SHSU

August 2023-August 2024

Department of Environmental and Geosciences

INSIDE

—

Letter from the Chair

-By **Dr. Joe Hill**

I hope this latest installment of our department newsletter finds you happy and healthy. We have some great things happening, and our newsletter only scratches the surface.

First, thanks to Dr. Pat Harris for his excellent work as previous chair. I became chair in August 2023, and the department hasn't burned down yet – mainly due to Camy Dawson's extraordinary care. Thank you, Camy, for all you do!

This newsletter highlights some of our many student success stories. We're incredibly proud of all your accomplishments, big and small. Your success is our success.

Our faculty are excelling too! Dr. David Moss received an NSF Career Grant (only the second ever for SHSU), and Dr. Renjie Zhou also secured NSF funding. Dr. Ross Guida awaits news from the National Academies, Dr. Don Albert earned a grant from the Royal Geographic Society of South Australia, and Dr. John Strait is our university's nominee for Conference USA Professor of the Year. We're also thrilled to welcome Dr. Leila Character to our team!

Alumni, we'd love to hear your updates for our next edition. Join us on Saturday, November 9th (11 am – 1 pm) for our annual Faculty, Student, and Alumni Potluck at the University Camp!

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SHSU Environmental and Geosciences group

Ted H. Foss Undergraduate AIPG-TX Scholarship, NAGT Scholarship, and more…

Congratulations to Geology senior and Environmental Science minor, **Kaylah Arnold**, on receiving the Ted H. Foss Undergraduate AIPG (American Institute of Professional Geologists)-TX Scholarship, the NAGT (National Association of Geoscience Teachers) – AWG Crawford Field Camp Scholarship, AAPG (American Association of Petroleum Geologists) L. Austin Weeks undergraduate grant, and the GSA (Geological Society of America) Field Camp scholarship. Kaylah completed her field camp in Idaho this summer and was a lab instructor for our *Physical Geology* labs.

In addition, congratulations to Geology senior and Biology minor, **Nicole Rowse**, on also receiving a NAGT Field Camp Scholarship. Nicole was a teaching assistant for the Geology *Field Methods* course and is graduating in December.

Senior Spotlight – Roberto Verdezoto

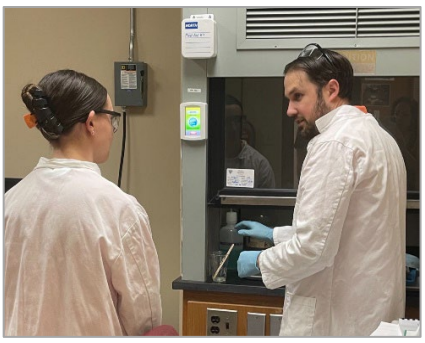
Roberto Verdezoto, an international student from Ecuador, recently graduated with a major in Geography and a minor in Geospatial Science. Roberto excelled academically, was a TA for *Weather and Climate* and participated in the NSF-funded Data Science for Energy Transition REU at the University of Houston. Putting his diverse skills in geography and data science to work, Roberto has recently launched his career with Norman Global LLC.

GIS Graduate Student Spotlight – Justin Arroyos

"My journey at SHSU has been anything but linear. I initially pursued a degree in Geology, however, life had other plans, and I decided to take a break from my studies. Years later, I returned with a renewed passion for the environment, completing my undergraduate degree in Environmental Geography. This second chance at education opened my eyes to the incredible potential of GIS.

Transitioning into the Master's program in GIS, I became a graduate TA for **Dr. Xu** and **Dr. Guida** in *Geomorphology, Hydrology*, and *Remote Sensing* and found this very rewarding, allowing me to share my enthusiasm for GIS with undergraduates while refining my own understanding and communication skills.

As I complete my Master's degree this August, I'm excited to start my career in GIS, focusing on roles that leverage geospatial technologies to tackle environmental challenges and support sustainable development. This significant milestone wouldn't have been possible without the support, mentorship, and opportunities in this department."

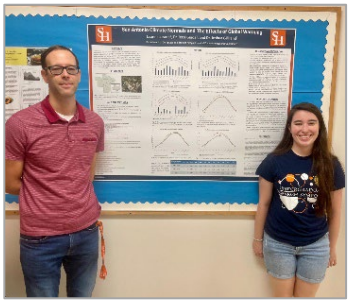


My 1st Year at SHSU

-By **Skylin Bromonsky** (Geology major, Biology & Environmental Science minor, and Honors students)

"I first thought about majoring in geology during the summer after my sophomore year of high school, about three years ago, during my family's yearly vacation to National Parks. While visiting Bryce Canyon National Park in Utah, I was captivated by the gorgeous rock formations. During a hike, we saw a man examining rocks with his equipment. The trail went right next to the marked-off area where he was working, so my dad asked what he was looking at. The man told us he was a geologist hired to survey the canyon's rock fall. Right after that interaction, I knew I wanted to study geology. The following year, I attended Saturday@SAM where I learned about the **GET TX (Geoscience Exposure and Training in Texas) Program**. I applied and was accepted. This program allowed me to get to know the professors and confirmed that I wanted to be a geology major.

I just finished my first year of college, and I'm so thankful for all the amazing opportunities I've had. Throughout the year, I traveled to several locations with geologically significant pasts, including Arkansas and North Texas. During the spring semester, I became a *Historical Geology* Lab Teaching Assistant. I also conducted research with **Dr. Moss** as an **Honors Course Contract**, studying the bivalve *Arctica islandica* from the Pliocene (about 2.58 million years ago) from Iceland. For this research, I photographed and measured specimens, then cut and polished them to count the internal growth increments and determine each specimen's age. At the conclusion of the semester, I created and presented a poster at the **Undergraduate Research Symposium**. I'm so grateful for all the incredible experiences I've had thus far, and I look forward to many more!"



Student Research Presentations

Congratulations to all our students that presented their research at conferences or meetings this past year.

-**Nicholas Flores** – *Understanding the Environmental Disparities Among Same-Sex Couples and Different-Sex Couples in Metropolitan Texas* - Population Association of America conference in Columbus, OH (faculty advisor – **Dr. John Strait**).

-**Julia Rufener**, **David Bickham**, and **Marcos Jimenez** – *Rare Earth Element Mobility in a Lateritic Weathering Profile, Saline County, Arkansas** - regional GSA conference in Springfield, MO (faculty advisors – **Dr. Pat Harris** and **Dr. Brian Cooper**).

-**Lauren Lozano** – *San Antonio Climate Normals and the Effects of Global Warming* - URS and received the **"Best Poster Presentation" award** (faculty advisors – **Dr. Ross Guida** and **Dr. Josh Gilliland**).

-**Adrian Parada** – *Analysis of the Maui Wildfires* – to faculty and students (faculty advisor – **Dr. Lee Miller**).

--**Amanda Broussard** and **Anna Maloney** – *Taking the Complexity Out of an Aeroponics Growing System** - URS (faculty advisor – **Ava Fujimoto-Strait**).

-**Mason Solomon** – *Flying Through History: Aircraft Encounters and Pitcairn Islands* - IBII Conference in The Woodlands, TX (faculty advisor – **Dr. Don Albert**).

-**Skylin Bromonsky** – *Arctica islandica Growth During the Pliocene of Iceland* - URS (Faculty advisor – **Dr. David Moss**)

-**Anna Maloney**, Kendall Kinsey, Andrea Olise, and Korede Omoniyi – *A Test of Predator Odor Recognition in Rural and Urban Carolina Wrens** - CHSS/COM/COSET Colloquium (Faculty advisor – **Dr. Diane Neudorf**)

* Student research projects supported by the SHSU COSET Undergraduate Research grant

Faculty-Student Publications

Our students have opportunities to work on faculty research projects and grants, which often results in publications. Congratulations to Geology senior, **Stephen Casper**, and Geography alumna, **Hailey Richardson**.

Moss, David K., Linda C. Ivany, Donna Surge, **Stephen Casper**, Abby Fancher, and Roger D. K. Thomas. 2024. "Latitudinal Life History Gradients in Two Pliocene Species of *Glycymeris* (Bivalvia)." ***Historical Biology***, June, 1–14. doi:10.1080/08912963.2024.2357608.

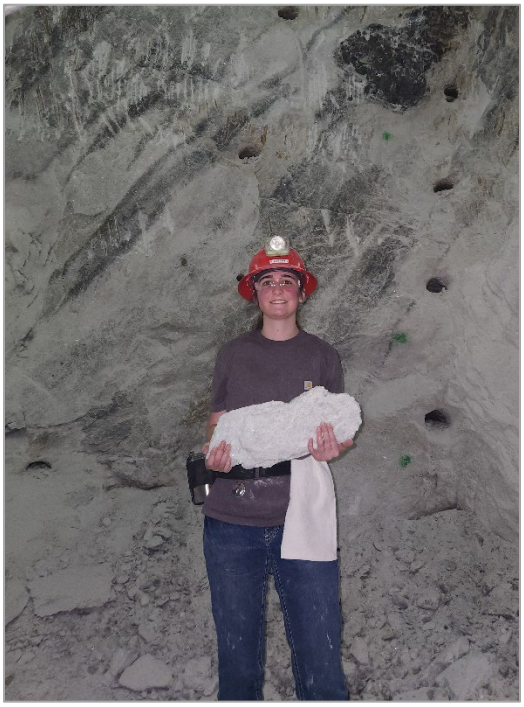
Guida, Ross J., Velvet Nelson, John B. Strait, Ava R. Fujimoto-Strait, **Hailey N. Richardson**, and David K. Moss. 2024. "Elevating Teacher-Faculty Professional Development to Move Secondary Geography Education Forward: A Southeast Texas Case Study." ***Journal of Geography*** 123 (2–3): 71–83. doi:10.1080/00221341.2024.2369574.

In Memoriam: Aliyiah Hood (December 10, 2003 - January 25, 2024)

Our department honors the memory of **Aliyiah Hood**, a beloved student worker. Aliyiah was extremely sweet, hardworking, and always ready to help. Her bright smile, dedication to her accounting studies at SHSU, and passion for learning inspired us all. Aliyiah's impact on our department will be long-lasting. Our thoughts are with her family and friends.

From Classroom to Career: My SHSU Journey into Subsurface Geology

-By **Carolyn Bienvenu** (Geology alumna '22)



I am a **subsurface geologist** working for **United Brine Services Co. LLC**, a subsidiary of **Texas Brine Company**. Together, the family of companies owns and operates numerous salt assets located in **Texas**, **Louisiana**, **New York**, and **Virginia**. Texas Brine Company specializes in solution mining techniques to create both brine and cavern space within salt structures. The resulting brine is processed and sold primarily for use in the chlor-alkali, drilling, and food industries. The cavern space left over in the salt post-mining can then be used to store large quantities of liquid and gaseous hydrocarbons.

It is my job to evaluate these salt deposits and surrounding sediments/rocks by using and integrating all of the geologic data that is available to me. Subsurface geology relies heavily on the analysis and interpretation of data which can be challenging but also incredibly rewarding. Geologic methods include well log analysis, core analysis, the integration of seismic data with well control, construction of structural maps and cross sections, the interpretation of geomechanical and geochemical data, the interpretation of salt cavern geometry, and much more. I also support various business development projects, including those related to the potential storage of hydrogen gas in salt caverns. Most of my work can be completed from the office, but I do enjoy going out into the field whenever we are actively drilling, coring, or logging.

The Department of Environmental and Geosciences at SHSU has played a critical role in my development as a geologist. I use the fundamental knowledge gained from classes, including *Petroleum Geology*, *Structure*, *Sedimentology and Stratigraphy*, *Geochemistry*, and *Mineralogy*, on a daily basis and have continued to build on that knowledge since. The various field trips and field classes arranged by professors at SHSU were also key to my understanding of geology and how to apply my knowledge to the subsurface. I would encourage any current students to build connections with others, study hard (but not too hard!), ask questions, and most importantly, strive to never stop learning!

Student Organizations: The Heartbeat of Our Department

We extend our heartfelt thanks to our **student organizations** - **SHAGS** (Sam Houston Association of Geology Students), **GOSH** (Geographers of Sam Houston), and **SEA** (Student Environmental Alliance) - for their tireless efforts throughout the year. These groups have been crucial in supporting recruiting events like **Saturday@SAM**, engaging in **Girls in STEM** activities, and representing our department at various campus events. Their dedication enriches our department and the SHSU community. Your commitment is truly appreciated!

Environmental Science Senior, Sadé Taylor, selected for NSF-Funded RaMP Program

Tundra Research in Alaska

Environmental Science graduating senior, **Sadé Taylor**, was selected to participate in the **ROADS (Research Opportunities and Access for Diverse Scientists) program** based at the University of Texas at El Paso. ROADS is a **NSF-funded RaMP (Research and Mentoring for Postbaccalaureates) program** that aims to provide the next generation of global change scientists with transformative research training and professional development - all while engaging them within a supportive academic network.

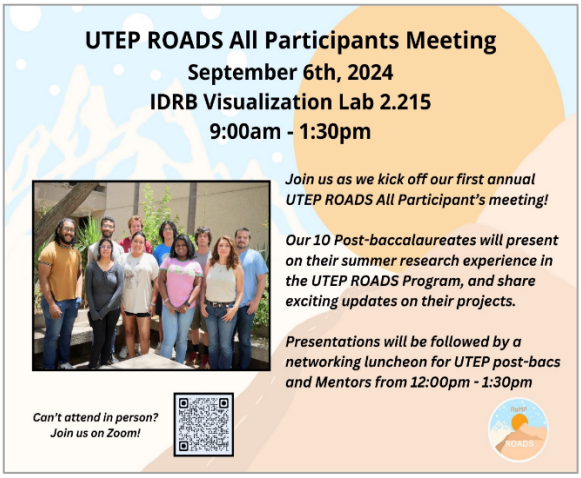
As part of the ROADS program, Sadé recently completed a field research experience at **Toolik Field Station in Utqiagvik, Alaska**, within the Arctic Circle.

During her time in Alaska, Sadé had the opportunity to witness 24-hour sunlight for two weeks as she studied the changing tundra community. "The experience was truly unforgettable, and I am grateful for the opportunity to have conducted research in such a unique and challenging environment," Sadé shared.

Sadé's research project will be presented via zoom with her research group and her part will focus on the research methodology and initial lab work. Following this work, Sadé is particularly interested in exploring the potential applications of this research for addressing climate change and developing sustainable practices.

"I believe that my participation in this program will provide me with invaluable experience and knowledge that will contribute to my future academic and professional goals," Sadé said. She is currently considering pursuing a PhD in either sustainable agriculture or mycology.

Sadé's presentation will take place on September 6, 2024, from 12:15 - 12:30 pm. We encourage everyone to tune in and learn more about Sadé's fascinating research in the Arctic tundra.



NSF-REU in Costa Rica with Texas A&M University

-by **Jamie Bergeron** (Environmental Science major and *Geologic Hazards* TA)

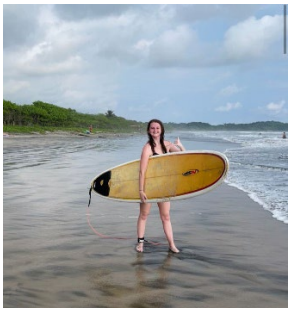
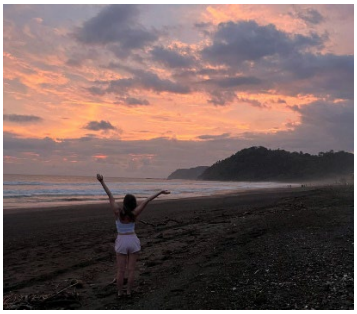
The primary goal of my **NSF-funded REU (Research Experiences for Undergraduates) internship** was to complete a research project under the guidance of a mentor. This process began with formulating a scientific question, reviewing previous literature on the topic, and understanding how my project could contribute to the current research. Specifically, I am investigating how microbial activity in soil is affected by land use change, comparing a native forest to a plantation forest in **Costa Rica**.

With my mentor's support, I determined the appropriate methods to test this, including collecting soil samples and performing various analyses such as measuring respiration rates and using EcoPlates to analyze the microbial communities. At the completion of the project, I will present my findings in the form of a poster presentation at both Texas A&M and the **American Geophysical Union conference**.

Participating in the **Texas A&M Costa Rica REU program** has provided me with invaluable learning opportunities. This experience has taught me about the full research process, which has been instrumental in helping me decide if graduate school is the right path for me. The program has also helped crystallize my research interests and ideas for future projects after completing my bachelor's degree.

One of the highlights has been the chance to interact with current master's students and learn about their research. Additionally, I have developed amazing connections with my peers and mentor that I know will stay with me long after this internship ends. Overall, this REU program has been an incredibly rewarding experience that I would highly recommend to any student interested in research.



Summer Internship with Texas A&M Forestry in Hudson, TX

-By **Laura Phillips** (Environmental Science major, Geography & Geology minor, and *Weather and Climate* TA)

This summer I got the amazing opportunity to intern with the Texas A&M Forest Service out of their Hudson office. This internship involved a combination of work for state lands, private landowners, and other miscellaneous tasks which gave me a well-rounded view of what the day-to-day looks like within this agency as well allow me to travel all

over the **East Texas Pineywoods**. My most notable work assignments were timber cruising at the **Fairchild & Siecke state forests**, updating stand maps for General Land Office and State Forest management plans, and working on establishing research plots for a Longleaf Pine growth and yield model the agency hopes to build.

My favorite of these assignments was working on the longleaf research plots. I was given training and the proper resources and then left to work on this project with little supervision. I contacted landowners, navigated to their stands, and with the help of two other student workers established these plots and measured tree heights, DBH, and accounted for relative survival of all longleaf within the plot. The lack of supervision forced me to be the one to make calls out in the field, which at first was nerve wracking but overall, rewarding as it taught me to be more decisive and trust my instincts.

Throughout the summer I worked with the **Texas A&M Forestry Service State Lands Coordinator, Steve Anderson**, and he gave me a wealth of knowledge about forest management and a multitude of other things. Working with him was a highlight of this internship, in fact I thoroughly enjoyed everyone I met in the agency. They were all exceedingly kind and excited for me and this opportunity and always encouraged my learning and growth. Having this experience allowed me to gain invaluable experience in the field, a basic background in forest management, and personal growth as an environmental scientist.




Work at the Biological Field Station

-By **Stefano Cavezza** (Environmental Science major)

My name is **Stefano Cavezza**, and I'm currently a senior at SHSU. I've had the great opportunity to work at the **Pineywoods Environmental Research Laboratory (PERL)** field station, initially as a volunteer under **Alan Byboth** and now as an employee. I began last September growing native plants from seed and continued into the spring by transplanting them around the field station to increase plant biodiversity. This summer, I also had the opportunity to work with **Dr. Diane Neudorf**, observing and weighing **Carolina wren** eggs. From May to July, I monitored various nest boxes placed around town and the field station, weighing and marking eggs in the order they were laid. The purpose of this study was to determine if there's a correlation between egg sizes in rural and urban areas. This fall, I hope to continue my work with plants, collecting seeds, growing different species, and monitoring populations around the field station.

Learning Through the Soles of Our Shoes

Our dedicated faculty go above and beyond to provide invaluable hands-on experiences for our Geography, Geology, and Environmental Science majors. Leading field trips ranging from one day to several weeks, often on their personal time and resources, these educators ensure our students gain practical skills crucial to their disciplines. These excursions create collective memories that last a lifetime. **We extend our heartfelt gratitude to both the faculty for their commitment and the students for their enthusiastic participation.** The accompanying photos from the past year highlight the diverse courses and experiences offered through our department.













Notes from the Field…

Costa Rica Field Course (co-taught by Dr. John Strait and Ava Fujimoto-Strait) – Carrillo, Costa Rica

-By **Austin McWhorter** (Geography major; Community Leadership minor; and *Geologic Hazards* TA)




"The world is a book and those who do not travel read only one page." – Augustine of Hippo

Travel is an essential part of education and living for most geographers. Travel is to a geographer what a scalpel is to a biologist. It allows us to dissect and learn from the places we are and spaces we inhabit. It allows us to shed light on the things that outsiders may not ever know about, much less experience. This summer, I was given the opportunity to travel with a class to Costa Rica for a field experience.

The class met during the spring semester to learn and teach one another about diverse topics relevant to our coming journey to the **Blue Zone**. The class was also allowed the pleasure of holding international zoom meetings with our host in Costa Rica, Roberto, as well as the **Macaw Recovery Network (MRN).** Once in Costa Rica, we spent a week exploring the **Nicoya Peninsula**, on the Pacific side of the country, volunteering labor and time with the MRN, attending talks with the experts from the MRN and Ricardo Jiminez from **Escarabeo Wilding**. Ricardo acts as the visiting veterinarian for the Macaw Recovery Network but also acts as a philanthropist and owns Escarabeo Wilding, a company dedicated to preserving wildlife and undeveloped spaces. Other group enrichment and learning activities happened along the way. Some, more improvised than others.

When we were not working, learning, or sweating, our free time was used to explore or rest. Exploration could mean any number of things – from exploring the ocean by snorkeling, to walking from town to town and down the beach. For me, exploration meant finding the best food and fresh fruit as well as looking at the juxtaposition of community spaces and religion. For my roommate Luke, exploration meant snorkeling and finding a new hobby in surfing. Others found exploration through culture and nightlife, especially in the polychronic, slow lifestyle the Ticos call ***Pura Vida***.

Regardless of what we did, we came together at the end of the day and told stories. The experiences left you tired and awe-struck, but the trip turned you into a storyteller. This is a page out of the book of travel that I am happy to have read. I can't wait to see what place the next page has in store for these field courses. Viva Victoria!





Field Camp – South Dakota School of Mines and Technology, Taşkesti, Türkiye

-By **Nathan Atterberry** (Geology major; Geography/Public Policy & Administration minor; and *Physical Geology* TA)



In Summer 2024, I took the final course needed to complete my undergraduate degree: ***Field Camp***. SHSU doesn't offer its own version of this course, so we are encouraged to explore options at other universities. Along with fellow students **David Bickham** and **Marcos Jimenez**, I registered with the South Dakota School of Mines and Technology for their field camp in Taşkesti, Türkiye. This choice would lead to a lifetime of memories, new friendships, and experiences—an understatement, to say the least.

We arrived in Istanbul three days before the camp started to adjust to the time change and experience Turkish culture independently before meeting the whole group. During those three days, we visited major tourist sites such as the Hagia Sophia, Blue Mosque, Galata Tower, and the Grand Bazaar. We walked over 30 miles, mastered the local transit system, made a few local friends, and learned to order food in Turkish (albeit poorly, but we got smiles, so it counts).

When the day came to meet our classmates and bus to base camp in **Taşkesti**, we encountered students from across the US—Washington, New York, Wisconsin, New Mexico, and various other places. This diverse group brought forth a range of perspectives and specialties from their respective departments, enhancing our learning opportunities throughout the camp.

Thanks to our department's emphasis on field experiences and practical problem-solving skills, we were well-prepared for success at the camp. The program was structured to increase in difficulty each week. The first week was mostly review for us, relearning how to use a Brunton compass and create stratigraphic columns. Subsequent weeks focused on actual mapping projects: the second week involved straightforward sedimentary mapping near our camp; the third week centered on mapping structures and exploring potential correlations between strike-slip faulting and regional plate tectonics in the North Anatolian Fault Zone; the fourth week concentrated on mapping igneous and metamorphic rocks; and the final week was spent mapping an area of the **North Anatolian Fault Zone** itself, which is similar in many ways to California's San Andreas Fault. Over these five weeks, I significantly expanded my knowledge of geology and geological processes.

What truly made this field camp special, beyond the weekly geology assignments, reports, and mapping, was the professors' emphasis on exposing us to Turkish culture. Every Sunday, we had a free day, and the professors prepared optional excursions. These cultural experiences were diverse and memorable. In the first week, we visited nearby **Göynük**, where we unexpectedly joined a parade with the former prime minister. The second week saw us playing a soccer match against the Jandarma (military police who serve as law enforcement outside major cities), followed by a cookout on a nearby mountain. Our third-week excursion took us **north to the Black Sea**, where we met an ERASMUS class and enjoyed swimming at the beach. In the fourth week, we explored **Sivrihisar**, wandering around its statue garden and tower, and visiting a 1000-year-old hammam bathhouse. For our final excursion in the fifth week, we relaxed by a lake before saying our goodbyes the following day.

After the camp, most people flew back to the U.S. or to different parts of Europe. Marcos and I stayed in Türkiye for an extra week and a half, driving across the country to experience more of its amazing sights, people, and culture.

Blues, Bonds, and Beyond: How a Mississippi Delta Field Course Offers Students Unique Insights into Culture and Social Change

For years, Geographer **Dr. John Strait** has guided students through the **Mississippi Delta** on field courses, aiming to witness firsthand the geographical significance of blues culture and its historical role in giving voice to social change. This past year, the passing of a worldwide blues icon and Strait's longtime close friend days before the trip altered the itinerary and offered student participants a unique perspective.

Red Paden, a Mississippi blues legend and owner of the famed Clarksdale juke joint Red's Lounge, passed away on Dec. 30, 2023. The news of his departure and ensuing celebration of life garnered international attention. While his passing generated profound sorrow throughout the local and global blues community, the memorial event that followed offered students a rare opportunity. As musicians and friends gathered from far and wide to celebrate Paden's life, students experienced firsthand the powerful impact blues music has had on the world.

"Juke joints in the Mississippi Delta, such as Red's Lounge, serve as critical incubators to the development of blues culture," Strait said. "They essentially function as the scene for vital community gatherings whose purpose can transcend the mere need or desire for musical entertainment. For example, during the civil rights movement, these establishments served as places where attendees could be themselves and escape from the hardships and realities of everyday life. Yet, they also offer people a venue to come together and collectively celebrate all the joy, love, happiness, and sense of community that makes any life worth living. Case in point, this year the students took part in a Delta version of a wake, whereby an eclectic host of people came to together to celebrate through music the life of a man who was very special to a lot of people." Strait added, "I've always tried to express to the students, and they usually get it when we're done, that an experience in a juke joint on a Saturday night isn't all that different from an experience in church on Sunday morning."

Katherine Shaver, a student whose honors thesis focused on the role of music during the civil rights era, remarked, "Juke joints were so impactful at the heart of civil rights and still are today. Clarksdale native Sam Cooke sung about a truly magical place where the young and old, the rich and poor, and both black and white individuals could fraternize with anyone they chose to, while 'Twistin' the Night Away.' The song's lyrics talk about a place 'somewhere up a New York way,' but I know now that he was singing about a place like Red's – because I witnessed it."

Student **Uriel Acevedo** added, "The significance of Red's Lounge is that it does not abide by the same rules of the universe because it is a universe in itself. Strangers should not immediately be able to become family, music should not be a formal language, and all colors should not be a shade of red, but at Red's Lounge, all this is possible and more."

Recent graduate **Nathan Atterberry** further remarked on how field courses such as Strait's contributes to enriching student learning and engagement: "**Field courses are the heart and soul of the Environmental and Geosciences department at Sam Houston.**" To loosely quote one of my professors, 'Geology is learned not through the seat of the pants, but through the sole of your shoes.' The same is very true for geography and environmental science as well." He continued, "For example, in this class, we learned about the Delta and the people who lived and continue to live there, its ties to the civil rights movement, and its effects on the rest of America and even the rest of the world. But to truly grasp what goes on there and understand the culture, you must go there. You have to experience eating in the tamale capital of the world, you have to experience watching ducks get paraded into a lobby from a penthouse more expensive than one you will ever own, you have to experience walking into any gathering - like inside of Red's Lounge - and immediately get treated like you are family. But you also have to experience the other side: standing at the convenience store where Emmett Till allegedly whistled at a white woman and inadvertently and wrongfully condemned himself to an unjust death, standing not ten feet away from where Martin Luther King Jr. was assassinated at the Lorraine Motel, and visiting the memorial and grave of Miss Fannie Lou Hamer. On this field course, you not only learn about these things but experience them and come out of the Delta knowing that you and we as a society need to be better. At the same time, by immersing yourself in that place and interacting with the people that call it home, and by sharing these experiences with fellow students and faculty, you get direct exposure to how to do that very thing. These are things you cannot learn in the classroom, but only through experience."

"I'm fortunate enough to be with a university and department that really values these field experiences for the students," Strait said. "It fits in with doing exactly what higher education should be doing: offering students experiences outside of the traditional classroom that provides direct exposure to the world within which they live."

Department Scholarships

Our students are some of the hardest working around. Many not only put in countless hours in classes and labs, but also work part or even full-time jobs to support their education. Each year professors from the department are privileged to be able to award scholarships to outstanding students in the department. Thanks to the generosity of our alumni and supporters, the department was able to award almost $30,000 in scholarships to deserving students this past year. We had over $700 donated last year and would love to surpass that number this year! Many of these funds are endowments so your donation generates even more support for future students. To donate, scan the QR code below to visit the SHSU Giving website. Make sure to select College of Science and Engineering Technology under "Gift Designation" and include one of our funds in the area of support box.

Environmental Science	Jamie Bergeron	$1,375	Environmental Science Scholarship Fund
	Sophia Gump	$1,375	Environmental Science Scholarship Fund
	Amanda Broussard	$1,250	G. Scott and Mary S. McCarley Env. Sci
	Caeli Richard	$1,250	G. Scott and Mary S. McCarley Env. Sci
	Amber Hrynczyszyn	$6,000	Patrick Neal Bryant Memorial Fund
	Karolina Carreon-Garcia	$2,175	Patrick Neal Bryant Memorial Fund
	Emilee Verner	$2,175	Patrick Neal Bryant Memorial Fund
Geography	Austin McWhorter	$1,025	Robert and Mabel Richardson
	Chloe Graefe	$1,025	Robert and Mabel Richardson
	Brianna Castro	$1,025	Robert and Mabel Richardson
	Juan Bush	$1,025	Robert and Mabel Richardson
Geology	Nathan Atterberry	$750	Baldwin Field Camp
	Marcos Jimenez	$750	Baldwin Field Camp
	Nathan Atterberry	$1,500	Friends of Geology
	Caleb Harmon	$1,000	Friends of Geology
	Ashton Snyder	$1,000	Friends of Geology
	Marissa McMinn	$1,000	Geology Endowment
	Nicole Rowse	$1,000	Geology Endowment
	Skylin Bromonsky	$500	Geology Endowment
	Ciara Carnes	$500	Geology Endowment
	Rowan Jimenez	$500	Geology Endowment
	Isabel Rios	$500	Geology Endowment
	Lily Terflinger	$500	Geology Endowment
	Mariana Oyervides Salas	$500	Geology Endowment

The Chuck Caughey Geoscience Endowed Scholarship

-By **Marcos Jimenez** (Geology major and Geography minor)

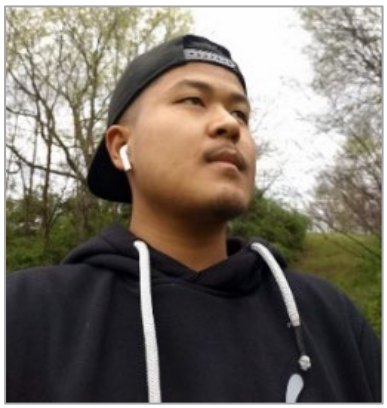
I am extremely grateful for the opportunity I received from SHSU to obtain my B.S. in Geology. It all started with being the inaugural recipient of the **Chuck Caughey Geoscience Endowed Scholarship**, which allowed me to attend school with full focus. This scholarship provided financial support for my housing, meals, textbooks, and transportation. Mr. Caughey is an amazing mentor who continues to support the next generation of geoscientists, encouraging us to seek greatness and exceed our limits.

At SHSU, I experienced my first camping trip to **Arkansas**. Each fall, **Dr. Harris** takes his students for a few days near **Magnet Cove**. During the trip, I collected minerals in the field - pyrite, rutile, calcite, and beautiful clear quartz. Since then, I've been obsessed with minerals and ***Mineralogy*** as a whole.

I also cherish the memories from the Spring Break **Grand Canyon trip** in 2023. **Dr. Hill** coordinated everything so well that we had an amazing experience. It was my first long road trip with so many geologic sites to see. Ending almost every night with a campfire, surrounded by other passionate geologists, was the best feeling ever.

From the moment I was welcomed by **Dr. Cooper**, **Dr. Moss**, **Dr. Zhou**, and everyone in the Department of Environmental and Geosciences, I knew this was the perfect place for me. Without a doubt, there could not have been a better place for my undergraduate studies than SHSU. I am happy to close this chapter in my life, but it will forever live within my heart – memories made in the classroom, meeting other students, long nights in the lab, and always a geologist's favorite: "out in the field". My goals for the upcoming years include completing my master's degree at The **University of Texas at Austin**, applying to work at an energy company, and giving back to all who have given so much.

We're thrilled to announce Geologist Chuck Caughey's extraordinary commitment to education. Mr. Caughey has generously contributed an **additional $500,000** to his Geoscience Endowed Scholarship, bringing his total support to new heights. This remarkable gift ensures we can now offer full funding annually for a transfer student pursuing a Geology degree. We are deeply grateful!



“My name is **Rohan Khadka**, and I'm an international student from **Nepal** pursuing a B.S. in Geology. I love swimming, hiking, and watching educational documentaries. This Fall 2024, I'll be joining SHSU as a transfer student from Houston Community College.

As the 2nd recipient of the **Chuck Caughey Geoscience Endowed Scholarship,** this is is a big deal for me, and I'm fully aware of the expectations that come with being a recipient of this award. My upcoming two years at SHSU will be fundamental in shaping my future. When I received the news about receiving the Chuck Caughey award, I was thrilled, but I also felt motivated to do even more. I'm truly grateful to Mr. Caughey and the faculty for giving me this opportunity. As I embark on this journey, I'm committed to making the most of it and living up to the faith they've placed in me.”

Congratulations to our GRADUATES!!!

(Fall 2023, Spring 2024, and Summer 2024)

Welcome Dr. Leila Character

We are all very excited for **Dr. Leila Character** to join our department this Fall 2024. Dr. Character received her B.S. degree in Geology (with a minor in anthropology focused on archaeology) from Sewanee: The University of the South, M.A. degree in Geography (focused on geoarchaeology and soil science) from the University of Texas at Austin, and PhD in Geography from the University of Texas at Austin. Following her doctorate, Dr. Character was a postdoctoral fellow in the School of Marine Science and Policy at the University of Delaware.

Dr. Character's research focuses on solving hard, real-world environmental problems using remote sensing and machine learning. Her work seeks to develop methodologies that enable the use of huge amounts of remotely sensed data to address environmental problems and draw conclusions that otherwise wouldn't be possible. Dr. Character will be teaching courses focused on GIS, remote sensing, Python, and related field methods.

Scan the QR code below to read Dr. Character's most recent publication entitled, "Broadscale deep learning model for archaeological feature detection across the Maya area" in the *Journal of Archaeological Science*. In addition, you can watch Dr. Character on ***Expedition Unknown*** on the Discovery Channel or Max – Season 12, Episode 2 (*Finding the Lost Pilots of WWII*) and Season 13, Episode 6 (*America's MIA Heroines*).

Conference USA Faculty Achievement Award – Dr. John Strait

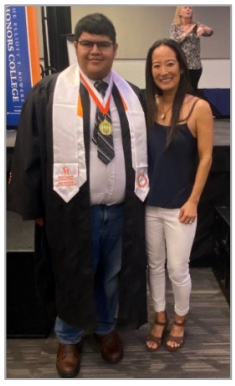
Congratulations to **Dr. John Strait** on being awarded the inaugural SHSU **Conference USA Faculty Achievement Award** for his excellence in teaching, research, and service. Dr. Strait's innovative teaching methods and field courses have earned him several awards, including the **American Association of Geographers' Distinguished Teaching Honors**. He has published over 30 peer-reviewed articles, secured over $300,000 in external grants, and served in various editorial roles for academic journals. As a first-generation college student athlete, he connects personally with many students, particularly through informal mentoring and advising both undergraduate and graduate geography and GIS students. He will be honored at the university's annual Academic Awards Dinner and a home football game this fall.

Meet Kerry Billington

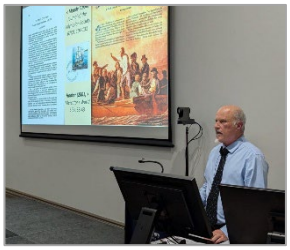
We are excited to have **Kerry Billington** transition to our full-time **GIS Administrator**. Kerry brings extensive industry experience in GIS, spatial analysis, and database management to our department. She has been invaluable in providing hardware and software support for our labs, as well as assisting graduate and undergraduate students this past year. She has already enhanced our GIS capabilities and streamlined our spatial data management processes. Her increased presence allows for more student mentoring, website updates, and collaboration on interdisciplinary projects leveraging geospatial technologies. We look forward to Kerry's expertise continuing to drive innovation in our research and teaching initiatives.

Honors College Deans' Choice Faculty Award and SHSU Keys of Excellence Award

Congratulations to **Ava Fujimoto-Strait** on receiving the **Honors College Deans' Choice Faculty Award** for her exceptional mentorship of honors students. Ava was recognized for working closely with students through numerous honors contracts, honors theses, regularly presenting at the *Journeys Seminar*, and co-teaching the popular *Honors Hawaii Field Course*. In addition, Ava was awarded the **SHSU Keys of Excellence Award**, after being nominated by Geography major and Orange Key member, **Anna Macias**. The Orange Keys created this award to recognize faculty and staff who have positively impacted the lives of students and helped them reach their full potential.



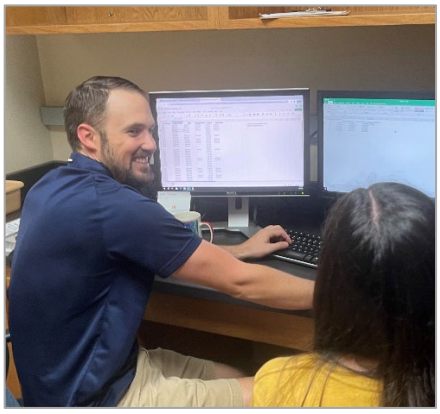
Geographer Awarded Prestigious Fellowship



Geography Professor, **Dr. Don Albert**, has been honored as the recipient of the inaugural **Royal Geographical Society of South Australia (RGSSA) Library Research Fellowship**.

As part of this esteemed award, Dr. Albert spent four weeks in **Adelaide, Australia**, conducting research at the RGSSA library. This opportunity allowed him to delve into the society's extensive collection of geographical resources and historical materials.

During his time in Australia, Dr. Albert also shared his expertise with peers in the field. He presented his findings at the **Institute of Australian Geographers Conference**, contributing to the exchange of ideas and advancements in geographical studies.



Dr. David Moss – NSF Grant

This spring, **Dr. David Moss** was awarded a prestigious **NSF CAREER grant**. The 5 year, **$685K award**, is only the second such award for SHSU. Moss' project will study the controls on longevity in fossils bivalves. Like trees, bivalves record growth increments in their shells which can be used to determine their lifespans and growth rates. Bivalves are some of the longest-lived organisms on the planet today, with one species, *Arctica islandica*, reaching lifespans of more than 500 years off the coast of Iceland. Despite the wealth of knowledge on lifespans of modern bivalves, it is an almost untapped area of research in the fossil record. Moss' project aims to answer three primary research questions: 1) is lifespan a heritable trait; 2) can body size trends be explained by changes in life history strategy; and 3) how latitudinal life history gradients change in alternate climate settings.

Funding from the project will not only support Dr. Moss' research goals but will also provide opportunities to enrich the experience of students in the department. For example, in the spring of 2026 and 28, Dr. Moss will transform his *Paleontology of Invertebrates* course into a **course-based undergraduate research experience (CURE)** to help answer questions related to latitudinal life history gradients. Students will travel to Florida to collect samples in the field and tour the Florida Museum of Natural History. Over the course of the semester, students will be tasked with obtaining life history data from their samples, learn about oxygen isotopes, and visit the isotope lab at Texas A&M University. In addition, Dr. Moss will run teacher workshops for current high school Biology and Earth Science teachers and undergraduate students at SHSU who are majoring in **Composite Science**. Finally, the project will support paid lab assistant positions and support field work and attendance at national conferences for students each year.

The project officially started on July 1 of this year. So far, Dr. Moss has been working on purchasing a Micromill for the paleobiology lab which will be used to sample carbonate material from fossil bivalves for oxygen isotope analyses. Next up on his list include hiring student research assistants and advertising for a **Postdoctoral Researcher**. The lab group will kick off field and museum work in the summer of 2025 in Los Angeles and San Diego.

Dr. Renjie Zhou Continues to Make Waves in Hydrogeology Research

Geologist, **Dr. Renjie Zhou,** was recently awarded a prestigious **$180K National Science Foundation (NSF) grant** for his project "*The impact of climate change on karst groundwater resources with deep learning approach*."

In addition, Dr. Zhou's research continues to gain recognition in the scientific community. He received the **Wiley Top Cited Article award** for 2022-2023. In the past year, he has co-authored several peer-reviewed publications in respected journals such as the ***Journal of Hydrology*** and ***Renewable Energy***, focusing on innovative approaches to hydrogeological modeling and forecasting.

In October 2023, Dr. Zhou, along with colleague Dr. Guida, led a **Hydro-Geo Workshop field trip** to the *Cave Without A Name* in Boerne, Texas. This NSF GEO Allies-supported trip provided valuable hands-on experience for approximately 18 students from *Hydrogeology* and *Hydrology* classes, reinforcing our commitment to experiential learning.

GET TX Wraps Up Final Year

-By **Dr. Ross Guida**

Drs. Moss, **Guida**, **Cooper**, **Hill**, **Harris**, and **Zhou** wrapped up the final year of their **NSF-funded Geoscience Exposure and Training (GET) Texas grant**. Dr. Hill presented some of the teams work with teachers at GSA in Pittsburgh in October 2023, and Dr. Guida presented work on student surveys and perceptions of the geosciences at AAG in Honolulu in April 2024. Though there were not enough funds to run a full bridge program in 2024, the team led two museum days in May and June to increase geoscience exposure amongst high school and community college students. Twenty-nine students and five teachers and college/career counselors visited the Houston Museum of Natural Sciences' exhibits on paelontology, minerals and gems, and the energy hall. In addition to getting more in-depth guided tours from SHSU faculty, students learned about geoscience-related career opportunities and SHSU's academic programs. Several GET TX alumni are also active students in the department now! As the team finished this four-year grant project, they wanted to thank the SHSU students that worked as bridge assistants, all the teachers, students, principals, and school staff that participated, their Lone Star College-University Park partners, **Drs. Bryn Benford** and **Christa Spears**, and **Mrs. Camy Dawson**. Though funding has ended, the department will continue to reach out to high school and community college students to discuss environmental and geoscience college and career pathways.

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ESRI Conference in San Diego

Dr. Samuel Adu-Prah attended the **2024 ESRI Education and User Conference** in San Diego California where he interacted with over 18,000 other participants from the industry, academia, government agencies, non- governmental agencies, etc. across the globe. One thing these people share in common is using Geographic Information System (GIS) to understand our world and to foster decision making. Interacting and networking with such a group and the knowledge gained will definitely help our students in the classroom for future careers in GIS. This trip was made possible through the **SHSU Odyssey Grant** and support from the **COSET Dean's Office**. In addition, THANK YOU Dr. Adu-Prah for serving as **Faculty Senate Chair** this past academic year!!!

Tourism and Chronic Health Conditions

Geography Professor, **Dr. Velvet Nelson** received an **Individual Scholarship Grant** from SHSU's **Office of Research and Sponsored Programs** for summer 2024 to research the perceptions of and experiences in travel and tourism for people with chronic health conditions. Tourism research has given increased attention to accessible tourism and silver tourism, which considers the constraints, experiences, and benefits of tourists with disabilities and older tourists respectively. While tourists with chronic health conditions can face similar issues as these demographics, there are also some distinct differences that have been neglected. This research seeks to explore the unique issues faced by tourists with chronic health conditions, such as endometriosis, fibromyalgia, lupus, Lyme disease, Parkinson's disease, and rheumatoid arthritis, who need to travel due to work and family obligations or want to travel for health benefits and the experience of other places.

Advancing Research and Creating Opportunities

Dr. Yaping Xu has had an exciting first year, marked by notable achievements and initiatives. His abstract submission to the Office of Sponsored Research and Programs (OSRP) earned him a $2K stipend award. Additionally, Dr. Xu has been actively mentoring students through the **Ramps into Research program**, training undergraduate **Anna Maloney** and graduate student **Ratul Debnath** in drone-based data collection and pre-processing protocols.

In a move that promises to expand research horizons, Dr. Xu was invited to visit the **Automated Precision Phenotyping Greenhouse** at **Texas A&M University** (Prairie View and College Station). This collaboration introduces our students to advanced remote sensing technology in agriculture and plant sciences, potentially attracting new grants to our university.

The Hitchin' Post

Love is in the air! Congratulations to our department newlyweds and recently engaged. We wish y'all a lifetime of love and happiness!

Weddings: **Adam Camp** & Madison; and **Tony McKnight** & Ké Liilah

Engagements: **Ray Luong** & Addy; **Maddie Rozycki** & Ryan; **Kaitlyn Truss** & Clayton; and **Bryttani Muniz** & Adrien.

Hallway Displays and New Equipment

Dr. David Moss and his *Paleontology* (GEOL 3415) students used specimens from the **SHSU Natural History Collections** to create displays focusing on Texas fossils for the 3rd floor Lee Drain Building. Original student artwork is included within these displays.

Climatology professor, **Dr. Josh Gilliland** installed an **Air Quality Transmitter** and **Research Weather Station** outside of LDB 321. The equipment will measure particulate matter, carbon monoxide, nitric oxide, sulfur dioxide, ozone, and more.

Recent Alumni Endeavors

We love hearing from our alumni! Please feel free to send us an email at: geosciences@shsu.edu or join our LinkedIn (SHSU Environmental and Geosciences group) to update us on where you are and the amazing things you are doing! Featured below are a few of our recent alumni endeavors…

Graduate School Updates:
-**Nathan Atterberry** – begins the M.S. program in Geology at the University of Kentucky this Fall and will be a graduate teaching assistant and is fully funded.
-**Dr. Michelle Harris** – completed her Ph.D. in Geography at the University of South Carolina and now is a Post-Doc Research Associate at Virginia Institute of Marine Science/College of William and Mary.
-**Carolyn Jess** – completed her M.S. degree in Biology at Texas State University and will be starting the Ph.D. there in the Integrative Biology and Aquatic Resources program.
-**Marcos Jimenez** – begins the M.S. program in Geology at the University of Texas – Austin this Fall and is fully funded.
-**Paige Kempker** – graduated with a M.S. in Environmental Management from Western Colorado University.
-**Anjali Khisty** – begins the Ph.D. program at Iowa State University this Fall and will specialize in experimental Structural Geology.
-**Sophia Layman** – begins the M.S. program in the Geosciences at the University of Arkansas this Fall. She received a graduate assistantship and departmental scholarship that will cover her full tuition.
-**Makayla Mcilhaney** and **Brittany Condry** are pursuing a Master's degree in Natural Resources at Virginia Tech University.
-**Meghan Puente** – graduated with a M.S. degree in Geoscience at Western Kentucky University. She recently accepted a job as a Project Hydrologist at Advanced Groundwater Solutions, LLC.
-**Mandy Truman** – is working on her Ph.D. in Geography at Texas State University and was recently awarded the Evelyn L. Pruitt Fellowship from the Society of Woman Geographers to support her dissertation research.

Recent Employment Updates:
-**Tristan Best** – GIS Technician – City of Cleburne, TX
-**Mikaila Bolin** – Missouri Geological Survey in Rolla, MO
-**Zedric Capus** – Groundwater Modeler - Texas Water Development Board
-**Brittany Condry** – Executive Assistant – Texas Water Development Board
-**Sophia Cruz** – Morning Weather Anchor – ABC-Idaho News 6
-**JamesGuy Gierisch** – GIS Specialist – City of Grand Forks, ND
-**Audrey Jones** – Environmental Scientist at Texas State Soil and Water Conservation Board
-**Russell Lamson** – State Parks Police Officer Intern – Texas Parks and Wildlife
-**Lillyan Molina** – Case Investigator – Marker Group
-**Luke Nelson** – Stormwater Inspector – Compliance Resources, Inc.
-**Molly Phipps** – Texas Commission on Environmental Quality
-**Daniel Ringo** – Environmental Project Planner – Texas Department of Transportation
-**Jordan Vega** – Project Hydrogeologist – Advanced Groundwater Solutions, LLC.
-**Ethan Wilkins** – Geospatial Solutions Technician at Interdev

A Special Thank You

We extend our heartfelt gratitude to our alumni who returned this past year to share their post-graduation career experiences with our students. These valuable interactions have led to numerous internships, job opportunities, field trips, and expanded professional networks. Thank you – **Carolyn Bienvenu**, **Andrew Matej**, **Macy Horn**, **Makayla Mcilhaney**, and **Lonnie Upton**.




Geology at SHSU - Episode III

Lake Powell and More

-By **Dr. Brian Cooper**

When we left off in Episode II, the Geology Program was in new digs on the third floor of the Lee Drain Building. Geology faculty included: Dr. Dwight Brown, Dr. Arun Majumdar, and me. We were still part of the Division of Life Sciences, Geology and Geography within the College of Arts and Sciences.

Geography and Geology became a separate department June 1990 based on a proposal written by **Dr. Allen Williams**. Dr. Williams served as Chair of the new department from 1990 until 2002. One component of the plan included the hiring of a physical geographer who could bridge the two programs. **Dr. Dennis Netoff** was hired and started teaching Fall 1990. His teaching load included a *Physical Geology* lecture section. That academic year was a highwater mark for physical geology enrollment. Started with just over 400 students Fall 1990 and finished the semester with 373 students. He started teaching *Geomorphology* Fall 1991 and *Environmental Geology* Spring 1992.

Dr. Netoff involved undergraduate students in research pertaining to the description and origin of various spectacular, huge landforms around Lake Powell/Glen Canyon, Utah that had never been described before. When you see these features, you are just amazed that no one had described them earlier. He took a total of 30 student research assistants out to Lake Powell between 1991 and 1998. He was awarded six faculty research grants to conduct this research which always involved renting a houseboat.

Dr. Netoff spearheaded the production of lab manuals for *Physical Geology* (first edition in 1992) and for *Weather and Climate* (first edition in 1991).

Sadly, Dr. Arun Majumdar's mother became ill in late Spring 1992. He had to resign on short notice and return to India to care for his mother. Fortunately, I had kept in contact with **Dr. Betsy Torrez** and knew she had expressed interest in returning to teaching. I let her know that we were advertising a position. She applied and we hired her to start Fall 1992. Her primary teaching duties included *Physical Geology*, *Historical Geology*, *Structural Geology*, *Plate Tectonics*, and *Geology of North America*.

Dean Richard Cording stepped down as Dean of the College of Arts and Sciences in 1994. **Dr. Christopher Baldwin**, a geologist, was hired as Dean that same year. Dr. Baldwin resigned his position as Dean and joined the Geology Program effective Fall 2000 as Dr. Brown's replacement upon his retirement in August 2000. Dr. Baldwin had a faculty development leave Fall 2000, so Dr. Brown graciously returned to teach *Paleontology* that semester.

Dr. Mark Leipnik started working here Summer 1996. His primary duties were GIS-related, but he did start teaching *Hydrogeology* Spring 1999.

As the new century was beginning and many were freaking out about Y2K, the Geology Program faculty consisted of Dr. Baldwin, Dr. Torrez, and me. Our efforts being enhanced with Dr. Netoff teaching *Environmental Geology* and Dr. Leipnik teaching *Hydrogeology*.

Stay tuned for Episode IV, *Dawning of A New Century*, as the Geology Program grows and evolves.

A sandstone font near Lake Powell

Back row (l-r): Dwight Brown, Frances Arlene Leonard, Dennis Netoff, Betsy Torrez, Brian Cooper, and Jim Tiller. Front row (l-r): Mark Leipnik, Allen Williams (Chair), Monica Taylor (Administrative Assistant), Cody Barron, and John Bounds.

The author takes full responsibility for any misrepresentations or errors in this article. Any corrections or additions to this abbreviated version of the full history will be much appreciated.

Upcoming Events in the Department

NSF-funded GEOAllies Opportunity

From **October 4-6, 2024**, faculty members **Dr. Renjie Zhou** (PI) and **Dr. Ross Guida** (co-PI) will again be taking students to the **Texas Hydro-Geo Workshop** (https://hydrogeoworkshop.org/) hosted at the *Cave Without a Name* in Boerne, Texas. The trip will largely be funded by a $2,000 grant received in August 2023 through Texas Tech's NSF-funded GEOAllies program that aims to increase student participation in field experiences. Participating students will have a chance to network with graduate schools and employers and will experience a wide variety of hands-on modules on groundwater, surface water, karst, geomorphology, drilling, water quality, ecology, and more. If interested, please see Dr. Zhou or Dr. Guida.


4th Annual Faculty, Student, and Alumni Potluck – Saturday, November 9, 2024 (11 am-1 pm) at the University Camp (2245 FM 980, Huntsville 77320)

We cordially invite you and your family to reconnect with classmates and faculty. We will have Bennie J's BBQ and other side dishes available. Feel free to bring an appetizer, side dish, or dessert to share. If possible, please RSVP by 10/31 via email (geosciences@shsu.edu) and let us know your name and how many are attending, so we can plan food and drinks accordingly. We have both the outdoor pavilion and the dining hall reserved.