Kaleen Lawsure
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BIO

Ms. Lawsure is a senior project scientist at the Virginia Modeling, Analysis and Simulation Center of Old Dominion University. Throughout her career she has provided modeling, analysis and visualization solutions for complex and emerging challenges faced by government, industry, and academia. She has worked with federal stakeholders at the Federal Emergency Management Agency, U.S. Housing and Urban Development, and National Institute of Standards and Technology. At the state level she has conducted research for the Commonwealth Office of Public Safety and Homeland Security, the Virginia Department of Emergency Management, and the Virginia Department of Transportation. She has worked regionally and locally across the Commonwealth, as well as with the Regional Tertiary Care Center of Southeastern Virginia, the Regional Catastrophic Planning Team, and the Hampton Roads Planning District Commission. These collaborations have addressed topics related to decision support analytics, risk and vulnerability assessments, critical infrastructure protection, community preparedness and resilience, hurricane evacuation and sheltering, hazard mitigation, and all-hazards planning.

EDUCATION

- Bachelor of Science, Geography, Old Dominion University, 2007-2008
  Member of Gamma Theta Upsilon International Geographic Honor Society
  Certificate in Geographic Information Systems/Science
  Certificate in Spatial Analysis of Coastal Environments (SpACE)
- Associates of Art, Liberal Arts, Tidewater Community College, 2004-2006

PROFESSIONAL EXPERIENCE

Virginia Modeling, Analysis and Simulation Center
Senior Project Scientist | 2017-Present
Project Scientist | 2012-2017
Research Associate | 2009-2012
Student Intern | 2007-2009

- Virginia Hazard Mitigation Plan (HMP) maintenance & mitigation activity tracking, 2023-Present
- Virginia Hazard Mitigation Assistance (HMA) mitigated properties GIS and data repository development and maintenance, 2022-Present
- Post-mitigation event Loss Avoidance Studies (LAS) for the Virginia Department of Emergency management, 2021-Present
- Decision support for the Hampton Roads Urban Area Working Group (UAWG) Urban Area Security Initiative (UASI) grant allocation, 2019-Present
- Decision analytic support for Virginia Department of Emergency Management grant programs:
  - Hazard Mitigation Assistance (HMA), 2016-Present

- - Emergency Management Performance Grant, Port Security Grant Program, Non-Profit Security Grant Program (varies by year), 2013-Present
  - State Homeland Security Program, 2012-Present
- All Hazards Advisory Committee support for updating Hampton Roads Threat Hazard Identification Risk Assessment (THIRA) and Stakeholder Preparedness Review (SPR), 2017-Present
- Virginia Hazard Mitigation Plan update, 2022
- Decision analytic support for Local Capabilities Assessment for Readiness (LCAR) for the Virginia Department of Emergency Management, 2020-2022
- Decision analytic support for COVID-19 Recovery for the Virginia Department of Emergency Management, 2020-2022
- Process development for the Virginia Department of Emergency Management pre-screening Public Non-Profit Public Assistance for COVID-19, 2020-2022
- Support for Modeling the Mobility and Coordination of Material, Labor, and Displaced Vulnerable Populations for Housing Recovery (sponsored by the ODU Office of Research and Hampton Roads Community Foundation), 2020-2022
- Survey instrument development for higher education institution capabilities for 3D printing of PPE in response to COVID-19, 2020
- Evacuation modeling support for the Virginia Department of Emergency Management Hurricane Florence After Action Review, 2019
- Preliminary geospatial exploration of select opportunity zones in Norfolk, VA related to diversity and inclusivity in emergency management, 2019
- GIS and hurricane modeling support for ODU post Hurricane Florence study, 2018-2019
- Database development and consulting for the MITRE Homeland Security Systems Engineering and Development Institute FEMA National Preparedness Directorate Return on Investment Study, 2017-2018
- Decision support and strategic planning for the Commonwealth of Virginia Critical Infrastructure Working Group, 2017-2019
- Decision analytic support, modeling methodology development, database development, workshop organization, and GIS support for the Office of Public Safety and Homeland Security Hampton Roads Maritime Area critical assets assessment, 2017-2018
- Performance Metrics Executive Dashboard prototype development for the Virginia Department of Emergency management, 2017-2018
- Hurricane scenario development, vulnerable population mapping, and analysis for U.S. Housing and Urban Development Housing Stock Recovery, 2015-2017
- GIS support and preliminary analysis for mosquito monitoring in York County, VA, 2016-2017
- GIS support and analysis for vulnerable populations, "Adaptation Response to Recurrent Flooding," in Portsmouth, VA, 2015
- Modeling and methodology support, and database development for National Institute of Standards and Technology Key Performance Indicators Effectiveness (KPI-E) for Manufacturing, 2014-2016
- GIS support for qualifying Hampton Roads localities for funding through the National Disaster Resiliency Competition, 2015

- Database update support for troop force database for ARCIC, 2014
- Social network mapping and workshop support for "FallingWater" J6 cyber security and critical infrastructure protection workshop, 2014
- GIS support, database development, and prototype testing and evaluation for Hurricane Evacuation Encouragement Demonstrator (HEED), 2011-2014
- Evacuation modeling for "Transportation Analysis for Evacuation of Mobile and Baldwin Counties" in Alabama, 2014
- GIS support for asthma case study mapping for "Air Pollution, Vehicle Traffic, and Self-Reported Asthma: Assessing the Public Health Risks of Congestion in an Urban Environment," 2014
- GIS support for shelter resources, shelter of last resort, and vulnerable population mapping, and anthrax/Improvised Explosive Devise scenario development and impact analysis for the Hampton Roads Regional Catastrophic Planning Team, 2012-2013
- GIS support, software testing, evaluation, and documentation, and stakeholder training for the Real-Time Evacuation Planning Model (RtePM). Scenario development for a National Capital Region "dirty bomb" event, and Baltimore, MD Running Festival terrorism event, 2012-2013
- Decision analytic support for the Hampton Roads Urban Area Security Initiative (UASI), 2009-2012
- GIS support for the ODU International Alumni Association in mapping global distribution of international graduated students, 2012
- Workshop and planning support for the Hampton Roads Emergency Preparedness Exercise Series, 2011
- GIS and hurricane scenario modeling for Common Operating Picture (COP) and Spatially Integrated Incidence Maps (SIIMS) development for Hampton Roads Chief Administrative Officers Tabletop Exercise, 2011
- Workshop support for Adaptive Adversary Workshop "Identifying Factors that Influence Terrorist Decisions and Target Selection" 2010-2011
- Research support for Hampton Roads Bridge Tunnel risk assessment for cyber-attack targeting Supervisory Control and Data Acquisition Systems, and Vehicle Borne Improvised Explosive Device scenarios, 2009-2010
- Modeling support for 3D modeling of VMASC building, 2009-2010
- GIS support for insurgency modeling in Afghanistan, 2009-2010
- Vector borne disease research for climate change impacts on human health, 2009
- Spatial analysis of hurricane flood hazards and 3D modeling of "Disaster Response Model: Regional Tertiary Care Center of Southeastern Virginia," 2008-2009
- GIS data management for "Critical Infrastructure Resilience for the Hampton Roads Region," 2007-2008

PUBLICATIONS AND CONFERENCES
- Juita-Elena (Wie) Yusuf, Jennifer L. Whytlaw, Nicole Hutton, Taiwo Olanrewaju Lasisi, Bridget Giles, Kaleen Lawsure, Joshua Behr, Rafael Diaz, George McLeod. Evacuation Behavior of Households Facing Compound Hurricane-Pandemic Threats. Public Administration Review. Public Administration Review. April 3, 2023

- Ezell, B., & Lawsure, K. (2019). Homeland Security and Emergency Management Grant Allocation. Journal of Leadership, Accountability and Ethics, 16(4) https://doi.org/10.33423/jlae.v16i4.2371
- Lawsure, K., Ezell, B. Homeland Security and Emergency Management Grant Allocation Multi-Objective Benefit-Cost Methodology. MODSIM World Conference, March, 2019
- Ezell, B., Lawsure, K. Homeland Security and Emergency Management Grant Allocation. Society for Benefit Cost Analysis Conference, March 2019
- Lawsure, K., Ezell, B., Collins A., Horst, J., Hester, P. Web Enabled Selection Method for Key Performance Indicators for Manufacturing. MODSIM World Conference, April 2015
- Lawsure, K., Ezell, B. 2013 Virginia Homeland Security Portfolio Value Model. MODSIM World Conference, April 2014
- Lawsure, K., Ezell, B. 2012 Virginia Homeland Security Portfolio Value Model. MODSIM World Conference, May 2013
- Suchitra, M., Shen, Y., Garcia, H., Lawsure, K. Virtual VMASC: A 3D Game Environment. MODSIM World Conference October 2009; NASA Technical Reports Server, March 2010.
- Tran, P., Weireter, L., Sokolowski, W., Lawsure, K., Sokolowski, J. (2009). HAZUS Modeling for Hurricane Effect on a Healthcare Campus: Implications for Health Care Planning. The American Surgeon, Vol. 75, No. 11, pp. 1059-1064
- Lawsure, K., Sokolowski, W. Regional Tertiary Care Center Disaster Response Model. United States Military Academy Capstone Conference, April 2009; MODSIM World Conference, September 2008