

**Joseph B. Harris, PhD**  
Western Carolina University  
Department of Criminology & Criminal Justice  
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## Education

- Ph.D. Geography & Anthropology, Louisiana State University (Baton Rouge, LA), 2019  
**Minor:** Disaster Science and Management  
**Dissertation Title:** Vulnerability of industrial facilities in the lower Mississippi River industrial corridor to subsidence and tropical cyclone storm surge  
(Nominated by the Department of Geography & Anthropology for LSU Alumni Association Distinguished Doctoral Dissertation Award in Science, Technology, Engineering, & Mathematics)  
**Major Advisor:** Dr. Robert V. Rohli  
**Minor Advisor:** Dr. Carol J. Friedland
- M.S. Geosciences, East Tennessee State University (Johnson City, TN), 2014  
**Thesis Title:** Evacuation and shelter in place modeling for a release of uranium hexafluoride  
**Advisor/Committee:** Chris Gregg (Advisor), T. Andrew Joyner (Co-Chair), Ingrid Luffman
- B.S. Geosciences (Minor: GIS), Austin Peay State University (Clarksville, TN), 2012
- A.S. Associate of Science, Hopkinsville Community College (Hopkinsville, KY), 2009

## Areas of Specialization

- Emergency Management (Preparedness & Mitigation)
- Geospatial Analysis
- GIS Programming
- Mobile Data Technologies (GIS and Drones)
- Biogeography & Conservation
- Environmental Assessment and Management
- Meteorology & Climatology (Extreme Events & Boundary Layer Meteorology)
- Hazards (Anthropogenic & Natural)
- Geohazards (Risk Assessment, Hazard Mitigation, & Emergency Planning)
- Environmental Geography (Applied GIS & Remote Sensing)
- Evacuation Modeling (Traffic & Pedestrian)
- Spatial Statistics (Data Analysis & Statistics)

## Employment Experience

**Assistant Professor of Emergency & Disaster Management, August 2020 - Present**  
**Department of Criminology & Criminal Justice – Western Carolina University**

Responsible for teaching undergraduate courses in emergency and disaster management for departmental majors. Provides challenging course work, innovative projects, and stimulating exercises which utilize applied techniques to prepare students for the work force.

**Hazard Mitigation Analyst, August 2016 – Present**  
**Stephenson Disaster Management Institute – Louisiana State University**

Provides GIS and technical support to the hazard mitigation team. Updates hazard mitigation plans based on feedback provided by Federal Emergency Management Agency (FEMA), Governor's Office of

Homeland Security and Emergency Preparedness (GOHSEP), the parish/county, and local jurisdictions. Manages GIS inventory and databases as it relates to hazard mitigation planning.

**Adjunct Faculty, March 2017 – July 2020**

**College of Online and Continuing Education – Southern New Hampshire University**

Taught necessary skills that promoted and encouraged successful online learning. Exceeded in student outreach and engagement. Taught GEO-200 World Geography, IT-242 Introduction to Geographic and Information Systems, SCI-310 Geostatistics and Data Analysis, GEO-330 Geohazards, GEO-345 Remote Sensing and Imagery, and GEO-450 Spatial Analysis.

**Visiting Assistant Professor of Geology, August 2019 – May 2020**

**Department of Geosciences & Natural Resources – Western Carolina University**

Taught undergraduate general education courses in environmental geology and natural resource management, upper level geotechnical courses for construction management, and soils/hydrology classes for departmental majors. Provided challenging course work, innovative projects, and stimulating exercises which utilize applied techniques to prepare students for the work force.

**Adjunct Faculty, August 2017 – August 2019**

**Department of Geosciences – East Tennessee State University**

Taught earth science (weather/climate and landforms/processes) courses. Organized, prepared, and revised/updated course materials. Incorporated high-level learning and encouraged critical thinking using class materials.

**Lab Coordinator, August 2016 – August 2019**

**Geoinformatics and Disaster Science Lab – East Tennessee State University**

Oversaw the creation of hazard mitigation plans on the state, regional, local, and higher education campus level in accordance with Federal Emergency Management Agency (FEMA) guidelines. Managed and developed GIS inventory and databases. Served as the primary technical writer and hazard mitigation plan developer.

**Petty Officer Third Class, January 1996 – January 2000**

**United States Navy**

Supervised the movement, spotting and securing of aircraft and equipment aboard United States naval vessels. Performed crash rescue, firefighting, crash removal and damage control duties in connection with launching and recovery of aircraft. Served as V-3 Division's Training Petty Officer aboard the USS Kearsarge (LHD-3). Led educational tours of Naval Operations Base Norfolk for daily visitors.

**Refereed Publications** (\* denotes student co-author)

In Print

**Harris, J.B.**, Joyner, T.A., Rohli, R., Friedland, C.J., and Tollefson, W.C. 2020. It's all downhill from here: A forecast of subsidence rates in the lower Mississippi River industrial corridor. *Applied Geography*, 114(102123), DOI 10.1016/j.apgeog.2019.102123.

Obenauer, J.F.\*, Joyner, T.A., and **Harris, J.B.** 2017. The importance of human population characteristics in modeling *Aedes aegypti* distributions and assessing risk of mosquito-borne infectious diseases. *Tropical Medicine and Health*, 45(38), DOI 10.1186/s41182-017-0078-1.

**Harris, J.B.**, Gregg, C.E., Joyner, T.A., and Luffman, I. 2015. Preparing a small town for a hazardous materials incident: An examination of evacuation routing algorithms and plume models. *International Journal of Geospatial and Environmental Research*, 2(1), Article 5 (Special Issue on Geospatial Analysis of Disasters and Hazards).

### **Mapping and GIS Support:**

Apatu, E.J.I., Gregg, C.E., Richards, K., Sorensen, B.V., and Wang, L. 2013. Factors affecting household adoption of an evacuation plan in American Samoa after the 2009 earthquake and tsunami. *Hawai'i Journal of Medicine and Public Health*, 72(8), 267-272.

### **Books**

#### **Illustrations/Maps:**

Rohli, R.V. and T.A. Joyner (eds.) 2015. *Selected Readings in Applied Climatology*. Cambridge Scholars Publishing, Ltd., 361 pp., 878-1-4438-7562-2.

### **In Review**

**Harris, J.B.**, Bartlett, G., Joyner, T.A., Hart, M., and Tollefson, W. Modification of the priority risk index: Adapting to emergency management accreditation program standards for institutes of higher learning hazard mitigation plans. Submitted to *Journal of Homeland Security and Emergency Management* (2018).

### **In Preparation**

**Harris, J.B.**, Reeves, A.\*, Joyner, T.A., and Rohil, R.V. Impacts on relative sea level rise on industrial facilities in the Lower Mississippi River Industrial Corridor. For submission to *Natural Hazards*.

Reeves, A.\*, **Harris, J.B.**, Joyner, T.A., and Deegan, H.\* Effects of subsidence and sea level rise on coastal storm surge inundation, extent, and economic loss along the United States Gulf Coast. For submission to *Journal of Coastal Research*.

## **Refereed Technical Publications**

### **In Print**

Joyner, T.A., **Harris, J.B.**, Tollefson, W.C., and Worley, A. (FEMA approval: July 2019) *East Tennessee State University Campus Hazard Mitigation Plan - 2018*.

**Harris, J.B.**, Tollefson, W.C., and Joyner, T.A. (FEMA approval: May 2019) *Tufts University Multi-Campus Hazard Mitigation Plan - 2017*.

**Harris, J.B.**, Tollefson, W.C., Joyner, T.A., and Worley, A. *East Tennessee State University Campus Threat and Hazard Identification and Risk Assessment - 2018*. Approved by East Tennessee State University (March 2018).

**Harris, J.B.**, Tollefson, W.C., and Joyner, T.A. *Tufts University Threat and Hazard Identification and Risk Assessment – 2017*. Approved by Tufts University (January 2018).

### ***State of Louisiana Parish Hazard Mitigation Plan Updates Phase 1 (2020)***

### **In Review**

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Ascension Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Cameron Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Iberia Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Plaquemines Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *St. Bernard Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Vermilion Parish Hazard Mitigation Plan Update 2020*. Submitted to the Federal Emergency Management Agency (2020).

### In Preparation

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Beauregard Parish Hazard Mitigation Plan Update 2020*.

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *Lafourche Parish Hazard Mitigation Plan Update 2020*.

Mitchell, B., Morgan, L., Rippetoe, C., and **Harris, J.B.** *St. Helena Parish Hazard Mitigation Plan Update 2020*.

### ***State of Louisiana Parish Hazard Mitigation Plan Updates (2015 – 2018)***

#### APA Status

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA APA status: January 2018): *Jackson Parish Hazard Mitigation Update -2017*.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA APA status: June 2017): *Sabine Parish Hazard Mitigation Update -2016*. 185 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA APA status: May 2017): *De Soto Parish Hazard Mitigation Update -2016*. 206 pp.

#### FEMA Approved

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: March 2020): *Avoyelles Parish Hazard Mitigation Update -2017*.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: May 2018): *Bienville Parish Hazard Mitigation Update -2017*. 241 pp.

Rippetoe, C., Stevens, L., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: January 2018): *Allen Parish Hazard Mitigation Update -2017*. 179 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval January 2018): *Claiborne Parish Hazard Mitigation Update -2016*. 183 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: January 2018): *Concordia Parish Hazard Mitigation Update -2016*. 193 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: January 2018): *East Feliciana Parish Hazard Mitigation Update -2017*. 185 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J. and Nolan, S. (FEMA approval January 2018): *Madison Parish Hazard Mitigation Update -2016*. 176 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: May 2018): *Red River Parish Hazard Mitigation Update -2016*. 182 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval January 2018): *Tensas Parish Hazard Mitigation Update -2016*. 196 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J. and Nolan, S. (FEMA approval: December 2017): *Acadia Parish Hazard Mitigation Update -2016*. 210 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: December 2017): *Winn Parish Hazard Mitigation Update -2016*. 163 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: October 2017): *Caddo Parish Hazard Mitigation Update -2016*. 311 pp

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: August 2017): *East Baton Rouge Parish Hazard Mitigation Update -2016*. 224 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: June 2017): *Jefferson Davis Parish Hazard Mitigation Update -2016*. 193 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: May 2017): *Evangeline Parish Hazard Mitigation Update -2016*. 182 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: April 2017): *Caldwell Parish Hazard Mitigation Update -2016*. 202 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: April 2017): *Grant Parish Hazard Mitigation Update -2016*. 200 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: April 2017): *Lincoln Parish Hazard Mitigation Update -2016*. 201 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: April 2017): *Morehouse Parish Hazard Mitigation Update -2016*. 202 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: April 2017): *Natchitoches Parish Hazard Mitigation Update -2016*. 272 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: March 2017): *Pointe Coupee Parish Hazard Mitigation Update -2016*. 166 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.F., and Nolan, S. (FEMA approval: February 2017): *Bossier Parish Hazard Mitigation Update – 2016*. 197 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: January 2017): *Richland Parish Hazard Mitigation Update -2016*. 161 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: December 2016): *Iberville Parish Hazard Mitigation Update -2016*. 215 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Nolan, S. (FEMA approval: December 2016): *St. Landry Parish Hazard Mitigation Update -2016*. 322 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Friedland, C.J. and Nolan, S. (FEMA approval: October 2016): *Franklin Parish Hazard Mitigation Update -2016*. 188 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Nolan, S., and Friedland, C.J. (FEMA approval: October 2016): *East Carroll Hazard Mitigation Plan Update – 2016*. 161 pp.

Stevens, L., Rippetoe, C., **Harris, J.B.**, Mitchell, B., Nolan, S., and Friedland, C.J. (FEMA approval: October 2016): *Webster Parish Hazard Mitigation Plan Update – 2016*. 290 pp.

Stevens, L., **Harris, J.B.**, Friedland, C.J., Mitchell, B., Rippetoe, C., Nolan, S., and Rohli, E.V.\* (FEMA approval: August 2016): *Vernon Parish Hazard Mitigation Plan Update – 2016*. 234 pp.

Andrews, A., Stevens, L., Friedland, C.J., **Harris, J.B.**, and Mitchell, B. (FEMA approval: July 2016): *West Baton Rouge Parish Hazard Mitigation Update – 2015*. 178 pp.

Stevens, L., Nolan, S., Andrews, A., Friedland, C.J., **Harris, J.B.**, Mitchell, B., and Rippetoe, C. (FEMA approval: July 2016): *Rapides Parish Hazard Mitigation Update – 2016*. 284 pp.

Stevens, L., Friedland, C.J., **Harris, J.B.**, Mitchell, B., Rippetoe, C., and Nolan, S. (FEMA approval: July 2016): *Lafayette Hazard Mitigation Update – 2016*. 255 pp.

Andrews, A., Stevens, L., Friedland, C.J., **Harris, J.B.**, Mitchell, B., Rippetoe, C., Nolan, S., and Rohli, E.V.\* (FEMA approval: May 2016): *Catahoula Hazard Mitigation Update – 2016*. 160 pp.

Andrews, A., Stevens, L., Friedland, C.J., **Harris, J.B.**, Mitchell, B., Rippetoe, C., Nolan, S., and Rohli, E.V.\* (FEMA approval: May 2016): *LaSalle Hazard Mitigation Update – 2016*. 202 pp.

Stevens, L., Andrews, A., Rippetoe, C., Nolan, S., Friedland, C.J., **Harris, J.B.**, Mitchell, B., and Rohli, E.V.\* (FEMA approval: April 2016): *St. James Parish Hazard Mitigation Update – 2015*. 196 pp.

Mitchell, B., Andrews, A., Stevens, L., Friedland, C.J., and **Harris, J.B.** (FEMA approval: April 2016): *St. John the Baptist Parish Hazard Mitigation Update – 2015*. 192 pp.

Andrews, A., Stevens, L., **Harris, J.B.**, Mitchell, B., Friedland, C.J., and Rohli, E.V.\* (FEMA approval: March 2016): *Assumption Parish Hazard Mitigation Update – 2015*. 138 pp.

Stevens, L., Andrews, A., Friedland, C.J., **Harris, J.B.**, and Mitchell, B. (FEMA approval: February 2016): *West Carroll Parish Hazard Mitigation Update – 2015*. 187 pp.

Andrews, A. Stevens, L., **Harris, J.B.**, Mitchell, B., and Friedland, C.J. (FEMA approval: July 2015): *Ascension Parish Hazard Mitigation Update – 2015*. 260 pp.

Mitchell, B., Andrews, A., Stevens, L., Friedland, C.J., and **Harris, J.B.** (FEMA approval: December 2015): *Beauregard Parish Hazard Mitigation Update – 2015*. 177 pp.

Mitchell, B., Andrews, A., Stevens, L., Friedland, C.J., and **Harris, J.B.** (FEMA approval: December 2015): *St. Bernard Parish Hazard Mitigation Update – 2015*. 151 pp.

Mitchell, B., Andrews, A., Stevens, L., Friedland, C.J., and **Harris, J.B.** (FEMA approval: December 2015): *St. Helena Parish Hazard Mitigation Update – 2015*. 132 pp.

Stevens, L., Andrews, A., Friedland, C.J., **Harris, J.B.**, and Mitchell, B. (FEMA approval: December 2015): *Calcasieu Hazard Mitigation Update – 2015*. 283 pp.

Stevens, L., Mitchell, B., Andrews, A., Friedland, C.J., **Harris, J.B.**, and Rippetoe, C. (FEMA approval: November 2015): *Washington Parish Hazard Mitigation Update – 2015*. 184 pp.

Mitchell, B., Andrews, A., Stevens, L., Friedland, C.J., and **Harris, J.B.** (FEMA approval: September 2015): *LaFourche Parish Hazard Mitigation Update – 2015*. 199 pp.

Friedland, C.J. and **Harris, J.B.** (FEMA approval: July 2015): *Iberia Parish Hazard Mitigation Plan Update – 2015*. 316 pp.

Friedland, C.J. and **Harris, J.B.** (FEMA approval: July 2015): *St. Tammany Parish Hazard Mitigation Plan Update – 2015*. 355 pp.

Friedland, C.J. and **Harris, J.B.** (FEMA approval: July 2015): *Vermilion Parish Hazard Mitigation Plan Update – 2015*. 229 pp.

Mitchell, B., Stevens, L., Andrews, A., Friedland, C.J., and **Harris, J.B.** (FEMA approval: July 2015): *Cameron Parish Hazard Mitigation Plan Update – 2015*. 151 pp.

Mitchell, B., Stevens, L., Andrews, A., Friedland, C.J., and **Harris, J.B.** (FEMA approval: July 2015): *Tangipahoa Parish Hazard Mitigation Update – 2015*. 349 pp.

## Other Products

**Harris, J.B.**, Joyner, T.A., Ogden, M.\*, Tollefson, W.C., Headrick, J.\* ETSU GIS OpenData Hub (released to public in July 2018) <http://data-etsu.opendata.arcgis.com>

## Teaching Experience

### Traditional Courses (Instructor of Record)

Western Carolina University (Department of Criminology & Criminal Justice)

- EDM 250: Introduction to Emergency & Disaster Management (Fall 2020)
- EDM 322: Social Dimensions of a Disaster (Fall 2020)
- EDM 326: Risk Assessment & Vulnerability Analysis (Fall 2020)
- EDM 493: Topics in Emergency & Disaster Management: Weather & Disaster (Summer 2020)

Western Carolina University (Department of Geosciences & Natural Resources)

- GEOL 140: Investigation in Environmental Geography (Spring 2020)
- GEOL 191: Geology, Landscapes, and Human Psyche (Fall 2019)
- GEOL 305: Soils and Hydrology (Spring 2020)
- GEOL 310: Principles of Soils and Hydrology for Construction Managers (Fall 2019)
- NRM 140: Natural Resource Conservation and Management (Fall 2019)

East Tennessee State University

- GEOL 1040: Earth and Society (Spring 2018 & Fall 2017)

### Online Courses (Instructor of Record)

Southern New Hampshire University

- GEO 200: World Geography (2020, Term 20EW5)
- GEO 330: Geohazards (2018, Terms 18EW3 and 18EW5 & 2019, Term 19EW1)
- GEO 345: Remote Sensing and Imagery (2018, Terms 18EW4 and 18EW1 & 2019, Term 19EW4)

- GEO 450: Spatial Analysis (2018, Term 18EW2)
- IT 242: Introduction to Geographic Information Systems (2017, Terms 17EW4 and 17EW6 & 2019, Term 19EW2)
- SCI 310: Geostatistics and Data Analysis (2017, Term 17EW2 & 2018, Term 18EW6)

### Traditional Courses (Guest Instructor)

- GEOS 5300 (ETSU): Hazard Mapping & Modeling (Topics in Geospatial Analysis) (Fall 2016 & 2017)
- Lecture and Lab Topic: Dynamic Evacuation Routing: A Review of ArcCASPER and Evacuation Modeling Methods
  - Lecture Topic: Hazus-MH Flood Estimation Modeling

### Teaching Assistant

- GEOL 1040 (APSU): Physical Geology (Fall 2009, Spring 2010, Fall 2010, Spring 2010)
- GEOL 1041 (APSU): Physical Geology Lab (Fall 2009, Spring 2010, Fall 2010, Spring 2010)
- GEOL 1050 (APSU): Historical Geology (Fall 2010)
- GEOL 1051 (APSU): Historical Geology Lab (Fall 2010)

## Professional Presentations/Conferences

### Committee Service

- Ogden, Mitchell S. (East Tennessee State University) Master of Science in Geoscience – Committee Member  
**Thesis Title:** Communications and methodologies in crime geography: Contemporary approaches to disseminating criminal incidence and research (Fall 2019)

### WCU Honor's Contracts

- Kilgore, Easton (Spring 2020) GEOL 305 Soils & Hydrology  
**Research Title:** Precipitation and Soil in North Carolina's Three Regions
- Salaam, Tiera (Spring 2020) GEO 140 Investigation in Environmental Geology  
**Research Title:** Climate Change and How it Affects Our Planet
- Schaefer, Caitlyn (Spring 2020) GEO 140 Investigation in Environmental Geology  
**Research Title:** Inspirational Female Geologists: A Look into Gender & the Field of Geology
- Seay, Christopher (Spring 2020) GEO 140 Investigation in Environmental Geology  
**Research Title:** Geological History of North Carolina's Piedmont Region
- Littlejohn, Katherine (Fall 2019) NRM 140 Natural Resource Conservation & Management  
**Research Title:** Origins of Conservation as it Relates to Peace Officers

## Professional Presentations/Conferences (\* denotes student co-author)

### American Association of Geographers (AAG) Conference

2018 (New Orleans, LA):

#### Poster Presentations

- Co-Presenter: Modification of the priority risk index: adapting to Emergency Management Accreditation Program standards for institutes of higher learning hazard mitigation plans (**Harris**, Bartlett, Joyner, Hart, and Tollefson)
- Co-Presenter: Site analysis and implementation of the Tennessee state mesonet (Reasons\*, Cornett\*,



Singer\*, Joyner, Tollefson, and **Harris**)

2017 (Boston, MA):

Poster Presentations

- Presenter: Comparison of inverse distance weighted interpolation and kriging methods in estimating subsidence rates in the Lower Mississippi River Industrial Corridor (**Harris**, Joyner, and Rohli)
- Co-Presenter: Effects of subsidence and sea level rise on coastal storm surge inundation, extent, and economic loss along the United States Gulf Coast (Reeves\*, Deegan\*, **Harris**, and Joyner)
- Co-Presenter: GIS in hazard mitigation planning: The synergistic intersection of interdisciplinary research (Tollefson, Joyner, **Harris**, Archer\*, Deegan\*, Jones\*, Rose\*, O'Brien, and Worley)

2016 (San Francisco, CA):

Poster Presentation

- Presenter: Applications of Hazus-MH risk assessment tools for parish hazard mitigation plans (**Harris** and Mitchell)

2015 (Chicago, IL):

Paper Presentation/Oral

- Presenter: Preparing a small town for a hazardous materials incident: An examination of evacuation routing algorithms and plume models (**Harris**, Gregg, Joyner, and Luffman)

Southeast Division of the American Association of Geographers (SEDAAG) Conference

2018 (Johnson City, TN):

Oral Presentation

- Presenter: Fusing advanced geospatial technologies with data-drive hazard mitigation planning: An emerging framework for developing risk and vulnerability assessments (**Harris**, Tollefson, Joyner, and Worley)

2017 (Starkville, MS):

Oral Presentation

- Co-Presenter: Risk assessments and mapping for universities: Hazard mitigation in higher education (Joyner, Tollefson, **Harris**, and Worley)

2016 (Columbia, SC):

Poster Presentations

- Presenter: Hazard mitigation planning meets higher education (**Harris**, Joyner, Tollefson, Worley)
- Co-Presenter: Extreme rainfall climatology for the Tri-Cities Region of Tennessee (Tollefson, Joyner, and **Harris**)

Oral Presentation

- Co-Presenter: Climate research, education, and extension: Developing a state climate office in Tennessee (Joyner, Tollefson, and **Harris**)

2015 (Pensacola, FL):

Poster Presentation

- Co-Presenter: Point-pattern analysis of Nashville, TN robberies: It's all about that kernel (Luffman, Joyner, and **Harris**)

## Eastern Tennessee Geographic Information Council (E-TNGIC)

2018 Annual Conference (Kingsport, TN):

### Oral Presentation

- Presenter: Geospatial analysis of land subsidence on industrial complexes in the lower Mississippi River industrial corridor (**Harris**, Joyner, and Rohli)
- Co-Presenter: Effects of subsidence and sea level rise on coastal storm surge inundation, extent, and economic loss along the United States Gulf Coast (Reeves\*, **Harris**, and Joyner)
- Co-Presenter: Utilizing advanced geospatial technologies for data-drive hazard mitigation planning (Joyner, Tollefson, **Harris**, and Worley)

## Best Practices in Higher Education Emergency Management Conference

2018 (Nashville, TN – Tennessee State University):

### Oral Presentation

- Co-Presenter: Hazard mitigation planning for institutes of higher education: Collaborative opportunities and implementation of innovative methodologies (Joyner, **Harris**, Worley, Bartlett, Hart, Tollefson, and Ogden\*)

2017 (Blacksburg, VA – Virginia Tech):

### Oral Presentation

- Co-Presenter: Integrating Hazard Mitigation Planning with Higher Education (**Harris**, Joyner, Tollefson, and Worley)

## Northeast Tennessee GIS Users Group

2019 Winter Quarterly Meeting (Kingsport, TN):

### Oral Presentation

- Co-Presenter: Fusing advanced geospatial technologies with data-drive hazard mitigation planning at East Tennessee State University (Joyner, Tollefson, **Harris**, and Worley)

## Emergency Management Association of Tennessee (EMAT) Conference

2018 Annual Meeting (Chattanooga, TN):

### Oral Presentation

- Co-Presenter: Emerging technology to improve hazard mitigation planning (Worley, Joyner, and **Harris**)

## Appalachian Student Research Forum (ASRF) Conference

2018 East Tennessee State University (April 4, 2018)

### Oral Presentation

- Presenter (Oral): The impact of subsidence on industrial complexes in the Lower Mississippi River Industrial Corridor (**Harris**, Joyner, and Rohli)
- Awarded 1<sup>st</sup> Place, Doctoral Natural Sciences Group Oral

2017 East Tennessee State University (April 12, 2017)

### Poster Presentation

- Presenter: Comparison of spatial interpolation methods in estimating subsidence rates in the Lower Mississippi River Industrial Corridor (**Harris**, Joyner, and Rohli)

2014 East Tennessee State University (April 3, 2014)

Poster Presentation

- Presenter: Evacuation and shelter in place modeling for a release of uranium hexafluoride. (**Harris**, Gregg, Joyner, and Luffman)
- Awarded 1<sup>st</sup> Place, Masters Natural Sciences Group Poster

2013 East Tennessee State University (April 4, 2013)

Poster Presentation

- Presenter: A statistical and GIS approach to analyzing a museum's customer base (**Harris** and Chen)

Other/Misc/Attended

ESRI User Conference: 2017 (San Diego, CA) User Conference, 2018 (San Diego, CA) User Conference & Education Summit, & 2020 (Virtual) User Conference

Geological Society of America Conference: 2011 (Charlotte, NC)

**Grant Submissions/Proposed Submissions**

Funded

Sevier County Hazard Mitigation Plan (August 2018)

-Senior Personnel; \$135,000

Tufts University Multi-Campus Hazard Mitigation Plan and THIRA Report in response to: "*Request for Proposals: Multi-Campus Hazard Mitigation Plan*" (September 2016)

-Proposal Lead Author and Co-Investigator; \$63,825

Pre-Disaster Mitigation (PDM) Grant Program via FEMA (Spring 2015)

-Senior Personnel; \$175,000

Applied For

University of Massachusetts Amherst Campus Resiliency Plan in response to: "*Request for Proposal (RFP) for Campus Resiliency Plan Scope of Work*" (June 2019)

-Proposal Lead Author and Co-Investigator; \$49,795

Puerto Rico Municipality Hazard Mitigation Plan Project in response to: "*Local Hazard Mitigation Plan Updates Request for Proposals*" (September 2018)

-Proposal Lead Author and Co-Investigator; \$2,340,000

Liberty County Hazard Mitigation Plan in response to: "*Rewrite and update of the Liberty County Hazard Mitigation Plan*" (September 2018)

-Proposal Lead Author and Co-Investigator; \$52,000

James H. Quillen VA Medical Center Hazard Mitigation Plan (January 2017)

-Proposal Lead Author and Co-Investigator; \$30,000

Northern Neck Regional Hazard Mitigation Plan Update in response to: "*Request for Proposals for Professional*

*Services in Conjunction with the Northern Neck Regional Hazard Mitigation Plan*” (February 2017)

-Proposal Lead Author and Co-Investigator; \$98,455

Huerfano County Hazard Mitigation Plan in response to: *“Request for Proposal Preparation of a Local Hazard Mitigation Plan (HMP) for Huerfano County”* (January 2017)

-Proposal Lead Author and Co-Investigator; \$56,100

Polk County, Texas Hazard Mitigation Plan Update in response to: *“Request for Proposals Update Local Hazard Mitigation Plan: Polk County Emergency Management”* (September 2016)

-Proposal Lead Author and Co-Investigator; \$53,020

## **Guest Lectures**

Tufts University - September 27, 2017 (Guest lecture): Climate change adaptation as hazard mitigation, and careers in disaster science.

East Tennessee State University – April 12, 2017 (Guest lecture): Applied kriging methods and uses in student research.

Louisiana State University – June 6, 2016 (Guest lecture): Certified Floodplain Manager exam review.

East Tennessee State University – September 24, 2015 (Guest lecture): Network analysis review: A case study of Erwin, Tennessee.

Louisiana State University – April 27, 2015 (Research presentation): World Trade Center attacks: A review of legislation and policies.

Louisiana State University - December 3, 2014 (Research presentation): Statistical analysis of mean sea level data from Grand Isle, Louisiana using time series methods.

East Tennessee State University - April 23, 2014 (Research presentation): ArcCASPER for emergency preparedness.

East Tennessee State University - April 11, 2014 (Gust lecture): GPS and smart phone technology in geocaching.

East Tennessee State University - March 17, 2014 (Research presentation): Evacuation and shelter in place modeling for a release of uranium hexafluoride.

East Tennessee State University - October 24, 2013 (Guest lecture): An educational introduction to geocaching.

East Tennessee State University - October 24, 2013 (Guest lecture): The importance of GIS and statistics in market research.

East Tennessee State University - April 25, 2013 (Guest lecture): Understanding market analysis using a GIS.

East Tennessee State University - December 7, 2012 (Research presentation): A statistical and GIS approach to analyzing a museums customer base.

## **Professional Service**

- Applied Sciences Manuscript Review (2019)
- Remote Sensing Manuscript Review (2019)
- Sustainability Manuscript Review (2018)

- International Journal of Environmental Research and Public Health Manuscript Review (2018)
- GPS Scavenger Hunt and Contest creation for ETSU Geosciences Club GIS Day (November 2017)
- ETSU Farmer's Market Drone Day: Drone Demos (November 2017)

## Awards/Honors

- Nominated by the Department of Geography & Anthropology for the LSU Alumni Distinguished Dissertation Award in Science, Technology, Engineering, & Mathematics (2019)
- 1<sup>st</sup> Place in Doctoral Natural Sciences Group Oral Presentation (Appalachian Student Research Forum) (2018)
- 1<sup>st</sup> Place in Masters Natural Science Group Poster Presentation (Appalachian Student Research Forum) (2014)
- Tau Sigma National Honor Society (2010-Present)
- President's Community College Scholarship (2009-2011)
- Dean's List (Austin Peay State University) (2009)
- USS Kearsarge (LHD-3) Junior Sailor of the Quarter (1998)

## Additional Skills and Abilities

- Advanced environmental assessment and management skills
- Cartographic expertise used to create various published map products
- Evacuation modeling techniques and processes
- Database development and management skills
- Familiarity with emergency management with an emphasis on the emergency preparedness phase
- **Software:** ArcGIS 9.x & 10.x, ERDAS Imagine, ENVI 5.0, CrimeStat III, Geoda 1.4.6, HAZUS-MH 2.1 to Present Versions, Agent Analyst 1.0, ArcCASPER, RASCAL 4.3, ALOHA chemical model, WRPLOT View, SPSS 21.0, EndNote X6, Adobe Illustrator and Photoshop, Adobe Creative Suite/Cloud, Microsoft Office Suite, ESRI CityEngine, MapBox Tilemill, AutoCad, Matlab 2014, Grass GIS, ArcGIS Collector, ArcGIS Pro 1.x & 2.x, MultiSpec, ImageJ
- **Language Familiarity:** Visual Basic, Visual Basic .NET, Python, C++, JavaScript, HTML/CSS
- **Database Familiarity:** MySQL and SQL Server

## Certificates/Continuing Education

### Awarded

- ESRI Massive Open Online Course
  - The Location Advantage (6 Weeks): May 22, 2017
  - Earth Imagery at Work (6 Weeks): March 29, 2017
  - Do-It-Yourself Geo Apps (4 Weeks): February 26, 2017
  - Going Places with Spatial Analysis (6 Weeks): December 13, 2016
- Hazus-MH 2.0 ESRI Web Courses:
  - Introduction to the Hazus-MH 2.0 Storm Surge Model: April 12, 2014
  - Understanding Hazus-MH 2.0 Earthquake Model Results: April 11, 2014
  - Loss Estimation Using the Hazus-MH 2.0 Hurricane Model: April 10, 2014
  - Understanding Hazus-MH 2.0 Hurricane Model Results: April 7, 2014
  - Loss Estimation Using the Hazus-MH 2.0 Earthquake Model: February 1, 2014
  - Introduction to the Hazus-MH 2.0 Earthquake Model: January 31, 2014
  - Introduction to the Hazus-MH 2.0 Hurricane Model: January 20, 2014
  - Loss Estimation Using the Hazus-MH 2.0 Flood Model: January 19, 2014
  - Understanding Hazus-MH 2.0 Flood Model Results: January 19, 2014

- Introduction to the Hazus-MH 2.0 Flood Model: January 18, 2014
- Introduction to the Hazus-MH 2.0 Inventory: October 6, 2013
- Getting Started with Hazus-MH 2.0: October 5, 2013
  
- ESRI Web Courses:
  - Python for Everyone: July 20, 2016
  - Teaching with GIS: Introduction to Using GIS in the Classroom: April 27, 2016
  - Modeling a City Using ESRI CityEngine: April 18, 2014
  - Building Models for GIS Analysis Using ArcGIS 10: March 20, 2012
  - Introduction to Surface Modeling Using ArcGIS 10: March 19, 2012
  - Distance Analysis Using ArcGIS 10: March 18, 2012
  - Network Analysis Using ArcGIS 10: March 17, 2012
  - Linear Referencing Using ArcGIS 10: March 17, 2012
  - Getting Started with Linear Referencing (for ArcGIS 10): March 17, 2012
  - Python Scripting for Map Automation in ArcGIS 10: March 17, 2012
  - Python Scripting for Geoprocessing Workflows (for ArcGIS 10): February 2, 2012
  - Basics of Python (for ArcGIS 10): February 2, 2012
  - Getting Started with Geodatabase Topology (for ArcGIS 10): February 1, 2012
  - Working with Geodatabase Domains and Subtypes (for ArcGIS 10): January 20, 2012
  - Getting Started with the Geodatabase (for ArcGIS 10): January 17, 2012
  - Learning ArcGIS Desktop (for ArcGIS 10): September 9, 2010
  - Learning ArcGIS Desktop (for ArcGIS 9.2 - 9.3): September 8, 2010
  
- National Disaster Preparedness Training Center: Volcanic Crisis Awareness (Charlotte, NC): November 2, 2012

## **Affiliations/Memberships**

- American Association of Geographers (AAG) (2012 - Present)
- Association of State Floodplain Managers (ASFM) (2016 - 2019)
- Geological Society of America (GSA) (2012 - 2014)
- American Geophysical Union (AGU) (2012 - 2013)
- Southeast Division of the American Association of Geographers (SEDAAG) (2015 - Present)
- Southwest Division of the American Association of Geographers (SWAAG) (2014 - Present)
- LSU Geography and Anthropology Society (GAS) (2014 - 2019)
- APSU Student Veterans Organization (2011 - 2012)
- APSU GeoClub (2009 - 2012)