**International Research Experience for Undergraduates (IREU) in Water–Ecosystem Interactions**
**Summer 2023 & Academic Year 2023-2024**

The Carbonshed Lab at The University of North Carolina at Chapel Hill invites applications for International Research Experiences for Undergraduates (IREU) during the summer 2023 and through the academic year 2023-2024.

A new partnership between UNC-Chapel Hill, the Universidad San Francisco Quito (USFQ), and the *100,000 Strong in the Americas Initiative Fund* will fund up to four **paid** positions for outstanding undergraduate students interested in gaining field and lab experience in hydrological and ecological processes. Four additional students will be recruited from USFQ. Selected students will participate in a research experience focused on data collection in the Andes Mountains of Ecuador. *International travel for this experience is contingent upon travel regulations at UNC.*

Undergraduate students will work in close collaboration with USFQ undergraduate students, and UNC and USFQ scientists. Students will be supported through a research-intensive, **year-long program** focusing on increasing their chance to succeed in STEM fields. Participants will be required to attend professional development and research workshops. The year will culminate with a formal research presentation by each student at UNC's Annual Celebration of Undergraduate Research in April, 2024.

Read these stories of past IREU scholars published by UNC

1. http://endeavors.unc.edu/climate-game-changers/
2. https://college.unc.edu/2020/10/a-terrific-trio/
3. https://endeavors.unc.edu/perseverance-in-the-paramo/
4. https://tinyurl.com/yckknrt3

**CRS Designation:** After successfully completing field, outreach, and professional development activities, students will receive a research designation on their transcript and graduate as a Carolina Research Scholar.

**Project Description:** A rapidly growing body of work recognizes inland waters as fundamental players in the carbon cycle. In particular, headwater streams have been the focus of recent scientific investigations because they connect terrestrial and aquatic ecosystems, having a higher proportion of stream water volume in direct contact with adjacent soils. While the importance of headwater streams in the global carbon cycle is clear today, $CO_2$ effluxes from headwater catchments are poorly constrained. UNC-IREU students will help fill conceptual gaps related to carbon cycling at the interface of terrestrial and aquatic ecosystems. Students will collect field measurements of $CO_2$ and $CH_4$ fluxes from different landscape elements (uplands, wetlands, streams) and conduct hydrologic observations of these elements.

**Field Sites:** Our field site abroad is located above 3,600m in elevation, in the Cayambe Coca Ecological Reserve and National Park, near Quito, Ecuador. Field work under strenuous conditions is expected.

**Dates:** This program starts on June 1, 2023 and extends through April, 2024. Travel to Ecuador will take place for 4-6 weeks during summer 2023.
**Each participant will receive:**

- A full summer stipend
- Support through a research-intensive, year-long program focusing on increasing their chance to succeed in STEM fields

**Provided all research team can travel safely to Ecuador as recommended under CDC (https://cdc.gov) and UNC guidelines, each participant will also receive:**

- Round-trip airfare to Ecuador
- Housing while in Ecuador
- Ground transportation while in Ecuador
- Travel allowance while in Ecuador

**Eligibility:**

- Any rising sophomore, rising junior, or rising senior in good academic standing, interested in hydrology, environmental science or studies, geography, geology, biology, freshwater ecology, biogeochemistry, soil science, and related STEM fields
- A valid U.S. passport through at least June 2024
- Are you from a group that has been traditionally underrepresented in science? Are you first generation in your family to go to college? **We want you to apply!**

**How to apply:**

- Submit an essay expressing research interests and career goals (e.g., what are your qualifications? why this project? what do you expect to gain from this experience? why are you a good candidate?)
- CV/Resume, including coursework to date, GPA, work experience
- Contact information (name, email address, phone number) of two people who can provide a recommendation for you. Referees may be contacted with instructions on how to submit a recommendation.
- Email your essay and CV/resume to Diego Riveros-Iregui (diegori [at] unc [dot] edu) with the heading 'Application for UNC-IREU Ecuador').

**Questions? Need more information?**

**Diego Riveros-Iregui**, Bowman and Gordon Gray Professor of Geography
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Deadline to apply is **March 1, 2023.** Selected applicants will be notified by March 31, 2023