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Climatologist will join us starting Fall 2022



Letter from the Chair

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SHSU Environmental and Geosciences group

-By Dr. Pat Harris

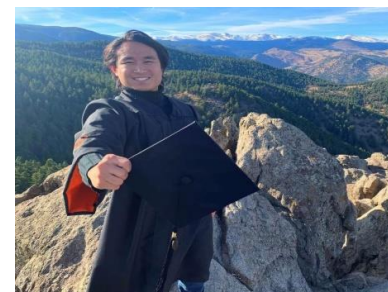
The department thought it was time to reestablish the newsletter after a hiatus. There have been several changes since our last newsletter. I (Pat Harris) replaced Dr. Brian Cooper as Department Chair and the name of the department has now changed to the Department of Environmental and Geosciences to reflect the incorporation of the Environmental Science degree program. Dr. Jim Tiller retired this past Spring 2022, after fifty years of service to the University. We have a new faculty member joining us this Fall: his name is Dr. Josh Gilliland, a climatologist that did his Ph.D. work at LSU. We had a very good friend of the department, Mr. Chuck Caughey, make a \$500,000 donation to set up an endowment to fully fund a Geology student during his/her last two years. Lastly, the first potluck (last November) reconnecting with alumni, current students, faculty, and staff was such a huge success that we have decided to do it again this November. **I hope to see you all at our 2nd annual potluck being held again at Bearkat Camp on November 12th, starting at 3 pm.**



Senior Spotlight - Ray Luong

Nhien Tuoc Raymond (Ray) Luong graduated with honors (*magna cum laude*) on December 10th, 2021, with a B.S. degree in Geography and a minor in Geology. Ray was also a *Weather & Climate* TA and a recipient of 3 scholarships.

December 10th is also the date of when his mother lost her battle with liposarcoma cancer. In Vietnamese culture, when someone is on their deathbed, they are allowed to enact a "death wish" upon their immediate family members. His mother's wish for Ray was for him to go back to school and get his college degree. Three years to the date, Ray fulfilled his mother's wish.



TSUS Regents' Student Scholar Award

Congratulations to Environmental Science senior, **Carolyn Jess**, on receiving the Texas State University System Regents' Student Scholar Award. This is one of the highest honors that a student can receive. Student scholars are nominated by the University President and selected by the Chancellor based on outstanding academic excellence, leadership, and service.

On campus, Carolyn is a member of Alpha Lambda Delta honor society, National Society of Collegiate Scholars, National Society of Leadership and Success, Chi Alpha, and Alpha Omicron Pi sorority. Carolyn is also a *Weather & Climate* TA. She volunteers her time with the Houston Arthritis Foundation, Gulf Coast Regional Blood Drive, Dream Center Brazoria County and Brazoswood H.S. Carolyn has received 3 other scholarships and is a University Raven Scholar.



Two Sammy Awards and more...

Congratulations to Geography junior, **Hailey Richardson**, on being awarded the "Outstanding Student Leader in the College of Science and Engineering Technology" AND "Outstanding Junior Student Leader" at the annual Sammy Awards that recognizes exceptional student leaders and organizations at SHSU.

In addition, Hailey received the Outstanding Oral Media Presentation award and the Assam Scholarship in Honors Research at the SHSU Honors College Undergraduate Research Symposium. Hailey is also a *Weather & Climate* lab TA, President of GOSH (our Geography student org), involved on our NGS grant, and works as a summer intern for the National Geospatial Intelligence Agency in Washington, D.C.



Chuck Caughey Geoscience Endowed Scholarship

After meeting with our Geology professors at SHSU and hearing about our hands-on teaching and field/lab experiences, **Chuck Caughey** decided to make an extremely generous contribution to Sam Houston State University and our Geology program. President White officially signed the *Chuck Caughey Geoscience Scholarship Endowment* in late January 2022. This scholarship covers the full cost of attending SHSU (full tuition, fees, books, room, and board) for 4 semesters or until the student obtains a bachelor's degree.

Chuck Caughey spent his career employed as a geologist exploring for and developing oil and gas fields in the U.S. and abroad. During this time, he saw the impact that petroleum geology (and related fields like groundwater hydrology and environmental geology) has in bettering people's lives. Caughey hopes that his scholarship will assist future students interested in the geosciences and supporting a working relationship with community colleges and universities around Houston.

Top applicants were selected, and several rounds of interviews occurred with faculty on the scholarship committee. The first recipient is **Marcos Jimenez**, a transfer student from Lone Star College - University Park. Marcos is the first in his family to finish high school and to pursue a college degree. Since his junior year in high school, Marcos has worked full-time at a warehouse, while attending school. He credits his job that gave him "discipline and set my priorities straight - which was my family, my education, and my job...I love to help others, volunteer in church and with local events in the community." We are all looking forward to Marcos arriving on campus this Fall 2022. Our sincerest gratitude to Chuck Caughey.

Please email geosciences@shsu.edu, if you are interested in donating.

Department and College Scholarships

Congratulations to all our 2021-2022 department and COSET scholarship recipients. These students are recognized for their high academic achievement, leadership, and service in our Geography, Geology, Environmental Science and Masters in GIS programs.

Geography Program Endowment Award - Jerrold Frerichs, Macy Horn, Matthew Purifoy, Hailey Richardson, and Michel Salazar

Jesse Garay Field Experience Award - Ray Luong

SHAGS Scholarship Award - Nathan Atterberry, David Bickham, Mikaila Bolin, and Anjali Khisty

Cannan Geological Scholarship - Carolyn Bienvenu

Baldwin Field Camp Scholarship - Carolyn Bienvenu, Anjali Khisty, and Daniel Minke

Brian Cooper Scholarship - Sophia Layman and Daniel Minke

Geology Endowed Scholarship - Ashton Snyder, Daniel Henderson and Riley Doyle

Environmental Science Endowed Scholarship - Carolyn Jess, Makayla McIlhaney, Kaitlyn Raper, Caeli Richard, and Dan Ringo

COSET Graduate Achievement Scholarship - Galbokke Hewage Kumudumali De Silva, Tin Thanh Vo, and Priya Bansal



NSF-funded GET TX grant

-By Dr. David Moss

In Fall of 2020, faculty members **Drs. David Moss** (PI), **Ross Guida** (co-PI), **Renjie Zhou**, **Brian Cooper**, **Joseph Hill** and **Pat Harris**, along with faculty from Lone Star College - University Park (Bryn Benford and Christa Spears, co-PIs), were awarded a GEOPaths grant from the National Science Foundation. The project, "**Geoscience Exposure and Training in Texas** (GET TX)," aims to study perspectives of late high school and early college students and teachers about the geosciences and to broaden participation of underrepresented groups. To do this, we hosted a series of teacher workshops, open houses, classroom visits, and a summer bridge program.

While running the grant during the pandemic has certainly posed challenges, we have had many successes. Drs. Moss, Guida, and Zhou have all visited several area high schools (e.g., Huntsville, Conroe, Apple Springs, Oak Ridge) and shared their passions for the geosciences. They highlighted the importance of geoscience to SE Texas beyond the traditional oil and gas pathways and showcased the variety of jobs available to students. Drs. Cooper and Hill have run several successful workshops for high school STEM teachers providing them with hands-on activities to use in their classrooms. In addition, we have been fortunate to have several alumni give guest lectures at our open houses (Warner Morales '12, Leah Jackson '13, Miranda Naquin '17, Xavier Hutchinson '20) and share their pathways and experiences with the next generation of geoscientists. Dear friend of the program, Mr. Chuck Caughey, gave one of these lectures as well. Finally, in the summer of 2021 and 2022, we ran our 10-day summer bridge program for high school and community college students. We received over 130 student applications and were able to host 22 students, each receiving an \$800 stipend. The program focused on

water, sediment, paleontology, and geochemistry in SE and central Texas using both field and lab activities. Highlights of the experience include a 2-day excursion to central Texas where students observed limestone, karst processes, dinosaur tracks, and were of course, able to cool off in Barton Springs.

As we enter the final year of the program, we are excited to continue reaching out to area students and teachers to share all the possibilities in the geosciences. We are still on the lookout for high school classrooms to visit, guest speakers for open houses, teachers to participate in workshops, and applicants for our summer bridge program. You can learn more about GET TX on the department website. Please spread the word and reach out to us if you are interested in participating!





National Geographic Society-funded grant

-By Dr. Velvet Nelson

During the 2021-22 academic year, SHSU geographers **Drs. Velvet Nelson, John Strait, Ross Guida**, and **Ava Fujimoto-Strait** partnered with ninth grade world geography and AP human geography teachers from Aldine ISD in a National Geographic Society-funded project titled **"Building an Engaging Place-Based Geography Learning Community in Metro Houston."** This project was based on the notion that student learning is greatly enhanced when traditional classroom instruction is supplemented by the incorporation of place-based projects and field experiences.

While the lingering effects of the COVID-19 pandemic limited some aspects of the project, the highlight of the project was the Houston culture field experience for teachers led by Dr. Strait. The experience included visits to sites around the Houston metro area that represent the city's diverse cultures, including the Teo Chew Vietnamese Buddhist Temple, the Mahatma Gandhi District, Emancipation Park, and Our Lady of Guadalupe Catholic Church. This experience highlighted the value of place-based learning. World geography teachers reflected on the ability to bring their lessons on places around the world back, and human geography teachers noted the potential to illustrate key geographic topics such as immigration and cultural diffusion through such places. To further engage students in place-based learning, the project initiated the *h_town_geography* Instagram, highlighting local places, developed a GIS StoryMap based on the field experience, and is in the process of creating a virtual field experience through video content.

For more information, please visit our GET TX and NGS grant websites:

GET TX: <https://www.shsu.edu/academics/environmental-and-geosciences/get-tx/index>

NGS: <https://www.shsu.edu/academics/environmental-and-geosciences/national-geographic/index.html>

Faculty-Student grant research projects

SHSU provides amazing opportunities for our students to work with our faculty on various research projects. Here are some funded projects in 2021-2022:

Dr. Joe Hill - *Building an Augmented Reality Sandbox* - Mini-STEM grant. Worked with Anjali Khisty (Geology), Daniel Minke (Geology), and Marcos Cortez (Geography).

Drs. Ross Guida and Mark Leipnik - *Lake Bonanza Mapping Project* - COSET Undergraduate Research grant. Worked with Marcos Cortez (Geography) and Sophia Cruz (Geography).

Ava Fujimoto-Strait - *Developing a Virtual Field Lab* - Mini-STEM grant. Worked with Megan (Forbes) Puente (Geology) and Melissa Moya (GIS).

Dr. Don Albert - *The Forgotten Women of The Bounty: Sociocultural and Spatial Legacies of Pitcairn Island Tapa*. EURECA FAST Award. Worked with Matt Purifoy (Geography).

Dr. Renjie Zhou - *Understanding Geothermal Processes in a Fracture-Rock Matrix System*. ORSP New Faculty Research grant. Worked with Paige Kempker (Environmental Science).

Dr. John Strait and Ava Fujimoto-Strait - *Aloha 'Aina: Using the Love of Place to Teach Cultural and Environmental Diversity*. ORSP Pilot Study research grant. Worked with SHSU alumni/teachers - Libby Jackson (Geography and History), Cody Walker (Geography), Agustina Musso-Core (Education), Brittany Condry (Geography) and Ileana Sanchez (Geography).

Congratulations to our 2021 and 2022 Graduates!





Welcome Dr. Josh Gilliland

We are excited for Climatologist, **Dr. Josh Gilliland**, to join our department this Fall 2022. Dr. Gilliland received his B.S. degree in Geography (with a concentration in Atmospheric Sciences and a minor in Earth Sciences with a focus in Environmental Studies) from The Ohio State University, M.S. degree in Geosciences and a graduate GIS certificate from Western Kentucky University, and a Ph.D. in Geography from Louisiana State University.

Dr. Gilliland's research looks at post-tropical meteorology, high-wind events in North America, and wind speed characteristics of South America. Dr. Gilliland will be teaching *Weather and Climate* and a few advanced meteorology/climatology courses that will include using satellite and unmanned aerial system technology, along with emphasizing the role of GIS and software applications to these fields.



Ombuds Office - Dr. Falguni Mukherjee

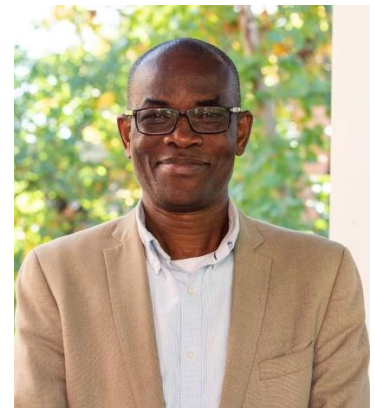
Congratulations to Geography professor and Graduate Coordinator, **Dr. Falguni Mukherjee**, on being selected as the University Ombudsperson. Dr. Mukherjee spent some of the Spring semester training and setting up the Ombuds Office for informal resolution of conflict and concerns for our faculty and staff on campus. The office opened this summer.

In addition to teaching, graduate coordinating and her Ombuds service to the University, Dr. Mukherjee is also a Texas Academic Leadership (TALA) fellow, published an article and book chapter this year, and was promoted to Full Professor. Thank you for all that you do, Dr. Mukherjee!

Faculty Senate Chair Elect - Dr. Samuel Adu-Prah

Congratulations to Geography professor, **Dr. Samuel Adu-Prah**, on being selected for a two-year term serving as Chair Elect/Chair of our SHSU Faculty Senate. We appreciate your time and service!

In addition, Dr. Adu-Prah also serves as President of the Africa Specialty Group (ASG) in the American Association of Geographers (AAG) and is a Carnegie African Diaspora Fellow.





50 years at SHSU

-By Dr. Don Albert

Dr. Jim Tiller retired this May, after 50 years at Sam Houston State University. Just for perspective, the Earth's population in 1972, when he arrived at SHSU was 3.8 billion, and reached 7.9 billion by the time he retired in 2022 – a difference of over four billion people.

Jim came to SHSU as Professor and Chair, a position he held for 10 years. He served for many years as the Chair of the Department Tenure and Promotion Advisory Committee (DPTAC), a very important committee each department maintains to ensure quality control. Since I have only been at SHSU for 23 years, a mere “pup” as Jim would quip; I cannot do justice to his numerous contributions to SHSU. Given the enormity of this task, I will provide just a few of his accolades that span across the spectrum of teaching, service, and research.

On the teaching front, Jim was one of the first faculty members at SHSU to develop online courses (*Weather & Climate*), and he joined with other colleagues in developing online teaching materials (the online textbook for our *Weather & Climate* classes). He taped and personally transcribed his lectures and amassed thousands of images and test questions and answers to support course instruction and testing.

Jim and his wife Nancy established two endowment funds during their years at SHSU: (1) The Raven/Kappa Alpha Endowment which provides scholarships to select members of Kappa Alpha Order; and (2) The Nancy and Jim Tiller Faculty Research Endowment which is already contributing to archival and field studies, faculty publications, professional development and other activities that support the Geography faculty. In addition, he and Nancy have provided recurring and substantial contributions to the Richardson Endowment, the fund from which the Geography Program finances its student scholarships.

Over the years, he authored nine books and numerous journal articles, magazine pieces, and encyclopedia entries. His last book, published in 2021 (with his wife Nancy and Dr. Gang Gong) entitled *A Boundary Atlas of Texas, 1821-1845*, represents an academic milestone of some significance. His academic publications appeared in such scholarly journals as *Research in Geographic Education*, *Caddo Archeology Journal*, *Social Science Computer Review*, *Ecumene*, *Stripes: The Quarterly Journal of the Texas State Genealogy Society*, *Journal of Northeast Texas Archaeology*, and the *Pennsylvania Geographer*. He also produced over fifty miscellaneous publications for *The Social Studies Texan*, *NCGE Perspective*, and *Handbook of Texas Online*.

Jim has received a half-dozen awards since 2000, including from Kappa Alpha Order: the Knight Commander's Accolade (the highest honor one can receive from the Order), and the Cornerstone Award for his work in securing the present KA House; Year Service Awards (40, 45, and 50) from SHSU; and First Place-Category 1 (with his brother, Albert Wayne Tiller) from the Texas Genealogical Society for their book entitled, *Our American Adventure: The History of a Pioneer East Texas Family, 1657-1966*.

Jim was an amazing colleague; and a team player doing his share and more, and always “for the good of the Department.” I, for one, will miss interacting with him face-to-face. His research contributions to the historical geography of Texas speak for themselves. Jim is a true Southern gentleman, and he was a wonderful colleague. I can say, without question, that my time, and I suspect that of many others here at SHSU, was enhanced because of Dr. Jim Tiller.

The “Killer” has left the building.



Academic Community Engagement (ACE) courses

The measure of a Life is its Service -- Academic Community Engagement (ACE) is a teaching method that combines community engagement with academic instruction. This pedagogy encourages students to use the skills and knowledge learned in class to collaborate with community partners in making a difference. Here are some of our ACE projects that occurred in 2021-22:

GEOG 4075 - *Hawaii Field Course* - **Dr. John Strait, Ava Fujimoto-Strait** and students volunteered with *Pohaha I Ka Lani*, to clear invasive species from a community medicinal herb garden in Waipio Valley.

GEO 3415 - *Paleontology of Invertebrates* - **Dr. David Moss** and students put together an exhibit to display a fossil collection donated by Mr. Tony Gorody at the Sam Houston State Natural History Collections.

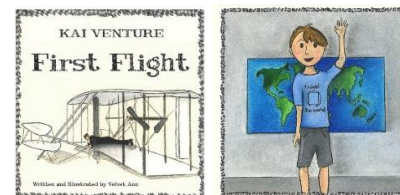
GEOG 3301 - *Environmental Geography* - **Ava Fujimoto-Strait** and students planted native species at the SHSU Biological Field Station and picked up trash along the Trinity River in Riverside, TX.

GEOG 3352 - *Tourism Geography* - **Dr. Velvet Nelson** and students acted as consultants for local attractions in Huntsville, TX.

Exciting our Youth about Geography

Congratulations to Geography professor, **Dr. Velvet Nelson**, on adding children's book author AND illustrator to her long list of accomplishments.

Kai Venture: First Flight is the first book in a series, based on her son's travels. The books focus on unique people, places and events that have happened over time in the United States. Dr. Nelson spent her weekends using pastels to bring geography to life through her stories and illustrations. *Kai Venture: First Flight* can be purchased on Amazon.



Engaging Spaces Grant and Other Updates to Lee Drain Building



Congratulations to **Dr. Ross Guida** and **Ava Fujimoto-Strait** on being awarded the \$50,000 Engaging Spaces grant to renovate LDB 339 with moveable lab tables, floor-to-ceiling dry-erase boards, multiple display screens, a living wall and more. Having a room that can easily change configurations will increase the types of group activities and discussions in classes and labs. The new classroom will be ready in the Spring of 2023.

In addition, the entire Lee Drain Building has been undergoing renovations and much-needed updates this summer.

Geology at SHSU - Episode 1

-By Dr. Brian Cooper

The origin of the Geology Program at SHSU started with hiring **Dr. Dwight D. Brown** in 1967. Dr. Brown was hired by the Department of Biology because of a combination of factors that included having a friend in the department and having a doctorate in Biology. He did his undergraduate work in geology and did graduate research in palynology at the University of Missouri - Columbia. That research was funded through their Biology Department. He went from Assistant Professor of Biology at SHSU to Associate Professor of Biology in 1971. He became a full professor by 1978 and was listed as Professor of Geoscience once the Geoscience Program was established. Dr. Brown did all things Geoscience at SHSU until he was joined by Dr. Gregory Conrad in 1981.

Dr. Maynard E. Yoes from the Department of Biology (SHSU) was also from the University of Missouri and was the friend mentioned above and important to the origin of our Geology Program. He helped Dr. Brown in numerous ways and was a supportive Chair during the early formative years of Geology at SHSU. He taught introductory geology courses. He and Dr. Brown organized several geology/biology field trips out to Arizona and Utah plus they helped students establish the Sam Houston Association of Students (SHAGS) (more about these in Episode II).

In 1969 there were only two geology courses listed in the catalog. The approval of the Geosciences Program (Earth Sciences) occurs in 1972. There was not yet a degree in Geosciences. The Geosciences Program provided a second teaching field for Bachelor of Arts in Teaching degrees in Biology, Chemistry, or Physics. A Geosciences Minor was available for other majors. Introductory geoscience courses could not be used to meet the core science requirement at this time. Seven new courses were added in association with the program approval. The new program was initially attached to the College of Science Dean's Office but became part of the Department of Life Science in 1976 along with Biology and Environmental Science. The Bachelor of Arts in Teaching (B.A.T.) with a major in Geoscience was authorized by the Texas Higher Education Coordinating Board (THECB) on April 20, 1978. Three more new courses were added at this time.

In Fall 1977, Dr. Brown was teaching all the Geoscience courses (*Physical, Historical, and Stratigraphy*) plus coordinating all the labs. There was one section of each introductory lecture with 4 *Physical Geology* labs and one *Historical Geology* lab. Eventually, introductory geoscience courses counted toward the core curriculum.

By Spring 1982, Geoscience is growing rapidly, with 15 *Physical Geology* labs, 16 *Historical Geology* labs, plus advanced labs in *Petrology* and

Paleontology all located in the Old Main Building. Both Dr. Brown and Dr. Conrad have their offices in the Old Main Building. Every rock sample, every map, and all the equipment associated with the Geoscience Program are in the Old Main Building.

On the evening of February 12, 1982, Old Main catches fire and burns to the ground. It was a very hot fire fueled by years of petroleum-based insecticides soaking into the wood interior. The fire melted glass and metal. A large metal disk found later is thought to have been a drink machine. The Geoscience Program lost everything. The Geoscience Faculty also lost everything, especially Dr. Brown who had kept all his geology materials in his office. His dissertation, his Historical Lab Manual manuscript, and his Geology of Texas manuscript that he was working on, all his geology books, and all his geology notes were burned. Such losses might easily break a lesser person.

But now he had to figure out how in the world they were going to finish the semester.

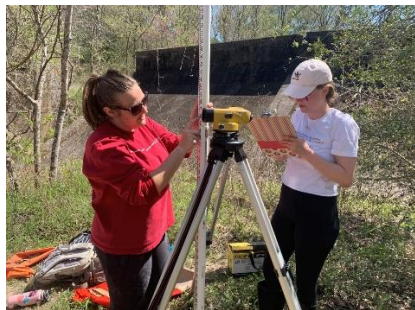
Stay tuned for Episode II, *Like a Phoenix*, as **Dr. C. Allen Williams** of Geography comes to the rescue.

The author takes full responsibility for any misrepresentations or errors in this article. My apologies to Dr. Dwight D. Brown and to the Yoes family for any such errors. Any corrections or additions to this abbreviated version of the full history will be much appreciated.



Back row - Dr. Yoes (l) and Dr. Brown (r)

Hands-on Learning is a Priority. In the Field...



Graduate Program in GIS

-By Dr. Falguni Mukherjee

Enrollment: As of summer 2022, the GIS graduate program has a total of 32 students enrolled in the traditional track, professional track, or in the graduate GIS Certificate program. Four students graduated with a Master's degree in GIS in May 2022, and four more students graduated in August 2022.

As of July 2022, seven students were accepted into the graduate program and have enrolled for Fall 2022 classes.

Scholarships: Galbokke Hewage Kumudumali De Silva received the COSET Graduate Achievement scholarship in Spring 2022. Tin Thanh Vo and Priya Bansal received the Fall 2022 COSET Graduate Achievement scholarship. The Graduate School General scholarship for Fall 2022 was awarded to Jennifer Grove.

Research projects: Galbokke Hewage Kumudumali De Silva is working with Dr. Mukherjee on a research project evaluating the impacts of urban sprawl on the environmental health of global cities using satellite data. Priya Bansal is working with Dr. Mukherjee on a research project that examines the correlation between COVID-related misinformation and COVID vaccine hesitancy using Multiscale Geographically Weighted Regression.

Internships and jobs: This summer, Jennifer Grove worked as a GIS intern at PureWest Energy. The internship materialized through Bobby Saleh, an alum of the GIS graduate program, who is the GIS manager at PureWest Energy.

Javier Leija, one of our current graduate students who worked for the City of Pearland as a GIS Analyst, recently joined ESRI as a Product Engineer. Stella Braz who joined the graduate program in Fall 2021, recently accepted a GIS technician position in a GIS consulting firm that works with local and federal government agencies. Sakshi Chugh, who graduated from the GIS graduate program in May 2022, was offered and accepted a role of GIS Technician II at WeLink Communications LLC. Sarah Siddiqui who also graduated in May 2022, was promoted to a GIS Analyst

position in her current company. Caitlin King who recently graduated from the GIS Master's program in December 2021, has joined the team at a Houston-based planning company, META Planning + Design LLC, as a Planner. Kristy Montemayor, who also graduated in December 2021 with a master's degree in GIS, joined the City of Lubbock, as a GIS Analyst.

Graduate Assistantships: The department has six GA lines offered to students admitted into the traditional track of the GIS graduate program. Graduate assistants receive a monthly stipend and are eligible for in-state tuition. Graduate assistants are assigned to an undergraduate lab-based class or an undergraduate GIS class under the supervision of an instructor.

For more information about the GIS graduate program please visit:

<https://www.shsu.edu/academics/geography-geology/gis/>

The Texas State University System Board of Regents

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