



department of **GEOGRAPHY**

SPRING 2019

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This newsletter is produced by the Information Committee, which consists of faculty members Christian Lentz (Chair and Editor), Andrew Curley, Jun Liang, John Pickles, and graduate students Mary Biggs and Lily Herbert



COLLEGE OF ARTS AND SCIENCES
Geography

LETTER *from the* CHAIR

It has been an honor to serve my first year the new Chair of the Department of Geography. We welcome this opportunity to tell you about the achievements and continued strength of our Geography community here at Carolina.

Our award-winning faculty continue to lead both the campus and the discipline in geographies of health and medicine, inequality and justice, environment and climate, politics and history, critical demographic changes, and GIScience and geovisualization. In this newsletter, we introduce you to Andrew Curley, our newest Assistant Professor, and Danielle Purifoy, our current departmental Carolina Postdoctoral fellow. Diego Riveros-Iregui, one of this year's recipients of the J. Carlyle Sitterson Award for Undergraduate Teaching, gives us a glimpse into his new National Science Foundation grant which will fund research on small wetlands contribute to controlling greenhouse gas emissions in tropical streams. These

stories and others exemplify the continued excellence of our work at Carolina as it travels beyond our own halls. In the past year, Erika Wise's research has been featured in *The Atlantic*; Chip Konrad, with UNC PhD graduates Ashley Ward and Maggie Sugg, have brought research on heat vulnerability to popular audiences; and Clark Gray's new work linking educational attainment and climate change challenges old ideas about this relationship.

Our graduate students continue their successful record with grants from the National Science Foundation, Fulbright, and others. This year we again welcomed an outstanding cohort of students working in areas of medical geography and disease, health and wellbeing, critical approaches to environmental resources, land-use change and livelihoods, climatology, and environmental justice and decolonization. It has been inspiring to see our PhD's now in prestigious postdoctoral and research positions and taking their inspiration to other departments as faculty members. Our geography undergrads are our most ardent fans, and we are working hard to improve our

capacity to meet their needs. We have designed and just received approval for a new Minor in GIScience that is inspired in part by our amazing students, like those in our Cartography Collective, whose research has been highlighted by the college. We are drawing together campus expertise in the area of Environmental Justice to help students across disciplines incorporate this into their current and future scholarship. Finally, we were thrilled to be able to sponsor geography undergraduates to present the original research at the national American Association of Geographers conference in Washington, D.C.

As chair, I've been most impressed with the strength of character and compassion that our faculty, graduate students and undergraduate students have shown during an admittedly challenging year. Our department supported the removal of the confederate statue known as Silent Sam and continues to work for a more diverse, tolerant, and responsible campus. Though I'm grateful for the courage that our students and faculty show every day, I commit to working with my fellow



Chairs so that it is no longer necessary. Our department has also taken our own environmental impact to heart, and we have reduced our waste and upgraded our drinking fountains to encourage reuse of bottles.

We hope you will watch our website and our twitter feed @geographyunc for events and news. Reach out if you have an internship or job opportunity, or a community-based problem that could use the skills of our talented graduate students or undergraduates. In other words, please stay in touch.

Elizabeth Olson

*Professor and Chair,
UNC-CH Department of Geography*

Geography faculty at a retreat at the UNC Botanical Gardens



FACULTY AWARD PROFILE

DIEGO RIVEROS-IREGUI

- J. Carlyle Sitterson Award for Undergraduate Teaching
- National Science Foundation CAREER Grant

This spring, Associate Professor Riveros-Iregui received two outstanding awards. The Sitterson Award emphasizes his contributions to teaching and mentorship, and the NSF CAREER grant (\$630,000) will support his new project, “The role of small wetland connectivity in controlling greenhouse gas emissions and downstream carbon fluxes from headwater tropical streams.”



WHAT WILL THE CAREER AWARD ENABLE YOU TO DO?

The NSF CAREER Award is a five-year grant, which is an amazing opportunity that will allow me to do great science in really interesting places that I care about. It will also allow me to develop an education component involving underrepresented students in science, giving them an opportunity to conduct, analyze, and communicate international research. Participating undergraduates will be supported through a year-long program focused on professional development, organized by our Undergraduate Research Office. They will receive a research designation on their transcript and graduate as Carolina Research Scholars. At the end of the program, students will apply for the NSF Graduate Research Fellowship. My goal is to work with these students to help them reach their full potential so they are very competitive going into graduate school.



WHAT IS YOUR NSF CAREER AWARD PROJECT?

My project will be focusing on interactions between hydrology and ecology, specifically between water and carbon cycles. Inland waters are very important in the carbon cycle because they emit greenhouse gases like carbon dioxide (CO₂) and methane (CH₄) at different times of the year depending on how much water is flowing downhill. Wetlands are especially crucial in this relationship. The Andean Páramos of Ecuador, where this study will take place, have some of the highest water fluxes and carbon storage accumulation per unit area in the world.



WHAT ARE YOU MOST LOOKING FORWARD TO?

I am really excited to see how these high-elevation tropical watersheds behave. They have never been monitored in this way for such a length of time, and the results we find may surprise us! I am also looking forward to working with talented undergraduate students. I have worked with so many incredible undergraduates in my Galapagos field course, and I am confident that we will be able to recruit some outstanding students.



HOW HAS YOUR TIME WITH UNC GEOGRAPHY IMPACTED YOUR RESEARCH?

Carolina connections and existing programs have been key for this research. I will be collaborating with scientists at the University of San Francisco-Quito in Ecuador, one of UNC's strategic partners. Resources at UNC like the Undergraduate Research Office, the Study Abroad Office, the Center for Faculty Excellence, and the Carolina Firsts Program have really helped this project come together as a real opportunity for undergraduate students.



WOULD YOU SHARE A BIT ABOUT YOUR EXPERIENCE IN GEOGRAPHY AS A DISCIPLINE?

My work has always been on both spatial and temporal scales of hydrological processes, but I trained as a geologist – I gained an understanding of earth systems from the ground up! UNC is my first geography department, but I have realized that I have always been a geographer, even before I identified myself that way.

NEWS & HIGHLIGHTS

SHARE YOUR NEWS! Please visit geography.unc.edu for more news and profiles of geography faculty, graduate students, and undergraduate students and send us an email at geography@unc.edu to share your news.

faculty news

Dr. Banu Gökarıksel was appointed the Caroline H. and Thomas S. Royster Distinguished Professor for Graduate Education. In this role, Dr. Gökarıksel will be directing the Royster Society of Fellows program.

Dr. Mike Emch received the Melinda S. Meade Distinguished Scholarship Award in Health and Medical Geography at the AAG (2019). The Award recognizes individuals who have made outstanding contributions to the advancement of health and/or medical geography.

Dr. Paul Delamater won the Emerging Scholar Award in the Health and Medical Geography Specialty Group Meeting at AAG (2019). The Award recognizes early career scholars who show significant potential for distinguished scholarship in health and/or medical geography.

Dr. Erika Wise was featured in Focus Carolina for her work concerning Western North America's climate and water resources in both recent times and in past centuries.

Dr. Ashley Ward was featured in UNC's Endeavors, highlighting women in science.

Dr. Scott Kirsch was awarded a William Dearborn Fellowship in American History at Houghton Library, Harvard University, in support of his project 'The 1921 Wood-Forbes Mission to the Philippines.'

Dr. Chip Konrad and several Carolina students with the Southeast Regional Climate Center will be testing their web-based heat stress prediction tool in partnership with the North Carolina Athletic Association.

FACULTY PUBLICATION

Professor Christian Lentz's new book is out! A work of historical and political geography, *Contested Territory: Điện Biên Phủ and the Making of Northwest Vietnam* (Yale University Press, 2019) ventures beyond the conventional framing of the Battle of Điện Biên Phủ, the 1954 conflict that toppled the French empire in Indochina. Tracking a longer period of anticolonial revolution and nation-state formation from 1945 to 1960, Lentz argues that a Vietnamese elite constructed territory as a strategic form of rule. Engaging newly available archival sources from Vietnam and France, *Contested Territory* offers a novel conception of territory as a contingent outcome of spatial contests.



NEW FACULTY & ENVIRONMENTAL JUSTICE

Embracing its leadership role on campus, the Department of Geography is working to draw together interdisciplinary approaches to Environmental Justice (EJ).

Our goal is to implement a minor in EJ in which students from across campus will be able to consider how equity, the environment, and justice structure communities. Through these efforts, we will help students from diverse disciplines understand the human dimensions of environmental change in our state, the US, and the world.

To face these concerns, the Department of Geography has hired two new scholars—Danielle Purifoy and Andrew Curley—who raise the department's EJ profile and sharpen its focus.

ANDREW CURLEY

Andrew arrived as a Carolina Postdoctoral Fellow and is now carrying EJ in exciting new directions. Promoted to Assistant Professor, Andrew is also a rising star in Native American studies. By examining complex trade-offs between economic development, ecosystem health, and community wellbeing, he brings an EJ approach to the desert southwest. A fluent Navajo speaker, Andrew studies how the Navajo and other indigenous peoples manage resources, including coal and water, on their ancestral lands. He also argues passionately for the equal distribution of benefits between tribal actors and the government. In April 2018, he testified before the US House



of Representatives Subcommittee on Energy and Mineral Resources on the geography of energy development and what it holds for the Navajo Nation.



DANIELLE PURIFOY

“The Carolina Postdoctoral Fellowship has been invaluable in connecting me with academic professional development.”

Currently a Carolina Postdoctoral Fellow in Geography, Danielle earned a doctorate from Duke University's Nicholas School of the Environment and holds a JD from Harvard Law School. Danielle focuses on the historic roots of contemporary environmental conditions in the US South, specifically in black towns dating to the post-Bellum era. Drawing on her expertise in law, she has published on the legal dimensions of environmental justice and equity in food systems. Combining top-notch scholarship with a commitment to activism, Danielle is a board member of the North Carolina Environmental Justice Network. She also edits Scalawag, a magazine devoted to politics and culture in the US South.

CARTOGRAPHY COLLECTIVE

An orthophotomosaic from
the Collective

Started this year by Associate Professor Javier Arce Nazario, Carolina Cartography Collective is dedicated to the intersection of mapping and narrative. The collective focuses on political economies and environmental justice.

Their most recent project interrogated the military geographies of Vieques, Puerto Rico, which the US Navy occupied for much of the 20th century, conducting weapons tests and using the island's eastern third as a firing range. They have been assembling orthophotomosaics of the island based on aerial imagery spanning the 20th century, beginning in 1937 and up to the present

day. Orthophotomosaics are collages of images modified to show an accurate representation of the Earth's surface, including correct distance. These mosaics lend new insight into how the US military affected the landscape of Vieques.

Geography majors and fellow Collective members Isabelle Smith and Klaus Mayr in the archives



GEOVISUALIZATION

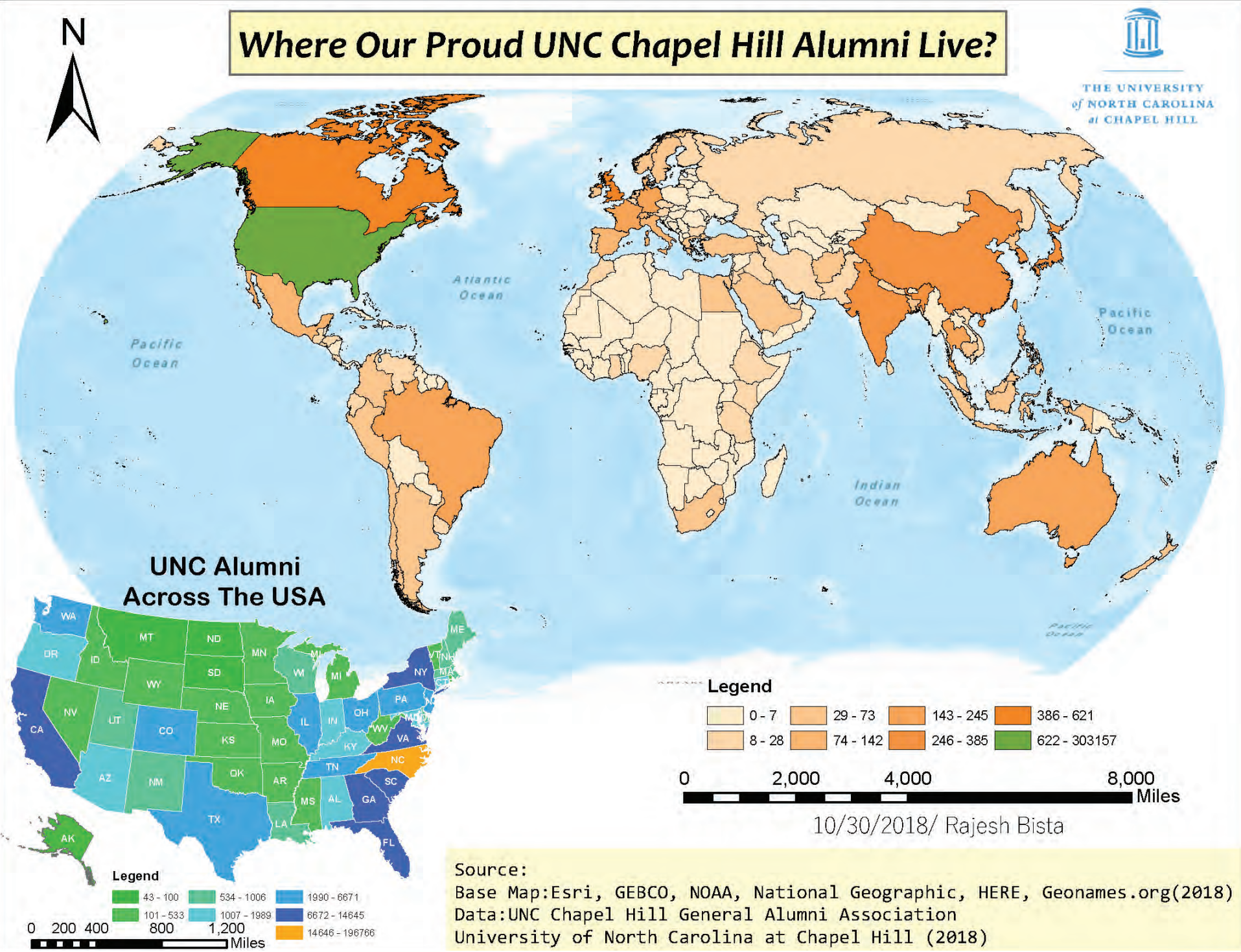
Doctoral student Rajs Bista won first place in UNC's Innovative Use of GIS competition with a map of the distribution of UNC alumni worldwide. He wrote:

“As I am a student of geography, I view everything with spatial point of view. While coming home from school, I was reading a booklet which had a list of number of UNC alumni in different countries. I was curious to know how

many alumni belonged to the country I came from, but had to search for some time. I realized had the same information been presented as a map, how easy it would be for the readers to get the information.”



Graduate student Francisco Laso teaches how to survey areas using drones in the Galápagos National Park. The two men on the left of the photo are researchers for the Galápagos Tortoise Movement Ecology Program. The resulting map is on this newsletter's cover.



UNC RESEARCH HUB

Two Geography alumni have taken a leading role on campus through their work at UNC's Research Hub. Amanda Henley (MA '02) and Phil McDaniel (MA '00) provide resources on GIS and data to students, faculty, and departments across campus.

? WHAT IS THE UNC RESEARCH HUB?

The Research Hub was launched in 2014 by the University Libraries to provide digital resources supporting scholars. One of three Research Hub locations across campus, the Davis Library Research Hub focuses on data services. Librarians assist with finding, acquiring, wrangling, managing, mapping, and visualizing data. We also provide digital humanities support with digital projects and text analysis.



Amanda and Phil at the Research Hub service desk on the second floor of Davis Library

? HOW DOES IT FIT INTO THE LIBRARY AND UNC'S CAMPUS?

One of our goals is to serve as a referral point for many of the other services available on campus. For example, the Odum Institute, located in Davis Library's Research Hub, is one of our partners. We refer people back and forth to ensure they get the assistance they need. Other Hub partners include the Center for Faculty Excellence and BeAM@-Carolina, the UNC makerspace network.

? WHAT ARE YOUR CONNECTIONS TO OTHER DEPARTMENTS?

The Hub supports researchers across campus, and our heaviest users are the Department of City and Regional Planning, the School of Public Health, and the Geography Department. During 2017-18, the Hub assisted geographers with 480 research inquiries, and visited Geography classes 17 times.

? NAME ONE OF YOUR FAVORITE ASPECTS OF YOUR WORK.

Some of the most rewarding work we do is mentoring our student workers. Our previous student workers have gone on to pursue graduate degrees, work as consultants, work at the National Geospatial-Intelligence Agency, and work as librarians at NCSU, Michigan State, and Emory.

? WHAT DOES PHIL DO AT THE HUB?

Phil is the GIS Librarian. He provides consultations to researchers working on GIS, and acquires and maintains the Library's spatial data collection. He also teaches workshops and instruction sessions, and serves as the subject librarian to the departments of Geography and City and Regional Planning.

? WHAT'S AMANDA'S ROLE WITH THE HUB?

Amanda served as GIS Librarian from 2002 – 2016, and was appointed Head of Digital Research Services in 2016. She oversees services at the Davis Library Research Hub, mentors staff, and works with campus partners. She also works on grant-funded initiatives, including a project utilizing machine learning to identify North Carolina's Jim Crow laws with text analysis methods.

NEWS & HIGHLIGHTS

graduate student news

Led by **Sherah Faulkner**, graduate students in the Departments of Geography and Communications organized *Feminisms Here and Now (FHN)* 2018. FHN is an annual interdisciplinary conference bringing together feminist undergraduates, graduate students, faculty and community organizers for a day of political and scholarly discussion.

Trey Murphy spent summer 2018 continuing his doctoral dissertation research by working with stakeholders to better understand subsurface property ownership in Texas.

Mark Ortiz was selected for a Digital Dissertation Fellowship from the Carolina Digital Humanities Initiative. This fellowship will support his work this summer as he continues to follow the *Our Children's Trust* case in Oregon.

Becky Patterson-Markowitz was selected for the UNC IPRC Injury and Violence (IVP) Prevention Fellowship for the 2019-2020 academic year. The fellowship will support her research on the intersections between health and justice in healing practices.

Mary Biggs was awarded the 2019 Master's Research Grant from the Cultural Geography Specialty Group of the AAG. She will use this money to conduct research this summer for her master's thesis on cultural landscape and public memory in Durham, N.C.

KD Brown received a Summer Research Grant from the Center for the Study of the American South for their project on Environmental Justice in the Black Belt.

Angus Lyall received a Dissertation Completion Fellowship from the Graduate School and a dissertation fellowship from the Institute for the Study of the Americas for his digital story project about inter-generational relations in the Ecuadorian Amazon.

Lara Lookabaugh was awarded a Participatory Research Seed Grant to develop her digital story-telling project with Mam Maya women in Guatemala.

Francisco Laso received the Off-Campus dissertation Fellowship from the Graduate School for the Fall 2018, the Chancellor's Doctoral Candidacy Award from the Institute for Minority Excellence, and the World Wildlife Fund Russel E. Train Fellowship for his doctoral project on Galápagos conservation.

GEOGRAPHY IN THE GALÁPAGOS

Over the course of this trip, I learned that some things cannot be taught in a classroom. Research, especially in remote areas on the sides of tropical volcanoes, never goes the way you think it will.

“

UNC Geography has deep connections in the Galapagos Islands, starting with the Galápagos Science Center. A collaboration between UNC and the Universidad San Francisco de Quito in Ecuador, the center is a launch point for research projects and hands-on education.

Haley Moser

Senior Haley Moser (double major in geography and environmental studies) traveled with geography PhD student Angélica Gómez to the Galápagos this winter to study impacts of land cover change on the water cycle. While there, she realized that the work she and Gómez were doing had real-world impacts for the farmers and communities on whose land they were collecting data.

“Before going to the Galápagos, I wanted to study the environment through computer modelling. I’m more of a physical than a human geographer, which means my research is focused more on computer work and less on community. This project showed me that you really can have it all: quantitative work that allows you to engage with the people who live in your study area.”

Moser hopes to pursue a career in community-centered research after graduating from Carolina this May. Read more about Moser’s experiences online.



Galápagos Science Center

Founded by Professor Stephen Walsh, the UNC Galapagos initiative provides students and faculty with opportunities for research and interdisciplinary education.

Professor Walsh currently directs the UNC Center for Galápagos Studies & the Galápagos Science Center on San Cristobal Island in the Galápagos Archipelago of Ecuador. Through a strategic partnership with the Universidad San Francisco de Quito, Ecuador, the Galápagos Science Center was dedicated in 2011 as a research, education, and outreach facility with a focus on interdisciplinary science that examines population, health, and environment through the complex interplay of the social, terrestrial, and marine subsystems. The Center's 20,000 sq. ft. house four laboratories. Staffed with 10 full-time technicians and project professionals, the Galápagos Science Center is studying over 60 projects that range from population migration and tourism to health and nutrition, invasive plant species, movement ecology of terrestrial and marine animals, and many more. The Galápagos has also been the study site for nearly 10 PhD dissertations and several Master's and Undergraduate Honors Theses, as well as Study Abroad Programs.



“Walking
in the
footsteps
of Darwin”

FACULTY PRESENTATION

In September, Professor Stephen Walsh presented on his research at the School of Ecological and Environmental Sciences at East China Normal University. His talk focused on intertwined social, terrestrial and marine systems in the Galápagos. While in China, Walsh also visited Chongming Island, the world's largest alluvial island located at the estuary of Yangtze River, east of the city of Shanghai.



NEWS & HIGHLIGHTS

Tong Qiu was awarded UNC Graduate School's Summer Research Fellowship for Summer 2019.

Madeline Giefer's first 1st-authored paper was accepted for publication in the British journal *Environmental Conservation*.

Michelle Padley was selected for the Humanities for the Public Good / Chapel Hill Community History Fellowship and received a Summer Research Grant from the Center for the Study of the American South for her doctoral work in San Antonio, TX.

Mike Hawkins was awarded a Fulbright fellowship supporting nine months in the field in the Philippines starting Fall 2019. The fellowship will support his dissertation research “From colonial cargo to global containers: Contestations over waterfront labor, space and time at the Port of Manila (1898–2020).”

undergraduate students

Klaus Mayr received a Burch Fellowship to conduct a self-designed study of alternative economies and markets in Bogotá, Colombia.

Suad Jabr successfully defended and gained Highest Honors for their honors thesis, "Queer Burden of Proof: Exceptional Vulnerability, Authenticity, and Deservingness in Queer Syrian Refugee Narratives." After graduation, Suad plans to continue their studies in UNC Geography's graduate program.

Louise Lindegaard successfully defended her honors thesis, “Tree Planting and Reforestation: An Exploration of Energy Access in Southern Malawi.” After graduation, Louise plans to take a gap year to travel and work before applying to graduate school.

Meredith Emery, Fine Arts major and Geography minor, received the Beinecke Scholarship for graduate studies in the arts, humanities, and social sciences for her work on the relationship of humans to the environment.

Chang Liu completed a Summer Undergraduate Research Fellowship during summer 2018, in which he analyzed geographic data for approximately 224,000 Durham County voters and found widespread inequality in travel times to polling stations.

ADAM HASAN & EZRA RAWITSCH

Adam Hasan and Ezra Rawitsch entered UNC in 2013, both as Morehead-Cain scholars. Adam comes from Knoxville and Ezra from Los Angeles. Each found Geography through Elizabeth Havice's economic geography course and John Pickles's course on Europe. Focusing on Czechia and South Africa respectively, Ezra and Adam completed their senior honors theses this year.

Adam's honors thesis research took him to South Africa in 2018 where he explored the various and competing legacies of Gandhi in the region. Focusing on a variety of monuments and historical sites dedicated to the memory of Gandhi, Adam met many of the leading dignitaries in the local community, including his encounter with Paramount Chief Buthelezi of KwaZulu.



Ezra's research has focused primarily on post-socialist urban spaces in Czechia and Slovakia.

In 2017 he worked with Habitat Bratislava and met then-president of Slovakia, Andrej Kiska. His Honors Thesis research took him to Prague where he studied the changing urban geographies of Sapa Market, often called Prague's "Little Hanoi."



Adam and Ezra at the the Habitat-III conference in Ecuador in 2016

FUNDING THE FUTURE OF GEOGRAPHY

Funded by the John D. Eyre Travel Fund, Sofia McCarthy presented her poster at the 2019 American Association of Geographers conference in Washington, DC.

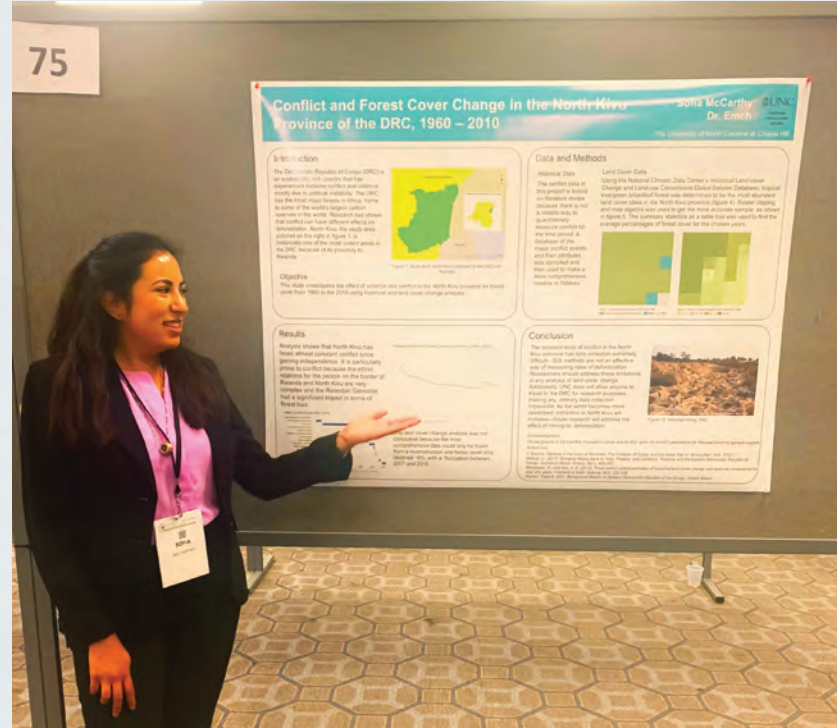
Great friend of UNC Geography and Distinguished Alumnae Sandy McNally established the John D. Eyre Travel Fund to honor the Department's first Chair, Doug Eyre. The fund provides faculty and students with travel experiences to support their research and learning, and to elevate the profile of our work and our department.

"This April I had the opportunity to present my research poster at the AAG conference in Washington D.C.: Conflict and Forest Cover Change in the North Kivu Province of the DRC from 1960 - 2010. I was part of the GEOINT poster session; the AAG defines GEOINT as using geospatial information analysis to better understand human activity and help in decision making. There

were a wide variety of projects in this poster session, not only from academia but also from government and industry such as the U.S. Census Bureau. During my poster presentation time I had the opportunity to talk to many people from different fields about my project. Several people were interested in my project because of the new Ebola outbreak in the DRC;

the same problems that I ran into in my project make it hard to help with the outbreak.. Since I was not able to see anyone else's poster during my session,

throughout the day I attended other sessions where I learned about people's research at other universities and organizations."

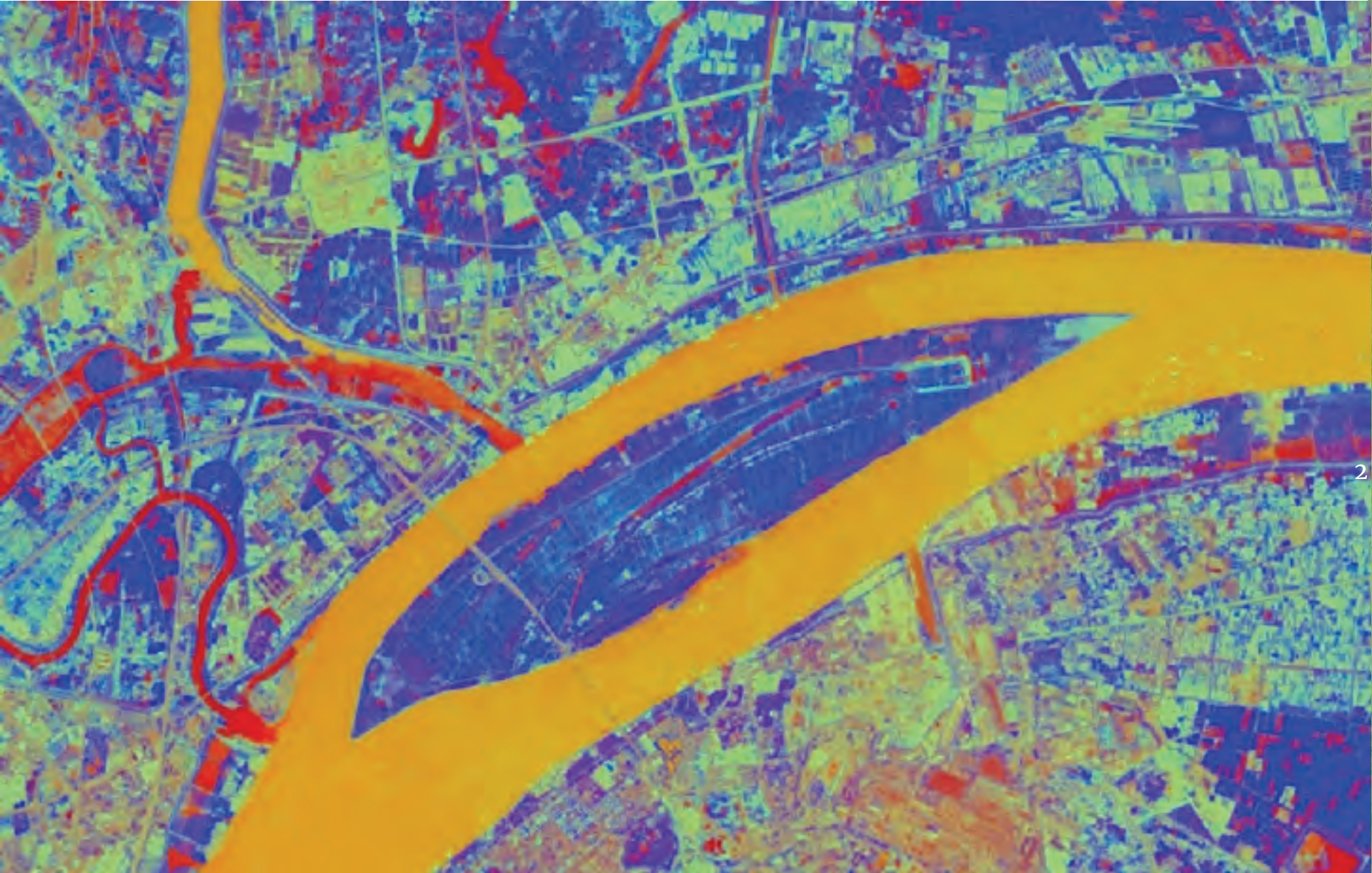


"The AAG conference was an incredible opportunity to present my research among so many interesting projects."

MAKE A GIFT

Please consider making a gift to the Geography Department to support our excellent undergraduate and graduate students as they become leaders on and off campus. Even a small gift can make a big difference.

geography.unc.edu/give



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Tong Qiu's GIS research project
 "Automatic Extraction of Water Bodies
 from ZY-3 Imagery based on spectral
 signature: A case study in Wuhan City"
 The project won first place in the 2018
 Innovative GIS Competition.

Geography major Walker Harrison
 won second place in the 2018 UNC
 GIS Day map competition.

"The Appalachian Trail has always
 captured my imagination as a
 corridor of beautiful wilderness
 along the densely populated
 Atlantic coast."

