



Stacy Nelson - Biographical Sketch

Stacy Nelson currently serves as the Associate Dean for College Culture and Community in the College of Natural Resources, a professor in the Department of Forestry and Environmental Resources, a fellow in the Center for Geospatial Analytics at NC State University, and an Alumni Association Distinguished Graduate Professor. In his current role he has created structures that increase student retention, graduation rates, mentoring, and pathways to graduate education and careers.

Stacy holds a BS in Biology from Jackson State University, a MA from the College of William and Mary's School of Marine Science, and a PhD in Fisheries Sciences from Michigan State University, where he attended as a NASA Graduate Research Fellow. Stacy's research interests lie in applying geospatial techniques to address questions of habitat, ecosystem, and landscape spatial problems in terrestrial and aquatic systems.

Stacy has personal and continued interests in developing students, staff, and faculty through opportunities to collaborate, share, and learn within and across disciplines, as well as taking these experiences outside of the academic environment and into the community. Stacy has also directed federally-sponsored partnership programs, targeting capacity-building and workforce development with multiple University of Puerto Rico campuses. He also worked with several federal and state agencies including the Earth Systems Science Office at the NASA-Stennis Space Center in Mississippi, served as an intergovernmental appointee to the USDA Forest Service Headquarters in Washington, DC, and currently serves on the board of directors of the NC Wildlife Federation.

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ADMINISTRATIVE PROFILE

Experienced mentor, advocate, professor, and leader with over 30 years in higher education and unique perspectives that have been shaped from holding positions, initially at a smaller public university, then a community college while working on my Ph.D., to my current large research-intensive university. I have always been passionate about building teams and working collaboratively to expand programs and opportunities that create new ways to directly connect academic excellence with the success of students, staff, and faculty. Throughout my career, I have worked to strengthen institutional culture, expand research and community partnerships, and align academic pathways with organizational and workforce priorities. My work has always been centered on helping people to succeed through mentorship, teamwork, and the creation of healthy and authentic environments where everyone feels valued.

Leadership Focus: *Empowering Student and People Success; Building Highly Collaborative Teams; Advancing a Culture of Health and Wellness; Leading Strategic Growth and Institutional Change; Strengthening Creativity, Research, and Community Partnerships.*

ABOUT THE COLLEGE OF NATURAL RESOURCES

CNR is a research-intensive college within a comprehensive R1, land-grant university, the NC State University. The College's interdisciplinary focus on education, research, extension and engagement in natural resources, environmental sciences, sustainability, sport, recreation, and tourism has been recognized as a world leader. The College serves a diverse student population and is led by NC State's Wolfpack 2030 strategic priorities. My increasing responsibility over a lengthy senior administrative career includes involvement in most every aspect of the of the College. This includes leadership across student success, faculty and staff development, institutional culture, strategic planning, advancement initiatives, research engagement, and establishing community partnerships. Each of these responsibilities come with oversight of complex, cross-cutting programs supporting more than 2,000 students and 250 staff and faculty.

SELECTED LEADERSHIP EXPERIENCE

Associate Dean for College Culture and Community, College of Natural Resources
(initially Associate Dean for Diversity and Inclusion)

- *Founded the Office of College Culture and Community as a strategic retention unit to enhance community and belonging to stabilize enrollment and reduce attrition of students, staff, and faculty.*
- *Oversee an annual operating budget of \$250,000 and direct a cumulative external grant portfolio exceeding \$7 million. Additionally, serving several stints as Acting Dean,*

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providing fiduciary stewardship for the College of Natural Resources approximately 1,700 undergraduate students, 300 graduate students, and 250 staff/faculty.

- *Oversee a scalable retention ecosystem (e.g. College CARES, Peer Mentoring, etc.) that integrates embedded mental health support, emergency funding, academic support and mentoring. The CARES model achieved a 94% retention (over 4 years), and an 86% graduation rate of student participants, with the college peer mentoring program for struggling students, boasting 100% graduation success (over 5 years).*
- *Led the development of assessments and resulting initiatives that improved student and employee retention, climate, and engagement through close collaboration across departments and college units.*
- *Designed and implemented the “Transforming CNR” initiative, a competitive funding program that empowered students, staff, and faculty to co-create community-building projects that reflect shared values and priorities (6-8 collaborative student, staff, faculty team projects awarded annually with projects supporting K-12 programming, curriculum development, workshop and speakers series, and external community engagements).*
- *Spearheaded strategic resource development strategies that integrated federal partnerships, grant acquisition, and donor outreach, securing sustainable funding streams that initiated the College’s first targeted giving campaign for graduate student success.*
- *Created and led the Summer Undergraduate Research Experience (SURE) program, hosting ~30 student interns annually.*
- *Created and led the Research Engagement and Achievement Program (REAP) mentoring program which supports 4-6 student-faculty mentoring teams annually and 100% graduation success from student participants over last 5 years.*
- *Secured new donor and foundation investments to expand professional development opportunities, strengthen student aid, and enhance staff and faculty recognition.*
- *Supported student innovation and philanthropy by leading campaigns for the student-founded nonprofit Field Inclusive, Inc.*
- *Developed and facilitated leadership trainings for faculty and administrators centered on empathy, power dynamics, and equity-driven practice.*
- *Guided college-wide engagement efforts that improved institutional culture and retention, including wellness challenges, therapy dog visits, community celebrations, and student-centered well-being programs.*
- *Created and directed program assessments to guide long-term strategic planning and resource allocation.*
- *Developed marketing and branding materials to reach a broad range of student populations.*
- *Provided leadership during pandemic to ensure the college could safely open with all necessary resources and fully transition to remote learning.*
- *Provided support for student, staff, and faculty grievances at the college and university levels.*

Academic Leadership & Program Development

- *Served as an Intergovernmental Personnel Act appointee to the USDA Forest Service headquarters, managing national programs and leading ROI analyses across institutional and agency collaborations.*

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- *Created and directed a long-running program that partnered with a peer 1862 Land-Grant institution and five University of Puerto Rico campuses to recruit, mentor, and prepare students in alignment with federal workforce needs and improved undergraduate retention.*
- *Led faculty recruitment, mentoring, and advancement strategies in a college of more than 2,000 students and 250 faculty, emphasizing collaboration and professional growth.*
- *Co-developed a dual-degree program with an 1890 Land-Grant University, expanding institutional reach and student access.*
- *Established mentoring and recruitment pipelines that increased graduate enrollment among first-generation, low-income, and non-traditional students with a 100% graduation rate student of participants.*
- *Coordinated student success initiatives linking pre-college programs, student organizations, and community partners to strengthen pathways from access to graduation.*
- *Worked closely with university leadership councils to advance interdisciplinary research, shared governance, and strategic planning.*

Direct Reports

- *CNR Director of Accessibility and Learning. I provide supervision and oversight of a faculty associate serving as our college accessibility program lead. I additionally co-lead out college digital accessibility steering committee and graduate student support team, that develops, implements, and documents our progress to comply with federal ADA Title II and continued WCAG 2.1 AA expectations in ways that are coordinated, practical, and supportive of staff and faculty.*
- *Associate Director of Student and Community Well-Being. Supervision of the Associate Director with oversight of development and implementation of college-wide goals for student success and organizational culture. This position leads an integrated portfolio of prevention, early-alert, and engagement initiatives that measurably improve belonging, retention, and persistence.*
- *CNR/Counseling Center Embedded Counselor. Through partnership with the Counseling Center, I provide supervision of the embedded counselor with strategic and administrative oversight of ensuring alignment with college priorities related to student well-being, retention, climate, program effectiveness, and a sustainable culture-of-care.*
- *Wellness Coordinator. Through partnership with CNR Extension and Engagement, I provide supervision of the wellness group's director position. This oversight entails the development and implementation of strategic priorities aligned with college community goals, program assessments, and ensuring effective integration with academic units and support services.*
- *Faculty Associate for Community Engagement (planned). Provide supervision and oversight of a faculty associate and a graduate student team that develops and implements initiatives to directly work with K-12 administrators, teachers, and their students to promote access to prospective students and create collaborative opportunities within the college, and with campus and community partners.*
- *CNR Peer-mentoring team. I provide supervision and oversight of the CNR Lead Peer Mentor and graduate student peer mentors (5). This oversight entails the development and implementation of a routine support structure to establish community for marginalized students and address barriers to their program completion.*

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- *Postgraduate, graduate, and undergraduate student support. I provide supervision and oversight of several (6-8) postgraduate and student employees. This oversight entails the support and event management of programs associated with my office.*
- *Post-doctoral scholar, graduate, and undergraduate student support. I provide supervision and oversight of students (4) supporting my ongoing research.*

Scholarly and Professional Leadership

- *Recognized scholar in geospatial analytics, water resources, and natural resource management.*
- *Served as principal or co-principal investigator on multiple federal and state grants, including those from USDA and NSF.*
- *Chaired/co-chaired more than forty graduate students, postdoctoral fellows, and supervised numerous undergraduate researchers, all of which included numerous first-generation, low-income, and non-traditional scholars.*
- *Advised another 110+ graduate students through research committee service in various disciplines throughout the university.*
- *Developed and taught eighteen original courses (eight graduate and ten undergraduate), reaching over 1,700 students at NCSU while academically advising as many as forty-five undergraduate students each year.*
- *Delivered more than 130 invited talks and workshops at national and international conferences and universities focused on leadership, applied science, and workforce development.*
- *Held multiple university leadership roles, including Faculty Senator, member of the Faculty Senate Executive Council, Engagement Operations Council, University Interdisciplinary Leaders Council, and advisors to leadership programs such as the Chancellor's Leadership Development and Shelton Leadership initiatives.*
- *Led and contributed to interdisciplinary task forces, strategic plan writing task force, and university-wide initiatives on governance and culture.*
- *Served as a principal writer for the NCSU Wolfpack 2030 Strategic Plan as a part of the Graduating the Successful Student task force.*
- *Served as chair and principal writer of the NCSU College of Natural Resources Carnegie Community Engagement Reclassification application committee.*
- *Co-Chair of the CNR Digital Accessibility Steering Committee. 2026.*
- *Co-Chair of the CNR Strategic Planning Revision Committee: Create a better work environment. 2026.*
- *Co-Facilitator, NCSU Doctoral Mentoring Fellows Program; Doctoral Mentoring Fellow (faculty cohort).*
- *Board Member, North Carolina Wildlife Federation, supporting statewide conservation leadership, policy advocacy, philanthropy, education, and community engagement.*
- *Honors include:*
 - *Alumni Association Distinguished Graduate Professorship.*
 - *Faculty Senate Distinguished Service Award, NC State University.*
 - *Outstanding Graduate Faculty Mentoring Award, NCSU Graduate School.*
 - *USDA Forest Service Director's National Science Delivery Award (team award).*

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- *USDA Forest Service Southern Research Station Enhancing Partnerships Through Collaborative Efforts Award.*
- *Graduate, LEAD21: Leadership for the 21st Century (University of Georgia, Fanning Institute for Leadership Development).*
- *NASA/American Society for Engineering Education (ASEE) Research Faculty Fellow, Earth System Science Directorate, Stennis Space Center.*

EDUCATION

Ph. D., Fisheries and Wildlife Sciences

Dissertation title: *Assessing wetland and lake features using remote sensing: studies in the Louisiana Barataria Basin and Michigan inland lakes.*

Department of Fisheries and Wildlife
Michigan State University. 2002

M.A., Marine Science/Resource Management and Policy

Thesis title: *Digital error analysis in tidal wetland inventory change.*

College of William and Mary
Virginia Institute of Marine Sciences. 1995

B.S., Biology

Jackson State University
Cum Laude Graduate. 1990

EMPLOYMENT

- 09/24-Present *Associate Dean for College Culture and Community.* College of Natural Resources, North Carolina State University.
- 01/20-09/24 *Associate Dean for Diversity and Inclusion.* College of Natural Resources, North Carolina State University.
- 07/17-Present *Professor.* Department of Forestry and Environmental Resources/Center for Geospatial Analytics, North Carolina State University.
- 07/08-06/17 *Associate Professor.* Department of Forestry and Environmental Resources/Center for Geospatial Analytics, North Carolina State University.
- 03/11-05/15 *Adjunct Professor.* Environmental Sciences Institute, Florida Agricultural and Mechanical University.
- 01/10-01/11 *Intergovernmental Personnel Act appointee.* USDA Forest Service, National Headquarters, Washington D.C.
- 10/02-06/08 *Assistant Professor.* Department of Forestry and Environmental Resources/Center for Earth Observation, North Carolina State University.

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- 8/99-5/02 *Adjunct Faculty of Human Anatomy and Physiology.* Department of Science and Math, Lansing Community College.
- 8/97-9/02 *Research Assistant and NASA Graduate Research Fellow.* Department of Fisheries and Wildlife, Michigan State University.
- 5/97-8/97 *NASA/ASEE Research Faculty Fellow.* Earth System Science Directorate. John C. Stennis Space Center, Stennis Space Center, Mississippi.
- 1/96-8/97 *Instructor of Biology and Marine Science.* Department of Biological Sciences, Southern University at New Orleans.
- 8/93-12/95 *Wetland Digital Cartographic Technician.* Department of Resource Management & Policy/Center for Coastal Resources Management, Virginia Institute of Marine Science.
- 5/92-12/95 *Remote Sensing Flight Computer Equipment Operator.* NASA/NOAA's Oceanographic Data Acquisition System Project, Virginia Institute of Marine Science.
- 5/92-8/93 *Remote Sensing Computer Operator and Researcher.* Virginia Institute of Marine Science/NOAA's Coast Watch Satellite Remote Sensing Project.
- 9/92-6/93 *Water Quality Data Entry and Analysis Technician.* Research Foundation Applied Marine Research Laboratory, Old Dominion University.

COURSES TAUGHT**Graduate Courses**

Applied Spatial Ecology in Fisheries and Wildlife Sciences
 Introduction to Environmental Remote Sensing
 Principles and Theories in Geographical Information Science
 Application Issues in Geographical Information Systems
 Advanced Geospatial Analytics
 Surface Water Investigations with GIS
 GIS Applications in Hydrology
 Wetland Assessment Delineation and Regulation

Undergraduate Courses

Community and the Environment
 GIS and Remote Sensing for Environmental Analysis and Assessment
 Introduction to Anatomy and Physiology
 Principles of Human Anatomy
 Wetland Assessment Delineation and Regulation
 Introduction to Marine Sciences
 Marine Invertebrate Zoology
 Biology Undergraduate Seminar
 General Biology I

General Biology II

Invited Guest Lecturer (NCSU)

Introduction to Geographical Information Systems (GIS)
 Air Photo Interpretation and Photogrammetry (FOR)
 Senior Seminar in Forestry (FOR)
 Freshman Advancement Seminar
 CNR Undesignated Majors
 Geospatial Applications for Parks, Recreation and Tourism (PRT)
 Consulting Forestry (FOR)
 Environmental First Year (ENV)
 Exploring the Environment (ENV)
 Forest System Mapping and Mensuration II (FOR)
 Theory of Silviculture (FOR)
 Introduction to Forest Science (FOR)

Guest Lectures (Off Campus)

North Carolina Central University; Department of Environmental, Earth, and Geospatial Sciences; ENSC 1000 Environmental Science (2024)
 University of Tennessee, Knoxville; Department of Forestry, Wildlife and Fisheries; FWF 430 - Introduction to Geographic Information Systems (GIS) for Natural Resources (2021)
 University of Richmond; George M. Langford 2020 Speaker Series (2021)
 Virginia State University; Introduction to Geographic Information Systems (GIS) (2015)
 Virginia State University; Introduction to Geographic Information Systems (GIS) (2014)
 Organization for Tropical Studies (OTS), San Miguel Biological Station, Cabo Blanco Absolute Reserve; Faculty-Led Graduate Research Project (2011)
 Michigan State University/Mississippi State University, ANR 493-Elements of Federal Policy Development In the Natural Resources (2010)
 Florida Agricultural And Mechanical University, Environmental Sciences Institute Lecture Series (2010)
 Florida Agricultural And Mechanical University, Environmental Sciences Institute Lecture Series (2009)
 North Carolina Central University, Hospitality and Tourism Spring Semester Lecture Series, 3500 HADM Travel and Tourism Planning (2009)
 Meredith College, GEO 493 Introduction to GIS (2005)
 University of Ghana in Legon, Accra, Ghana. The Use of Spatial Analysis Tools in Water Resources (2003)

WORKSHOPS/SHORT COURSES TAUGHT/DIRECTED (selected)

Stacy A.C. Nelson – Workshop Facilitator. *Leading with Empathy and Care: CNR Leadership Council Training*. College of Natural Resources, NC State. Tuesday, March 5, 2024.

Stacy A.C. Nelson – Workshop Facilitator. *Assessing your power and privilege as a leader: CNR Leadership Council Training*. College of Natural Resources, NC State. Tuesday, February 20, 2024.

Stacy A.C. Nelson – Workshop Facilitator. CNR Undergraduate Student Dialogue Session. Monday, February 12, 2024.

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Stacy A.C. Nelson – Workshop Facilitator. *Addressing the Hard Conversation: How Do We Actually Increase Access and Diversity in STEM*. NC State Diversity in STEM Symposium: Collaboration Opportunity. Thursday, February 8, 2024.

Stacy A.C. Nelson – Workshop Facilitator. *Understanding your value as leaders: CNR Leadership Council Training*. College of Natural Resources, NC State. Tuesday, January 23, 2024.

Stacy A.C. Nelson – Workshop Facilitator. *Addressing Strategic Priorities for Advancing Underrepresented Groups in Fisheries and Natural Resources*. American Fisheries Society 153rd Annual Meeting. Grand Rapid, MI. August 20-24, 2023.

Stacy A.C. Nelson – Workshop Facilitator. *Weyerhaeuser/FER High School Summer Camp program - GIS session*. 8 students from local/Raleigh High Schools. July 29, 2022.

Stacy A.C. Nelson – Workshop Facilitator. *EnviroKIDs Summer Camp program - GIS session*. 28 Middle and High School students from the Triangle Regional Area. June 29, 2022.

Researcher Spotlight - Public Service Website. Southern Research Station 2020 Research Highlights <https://www.srs.fs.usda.gov/research/2020-research-highlights/highlight.php?id=surface-drinking-water>

Featured Researcher. NaturalSciences.org's Shad in the Classroom program for elementary, middle, and high school students. Feature Interview 4/22/2020. <https://www.youtube.com/playlist?list=PLLJ57Fba87jQXFjo1sFCOeIgGw835si6f>

Stacy A.C. Nelson – Workshop Facilitator. *Geospatial Applications for Problem Solving (GAPS) summer geospatial workshop for high school students*. North Carolina State University, July 23, 2018.

Program Leader and Instructor. Envirokids Youth Program, 25 middle school children from Raleigh and Durham area schools. July 11, 2017.

Program Leader and Instructor. Colorado Hispanic students CNR high school visitation, 23 senior Hispanic high school students from multiple cities the state of Colorado. September 28, 2017.

Stacy A.C. Nelson – Workshop Facilitator. *Introduction to Applied Land Cover Classification*. School of Agriculture, Virginia State University. Petersburg, VA. May 29-31, 2013.

Stacy A.C. Nelson – Workshop Facilitator. *Forest resilience, understory ecosystem and soil dynamics response to wildfire in a dry deciduous forest in Puerto Rico*. Forestry and Environmental Outreach Program - Forestry Issues Forum Teleconference: North Carolina/Puerto Rico Forest and Forestry Comparison, Forest Resilience Research, and Using free GPS and GIS software. Jane S. McKimmon, Raleigh, NC. September 12, 2012.

U.S. Army Corps of Engineers Introduction to ArcGIS 9x for Resource Management. NCSU Forestry Educational Outreach Program. McKimmon Center, Raleigh, NC. March 3-5, 2008.

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Stacy A.C. Nelson – Workshop Facilitator. *Forestry Educational Outreach Program: Introduction to ArcGIS 9x for Natural Resource Professionals*. NCSU McKimmon Center, Raleigh, NC, February 8-9, 2007. 10.5 hours of Category 1 CFE accreditation.

Stacy A.C. Nelson – Workshop Facilitator. *Forestry Educational Outreach Program: Intermediate to Advanced Concepts in GIS for Natural Resource Professionals*. NCSU McKimmon Center, Raleigh, NC, April 19-20, 2007. 10.5 hours of Category 1 CFE accreditation.

Stacy A.C. Nelson – Workshop Facilitator. *Introduction to GIS and Spatial Modeling*. North Carolina State University, College of Education, Mathematics and Science Education Network (MSEN) Pre-College Saturday Academy. Fall 2005.

Stacy A.C. Nelson – Workshop Facilitator. *NCSU Forestry Educational Outreach Program: GIS Workshop in Natural Resource Management for the North Carolina Land Trust Conservancies*. October 7-8, 2004.

Stacy A.C. Nelson – Workshop Facilitator. *NCSU Forestry Educational Outreach Program: GIS Workshop in Natural Resource Management for the North Carolina Wildlife Resources Commission*. August 19-20, 2003.

TRAINING: NC State University Office for Institutional Equity and Diversity (OIED training)

Foundations in Cultural Competency Certificate (certificate completed 2/28/2020)

- DiversityEdu workshop/training (completed: 2/15/2020)
- CQ Cultural Intelligence Assessment workshop/training (completed: 4/15/2020)
- Building Cultural Competence Knowledge and Diversity Skills workshop/training (completed: 2/28/2020)

Inclusive Excellence Certificate (certificate completed 1/21/2021)

- Unconscious Bias: Insight for Inclusivity (completed: 9/16/20)
- Fundamentals of Equal Opportunity (completed: 1/21/2021)
- The Macro of Microaggressions (completed: 11/10/20)
- Applied Skills in Equal Opportunity (completed: 12/9/20)

Additional Training

- Preparing Faculty and Staff for Crisis and Suicide Intervention. Mantra Health. 2024
- Question, Persuade, Refer (QRP) Suicide Prevention Training. QPR Institute. 2024
- Adult Mental Health First Aid Certification. 2022.
- Student Success, Not Anymore (Responsible Employee; OIED training). 2021
- Interpersonal and Sexual Violence in the GLBT Community. GLBT Advocate Training Program (OIED training). 2021
- Institutional Review Board Overview (University training). 2021
- Search Committee Training (OIED training). 2021

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- CITI Responsible Conduct of Research (NC State University) - CITI Program Training. 2021
- CITI Social-Behavioral-Educational Researchers - HSR Basic (NC State University) - CITI Program Training. 2021
- NCSU Environmental Health & Safety, Youth Programs and Compliance - Protection of Minors Training. 2021

AWARDED RESEARCH GRANTS

Nichols, E., Stacy Nelson, Allison Carr, Lyra Dumdum, Callie Edwards. Building Sustainable Pathways to Improve Underserved and Underrepresented Worker Access for Renewable Energy Infrastructure in Rural, Southeastern North Carolina. **US Dept. of Labor**. 09/30/2023 through 09/30/2028. Awarded \$1,815,868.

Nichols, E.G., S.A.C. Nelson, A.M. Allen, Z.H. Leggett, C.W. Edwards. Inclusion Diversity Equity & Accessibility Success (Ideas) To Forestry & Renewable Energy Careers. **US Dept. of Agriculture - National Institute of Food and Agriculture**. 01/01/2024 through 12/31/2027. Awarded \$249,989.

Richmond Bryant, J., S.A.C Nelson, Z.H. Leggett, A.M Allen. Recruiting, Developing, and Empowering a Diverse Workforce in Wildland Fire Sciences (supplement award). **USDA Forest Service**. 05/26/2023 through 12/31/2027. Awarded \$400,000.

Thomas-Buchanan (Virginia State University), P., S. Sriharan (Virginia State University), C. Kim (Virginia State University), K. Matthews (Delaware State University), G. Ozbay (Delaware State University), S.A.C. Nelson (North Carolina State University). Collaborative Proposal for Student Experiential Learning via Internships and Faculty Development Skills in Animal and Environmental Sciences, and Climate Change. **US Dept. of Agriculture - National Institute of Food and Agriculture Capacity Building Grant (1890 Institutions)**. 06/01/2023 through 05/31/2025. Awarded \$250,000.

Richmond Bryant, J., S.A.C Nelson, Z.H. Leggett, A.M Allen. Recruiting, Developing, and Empowering a Diverse Workforce in Wildland Fire Sciences. **USDA Forest Service**. 03/15/2023 through 12/31/2025. Awarded \$80,000.

Richmond Bryant, J., S.A.C Nelson, Z.H. Leggett, A.M Allen. Recruiting, Developing, and Empowering a Diverse Workforce in Wildland Fire Sciences (Participant Support). **USDA Forest Service**. 05/26/2023 through 12/31/2025. Awarded \$100,000.

Levine, J. F., A. R. Harris, S.A.C. Nelson, H. Mitasova, W. J. Showers. Identifying Potential Targets for Vegetative Buffer and Wetlands Enhancement. **NC Department of Justice**. 01/01/2023 through 12/31/2025. Awarded \$193,773.

Katti, M., F. Cubbage, S.A.C. Nelson, A. Trlica, R. Cook. A Comparative Study of the Resilience and Recovery of Natural and Managed Forest Stands in Eastern North Carolina and Puerto Rico Following a Major Hurricane. **USDA McIntire-Stennis Program, College of Natural Resources**. 08/01/2022 through 07/31/2025. Awarded \$490,728.

Nelson, S.A.C., Leggett, Z.H., Richmond Bryant, J. Workforce and Skills Development for Enhancing Diversity and Multicultural Representation in USDA Forest Service-related Research Priority Areas. **USDA Forest Service**. 09/24/2021 through 12/31/2022. Awarded \$50,000.

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Leggett, Z.H., Nichols, E.G., Megalos, M.A., Nelson, S.A.C., Parajuli, R., Rivers, L. Forestry of the Future: Improving Student Readiness and Workforce Participation of Underrepresented Minority Populations in Forest Resources. **U.S. Dept. of Agriculture**. 05/15/2020 through 05/15/2023, \$246,000.

Martin, K.L., and S.A.C. Nelson. A Multi-Scale Decision Support Tool to Quantify Forest Benefits on Water Quantity and Quality in the Southern United States. **USDA Forest Service**. 07/09/2020 through 07/31/2023. Awarded \$331,510.

Nelson, S.A.C. and T.J. Kwak. Capacity Building – Phase XI: Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **USDA Forest Service**. 06/22/2020 through 06/30/2023. Awarded \$50,000.

Nelson, S.A.C. GIS analysis of the benefits of State and Private Forest lands for water supply in the southern United States. **South Carolina Forestry Commission/USDA Forest Service**. 01/01/2020 through 03/30/2020. Awarded \$8,080.

Nelson, S.A.C. Capacity Building – Phase XI: Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **USDA Forest Service**. 06/22/2020 through 06/30/2023. Awarded \$50,000.

Nelson, S.A.C. and Belica, L.A.T. Doctoral Dissertation Research: Evaluation of a Subcanopy Solar Radiation Model Under Real-Sky Conditions with Field Validation Measurements. **National Science Foundation**. Award Period 08/01/2018 through 01/31/2020. Awarded \$14,001. *(NOTE: This is a NSF Doctoral Dissertation Research Improvement Grant in Geography and Spatial Sciences, awarded in support of my graduate student Laura Belica)*

Nelson, S.A.C. and Holmes, Z. GIS analysis of the benefits of State and Private Forest lands for water supply in the southern United States. **U.S. Dept. of Agriculture (USDA) Forest Service**. Award Period 02/02/2018 through 12/31/2020. Awarded \$131,284.

Nelson, S.A.C. GIS analysis of the benefits of State and Private Forest lands for water supply in the southern United States. **US Dept. of Agriculture Forest Service**. 02/02/2018-12/31/2020. \$127,736.

Nelson, S.A.C. Capacity Building – Phase X: Increasing the Pool for the Development of a Multicultural Geospatial Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture (USDA) Forest Service**. Award Period 08/15/2017 through 08/15/2018. Awarded \$32,500.

Nelson, S.A.C. Capacity Building – Phase IX: Increasing the Pool for the Development of a Multicultural Geospatial Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture (USDA) Forest Service**. Award Period 08/15/2016 through 08/15/2017. Awarded \$20,000.

Nelson, S.A.C. and King, J.S. Capacity Building and Workforce Development - Forest Water Stress Monitoring and Climate Change. **U.S. Dept. of Agriculture (USDA) Forest Service**. Award Period 08/26/2016 through 07/31/2018. Awarded \$30,000.

Nelson, S.A.C. and Levine, J.F. Capacity Building- Phase VI: Increasing The Pool For The Development Of A Multicultural Workforce And Connection To Underserved Communities Across

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The Us. **U.S. Dept. of Agriculture Forest Service.** Award Period 08/01/2015 through 07/31/2017. Awarded \$75,000.

Nelson, S.A.C. and King, J.S. Capacity Building and Workforce Development - Forest Water Stress Monitoring and Climate Change. **U.S. Dept. of Agriculture Forest Service.** Award Period 05/01/2015 through 04/30/2016. Awarded \$45,000.

Seekamp, E.L., Nelson, S.A.C., Peterson, N., Booker, M.M., Smith, J.W. Connecting Landscape Adaptation and National Cultural Resource Policy to Climate Change to Cultural Resource Adaptation Decisions. **US Geological Survey.** Award Period 08/15/2015 through 08/14/2016. Awarded \$134,784.

B.M. Hartis, Nelson, S.A.C., Richardson, R.J. Detecting, Mapping, and Monitoring *Hydrilla verticillata* with the use of Satellite and Boat-based Remote Sensing in Piedmont Reservoirs. **CNR and CALS Cross – College Enrichment Grants Program, CALS Dean’s Enrichment Grants Program.** North Carolina State University. Award Period: 07/01/2014 through 06/30/2016. Awarded: \$97,998.

Nelson, Stacy, and Goldfarb, B. Capacity Building – Phase V: Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture U.S. Forest Service.** Award Period 06/27/2014 through 08/14/2017. Awarded \$69,989.

Nelson, Stacy. Climate Change Internship: Development of a Geospatial Climate Change Response Program for the investigation of climate change related issues facing the NPS Southeast Region. **Piedmont – South Atlantic Cooperative Ecosystems Studies Unit/US National Park Service.** Award Period: 01/15/2014 through 01/15/2015. Awarded: \$90,000.

Nelson, Stacy, and Goldfarb, B. Capacity Building Phase IV – Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture U.S. Forest Service.** Award Period 06/26/2013 through 08/15/2015. Awarded \$74,997.

Nelson, Stacy, and Goldfarb, B.. Capacity Building Phase III – Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture U.S. Forest Service.** Award Period 06/26/2013 through 08/15/2015. Awarded \$74,999.

Nelson, Stacy, and Goldfarb, B.. Capacity Building Phase II – Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture Forest Service.** Award Period 08/13/2012 through 05/14/2014. Awarded \$74,642.

Nelson, S.A.C., Goldfarb, B. Supporting Climate Change Science Needs for Early Adopters of the 2012 Planning Rule. **U.S. Dept. of Agriculture Forest Service.** Award Period 08/01/2012 through 08/14/2014. Awarded: \$73,681.

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Nelson, S.A.C. Hydrological Modeling For Flow-Ecology Science in the Southeastern U.S. **U.S. Geological Survey**. Award Period 09/17/2012 through 06/30/2014. Awarded \$39,113.

Nelson, Stacy, and Goldfarb, B.. Capacity Building – Increasing the Pool for the Development of a Multicultural Workforce and Connection to Underserved Communities Across the US. **U.S. Dept. of Agriculture/U.S. Dept. of Agriculture Forest Service**. Award Period 08/11/2011 through 02/14/2013. Awarded \$74,000.

Goldfarb, Barry, Stacy A. C. Nelson, Daniel Robison. Producing a More Diverse Workforce in Natural Resources: Phase I, Establishing Relationships and Laying the Groundwork for Graduate Education for Students from Puerto Rico. **U.S. Dept. of Agriculture – U.S. Forest Service**. Award Period 08/11/2010 through 06/30/2013. Awarded \$29,680.

Nelson, Stacy. Satellite Remote Sensing of Submerged Aquatic Vegetation Distribution and Status in Currituck Sound. **North Carolina Department of Transportation**. Award Period 08/16/2009 through 09/15/2012. Awarded \$238,278.

Perrin, Christy, Stacy A.C. Nelson, Gregory D. Jennings, Daniel E. Line, Patrick Beggs, John C. Fountain, Mary L. Addor, Jon A. Brandt, Leonard S. Smutko. Phase II: Collaborative restoration and protection of high quality resources in Tick Creek and Rocky River watersheds. **U.S. Environmental Protection Agency - North Carolina Division of Water Quality**. Award Period 11/01/2010 through 04/30/2012. Awarded \$198,154.

Nelson, Stacy. Broadening Land-grant Partnerships Intergovernmental Personnel Act (IPA) appointment - USDA Forest Service National Headquarters, Washington D.C. **U.S. Dept. of Agriculture – U.S. Forest Service**. Award Period 01/15/2010 through 01/14/2011. Awarded \$88,243.

Perrin, Christy, Patrick Beggs, L. Steven Smutko, Daniel Line, Stacy A.C. Nelson and John Fountain. Collaborative restoration and protection of high quality resources in Tick Creek and Rocky River watersheds. **U.S. Environmental Protection Agency - North Carolina Division of Water Quality**. Award Period 11/01/2008 through 10/31/2010. Awarded \$198,704.

Nelson, Stacy and Hugh Devine. Watershed Condition Assessments For George Washington Birthplace National Monument and Thomas Stone National Historic Site. **National Park Service Piedmont - South Atlantic Coast Cooperative Ecosystem Studies Unit**. Award Period 07/01/2007 through 06/30/2009. Awarded \$66,330.

Gregory, James, Stacy Nelson, Elizabeth Guthrie-Nichols. Cost Match Proposal to Town of Cary for DENR Black Creek Watershed Assessment, Monitoring, and Restoration Planning Program. **Town of Cary, NC**. Award Period 03/10/2006 through 01/31/2009. Awarded \$20,000.

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Nelson, Stacy. Determination of Causative Factors For Loss of Wild Trout Populations on Private and Public Lands. **NC Wildlife Resources Commission**. Award Period 07/01/2006 through 06/30/2009. Awarded \$105,000.

Perrin, Christy, James Gregory, Stacy Nelson, Elizabeth Guthrie-Nichols. Black Creek Watershed Assessment, Monitoring, and Restoration Planning Program. **Environmental Protection Agency - NC Department of Environment & Natural Resources**. Award Period 03/10/2006 through 01/31/2009. Awarded \$175,765.

Gregory, James and Stacy Nelson. Development of LIDAR and GIS Methods for Mapping Headwaters Streams in North Carolina: Phase 2: Feasibility Study. **NC Department of Environment & Natural Resources**. Award Period 09/01/2005 through 11/20/2007. Awarded \$95,037.

Gregory, James and Stacy Nelson. Development of LIDAR and GIS Methods for Mapping Headwater Streams in North Carolina: Phase 1: Feasibility Study. **NC Department of Environment & Natural Resources**. Award Period 07/01/2004 through 06/30/2006. Awarded \$82,440.

Khorrarn, Siamak and Stacy Nelson. Integration of High Resolution Imagery in Cost-Effective Assessment of Land Use Practices Influencing Erosion and Sediment Yield. **NC Water Resources Research Institute**. Award Period 03/01/2004 through 12/31/2006. Awarded \$98,325.

Levine, Jay, Stacy Nelson, Hugh Devine, Damian Shea, William Showers, Wondwossen Gebreyes. Tracking the Source of Enteric Pathogens in Surface Waters. **US Department of Agriculture**. Award Period 09/15/2003 through 02/28/2007. Awarded \$450,000.

Nelson, Stacy. The Use of High Resolution Sensor Data in the Assessment of Regional Urban Land Use Change within the Raleigh. **NCSU Faculty Research & Professional Development Fund**. Award Period 03/01/2003 through 02/28/2004. Awarded \$6,095.

JOURNAL/GRANT REVIEW PANELS

- Water Resources Management
- Puerto Rico Sea Grant Consortium
- National Science Foundation proposal review panel, Division of Environmental Biology, Ecological Biology Cluster
- Environmental Management
- Photogrammetric Engineering and Remote Sensing
- Wetlands Journal (Society of Wetland Scientists)
- American Fisheries Society, Sustainable Fisheries Foundation
- National Oceanic and Atmospheric Administration (NOAA) Coastal Ocean Program in Ecological Forecasting
- Michigan Sea Grant College Program
- Great Lakes Fishery Commission

AWARDS/ACHIEVEMENTS

NCSU Thank an Advisor award. NCSU Division of Academic and Student Affairs (DASA) recognition from Graduate Student(s) for helping students learn and grow. May 21, 2025.

Invited Speaker: FER Leadership Board Meeting. 2025.

Publication Award: The 2024 Weed Science Society of America's Outstanding paper in Weed Technology; Awarded December, 22 2023.

Award Recipient: USDA Forest Service, 2022 Director's National Science Delivery Award (team award): Peter Caldwell, Ning Liu, Rebecca Dobbs, Chelcy Miniati, Ge Sun, Kai Duan, Stacy Nelson, Paul Bolstad, and Chris Carlson, for research linking water supplies on forested land to water utilities across the contiguous U.S. and the creation of “turnkey” datasets, reports, online maps, and tools to educate partners and publics and inform management decisions. Awarded: August 9, 2023.

Award Recipient: 2022 NCSU Graduate School's Outstanding Graduate Faculty Mentor Award.

Award Recipient: Distinguished Service Award in recognition of contributions to the University through service on the Faculty Senate. June 30, 2021.

Award Recipient: Alumni Association Distinguished Graduate Professorship Award. April 23, 2021.

Invited Speaker: University of Richmond George M. Langford's Speaker Series. February 1, 2021.

Invited Speaker/Panelist: Navigating Graduate School and Career Paths. College of William and Mary, Virginia Institute of Marine Sciences. October 26, 2020.

Award Recipient: Creativity in Teaching Award - For creating an engaging, innovative learning environment. 2019.

Award Recipient: USDA Forest Service Southern Research Station - Enhancing Partnerships Through Collaborative Efforts award, Asheville, NC, June 2018.

Program Co-Facilitator: NC State University Doctoral Mentoring Fellow faculty cohort, 2017-2018.

Fellow Award and program participant: NC State University Doctoral Mentoring Fellow, 2016-2017 faculty cohort.

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Award Recipient: Office of Faculty Development Thank A Teacher Program. Office of the Provost and Executive Vice Chancellor. North Carolina State University. March 2, 2015.

Award Recipient: Geospatial Faculty Fellow. Center for Earth Observation/Geospatial Analytics. North Carolina State University. 2014.

Publication Award: Remote Sensing in Springer Briefs in Space Development. Springer-Verlag. Springer, arguable one of the largest scientific book publisher in the world, noted this book achieved the status of top 25% most downloaded eBooks from Springer publishers for the years 2013 and 2015.

Award Recipient: Office of Faculty Development Thank A Teacher Program. Office of the Provost and Executive Vice Chancellor. North Carolina State University. February 1, 2012.

Invited speaker: Institute for Broadening Participation's Beyond the PhD conference. University of Texas-Arlington, Dallas TX – November 2 -4, 2011.

Invited speaker and program project leader: Organization for Tropical Studies, San Miguel Biological Station, Cabo Blanco Absolute Reserve, Nicoya Peninsula, Costa Rica – June, 23, 2011.

Invited speaker: GIS Seminar Series, U.S. Environmental Protection Air Quality Analysis Group, US EPA, Research Triangle Park, North Carolina – May 10, 2011.

Invited speaker: Undergraduate Mentoring in Environmental Biology Program, University of Missouri, Columbia, Missouri - February 17, 2011.

Invited speaker: Schwartz Seminar Series, University of Missouri, Columbia, Missouri - February 18, 2011.

2011 Len Curtis Award for the best scientific publication in the open literature of remote sensing on behalf of Taylor and Francis Publishers and the Remote Sensing and Photogrammetry Society; Awarded September 14, 2011 in Poole, Dorset, England, United Kingdom.

LEAD21: Leadership for the 21st Century - Leadership Development Program. Program Fellow 2008. Fanning Institute, University of Georgia, National Association of State Universities and Land-Grant Colleges (NASULGC). Year-long program for leadership development in land grant institutions and their strategic partners who link research, academics, and extension in order to lead more effectively in an increasingly complex environment.

Publication Award: Aquatic Botany 85: 289-298. This article was ranked #2 by ScienceDirect in the Agricultural and Biological Sciences “Aquatic Botany” sub-category as one of the “Top 25 Hottest Articles”. This designation is compiled from a list of the most read

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articles counted by worldwide download requests on ScienceDirect.com for a 3 month rating period; October–December 2006.

Publication Award: Remote Sensing of Environment. 102(3-4): 306-317. This article was ranked #9 and #8 by ScienceDirect in the Environmental Science “Remote Sensing of Environment” sub-category as one of the “Top 25 Hottest Articles” over two consecutive 3-month rating periods; April–June 2006 and July–September 2006, respectively.

Dissertations Initiative for the Advancement of Limnology and Oceanography (DIALOG) symposium for Recent PhDs Award. American Society of Limnology and Oceanography (ASLO). 2003.

Africana Studies and the Africa Project travel award. North Carolina State University Africana Studies. 2003.

Minority Competitive Doctoral Fellowship. Michigan State University. 2001-2002.

Session Chair: Resource Assessment and Inventory. Society of Wetland Scientist National Meeting. Chicago, Illinois. May 2001.

Summer Acceleration Fellowship. Michigan State University Graduate School Award. Summer 1998.

NASA Graduate Researcher Fellowship Award. NASA Stennis Space Center. 1997-2000.

NASA/ASEE Research Faculty Fellow, Earth Systems Science Office, Stennis Space Center. June 1997 – August 1997.

Research Internship. Virginia Institute of Marine Science, College of William and Mary. Summers 1988 and 1989.

Research Internship. National Science Foundation and Gulf Coast Research Laboratory, Research at sea, Oregon II. May 1988.

Research Internship. Duke University Marine Laboratory. Summer 1987.

PUBLICATIONS: *Underlined and italicized names indicate coauthors who were graduate student contributors advised by Nelson. Cakir was a former supervised post-doctoral and research associate.*

PUBLISHED BOOKS

Nelson, S.A.C. and S. Khorram. Image Processing and Data Analysis with ERDAS IMAGINE. 2019. CRC Press, Taylor and Francis Publishing Group. Boca Raton, FL. Pg. 330. ISBN 9781138034983.

Khorram, Siamak, F. H. Koch, C.F. Van Der Wiele, **S.A.C. Nelson**, and M.D. Potts. 2016. Principles of Applied Remote Sensing. Springer Science+Business Media. New York City, New York. Pg. 307. ISBN 978-3-319-22559-3. DOI 10.1007/978-3-319-22560-9.

Khorram, Siamak, F. H. Koch, C.F. Van Der Wiele, and **S.A.C. Nelson**. Remote Sensing in Springer Briefs in Space Development. June 30, 2012. Springer-Verlag. Pg. 134. New York City, New York. p. 141. ISBN 978-1-4614-3102-2. DOI 10.1007/978-1-4614-3103-9.

(NOTE: Springer; this book achieved the status of top 25% most downloaded eBooks from Springer publishers for the year 2013 and 2015).

PUBLISHED BOOK CHAPTERS

Nelson, S.A.C. 2020. A lesson from the stream: A personal reflection on understanding the *them* vs. *me* group identity associated with backgrounds, race, training, and talent. in W.W. Taylor, C.K. Carlson, A. Bennett, A., Lynch, A., and P. Ferreri. (eds.) Lessons in Leadership: Integrating Courage, Vision, and Innovation for the Future of Sustainable Fisheries. Bethesda, Maryland: American Fisheries Society. Pg. 289-295. DOI 10.47886/9781934874608/ISBN: 978-1-934874-60-8.

Khorram, Siamak, **S.A.C. Nelson**, C.F. Van Der Wiele, *H.I. Cakir*. 2017. Fundamentals of Remote Sensing Imaging and Preliminary Analysis, in Handbook of Satellite Applications, 3rd ed. Editors Pelton, J. N., Madry, S., and Camacho-Lara, S. Springer-Verlag. New York City, New York. DOI 10.1007/ISBN: 978-1-4614-6423-5_46-3.

Khorram, Siamak, **S.A.C. Nelson**, C.F. Van Der Wiele, *H.I. Cakir*. 2017. Processing and Applications of Remotely Sensed Data, in Handbook of Satellite Applications, 3rd ed. Editors Pelton, J. N., Madry, S., and Camacho-Lara, S. Springer-Verlag. New York City, New York. DOI 10.1007/ISBN: 978-1-4614-6423-5_46-3.

Nelson, S.A.C. and A. Johnson. 2014. Application of Multidimensional Recruitment and Mentoring of Underrepresented Students. in Dominguez, N. & Gandert, Y. (eds.). Developmental Networks: Mentoring and Coaching at Work. University of New Mexico Mentoring Institute. Albuquerque, New Mexico. Pp. 739-741.

Nelson, Stacy A. C., *E.F. Hain*, *B.M. Hartis*, & A. Johnson. 2014. Changing the Game: Multidimensional Mentoring and Partnerships in the Recruitment of Underrepresented Students in Fisheries. in W. W. Taylor, A. J. Lynch, and N. J. Leonard. (eds.), Future of Fisheries: Perspectives for Emerging Professionals. Bethesda, Maryland: American Fisheries Society. Pg. 193-200.

Khorram, Siamak, **S.A.C. Nelson**, *H.I. Cakir*, C.F. Van Der Wiele. Digital Image Acquisition, Preprocessing, and Data Reduction. in Handbook of Satellite Applications, 2nd ed. Editors Pelton, J. N., Madry, S., and Camacho-Lara, S. November 2012. Springer-Verlag. New York City, New York, p. 250. ISBN: 978-1-4419-7670-3.

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Khorram, Siamak, **S.A.C. Nelson**, *H.I. Cakir*, C.F. Van Der Wiele. Digital Image Processing, Post-processing, and Data Integration. *in Handbook of Satellite Applications*, 2nd ed. Editors Pelton, J. N., Madry, S., and Camacho-Lara, S. November 2012. Springer-Verlag. New York City, New York, p. 250. DOI 10.1007/978-1-4419-7671-0_92.

Hester, D.B., **S.A.C. Nelson***, S. Khorram, *H. I. Cakir*, H.M. Cheshire, and *E.F. Hain*. 2012. Analysis of impervious surface and suburban form using high spatial resolution satellite imagery. Pp 209-231. *in Ni-Bin Chang* (ed.), *Environmental Remote Sensing and Systems Analysis*. April 09, 2012. Taylor & Francis Group/CRC Lewis Publishers, New York, p. 520. (*Corresponding Author).

PEER-REVIEWED PUBLICATIONS

von Furstenberg, R., C. Minchey, E. Rutledge, M.N. Peterson, K.J. Lee, **S.A.C. Nelson**, W.E. Stone, A. Williams-Yussif, W. Freeman, C. Dorwart, T. Patterson. Lost Traditions and New Pathways: Hunting Participation and Perceptions Among Black HBCU Students in the U.S. *Wildlife Society Bulletin*. (Accepted 3/4/2026)

Fallahi, M., **S.A.C. Nelson**, J.P. Roise, S. Beyene, M.N. Peterson, and P.V. Caldwell. 2025. The Potential Impacts of Climate and Land Use Changes on Water Yield in the Croatan National Forest, USA. *Environments*, 12(12), 473; <https://doi.org/10.3390/environments12120473>

Fallahi, M., **S.A.C. Nelson**, P. Caldwell, J.P. Roise, S. Beyene, N. Peterson. 2025. Future Water Yield Projections Under Climate Change Using Optimized and Downscaled Models via the MIDAS Approach. *Environments*, 12, 303. <https://doi.org/10.3390/environments12090303>.

Caslin, M., M. Katti, **S.A.C. Nelson**, T. Vaki. 2025. Tabonuco and Plantation Forests at Higher Elevations are More Vulnerable to Hurricane Damage and Slower to Recover in Southeastern Puerto Rico. *Land*, 14, 1324. <https://doi.org/10.3390/land14071324>.

Wall, J., R. Heiniger, D. Jordan, L. Unruh-Snyder, **S. Nelson**. 2025. Assessment of Corn (*Zea mays*) Emergence using High-Resolution Spatial UAV-Based Remote Sensing. Volume 6 Issue 1. *Archives of Agriculture Research and Technology (AART)*. ISSN: 2832-8639. DOI: 10.54026/AART/1079.

Fallahi, M., **S.A.C. Nelson**, S. Beyene, P.V. Caldwell, J.P. Roise. 2025. A Comparative Assessment of Water Supply Stress Index (WaSSI) and Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST) Models for Annual Water Yield Estimation: A Case Study in the Croatan National Forest. *Environments* 2025, 12(3), 89. pp. 1-18. <https://doi.org/10.3390/environments12030089>.

Jouzi, Z., Leung, Y.F., **Nelson, S.** 2023. Characterizing the Association between Child Malnutrition and Protected Areas in Sub Saharan Africa Using Unsupervised Clustering.

Journal of Environmental Studies and Sciences. 14, 300–312. <https://doi.org/10.1007/s13412-023-00880-3>.

Nanda, V.M.V., P. Baran, L. Tateosian, **S.A.C. Nelson**, J. Hu. 2023. Classification of tree forms in aerial LiDAR point clouds using CNN for 3D tree modeling. *International Journal of Remote Sensing*. 44(22), 7156–7186. <https://doi.org/10.1080/01431161.2023.2282405>.

Howell, A.W., R.G. Leon, W.J. Everman, H. Mitasova, **S.A.C. Nelson**, R.J. Richardson. 2023. Performance of unoccupied aerial application systems for aquatic weed management: Two novel case studies in remote aerial spraying. *Weed Technology*. 37(3), 277 - 286. <https://doi.org/10.1017/wet.2023.32>.

(SPECIAL NOTE: This article received the 2024 Weed Science Society of America's Outstanding paper in Weed Technology; Awarded December, 22 2023).

Reckling, W.J., J. Levine, **S.A.C. Nelson**, H. Mitasova. 2023. Predicting Residential Septic System Malfunctions for Targeted Drone Inspections. *Remote Sensing Applications: Society and Environment*. 30 (2023). 100936. <https://doi.org/10.1016/j.rsase.2023.100936>.

Schrum, P.T., C.D. Jameson, L.G. Tateosian, G.B. Blank, K.W. Wegmann, **S.A.C. Nelson**. 2023. Curvature Weighted Decimation: A novel, curvature-based approach to improved Lidar point decimation of terrain surfaces. *Geomatics*. 3(1); 266-289. <https://doi.org/10.3390/geomatics3010015>.

Jouzi, Z., **Nelson, S.A.C.**, Leung, Y.F. 2023. Spatial Heterogeneity of Child Malnutrition, Proximity to Protected Areas and Environmental Variabilities. *GeoJournal*. <https://doi.org/10.1007/s10708-023-10842-5>.

Jouzi, Z., Leung, Y. F., and **Nelson, S.** 2022. Addressing the Food Security and Conservation Challenges: Can be Aligned instead of Apposed? *Frontiers in Conservation Science*, 75. <https://doi.org/10.3389/fcosc.2022.921895>.

Liu, N., G.R. Dobbs, P.V. Caldwell, C.F. Miniati, G. Sun, K. Duan, **S.A.C. Nelson**, P.V. Bolstad, and C. Carlson. 2022. Inter-basin transfers extend the benefits of water from forests to population centers across the conterminous U.S. *Water Resources Research*, 58, e2021WR031537. <https://doi.org/10.1029/2021WR031537>.

Takeuchi Y., F. Koch, and **S.A.C. Nelson**. 2021. Recent Immigrant Insect Fauna – Another Look at a Classic Analysis. *Journal of Integrated Pest Management*. 12(1): 37; 1–10. doi: 10.1093/jipm/pmab034.

Liu, N., P.V. Caldwell, G.R. Dobbs, C.F. Miniati, P.V. Bolstad, **S.A.C. Nelson**, and G. Sun. 2021. Forested lands dominate drinking water supply in the conterminous United States. *Environmental Research Letters*. 16 (2021) 084008. 16 (2021) 084008; 1–11. doi: 10.1088/1748-9326/ac09b0.

Jouzi, Z., Y. Leung, **S. Nelson**. 2020. Terrestrial Protected Areas and Food Security: A Systematic Review of Research Approaches. *Environments* 7(83):1-15. doi:10.3390/environments7100083; <https://doi.org/10.3389/fcsc.2022.921895>.

Niemuth, J.N., C.C. Ransom, S.A. Finn, M.H. Godfrey, **S.A.C. Nelson**, M.K. Stoskopf. 2020. Using Random Forests to Model Cold Stun Syndrome Events in Sea Turtles in North Carolina. *Journal of Fish and Wildlife Management*. 11(2): 531-541.

Hain, E.F., K.N. Moody, B.A. Lamphere, **S.A.C. Nelson**, P.B. McIntyre, J.F. Gilliam, and M.J. Blum. 2019. Migratory gauntlets on oceanic islands: watershed disturbance increases the cost of amphidromy. *Ecology of Freshwater Fish* 28 (3): 446-458. <https://doi.org/10.1111/eff.12467>.

Jaime, X.A., S.J. Van Bloem, F.H. Koch and **S.A.C. Nelson**. 2017. Spread rates of common native & invasive grasses and naturalized trees following anthropogenic disturbances in a subtropical dry forest. *Ecological Processes* 6(38). <https://doi.org/10.1186/s13717-017-0103-7>.

Hain, E.F., J.G. Kennen, P.V. Caldwell, **S.A.C. Nelson**, G. Sun, and S. McNulty. 2018. Using regional scale flow-ecology modeling to identify catchments where fish assemblages are most vulnerable to changes in water availability. *Freshwater Biology* 63(8): 928-945. <https://doi.org/10.1111/fwb.13048>.

Ozen, S., **S.A.C. Nelson**, S. Khorram, M. Moorman, H.I. Cakir. 2016. Use of Limited Data to Model Lake Water Clarity from Remote Sensed Data in Lake Mattamuskeet, North Carolina. *Journal of Earth Science Research* 4(1):43-54.

E.F. Hain, B.A. Lamphere, M.J. Blum, P.B. McIntyre, **S.A.C. Nelson**, J.F. Gilliam. 2016. Comparison of Visual Survey and Mark-Recapture Population Estimates of Stream Fish in Hawai'i. *Transactions of the American Fisheries Society* 145:878–887.

Rice, J.S., R.E. Emanuel, J.M. Vose, **S.A.C. Nelson**. 2015. Continental U.S. streamflow trends from 1940 - 2009 and relationships with watershed spatial characteristics. *Water Resources Research* 51(8):6262-6275.

Caldwell, P.V., J.G. Kennen, G. Sun, J.E. Kiang, J.B. Butcher, M.C. Eddy, L.E. Hay, J.H. LaFontaine, E.F. Hain, **S.A.C. Nelson**, S.G. McNulty. 2015. A Comparison of Hydrologic Models for Ecological Flows and Water Supply. *Ecohydrology* 8(8):1525-1546.

Hurley-Sanders, J.L., M.K. Stoskopf, **S.A.C. Nelson**, W.J. Showers, J.M. Law, H.S. Gracz, J.F. Levine. 2015. Tissue extraction methods for metabolic profiling of a freshwater bivalve, *Elliptio complanata* (Lightfoot, 1786). *American Malacological Bulletin* 33(2):185-194.

Hurley-Sanders, J.L., J.F. Levine, **S.A.C. Nelson**, J.M. Law, W.J. Showers, M.K. Stoskopf. 2015. Key metabolites in tissue extracts of *Elliptio complanata* identified using 1H nuclear magnetic resonance spectroscopy. *Conservation Physiology* 3(1):1-10.

DeRolph, C.R., **S.A.C. Nelson**, E.F. Hain, and T.J. Kwak. 2015. Predicting Fine-Scale Distributions of Peripheral Aquatic Species in Headwater Streams. *Ecology and Evolution* 5(1): 152–163.

Laird, S., **S.A.C. Nelson**, A. James, H. Stubbs, and E. Menius. 2012. Organizational structures and data use in volunteer monitoring organizations (VMOs). *Applied Environmental Education and Communication* 11(3-4): 165-177.

E.F. Hain, **S.A.C. Nelson**, B.H. Tracy and H.I. Cakir. 2012. Application of GIS Techniques for Developing an Index of Biotic Integrity in an Ecoregion with Low Fish Diversity. *Southeastern Naturalist* 11(4):711–732.

Siitari, K., W.W. Taylor, **S.A.C. Nelson**, K.E. Weaver. 2011. The influence of land cover composition on thermal habitat availability for native brook charr (*Salvelinus fontinalis*) populations in the United States of America. *Ecology of Freshwater Fish* 20: 431-437.

S.A.C. Nelson. 2010. Review: Remote Sensing for Biodiversity and Wildlife Management by Steven E. Franklin, McGraw-Hill Publishers, London, England, 2010, 346 pp. *Photogrammetric Engineering & Remote Sensing* 76(12): 1310-1312.

Branch, B.D., **S.A.C. Nelson**, and H.A. Devine. 2010. From Conception to Compliance, an Interdisciplinary Approach to Spatial Thinking and GIS Education in North Carolina. *Education, Training and Informatics* 465-470.

Hester, D.B., **S.A.C. Nelson***, H.I. Cakir, S. Khorram, and H. Cheshire. 2010. High-resolution land cover change detection based on fuzzy uncertainty analysis and change reasoning. *International Journal of Remote Sensing* 31(2): 455 - 475.

*(NOTE: *Corresponding Author: This article received the 2011 Len Curtis Award for the best scientific publication in the open literature of remote sensing on behalf of Taylor and Francis Publishers and the Remote Sensing and Photogrammetry Society; Awarded September 14, 2011 in Poole, Dorset, England, U.K.).*

Miller, J.E., **S.A.C. Nelson**, G. R. Hess. 2009. A New Object-Oriented Method of Impervious Surface Classification Using Feature Analyst. *The Professional Geographer* 61(2): 250 - 264.

Hester, D.B., H.I. Cakir, **S.A.C. Nelson**, and S. Khorram. 2008. Per-pixel classification of high spatial resolution satellite imagery for urban land-cover mapping. *Photogrammetric Engineering and Remote Sensing* 74: 463-471.

Nelson, S.A.C., K.S. Cheruvilil, and P.A. Soranno, 2006. Remote sensing of freshwater macrophytes using Landsat TM and the influence of water clarity. *Aquatic Botany* 85: 289-298.

(NOTE: This article was ranked #2 by ScienceDirect in the Agricultural and Biological Sciences “Aquatic Botany” sub-category as one of the “Top 25 Hottest Articles”. This designation is compiled from a list of the most read articles counted by worldwide

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download requests on ScienceDirect.com for a 3 month rating period; October–December 2006).

Cakir, H. I., S. Khorram, and **S.A.C. Nelson**. 2006. Correspondence Analysis Approach for Detecting Land Use Land Cover Changes. *Remote Sensing of Environment* 102(3-4): 306-317.

(NOTE: This article was ranked #9 and #8 by ScienceDirect in the Environmental Science “Remote Sensing of Environment” sub-category as one of the “Top 25 Hottest Articles” over two consecutive 3-month rating periods; April–June 2006 and July–September 2006, respectively).

Nelson, S.A.C., P. A. Soranno, K. S. Cheruvilil, S. A. Batzli and D.L. Skole. 2003. Regional assessment of lake water clarity using satellite remote sensing 2003. *Journal of Limnology* 62 (Suppl. 1): 27-32.

Nelson, S.A. C. and William W. Taylor. 2003. Overview of lake water clarity regional assessment using satellite remote sensing. Viterbo Province eds. *Residence Times in Lakes: Science, Management, Education* 105-115.

Nelson, S.A. C., P. A. Soranno, and J. Qi. 2002. Land Cover Change in the Upper Barataria Basin Estuary, Louisiana, from 1972-1992: Increases in Wetland Area. *Environmental Management*. 29(5):716-727.

PUBLICATIONS IN REVIEW

Belica, L., H. Mitasova, P.V. Caldwell, J.B. McCarter, J.W. Smith, and **S.A.C. Nelson**. Sun, storms, and sample resolution; a case for a high-resolution process-based analyses of summer stream temperatures in forested headwaters. *Water Resources Research*. *(In review)*

Hain, E.F., Kennen, J.G., P. Caldwell, **S.A.C. Nelson**. Water abstraction has a larger impact on future fish species richness than either climate or land cover change. *(In review)*.

Hartis, B.M., **S.A.C. Nelson**, K.K. Singh, K., R. Richardson, and J. Burkholder, J. Remote sensing of submerged aquatic vegetation in turbid coastal estuary systems using satellite imagery. *GIScience & Remote Sensing*. *(In review)*.

Schlee, K.M., A.J. Lynch, E.F. Hain, W.W. Taylor, **S.A.C. Nelson**, N. Graham, K.W. Weaver, K. Siitari and T. D. Beard. The Impact of Climate Change on Brook Charr (*Salvelinus fontinalis*) Thermal Habitat in the United States. *Journal of Ichthyology*. *(In review)*.

Hartis, B.M., **S.A.C. Nelson**. Development of a GIS-based Watershed Condition Assessment Model for the U.S. National Park Service. *Environmental Management*. *(In review)*.

Colson, T.P., J.D. Gregory, **S.A.C. Nelson**, and E.G. Shipman, E.G. Stream Type Determination in North Carolina with Mobile GIS. *Computers and Geosciences* *(In review)*.

Colson, T.P., J.D. Gregory, and **S.A.C. Nelson**, Assessment of Map Accuracy of Headwater Streams and It's Influence on Water Resource Management (*In review*).

Williams, N.B., **S.A.C. Nelson**, J. D. Gregory, B. Bullock, and A. Pyrtle.
Relationship between flow regimes in headwater streams and Macroinvertebrates in the Piedmont Region, North Carolina. Freshwater Biology (*In review*).

TECHNICAL REPORTS (*selected*)

Ning Liu, Rebecca Dobbs, Peter Caldwell, Chelcy Miniati, Paul Bolstad, **Stacy Nelson**, Ge Sun. Benefits of State and Private Forest Lands for Water Supply in the Southern United State. Earth and Space Science Open Archive (ESSOAr). Publication Series: General Technical Report (GTR), e-Gen. Tech. Rep. SRS-248. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. DOI: 10.2737/srs-gtr-248.

Caldwell, Peter V; Kennen, Jonathan G.; Hain, Ernie F.; **Nelson, Stacy A.C.**; Sun, Ge; McNulty, Steve G. 2019. Hydrologic modeling for flow-ecology science in the Southeastern United States and Puerto Rico. Publication Series: General Technical Report (GTR), e-Gen. Tech. Rep. SRS-246. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station.

Liu, N., Dobbs, G.R., Caldwell, P.V., Miniati, C.F., Bolstad, P.V., **Nelson, S.A.C.**, and Sun, G. In preparation. 2019. Benefits of State and Private Forest Lands for Water Supply in the Southern United States. General Technical Report. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station.

Caldwell, P., J. Kennen, E.F. Hain, **S. Nelson**, G. Sun, S. McNulty, and T. Shortley. 2019. Hydrological modeling for flow-ecology science in the Southeastern U.S. USDA Forest Service.

Kennen, J.G., P.Caldwell, E.F. Hain, **S.A.C. Nelson**, G. Sun, S. McNulty, T. Shortley. 2014. Hydrological modeling for flow-ecology science in the Southeastern U.S. Department of the Interior Southeast Climate Science Center, Raleigh, North Carolina. 56 pp.

Nelson, S.A.C. and B. Goldfarb. June 2013. Producing a More Diverse Workforce in Natural Resources: Establishing Relationships and Laying the Groundwork for Graduate Education for Students from Puerto Rico. Southern Research Office, U.S. Department of Agriculture Forest Service. 36 pp.

Nelson, S.A.C. and B.M. Hartis. November 2012. Satellite Remote Sensing of Submerged Aquatic Vegetation Distribution and Status in the Currituck Sound, NC. Research Technical Report. North Carolina Department of Transportation Research and Analysis Group. Raleigh, NC. 77 pp.

Nelson, S.A.C., H.A. Devine, E.F. Hain, B.M. Hartis, and W.S. Solcumb. July 2009. Natural Resource Condition Assessments for George Washington Birthplace National Monument and Thomas Stone National Historic Site. Technical Report NPS/NER/NRTR—2009. National Park Service. Philadelphia, PA. 108 pp.

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Perrin, C., J. Gregory, **S.A.C. Nelson**, P. Beggs, D. Penrose, T. Litzenburger, E. Nichols. 2009. Black Creek Watershed Assessment, Monitoring, and Planning. EPA319 Grant Final Report and Watershed Plan. NC Division of Water Quality, Department of Environment and Natural Resources. FY06. DWQ Contract Number: EW06065. June 2009. 66 pp.

Hester, D.B., H.I. Cakir, **S.A.C. Nelson**, and S. Khorram. 2006. Integration of high resolution imagery in cost-effective assessment of land use practices influencing erosion and sediment yield – Water Resource Research Institute Final Report. Center for Earth Observation Technical Report 222. 36 pp.

Khorram, S., **S.A.C. Nelson**, H.I. Cakir, and D.B. Hester. 2005. Integration of high resolution imagery in cost-effective assessment of land use practices influencing erosion and sediment yield – Water Resource Research Institute Phase I Report. Center for Earth Observation Technical Report 221. 54 pp.

Nelson, S.A.C. September 1997. Use of remote sensing to assess vegetative productivity in a section of the Barataria Bay estuary. NASA-ASSE Summer Faculty Fellowship Program Final Report. John C. Stennis Space Center. Stennis Space Center, Mississippi. Pages 164-174.

Nelson, S.A.C. June 1996. Advances in wetland status and trends monitoring - cumulative error comparisons. Wetlands Program Technical Report. Number 96-6. Virginia Institute of Marine Science. Gloucester Point, Virginia. 12 pp.

Nelson, S.A.C. October 1995. Wetland status and trends monitoring. Wetlands Workshop 1995 White Papers. Wetlands Workgroup of the Chesapeake Bay Program Center for Coastal Management and Policy. Virginia Institute of Marine Science. Gloucester Point, Virginia. Virginia Institute of Marine Science. Williamsburg, Virginia. Pages 1-10.

PRESENTATIONS: *Underlined and italicized names indicate coauthors who were graduate student contributors advised by Nelson.*

SELECTED PRESENTATIONS (out of over 130)

Michael W. Caslin, Madhusudan Katti, Stacy A. C. Nelson, Thrity Vakil. 2025. Tabonuco and Plantation Forests at Higher Elevations are More Vulnerable to Hurricane Damage and Slower to Recover in Southeastern Puerto Rico. Ecological Society of America 110th Annual Meeting. Baltimore, Maryland. August 10 – 15, 2025.

Leggett, Z.H., S.A.C. Nelson, S. Cook. Successes and Challenges of a Dual Degree Program between a Predominantly White Institution (PWI) & Historically Black College/University (HBCU). Ecological Society of America 110th Annual Meeting. Baltimore, Maryland. August 10 – 15, 2025.

Mahdis Fallahi, Stacy A.C. Nelson, and Rahul Kumar. Enhancing Coastal Flood Forecasting with Geospatial Analytics and Real-Time Data. American Society of Civil Engineers, 2025 World Environmental & Water Resources Congress. Anchorage, Alaska. May 18-21, 2025.

Michael Caslin, Madhusudan Katti, Stacy A.C. Nelson, Thrity Vakil. Running up the hill and into a hurricane: trees are more vulnerable to hurricane damage and slower to recover at higher elevations in

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central Puerto Rico's forests. 2025 International Association of Landscape Ecology-North American Annual Meeting. Raleigh, NC. April 13-17, 2025.

von Furstenberg, R., Larson, L. R., Peterson, M. N., Lee, K. J., Nelson, S. A. C., & Vayer, T. (2025). College students' environmental identities reveal conflicts and common ground for conservation. National Environment and Recreation Research (NERR) Symposium. Virginia Beach, VA: March 30-April 1, 2025.

Stacy A.C. Nelson. Leading with Empathy and Care: CNR Leadership Council Training. College of Natural Resources, NC State. Tuesday, March 5, 2024.

Stacy A.C. Nelson. Assessing your power and privilege as a leaders: CNR Leadership Council Training. College of Natural Resources, NC State. Tuesday, February 20, 2024.

Joyce Jepleting, Paul Schrum, Stacy Nelson, Tyrell Carr. Enhancing Blender as a 3D Data Visualization Tool: Add-On Development and Integration. North Carolina State University Undergraduate Research & Creativity Symposium. D.H. Hill Library, NC State University, July 27, 2023. (NOTE: Lead author is a summer internship student mentored by Nelson and Schrum)

Ruth Jepkogei, Paul Schrum, Stacy Nelson, Tyrell Carr, Aaron Hipp, Myron Floyd. Scrub Typhus Emergence in America. North Carolina State University Undergraduate Research & Creativity Symposium. D.H. Hill Library, NC State University, July 27, 2023. (NOTE: Lead author is a summer internship student mentored by Nelson and Schrum)

Laura Belica, Manuel Castro Garrido, Anna Petrasova, and Stacy Nelson. 2022. Exploring a method to estimate real-sky global solar radiation in mountainous areas at high resolutions with an open-source geospatial solar radiation model and GOES-13 geostationary meteorological satellite data. European Geosciences Union (EGU) General Assembly 2022. Vienna, Austria. May 23–27, 2022.

Zeynab Jouzi, Yu-Fai Leung, **Stacy Nelson**. Mapping the Associations between Protected Areas and Child Malnutrition. American Association of Geographers (AAG) Annual Meeting 2021. April 7-11, 2021.

Sam Macy and Stacy A.C. Nelson. 2022 Celebration of NC State Sustainability. NC State Sustainability Council and University Sustainability Office. NC State University, Talley Student Union. April 19, 2022.

Stacy A.C. Nelson, Zakiya H. Leggett and Jennifer Richmond-Bryant. 2022. Connecting Representation Equity and Capacity-building into how we do Research: Creating the WIN-WIN-WIN. Equity Research Symposium. NC State University, Talley Student Union. February 8, 2022.

Liu, N., R. Dobbs, P.V. Caldwell, C.F. Miniati, P.V. Bolstad, **S.A.C. Nelson**, G. Sun. 2020. Interbasin transfers extend the benefits of National Forest System Lands for water supply beyond downstream users. AGU Fall Meeting, San Francisco, CA. Dec. 7-11, 2020.

Leggett, Z.H., E.G. Nichols, M.A. Megalos, S. Cook, **S.A. Nelson**, R. Parajuli, L. Rivers and A. Arenas. 2020. Forestry of the Future: Improving workforce participation of underrepresented minority populations in forest resources. Virtual Society of American Foresters National Conference. October 29-31, 2020.

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Nelson, S.A.C. 2020. A lesson from the stream: A personal reflection on understanding the them vs. me group identity associated with backgrounds, race, training, and talent. American Fisheries Society Virtual Annual Meeting. September 14-25, 2020.

Zeynab Jouzi, Yu-Fai Leung, **Stacy Nelson**. Examining the association of child malnutrition with socio-economic and biophysical factors across scales in Sub-Saharan Africa. 2020 American Association of Geographers Annual Meeting. Denver, Colorado. April 6-10, 2020.

Belica, L., Caldwell, P.V., Petras, V., Mitsova, H., McCarter, J.B., and **Nelson, S.A.C.** 2019. Influence of topography on stream insolation and thermal regimes in a mid-latitude, montane, forested headwater. American Geophysical Union (AGU) Fall Meeting, 9-13 December 2019 in San Francisco, CA, USA.

Liu, N., Dobbs, G.R., Caldwell, P.V., Miniati, C.F., Bolstad, P.V., **Nelson, S.A.C.**, and Sun, G. 2019. Benefits of State and Private Forest Lands for Water Supply in the Southern United State. American Geophysical Union (AGU) Fall Meeting, 9-13 December 2019 in San Francisco, CA, USA.

Belica, L., **Nelson, S.A.C.**, Caldwell, P.V. and Mitsova, H. Evaluating the Influence of Solar Radiation on Stream Thermal Regimes with Alternative Metrics and Geospatial Modeling Methods. American Fisheries Society & The Wildlife Society 2019 Joint Annual Conference, October 2, 2019, Reno, Nevada.

Jouzi, Z.S., Leung, Y., **Nelson, S.A.C.** A proposed remote-sensing approach to analyzing the association between environmental changes and human health in Sub-Saharan Africa. 2019 American Association of Geographers. Washington, DC. April 3-7, 2019.

*Dobbs, G.R. **, Caldwell, P.V., Miniati, C.F., **Nelson, S.A.C.**, Sun, G. and Duan, K. Hydrologic modeling and inter-basin surface water transfers: building a comprehensive IBT geodatabase for the conterminous United States. 2019 American Association of Geographers Annual Meeting, April 3-7, 2019, Washington, DC. (**USDA Forest Service research fellow under supervision of Nelson*)

*Dobbs, G.R. **, Caldwell, P.V., Miniati, C.F., Sun, G. and **Nelson, S.A.C.** A new national spatial database of inter-basin surface water transfers. North Carolina GIS 2019 Annual Meeting, February 2019, Winston Salem, NC. (**USDA Forest Service research fellow under supervision of Nelson*)

Nelson, S.A.C. 2019. Remote Sensing Applications Center for Geospatial Analytics Faculty Fellows Symposium. Feb. 7, 2019.

*Logean, D. *, Georges, E. *, Jackson, L. **. 2019. Comparison of Classification Operations in the Land Cover Assessment of Virginia State University's Randolph Farm, Petersburg, VA. Emerging Researchers National (ERN) Conference in STEM. February 21-23, 2019, Washington, D.C. (**Undergraduate summer research fellow under supervision of Nelson*)

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Nelson, S.A.C. 2019. Remote Sensing Applications Center for Geospatial Analytics Faculty Fellows Symposium. Feb. 7, 2019.

Belica, L., Petrasova, A., Caldwell, P.V., **Nelson, S.A.C.** Minimal data collection for maxima results, combining geospatial modeling and a heat flux approach to the thermal regimes of headwater streams in a humid, hardwood forest. 2018 American Geophysical Union Meeting. Washington, D.C. December 10-13 2018.

Belica, L., Caldwell, P.V., Mitasova, H., McCarter, J., Smith, J., **Nelson, S.A.C.** Investigation of the Relative Effects of Insolation, Groundwater, and Spatial Variability in the Temperature Dynamics of Two Headwater Streams. 2015 American Geophysical Union Annual Meeting. San Francisco, CA. December 12-16, 2016.

E.F. Hain, J.G. Kennen, P.V. Caldwell, **Nelson, S.A.C.**, Sun, G., and McNulty, S. Water Abstraction Could Trump Climate and Land Cover Change in Altering Future Fish Species Richness in North Carolina Piedmont Streams. 2016 Society for Freshwater Science. Sacramento, California May 21-26, 2016

Nelson, S.A. C., Hain, E.F., Johnson, A., and Louie, J. 2015. Use of GIS and statistical analysis to evaluate potential climate change impacts on the spatial distribution of brook trout populations within the eastern United States. 2015 International Symposium on the Advances in the Population Ecology of Stream Salmonids. Girona Spain. May 25-29, 2015.

Kennen, J.G., Hain, E.F., Caldwell, P., **S.A.C. Nelson**, Sun, G. and McNulty, S. 2015. Modeling Fish Species Response to changes in Water Availability and Climate in the North Carolina Piedmont, USA. Society for Freshwater Science Annual Meeting. Milwaukee, Wisconsin. May 19, 2015.

Nelson, S.A. C., Hain, E.F., Hartis, B.M., and Johnson, A. 2014. Changing the Game: Multidimensional Mentoring and Partnerships in the Recruitment of Underrepresented Students in Fisheries. Fourth World Fisheries Congress of the 144th Annual American Fisheries Society Meeting. Quebec City, Quebec, Canada. August 17-21, 2014.

Xavier, A.J., **S.A.C. Nelson**, F. Koch, S. Van Bloem, S. 2014. Forest resilience and soil dynamics response to anthropogenic disturbances in dry semi-deciduous forests in Puerto Rico. 99th Ecological Society of America Annual Meeting, Sacramento CA. August 10-15, 2014.

Nelson, S.A.C. and A. Johnson. 2014. Application of Multidimensional Recruitment and Mentoring of Underrepresented Students. 7th Annual University of New Mexico Mentoring Institute 2014 Mentoring Conference. University of New Mexico, Albuquerque New Mexico. October 21-24, 2014.

Hurley-Sanders, J., M.K. Stoskopf, A. Tikunov, H.S. Gracz, J. Macdonald, J.M. Law, **S.A.C. Nelson**, J.F. Levine. 2012. Use of 1H-Nuclear Magnetic Resonance to Investigate the

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Metabolic Profile of the Freshwater Bivalve *Elliptio complanata*. 43rd Annual IAAAM Conference and Meeting. Atlanta, GA. May 12-16, 2012.

Nelson, S.A.C. 2012. NC State University Mathematics and Science Education Network Pre-College Program (NC-MSEN). Daniels Hall, NCSU Campus. April 24, 2012.

Hartis, B.M. and **S.A.C. Nelson**. 2012. Satellite Remote Sensing of Submerged Aquatic Vegetation Distribution and Status in Currituck Sound, NC. Concurrent Session: Use of Sensor Technologies for Monitoring, Modeling, and Management. Water Resources Research Institute of the University of North Carolina System Annual Conference Agenda. Jane S. McKimmon Center, Raleigh NC. March 27-28, 2012.

Hurley-Sanders, J.L., M.K. Stoskopf, C.B. Eads, S.J. Fraley, H.S. Gracz, J.M. Law, **S.A.C. Nelson**, J.F. Levine. 2012. Metabolomics as a diagnostic tool in the investigation of a freshwater bivalve die-off. Metabolomics Society 2012, Washington, DC, June 25 - 28, 2012.

Nelson, S.A.C. 2011. Applied Geospatial Sciences and Modeling in fisheries ecology. Organization for Tropical Studies, San Miguel Biological Station, Cabo Blanco Absolute Reserve, Nicoya Peninsula, Costa Rica. June, 23, 2011.

Nelson, S.A.C. 2010. Development of a GIS Enterprise System. Cooperative Ecosystem Studies Units (CESU) National Network National Meeting. Howard University School of Law - Washington, DC. June 22-24, 2010.

Siitari, K.J., K.E. Weaver, W.W. Taylor, **S.A.C. Nelson**, and A.C. Ostroff. 2010. The influence of riparian zone composition and groundwater withdrawal on eastern United States brook charr (*Salvelinus fontinalis*) population ecology and production. Advances in the Population of Ecology of Stream Salmonids. Luarica (Asturias), Spain. May 17 -21, 2010.

DeRolph, C., and **S.A.C. Nelson**. 2009. Evaluating the Relationship Between Wild Trout Occurrence and Watershed Land Cover Composition in the Appalachian Mountains of Western North Carolina. American Fisheries Society 139th Annual Meeting. Nashville, TN. August 30 - September 3, 2009.

Hain, E. F., Hartis, B., and **S.A.C. Nelson**. 2009. Watershed/Natural Resources Assessment planning for the U.S. National Park Service. University of Rhode Island Graduate School of Oceanography Narragansett, RI. February 25 – 26, 2009.

Nyeema C. Harris, R.R. Dunn, and **S.A.C. Nelson**. 2008. Variation of Parasite Diversity across Carnivore Species and Space. The Wildlife Society 15th Annual Conference. Miami, Florida. November 8-12, 2008.

Christopher R. DeRolph, **S.A.C. Nelson**, H.I. Cakir, T. Kwak, M. Fuentes, and E.F. Hain. Development and implementation of a remote sensing-based land-cover classification system to evaluate changes in watershed land cover and the associated response of wild trout

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populations. 93rd Ecological Society of America Annual Meeting. Milwaukee, Wisconsin. August 3 - 8, 2008.

Ernie F. Hain, **S.A.C. Nelson**, D. Maddalena, and C.R. DeRolph. Development of a multiple criteria index for the assessment of watershed conditions in two National Parks. 93rd Ecological Society of America Annual Meeting. Milwaukee, Wisconsin. August 3 - 8, 2008.

Nelson, S.A.C. Applications of Spatial Information System (SIS) in Fisheries Science. 2008 Department of Forest and Environmental Resources Faculty Research Symposium. Jordan Hall. North Carolina State University. January 8, 2007.

Fairey, Donta*, **S.A.C. Nelson**, and J.M. Shedd. Predicting unidentified wetland sites along the Blue Ridge parkway. 2007 Minorities in Agriculture Natural Resources and Related Sciences (MANRRS) Annual Conference. Birmingham, Alabama. March 29-31, 2007.
*undergraduate student coauthor advised by Nelson.

Miller, J.A., **S.A.C. Nelson**, G.R. Hess. A New Object-Oriented Method of Impervious Surface Classification Using Feature Analyst. 2007 Meeting of The Association of American Geographers. San Francisco, CA. April 17-21 2007.

J. Louie, **S.A.C. Nelson**, Halil Cakir, and E.F. Hain. Prioritizing restoration efforts for the Eastern brook trout using remote sensing. American Fisheries Society 137th Annual Meeting. San Francisco. September 2-6, 2007.

E.F. Hain, **S.A.C. Nelson**, H.I. Cakir, and J. Louie. Development of an effective fish Index of Biotic Integrity for the Sandhills Region of North Carolina. American Fisheries Society 137th Annual Meeting. San Francisco. September 2-6, 2007.

Nelson, S.A.C. 2006. Remote Sensing Implications for Freshwater Resource Studies. Western Washington University's Shannon Point Marine Center. Anacortes, WA February 7, 2006.

Williams, N.B., **S.A.C. Nelson**, J.D. Gregory, B. Bullock, and A. Pyrtle. Relationship Between Flow Regimes and Aquatic Macroinvertebrate Abundance in Headwater Streams in the Piedmont Region of North Carolina, USA. 2006 American Geophysical Union Ocean Sciences Meeting. Hawaii Convention Center, 1801 Kalakaua Avenue, Honolulu, Hawaii, USA. February 20-24, 2006.

Nelson, S.A.C., H.I. Cakir, and D.B. Hester. 2005. Current Trends in Land Use/Land Cover Mapping, Change Detection, and Monitoring from Remotely Sensed Data: Implication for Freshwater Resource Studies. 2005 WRI Water Research Seminar Series. North Carolina State University. April 12, 2005.

Colson, T., J.D. Gregory, and **S.A.C. Nelson**. 2005. A Mobile Hydrologic Information System to Support Stream Origin Determinations in North Carolina. Water Resources

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Research Institute 8th Annual Conference: Managing Water Quality & Quantity: Integrating Science, Technology & Policy. Jane S. McKimmon Center, Raleigh, NC. April 5, 2005.

Hester, D.B., S. Khorram, **S.A.C. Nelson** and *H.I. Cakir*. 2005. High Resolution Land Use/Land Cover Mapping and Impervious Surface Modeling in Fast Developing Watersheds. Water Resources Research Institute 8th Annual Conference: Managing Water Quality & Quantity: Integrating Science, Technology & Policy. Jane S. McKimmon Center, Raleigh, NC. April 5, 2005.

Nelson, S.A.C. 2004. ArcGIS Spatial Analysis Applications. Federation of Earth Science Information Partners; 13th Federation Assembly Meeting. Asheville, NC, August 17-18, 2004.

Nelson, S.A.C., P.A. Soranno, K.S. Cheruvilil, S.A. Batzli, and D.L. Skole. Assessing regional lake water clarity using Landsat and the role of inter-lake variability. Bolsena Conference on: Residence Times in Lakes: Science, Management, Education. Bolsena - Viterbo, Italy. September 2002.

Nelson, S.A.C., P.A. Soranno, J. Qi. Land cover change in the Upper Barataria Basin Estuary, Louisiana, from 1972-1992: Increases in wetland area. Ecological Society of America: Madison, Wisconsin. August 2001.

PROFESSIONAL SOCIETIES

American Fisheries Society

American Geophysical Union

American Society of Limnology and Oceanography

Ecological Society of America

Minorities in Agriculture and Natural Resources and Related Sciences (MANRRS)

Society of Wetland Scientists

UNIVERSITY AND COMMUNITY SERVICE (*selected*)

Co-Chair: CNR Digital Accessibility Steering Committee. 2026.

Co-Chair: CNR Strategic Planning Revision Committee: Create a better work environment. 2026.

FER RPT Post-Tenure Review Committee. 2026.

University Faculty Development Working Group. 2025-Present.

Invited Panelist: Faculty On Track. NC State, Talley Student Union. 2025.

Chair: NCSU College of Natural Resources Carnegie Community Engagement Reclassification Committee and principal writer of the reclassification application. 2025.

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CARE Coalition initiative - Cultivating Action, Resilience, and Empowerment (CARE) for Academic Caregivers: A Call to Action: Forum for STEM Leaders to Reform the Norms for Academic Caregivers. 2024-Present.

LGBTQ+ Pride Center Health and Wellbeing Advisory Committee. 2024-Present.

Committee Member: Engagement Operations Council. 2024-Present

Search Committee for the CARES Coordinator within the NCSU Division of Academic and Student Affairs. 2024.

Reviewer: 2024 Chancellor's Creating Community Awards Review Committee. 2024.

Chair: Search Committee for the CNR Senior Human Resources Specialist. 2024.

Search Committee for the CNR University Faculty Scholars Award Nomination. 2024

Search Committee for the CNR Goodnight Early Career Scholars Award Nomination. 2024

Chair: Search Committee for Executive Assistant to the Dean. 2024.

Department of Forestry and Environmental Resources Reappointment, Promotion, and Tenure - Post-Tenure Review Committee. 2024.

Reviewer: 2024 CNR Pride of the Wolfpack Awards Review Committee. 2024.

Reviewer: 2024 Chancellor's Creating Community Awards Review Committee. 2024.

Committee Member: Office of University Interdisciplinary Programs Leadership Council, 2024-present.

Participant: INVEST Sports Leadership Program - Visitors for South Africa: Washington Elementary School, Raleigh NC. Friday, March 8, 2024.

Participant: CNR Graduate Student Research Symposium. NC State. Talley Student Center. 2024.

Participant: Sisterhood Dinner & Equity for Women Awards Event. Monday, February 26, 2024.

OIED Best Practices Forum. NC State, Talley Student Union. Tuesday, January 30, 2024.

Office of University Interdisciplinary Programs Leadership Committee. 2023-Present.

Committee Member: ABC Community of Practice. 2023-Present

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Provost Black Faculty Retention and Success Task Force. 2023.

Provost's Task Force on Dossier Requirements for Teaching: "Dossier Requirements for Teaching and Mentoring of Undergraduate and Graduate Students Task Force". 2023.

Department of Forest Biomaterial Search Committee. 2023.

Equity Research Symposium Planning Committee Members. 2023.

Advisory Board: James Buzzard Leadership Committee. 2023-Present.

Invited Speaker: NCSU CAMINOS Pre-College Program Workshop. Jordan Hall. 2022.

Invited Speaker: NCSU Native Education Forum Pre-College Program Workshop. 2022.

Knightdale High School CNR Visit program. 2022.

University Juneteenth Planning Committee. 2022.

Program Review: Southern University at New Orleans, College of Arts and Sciences, Academic Degree Program for Biology Program Review. 2022.

Program Facilitator: CNR Orientation College Fair. 2022.

Speaker: First Year Student Orientation for Transfer Students. Talley Student Center. 2022.

Speaker: First Year Student Orientation for Summer Start Students. Talley Student Center. 2022.

Equity Research Symposium Planning Committee. 2022.

Department of Forestry and Environmental Resources Ecology Wildlife Foundation Distinguished Professorship for Conservation Biology search committee. 2021-2022.

CARES Coordinator Search Committee. 2021-2022.

Alumni Association Distinguished Graduate Professor Awards Committee. 2021-2022.

Program Participant. NCSU OIED: Returning to Campus Safely during COVID-19. 2021

Program Participant. NCSU OIED: Title IX and Sexual Harassment Prevention for Employees Certificate Program. 2021

Program Participant. NCSU OIED: Environmental Justice Workshop. 2021

CNR Forest Biomaterials Department Head Nominating and Search Committee. 2021.

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Associate Vice Provost for Academic Personnel and Policy Search Committee. 2021.

CNR Graduate Recruitment and Retention Committee. 2021-Present.

Department of Forestry and Environmental Resources Tenure Track Faculty Mentor Committee - Allen. 2021-Present.

Search Committee for the CNR University Faculty Scholars Award Nomination. 2020-Present.

Advisor: Chancellor's Leadership Development Program. 2020-2022.

University CARES Partner Team member. 2020-Present.

Goodnight Doctoral Scholars Selection Committee. 2020-Present.

University Faculty Scholars Selection Committee. 2020-Present.

Board of Directors, North Carolina Wildlife Federation. 2020-Present

Group Mentor – Chancellor's Shelton Leadership Development Program (CLDP). 2020-2022.

CNR Graduate Recruitment Committee. 2020-2021.

CNR Schenck Professorship Committee Chair. 2020.

CNR Director of Recruitment and Student Engagement - interviews. 2020.

Terry Student Enrichment Fund Committee. 2020.

NCSU Faculty Senate Executive Council. 2020-2022.

NC Land Cover Statewide Mapping Advisory Committee. 2017-2020.

NCSU Strategic Planning – NCSU Wolfpack 2030 Strategic Plan Planning Committee (principal writer for the university's *Graduating the Successful Student task force*). 2020.

Chancellor's Shelton Leadership Development Program. 2020-2023.

CNR College representative Faculty Senate. 2019-2020.

Department of Forestry and Environmental Resources Tenure Track Faculty Mentor Committee - Richmond-Bryant. 2019-present.

Department of Forestry and Environmental Resources Reappointment, Tenure and Promotion Committee. 2019-2020.

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Department of Forestry and Environmental Resources Tenure Track Faculty Mentor Committee - Leggett. 2018-present.

NCSU GLBT Advocate Program. 2017-present.

State of North Carolina Land Cover Statewide Mapping Advisory Committee. 2017-Present.

North Carolina State University - GLBT Advocate Program. 2017-Present.

College of Natural Resources Junior Faculty Research Mentoring Program - program advisor. 2017-Present.

Subject Editor-in-Chief: Journal of Fisheries Sciences, iMedPub LTD (<http://www.fisheriessciences.com/editors.php>; Global Impact Factor: 0.714, Google Scholar h5 Index: 6, Research Gate Impact Factor: 0.19, Index Copernicus Value: 86.33). 2017-2020.

North Carolina State University, Department of Forestry and Environmental Resources Five-Year Leadership Review of Department Head. Review Committee Chair. 2019.

EPA Technical Qualifications Board Review panel member. 2018.

USDA Forest Service Technical Review panel member. 2017.

North Carolina State University - University Doctoral Mentoring Fellows Steering Committee. 2017-2018.

Minorities Striving and Pursuing Higher Degrees of Success (MSPHDs) NSF funded initiative program review panel. 2017.

Tenure Track Faculty FER Mentor Committee - Rivers. 2016-Present.

North Carolina State University - University Doctoral Mentoring Fellows. 2016-2017.

United States Department of Agriculture/National Institute of Food and Agriculture Small Business Innovation Research (SBIR), Air, Water and Soils Panel Review. Washington D.C. 2016.

External Review Board/Tennessee Board of Regents - Professional Science Masters, Department of Agricultural Sciences in the College of Agriculture, Human and Natural Sciences at Tennessee State University. 2013-2014.

Chair – CNR Web and Distance Education Coordinator Search Committee Chair. 2013.

CNR Land and Water Committee. 2013.

STACY ARNOLD CHARLES NELSON

- Chancellors Faculty Excellence Program Geospatial Cluster Hire Committee. 2013.
- Editorial Board – British Journal of Environment and Climate Change. 2012-Present.
- Board Member – NSF-LSAMP and Mellon Foundation Organization for Tropical Studies. Advisory Committee for Academic Diversity (ACAD). 2010-2018.
- Department of Forestry and Environmental Resources Graduate Committee. 2008-Present.
- NC State GIS Graduate Faculty Member. 2002-present.
- NC State Graduate Faculty Member. 2002-present.
- NC State Fisheries, Wildlife and Conservation Biology Program Faculty Member. 2002-Present.
- Panel Participant – North Carolina State University Developing Diverse Departments Brainstorming Charrette. ADVANCE D3 Community. NCSU Campus. March 2, 2012.
- US Forest Service Fish Index review. Gap Analysis project team, USDA Forest Service International Institute of Tropical Forestry, the Department of Natural and Environmental Resources, and the National Gap Analysis Program. 2011.
- Program Instructor – North Carolina State University College of Natural Resources Community of Diversity High School Visit Program. GIS development activity Eastern Band of Cherokee. 2011.
- Department of Forestry and Environmental Resources Reappointment, Tenure and Promotion Committee. 2008-2009.
- College of Natural Resources Associate Dean for Research and Extension Search Committee. 2008.
- North Carolina Division of Water Quality Stream Mapping Steering Committee. 2003-2008
- NC State African-American Coordinating Committee. 2003-2008
- Department of Forestry and Environmental Resources High School Explorers Summer Camp. Instructor. July 7 - 11, 2008.
- Fisheries and Aquaculture Health Scholars Program Review Committee. 2007.
- Assistant Vice Provost for Diversity Search Committee. 2004-2006.
- Upper Neuse Watershed Evaluation Task (WET) Group. 2003-2006.

Fisheries and Wildlife Graduate Review. 2004-2005.

Departmental Research Committee (Ad-Hoc) – Hoffman Forest. 2004-2005.

AFS Symposium Selection Committee, Annual Meeting, Madison, Wisconsin. August 2004.

AFS Symposium Selection Committee, Madison, Wisconsin. 2004.

CNR Diversity Director Faculty Search Committee. 2003.

Fisheries Undergraduate Curriculum Committee. 2003.

Wildlife Faculty and Extension Specialist Search Committee. 2003.

GRADUATE ADVISORS AND POSTDOCTORAL SPONSORS

Served as chair/co-chair for 34 graduate students (15 Ph.D. and 19 master's), over 110 graduate committee, supported 6 postdoctoral scholars (3 in partnership with the USDA Forest Service), supervised several undergraduate researchers, and academically advised 35-45 graduate students annually.

PERSONAL SERVICE ACTIVITIES (selected)

Hill Street Homework Haven – in partnership with Wake County School System and YMCA; Raleigh, North Carolina

Yokefellows Prison Outreach Ministry – Polk Youth Institution; Butner, North Carolina

Leadership Mentor – Dwight Rich Middle School; Lansing, MI

Young Men's Rights of Passage Program – St. Stephens Community Church; Lansing, MI

Volunteer – Young Spartans Eco-explorers Program/MSU; East Lansing, MI

Chapter Member – Omega Psi Phi Fraternity

Minority Students Program Mentor - MS-PhDs (The Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science initiative). Sponsored by University of South Florida, NOAA, NASA, and AGU.

Minority Students Meeting Mentor - 2005 American Society of Limnology and Oceanography (ASLO) - Aquatic Sciences Meeting. February 20-25, 2005, Salt Lake City, Utah, USA.

REFERENCES

STACY ARNOLD CHARLES NELSON

Available upon request.