

Environmental Science Graduate Program

Spring 2019 Newsletter

Good day to you all!

Another year has come and gone. We have had to say good-bye to many students, but hello to many more! This year we have welcomed students from all over the State of Oklahoma, South Africa, Hungary, Michigan, Texas and New York!

This has been a year that has seen many new research projects begin. ESGP students are writing the Watershed-Based Plan for Lake Hudson through funding provided by the Grand River Dam Authority. We are studying the Life Cycle of Zebra Mussels at Sooner Lake through funding provided by OG&E. At Lake Carl Blackwell, our students are using remote sensing methods to map the spatial distribution of the invasive aquatic species known as Yellow floating-heart.




We will be overseeing the stream restoration of Saline Creek with the Cherokee Nation. And, we were recently selected as part of a team to complete watershed management activities within the Stillwater Creek Watershed for the City of Stillwater.

Summer is upon us and we are ready to hit the water!

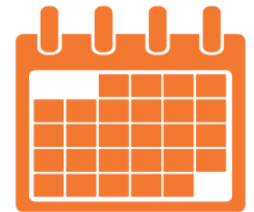
Scott Stoodley, Director



Contact Us

-  117 Life Science East
Stillwater, OK 74078
-  405-744-9229
-  esgp@okstate.edu

Dates to Remember



Friday, May 10
Stillwater Graduate Commencement

Monday, May 13
OSU-Tulsa Graduation Ceremony

May 11 - June 9
HAZWOPER Course

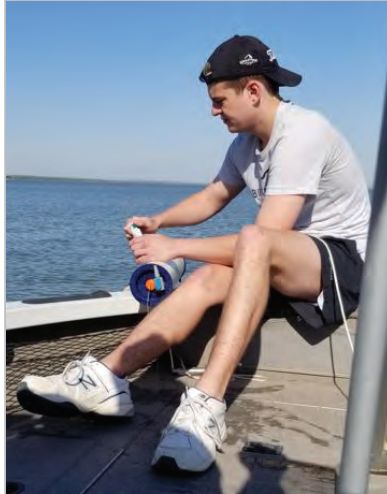
June 10 - August 2
Main Summer 8-Week Term

August 19
Fall Semester Begins

Student Spotlight

Stephen Angle

An invasive plant species, Yellow floating-heart (*Nymphoides peltata*), has successfully colonized Lake Carl Blackwell. Stephen's research is a management-based approach studying the efficacy of herbicide treatment targeting this invasive species over time. His monitoring methods include using unmanned aerial vehicle (UAV) imagery and multispectral satellite imagery to track the spatial extent and health of Yellow floating-heart. UAVs allow for very fine resolution imagery for improved detection accuracy, while satellite data allows for normalized difference vegetation index (NDVI) calculation. The objective of the research is to use these remote sensing tools to determine how the infestation is temporally changing, which will then aid in management decisions moving forward. Stephen Angle received his B.S. in Environmental Science from Oklahoma State in Spring 2017. His favorite activities are fishing, kayaking, hunting, and watching Thunder games. Stephen's career interests include water quality monitoring, watershed planning and restoration, and geographic information systems (GIS) of natural resources. Stephen is an active volunteer in the Oklahoma Conservation Commission's Blue Thumb stream monitoring program and the current president of the Society of Environmental Scientists.



Earth Day 2019 Protect Our Species



“Protect Our Species” was the theme of Earth Day 2019. Our planet houses millions of species, and every day scientists discover new ones. Despite this abundance, many species are going extinct. Scientists now believe that several species are disappearing daily. The insect population has decreased by up to 75 percent in some areas of the world. This includes bees which along with other insects are responsible for 80 percent of wild plant pollination. The number of marine animals has fallen by 40 percent, and 40 percent of the world's bird species are in decline. Even giraffes, elephants, and whales are at risk of becoming extinct. Why are our species in such steep decline? There are several forces driving this mass extinction:

- 1 The **overexploitation** of species due to human consumption, derived byproducts, and sport

Courses



OSU-Tulsa is again offering the Hazardous Waste Operations and Emergency Response (HAZWOPER) certification course this summer. ENVR 5593 / CRN: 43317 is a blended course that meets online from May 11 to June 9. During the week of May 13-17, students meet face-to-face and get hands-on

training on the proper use of personal protective equipment (PPE), hazard recognition, proper decontamination procedures and containment procedures. The course is open to members of the public who are required to have the certification for employment, including equipment operators, general laborers, emergency responders and supervisory personnel.

For more information, please visit <https://tulsa.okstate.edu/news/osu-tulsa-offer-40-hour-hazwoper-certificate-course>

(continued page 7)

New Additions

Dr. Hitesh D. Vora



Dr. Hitesh D. Vora, a new Environmental Science Graduate Program affiliated faculty, has a Masters in Mechanical Engineering Technology and a Doctorate in Materials Science and Engineering from the University of North Texas. Before becoming an assistant professor at Oklahoma State University in 2015, Vora conducted research and served as a teaching assistant throughout Texas.

Dr. David Lampert

Dr. David Lampert, a new Environmental Science Graduate Program affiliated faculty, grew up in West Texas before moving to Shawnee, OK, where he graduated from high school. His interests in nature, math, science, and problem solving led him to pursue a career in environmental and water resources engineering. He received a Bachelor of Science in Civil Engineering with a minor in Mathematics from Oklahoma State



University. Dr. Lampert then attended graduate school at the University of Texas at Austin where he received a Master of Science in Environmental and Water Resources Engineering. He worked as a consulting engineer for municipal and industrial clients before returning to the University of Texas to pursue his Ph.D. in Civil Engineering. Following graduate studies, Dr. Lampert received a fellowship from the Department of Energy to study the impacts of bioenergy on water resources at Argonne National Laboratory in the Chicago, IL area. He returned to his alma mater as an Assistant Professor in the School of Civil & Environmental Engineering in January 2016.

Appointment



Dr. Kenneth Ede, director of the ESGP Professional Science Master's Program, was appointed to a three-year term on the state's Hazardous Waste Management Advisory Council. Oklahoma Senate President Pro Tem Scott Shulz appointed him to fill a vacancy left by Michael Graves. Ede will serve through June 30, 2021. His position serves to represent the general public. The purpose of the council is to make ruling

decisions for the Land Protection Division which is a part of the Oklahoma Department of Environmental Quality.

2018 Graduates Spring, Summer & Fall



Ph.D.

Riad Habib
Natarianto Indrawan
Abu Mansaray
Brad Rogers
Sheyda Nazari Chamaki

Masters

Lexi Freeman
Sheyda Nazari Chamaki

Professional Science Masters

Laura Branum
Justina DeCosta Belo
Darius Donohue
Audra Liggerstoffer
Anna Lombardi
Todd Naftzger



Abu and Isha Mansaray are pleased to announce the birth of their son. Mansamusa Mansaray was born on Tuesday, January 29, 2019, at 12:42 p.m. Both mom and baby are doing well.

Speakers

In Fall 2018, the Environmental Science Graduate Program had the pleasure of hosting two prominent speakers. Both gave moving and informative speeches on the environmental issues facing the world today.

Casey Camp-Horinek

On October 5, Casey Camp-Horinek, a long-time Native rights activist, environmentalist and actress, gave a special presentation titled "Realigning Ourselves to Live Within Natural Laws." She has been at the forefront of grassroots community efforts to educate and empower both Native and non-Native community members on environmental and civil rights issues. She and her family were actively involved in the Standing Rock Sioux Encampment.



Camp-Horinek spoke about environmental dangers currently facing the earth. She also discussed what she has done to remedy these issues and empower female environmentalists. She called everyone to help the earth and the environment now because ten years or even a year from now may be too late.

Ashley McCray



On October 31, ESGP partnered with OSU Sierra Club and Net Impact OSU to sponsor Ashley McCray's presentation titled "Oklahoma, Environment, and Grassroots Resistance." McCray is an enrolled member of the Absentee Shawnee Tribe of Oklahoma. She received a B.A. in Psychology and an M.A. in History and Geography from the University of Central Oklahoma. McCray also received an M.A. in the History of Science, Technology, and Medicine from the University of Oklahoma. Her areas of study and passion are the political economy,

industrialization, and the environment. The Oklahoma Sierra Club's Red Earth Group most recently recognized her as their 2017 Distinguished Activist. In 2015, she won the White House "WHO: Champion of Change for Young Women Empowering Their Communities" award.

McCray, who was running for the Oklahoma Corporation Commission or OCC at the time of her presentation, spoke about her experiences in politics. If elected, she would have been the first Native American in the OCC. She discussed organizing people for environmental change and what we, as average citizens, can do to help as well.

Controlled Burn

Over Spring Break, a controlled burn took place. Dr. Stoodley, Dr. Dan Storm, Abby McCrea, & Caleb Biles helped with the burn.





On April 15, the Environmental Science Graduate Program partnered with the Center for Sovereign Nations, and Oklahoma Water Resources Center to host a presentation by David Nimmo, President/CEO of Chickasaw Nation Industries, Inc (CNI).

CNI serves both federal and commercial customers in the fields of energy, technology, logistics, supply chain, manufacturing, and professional services. Nimmo spoke about CNI's history, strategic direction, and efforts to diversify its business offerings to better withstand unexpected headwinds from policy changes and market forces. As a case study, he highlighted CNI's recent acquisition of Filtra-Systems, a manufacturer of industrial fluid filtration and separation products.

New Admits Fall 2018, Spring 2019 & Summer 2019

Ph.D.

Meghan Martin
Aniko Konya

Masters

Kavina Eksteen
Emily Hale
Priya Kayastha

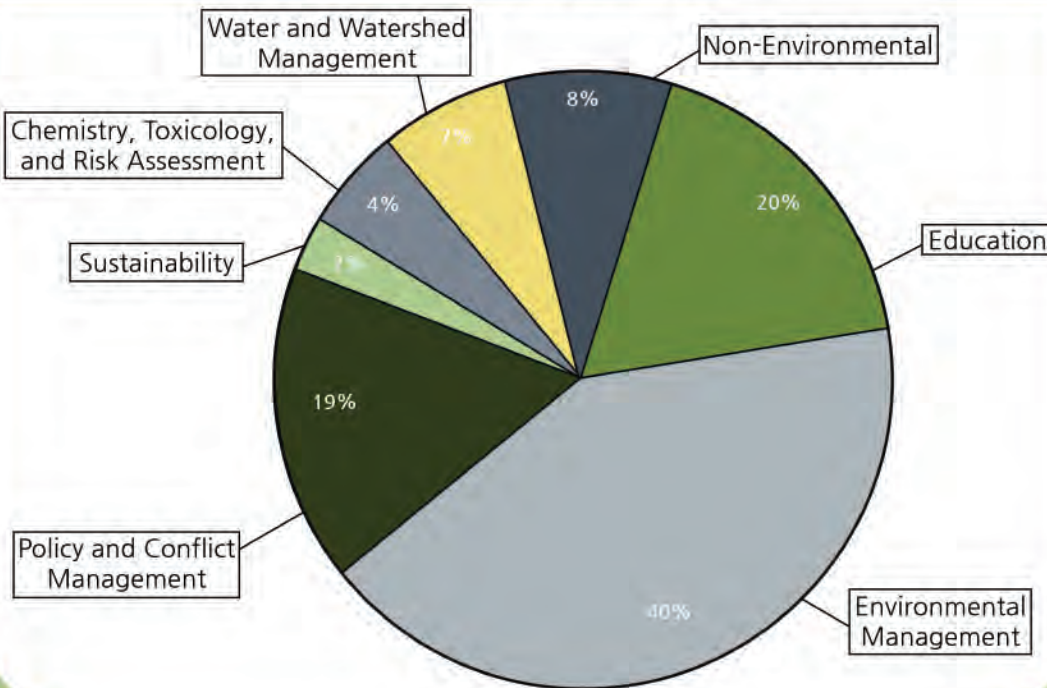
Professional Science Masters

Madison Brown
Joel Garza
Jacob Mahmood
Laura Norris
Ben Ryan
Lauren Smith
Rebecca Stokes

Environmental Science Graduate Program

ALUMNI

Employment Specialization



These statistics pertain to the alumni of Oklahoma State University Environmental Science Graduate Program. The data used included graduates of the Ph.D., M.S., and P.S.M. programs and spanned from 1992 to 2018. The graphic was created by Kendra Jump.

UCO Earth Day



ESGP shared a table with OCLWA at UCO's Earth Day Fair on April 18. In keeping with the theme of the event, which was "Reduce, Reuse, Recycle," we handed out aluminum water bottles, reusable grocery totes, and pens made from recycled plastic bottles.

2019 OCLWA Conference

OSU Environmental Science Graduate Program participated in and helped sponsor the 2019 OCLWA Conference. Three ESGP students presented their research.



Caleb Biles, ESGP Masters student, gave a presentation titled “Zebra Mussel Population Dynamics.”

Benjamin Lamb, ESGP Masters student, gave a presentation titled “Effects of Nymphoides Peltata and Herbicide Treatment on Macroinvertebrate Communities in Lake Carl Blackwell.”

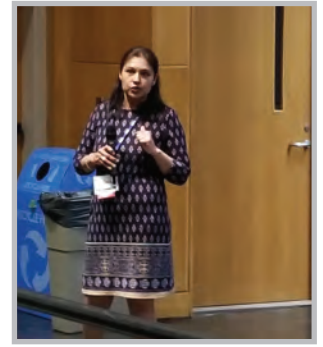


Abby McCrea, ESGP Masters student, gave a presentation titled “The Use of Sentinel-2 to Monitor Yellow Floating-Heart.”

Dr. Abu Mansaray, ESGP alumni, hosted a booth and gave a talk on behalf of his current employer, Oklahoma Water Resources Center at Oklahoma State University.



Scholarship



The 2019 student recipient of the Jimmie Pigg Scholarship is Kavina Eksteen, an ESGP Masters student from Cape Town, South Africa. Eksteen is conducting her research on Lake Hudson, OK for GRDA. She is creating a riparian area prioritization scheme for conservation easements, watershed modeling, and creating a watershed-based plan in order to manage the watershed sustainably. The \$1,000 award will cover her travel to a professional conference.

Welcome



The ESGP Steering Committee welcomes Liesel Ritchie, Associate Director of the Center for the Study of Disasters and Extreme Events at Oklahoma State University.

Earth Day, cont.



Sheyda Chamaki, ESGP Masters student, gave a presentation titled “The Study of Effects of Irrigation water Quality and Leaching on Soil Salinity at Greenhouse Scale using Monitoring-Modeling Techniques.”

- 2) **Habitat loss** through destruction, degradation, and fragmentation



Meghan Martin, ESGP Ph.D. student, gave a presentation titled “Water are you talking about? Mapping Oklahoma Libraries for Drought Monitoring Programs.”



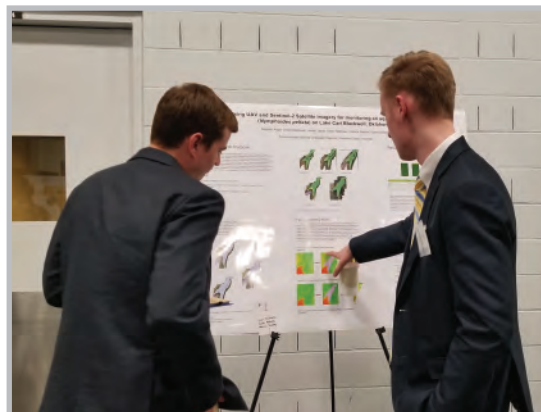
- 3) **Climate change** in response to the burning of fossil fuels, animal agriculture, and deforestation



Kavina Eksteen, ESGP Masters Student, gave a presentation titled “Riparian Assessment of Lake Hudson, Mayes County.”

- 4) **Biotic homogenization** or the replacement of native species by foreign species

Stephen Angle, ESGP Masters student, gave a poster presentation titled “Using Sentinel-2 Satellite Imagery for monitoring an aquatic invasive (*Nymphoides peltata*) on Lake Carl Blackwell, Oklahoma.”



Humans stand at the top of the food chain. Every time we increase our habitat, we harm the survival chances of other species. Knowing how we contribute to the issue allows us to change for the better. To make this change or for more information, please visit Earth Day's website at <https://www.earthday.org/campaigns/endangered-species/earthday2019/>