

## SEBASTIAN EMILIO DIAZ CORTES

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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. 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 *Agricultural and Forest Meteorology*.

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

**Díaz-C., S.E.,** Cadillo-Quiroz, H., Paerl, R., Osburn, C.L., Aguilos, M., King, J.S. & Rey-Sanchez, C. Analysis of tree-continuum microbiomes and tissues in relation to methane cycling from forested wetlands on the Atlantic Coast (NC, USA). To be submitted to *Forests*.

<b>AWARDS AND FELLOWSHIPS</b>
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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 (B2).

**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.

**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.

**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.

**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.