

IV. PUBLICATIONS

A. Peer Reviewed Manuscripts

- 2019 S. McBride-Kebert, J. S. Taylor, K. A. Wilkinson, H. Lyn, F. R. Moore, D. F. Sacco, **B. Kar**, and S. A. Kuczaj II (accepted). “Common Bottlenose Dolphins, *Tursiops truncatus*, Seasonal Habitat Use and Associations with Habitat Characteristics in Roanoke Sound, North Carolina. *International Journal of Comparative Psychology*.
- 2019 S. McBride-Kebert, J. S. Taylor, H. Lyn, F. R. Moore, D. F. Sacco, **B. Kar**, S. A. Kuczaj II. “Controlling for Survey Effort is Worth the Effort: Comparing Bottlenose Dolphins (*Tursiops truncates*) Habitat Use Between Standardized and Opportunistic Photo-identification Surveys”. *Aquatic Mammals* 45, no. 1: 21-29. DOI 10.1578/AM.45.1.2019.21
- 2018 X. Liu, **B. Kar**, C. Zhang, D. Cochran. “Assessing Relevance of Tweets for Risk Communication”. *International Journal of Digital Earth*. <https://doi.org/10.1080/17538947.2018.1480670>.
- 2018 J. J. Zale, **B. Kar**, D. Cochran. “Optimizing Stadium Evacuation by Integrating Geo-computation and Affordance Theory”. *Journal of Emergency Management* 16, no. 2: 81-93.
- 2018 J. Lee, B. Blackmon, D. Cochran, **B. Kar**, T. Rehner. “Community Resilience, Psychological Resilience, and Depressive Symptoms: An Examination of the Mississippi Gulf Coast Ten Years after Hurricane Katrina and Five Years after the Deepwater Horizon Oil Spill”. *Disaster Medicine and Public Health Preparedness* 12, no. 2: 241-248.
- 2017 B. Blackmon, J. Lee, D. Cochran, **B. Kar**, T. Rehner. “Adapting to Life after Hurricane Katrina and the Deepwater Horizon Oil Spill: An Examination of Psychological Resilience and Depression on the Mississippi Gulf Coast”. *Social Work in Public Health* 32, no. 2:65-76.
- 2016 **B. Kar**, R. Sieber, M. Haklay, R. Ghose. “Public Participation GIS and Participatory GIS in the Era of GeoWeb”. *The Cartographic Journal* 53, no. 4: 296-299. <http://dx.doi.org/10.1080/00087041.2016.1256963>.
- 2015 **B. Kar**. “Citizen Science in Risk Communication in the Era of ICT”. *Journal of Concurrency and Computation: Practice and Experience* 28, no. 7: 2005 – 2013.
- 2015 B. Cumbie and **B. Kar**. “The Role of Social Media in U.S. County Governments: The Strategic Value of Operational Aimlessness”. *International Journal of Electronic Government Research* 11, no. 1:1-20.
- 2014 B. Cumbie and **B. Kar**. “A Study of Local Government Website Inclusiveness: The Gap Between E-Government Concept and Practice”. *Information Technology for Development*, DOI: 10.1080/02681102.2014.906379.
- 2013 **B. Kar**, R. C. Crowsey and J. J. Zale. “The Myth of Location Privacy in the U.S.: Surveyed Attitude vs. Current Practices”. *The Professional Geographer*, 65, no. 1: 47-64.
- 2012 **B. Kar** and M. E. Hodgson. “A Process Oriented Areal Interpolation Technique: A Coastal County Example”. *Cartography and Geographic Information Science*, 39, no. 1:3-16.
- 2012 **B. Kar** and M. E. Hodgson. “Observational Scale and Modeled Potential Residential Loss from a Storm Surge”. *GISRS*, 49, 202-227.

- 2012 J. J. Zale and **B. Kar**. “A GIS-based Football Stadium Evacuation Model”. *Southeastern Geographer* 52, no. 1:70 - 89.
- 2008 **B. Kar** and M. E. Hodgson. “A GIS-Based Model to Determine Site Suitability of Emergency Evacuation Shelters”. *Transactions in GIS*, 12, no. 2 (2008):227-248.
- 2008 M. E. Hodgson and **B. Kar**. “Modeling the Potential Swath Coverage of Nadir and Off-nadir Pointing Remote Sensing Satellite-Sensor Systems”. *Cartography and Geographic Information Science*, 35, no. 3:147-156.

B. Books and Book Chapters

- 2019 **B. Kar** and D. Cochran (Eds.). *Risk Communication and Community Resilience*. Routledge, London, England.
- 2019 **B. Kar**, D. Cochran, J. J. Zale, N. E., Callais, X. Liu. “Public Expectation of and Responses to WEA Message Content”. In **B. Kar** and D. Cochran (Eds.), *Risk Communication in Community Resilience Building*. Routledge, London, England.
- 2018 O. A. Omitaomu, **B. Kar**, R. J. Belles, M. P. Poore, G. T. Mays, B. L. Bhaduri. “Innovative Approaches to Infrastructure Resilience: A Case Study Department of Defense Sites for Small Modular Reactors”. In A. B. Badiru and C. B. Barlow (Eds.), *Defense Innovation Handbook – Guidelines, Strategies, and Techniques*, pp. 281-312. CRC Press.
- 2017 **B. Kar**. “Results of an Integrated Approach to Geo-target At-risk Communities and Deploy Effective Crisis Communication Approaches”. In *Emergency Alert and Warning Systems: Current Knowledge and Future Research Directions*, pp. 70-73. The National Academies Press, Washington D.C.
- 2017 **B. Kar** and E. Chow. “Fusion of Multi-scaled Spatial and Temporal Data: Techniques and Issues”. In D. A. Quattrochi, E. A. Wentz, N. Lam and C. Emerson (Eds.), *Integrating Scale in Remote Sensing and GIS*, pp. 95 – 124. Taylor and Francis, Boca Raton, FL.
- 2017 E. Chow and **B. Kar**. “Error and Accuracy Assessment for Fused Data: Remote Sensing and GIS”. In D. A. Quattrochi, E. A. Wentz, N. Lam and C. Emerson (Eds.), *Integrating Scale in Remote Sensing and GIS*, pp. 125-157. Taylor and Francis, Boca Raton, FL.
- 2014 **B. Kar**. “Disaster Risk Reduction: A Comparative Assessment of Policies in US and China”. In A. Awotona (Ed.) *Rebuilding Sustainable Communities after Disasters in China, Japan and Beyond*, pp. 131-169. Cambridge Scholars Publishing, New Castle.
- 2013 **B. Kar**. “Decision Support Tools”. In K. B. Penuel, M. Statler and R. Hagen (Eds.), *Encyclopedia of Crisis Management*, pp. 255-257. Cambridge Scholars Publishing, New Castle.
- 2013 **B. Kar**. “Principles of Emergency Management”. In K. B. Penuel, M. Statler and R. Hagen (Eds.), *Encyclopedia of Crisis Management*, pp. 328-332. Cambridge Scholars Publishing, New Castle.
- 2013 **B. Kar**. “Public Awareness and Education”. In K. B. Penuel, M. Statler and R. Hagen (Eds.), *Encyclopedia of Crisis Management*, pp. 765-770. Cambridge Scholars Publishing, New Castle.

C. Agency Reviewed Technical Reports

- 2019 O. A. Omitaomu, S. Kotikot, **B. Kar**. “Identification of Potential Locations for Placement of Strategic Transformers Reserve in Puerto Rico”. Department of Energy (DoE).
- 2016 **B. Kar** and D. Cochran. “An Integrated Approach to Geo-target At-risk Communities and Deploy Effective Crisis Communication Approaches”. Department of Homeland Security - Science and Technology Directorate (DHS - S&T). <https://www.dhs.gov/publication/integrated-approach-geo-target-risk-communities-deploy-effective-crisis-communication>.

D. Peer-Reviewed Proceeding Papers

- 2018 O. A. Omitaomu and **B. Kar**. “Understanding Infrastructure Dependency During Natural Hazard Events for Actionable Disaster Responses”. In *Proceedings of the 2018 IISE Annual Conference*. Orlando, FL.
- 2014 **B. Kar** and R. Ghosh. “Is My Information Private? Geo-privacy in the World of Social Media”. In *GIO @ GIScience*, pp. 28-31.
- 2014 B. Cumbie and **B. Kar**. “Socially Awkward: Social Media Usage in County-Level Government”. In *Proceedings of the 20th Americas Conference of Information Systems*. Savannah, GA.

E. Peer-Reviewed Workshop Paper

- 2019 **B. Kar**. “Multi-user and Collaborative Framework for Reproducibility and Replicability”. In *2019 Replicability and Reproducibility in Geospatial Research: A SPARC Workshop, 2019*. Tempe, AZ.
https://sgsup.asu.edu/sites/default/files/replicability_and_reproducibility_in_geospatial_research_final.pdf

F. Peer-Reviewed Book Reviews

- 2012 **B. Kar**. Review of *Key Methods in Geography*, edited by N. Clifford, S. French, and G. Valentine, 2010, *Southeastern Geographer* 52, no. 4 (2012):448 – 450.
- 2012 **B. Kar**. Review of *Spatial Statistics: Geospatial Information Modeling and Thematic Mapping*, by M. A. Kalkhan, Boca Raton, FL: CRC Press, 2011, *Photogrammetric Engineering and Remote Sensing* 78, no. 9 (2012): 915 - 916.
- 2004 **B. Kar**. Review of *The Vulnerability of Cities: Natural Disasters and Social Resilience*, by M. Pelling, London, UK: Earthscan Publications Ltd, 2003, *Natural Hazards Review* 5, no. 4(2004): 195-196.

G. In Review and In Press

B. Kar, E. Chow, N. Dede-Namfo, X. Liu. “Using Social Media to Geo-target Emergency Management Efforts”. In *Proceedings of 5th ACM SIGSPATIAL International Workshop on the use of GIS in Emergency Management (EM-GIS 2019)*. Chicago, IL

B. Kar and J. Ethridge. “Mobility Pattern Analysis for Recovery and Restoration Activities Using Geo-Tagged Tweets”. In *Proceedings of 2nd ACM SIGSPATIAL International Workshop on Advancements in Resilient and Intelligent Cities*. Chicago, IL

S. Kotikot, **B. Kar**, O. A. Omitaomu. “A Geospatial Framework Using MultiCriteria Decision Analysis for Strategic Placement of Transformers and Generator Reserves in Puerto Rico”. *IEEE Transactions on Engineering Management*.

J. A. Tullis, K. Corcoran, R. Ham, **B. Kar** and M. Williamson. “Multiuser Concepts and Workflow Replicability in sUAS Applications” (in press). In *Best Practices in sUAS Applications in Education, Research, Outreach and Service*, edited by J.B. Sharma, Taylor Francis.

V. GRANTS

A. Current Research Project

- 2019 – 2023 **Co-PI.** “Advancing Access to Global Flood Modeling and Alerting Using the PDC DisasterAWARE Platform and Remote Sensing Technologies”, *NASA*, \$1.4 million. (PI: Dr. Margaret Glasscoe – NASA/JPL).
- 2019 – Present **Task Lead** (CyberGIS Deployment). “Oak Ridge Advanced Fuel Cycle Logistics Environment”, *Department of Energy*, \$500,000. (PI: Olufemi A. Omitaomu – ORNL).

B. Pending Research Support

Co-PI. “Interactions Among Coastal Marsh, Storm Surge, Energy Infrastructure, and Economic Well-being on the Mississippi-Alabama Coast”, *National Academy of Sciences, Engineering and Medicine (NASEM)-Gulf Research Program*, \$1.3 million. (PI: Gregory Carter, USM).

C. Completed Research Support

- 2017 – 2019 **Task Lead** (Building Outline Regularization). “USA Structure Detection Project”, *Department of Homeland Security (DHS)*, \$4 million. (PI: Budhu Bhaduri – ORNL).
- 2018 – 2019 **Task Lead** (Imagery Analytics Architecture Development). “GMS Data Analytics – Imagery Demonstration”, *Department of Energy*, \$250,000. (PI: Craig Moss – ORNL).
- 2018 **Task Lead** (Spatial Optimization of Power Infrastructure Deployment). “Identification of Potential Locations for Placement of Strategic Transformers Reserve in Puerto Rico”, *Department of Energy*, \$350,000. (PI: Olufemi A. Omitaomu - ORNL).
- 2016 – 2019 **Co-PI.** “Acquisition of a Shared High-Performance Computing Cluster (HPC) for Research, Training and Institutional Use”, *National Science Foundation (NSF) – MRI*, \$684,600. (PI: Gopinath Subramaniam, USM - School of High Performance Materials).
- 2014 – 2017 **PI.** “Improving Economic Resilience of the U.S. Gulf Coast Communities to Coastal Hazards”, *NSF – IMEE*, \$306,793 (Grant # CMMI-1335187).
- 2017 **PI.** “Improving Economic Resilience of the U.S. Gulf Coast Communities to Coastal Hazards”, *NSF - Research Experience for Undergraduates*, \$2,500. (Grant # CMMI-1335187).

- 2012 – 2016 **PI.** “An Integrated Approach to Geo-Target At-Risk Communities and Deploy Effective Crisis Communication Approaches”, *DHS*, \$442,091 (Contract # HSHQDC-12-C-00057).
- 2012 **PI.** “Social Media: A Potential Warning/Alert Platform?”, *USM*, \$2,000.
- 2011 **PI.** “An Integrated Approach to Storm Surge Risk Assessment and Mitigation in South Mississippi”, *USM Lucas Endowment Award*, \$3,800.

VI. PRESENTATIONS

A. Papers Presented in Academic Conferences

- 2019 **B. Kar.** “Understanding Human-Environment Interaction Through the Lens of Resilience Framework and Smart Initiatives”. *Gulf of Mexico Research Initiative (GoMRI) Core Area 5 Synthesis Workshop on Living on the Edge: Enhancing the Sustainability of Coupled Human-Environment Systems in the Gulf of Mexico Region*. Mobile, AL.
- 2019 **B. Kar**, D. M. Cochran, J. Zale, X. Liu and N. Callais. “Understanding the Socio-Spatial Variation of Perception of Resilience Among the Mississippi Gulf Coast Communities”. *CNERP - 6th National Forum on Socioeconomic Research in Coastal Systems*, May 2019. New Orleans, LA.
- 2019 H. Roberts, **B. Kar**, E. Petrun Sayers. “The Role of Citizen Science in Hurricane Risk Communication Efforts”. *International Crisis and Risk Communication Conference*. Orlando, FL.
- 2019 **B. Kar**, O. A. Omitaomu, S. Kotikot. “Evaluating the Effectiveness of VIIRS Day-Night Band Data for Power Outage Impact Assessment”. *Association of American Geographers (AAG)*. Washington D.C.
- 2019 D. M. Cochran and **B. Kar**. “What is the Best Emergency Warning Device? Perceptions of Households and Emergency Management Agencies on the Mississippi Gulf Coast”. *AAG*. Washington D.C.
- 2019 **B. Kar**, S. Kotikot, and O. A. Omitaomu. “Using VIIRS Day/Night Band (DNB) for Estimating Population Density Distribution”. *American Society for Photogrammetry and Remote Sensing (ASPRS)*. Denver, CO.
- 2018 O. A. Omitaomu and **B. Kar**. “Understanding Infrastructure Dependency During Natural Hazard Events for Actionable Disaster Response”. *Institute of Industrial and Systems Engineers (IISE) Annual Conference*. Orlando, FL.
- 2018 **B. Kar**, E. Chow, X. Liu. “Analyzing Tweets to Understand Spatio-temporal Variability of Situational Awareness Information”. *AAG*. New Orleans, LA.
- 2018 D. Cochran, **B. Kar**, J. Lee, B. Blackmon, H. Choi, T. Rehner. “Community Resilience, Experience, and Perception as Factors Associated with Preparedness Among Residents in Coastal Mississippi”. *AAG*. New Orleans, LA.
- 2018 **B. Kar**. “Variability of Big Data Relevance for Disaster Situational Awareness Across Events”. *ASPRS*. Denver, CO.
- 2018 S. Kotikot, **B. Kar**, O. A. Omitaomu. “VIIRS Day/Night Band (DNB) Data for Monitoring Power Recovery: Application and Challenges – Case study of Puerto-Rico following Hurricane Maria”. *GeoSymposium*. Knoxville, TN.
- 2018 A. Brandt and **B. Kar**. “Understanding the Dynamics of Urban Heat Islands: A look at Mobility”. *GeoSymposium*. Knoxville, TN.

- 2017 **B. Kar.** “Crowdsourcing to Citizen Science – Assessing Big Data Relevance for Situation Awareness”. *AAG*. Boston, MA.
- 2017 D. Cochran, **B. Kar**, J. Lee, B. Blackmon, T. Rehner. “Socio-Spatial Characteristics and Experience as Factors Influencing Variations in Perceptions of Risk and Resilience on the Mississippi Gulf Coast”. *AAG*. Boston, MA.
- 2017 X. Liu and **B. Kar.** “Evaluating the Relevance of Risk Information Using Spatiotemporal Analysis and Data Mining Techniques”. *AAG*. Boston, MA.
- 2017 **B. Kar.** “Increasing Situational Awareness of WEA Messages for At-Risk Communities”. *ASPRS*. Baltimore, MD.
- 2016 **B. Kar**, D. Cochran, J. Zale, X. Liu and N. Callais. “Future of Wireless Emergency Alerts and Warnings – A Case Study of the Mississippi Gulf Coast Residents and First Responders”. *Bays and Bayous Symposiums*. Biloxi, MS.
- 2016 **B. Kar.** “WEA Messages for At-Risk Communities”. *Committee on the Future of Emergency Alert and Warning Systems: Research Directions – National Academy of Sciences*. Washington D.C.
- 2016 **B. Kar** and Z. Chen. “Veracity of Structured and Unstructured Big Data – A Case Study of Emergency Management”. *ASPRS*. Dallas/Ft. Worth, TX.
- 2016 **B. Kar** and Z. Chen. “Big Data Quality – A Comparison of Structured and Unstructured Data During a Disaster. *AAG*. San Francisco, CA.
- 2016 D. Cochran and **B. Kar.** “Ten Years After Katrina, Five Years After Deepwater Horizon: Risk Perception and Resilience Among Residents of the Mississippi Gulf Coast”. *AAG*. San Francisco, CA.
- 2016 N. Callais and **B. Kar.** “Invisible People of the Invisible Coast: The Resilience of People Experiencing Homelessness to Disasters on the Alabama, Louisiana, and Mississippi Coasts”. *AAG*. San Francisco, CA.
- 2016 X. Liu, **B. Kar**, D. Cochran. “Citizen Science and Risk Communication – An Analysis of Social Media vs. Traditional Media”. *AAG*. San Francisco, CA.
- 2016 B. Blackmon, J. Lee, D. Cochran, **B. Kar**, T. Rehner. “The Adaptation and Resilience Initiative on the MS Gulf Coast: Implications for Social Work”. *Gulf of Mexico – Oil Spill and Ecosystem Science Conference*. Tampa, FL.
- 2015 D. Cochran and **B. Kar.** “Factors Influencing Public Response to Emergency Alert and Warning Messages on the Mississippi Gulf Coast”. *Southeastern Division of the Association of American Geographers (SEDAAG)*. Pensacola, FL.
- 2015 **B. Kar.** “Citizen Science in Risk Communication in the Era of ICT – CIGIR”. *10th Gateway Computing Environments Workshop (GCE15)*. Boulder, CO.
- 2015 **B. Kar.** “Spatio-Temporal Variability of financial Loss: A Case Study of Florida Housing Market”. *AAG*. Chicago, IL
- 2015 D. Cochran, **B. Kar**, J. Zale, N. Callais, X. Liu, J. Dickens, J. Bass. “Household and Agency Perceptions of Emergency Warning Devices: A Comparative Study from the Mississippi Gulf Coast”. *AAG*. Chicago, IL.
- 2015 J. Zale, **B. Kar**, D. Cochran, N. Callais, X. Liu, J. Dickens, J. Bass. “Spatial Distribution of Trust and Use of Alert and Warning Devices: A Case Study of the Mississippi Gulf Coast”. *AAG*. Chicago, IL.
- 2014 **B. Kar**, D. Cochran, J. Dickens, J. Bass. “Exploring Public Perception of and Reaction to Emergency Alert and Warning System Dissemination Platforms”. *SEDAAG*. Athens, GA.

- 2014 **B. Kar.** “Spatial Granularity vs Property Insurance: A Case Study of Florida Housing Market”. AAG. Tampa, FL.
- 2014 **B. Kar** and G. Harley. “Suitability of Remote Sensing Data for African Dust Mapping in the Florida Keys, U.S.A.”. *ASPRS*. Louisville, KY.
- 2014 J. Zale, D. Cochran, **B. Kar**, J. Dickens. “Spatial Distribution of Social Vulnerability and Vulnerable Populations in Coastal Hazard Induced At-Risk Zones”. *Mississippi Academy of Sciences (MAS)*. Hattiesburg, MS. (Recipient of Second prize for best presentation).
- 2013 J. Zale, J. Bass, **B. Kar**, J. Dickens. “An Integrated Approach to Geo-Target At-Risk Communities and Deploy Effective Crisis Communication Approaches. *Natural Hazards Research and Applications Workshop*. Broomfield, CO.
- 2013 J. Zale, J. Bass, **B. Kar**, J. Dickens. “Availability and Coverage of Warning and Alert Communication Platforms in the Mississippi Coastal Communities”. *International Research Committee on Disasters Researchers Meeting*. Broomfield, CO.
- 2013 **B. Kar.** “LandScan vs. Night Time Imagery: Effectiveness of Each Dataset in Risk Assessment”. AAG. Los Angeles, CA.
- 2013 **B. Kar.** “Exploring Spatial Relationship Between Coastal Population Density and Inland Distance”. *ASPRS*. Baltimore, MD.
- 2012 **B. Kar.** “Decreasing Vulnerability of Coastal Population with Increasing Inland Distance”. *MAS*. Hattiesburg, MS.
- 2012 **B. Kar.** “What if Tropical Storm Irene was Hurricane Katrina?” AAG. New York City, NY.
- 2011 **B. Kar** and S. Perveen. “Multi-Scale Visualization of Water Stress/Scarcity Assessment”. *ASPRS*. Milwaukee, Wisconsin.
- 2011 **B. Kar** and A. Yousafzai. “A Comparative Analysis of Risk Reduction Approaches to the 2010 Flooding of South Asia”. AAG. Seattle, WA.
- 2011 A. Yousafzai and **B. Kar.** “A Comparative Analysis of Risk Reduction Approaches to the 2010 Flooding of South Asia”. *MAS*. Hattiesburg, MS.
- 2011 **B. Kar**, R. Crowsey, J. Zale. “The Myth of Location Privacy in the U.S.: Surveyed Attitude vs. Current Practices”. *MAS*. Hattiesburg, MS.
- 2010 S. Perveen and **B. Kar.** “Geo-visualization of Water Stress/Scarcity Assessment Using Different Indicators”. AAG. Washington D.C
- 2010 **B. Kar.** “Scaling Relationship Between Socio-Physical Vulnerability and Financial Loss. *MAS*. Hattiesburg, MS.
- 2009 **B. Kar.** 2009. “Why Scale Matters: A Hazard Research Perspective?” *SEDAAG*. Knoxville, TN.
- 2009 **B. Kar** and B. W. Richard. “Social Vulnerability: A Determinant of Community Resilience”. *Ghosts of Katrina: Natural Disasters and Community Resilience Sponsored by the Community and Regional Resilience Institute and the Center for Policy and Resilience*. Gulf Port, MS.
- 2009 **B. Kar** and M. E. Hodgson. “Generalization of Coast Boundary: Comparison of Generalization Techniques”. AAG. Las Vegas, NV.
- 2009 M. E. Hodgson and **B. Kar.** “Line Definition and Generalization at the Process Scale: A Hurricane Coastline Example”. AAG. Las Vegas, NV.

- 2009 **B. Kar** and M. E. Hodgson. “What is the Modeled Potential Residential Loss from a Storm Surge?” *ASPRS*. Baltimore, MD.
- 2008 M. Hodgson, B. A. Davis, C. Andris, **B. Kar**. “Adding Historical Image Collections and Future Plans to the Remote Sensing Hazard Guidance System”. *ASPRS*. Portland, OR.
- 2008 **B. Kar** and M. E. Hodgson. “Housing Unit Distribution in Coastal Counties: Comparison of Areal Interpolation Techniques”. *AAG*. Boston, MA.
- 2008 **B. Kar** and M. E. Hodgson. “GIS-Based Modeling of Potential Residential Loss from a Storm Surge”. *South Carolina GIS Conference*. Greenville, SC.
- 2007 **B. Kar** and M. E. Hodgson. “Housing Unit Distribution in Coastal Counties: Comparison of dis-aggregation techniques”. *SEDAAG*. Charleston, SC.
- 2007 **B. Kar** and M. E. Hodgson. “Mapping the Potential Swath Coverage of a Remote Sensing Satellite-Sensor Combination”. *SEDAAG*. Charleston, SC.
- 2007 **B. Kar**. “Impact of Scale of Analysis on Property Loss Estimation in Florida: A Comparative Approach”. *ASPRS*. Tampa, FL.
- 2007 M. E. Hodgson, J. R. Jensen, **B. Kar**, M. Garcia-Quijano, L. Lapine. “Overall and Temporal Variability in Horizontal Accuracy of LiDAR Data”. *ASPRS*. Tampa, FL.
- 2007 **B. Kar**. “Spatial Distribution of Potential Residential Loss from a Storm Surge”. *AAG*. San Francisco, CA.
- 2007 M. E. Hodgson, B. A. Davis, Y. Cheng, **B. Kar**. “A Remote Sensing Hazard Guidance System for Analyzing Image Collection Opportunities”. *Coastal GeoTools Conference*. Myrtle Beach, SC.
- 2007 **B. Kar**. “A GIS Based Model to Determine Site Suitability of Emergency Evacuation Shelters”. *South Carolina Arc User Network (SCARC)*. Charleston, SC.
- 2006 **B. Kar**. “Interactive Web-Mapping of SHEL DUS”. *ASPRS*. Reno, NV.
- 2006 **B. Kar**. “Spatio-Temporal Distribution of Hazard Loss in the USA”. *AAG*. Chicago, IL.
- 2005 **B. Kar**. “GIS Based Suitability Model to Determine Evacuation Shelters”. *SEDAAG*. West Palm Beach, FL.
- 2005 **B. Kar**. “Criteria, Weights and Geographic Scale of Analysis Used in the Disaster Mitigation Plans”. *AAG*. Denver, CO.
- 2002 **B. Kar**. “Pre-disaster Planning Using Remote Sensing and GIS for Hurricane Affected Areas”. *Workshop on Technologies for Communities*. Rensselaer Polytechnic Institute - Troy, NY.

B. Invited Talks

- 2019 **B. Kar**. “Geospatial Science and Big Data for Urban Resilience”. *College of Social Sciences, Michigan State University*. East Lansing, MI.
- 2019 **B. Kar**. “Geospatial Science and Big Data for Urban Resilience”. *College of Arts and Sciences, University of Nebraska*. Lincoln, NE.
- 2019 **B. Kar**. “Exploring the Use of Geospatial Big Data for National Security”. *Oak Ridge Institute for Science and Education (ORISE)*. Oak Ridge, TN.
- 2017 **B. Kar**. “Variability of Big Data Relevance for Disaster Situational Awareness Across Events”. *School of Geology, Energy and the Environment- Texas Christian University*. Fort Worth, TX.

- 2017 **B. Kar.** “The Role of Geospatial Science in Emergency Management and Crisis Informatics”. *Department of Geography - University of Tennessee*. Knoxville, TN.
- 2017 **B. Kar.** “Increasing Situational Awareness of WEA Messages for At-Risk Communities – A Case Study of 2013 Boulder Flooding”. *School of Ocean Science and Technology – USM*. Stennis Space Center, MS.
- 2016 **B. Kar.** “Increasing Situational Awareness of WEA Messages for At-Risk Communities”. *Oak Ridge National Laboratory*. Oak Ridge, TN.
- 2015 **B. Kar.** “Geo-targeting At-risk Communities for Effective Crisis Communication - Public Perceptions of and Responses to Emergency Alert and Warning Devices”. *Department of Marine Science - Texas A & M*. Galveston, TX
- 2014 **B. Kar** and D. Cochran. “Geo-targeting At-risk Communities for Effective Crisis Communication”. *Department of Homeland Security - S & T Directorate*.
- 2014 **B. Kar**, D. Cochran, J. Bass, J. Zale, J. Dickens. “Geo-targeting At-risk Communities for Effective Crisis Communication”. *Department of Geography - University of Alabama*. Tuscaloosa, AL.
- 2009 **B. Kar.** “Why Scale Matters: Hazard Research Perspective”. *Department of Geography & Geology – USM*. Hattiesburg, MS.

C. Posters Presented in Academic and Scientific Conferences

- 2019 M. Glasscoe, D. Bausch, K. Tiampo, R. Eguchi, M. Pierce, Z. Chen, **B. Kar** and G. Schumann. “Advancing Access to Global Flood Modeling and Alerting Using the PDC DisasterAWARE Platform and Remote Sensing Technologies. *American Geophysical Union (AGU)*. San Francisco, CA.
- 2019 **B. Kar** and T. Moss. “Integrating Earth Observation Data with Socio-Economic Data to Understand the Relationship Between Urban Heat Islands and Social Vulnerability”. *AGU*. San Francisco, CA.
- 2019 T. Riggs, **B. Kar**. “Framework to Forecast Mobility Pattern Using Trajectory Data for Geo-Targeting Emergency Management Activities”. *International Mechanical Engineering Congress and Exposition (IMECE)*. Salt Lake City, UT.
- 2018 **B. Kar**, S. Kotikot, D. Wanyama and O. A. Omitaomu. “Monitoring Power Restoration Using Satellite Imagery and Social Vulnerability”. *AGU*. Washington D.C.
- 2018 S. Kotikot, **B. Kar**, O. A. Omitaomu, D. White, C. Davis. “Understanding Relationship Between Power Restoration and Social Vulnerability Using VIIRS Day/Night Band (DNB) Data”. *Urban Dynamic Institute SAB Poster Session*. Oak Ridge, TN.
- 2018 A. Brandt and **B. Kar**. “Dynamics of Urban Heat Islands and Energy Use in Knoxville”. *Urban Dynamic Institute SAB Poster Session*. Oak Ridge, TN.
- 2017 **B. Kar** and O. A. Omitaomu. “Spatio-Temporal Variability of Urban Heat Island and Urban Mobility”. *AGU*. New Orleans, LA.
- 2017 **B. Kar**, C. Robinson, D. Koch, and O. A. Omitaomu. 2017. “Knowledge to Action – Understanding Natural Hazards Induced Power Outage Scenarios for Actionable Disaster Responses. *AGU*. New Orleans, LA.
- 2015 X. Liu, **B. Kar**, D. Cochran. 2015. “Cyber Infrastructure for Geo-Informatics and Community Resilience (CIGIR)”. *SEDAAG*. Pensacola, FL. (Best student poster award)

- 2015 D. Cochran, **B. Kar**, J. Zale, N. Callais, X. Liu, J. Dickens, J. Bass. “Public Perceptions of and Responses to Emergency Alert and Warning Devices”. *Natural Hazards Research and Applications Workshop*. Broomfield, CO.
- 2014 L. Wylie and **B. Kar**. “Fire and Fuels in the Zuni Mountains”. *SEDAAG*. Athens, GA.
- 2014 B. Cumbie and **B. Kar**. “Socially Awkward: Social Media Usage in County-Level Government”. *20th Americas Conference on Information Systems*. Savannah, GA.
- 2013 **B. Kar** and R. Lanier. “LandScan vs. Night Time Imagery: Effectiveness of Each Dataset in Risk Assessment”. *SEDAAG*. Roanoke, VA.
- 2013 H. Feather and **B. Kar**. “Site Suitability of Tornado Shelters: A GIS Based Case Study Analysis of Mississippi”. *SEDAAG*. Roanoke, VA.
- 2012 S. McBride, B. Hurley, **B. Kar**, M. Solangi, S. Kuczaj. “Potential Habitat Utilization and Influence of Environmental Variables on Distribution of Bottlenose Dolphin *Tursiops Truncatus* in Mississippi Sound”. *USM Research Day*. Hattiesburg, MS.
- 2009 J. Zale and **B. Kar**. “A GIS Based Evacuation Model for a Football Stadium”. *SEDAAG*. Knoxville, TN.
- 2008 **B. Kar** and M. E. Hodgson. “Is DEM a Better Substitute for Floor Elevation of Residential Structures?” *SEDAAG*. Greensboro, NC.

VII. TEACHING

A. Courses Taught at USM (2008 – 2017)

GHY 217/217L:	Introduction to Geographic Information Systems
GHY 417/417L:	GIS Based Vector Analysis
GHY 517/517L:	GIS Based Vector Analysis
GHY 418/418L:	Spatial Analysis and Modeling
GHY 518/518L:	Spatial Analysis and Modeling
GHY 411/411L:	Remote Sensing and Image Interpretation
GHY 511/511L:	Remote Sensing and Image Interpretation
GHY 412/412L:	Environmental Remote Sensing
GHY 512/512L:	Environmental Remote Sensing
GHY 467/467L:	Design and Deployment of Database and Geo-Database
GHY 567/567L:	Design and Deployment of Database and Geo-Database
GHY 469/469L:	Internet Mapping
GHY 569/569L:	Internet Mapping
GHY 455/555:	Environmental Hazards
GHY 610/710:	Seminar in Research Techniques and Presentation of Geographic Data
GHY 612/712:	Seminar in GIS

B. Courses Taught at University of South Carolina (2007 – 2008)

GEOG 345:	Interpretation of Aerial Photographs
GEOG 363:	Introduction to Geographic Information System

C. Graduate Student Advisor at USM

Joslyn Zale (PhD, 2013 – 2017)
Xiaohui Liu (PhD, 2014 – 2017)
Nicole Callais (MS, 2014 – 2016)
Luke Wylie (MS, 2014 – 2016)
Rebecca Lanier (MS, 2013 – 2015)
William Davis (MS, 2012 – 2014)
Thomas Wissing (MS, 2011 – 2013)
Brian Moore (MS, 2010 – 2012)
Joslyn Zale (MS, 2009 – 2011)

D. Service on Graduate Student Committee

Nicole Callais (PhD, UT Knoxville, Department of Geography, 2018 – present)
Dan Wanyama (PhD, Michigan State University, Department of Geography, 2017 – present)
Rick Crowsey (PhD, USM, 2008 – 2012)
Jennifer Bonin (PhD, USM, 2008 – 2012)
Kelly Rouse (PhD, USM, Science Education, 2010 – 2014)
Shauna McBride (PhD, USM, Psychology, 2012 – 2016)
Elida Rocha (MS, USM, 2016 – present)
James Dickens (MS, USM, 2014 – 2016)
Kayla Pendergrass (MS, USM, 2013 – 2015)
Charles White (MS, USM, 2013 – 2015)
Brett Hode (MS, USM, 2012 – 2014)
Matthew Fahrenbruch (MS, USM, 2010 – 2012)
Vignan Bundy (MS, USM, Computer Science, 2014 – 2016)

D. Undergraduate Student Advisor at USM

Denton Bushman, Zachary Cooley, James Dickens, Chandler Farris, Hilton Gillespie, Audrey Graves, James Hadley, Margaret Hall, William Kincaid, Cody Knuth, Lucas Lee, Steven Lowery, Brittany McCalip, Steven Mee, Matt Sumrall.

E. Mentoring at ORNL

Postdoc Mentoring Program

Marie Romedenne (Physical Sciences Directorate, 2019 – present)
Yiyu Wang (Physical Sciences Directorate, 2019 – present)
Pezhi Mai (Physical Sciences Directorate, 2019 – present)
Matthew Sandlin (Energy and Environmental Sciences Directorate, 2019 – present)

DoE – Science Undergraduate Laboratory Internship (SULI)

Tamar Moss (Sophomore in Environmental Science, Brandeis University, 01/2019 – 07/2019)
Jacob Ethridge (Sophomore in Civil Engineering, UT Chattanooga, 2019)
Adam Brandt (BS in Geology, Utah State University, 01/2018 – 07/2018)
Fernando Runte (BS in Computer Science, Sam Houston University, 2018)

DoE – Advanced Short Term Research Opportunity (ASTRO)

Dan Wanyama (Ph.D. Candidate in Department of Geography, Michigan State University, 2018)

NSF – Mathematical Sciences Graduate Internship (MSGI)

Tamera Riggs (Ph.D. Candidate in Mathematics, UT Knoxville, 2019)

F. Other Mentoring Activities

Anoor Academy of Knoxville for 2019 Future City Competition (3rd Prize holder in Region)

VIII. SERVICES

A. ORNL

Judge, *ORPA Research Symposium (2018 and 2019)*

B. University of Southern Mississippi

Department

Geographic Information Technology (GIT) Degree and Certificate Curriculum (2016)

WEAVE Assessment of GIT Certificate Program (2014 - 2016)

Computer Lab Maintenance (2009 – 2016)

Graduate Coordinator for Geography Program (2009 - 2011)

Representative to the Directors of Graduate Studies Committee (2009 - 2011)

Representative to the College Faculty Council (2009 – 2010)

College

Research Award Committee Member (2016 – 2017)

Creation of Qualtrics' Management Plan (2013)

Awards Committee Member (2012 – 2015)

University

Reviewer for Eagles Scholars Program for Undergraduate Research (2014 - 2016)

Judge and Reviewer for Undergraduate Research Symposium (2012 - 2013)

Presenter and Discussant for 2nd SMM Gulf Coast Student Chapter Symposium (2011)

Event Supervisor and Judge for Road Scholar Event of Mississippi Science Olympiad (2011)

C. Professional Memberships and Activities

Professional Affiliation

ASPRS - American Society for Photogrammetry and Remote Sensing

AAG - Association of American Geographers

AGU - American Geophysical Union

ACM – Association for Computing Machinery SIGSPATIAL

AAAS - American Association for the Advancement of Sciences

Leadership in Professional Organizations and Journals

Associate Editor and Social and Behavioral Science Editor, IEEE - Natural Hazards Review (2016 – continuing)

Vice Chair, AAG Specialty Group - Geographic Information Science and Systems
Vice-Chair, ASPRS - Technical Division Directors Council (TDDC) (2018 – Continuing)
Member, ASPRS - Technical Program Sub-Committee (TPSC) (2018 – Continuing)
Director, ASPRS - GIS Division (2017 – 2019)
Mississippi State Representative, Southeastern Division of AAG (2014 – 2015)
Member of the Audit Committee, Southeastern Division of AAG (2010 – 2012)

Journal Editorial Board

2019 – present GIScience and Remote Sensing (GISRS)
2015 – 2019 Southeastern Geographer

Guest Editor

2019 **B. Kar** and D. M. Cochran (Eds.), *Understanding the Roles of Risk Communication in Community Resilience Building*, Invited Book for Routledge.
2019 Xinyue Ye, C. Wu, G. Vervone, **B. Kar** (Eds.), Special Issue on Integrating Remote Sensing and Social Sensing, *Remote Sensing*.
2010 – 2016 Guest Associate Editor, *Natural Hazards Review*
2016 **B. Kar**, M. Haklay, R. Ghose, R. Sieber (Eds.), Special Issue on *Past, Present and Future of Participatory GIS and Public Participation GIS*, The Cartographic Journal.

Conference Organizer and Chair

2019 *AAG Annual Meeting*
B. Kar, M. E. Hodgson, T. Cova (Co-Organizers), *Paper sessions on Hazards and GIScience*.
B. Kar, D. M. Cochran, X. Liu (Co-Organizers), *Paper sessions on Risk Communication and Resilience*.
B. Kar, E. Chow, Z. Chen (Co-Organizers), *Paper sessions on Social Media and Big Data for Disasters*.
X. Ye, **B. Kar**, S. Wang (Co-Organizers), *Paper sessions on Symposium on Human Dynamics Research in the Age of Smart/Intelligent Systems: Smart Cities and Urban Computing*.
B. Kar (Panelist), *Social Sensing and Big Data Computing for Disaster Management*

ASPRS Annual Meeting

B. Kar (Abstract Reviewer)

AGU Annual Meeting

Co-Organizer and Co-Chair, Paper and Poster sessions on *Using Earth Observations and Imagery Analysis For Risk and Resilience Assessment, Risk Communication and Monitor Response and Recovery Efforts*

ACM SIGSPATIAL

Co-organizer, *2nd International Workshop on Advances in Resilient and Intelligent Cities (ARIC)*

Science Gateways
Program Committee Member

URISA (Urban and Regional Information Systems Association)
B. Kar (Member), Resilience Taskforce (Continuing)

2018 *AAG Annual Meeting*
Co-Organizer, *GIScience and Hazards theme* (<http://annualmeeting.aag.org/hazards>)
B. Kar, M. E. Hodgson, T. Cova (Co-Organizers), Paper sessions on *Hazards and GIScience*.
B. Kar and D. M. Cochran (Co-Organizers), Paper sessions on *Risk Communication and Resilience*.

ASPRS Annual Meeting
B. Kar (Abstract Reviewer)

AGU Annual Meeting
Co-Organizer and Co-Chair, Paper and Poster sessions on *Using Earth Observations and Imagery Analysis For Risk and Resilience Assessment, Risk Communication and Monitor Response and Recovery Efforts*

ACM SIGSPATIAL
Co-organizer, *1st International Workshop on Advances in Resilient and Intelligent Cities (ARIC)*
Program Committee Member: *2nd International GeoAI Workshop*.

Science Gateways
Program Committee Member

2017 *AAG Annual Meeting*
B. Kar, M. E. Hodgson, T. Cova (Co-Organizers), Paper sessions on *Hazards and GIScience*.
B. Kar and D. M. Cochran (Co-Organizers), Paper sessions on *Risk Communication and Resilience*.

ASPRS Annual Meeting
Co-Organizer and Co-Chair, *Frontier Day-STEM Events*.

ACM SIGSPATIAL
Co-organizer, *1st International GeoAI Workshop*.

Science Gateways
Program Committee Member

William A. Anderson Fund (BAF)
Co-organizer, *BAF Student Council Workshops*

- 2016 *AAG Annual Meeting*
B. Kar, M. E. Hodgson, T. Cova, R. Platt (Co-Organizers), Paper sessions on *Hazards and GIScience*.
B. Kar and D. M. Cochran (Co-Organizers), Paper sessions on *Risk Communication and Resilience*.
Organizer and Chair: Paper session on *Geoweb and Citizen Science*.

ASPRS Annual Meeting
Co-Organizer and Co-Chair, *Frontier Day-STEM Events*.

Science Gateways
Program Committee Member

William A. Anderson Fund (BAF)
Co-organizer and Speaker, *BAF Student Council Workshops*

- 2015 *AAG Annual Meeting*
B. Kar, M. Haklay, R. Ghose, H. Geoghagen and R. Sieber (Co-Organizer), Paper and panel sessions on *Looking Backwards and Forwards in Participatory GIS*, *paper session on Citizen Science and Geoweb and on GeoPrivacy and Big Data*.
B. Kar and D. M. Cochran (Co-Organizers), Paper sessions on *Risk Communication and Resilience*.
Panelist, *Sexual Harassment in Fieldwork and Laboratory Settings: A Discussion on Existing Policy Frameworks and Developing a Guide to Best Practices for Geography*.

William A. Anderson Fund (BAF)
Co-organizer, *BAF Student Council Workshops*

- 2014 *AAG Annual Meeting*
B. Kar, M. Rura (Co-Organizer), Paper and panel sessions on *Location Based Privacy and on Error and Accuracy Assessment and Data Fusion*.

ASPRS
Reviewer, *ESRI and Digital Globe Awards*

IEEE Conference on Big Data
Program Committee Member, *Workshop on Using Big Data to Understand Spatial Connectivity*

Annual Natural Hazards Research and Applications Workshop
Panelist, *Wireless Emergency Alerts: The Edge of the Wave*

2006 *ASPRS Annual Meeting*
Moderator, *Web/Data Transfer II Session*

2005 *Southeastern Division of AAG Annual Meeting*
Discussant, *Urban Application of GIS Session*

Other

2019 *Hopper Down Under*
Reviewer

2017 – present *ORNL*
Women in Computing Group Member

2018 – present *American Nuclear Society*
Working Group Member, ANS-2.35 - Guidelines for Estimating Present
& Projecting Future Socioeconomic Impacts from the Construction,
Operations, and Decommissioning of Nuclear Sites,

2011 - 2013 *ASPRS*
Reviewer and contributor, *ASPRS Glossary*

Journal Manuscript and Book Chapter Review

1. Applied Geography
2. Cartography and Geography Information Science
3. Cogent Geoscience
4. Environmental Science and Pollution Research
5. GI Science and Remote Sensing
6. IEEE: Journal of Selected Topics in Earth Observations and Remote Sensing; IEEE: Geoscience and Remote Sensing Letters; IEEE – Transactions on Engineering Management
7. Information Technology for Development
8. International Journal of Geographic Information Science
9. International Journal of Innovative Technology and Creative Engineering
10. Journal of Humanitarian Action
11. Natural Hazards
12. Natural Hazards Review
13. Photogrammetric Engineering and Remote Sensing
14. Southeastern Geographer
15. Urban Planning
16. Chapter reviewer, *Forensic GIS: The Role of Geospatial Technologies for Investigating Crime and Providing Evidence Book*

Proposal Review

1. National Science Foundation: *Infrastructure Management and Extreme Events; Geography and Spatial Sciences; Office of International Science and Engineering; Computer and Information Science and Engineering; Humans, Disasters and the Built Environment*

2. Department of Homeland Security: *Science and Technology Directorate*
3. Social Sciences and Humanities Research Council of Canada
4. AAG Hazard Specialty Group: *Gilbert White Award*
5. Public Entity Risk Institute: *Dissertation Fellowship*

IX. COLLABORTORS

1. ImageCAT Inc.: *Ronald Eguchi*
2. RAND Corporation: *Elizabeth Petrun Sayers*
3. FEMA: *Doug Bausch*
4. NASA JPL: *Margaret Glasscoe*
5. ORNL: *O. A. Omitaomu, Melissa Allen*
6. Arizona State University: *David Sailor, Peter Kedron*
7. Indiana University: *Marlon Pierce*
8. New Jersey Institute of Technology: *Xinyue Ye*
9. Ohio State University: *Tim Rehner*
10. Texas State University: *T. Edwin Chow*
11. University of Arkansas: *Jason A. Tullis*
12. University of Colorado: *Kristy Tempo*
13. University of Missouri – Kansas City: *ZhiQiang Chen*
14. University of Oklahoma: *Shima Mohebbi*
15. USM: *David M. Cochran, Joohee Lee, Bret Blackmon, Gopinath Subramaniam, Greg Carter.*

X. PRESS RELEASE

1. <http://news.usm.edu/article/southern-miss-geography-team-studies-emergency-communications-diverse-mississippi-communitie>
2. <http://www.hattiesburgamerican.com/story/news/education/usm/2016/06/26/study-residents-may-ignore-emergency-alerts/86331562/>
3. http://m.wdam.com/wdam/db_389262/contentdetail.htm?contentguid=w7XbgSdW#.V3_7w53TKbA.facebook

Bandana Kar.

Bandana Kar

08/31/2019