



## The Department of Earth and Environmental Sciences

Greetings, EES faculty, staff, students, alumni, and friends!

Another year flew by fast and I found it difficult to recount. It's the year when COVID-19 as a public health emergency has officially come to an end. Our department continues to grow in both the number of majors and productivity. Our students continue to thrive in learning hands-on in the classrooms, labs, and in the field. We are adding the Anthropology Track to our Bachelor's program, starting this Fall. All the while when the earth continues to shatter records in extremes. As the saying goes, the only constant is change. Thank you for your continued dedication and support!

-Robin Zhang



(Students in EES 339 Field Geology class on their western US expedition, May 23, 2023. From left: Kennedy Cook, Melanie Johnson, Zachary Brown, Ash Medlock, Sofia Bayer, Dorothy Bailey, Skylar Ross, Jarred Asselta, Alex Russell, Leo Dilehay, Victoria Edwards)

## EES Welcomes New Faculty



Dr. Katharine Loughney joins the Department and the Watershed Studies Institute (WSI) as a jointly-appointed Assistant Professor. She holds a PhD in paleontology from the University of Michigan, an MS specialized in sedimentology, stratigraphy and paleontology from the University of Rhode Island, and BS in Geology and French from Beloit College in Wisconsin.

Dr. Loughney was an NSF Postdoctoral Fellow at the University of Georgia, served the GeoCorps America in two different roles and volunteered at the Smithsonian National Museum of Natural History in Washington, DC.

Welcome Dr. Katharine Loughney!

Mrs. Emily Johnson starts this Fall as an Instructor in our Department. She is an alumna of Murray State University, has previously received both a BS and an MS degree in Geosciences. In the last seven years, Mrs. Johnson served as an agriculture conservation technician in the Calloway County Conservation District and a wetland reserve technician in the Graves County Conservation District. In addition to conservation, she brings with her years of public outreach and education experience.

Welcome Mrs. Emily Johnson!



## Tracie Russo Receives the Steven H. Cobb Staff Excellence Award



(Tracie Russo receives her award from Dean Dr. Claire Fuller)

Ms. Tracie Russo, Administrative Assistant in EES, received the 2023 Steven H. Cobb Staff Excellent Award in the Jones College of Science Engineering and Technology. Tracie joined the Department in 2019 and has been the “heart of the department” ever since. She has met many challenges over the pandemic, survived a tornado and volunteered many hours in her hometown of Mayfield in the aftermath. She has gone above and beyond, a trailblazer in the Murray State University experience, for example, to make sure everything is in place so that our faculty and students could conduct field research in Mexico or have a great geological excursion across the country. She is the person we all rely on to get things done.

Congratulations to Tracie for her distinguish service to EES and Murray State University!

## Congratulations to our Outstanding Students and Graduates of 2022-2023!



(From left: Pam Rodriguez, Matt Meyer, Alex Russell, Logan McGowan, Jarred Asselta, Skylar Ross, Rachel Stuckey)

### Congratulations to our Outstanding Students and Graduates of 2022-2023!

Outstanding Senior in Environmental Science: Skylar Ross

Outstanding Senior in Geography & GIS: Logan McGowan

Outstanding Senior in Geology: Jarred Asselta, Alex Russell

Outstanding Graduate Student in Research: Matthew Meyer

BS Degree Recipients: Jarred Asselta, Victoria Edwards, Rachel Farris, Bryan Floyd, Logan McGowan, Pam Rodriguez, Skylar Ross, Alex Russell, Vanessa Sivils, Natalie Slezakova, Preston Weems

MS Degree Recipients: Matt Meyer, Matthew Owen, Lacy Risner, Skyler Wilson

Certificate in GIS Recipients: Bryan Floyd, Christopher Hall, Daniel Horton, Logan McGowan, Justina Raleva, Pamela Rodriguez, Alex Russell

Graduate Certificate in Geospatial Data Science Recipients: Rachel Farris, Carolyn Logan, Rachel Stuckey

### 2023-2024 Departmental Scholarship Recipients

Barbara & Hays Brooks: Anna Compton

Alice and George Kipphut Sr. Scholarship: Lauren Smith

A B Waters Scholarship: Jenna Opp

Jesse D. and Deborah C. Jones Scholarship: Kenney Cook, Devin Richards, Alyson Saul

Clyde Reed-Jim Smith Scholarship: Lauren Gilchrist, Rowan Verdegan

James Allan Roberts STEM Internship Scholarship: Trinity Dunbar

Matthai-Panzer Scholarship: Cade Howell, Alyssa Pickerell

Neil and Joan Weber Endowed Scholarship: Avery Vogel

## Dr. Robin Zhang Receives the Dr. Neil Weber Award for Excellence



Dr. Robin Zhang, Professor and Chair of EES, received the 2023-2024 Neil Weber Award for Excellence in the Jones College of Science Engineering and Technology. She came to Murray State University in 2003 as an assistant professor, was promoted to associate professor in 2009 and full professor in 2014.

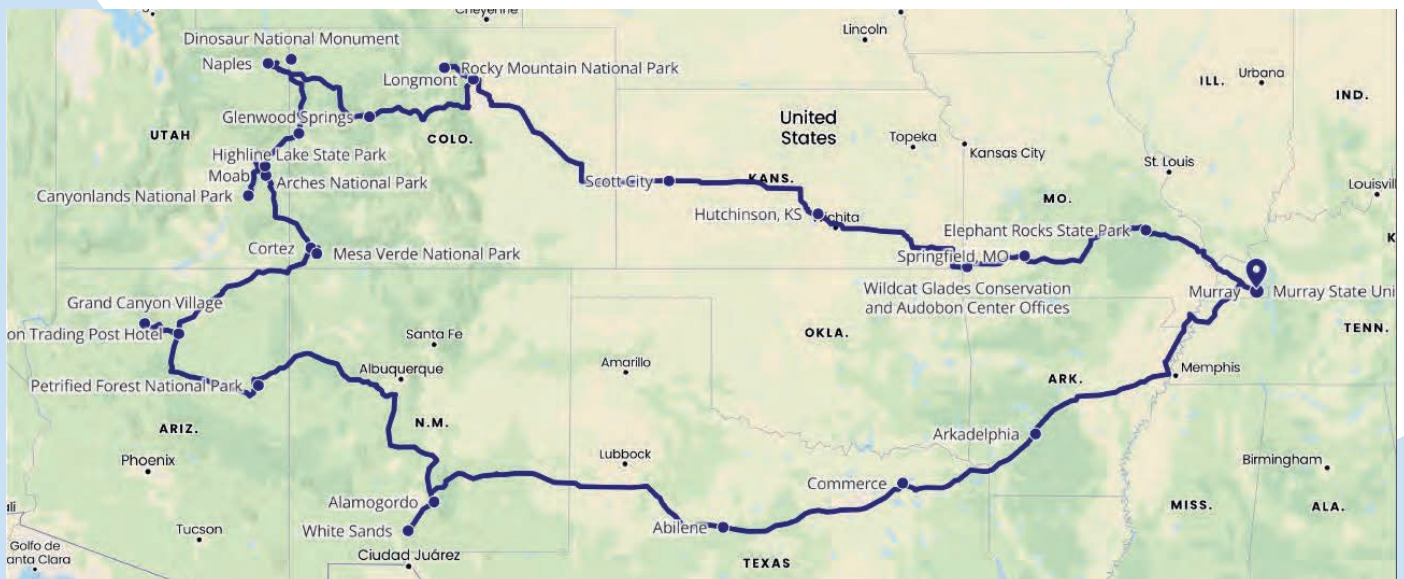
Since 2016, she has served as the chair of the Department. For the last seven years, she also served as a Co-PI of the National Science Foundation-funded MSU ADVANCE project, advancing women faculty in the sciences. She teaches courses in Geography, GIS, and Remote Sensing. Her research interests include remote sensing and GIS

modeling of land cover and land use change, urban development, resource management and environmental hazards.

## EES 339 Students Explore the Western United States



From May 16 to June 3, 2023, Prof. Christine Witkowski led eleven (11) students in EES 339 class on an expedition to the western United States to explore geology, ecology and human history. They visited about one dozen National Parks, National Monuments and State Parks, and lodged at several interesting places rich in history and full of natural beauty. The map below detailed their travel routes. Truly a once-in-a-lifetime experience! Prof. Witkowski published a travel blog, with daily description of the group's unique experience and many pictures. Visit <https://cmwitkow.travelmap.net/> to travel virtually with them. This trip was the grand finale of Christine's teaching career of 20+ years. We wish her the best in her future adventures!



## Summer Student Research & Internship Highlights



This summer I started my graduate research focusing on the woody root structures known as “knees” of bald cypress trees. I am continuing research that I completed as an undergrad on the role these knees play in emitting methane and carbon dioxide to our atmosphere, particularly in the face of global climate change. Additionally, I am investigating what influences spatial variation in knee growth patterns, i.e. where they grow and what affects their overall shape and size, as this varies immensely. I am excited to be continuing on this project and am looking forward to seeing where my grad school career at Murray takes me!

- Skylar Ross



My internship was my interpreter job at the St. Louis Zoo. I educated the people on the animals. Some places I go to for educating the guests about the animals is at the grizzly area, painted dog area, hippos, rhinos, cheetahs, etc. I helped out at places like the stingray area and we now do giraffe feedings along with the penguin area.

- Teagan Daw



This summer, I am working at the University of Louisville’s Urban Design Studio on a project to improve downtown Louisville’s walkability. This is a part of an overall project to better connect the health corridor to the business district. My team is running a walkability study covering two major roads, and we are collecting stress data from over 50 participants to identify sidewalks that are inaccessible and stressful to pedestrians. The goal of this project is to create a more enjoyable and accessible downtown Louisville and encourage more people to walk.

- Benjamin Collett



This summer I was offered a wonderful opportunity to study abroad in Mexico with Dr. Venter. I spent eight weeks in the Veracruz region making new friends, improving my Spanish speaking, and exploring new and exciting places. I learned a lot about archaeological fieldwork and the analysis and processing of data - from ceramics to soil samples and more. The archaeology of the region was incredible. We made trips out to museums and had get-togethers with some well-known archaeologists in the region. The most interesting things I got to see were the colossal Olmec heads in Santiago and Tres Zapotes. On several occasions we made trips out to the beach or local springs and enjoyed a day swimming and collecting shells. This experience has not only helped me to see and explore the culture of a new country, but it also helped me learn more about myself.

- Lauren Smith

## Alumni Update: Kaitlyn Calvert, B.S. Geosciences, Geoarchaeology Track, 2017



From the time I was old enough to dig holes, I have been obsessed with all things geoscience. Whether it was fossils from the shores of Kentucky Lake where I grew up, geodes in my uncle's Indiana fields, or stacks and stacks of books on archaeology, I couldn't get enough. At age 8, I began visiting the summer archaeology digs led by the late Dr. Wesler. With his and my parents' encouragement, I was inspired to begin my journey at Murray State. In 2017, I received my BS in Geosciences with a focus in Geoarchaeology and immediately began a mining internship in Arizona at Freeport McMoRan. I was hired on as an Environmental Scientist at their copper mine in Bagdad, Arizona where I stayed for 5 years. During that time, I worked heavily w in Geoith GIS and became well-versed in the world of environmental sciences. I am now working as the Environmental HSE (Health Safety and Environmental) Engineer at Honeywell Aerospace Sky Harbor in Phoenix, Arizona. My career path has taken many twists and turns that in ways I could not have

predicted, but the foundation I received at Murray State was invaluable in my journey. When I'm not at work, I enjoy gardening and gaming with my wife and our legion of pets.

- Kaitlyn Calvert, BS 2017, Environmental HSE (Health Safety and Environmental) Engineer at Honeywell Aerospace Sky Harbor in Phoenix, Arizona.

## Alumni Update: Austin Johnessee, B.S. Earth and Environmental Sciences, Geography and GIS Track, 2019



I came to Murray State as a freshman fresh out of high school in 2015, already having decided on pursuing GIS as it combined my passions for computers and geography. During my time here, I was able to conduct research under Dr. El Masri, be a TA for Intro to GIS, and work two summer internships with public utilities. The highlight of these opportunities was being able to fly out to the NASA Jet Propulsion Laboratory in California for a few days with Dr. El Masri. After graduating in summer 2019, I joined Maxar Technologies as a contract Geospatial Analyst in their St. Louis office, being converted to full-time employment in March 2020 just days before adopting a work from home posture due to COVID-19.

As a Geospatial Analyst with Maxar, I work on defense mapping projects focusing on feature collection and land cover projects, going from being a production-focused analyst to assisting with QC and leading small teams through the complete production process of delivery areas to the client. Recently, my role has switched to being a technical lead where I administer

the SDE that enables multiple analysts to work on a single database, coordinate sharing of data with the client and subcontractors, develop ArcGIS toolboxes, help write bid proposals for contracts, and work closely with software developers in coming up with automated processes to accelerate our production timeline.

Outside of my work with Maxar, I try to be involved with the local geospatial community in Saint Louis, which enabled me to sit on a panel for young professionals during the Geo-Resolution 2021 conference. I'm looking forward to where the future takes my career and don't believe that I would have been able to reach my current role if it wasn't for the Geoscience/EES department and the opportunities and skills I was able to pursue and develop as a student.

- Austin Johnessee, BS 2019, Geospatial Analyst at Maxar Technologies in St. Louis, Missouri

Update from retired faculty: Dr. Tom Kind (retired since 2009)



Jan and I have continued to enjoy traveling, spending time with good friends and family, and tending to daily activities, some of which do not fall into the “enjoyment” category. Our most lengthy excursion occurred in the Fall of 2019 when we visited numerous national parks in the northern and western US. After visiting a friend in Grand Forks, ND, we stopped at Theodore Roosevelt NP, a landscape somewhat similar to the Badlands of South Dakota. We headed west to Glacier NP just before most activity there was closed for the winter months and then on to Mt. Rainier NP. We visited other parks including Crater Lake NP on our way to Mt. Shasta and Yosemite NPs. The return trip to Murray included a few very enjoyable days in the vicinity of Rocky Mountain NP. We also visit our children and grandkids in Little Rock AR and Santa Fe, NM as often as possible. We wish the best to each of you!

#### Invitation to Share Experiences or Research

The Department of Earth and Environmental Sciences is always on the lookout for alumni willing to speak about their employment experiences or research. Our students greatly value the experience and guidance from our alumni! If you are in the area and would like to present on a subject or employment opportunities, please contact us. Email our administrative assistant, Ms. Tracie Russo, [trusso@murraystate.edu](mailto:trusso@murraystate.edu), or call 270-809-2591 to schedule.

#### Giving and Gifting

If you would like to donate to the Department of Earth and Environmental Sciences, we have a number of scholarships to select from, including the Wesler Scholarship, the Matthai-Panzer Scholarship, the Reed-Smith Scholarship, the Alice and George Kipphut Sr. Scholarship and the recently formed Neil and Joan Weber Endowed Scholarship. Gifts to the Department of Earth and Environmental Sciences encourage student success in a variety of ways, by providing grants and scholarships, funding travel, or by purchasing equipment upgrades. Gifts of any size are greatly appreciated and always needed!

Checks should be sent to the Office of Development, Heritage Hall, Murray, KY 42071-3441. Please specify a fund in the memo field. Donations can be made over the phone by calling 1-877-282-0033 or 270-809-3001. Visit [murraystate.edu/giving](http://murraystate.edu/giving) to make an online donation. Thank you for your support!