited presentation) Arkansas Association of Grape Growers: Annual Meeting – Rusty Tractor Vineyards, Little Rock, AR (04 Nov 2021)
- Nowlin, J.W. “Agro-spatial Research Topics in Soils, Crops & Precision Irrigation with GIS & Remote Sensing via Satellites, Airplanes and Drones” (invited presentation) Arkansas General Assembly, Senate & House Joint Committee on Agriculture, Forestry, and Economic Development – met in Jonesboro, AR (21 Oct 2021)
- Nowlin, J.W (co-presenter), Daniel Shults (co-presenter). “Model for Irrigation Reservoir Detection in the Arkansas Delta” 1:(presentation), Arkansas GIS Virtual Symposium. (16 Sep 2021) to be posted at:
(57:50 – 1:27:50) <https://www.youtube.com/watch?v=zaKo4aCP7m4>
- Nowlin, J.W. “Mapping Viticultural Suitability in Arkansas AVAs and Vineyards,” invited presentation, Arkansas GIS User’s Forum: May Webinar [virtual]. (19 May 2021)
<https://www.youtube.com/watch?v=RQCdluSjMSE&t=605s>
- Nowlin, J.W. “Viticultural Site Selection in The South ... a mostly raster approach” (invited presentation) University of Southern Mississippi | School of Biological, Environmental, and Earth Sciences, Colloquium – Hattiesburg, MS [virtual]. (23 Apr 2021)
- Nowlin, J.W. “Arkansas Viticultural Site Suitability” (paper) AAG – Seattle, WA [virtual]. (7 – 11 Apr 2021)
- Teague, T.G., A.M. Mann, A.J. Baker, N.R. Benson, J.W. Nowlin. 2021. Interactions of Nitrogen Fertilizer, Cotton Seeding Rate, and Late Season Insecticide for Tarnished Plant Bug Control in Midsouth Cotton. Beltwide Cotton Conference, Virtual, 5 – 8 Jan 2021.
- Daniel D. Shults (presenter), John W. Nowlin, Michele L. Reba, Joseph H. Massey, Mary A. Yaeger. “Modeling Technique for Reservoir Identification in Eastern Arkansas” (paper) AAG – Seattle, WA [virtual]. (7 – 11 Apr 2021)
- Daniel D. Shults (presenter), John W. Nowlin, Michele L. Reba, Joseph H. Massey, Mary A. Yaeger. “Modeling Technique for Reservoir Identification in Eastern Arkansas” (poster) Arkansas Soil and Water Education Conference, A-State – Jonesboro, AR [virtual]. 27 Jan 2021.
- Brittany Singleton (presenter), Jennifer Bouldin, John W. Nowlin. “Riparian Land Use Along Two Sections of the Bayou DeView River, Arkansas” (poster) Arkansas Soil and Water Education Conference, A-State – Jonesboro, AR [virtual]. 27 Jan 2021.

- Teague, T.G., A. Mann, A.J. Baker, N.R. Benson, and J. Nowlin. 2020. Factors Affecting Tarnished Plant Bug Spatial Dispersion Patterns and Feeding Injury Associated in Mid-south Cotton -- Implications for Zone Management. 2020 Entomological Society of America Annual Meeting [virtual], 17 – 20 November 2020.
- Daniel Shults (presenter), John W. Nowlin, Mary A. Yaeger, Joseph H. Massey, Michele L. Reba. “A spatiotemporal analysis quantifying the need for more on-farm reservoirs to reduce groundwater use in the Cache and L’Anguille River Regions in Northeastern AR.” (poster) ESRI User Conference, San Diego, CA [virtual]. (13 – 16 Jul 2020)
- Daniel Shults, (John Nowlin, Mentor), “A Spatiotemporal analysis of surface water installation in the Cache and L’anguille river regions of Northeastern Arkansas.” *Create @ STATE*: Arkansas State University, Jonesboro, AR [virtual]. (21 Apr 2020), Awarded Best Agriculture Graduate Poster.
- Jessica L. Krob, (T.G. Teague and J.W. Nowlin, Mentors). “Spatial variability of plant injury and response from *Lygus lineolaris* feeding in Mid-South cotton.” *Create @ STATE*: Arkansas State University, Jonesboro, AR [virtual]. (21 Apr 2020). Awarded Best Agriculture Undergraduate Poster.
- Nowlin, J.W. Daniel D. Shults, Joseph H. Massey, Michele L. Reba, Mary A. Yaeger. “Potential Infiltration Gallery Locations in the Cache River Critical Groundwater Area” (paper), AAG – Denver, CO (6 Apr 2020) [event canceled]
- Jessica L. Krob (presenter), A.J. Baker, T.G. Teague1, J.W. Nowlin. “Influence of Seeding Rates and Termination Timing of Winter Crops on Pest Abundance in Midsouth Cotton” (poster):
1. Awarded Best Undergraduate Poster: *Arkansas Soil & Water Education Conference*: Arkansas State University, Jonesboro, AR. (29 Jan 2020).
 2. Selected to represent Arkansas State University: *Undergraduate Research Posters at the Arkansas State Capitol*: Capitol Rotunda, Little Rock, AR (20 Feb 2020).
 3. Selected to represent Arkansas State University: *National Council on Undergraduate Research*: Bozeman, MT. (25 – 28 Mar 2020). [event canceled]
- Daniel Shults (presenter), and J.W. Nowlin. “History of reservoirs in the Upper Cache and L’Anguille River Basins of Arkansas”. (poster) Arkansas Soil and Water Education Conference, Arkansas State University, Jonesboro, AR (29 Jan 2020)
- Teague, T.G., J.L. Krob, J. Nowlin, A.J. Baker, and N.R. Benson. 2020. On-farm evaluation of reduced cotton seeding rates in a Mid-South system incorporating a cereal rye winter cover crop with different termination timings. Beltwide Cotton Conference, Austin, TX. (7 – 10 Jan 2020).
- Nowlin, J.W (presenter), Michele L. Reba, Joseph H. Massey, Daniel D. Shults, Mary A Yaeger. “Identifying fine structural features within the low relief of the Cache Critical Groundwater Area” (paper), SEDAAG – Wilmington, NC. (24 Nov 2019)
- Nowlin, J.W (presenter), Joseph H. Massey, Daniel D. Shults. “Meter Resolution, Within Field Topographic Pattern Analysis” (presentation) Arkansas GIS Users Forum Biennial Symposium, Eureka Springs, AR (31 Oct 2019)
- Daniel D. Shults (presenter), John W. Nowlin, Mary A. Yaeger, Joseph H. Massey, Michele L. Reba. “A method of quantifying the need for more on-farm reservoirs to reduce groundwater use in the Cache River and L'Anguille Region of Northeastern AR” (poster) Arkansas GIS Users Forum Biennial Symposium, Eureka Springs, AR (31 Oct 2019)
- Richard Pickett (presenter), John W. Nowlin, Ahmed Hashem, Mike Hamilton, Scott Matthews. “Managing Irrigation Design with sUAS Technology and GIS” (poster) Arkansas GIS Users Forum Symposium, Eureka Springs, AR (31 Oct 2019)
- “PhDs and the academy” Panel Discussion: Jenny Berggren (Discussant), Linda Kennedy, John W. Nowlin, Jason T. Ortegren, John Stehlin. University of North Carolina Greensboro, NC (18 Oct 2019)

- Ahmed Hashem, John W. Nowlin, and Edward Brown, “Presentation of A-State College of Agriculture: Ag. Systems Technology and Plant and Soil Science Hands-on Display of Technical Field Equipment for Teaching and Student Research projects to Senator John Boozman” (presentation) University Teaching and Research Farm, Jonesboro, AR (28 Aug 2019)
- Ahmed Hashem and John Nowlin, “Agricultural Applications using Unmanned Aircraft Vehicles” (presentation) Arkansas High School Agriculture Teachers Professional Development, University of Arkansas Community College Batesville (UACCB), Batesville, AR (27 Jun 2019)
- Jessica L. Krob., K.D. Wilson, J.W. Nowlin, and T.G. Teague. 2019. Geospatial Variability and Cotton Production --Profitability in a Northeast Arkansas Field. Create @ STATE (17 Apr 2019) Arkansas State University, Jonesboro, AR.
- Nowlin, J.W. (presenter), Ahmed Hashem, Steve Green, Joe Massey. “Integrating multi-sensor UAS into irrigation research in Eastern Arkansas” (presentation) AAG Conference – Washington, D.C. (4 Apr 2019)
- Nowlin, J.W., Aaron Shew, and Ahmed Hashem, “Agricultural Systems Technology – New Curriculum” (presentation) Arkansas GIS User Forum Spring Meeting, UALR, Little Rock, AR. (20 Mar 2019)
- Nowlin, J.W., “Updates to Agricultural Systems Technology Curriculum” (presentation) Learn@State:Arkansas State University, Jonesboro, AR (13 Mar 2019)
- Nowlin, J.W. and Ahmed Hashem, “Agricultural Systems Technology – New Curriculum, Unmanned Aircraft Systems in Agriculture” (presentation) High School Teachers, Career and Leadership Development, Future Farmers of America, Arkansas State University, Jonesboro, AR (6 Mar 2019)
- Nowlin, J.W. “From North Carolina Wine to Arkansas Rice, Geospatial Applications in Environmental Modeling & A-State Agricultural Systems Technology Program” (presentation), University Rotary Club - Jonesboro, AR (21 Feb 2019)
- Teague, T.G., K.D. Wilson, N.R. Benson, H. Campbell, J. Nowlin, and B. Robertson. 2019. Seeding rate and winter cover crop effects on maturity and yield of Arkansas cotton. Beltwide Cotton Conference, New Orleans, LA, 8 – 10 Jan 2019.
- Jessica L. Krob, Kyle D. Wilson, John W. Nowlin, Tina G Teague. “Within Field Spatial Variability of Cotton Productivity Associated with Soil Texture, Irrigation, and Pest Management Practices in Northeast Arkansas Field” (poster), *Undergraduate Research Posters at the Arkansas State Capitol: Capitol Rotunda*, Little Rock, AR (20 Feb 2019)
- Nowlin, J.W. “Geographic Framework for Terroir and the Wine Region” (poster), AAG Conference – New Orleans, LA (11 Apr 2018)
- Nowlin, J.W. “Winegrape Variety Zones in the Southeastern U.S.” (paper), SEDAAG – Starkville, MS (20 Nov 2017)
- Nowlin, J.W. and Rick L. Bunch. “New Pierce’s Disease Resistant Grape Varieties: The Implications for the Southeastern U.S. Wine Industry” (paper), AAG Conference – Boston, MA (5 Apr 2017)
- Nowlin, J.W. “Viticultural Site Selection Effectiveness in North Carolina: Contrasting Cooperative Extension Guidance and Wine Grower Behavior” (paper), SEDAAG – Columbia, SC (21 Nov 2016)
- Nowlin, J.W. “Geography of Wine in North Carolina: Geospatial Concepts Applied to Physical Terroir” (poster & paper), XI International Terroir Congress – McMinnville, OR (14 Jul 2016)
- Rick Bunch, John W. Nowlin, Matthew Balentine. GIS Workshop with Guilford County Schools Employees, Greensboro, NC (23 – 27 May 2016)
- Nowlin, J.W. “North Carolina Terroir(s)” (paper) AAG Conference – San Francisco, CA (31 Mar 2016)

- Nowlin, J.W. “Boundary Interpretations of American Viticultural Areas within North Carolina” (paper), SEDAAG Conference – Pensacola, FL (24 Nov 2015)
- Nowlin, J.W. “North Carolina Viticultural Geography Considerations in Site Suitability” (student paper competition – *won second place*); AAG Conference – Chicago, IL (22 Apr 2015)
- Nowlin, J.W. “North Carolina Viticultural Site Suitability” (presentation) NC Wine Growers Association (NCWA) Annual Meeting – Winston-Salem, NC (Feb 2015)
- Nowlin, J.W. “A Mesoscale Geophysical Capability/Suitability Model for *Vitis vinifera* Vineyard Site Selection in the North Carolina Piedmont Triad Region, Case Study: Rockingham Co. NC.” (poster), 2013 Graduate Research EXPO, UNCG (13 Mar 2013)
- (paper), American Society of Enologists and Viticulturists Eastern Section 38th Conference – Winston-Salem, NC (18 Jul 2013)
- (paper), SEDAAG Conference – Roanoke, VA (24 Nov 2013)
- Nowlin, J.W. “Pierce's Disease Risk within Yadkin Valley AVA of North Carolina: A GIS Approach to Climate Change and Implications of Risk: 1972 – 1997 & 1997 – 2005” (poster), SEDAAG Conference – Asheville, NC (20 Nov 2012)

Service – Committees, Appointments, Activities

Professional

- President (Chair), AAG Geography of Wine, Beer, and Spirits Specialty Group (2022 – present)
- Board Member, Arkansas Geographic Information Systems Board (Governor appointed; 2021 – 2125)
- Executive Committee Member, Arkansas GIS Users Forum (2020 – present)
- Member, American Association of Geographers (AAG; 2013 – present)
- Vice President, Secretary/Treasurer, Member Geography of Wine, Beer, and Spirits Specialty Group (2014 – 2022)
- Member, North Carolina Winegrowers Association (2013 – 2018)
- Member, Southeastern Division of the AAG (SEDAAG; 2009 – present)

American Association of Geographers (AAG):

- Session Chair: AAG Conference Session “Mixed Drinks I: Rural Wines and Urban Beers? Understanding Viticulture and Brewery Locations.” Seattle, WA [virtual] (9 Apr 2021)
- Session Chair: WBSSG, Meet the Expert: Greg Jones on the Variability and Sustainability of Climate, Grapes and Wine, AAG Conference. Seattle, WA [virtual] (7 Apr 2021)
- Session Chair: AAG Conference Session “UAS Symposium I: Structure from Motion for Forestry and Natural Resources.” Washington, DC (4 Apr 2019)
- Student Rep: Geographies of Wine, Beer, & Spirits (WBSSG) (2016 – 2017)

Southeastern Division of the AAG (SEDAAG):

- Session Chair: SEDAAG Conference Session “GIS & Remote Sensing.” Florence, AL (Nov 2021)
- Conference Volunteer: SEDAAG Conference Athens, GA (23 – 25 Nov 2014)

Arkansas GIS Users Forum:

- 2021 GIS Day Webinar (panel member). Arkansas GIS User's Forum. [virtual]
<https://www.youtube.com/channel/UCeETr7F-NQkeGrKc2PJVE2Q> (17 Nov 2021)

Arkansas State University

- Member, Sustainability Certificate Committee (2022 – present)

Member, Computers and Technology Committee (2021 – present)
Member, Data Science/Data Analytics Steering Committee (2021 – present)
Member, Environmental Science Committee (2021 – present)
Member, Advisory Board of the Criminology, Sociology and Geography Department in the
College of Liberal Arts and Sciences (2021 – present)
ASU System ESRI License Administrator (Fall 2019 – present)
Member, Red Wolf Works Committee, formerly Creative Commons (2020 – 2022)
Member, Data Science\Data Analytics Program Committee (2019 – 2022)
Member, Undergraduate Admissions Appeals Committee (Jul 2018 – present)
Member, Learning Management System (LMS) Task Force (Sep 2018 – Feb 2019)
Member, Academic Integrity Task Force (Oct 2018 – Feb 2019)

College of Agriculture

Chair, Agricultural Water Management/Remote Sensing Hiring Committee (2022 – 2023)
Chair, GIS Online Instructor Hiring Committee (2022 – 2023)
Chair, Ag Studies Online Instructor Hiring Committee (2022)
Member, Plant and Soil Science Instructor Hiring Committee (2022)
Member, Self-Study Committee (2022 – present)
Member, Diversity and Inclusion Committee (2022 – present)
Chair, Strategic Planning Committee (2020 – 2022)
Member, Communications Committee (2020 – present)
Member, Research Committee (2020 – 2022)
Member, Dean of Agriculture Search Committee (2019 – 2020)
Sponsoring Faculty Member, Agricultural Systems Technology Club, (2019 – 2020)
Member, Student Success, Scholarship & Recruiting Committee (2019 – present)
Member, Internship Committee (2018 – present)

Community

Member, Judd Hill Farmers Market Committee (2022 – present)
Member, Oakland High School Class of 1992, 30th Reunion Planning Committee (2022)
Member, Advisory Group: Northeast Arkansas Career and Technical Center – Jonesboro
Public Schools (2021 – present)

Arkansas State University Recruiting & Community Outreach Events:

High School Recruiting Event, A-State Arena (17 Oct 2022)
A-State Petting Zoo (15 Oct 2022)
Farmer's Market, Market Manager Booth Helper, (217 Sep; 24 Sep; 22 Oct 2022)
Rich, J & J.W. Nowlin "A-State College of Agriculture programs" Farm Bureau – Agricultural
Youth Leadership Seminar (6 Jul 2022)
Flood, Farming, and Fun Agriculture Camp (22 Jun 2022)
New Student Orientation (26 May 2022)
A-State Petting Zoo (23 Apr 2022)
Annie Camp & McArthur Junior High Robotics Club visit (22 Apr 2022)
FFA competition- Plant Science (9 Mar 2022)
Pack Preview (6 Nov 2021)
A-State College Fair (18 Oct 2021)
Pack Day - College Preview (4 Sep 2021)
FFA Meet and Greet (26 Apr 2021)
College Preview Day (21 Nov 2020)

Transfer Partners Conference Zoom (16 Oct 2020)
Select A Major Fair (30 Sep 2020)
Agriculture Expo Black River Technical College (7 Feb 2020)
Memphis Farm and Gin Show (28 Feb 2020)
Pack Preview Day (26 Oct 2019)
New Student Orientation (3 Jun and 19 Jun 2019)
Valley View High School Career Fair (29 Mar 2019)
Arkansas-Eastern District FFA Career Development Event (6 Mar 2019)
Agriculture Appreciation Expo Black River Technical College (15 Feb 2019)
Pack Preview Day (6 Oct 2018)
Select A Major Fair (3 Oct 2018)

Professional Development

Arkansas Soil and Water Education Conference, Jonesboro, AR (25 Jan 2023)
Water Summit, ASU System Office, Little Rock, AR (11–12 Aug 2022)
U.S. Senate Agriculture, Nutrition & Forestry Panel, “2023 Farm Bill: Perspectives from the Natural State,” A-State Fowler Center Jonesboro, AR (17 Jun 2022)
Judd Hill Cotton Field Day (22 Jun 2022)
Heifer Ranch Collaboration Exploration Meeting (2 May 2022)
Pedagogy Exchange Series – College of Agriculture, Jonesboro, AR (Spr 2022)
ESRI Education Summit – San Diego, CA (9 – 12 Jul 2022)
ESRI User Conference – San Diego, CA (11 – 15 Jul 2022)
Arkansas GIS User Forum, Benton, AR (6 Apr 2022)
Arkansas Soil and Water Education Conference [virtual] (26 Jan 2022)
Arkansas Soil and Water Education Conference [virtual] (27 Jan 2021)
Arkansas Soil and Water Education Conference (29 Jan 2020)
Agricultural Conservation Planning Framework meeting, USDA-ARS Jonesboro, AR (11 Dec 2019)
Mississippi County Water Management Field Day, Burdette, AR (5 Aug 2019)
RiceTec Arkansas Field Day, Harrisburg, AR (6 Aug 2019)
ESRI Education Summit – San Diego, CA (6 – 9 Jul 2019)
ESRI User Conference – San Diego, CA (8–12 Jul 2019)
Non-Land-Grant Agricultural and Renewable Resources Universities (NARRU): Delta Tour, Jonesboro-Osceola-Dyess-Wilson, AR (10 Sep 2018)
Mississippi County Water Management Field Day, Osceola, AR (6 Aug 2018)
RiceTec Arkansas Field Day, Harrisburg, AR (7 Aug 2018)
ESRI Education GIS Conference – San Diego, CA (8–11 Jul 2017)
ESRI User Conference – San Diego, CA (10 – 14 Jul 2017)
ESRI User Conference – San Diego, CA (27 Jun – 1 Jul 2016)
XI International Terroir Congress – Post Congress Appellations Tour – selected Oregon & Washington vineyards (10 Professional development conferences attended:
ESRI Education Summit – San Diego, CA (9–12 Jul 2022)
ESRI User Conference – San Diego, CA (11–15 Jul 2022)
ESRI Education Summit – San Diego, CA (6–9 Jul 2019)
ESRI User Conference – San Diego, CA (8–12 Jul 2019)
14 Jul 2016)
ESRI User Conference – San Diego, CA (27 Jun – 1 Jul 2015)

Honors & Achievements

Outstanding Teaching Award, Arkansas State University, College of Agriculture (2021)
Certificate of Recognition for contributions to student success and advising, A-State College of Agriculture, (2021)
1st Place in Social Sciences – UNCG Graduate Research EXPO (Apr 2013)
UNCG Student Representative to Graduate Day at NC General Assembly (May 2013)
World Geography Bowl – 4-year member of North Carolina State Team
SEDAAG Conference Pensacola, FL (2015)
SEDAAG Conference Asheville, NC (2013)
SEDAAG Conference Birmingham, AL (2010)
SEDAAG Conference Knoxville, TN (2009) *undergraduate MVP*
Phi Beta Kappa – Liberal Arts Honor Society (2010)
Gamma Theta Upsilon – International Geographic Honor Society (2010)

Professional Certifications

Certified GIS Professional (GISP) Cert.# 90584, GIS Certification Institute, (Apr 2015 – present)
FAA Part 107 Remote Pilot License, Small Unmanned Aircraft Systems, Jun (2019 – present)

Student Research & Mentorship

Major Advisor:

Allegra Pieri (2021 – present) M.S. Environmental Science; proposed thesis title, “Managed Aquifer Recharge: Installation and Early Evaluation of Infiltration Galleries in the Cache River Critical Groundwater Area, Northeast Arkansas”

-Awarded the American Water Resource Association (AWRA) 2022 Spring Conference Poster Presentation Award

Thomas “Patrick” Dill (2021– present) M.S.A. Concentration in Digital Agriculture; proposed thesis title, “Quantifying Flooded Agricultural Land for Migratory Birds in the Mississippi Alluvial Plain”

-Awarded the 2022 Create@State Dean’s Award for Graduate Oral Presentation: “Effect of Environmental Factors on Multispectral Bands When Identifying Water in Winter Flooded Agricultural Fields”

Richard Pickett (2019 – present) M.S.A. Concentration in Digital Agriculture; proposed thesis title, “Comparisons of Small Unmanned Aircraft Systems and Agro-Terrestrial Surveys: Techniques to Determine Field Elevation Surfaces for Irrigation Management.”

B.S. Ag. Agricultural System Technology:

-Awarded the Undergrad. Student Award at the Arkansas Soil & Water Conf. (29 Jan 2020)

-Pickett, R. (presenter), “Drone Elevation Data and Its Practical Use,” Arkansas Soil and Water Education Conference. Jonesboro, AR 2021, 27 Jan 2021)

-Established P&P Consulting (2019)

Daniel Shults (2019 – 2021) M.S.A. Concentration in Digital Agriculture; thesis title: “Spatial-Temporal Modeling of Agricultural Water Surface Features in Northeastern Arkansas”

-RASAD Graduate Research Assistant-award recipient “Micro Topography Analysis for Surface Reservoir Detection” (Jul 2019 – Jun 2021)

- Awarded the 2020 Create@State Dean's Award for best graduate poster, "A Spatiotemporal Analysis of Surface Water Installations in the Cache and L'anguille River Regions of Northeastern Arkansas"

B.S. Ag. Agricultural System Technology

Jessica Krob (2018 – 2020) – B.S., Ag. Plant Soil Science program; (co-advisor with Dr. Tina Teague):

- Awarded the best Undergraduate Poster Award at the Arkansas Soil & Water Conf. (29 Jan 2020)
- Awarded the 2020 Create@State Dean's Award for best undergraduate poster, "Spatial variability of plant injury and response from *Lygus lineolaris* feeding in Mid-South cotton"
- Awarded the 2020 Outstanding Student award for her BSA in Agronomy

Advisory Committee Member:

Patrick Dyer (2022 – present) M.S. Environmental Science, working title, "Nutrient Flux in Tributaries of the Buffalo River in Searcy, County, Arkansas, 2019–2022"

Ray Benson (2022 – present) Ph.D. Environmental Science, proposed dissertation title, "Spatial Analysis Methods for Agronomic Economic, and Environmental Evaluations of Implementing Site-Specific, Zone Management in Agricultural Fields in the Lower Mississippi River Basin in Northeastern Arkansas"

Melissa Walker (2022 – 2022) M.S.A. Concentration in Plant and Soil Science

Brendan Kosnik (2021 – present) M.S. Biology, proposed thesis title, "Assessing species distribution models' abilities to predict locations of rare sedges in Eastern Arkansas"

Brittany Singleton (2021– present) Ph.D. Environmental Science, working dissertation title, "Water Quality Monitoring in Cow Lake Ditch-Bayou DeView Subwatershed in the Cache River Watershed, Arkansas"

Sam King (2020 – 2021) M.S.A., Concentration in Agricultural Business and Economics, thesis title, "Trends in NRCS Conservation Practices and Land Use Drivers in Arkansas"

Devon Austin – (2020) M.S.A. (non-thesis), Concentration in Plant and Soil Science

Shauna Taylor (2019) M.S.A (non-thesis), Concentration in Plant and Soil Science

Valerie Kearny (2018 – 2021) M.S. Biology, thesis title, "Summer Distribution and Day Roost Characteristics of Eastern Small-Footed Bats (*Myotis leibii*) in the Ouachita Mountains, Arkansas"

Jae Chester (2018 – present) M.S. Environmental Science (non-thesis) research project title, "Correlation of Water Quality Data to Fecal Coliform and Land Use Data in the White River, Arkansas"

Diana Soteropoulos (2018 – present) Ph.D. Environmental Science, proposed dissertation title, "Floristics in Arkansas: surveying and quantifying management impact of rare ecosystems, launching floristic quality assessment, and predicting rare plant distribution"

-hired as Arkansas State Botanist (Spring 2020)

Teaching Interests

geographic information science

environmental modeling: climate, soil & topographic surfaces analysis

earth science (physical geography)

regenerative agriculture

niche agriculture

cartography

geographies of wine, beer and spirits