

# 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.

The Department's BS programs also provide a strong educational foundation for students interested in continuing their education in graduate school. A five-year bachelors/masters program (JUMP program) is available for students to graduate with a BS degree in one of the Department's undergraduate programs and a Master's degree in Geoscience. The JUMP is available so that motivated students can focus their research interests early in their program of study. The Department's JUMP allows students to earn a bachelors and Master's degree in an expedited time frame.

## Degrees

- Environmental, Sustainability, and Geographic Studies, Bachelor of Science (5009) ([http://catalog.wku.edu/undergraduate/science-engineering/geography-geology/environmental\\_sustainability\\_geographic\\_studies/](http://catalog.wku.edu/undergraduate/science-engineering/geography-geology/environmental_sustainability_geographic_studies/))
- Geological Sciences, Bachelor of Science (5008) (<http://catalog.wku.edu/undergraduate/science-engineering/geography-geology/geology-bs/>)
- Meteorology, Bachelor of Science (578) (<http://catalog.wku.edu/undergraduate/science-engineering/geography-geology/meteorology-bs/>)

## Certificate

- Emergency Management Disaster Science (1748) (<http://catalog.wku.edu/undergraduate/science-engineering/interdisciplinary-programs/emergency-mgt-disaster-science/>)
- Geographic Information Systems, Certificate (174) (<http://catalog.wku.edu/undergraduate/science-engineering/geography-geology/geographic-information-systems-certificate/>)

## 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  
 Margaret M. Gripshover PhD (Geography), University of Tennessee, Knoxville, 1995  
 Christopher G. Groves PhD (Environmental Science), University of Virginia, 1993  
 Michael T. May PhD (Geological Sciences), Indiana University-Bloomington, 1992  
 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**

Gregory B. Goodrich PhD (Geography), Arizona State University-ALL, 2005  
Leslie A. North PhD (Geography and Environmental Science and Policy),  
University of South Florida, 2011

**Assistant Professor**

Zachary J. Suriano PhD (Climatology), University of Delaware, 2018

**Instructor II**

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

Amy T. Nemon MS (Geoscience), Western Kentucky University, 2007

**Senior Instructor**

Margaret E. Crowder EdD (Educational Leadership, Postsecondary  
Leadership), Western Kentucky University, 2012