


GEOGRAPHY

2018 Fall Newsletter

 University of Colorado



I stood on a tectonic plate
in the Rift Valley of Kenya,
and I have sat on the Great
Pyramid at Giza and touched
the Sphinx with my own hands.
Geography is a tremendous
field of study and after 40
plus years of travel, research,
and writing, I have not
become bored with it yet.
Lionel D. Lyles
PhD, 1977
CU Boulder





Contents

- *Bill Travis: Message from the Chair*, pgs 2-3
- *von Dreden Stacey Fellowship Winners*, pgs 4-6
- *Mark Serreze: Climate Change Becomes Persona (Non Grata)*, pgs 6-8
- *Introducing Caitlin McShane, New Graduate Student*, pgs 8-9
- *Introducing Katherine Lininger, New Faculty Member*, pg 10
- *Seth Spielman's "Double Life"*, pg 11
- *Mara Goldman: Examining Nature-Society Relations Across Boundaries*, pgs 12-13
- *A Career in Geography, Dr. Lionel D. Lyles, PhD, 1977*, pgs 14-15
- *Alumni Updates*, pg 16
- *Department News*, pg 17
- *Donor Support*, pgs 18-19

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Bill Travis: Message from the Department Chair



Professor William Travis

As the new chair of the Geography department, I want to thank [Emily Yeh](#), our out-going chair, for her extraordinary service to the department over the last 4 years. During her tenure as chair, the department made important educational innovations. We introduced four tracks for Geography majors, allowing them to have a more structured specialization in Human Geography, Environment-Society Geography, Physical Geography or Geographical Information Science, while retaining the option of a more general Geography degree. We created a new undergraduate certificate in GIS and Computational Science, jointly with the Department of Computer Science. In addition to the longstanding Hydrology certificate, our faculty have been involved in the creation and teaching in several new certificate programs including the Arctic Studies Certificate, the Public Health Certificate, and the Native American and Indigenous Studies Certificate. Over the past four

years we have been able to offer summer research fellowships to 3-4 undergraduates each year, to conduct mentored research with a faculty member. Each cohort of students has given excellent presentations at our department colloquium, and recipients have gone on to use these mentored research projects for honors theses.

In addition to our new [website](#), Emily championed the reinvigoration of this newsletter as one of the means to provide department news and information to our alumni, students, faculty, staff, and the public at large. Past newsletters can be viewed on our website in the [News & Events](#) section.

In this edition of the newsletter, we are pleased to bring you several updates from our alumni, such as [Dr. Lionel D. Lyles, PhD 1977](#), reflecting on 40+ years as a geographer, is one example of the type of career our students can have by applying the skills they learn from CU Geography. He embodies the diversity of geography in terms of the science and policy tracks his career has followed. We very much appreciate [hearing from our alumni](#) as it is a good way for current students to understand the possibilities ahead. If you are an alumnus, check out the



easy-to-use [alumni updates tool](#) tab on our website in the gold bar just above the main menu. We'd love to hear your news and include it in a future newsletter.

The department is pleased to welcome [Katherine Lininger](#) as our newest faculty member. Katherine is a geomorphologist who studies rivers and floodplains, especially in the northern latitudes, and how they influence the earth's carbon cycle. The carbon cycle is the most fundamental part of the earth's life support systems, and our ability to understand its dynamics is crucial to sustaining the planet's habitability. Katherine and other scientists are working hard to fill knowledge gaps in how carbon is stored and moved around by rivers high latitude environments — she is using the Yukon and other northern rivers as case studies.

Katherine's lab is in the adjacent MCOL building, where previously [John Pitlick](#) analyzed his field samples and data that came from field trips with many students on many rivers over the years. John retired in the spring, and we wish him well and happy river floating. He's occasionally around the department, chairing an undergraduate honors thesis and giving sage advice especially drawing on his years as graduate studies director.

It is great to see the [Geography Club](#) activities already this fall, with thanks to instructor [Sarah Kelly](#) for guiding the club. Non-Geography students are welcomed to join in the fun as well.

This year's [von Dreden Stacey](#) undergraduate fellows made their research presentations in the fall colloquia series:

Hattie Houser (advised by [Joe Bryan](#)): "Documenting Femicide In Mexico: Connecting the Disappeared to a Larger Body Politic."

Tai Koester (advised by Joe Bryan): "Who is the Public in Public Land? The Cartographic Erasure of Bears Ears as Indigenous Space and its Consequences for Contemporary Public Lands Issues."

John Scherer (advised by [John Adler](#)): "Using Advanced Remote Sensing Methods to Decrease Uncertainty in Interferograms: Investigating Drone Stereo-photogrammetry for InSAR Calibration."

The von Dreden Stacey scholarship, like the others available through the generosity of alumni, supports undergraduates, and links our research and teaching.

With approval in the spring of the new Earth Data Analytics Foundations certificate, the department becomes part of the vanguard of big data and analytics training online. Three new courses (GEOG-5463 - Earth Analytics Bootcamp, GEOG-5563 Earth Analytics, and GEOG-5663 Earth Analytics Applications) anchor the certificate, and will support a future professional masters. The Earth Analytics program was developed by adjunct faculty [Leah Wasser](#), who directs Earth Lab's education program, and [Jennifer Balch](#), geography professor and [Earth Lab](#)'s founding director. Over 100 training modules in Earth Analytics are already available online, and the forthcoming professional masters offers resident and online students a chance to enhance their careers. If you've been thinking, like I have, of strengthening your data analysis skills in this era of "big data," here's one way to get started right away.

The university's new strategic plan, [Academic Futures: Rethinking the university – the futures of learning and discovery](#) calls for more online programs like Earth Analytics. It also stresses interdisciplinary education and the value of internationalizing the curriculum, two strengths of the Geography department. It's an exciting time to be a Geographer!

And finally, please don't forget the [donations page](#) at the end of this newsletter and in the gold bar above the main menu on our website titled "Giving Back". We can't do it without you!



The [von Dreden Stacey](#) fellowship was established by Katherine and Frank Baxter in honor of Katherine's parents, Barbara von Dreden (CU class of 1940) and Karl Stacey (CU class of 1936). The fellowship is designed to support Geography majors interested in developing their research skills, through mentored research with Department faculty. In recent years, von Dreden Stacey fellows have presented the first results of their research as part of our [Geography Colloquium Series](#). After a few years in which the interest accrued on the endowment generously established by the Baxters allowed us to fund 2-3 students per year, we are now in dire need of donations to keep the fellowship going. Please consider donating to this program through our website [donations page](#) or see the last 2 pages of the newsletter.

Tai Koester, von Dreden Stacey Fellowship Winner

Sometime in the late afternoon, I joined the crowd that had gathered before the Bear totem, a one-ton, nine-foot piece of a coastal fir delivered by truck from Washington State. The day before, about a dozen of us lifted the totem out of the bed of the pickup, and hoisted it in the center of Bears Ears Meadow, the site of the Bears Ears Inter-Tribal gathering. To the south, the broad meadow and the iconic twin buttes of Bears Ears fronted a darkening sky. On the distant horizon, large thunderheads loomed, illuminated by the progressing afternoon light.

The totem was a show of solidarity from the Lummi Nation, supporting the efforts of the five Tribes that fought for the designation of Bears Ears National Monument. Now, we were gathered to celebrate the healing process that began with the monument's designation in 2016, and also in defiance of the Trump administration's reduction of the monument a few months before.



Tai Koester

Facing east with the totem behind him, one of the elders spoke to the crowd. He called on the people to speak on behalf of the "four-leggeds", the children, the voiceless, those unable to defend themselves. He called for affirming the bonds of family, friends, and the earth. As he stood before the Bear totem, the elder told the crowd of the profound spiritual power he could feel with the assembly of the Tribes at Bears Ears Meadow. The ancestors, he said, had come to welcome them home. As if on cue, a strong wind rose from the canyons to the south and the smell of earth and pine filled the air.

This was but one brief moment from my summer conducting research as part of the von Dreden Stacey Fellowship. I am investigating how notions of an Indigenous public have been decoupled and now reattached to landscapes of the American West. Much of my research is focused on document-based work, specifically with maps. Maps produced by the many government surveys during the 19th and 20th centuries for the purposes of finding railroad routes, cataloguing natural resources, and establishing military trails have cumulatively erased tribes from the southwestern landscape. Following this erasure, these lands are ironically understood as "public land". It is based on this epistemology that the common western dichotomy of extractive industry and conservation have become established in southeastern Utah. Bears Ears stands as a striking anomaly, a park created based on an inter-tribal proposal.

A purely document-based approach, however, would almost surely make for a less interesting and thorough investigation into the Bears Ears narrative. The resources I was provided through the fellowship enabled me to travel to Utah to speak with groups active in discussions about the monument and spend time as a participant in the Tribes' summer gathering. I made invaluable connections with extraordinary people who not only accepted me as an ally, but a friend. Even now, almost every week, I speak with the people I met. While I can never hope to fully

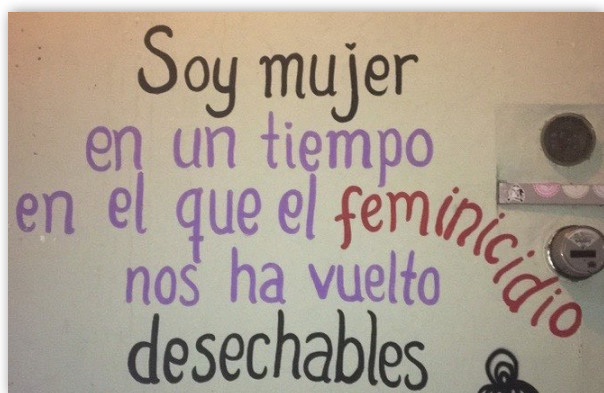


understand what Bears Ears means to the Tribes, I was at least able to listen to those who do. As an aspiring geographer, I can now attest to the power of ethnography and fieldwork in shaping my understandings of Bears Ears.

I came into this project with my own preconceived notions of public land, only to find them thoroughly challenged. I have come to experience how research is an iterative process, and I now know the struggles of trying to find the time and inspiration to write field notes. My fellowship experience has been instrumental in my development as a hopeful social scientist, and it has been, without a doubt, the most transformative process of my academic career.

Hattie Houser, von Dreden Stacey Fellowship Winner

This fellowship provided me with irreplaceable opportunities which enriched my life personally, academically, and professionally. I am currently a junior, double majoring in dance and geography, and receiving a certificate in community leadership studies through the International and National Voluntary Service Training (INVST) Community Studies program. My research project focused on structural causes of femicide (the disappearance and death of women due to their gender) and activist responses to the issue in Oaxaca, Mexico. The work uniquely combined these interests into a fruitful interdisciplinary project.



"I am a woman in the time when femicide has made us disposable" - street art in Oaxaca, Mexico

For the months of June and July, I traveled to Oaxaca City to complete the first stages of research. I was fortunate enough to stay with a family in the city and take classes about geographic research, indigenous land rights, geopolitics, and Spanish at a research-based NGO, Servicios Universitarios y Redes de Conocimientos (SURCO), during this time. Throughout these two months, I completed interviews with three NGOs in the area about the work they are doing to combat the issue of femicide within the state, why they thought these methods were effective, the results they've seen, and what they believe to be the structural causes of femicide.

The structure of the von Dreden Stacey Fellowship provided me with logistical, financial, and educational mentorship crucial to my success with this research project. The monetary stipend covered a lot of my travel and research related costs and helped me finance being out of the country for two months, something which would have been a relatively large burden for me to come up with on my own. In addition, my faculty mentor, [Joe Bryan](#), has provided me with indispensable support and mentorship throughout the process. Likewise, the honors research seminar class I am in this semester, which is a requirement of the fellowship, has taken me step by step through the research process, providing a level of academic support which was necessary for me to complete my project successfully.

Coming into this fellowship, I knew very little about

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Women share their body maps in Geobrujas workshops



academic research and what it meant to do this kind of work. The courses I took in Oaxaca, my own fieldwork, my faculty mentor, and the required Honors Research Seminar class have all provided me with an incredible amount of spaciousness and information for my own educational growth. The research I was able to engage in over the summer uniquely combined my academic interests into a project and created space for me to learn how to do academic research by engaging in it. One thing I have taken away from this experience, is that it feels nearly impossible to learn how to do research successfully without trying it yourself (and probably failing a little). The mistakes I made within the safety net of mentorship make me feel prepared to pursue this line of work in, and hopefully beyond, graduate school. I think the von Dreden Stacey Fellowship creates a structured and growth-oriented environment for undergraduate students to engage in research by actively doing it. This makes space for indispensable educational opportunities and has prepared me for graduate school and beyond in immeasurable ways. I feel very lucky I had this opportunity!

Other department scholarship winners:

- A. David Hill Scholarship: **Nathan Korinek**.
- Albert W. Smith Scholarship: **Rylee McCone**.
- DigitalGlobe Chuck Chaapel Memorial Award: **Michelle Roby**.

DigitalGlobe funds the award in their name. Others are funded by our generous donors.

Mark Serreze, Climate Change Becomes Persona (Non Grata)

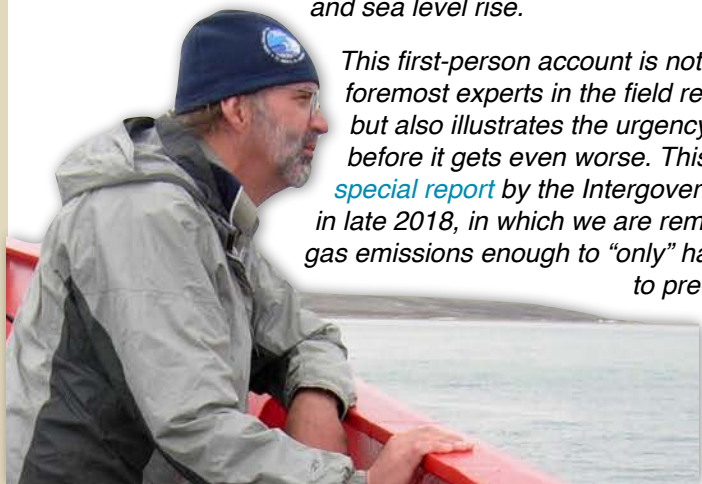
Professor of Geography and Director, National Snow and Ice Data Center (Cooperative Institute for Research in Environmental Sciences)

Professor **Mark Serreze** chronicles his experience doing fieldwork in the Canadian Arctic as an undergraduate student, and his re-encounter with this field site three decades later (via satellite imagery), a momentous occasion for Mark due to the already-devastating impacts of climate change on the region.

The Arctic has been a particularly vulnerable site in terms of the effects of Global Warming, which we know thanks to the monitoring allowed by efforts such as those of CU's National Snow and Ice Data Center, directed by Professor Serreze. As Mark's account (and a plethora of research by him and others) illustrates, ice caps in the Arctic have melted rapidly and are unlikely to survive or re-form in the future.

This melting, in turn, will exacerbate the impacts of climate change on global warming and sea level rise.

This first-person account is not only a fascinating insider look at how one of the foremost experts in the field reflects upon the issue from a personal point-of-view, but also illustrates the urgency of action to mitigate the impacts of climate change before it gets even worse. This sentiment is also the raison d'être of a recent [special report](#) by the Intergovernmental Panel on Climate Change (IPCC), released in late 2018, in which we are reminded of the great relevance of curbing greenhouse gas emissions enough to "only" have a 1.5°C increase in global temperatures relative to pre-industrial levels as opposed to 2°C increase that the world will experience in the absence of additional progress. A half-degree difference does not seem like much to the casual observer (which you, Dear Reader, are not, so we won't belabor the point), but will help avoid many expected catastrophic impacts of climate change if we continue on the current course.



Mark Serreze in the Canadian Arctic
geography.colorado.edu



In the autumn of 1981, I was a senior in the Department of Geography at the University of Massachusetts Amherst, with little clue as to what I was going to do after graduation. I had, however, developed an interest in climate science, and was fortunate to have taken a couple of courses on the subject taught by Dr. Ray Bradley, a gifted scientist and teacher, and CU graduate. I started hanging around the department, and picked up some hourly work with Ray assessing precipitation and temperature records from weather stations across the Arctic. Ray, apparently satisfied with my carefully prepared charts and graphs and noting my growing interest, asked if I wanted to be his field assistant for an upcoming project in the Canadian High Arctic to study a pair of little ice caps on the Hazen Plateau of northern Ellesmere Island. At the same time, he suggested that I apply to graduate school at the University. I took him up on both offers.

We left in May of 1982. For a long week, bad weather holed us up at Resolute Bay. Finally, on a rare clear morning, the ski-equipped Twin Otter was able to land on the larger of the two ice caps. We disembarked, unloaded everything needed for two and a half months in the field, and set up camp. The plane roared off. Our study focused how the ice caps affected the local climate, which involved instrumenting a series of weather stations on and around them. I got to know every square inch and mood of those ice caps. As far as we knew, they had been visited but once before, back in the 1960s, and then only briefly. The following year, I returned for a second season of field work. It was cold, cloudy, wet and windy. The food was always bad, the work was often grueling, and sanitary conditions were deplorable, but I look back fondly on those first visits to the Arctic.



An old Daguerreotype from 1982. Camp on the ice cap on Ellesmere Island. Before the arctic changed. Source: Mark Serreze.

After getting my Master's degree, I worked for a while in New York, then came to the University of Colorado Boulder to get my Doctorate in Geography. My advisor was Roger Barry, a longtime and legendary member of our department, who, year earlier, had offered the very course that got Ray Bradley interested in climate! I've been with CU ever since. I had a couple more field seasons in the Canadian Arctic, this time on sea ice, a couple of summers on the Alaska tundra near Nome, a trip to Svalbard, then a long run of years studying snow on the North Slope of Alaska. I got to know the Arctic pretty well, at least the North American side, and have sent a number of my own students into the north. But my first connection with the Arctic – those little ice caps on Ellesmere Island, has always held a special place.

Bruce Raup, one of our scientists at the National Snow and Ice Data Center (NSIDC), is involved in a study to map all of the world's glaciers and ice caps using high-resolution satellite



images. Waxing nostalgic, I sauntered into his office one morning and asked if he could take a look at how the ice caps were doing. I supplied him with the latitude and longitude coordinates, and a few days later, he invited me back to his office to look at some images from 2014 and 2015. I was floored. The ice caps had almost completely melted away. We determined that by 2015, they were only 5% of the size they were back when air photographs were taken in 1959.

That was the day that climate change became personal. I've been studying Arctic climate for years, and am pretty much on the front line of documenting and getting the word out on the dramatic changes taking place in that region. But, perhaps because of my training as a scientist, I didn't have a great deal of emotional attachment as to what was going on. It all changed that day. This past summer, my colleague Bruce found some more recent satellite images for the summer of 2017, and it was clear that the ice caps were at death's doorstep. All that remains is a couple of patches of dirty ice, and those are destined to disappear in a few years. All that will be left are memories.

Introducing Caitlin McShane, New Graduate Student

Each fall, we are happy to welcome a new class of graduate students to the department. This year's class includes Alexander Jasper, Shruthi Jagadeesh, Yuying Ren, Caitlin McShane, Fedor Popov, Phurwa Gurung, Kylan Solvik, Lin Zhu, and Neda Shaban. Here, we feature Caitlin's fascinating story of how she came to the discipline of Geography.



Caitlin McShane

I am originally from Chicago, Illinois, but I moved around so much and spent so much time in other places, Chicago is more of a beginning for me than it is home. I moved out of Chicago and into the cornfields, or as many would call them 'the suburbs', at a relatively young age and subsequently spent the rest of my adolescence dreaming of leaving Illinois. I moved to Colorado for college not really knowing too much about the place, but quickly fell in love with the mountains and all the associated outdoor activities, particularly backpacking and climbing. After a couple of years at CU-Boulder, my path took me away from university, a chapter of my life I like to call 'The Sabbatical', but many others may refer to as, 'growing up'. I spent several years traveling, trekking, and trying my hand at an eclectic assortment of jobs. While I had a ton of fun gallivanting through my early twenties, I eventually grew discontent with the instability and decided to attend the Wilderness Emergency Medical

Technician (WEMT/EMT) program at the National Outdoor Leadership School in Wyoming.

I spent four years responding to medical emergencies all around the Denver Metro area, and I have transported thousands of patients from all walks of life. I think the people/patients that I met along the way impacted me more than I could ever have reciprocated. The lessons could be macabre, but they were important. I learned that leaving things undone is a major source of regret for many people; I learned that life is generally unfair, and death is blind. These primary lessons were augmented through several heartbreaking calls, which lead me to believe I had to return to finish my undergraduate degree. So, I did, and I continued to work as an EMT while doing so. At CU, I discovered a serious love for the Geography department and simultaneously discovered my passion for water, climate, the Arctic, data analysis, and GIS.



I graduated and still held onto being EMT. I also interned at the Office of Emergency Management, applying the GIS concepts I learned at CU. I put together datasets which could potentially save thousands of lives in certain crises. The internship got me thinking about how I could use GIS to optimize ambulance systems and create better patient outcomes, which led me to collecting data and seeing if I could decrease ambulance response times. Life has a way of forcing us into and out of things, and it did so with me and the Emergency Medical Services (EMS). EMS is an industry where all the extremes of our species collide; some of these “collisions” leave such an awful taste in one’s mouth it becomes impossible to stay. After a call where the intersection of politics, prejudice, and privilege in EMS spectacularly collided, I knew my time had come to say goodbye. So, I took a job working as an Engineering Tech in a Geotechnical Engineering lab, which is just a fancy way of saying I pushed multiple tons of sand and rock around in barrels and then bathed them in various liquid mediums. This didn’t really capture my imagination. The questions I had surrounding EMS and how it could be improved through GIS were still swimming around in my head. I eventually decided to apply to CU’s graduate program to further my understanding of machine learning, predictive analytics, GIS, and data analysis.

I hope to learn the skills I need to eventually pursue a PhD which focuses on building an AI program which can predict medical emergencies within service areas. Until I get there, I will be learning the requisite skills by working on topics within the purview of **Dr. Stefan Leyk’s** current research in urban development, and/or potentially wild fire prediction. I could not be more excited to be back in the Geography department and participate in some of the amazing research being done here. Ultreia!



Fall 2018 Graduate Students - Back Row: Alexander Jasper (insert), Shruthi Jagadeesh, Yuying Ren, Caitlin McShane, Fedor Popov. Front Row: Phurwa Gurung, Kylen Solvik, Lin Zhu, Neda Shaban



Introducing Katherine Lininger, New Faculty Member

Professor Lininger joined the Department this Fall after completing her Ph.D. at CSU. We are thrilled to have her in our Department and wish her a long and prosperous career at CU.



Professor Katherine Lininger

Rivers are integrators of the landscape, carrying and depositing water, sediment, carbon, and other nutrients. My research is focused on river and floodplain process and form and the interactions between geomorphic (physical) processes and ecological processes. For example, I am interested in how geomorphic processes influence the transport and spatial distribution of organic carbon in river floodplains; how dead, downed large wood influences geomorphic processes, nutrient and moisture retention, and the ecological health of rivers and floodplains; and the interactions between vegetation and geomorphic processes. I am also interested in coupled natural-human systems research and using my research findings to inform environmental management and policy.

My dissertation work, completed at Colorado State University, investigated the geomorphic influences on the spatial distribution of organic carbon in wood and soil along the Yukon River in interior Alaska. I found that the processes of river deposition and erosion, combined with primary succession of vegetation, strongly control the amount of organic carbon in floodplain soils. In addition, available databases of the amount of organic carbon on the landscape likely underestimate how much organic carbon is stored in floodplains. This finding is important because in order to fully understand climate change, we must constrain carbon budgets (the movement of carbon between the land, ocean, and atmosphere). Rivers move carbon around on the landscape, and that carbon is stored for varying lengths of time in floodplains. Expanding on this work, I plan to investigate how climate change and permafrost thaw in the Arctic will modify river processes and the storage of organic carbon in floodplains.

I also completed a Master's degree at the University of Texas at Austin in the Department of Geography and the Environment. I studied the role of floodplain lakes in modifying flooding hydrology on the Araguaia River, located in central Brazil. My Bachelor's degree was in Geography and Political Science. Prior to attending graduate school, I worked for the Union of Concerned Scientists, a science-based advocacy group in Washington, DC.

I plan to continue my work on Arctic and Sub-Arctic river floodplains, focusing on the influence of climate change as it modifies river processes and carbon storage. Additional research projects I have in development include looking at the geomorphic impacts of large wood in large Arctic Rivers (the Yukon and Mackenzie Rivers), assessing the role of large wood in floodplains in supporting the resiliency and ecological health of rivers and floodplains in the semi-arid West, and assessing how deposition/erosion of floodplains mediate fluxes of organic carbon. I am very excited to be joining the Geography Department at CU Boulder, and I look forward to working with the physical and human geographers in the future.



Lininger floats down the Dall River, a tributary to the Yukon River, in interior Alaska



Seth Spielman's "Double Life"

Seth Spielman is an Associate Professor of Geography while also directing a research group at the Apple Corporation, embodying the strong links between Geography and high-level research done in both public and private sectors. Here, Seth explains his "double life" as Professor and Apple researcher.



Professor Seth Spielman

As a professor, it is fairly easy to live in a professional bubble where one works mostly with other professors and graduate students. My personal bubble of professors extended way beyond my professional life - my parents are professors, my wife's parents are professors, I grew up on a college campus, and many of my close friends are academics.

In 2015 more or less out of the blue I got an e-mail from Apple, which led to a phone call, which led to a job offer. At the time I was an assistant professor going up for tenure. I had well over \$1M in grants, a great group of students and postdocs, and family in Colorado and Wyoming. As exciting as the offer was, I was not inclined to quit my job at CU. I like living in the front range and

being a professor. With low expectations I asked the university and the geography department about taking a leave of absence because the opportunity at Apple was exciting. The geography department gave me a year long leave of absence to work at Apple. I lived in Silicon Valley for a year, and have since returned to Colorado. I currently work for Apple and have a partial appointment at CU. I feel lucky to have employers who are supportive of this opportunity for professional and personal growth. I believe that in the long run my extra-curricular experiences will enrich student life and research on campus.

At Apple, I have primarily worked on using advanced computational methods to evaluate and improve maps. Practically, my experience has ranged from organizing international field operations to directing development of machine learning algorithms which process billions of data points each day. I led the development of an Apple Maps office in Denver.



Apple's new 175-acre corporate campus

Working in Silicon Valley has transformed my perspective on both research and education. First, I realized "research" means different things inside and outside of universities. As an academic, I used machine learning and advanced techniques to make sure data from the US Census bureau provided a high resolution, accurate, and representative picture of the US population and economy. Most businesses, however, might be vaguely concerned with "representativeness", but only in so far as it allows them to better serve existing and potential customers. Research in Silicon Valley, based on the people I've interacted with, seems to have inherent focus on customers (current and future). Advancing science, in and of itself, is not the goal. This doesn't mean there is less innovation, or that the science is less exciting, it just has a different feel.

Finally, I think the research-oriented education we offer in the department is a great fit for life in a large corporation. Business problems, such as research challenges, often don't have clear cut solutions. The process of going from an ill-defined problem to a well-defined solution takes creativity and hard work. These are areas where CU excels. It has been a fantastic couple of years for me, I am very grateful to CU and Apple for the opportunity to lead a "double" life. I think these kinds of arrangements enrich careers, student and employee experience, and host institutions.



Mara Goldman: Examining Nature-Society Relations Across Boundaries

In addition to new people, we like to feature the research of people coming back from sabbatical leave to illustrate the ways in which having this dedicated time to advance key scholarly work in every faculty member's career. CU grants faculty one semester of sabbatical leave – releasing them from most regular teaching and service obligations – roughly every seven years upon a successful application and a project proposal, generally for a combination of the final (or extended) write-up of a book or otherwise a large project, or to do extended fieldwork. This award can be extended one additional semester with the help of extramural funding (e.g., with a Fulbright scholarship), or from a successful application for a College Scholar award from the College of Arts & Sciences.



Mara and family in Rajasthan, India

For the 2017-18 academic year, I was on my post-tenure sabbatical. I spent the first semester working on a book manuscript. The book draws on over two decades of work with Maasai pastoral communities of Tanzania and Kenya, to explore different ways of knowing and being with nature (wildlife in particular), outside of mainstream conservation approaches. After submitting the manuscript to the publishers in December 2017, I was then free to explore new research frontiers, which I did by taking my family along with me to southern India for five months.

I traveled to India on a Fulbright Fellowship to conduct research and teach at the Ashoka Trust for Research on Ecology and Environment (ATREE) in Bangalore India. My project was titled, "Situating Biodiversity Conservation: Knowledge, participation and governance in community-based conservation initiatives". This fellowship offered me the opportunity to explore the ways in which boundaries are drawn around nature and society in a different environment, country, and culture, then where I was used to working. ATREE was the perfect institution to work with, and



they had a two-decade long engagement with an Adivasi (“indigenous” or “tribal”) community in the Biligiri Rangaswamy Temple Tiger Reserve (BRT)/wildlife sanctuary.

In the BRT landscape, I worked together with a research assistant, who is now my graduate student in the CU geography program — Shruthi Jagadeesh. Together we learned about the multiple ways in which women had been excluded from the planning and research ATREE has been doing in BRT over the years. This was both not very surprising (as it is common practice) and quite disturbing. Academic research for the past several decades has highlighted the complex connections between gender, environment, and development, and the problems that arise when women are excluded from development projects, or when their knowledge, needs, and beliefs are not

accounted for in conservation endeavors. And much of this research comes from India! Yet, it was not surprising because the many overlapping layers of difference in India along lines of gender, age, caste, class, religion, urban/rural, and region make it often difficult to cross certain boundaries, and easy to focus on some differences (i.e. ‘rural disenfranchised ‘tribal’) and then ignore others (such as gender). It was also not surprising because wildlife conservation around the world tends to exclude or marginalize women as meaningful participants and knowledgeable agents. I plan to explore how these patterns continue to happen throughout India as well as in East (and Southern) Africa—that is the marginalization of gender issues more broadly and women in particular from conservation projects. My time on this sabbatical helped me to build the collaborative relations I need to begin such a large scale comparative research project.

My sabbatical ended full circle, with a short trip to Tanzania with my spouse and two young

daughters to get updated information on changes and new photographs from my main study to update my book manuscript. We also went to Kenya to visit a new field site where I am involved in a large interdisciplinary research project looking at changes in Maasai land use and wildlife livestock relations—or in other words, on-going boundary making and changing process across what we call nature and society—the heart of nature-society geography.



Ngorongoro Conservation Area in Tanzania



Mara picnicking near her study village



A Career in Geography, Dr. Lionel D. Lyles, PhD, 1977

As part of our Newsletter content, we also like featuring what our alumni are up to. In addition to several shorter updates by several individuals, we received a longer entry by Prof. Lionel D. Lyles, in which he discusses his life and work as a geographer, spanning physical and human geography as well as science policy domains. We hope to hear from you, former CU Geography students, via our alumni updates website (see next section for details on how to send updates).



Dr. Lionel D. Lyles

Under the academic guidance of Professors Theodore Myers, Melvin Albaum, Yuk Lee, and Nicholas Helburn, I have published three volumes of a book titled: ***Historical Development of Capitalism in the United States and Its Effects On The American Family-Pre-Colonial Times to 1980***. This work uses a Marxist-Leninist approach to examine the evolution of social, economic, political, judicial, and geographical development of town and country, rural and urban, and the national landscape through definite periods of geographical space and time. Other books published are ***Triumph Of The Spirit*** and a new release titled ***Neo-Liberalism and The Collapse Of The Public Sector: How The Jindal Administration Allowed It To Happen***. This work traces the massive and deep budget cutting of social programs in Louisiana from 2008 to 2016.

In addition, I worked for NASA's John C. Stennis Space Center's Earth Science Division during which I conducted a spatial analysis of the sub-surface interaction between the Mississippi River and the drinking water wells of the trailer park/neighborhood formerly known as Myrtle Grove, LA. This city is no longer in existence today due to the release of vinyl chloride by Dow Chemical Company and others into the underground aquifer. Using high resolution, I was able to pinpoint the cause of the contaminated drinking water wells, and a court decision found Dow Chemical Co responsible for the contamination, and the residents of Myrtle Grove were financially compensated for their losses of life and property.

I collaborated with four professors at Southern University, after studying at John C. Space Center in 2002. In 2003, we were awarded a \$6.3 million grant to study climate change and



Dr. Lyles (red jumpsuit) and part of his team of Bering Glacier researchers in 2008. He graduated in August 1977 with a doctoral degree in Urban, Economic, Environmental, and Historical Geography. Bering Glacier research in Alaska was funded by NASA through a \$6.3 million grant.



Dr. Lyles (left) engages in seismic activity research

coastal erosion in Louisiana. Our research partly dealt with sea level rise, which led us to travel to the Bering Glacier, which is the largest frozen glacier on the North American Continent. Using helicopters, GIS, and red Hen Technology and Thematic Maps, our research team documented the retreat of the Bering Glacier between 2007 and 2008, and determined that 30,000 CFS of freshwater is flowing into the Pacific Ocean through the Gulf of Alaska, ultimately adding to the gradual rise in the oceans worldwide, placing every major low-lying city in America at risk of becoming permanently flooded by 2030 and no later than 2050, if there is not a significant reduction in CO2 emissions into the worldwide atmosphere.

The National Science Foundation provided research funds for a research team I was a part of to travel to Auckland, New Zealand to make presentations on climate change. My research focused on the changing square footage in the American Household, from low to high over time and space, and I was able to present a statistical model the average American Householder can use to determine its contribution to the CO2 load it is placing in the atmosphere in real time. On June 10, 1999, I summited Mt. Whitney as part of a seven member mountaineering expedition from Louisiana. Mt. Whitney is the highest mountain peak in the lower 48 states with an elevation of 14,496 feet. While working for the City of Oakland, CA in 1983, I helped prepare a city ordinance, which was approved by the Oakland City Council, which contributed significantly to downfall of the Peter Botha's Apartheid Regime, leading to the eventual release of Nelson Mandela from prison on Robben Island.

My Ph.D. in Geography has given me a lens through which I can view the natural environment as a living organism. I learned how to be an advocate for the land, vegetation, and water. My Geography Degree has motivated me to travel all over the world to study various cultures and landscapes. I stood on a tectonic plate in the Rift Valley of Kenya, and I have sat on the Great Pyramid at Giza and touched the Sphinx with my own hands. Geography is a tremendous field of study and, after 40 plus years of travel, research, and writing, I have not become bored with it yet.



Dr. Lyles (left) wearing a float suit. Vitus Lake, with colleague, near Bering Glacier, 2008

I would like to travel to my Geography home department in the Guggenheim Building one day to speak about the life of an African- American Geographer. I was the second African-American to graduate from the Department of Geography at the University of Colorado, Boulder.

If you are an old classmate of Dr. Lyles and would like to get in touch with him, please contact him at lionellyles@cox.net.



Alumni Updates

If you are an alumnus and would like to send us your update for inclusion in our next newsletter, please click on the "Alumni Updates" tab in the gold bar at the top of each webpage on our website.

Eve Gruntfest, PhD, 1982: My textbook ***Weather and Society: Toward Integrated Approaches*** has just been published by Wiley. As one of **Gilbert White's** last students, I can say it was the best training possible. It was extremely difficult for me when it was happening, but I loved my career as Geography Professor and co-founder of WAS*IS (Weather and Society * Integrated Studies) at NCAR, SSWIM (Social Science Woven into Meteorology) at the University of Oklahoma, Program officer at National Science Foundation, Fulbright Scholar and all the other wonderful professional activities which made up my career. By the way, I really enjoy the newsletter!

Paul Wilcox, MA, 1996: CU and the Army gave me the opportunity to visit many of the places we discussed in classes to include Africa, Asia, Europe and the Middle East. I'm very thankful for the way CU professors ensured I understood cultural differences between American culture and every other culture in the world before I started this journey. I've worked closely with the National Reconnaissance Office, NOAA, and several new organizations which use ArcGIS software and mapping programs to provide near realtime common operating pictures to the US military for my entire career. And I sure am glad I can read a map! I will retire from the US Army after 22 years of service soon. I currently reside in the Washington DC Metro Area, and I'm happy to help out or answer any questions for CU students, prospective students, faculty, or alumni. All the best, LTC Paul Wilcox, US Army.

Jamie Gillen, PhD, 2008 is working for the Department of Geography, National University of Singapore.

James Raymer, PhD, 2004: After graduating with a PhD in 2004, I worked as a Lecturer and Reader in the Division of Social Statistics and the ESRC Research Centre for Population Change at the University of Southampton, England, for nearly 10 years before being hired by the Australian National University as a Professor of Demography. From 2013 to 2016, I served as the Director of the Australian Demographic and Social Research Institute before leading the creation of the School of Demography in 2015 and becoming the Head of School. My current research focuses on how populations change and interact with each other across space. This includes developing models for estimating migration flows and small area demographic components of change. I am currently leading two Australian Research Council Discovery Projects entitled 'the demographic consequences of migration to, from and within Australia' and 'overcoming the problems of inconsistent migration data in the Asia Pacific.'

Siddharth Menon, MA, 2018 is a PhD student, Geography Department, University of Wisconsin Madison

Robert Thayer, BA, 2008: I wouldn't be where I'm at now without my experience at CU. I'm currently a GIS Supervisor at Jefferson County Open Space and I love it!

Joel Correia, PhD, 2017 joined the Center for Latin American Studies at the University of Florida and is now an assistant professor.

Sarah Hart, PhD, 2014 has accepted a new position as a tenure track assistant professor in the Department of Forest and Wildlife Ecology at University of Wisconsin at Madison.



Department News

CU Boulder to Host Federal Climate Adaptation Science Center: Jennifer Balch, Director



The [U.S. Geological Survey](#) has selected a University of Colorado Boulder team to host the [North Central Climate Adaptation Science Center](#) for the next five years, in a move that will foster both innovation and applied research, said new University Director [Jennifer Balch](#). The center is one of eight regional climate centers created to help meet the changing needs of land and resource managers across the country; the North Central center serves Colorado, Wyoming, Montana, North Dakota, South Dakota, Kansas and Nebraska.

Balch, an assistant professor of [Geography](#) at CU Boulder and director of CIRES' [Earth Lab](#), said the new, \$4.5-million award recognizes the huge potential for synergy with existing campus programs and expertise.

U.S. Geological Survey funds will enable CU Boulder researchers and a consortium of partner institutions to focus state-of-the-art analysis tools on climate-related challenges facing natural resource management agencies: How to manage the habitat of a species in a changing environment, for example, and how to protect Tribal lands resources in the face of a changing climate. "Or how do we manage a resource so that it's resilient in the face of extreme events?" Balch said.

Colleen Reid selected JPB Environmental Health (EH) Fellow by Harvard University

[Colleen Reid](#), assistant professor in the Geography Department, has been selected as a [JPB Environmental Health \(EH\) Fellow](#) by Harvard University's T.H. Chan School of Public Health. Funded by the JPB Foundation the JPB EH Fellowship Program supports a new generation of Environmental Health scholars who are committed to developing solutions and supporting policy changes that address environmental, social, and economic health disparities in the United States. JPB EH Fellows are engaged in rigorous interdisciplinary research on the social and physical determinants of environmental



Professor Colleen Reid



health disparities in vulnerable communities.

Through a competitive selection process, 15 new Fellowships (11 to Junior Faculty and 4 to Federal Agency Research Scientists) were awarded on October 1, 2018. Over a three-year period, Fellows will receive up to \$240,000, mentoring, and training in methods, skills, new technologies, leadership and communications.

Colleen is also a Faculty Affiliate of the Institute for Behavioral Sciences. Her research focuses on the interaction of environmental and social exposures on population health with a particular focus on the health impacts of exposures influenced by global climatic changes and society's responses to those changes.

Babs Participates in Alzheimer's Fundraiser

This past summer, Professor [Barbara "babs" Buttenfield](#) participated in a fund-raising walk to raise money for the Walk to End Alzheimer's, honoring our geography colleague Professor David Hill,



Professor Barbara "babs" Buttenfield

who passed away recently from the disease. Held annually in more than 600 communities nationwide, the Alzheimer's Association Walk to End Alzheimer's® is the world's largest event to raise awareness and funds for Alzheimer's care, support and research. Babs raised \$1,000 for this year's event from Geography colleagues and friends.

Memory Walk began in 1989 with nine Alzheimer's Association chapters raising \$149,000 from 1,249 participants. In 1993, Memory Walk grew into an event nationwide and raised \$4.5 million at 167 locations. In 2015 more than 50,000 teams participated in more than 600 Walks across the country, raising more than \$75 million. The Alzheimer's Association has mobilized millions of Americans in the fight against the disease and

continues to lead the way with the Walk to End Alzheimer's. Congratulations to Babs on raising \$1000 for this important cause!

Want to travel around Prague and earn 3 credits this May?

You can join Professor [Jennifer Fluri](#) on this Maymester Global Seminar. You will explore the unique history and geography of the Czech Republic, deepen your understanding of how political and economic changes and transitions have a diverse impact on social and cultural norms, and conduct an independent research project. This course, GEOG-3842, has also been approved for Arts & Sciences Core Contemporary Societies. See the Education Abroad [program webpage](#) for more information.

Highlights

- Live and study in the Czech Republic during Maymester
- Explore history and geography in the historic city of Prague
- Deepen your understanding of how political and economic changes and transitions have a diverse impact on social and cultural norms
- Travel around Prague and engage in experiential learning through field-observations
- Conduct an independent research project
- View the presentation [here!](#)



Thank You! The Department of Geography is grateful to its alumni and friends for their financial support over the years. Our donors have had a big impact, making a difference not only to the Department as a whole, but to the lives



of many individual students. There is always a real need for funds to support academic departments. As we strive for higher standards and more and better opportunities for our students, we depend on the caring and generous nature of alumni and friends like you to meet these ever increasing financial needs.

Your gift to the Department of Geography can take many different shapes. The information below may help you find the type of gift that best meets your needs, the impact you want, and the way you want to give. The CU Foundation can also assist you with your needs, be they for targeted or unrestricted programs.

Geography Department Fund

This fund is for academic support in the broad sense. If giving online and you want your gift to go to a specific scholarship, please provide scholarship name in the "Comments" section.

GIVE NOW Go online to: giving.cu.edu/fund/geography-department

Undergraduate Scholarship Programs

A. David Hill Scholarship Fund

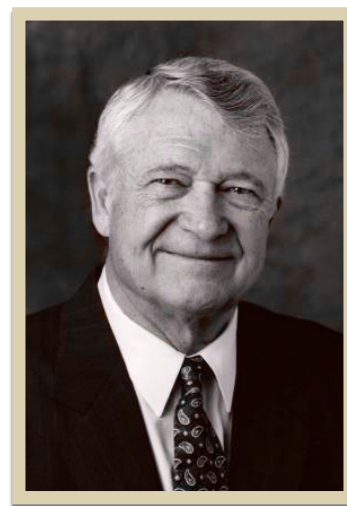
Established by Richard L. Knowlton, Professor Hill's former teammate and friend, and recently endowed by Myhra and Graham Hill, his wife and son. Preference for those with interests in the environment-society relationship. Award is based on merit and demonstrated financial eligibility.

GIVE NOW Go online to: giving.cu.edu/fund/david-hill-endowed-scholarship-fund

Albert W. Smith Geography Scholarship

Established in 1983 to honor Professor Smith at his retirement from the Geography Department faculty after thirty-one years of service to the University.

GIVE NOW Go online to: giving.cu.edu/fund/albert-w-smith-geography-scholarship-fund



A. David Hill

Karl and Barbara von Dreden Stacey Scholarship

Established by Katherine and Frank Baxter in honor of Katherine's parents, Barbara von Dreden (CU class of 1940) and Karl Stacey (CU class of 1936). This scholarship supports undergraduate students to engage in summer research with faculty.

GIVE NOW Go online to: giving.cu.edu/fund/karl-and-barbara-von-dreden-stacey-scholarship-fund

Theodore C. Myers Memorial Scholarship

Named in honor of long-time geography instructor Ted Myers. Scholarship is awarded to the undergraduate student with the most exceptional honors thesis.

GIVE NOW Go online to: giving.cu.edu/fund/theodore-c-myers-memorial-fund



Graduate Scholarship Programs

Mable B. Duncan Scholarship Fund

To support scholarships for Geography graduate students at the University of Colorado Boulder, based on financial need.

GIVE NOW Go online to: giving.cu.edu/fund/mable-b-duncan-scholarship-fund

Gary L. Gaile DART Graduate Fellowship in Geography

This fund, in memory of Professor Gary Gaile, provides a fellowship/scholarship for Geography MA and PhD students doing field research addressing social and environmental concerns in developing areas.

GIVE NOW Go online to: giving.cu.edu/fund/gary-l-gaile-dart-graduate-fellowship-geography

James A. and Jeanne B. DeSana Graduate Research Scholarship Fund

This fund provides invaluable support for graduate student research.

GIVE NOW Go online to: giving.cu.edu/fund/james-and-jeanne-b-desana-graduate-research-scholarship-fund

Gilbert F. White Dissertation Fellowship

Named in honor of Professor Emeritus Gilbert F. White, this fellowship provides funding to outstanding PhD. students in the final year of dissertation preparation.

GIVE NOW Go online to: giving.cu.edu/fund/geography-department

Please specify "Gilbert F. White Dissertation Fellowship" in the Comments field.

Geography Graduate Student Support Fund

To provide support for graduate students in the Department of Geography at the University of Colorado Boulder. Support may include research support and equipment purchases. Gifts to this fund can be made in memory of (IMO) **Jennifer Dinaburg**. Jennifer, a vibrant, active doctoral candidate in the Geography department, passed away on April 26, 2012 at the age of 31. In her memory, the department has established a small, named fellowship for doctoral field research.

Jenn was passionate about geography in many forms: through the environment, the outdoors, and through learning about China. After studying Chinese language and literature at Connecticut College, she traveled and worked extensively on the Tibetan Plateau. After a degree in environmental studies at Prescott College, her journey brought her to the Geography PhD. program in 2008 to study the commercialization of Tibetan medicinal plants in China's northwest Yunnan province. Jenn brought a love of mountains, travel, and unconventional learning to the department, where she was well loved for her sense of humor, wit and spirit.



Jennifer Dinaburg

GIVE NOW Go online to: giving.cu.edu/fund/geography-department

Please specify "In Memory of Jennifer Dinaburg" in the Comments field.

To Give by Mail, download *Donor Support form (pdf)* from: <http://www.colorado.edu/geography/node/2402/attachment>