

2023-2024 Annual Report to the Chancellor

As we reflect on the past year, we are proud to share the remarkable achievements and progress made by the College of Natural Resources (CNR). Together, our students, staff and faculty reached new heights in innovation, positively impacting lives and contributing to the sustainability of our planet. Our unwavering dedication to excellence in education and research has fueled strong demand for our academic programs and highlighted the essential need for our research and extension initiatives. This year, we set new records for funds raised, improving access to our majors and demonstrating our commitment to making higher education accessible to all. We also reached our highest level of research expenditures to date, showcasing our ability to deliver science-based solutions to the critical challenges facing society. These accomplishments align with the university's land-grant mission and strategic goals and reflect our steadfast commitment to the college's priorities as embodied in our guiding strategy — The Planet is Our Classroom.

Goal 1: Empower students for a lifetime of success and impact.

- Total undergraduate student enrollment for Fall 2023 was 1,710 and 1,644 for Spring 2024. Undergraduate student minors and certificates totaled 405 in Fall 2023 and 453 in Spring 2024. Total number of undergraduate degrees awarded was 407. The student population was 43.7% (AY22-23: 42.2%) female, 19.5% (AY22-23: 19.5%) racial/ethnic minorities, and 1.5% (AY22-23: <1%) international.
- In Fall 2023, our Ph.D. enrollment was 173 and Spring 2024 was 170. We enrolled 218 students in our master's programs Fall of 2023 and 194 in Spring 2024. Enrollment for CNR graduate student minors and certificates was 111 in Fall 2023 and 110 in Spring 2024. Total number of Ph.D. degrees awarded was 25, total master's degrees was 93, and total graduate certificates was 64.
- CNR awarded \$1.67M in 856 undergraduate scholarships from the Natural Resources Foundation and the NC State Endowment Fund.

- The Environmental First-Year Program (ENVFY) increased participation across multiple colleges under the leadership and strategic vision of its new ENVFY program director. Enrollment is up 44%, and 11 new programs across five colleges are expected to join the network in 2026.
- The James Buzzard Leadership Program completed a successful inaugural year with 18 students participating (selected out of 35 applications). Students participated in bi-weekly leadership development seminars and a trip to Washington, D.C., that included visits to the Office of the Chief Scientist of the US Department of Agriculture, Office of the Chief of the US Forest Service, and the British Embassy.
- CNR established Career Advising and Professional Engagement (CAPE) services under the strategic vision of the new director of CAPE, and a substantial increase in student assistance and employer engagement has already been realized.

Goal 2: Ensure preeminence in research, scholarship, innovation and collaboration.

- We hosted the Dean's Interdisciplinary Research Tour for college deans and senior university administrators to highlight the CNR research initiatives and strengths as a campus interdisciplinary partner.
- We launched the Forest Carbon Solutions Initiative, led by Justin Baker and Rob Scheller. The initiative kicked off with a one-day event exploring the role of forests and forest products in decarbonizing the economy. It included a symposium featuring student, faculty and industry partners during the 2024 NC State Carbon Week.
- The sixth annual CNR Graduate Research Symposium featured 50 graduate student posters and talks with over 100 attendees. More than \$7,000 in cash awards were distributed.
- CNR faculty submitted 201 grant proposals totaling \$105,727,864; 139 new grants were awarded in the amount of \$20,638,042. Research expenditures were \$15,371,424.
- The Center for Geospatial Analytics led the establishment of an education partnership agreement with the US Army Engineer Research and Development Center to encourage and

enhance the study of STEM disciplines, which improve the US Army Corps of Engineers' geospatial data applications for military, civil works and DoD installation management missions.

Goal 3: Expand and advance our engagement with and service to North Carolina and beyond, defining the standard for a 21st-century land-grant university.

- CNR secured \$650,000 (\$150,000 recurring and \$500,000 in one-time funds) from the NC General Assembly for enhancements to the Christmas Tree Genetics Program.
- We partnered with NCDA Upper Mountain Research Center on the completion of a facility for the establishment of a Christmas tree seed processing center.
- CNR Tourism Extension led the formation of the Global Agritourism Network, composed of 550 members (farmers, agritourism providers, governmental and NGOs, and academic researchers) from 87 countries, to advance global recognition of the agritourism industry.
- Master of Geospatial Information Science and Technology students collaborated with 21 community/industry partners to develop geospatial solutions as part of their service-learning capstone experience.
- The CNR Office of Continuing and Professional Education (CPE) provided service for 20 events (12 completed; 8 in progress). Created in 2022, the CNR CPE supports the promotion and positioning of CNR's broader continuing and professional education program. In its first full year, it generated approximately \$205,089 in revenue.

Goal 4: Champion a culture of equity, diversity, inclusion, belonging and well-being in all we do.

- The College of Natural Resources was certified at the Gold Level by Wolfpack Wellness for promoting health and wellbeing among our students, staff and faculty.
- We continued to support student mental health directly by having an embedded counselor available. With funding from the Office of the Provost, this initiative ensures students have

immediate access to professional mental health services, fostering a supportive and healthy learning environment.

- The Office of Diversity and Inclusion continued to partner with Field Inclusive, a 501(c)3 non-profit organization founded by CNR graduate students that promotes safety awareness and training in field safety methods.
- We created two “grazing stations” – one in Biltmore Hall and one in Jordan Hall – to provide snacks for students struggling with food insecurity. This initiative aims to help ensure all students have access to healthy food and remove the stigma associated with seeking assistance.
- The college welcomed its third cohort of students in the CNR Summer Undergraduate Research Experience (CNR-SURE) in collaboration with faculty from throughout CNR, St. Augustine’s University, NC A&T University, the Doris Duke Conservation Scholars Program, and the Office of Undergraduate Research (OUR).

Goal 5: Improve university effectiveness through transformative technologies, cutting-edge processes and actionable data.

- Human resources and business services adopted DocuSign as a platform for processing summer salary and release time and for testing services agreements, and plans to expand this tool to other service activities.
- The Office of Academic Affairs created an internal dashboard and database to track applications, admissions, enrollment and graduation rates to support our recruitment, course planning, and other departmental needs, enabling us to make data-informed decisions to enhance academic success.
- Forest Assets partnered with the Office of Real Estate and Development to conduct a strategic review of Hofmann Forest land assets and opportunities.
- We began a pilot program with University Human Resources in its shared HR Concierge Program. The HR Concierge Program is intended to provide solid and stable transactional

support to the college, specifically through PeopleAdmin and PeopleSoft actions (e.g., salary adjustments, new hires, separations).

Goal 6: Lead in developing innovative partnerships, entrepreneurial thinking and applied problem-solving.

- The Sustainable and Alternative Fibers Consortium continued to expand with 28 member companies contributing \$4.5M to develop key knowledge and technologies to advance sustainable fibers for different industrial applications.
- TreeCo, a spin-off company founded by Jack Wang and Rodolphe Barrangou, continues to add new partners and attract corporate investment to advance CRISPR in forest genetics research.
- The forestry industry continues to support our cooperatives, with 27 members of Camcore (a non-profit, international tree breeding organization hosted at CNR and the Department of Forestry and Environmental Resources) and 40 members of The Tree Improvement Program (a tree breeding consortium focused on loblolly pine).
- We completed a second year of the CNR Undergraduate Environmental Health and Safety Internship Program. The program consists of six students (majority from the environmental technology and management major) who assist the CNR safety officer with developing communication, safety audits and reports.

Goal 7: Elevate the national and global reputation and visibility of NC State.

- We continue to utilize keyword research and other search engine optimization strategies to increase traffic to the college news site and to promote our faculty as "thought leaders" on popular topics. Sixty-three of the 83 articles being tracked rank in the top 10 listings on Google's search engine results page. Thirteen of those articles were published between July 1, 2023 and June 30, 2024.
- In total, 119 articles were published to the College of Natural Resources news site between

July 1, 2023 and June 30, 2024. Seventy-seven of those articles were published by members of the CNR communications office. The remaining articles were articles featuring the College of Natural Resources written by NC State News Services and other offices from across campus.

- The College of Natural Resources is ranked nationally as the #1 Best Forest Management/Forest Resources Management School, #1 Best Wood Science and Wood Products/Pulp and Paper Technology School, and #1 Best Parks, Recreation and Leisure Facilities Management Master's Degree School by College Factual.

Highlights From College Units

Academic Affairs

- We implemented a new initiative with our community college partners at Durham Tech and Wake Tech. As a result, we increased our transfer applicant pool by 12.4%, and we are up 5.3% in confirmed students. Two of our growth majors, FER and PRTM, had increases in applications by 33% and 24% respectively.
- We implemented a new system to help readmitted students, especially those returning in academic difficulty, transition successfully back to the NC State community. There were 21 students readmitted for Fall 2023; 11 were readmitted for Spring 2024.
- We succeeded in reaching our goal to host at least one student engagement event each month for CNR students to promote student success and wellbeing.
- In partnership with the Career Development Center, we hosted two career fairs. Fall attendance was 366 students, 41 employers, three student workers and 14 staff. Spring attendance was more challenging to measure because of the collaboration with another college (CHASS), however, total student attendance was 355 with at least 78 CNR students, two CNR staff and 35 CNR-focused employers.
- Branda Nowell (Professor, College of Humanities and Social Sciences) was named program director of the Environmental First-Year Program.

Advancement

- We raised \$5,259,596 against a goal of \$4.5M (117%) and 96% toward our stretch goal of \$5.5M. These results compare to a three-year (FYE) average of \$4,904,609 (107%). Annual giving dollars are up 9% from last year. The \$2.3M raised on Day of Giving 2024 surpassed the previous year by 195% and our next best year by 142%.
- Hal Lawton (Class of 1996) and his wife Jodie Lawton established the Dr. Hasan Jameel Distinguished Professorship in Forest Biomaterials for a faculty member with a demonstrated commitment to fostering leadership, professional development and personal growth of undergraduate students.
- The fundraising campaign for Slocum Camp at Hill Forest continues to be a priority that will further enhance hands-on, experiential learning: five cabins and two rooms in the lodge were named this year representing \$300,000 in gifts.
- Our Trailblazing donor appreciation event continues to be a success in theme, nature and engagement, reaching over 2,900 people this year from engagement activities with around 1,000 of them being first-time engagements with the college. The event is an opportunity for donors and the students they support to come together to celebrate the power of philanthropy.

Diversity and Inclusion

- The Office of Diversity and Inclusion continued to partner with units across the college to support student wellness, belonging and overall success.
- We coordinated the College of Natural Resources High School Pathways Program in partnership with Knightdale High School to expose students to careers in natural resources and related STEM fields.
- The office supported eight students from the college to attend the Minorities in Agriculture, Natural Resources and Related Sciences National Conference in Chicago, IL. The CNR peer-mentoring program was developed in conjunction with a 2023 National Needs Fellowship grant to address student belonging and retention by engaging every student

participant with broader peer connections. This program was revised to focus on undergraduate and graduate students from under-represented students.

- We partnered with the Graduate Students Multicultural Committee to hold a series of undergraduate and graduate student dialogue and feedback information sessions on mental health, wellbeing and student workloads.

Extension

- CNR Extension's mission is to extend research-based knowledge to all North Carolinians, helping them transform science into everyday solutions that improve their lives and grow our state. Through the combined efforts of CNR extension programs in forestry, tourism and wood products, more than 1.7 million landowners, natural resource professionals, cooperative extension agents, and the public were served through 44 educational events and 616 social media products. Over 2.8 million acres were impacted and over \$617 thousand in earnings/savings were realized by income-generating businesses.
- We worked with partners to secure \$13.5M in funding to support military readiness, and the enhancement of working and natural lands across 33 counties across Eastern NC.
- CNR Extension secured \$250,000 in funding to continue leading coordination for the Southeast Regional Partnership for Planning and Sustainability prescribed fire working group, which is composed of the Department of Defense and numerous other state and federal natural resource agencies.
- Staff provided leadership in the formation of the Global Agritourism Network, which comprises over 550 members (farmers, agritourism providers, NGOs, government reps, consultants, scholars) from 87 countries to advance the global recognition of agritourism.
- Extension agents created awareness and increased knowledge of more than 220 growers on integrated pest management, within the context of the Christmas tree industry, as well as the importance of the North Carolina Christmas tree industry as a whole to the general public.
- Extension agents provided 13 professionals with enhanced skills in urban wood drying of high-quality slabs and lumber resulting in businesses growing by 22%, and increased

knowledge for 11 owners of small to midsize companies to start and grow their operations to produce high-quality and high-value lumber, resulting in businesses throughout growing by 19%.

Facilities and Operations

- Three high-priority capital projects were submitted to the Campus Development Committee to address core needs: (1) Schenck Forest Multipurpose Building (\$17M) to be located at Schenck Forest; (2) Innovation Hub for Natural Resources Sustainability (\$90M); and (3) comprehensive upgrade to labs facilities across CNR buildings on main campus.
- The college partnered with University Facilities to upgrade ADA parking and pathway into Biltmore Hall.

Forest Assets

- The Office of Forest Assets manages 11 properties that are Sustainable Forestry Initiative and American Tree Farm certified sustainable forest land. In FY 2024, this landbase generated \$1.7M to support active sustainable forest management as well as student scholarships and faculty initiatives.
- On Hofmann Forest, our monetization strategy for land outside of the timber deed continues to benefit the college with over \$600K in income from farm earnings and sale of credits from our wetland mitigation banks.
- Through funding and networking, Forest Assets continues to support the college's outreach initiatives in local high schools.

Research

- The CNR research portfolio continues to grow, with an increasing number of competitive awards exceeding \$500K from major federal sponsors, including:
 - \$500K from the National Park Service: Cultural Landscapes Climate Change Vulnerability Assessments at Mid-Atlantic Battlefield Park Units (Jelena Vukomanovich, principal investigator)

- \$638K from the Department of Energy: AI-Enabled Hyperspectral Imaging for Rapid/Real-Time Analysis of Non-Recyclable Municipal Solid Waste for Conversion to Energy (Lokendra Pal, principal investigator)
- \$1.2M from the National Science Foundation: Iterative Improvement of a Program for Building Inclusive, Diverse, Equitable, Accessible Large-scale Participatory Science Projects (Caren Cooper, principal investigator)
- \$2.1M from the Department of Energy: Deep Eutectic Solvent Pulping Technology to Reduce Carbon Emission in the Pulp and Paper Industry (Sunkyu Park, principal investigator)

Cumulative List of Major Faculty and Staff Awards

Academic Affairs

- Kaly Wall - University Award for Excellence and College Award for Excellence

Advancement

- Erin Elliott - Pride of the Wolfpack Award
- Jennifer Viets - Top Twenty-Five Percent of Frontline Major Gift Fundraiser at NC State

Center for Geospatial Analytics

- Ross Meentemeyer - Alumni Association Outstanding Research Award and inducted into the NC State Research Leadership Academy
- Aaron Hipp - Center for Geospatial Analytics Advocate Award
- Karl Wegmann - Outstanding Teaching Award
- Daniela Jones - Educational Aids Blue Ribbon Award, American Society of Agricultural and Biological Engineers
- Eric Money - 2024 cohort of University Consortium for Geographic Information Science and NSF I-GUIDE Community Champions
- Ashly Cabas - Outstanding Global Engagement Award Early Career Fellow, NC State
- Karl Wegmann - Beacon Award, Center for Geospatial Analytics
- Helen Mitsova, Anna Petrasova, Vaclav Petras and Corey White - Analytics Collaboration

and Innovation Award

- Bill Slocumb - Creativity in Teaching Award
- Dan Obenour - Gladys West Award
- Thomas Lake - Professional Enhancement Award, NASA-MSU

Extension

- Jennifer Fawcett – Association of Natural Resources Extension Professionals Outstanding Extension Award – Silver Award
- Kurt Smith – North Carolina Association of Cooperative Extension Specialist, Outstanding Subject Matter Award
- Bethany Cutts - Outstanding Extension and Engagement Award and named to the Academy of Outstanding Faculty in Extension and Engagement
- Ann Savage - 2024 Outstanding Engagement Award
- Meredith Martin - 2024 Global Engagement Award
- Janice Sitzes - Pride of the Wolfpack Award and Wellness Champion

Forest Biomaterials

- Frederik Laleicke - 2024 Outstanding Engagement Award
- Nathalie Lavoine - 2024 National KEEN Rising Star Award
- Lucian Lucian - University Faculty Scholar
- Julia Paradiso - University Award for Excellence
- Ryen Frazier and Ronalds Gonzalez - 2023 Scholar/Faculty Mentor Teams, Kenan Institute for Engineering Technology and Science Climate Leaders Program

Forestry and Environmental Resources

- Stacy Nelson, Ge Sun and Peter Caldwell - Director's Service Delivery Award, USDA Forest Service Southern Research Station and Team Award, USDA Forest Service Chief's National Rise to the Future, Jim Sedell Research Achievement Award
- Ana Cubas-Baez and Rajan Parajuli - 2024 Scholar/Faculty Mentor Team, Kenan Institute for Engineering Technology and Science Climate Leaders Program

- Chris Moorman - Alumni Association Distinguished Graduate Professorship Award
- Jason Delborne - Fellow, AAAS Science and Technology Policy
- Mary Hicks - Pride of the Wolfpack Award
- Megan Lupek - 2023-24 DELTA Faculty Fellow and Faculty Fellow, Office for Faculty Excellence, Scholarship of Teaching and Learning Institute
- Steph Jeffries - 2024 Provost's Award for Excellence in Teaching
- Zakiya Leggett - Group Achievement Award, Wildlife Society, The Doris Duke Conservation Scholarship Program Collaborative at NC State

Information Technology

- Connor Celentano - Pride of the Wolfpack Award
- David Goodwin - Pride of the Wolfpack Award
- Dustin Duckwall - Extraordinary Project Team Impact Award: Esports Pilot Project Team and NC State Gaming and Esports Lab Technology

Parks, Recreation and Tourism Management

- Carla Barbieri - 2023 NIFA Partnership Award for Multistate Efforts, Global Agritourism Network
- Whitney Knollenberg - 2024 Outstanding Teaching Award
- Stacy Supak - Mentoring Faculty Fellow, NC State Office of Faculty Excellence
- Rasul Mowatt - 2024 Distinguished Colleague Award, The Academy of Leisure Sciences
- Kyle Bunds - 2024-25 DELTA Faculty Fellow
- Kathryn Stevenson - William C. Everhard Award, Clemson University Institute for Parks
- Erin Seekamp - 2024 Belmont Forum Climate and Cultural Heritage Award
- Adam Wampler and Erin Seekamp - 2023 Scholar/Faculty Mentor Teams, Kenan Institute for Engineering, Technology and Sciences Climate Leaders Program
- Ed Lindsay - 2024-25 Faculty Fellow, DELTA
- Genevieve Myers and Lincoln Larson - 2023 Scholar/Faculty Mentor Teams, Kenan Institute for Engineering, Technology and Sciences Climate Leaders Program

- Ann Savage - Emerging Leader Rising Star Award, Travel and Tourism Research Association

Cumulative List of Major Student Awards

Provost Doctoral Fellowships for 2023-2024

- Maria Higueta (FER), advised by Rachel Cook
- Joel Mota (FER, Fisheries, Wildlife and Conservation Biology), advised by Ivana Mali
- Kurt Naquin (FER, Fisheries, Wildlife and Conservation Biology), advised by Caren Cooper
- Kayla Patterson (PRTM), advised by Corey Johnson
- Nathan Schunk (FER), advised by Justin Baker
- Tawakalitu Tajudeen (CGA), advised by Katie Martin

Global Change Fellows

- Kurt Naquin (FER, Fisheries, Wildlife and Conservation Biology), advised by Caren Cooper
- Tawakalitu Tajudeen (CGA), advised by Katie Martin
- Juliana Jolley (PRTM), advised by Lincoln Larson
- Nathan Schunk (FER), advised by Justin Baker

Undergraduate Student Honors

- Student Body President-Elect: Alison Markert (NR, concentration in policy and administration)
- Park Scholars: Sawyer Cumbow, Environmental Sciences; Cadence Davis, Sustainable Materials and Technology; Niveda Mahesh, Paper Science and Engineering
- Goodnight Scholars: Hana Robinson, Natural Resources; Kayla Ruff, Fisheries, Wildlife and Conservation
- Global One Health Academy Fellow: Lydia Sellers (PRTM)
- Undergraduate Oral Research Competition: Andrea Casallas earned second place
- 778 undergraduate students on the Dean's List in Fall 2023 and 779 in Spring, 2024

Other Notable Graduate Student Awards

- Laura Tomkins - Outstanding Presentation Award, American Meteorological Society Weather and Forecasting Conference
- Titilayo Tajudeen - Women in GIS Graduate Scholarship

- Uchenna Osia - Stu Shea US Geospatial Intelligence Foundation Scholarship (USGIF)
- Raja Das - 2023 J. Hoover Mackin Award for best Ph.D. research proposal to the Quaternary Geology and Geomorphology Division of the Geological Society of America and Roy J. Shlemon Scholarship Grant from the Environmental and Engineering Geology Division of the Geological Society of America
- Uchenna Osia - Yale Environmental Fellows program and Stu Shea USGIF Scholarship
- Jamie Huerta - 2022-23 Rachel Carson Campus Fellows program
- Lauren Pharr - 2023 Young Conservationist of the Year, NC Wildlife Federation and 2023-24 Equity for Women Award (student category)
- Erin Mansfield and Alan Franzluebbbers - 2023 Scholar/Faculty Mentor Teams, Kenan Institute for Engineering, Technology and Sciences Climate Leaders Program
- Summer Lauder - First place in the Graduate Poster Competition

Administration: Achievements and Staff Changes

- Stacy Nelson, Associate Dean, Diversity and Inclusion Office
- Jinxing Wang, Department Head, Forest Biomaterials

New EHRA Non-Faculty Hires 2023-2024

- Angela Rush, Director, Forest Biomaterials
- Deanna Knighton, Director, College of Natural Resources
- Laurel Cavanagh, Recruiter, College of Natural Resources
- Jameson Boone, Extension Specialist, Forestry Extension
- Ashwini Raghavendra, Accountant II, College of Natural Resources
- Swathi Barampuram, Research Assistant, Forestry and Environmental Resources
- Ellen Kongphet, Accountant II, College of Natural Resources
- Carla de Oliveira Castro, Research Associate, Tree Improvement Cooperative
- Jingxin Wang, Department Head, Forest Biomaterials
- Isabel Dorado Lasso, Visiting Scholar, Forest Biomaterials
- Gabriela Brigatti Chaves, Research Scholar, CAMCORE

- Corey White, IT Analyst/Programmer I, Center for Geospatial Analytics
- George Harley-Wenn III, Project Coordinator, Forestry and Environmental Resources
- Lydia Sellers, Project Coordinator, Parks, Recreation and Tourism Management
- Ziqian Gong, Research Scholar, Forestry and Environmental Resources
- Will Kolwhay, Extension Specialist, Forestry Extension
- Terri Stowers, Extension Assistant, Parks, Recreation and Tourism Management

New Professional Track Faculty Hires 2023-2024

- Alicia Mihnovets, Assistant Teaching Professor, Forestry and Environmental Resources

New Tenured/Tenure Track Faculty Hires 2023-2024

- Bryan Clift, Assistant Professor, Parks, Recreation and Tourism Management
- Kai Lan , Assistant Professor, Forest Biomaterials
- Juan Jose Acosta Jaramillo, Associate Professor, Forestry and Environmental Resources

Offers Made and Accepted 2023-2024

- Janine Bethea, Assistant Teaching Professor, Parks, Recreation and Tourism Management
- Nyrice Grayson, Assistant Director, Parks, Recreation and Tourism Management
- Ritwick Ghosh, Assistant Professor, Forestry and Environmental Resources
- Jeffrey Doser, Assistant Professor, Forestry and Environmental Resources
- Ting-Feng Yeh, Associate Professor, Forest Biomaterials