

Elizabeth Jane Wesley

Curriculum Vitae

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Education

PhD, Geography, Candidate, University of Kansas, Department of Geography & Atmospheric Science, Lawrence, KS

Dissertation: A Bayesian Investigation of the Spatial Variability of Pediatric Asthma: Modelling the Interactions of Climatic, Environmental, and Social Systems

Master of Science, Geography, Honors, Spring 2018, University of Kansas, Department of Geography & Atmospheric Science, Lawrence, KS

Thesis: Effects of Greenspace Configuration on the Urban Heat Island: A Study of the Kansas City Metropolitan Area

Master of Urban Planning, Spring 2018, University of Kansas, School of Public Affairs, Lawrence, KS

Bachelor of Science, Summa cum laude, Spring 2014, Geographic Information Science, English Minor Texas State University, Department of Geography, San Marcos, TX

Study Abroad in Cork, Ireland, Summer 2013, Irish Literature and Travel Writing, Texas State University, Department of English.

Cosmetology Degree, Spring 2003, Xenon International Academy, Aurora, CO

Research Interests

Coupled human-natural systems; environmental justice, public health, and climate change; characteristic scales of spatiotemporal variability; landscape structure and function in human-dominated landscapes; surface energy balance and energy fluxes in urban areas; Bayesian statistics and information theory; GIS, remote sensing, and modelling; data visualization and scientific communication.

Publications

Wesley, E. J., & Brunsell, N. A. (2019). Greenspace Pattern and the Surface Urban Heat Island: A Biophysically-Based Approach to Investigating the Effects of Urban Landscape Configuration. *Remote Sensing*, 11(19), 2322. doi:10.3390/rs11192322

Citizen Science entry (2018), Warf, B., ed. *The SAGE Encyclopedia of the Internet*. Sage Publications.

Research Experience

Graduate Research Assistant, Department of Geography & Atmospheric Science, University of Kansas, May 2018-August 2019, advisor Nathaniel Brunsell

Investigated the relationship between greenspace pattern and urban heat islands (UHIs) by conducting a multi-resolution wavelet analysis of land surface temperature (LST) to determine the dominant length scales of LST production. These scales were used as extents for calculating landscape metrics on a high-resolution landcover map. Statistical models indicate that after controlling for the percent vegetated area, the effects of the spatial configuration of greenspace on the UHI in Kansas City are negligible.

Graduate Research Assistant, Kansas Biological Survey, January 2015-May 2018

Assisted in the implementation of the Lesser Prairie Chicken Range-wide Conservation Plan for the Western Association of Fish and Wildlife Agencies. Performed GIS analysis including creating tools, models, and scripts to automate and document processes. Created, edited, and maintained features. Organized and tracked database elements. Designed and authored technical documents. Created and maintained ArcGIS Online web applications. Interpreted satellite images. Created maps and map packets for field work. Corresponded with field biologists to ensure proper translation of field data into geospatial data. Created large-format wall maps for print.

**Teaching
Experience**

Introduction to Geographic Information Systems, Lecturer, University of Kansas, Fall 2021,

HERS Mentor, Haskell Environmental Research Studies internship program, Haskell Indian Nations University & the University of Kansas, Summer 2021

HERS Quantitative Methods Curriculum Development, Haskell Environmental Research Studies internship program, Haskell Indian Nations University & the University of Kansas, Summer & Fall 2020

Climate & Climate Change, Instructor, University of Kansas, Spring 2021

Methods of Analyzing Geographical Data, Lab Instructor, University of Kansas, Fall 2020

Introduction to Geographic Information Systems, Lab Instructor, University of Kansas, Fall & Spring 2020

Remote Sensing of Environment, Lab Instructor, University of Kansas, Fall 2019

Environmental Science, Lab Instructor, University of Missouri-Kansas City, Fall 2014

**Conference
Participation**

Wesley, E. J. (2021, upcoming) A Bayesian Investigation of the Spatial Variability of Pediatric Asthma in the Kansas City Metro Area: Modelling the Interactions of Climatic, Environmental, and Social Systems. Poster presented at the annual meeting of the American Geophysical Union, New Orleans, LA.

Wesley, E. J. (2019) Spatial variability of public health vulnerabilities: Interactions between climate, the built environment, and social determinants of health. Poster presented at the annual meeting of the American Geophysical Union, San Francisco, CA.

Wesley, E. J. (2018) Effects of Greenspace Configuration on the Urban Heat Island in the Kansas City Metro Area. Poster presented at the annual meeting of the American Association of Geographers, New Orleans, LA.

Wesley, E. J. (2014) Texas Cities: Growth and Density, 2010-2012. Map presented at the Texas Geography Student Research Symposium, San Marcos, TX.

**Professional
Affiliations**

American Geophysical Union

**Professional
Service**

Manuscript Reviewer, Agricultural and Forest Meteorology, 2020

Cartographer & GIS Analyst, City of Lawrence STAR Community Certification,
Natural Systems Sustainability Objectives, 2016

Workshops

Tidy Data Science in R,
Center for Research Methods & Data Analysis, University of Kansas, Summer 2019

Bayesian Modelling: An Introduction for Ecologists and Environmental Scientists,
Norwegian University of Life Sciences, September 2018

Software Carpentry,
Department of Geography & Atmospheric Sciences, University of Kansas, Fall 2016

R Stats Camp,
Center for Research Methods & Data Analysis, University of Kansas, Summer 2016