

SEBASTIAN EMILIO DIAZ CORTES

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<https://scholar.google.com/citations?hl=en&user=eiC0CV4AAAAJ>

https://scienti.minciencias.gov.co/cvlac/visualizador/generarCurriculoCv.do?cod_rh=0001766711

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EDUCATION

Ph.D. (c) in Atmospheric Sciences. North Carolina State University. In Progress.

M.S. in Forest Management. District University of Bogotá. 12/2022.

B.S. in Forest Engineering. District University of Bogotá. 06/2019.

ACADEMIC EMPLOYMENT HISTORY

Graduate Research Assistant: *Integrative Biometeorology Lab*. Department of Marine, Earth, and Atmospheric Sciences; North Carolina State University. 08/2023-Present.

- Flux chamber measurements
- Eddy covariance flux tower maintenance
- Data analysis

Graduate Internship: *Contract No. 2596*. Autonomous Regional Corporation of Cundinamarca and the District University of Bogotá. 07-11/2022.

- Vegetation sampling
- Botanical curatorship
- Data analysis

Laboratory Assistant: *Forest Herbarium “Gilberto Emilio Mahecha Vega” (UDBC)*. District University of Bogotá. 02/2020-12/2022.

- Botanical samples processing
- Equipment training and lending
- Support in project assessment

Field Assistant: *Contract No. 1594.* Autonomous Regional Corporation of Cundinamarca and the District University of Bogotá. 01-05/2018. *Contract No. 219,* Corporation for Sustainable Development of Southern Amazon and the District University of Bogotá. 08/2016-01/2017.

- Vegetation sampling
- Botanical curatorship
- Data analysis

Research Assistant: *Research Seedbed of Forest Diversity,* Forest Engineering Program, District University of Bogotá. 03/2016-06/2019.

- Vegetation sampling
- Botanical curatorship
- Data analysis

TEACHING EXPERIENCE

Graduate Teaching Assistant: Department of Marine, Earth, and Atmospheric Sciences; North Carolina State University. *Earth System Science:* 08-11/2023 and 08-11/2024. *Introduction to Weather and Climate:* 01-04/2024, 01-04/2025, 08-11/2025, and 01-04/2026.

- Class and grading support

Teaching Assistant: Forest Engineering Program, District University of Bogotá. *Wood Properties* (02-05/2016). *General Biology* (02-05/2018).

- Laboratory and grading support

STUDENT ADVISING

Master Students: Luisa Betancourt (since 11/2025). Master in Forest Management, District University of Bogota.

Master's Committee Member: Alejandra Chaparro (defense in 05/2026). Master in Forest Management, District University of Bogota.

PEER-REVIEWED PUBLICATIONS

Published Articles:

Díaz-C., S.E., Aldana, A.M., Pulido-Rodríguez, E.N., Casas-Caro, L.F., Correa, D.F., González-Abella, J.S., Stevenson, P.R. & López-Camacho, R. (2026). Functional analysis of wood traits, soil, and aboveground biomass in Terra firme and Igapó forests. *Revista de Biología Tropical*, 74, e2026194. DOI: 10.15517/52pp5j92. SJR: Q3, Agricultural and Biological Sciences.

Díaz-C., S.E., Londoño-Hernández, D.J. & Ariza-Cortés, W. (2025). Diversity and structural patterns in Colombian Amazon forests along an altitudinal gradient. *Boletín Científico del Centro de Museos*, 29 (2), 85-104. DOI: 10.17151/bccm.2025.29.2.4. SJR: Q2, Conservation.

Díaz-C., S.E., Pulido-Rodríguez, E.N., Aldana, A.M. & López-Camacho, R. (2025). Functional patterns of wood traits in Terra firme and Igapó (tropical moist forests), Colombian Orinoquia. *Dendrobiology*, 94, 115-125. DOI: 10.12657/denbio.094.008. SJR: Q2, Forestry.

Ariza-Cortés, W., Carvajal-Rojas, L. & **Díaz-C., S.E.** (2025). New records of Leguminosae (Papilionoideae) to Colombian flora: *Lonchocarpus schiedeanus* (Schltdl.) Harms and *Bowdichia nitida* Spruce ex Benth. *Check List*, 21 (4), 1–7. DOI: 10.15560/21.4.1. SJR: Q3, Plant Science.

Díaz-C., S.E., Londoño-Hernández, D.J. & Ariza-Cortés, W. (2023). Ecological analysis of tree communities in the Chicaque park, Cundinamarca (Colombia). *Boletín Científico del Centro de Museos*, 27 (2), 49-69. DOI: 10.17151/bccm.2023.27.2.3. SJR: Q2, Conservation.

Cárdenas-Camacho, L.M., **Díaz-C., S.E.,** Gómez-Anaya, W. & López-Camacho, R. (2021). Participatory analysis of ecosystem services in a protected area of tropical dry forest in Colombia. *Colombia Forestal*, 24 (1), 123-156. DOI: 10.14483/2256201X.16548. SJR: Q3, Forestry.

Articles in Preparation:

Díaz-C., S.E., Aguilos, M., King, J.S. & Rey-Sanchez, C. Vegetation structure, tree mortality, and gross primary productivity in a coastal forested wetland under changing hydrology in North Carolina (USA). To be submitted to *Ecosystems*.

Díaz-C., S.E., Aguilos, M., King, J.S., Ng, D. & Rey-Sanchez, C. Analyzing tree community structure and composition in relation to methane emissions from forested wetlands on the Atlantic Coast (NC, USA). To be submitted to *Agricultural and Forest Meteorology*.

AWARDS AND FELLOWSHIPS

Mansour Doctoral Fellow. Fall 2023 – Spring 2024. North Carolina State University.

Colombia Biodiversa. 01/2021-12/2022. “Alejandro Ángel Escobar” Foundation.

SYNERGISTIC ACTIVITIES

Professional Affiliations: Member of Research Group of Use and Conservation of Forest Diversity. Ministry of Science, Technology, and Innovation of Colombia, A1. 01/2019-present.

Journal Reviewer: *Dendrobiology* (11/2025, 03/2026).

SKILLS

Software: R, Matlab (Limited). QGIS, AutoCAD (Limited). Zen Lite, ImageJ (Limited). Specify, Herbaria Web Resources. Microsoft Office: Excel, Word, PowerPoint. Adobe Acrobat DC. Zotero.

Languages: Spanish (Native). English (Professional working proficiency).

Instrumentation: *Laboratory:* Analysis of flowers and wood tissues. Stereoscope, Microscope, Rotary Microtome. *Field:* Botany sampling and flux chambers. Tree Pole Pruner, Increment Borer, Camera, GPS; Semi-Rigid Chambers, LICOR 7810.

OTHERS

Talks: **Díaz-C., S.E.**, Aguilos, M., King, J.S., Ng, D. & Rey-Sanchez, C. (2026). Methane emissions from soil and trees in forested wetlands of the Atlantic Coast (NC, USA). Southeastern Estuarine Research Society. Morehead (NC), USA.

Community Outreach: Rey-Sanchez, C., **Díaz-C., S.E.** & Ng, D. (2025). Test Your Greenhouse Gas Potential. Annual State of the Sciences (NCSU). Raleigh (NC), USA.

Posters: **Díaz-C., S.E.**, Ng, D., King, J.S., Ardon, M., Aguilos, M. & Rey-Sanchez, C. (2024). Methane fluxes from trees in coastal hardwood mixed forests (Southeastern-USA). American Geophysical Union -AGU- Annual Meeting. Washington D.C., USA.

Abstracts: **Díaz-C., S.E.**, Aldana, A.M. & López-Camacho, R. (2023). Functional analysis of wood traits and aboveground biomass in tropical moist forests, Colombian Orinoquia. *Boletín “Semillas Ambientales”*, 17 (1), 29-33. ISSN: 2463-0691.

Book Chapters: López-Camacho, R., Torrejano-M., A. & **Díaz-C., S.E.** (2019). Vegetation (pp. 49-87). In: López-Camacho, R. & Rojas-Rojas, J.E. The tropical dry forest in CAR’s territory. Bogotá, Colombia: Autonomous Regional Corporation of Cundinamarca -CAR- and the District University of Bogotá. ISBN: 978-958-5480-22-3.

Other Articles: Sánchez-Quintero, S.N., Pico-Andrade, J., Ariza-Cortés, W. & **Díaz-C., S.E.** (2018). Effect of different gibberellin concentrations on the germination and longitudinal growth of *Prunus subcorymbosa* Ruiz ex Koehne. *Boletín “Semillas Ambientales”*, 12 (1), 174-182. ISSN: 2463-0691.

Complementary Training:

Google prompting essentials specialization. 2025. Google.

Good agricultural practices. 2021. Colombian National Service of Learning (SENA).

Obtaining timber products from forests. 2016. SENA.

Essential oils: extraction, uses and applications. 2014. SENA.

Soil in agriculture. 2014. SENA.

Parameters for calculating a water balance. 2014. SENA.