

# DEPARTMENT OF EARTH, ENVIRONMENTAL, AND ATMOSPHERIC SCIENCES

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At WKU, students and faculty within the Department of Earth, Environmental, and Atmospheric Sciences (EEAS) study an interdisciplinary cadre of contemporary topics aimed at exploring, understanding, and solving the wondrous curiosities of our dynamic planet, and its effects on society. EEAS offers three undergraduate programs and one graduate program, directs two certificate programs, and shares graduate duties with a partnered graduate program:

- B.S. Environmental, Sustainability & Geographic Studies
- B.S. Geological Sciences
- B.S. Meteorology (GS-1340)
- M.S. Geoscience
- Certificate (online): Emergency Management Disaster Science (EMDS; undergraduate/graduate)
- Certificate: Geographic Information Science (GIS; undergraduate)
- M.S. Homeland Security Science (HSS; co-advised with Physics & Astronomy)

In addition to developing fundamental core knowledge in the classroom, EEAS emphasizes applied experiential and high-impact student learning (undergraduate and graduate) via immersive study abroad programs and otherwise nationally awarded (Field Methods in Severe Weather Analysis & Forecasting) and globally recognized (Karst Field Studies Program) field course programs. Students engage in the department's state-of-art operational and research facilities, certified commercial water quality laboratories, as well as service-learning experiences in collaboration with local, regional, national, and global entities. Students in EEAS also work directly alongside faculty with university and state-level appointments, including the Kentucky State Climatologist, WKU's University Meteorologist, University Emergency Manager, and University Director of Sustainability. EEAS students are also guided to prominent national-level internship and research programs around the country.

All students in EEAS are invited to participate in any of the four Ogden College of Science & Engineering Applied Research & Technology Program (ARTP) facilities and co-associated initiatives housed in the department. These include:

- Center for Human GeoEnvironmental Studies (CHNGES) and HydroAnalytical Lab
- Crawford Hydrology Lab
- Disaster Science Operations Center (DSOC) and White Squirrel Weather
- Kentucky State Climate Office – The Kentucky Mesonet

Whether students are helping with state-wide weather and climate monitoring, conducting dye-trace stream analysis, monitoring water quality, or providing hyperlocal meteorological and emergency management decision-support and training, the ARTP programs of distinction and its supporting units within EEAS provide robust student-centered experiential professional development opportunities unique

to WKU. Additionally, EEAS provides students with seven innovative lab spaces dedicated for applied learning and research that focuses on geospatial analytics, applied meteorological and climatological sciences, environmental and sustainability issues, and advances in geology.

The EEAS "learn by doing" philosophy has a proven, measured record of providing key pathways to help students develop advanced professional analytical and communication skills that promote post-graduate readiness in a variety of career sectors.

Joint Undergraduate Master's Program (JUMP) degree offers a Joint Undergraduate Master's Program (JUMP) which provides academically outstanding students the opportunity to complete both an undergraduate and graduate degree in approximately five years. Contact the graduate program coordinator for additional information.

The Geoscience, Master of Science (072) provides advanced professional training for careers as hydrologists, environmental resource managers, city and regional planners, engineering geologists, geophysical and geochemical geologists, meteorologists and climatologists, earth science teachers, Geographic Information Systems (GIS) specialists, consultants in business and industry, and professional educators. The program also provides a scientific foundation for graduate students who plan to continue advanced studies leading to the Ph.D.

## Programs

- Emergency Management Disaster Science, Certificate (1749) (<http://catalog.wku.edu/graduate/science-engineering/eeas/emergency-management-disaster-science-certificate/>)
- Geoscience, Master of Science (072) (<http://catalog.wku.edu/graduate/science-engineering/eeas/geoscience-ms/>)

## Faculty

### Professor

Jerald A. Brotzge PhD, University of Oklahoma Norman, 2000  
Joshua D. Durkee PhD (Geography), University of Georgia, 2002  
Xingang Fan PhD (Atmospheric Sciences, Synoptic Dynamics), Lanzhou University, 1996  
MD R. Gani PhD (Geosciences), University of Texas at Dallas, 2005  
Nahid Gani PhD (Geosciences), University of Texas at Dallas, 2006  
Christopher G. Groves PhD (Environmental Science), University of Virginia, 1993  
Jason Polk PhD (Geography and Environmental Science and Policy), University of South Florida, 2009  
Jun Yan PhD (Geography), SUNY College at Buffalo, 2004

### Associate Professor

Leslie A. North PhD (Geography and Environmental Science and Policy), University of South Florida, 2011  
Zachary J. Suriano PhD (Climatology), University of Delaware, 2018

### Visiting Assistant Professor

Giliane G. Rasbold PhD (Environmental Studies), Foreign College/University, 2019

### Instructor II

Patricia N. Kambesis PhD (Earth and Atmospheric Sciences), Mississippi State University, 2014