

Curriculum Vitae

Christopher T. Emrich, Ph.D. GISP

School of Public Administration
National Center for Integrated Coastal Research
Sustainable Coastal Systems Initiative
University of Central Florida
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EDUCATIONAL BACKGROUND

2001 – 2005 Doctorate of Philosophy, Geography, University of South Carolina

Dissertation Title: *Social Vulnerability in United States Metropolitan Areas: Improvements in Hazard Vulnerability Assessment*

2001 – 2005 Doctorate of Philosophy, Geography
University of South Carolina
Department of Geography

1998 – 2000 Masters of Arts, Geography
University of South Florida
Department of Geography

Thesis Title: *Modeling Community Risk and Vulnerability to Multiple Natural Hazards: Hillsborough County, Florida*

1993 – 1997 *Bachelor of Arts, Geography*
University of South Florida
Department of Geography

ACADEMIC POSITIONS

Professor (with tenure)
(2022 – Present) University of Central Florida
School of Public Administration
College of Community Innovation and Education
Orlando, Florida 32816-1250

Boardman Endowed Professor of Environmental Science and Public Administration and Science Director for the National Center for Integrated Coastal Research. Responsibilities include teaching undergraduate and graduate courses in the Masters in Emergency Management and Homeland Security and Urban and Regional Planning Programs, Founding

member of the National Center for Integrated Coastal Research; advising master's degree students; Direct and serve on thesis and dissertation committees; maintaining an active research agenda and scholarly publications; supervising post-doctoral scholars; securing external funding ; and participating in professional, university, college, and programmatic related service.

Associate Professor (with tenure)
(2016 – 2022)

University of Central Florida
School of Public Administration
College of Community Innovation and Education
Orlando, Florida 32816-1250

Boardman Endowed Associate Professor of Environmental Science and Public Administration and Science Director for the National Center for Integrated Coastal Research. Responsibilities include teaching (**2/2 teaching load**) undergraduate and graduate courses in the Masters in Emergency Management and Homeland Security and Urban and Regional Planning Programs, Science Director for the National Center for Integrated Coastal Research; advising master's degree students; Direct and serve on thesis and dissertation committees; maintaining an active research agenda and scholarly publications; supervising post-doctoral scholars; securing external funding ; and participating in professional, university, college, and programmatic related service.

Research Associate Professor (non-tenured)
Associate Director, Hazards &
Vulnerability Research Institute
(2014 – 2016)

University of South Carolina
Department of Geography
College of Arts and Sciences
Columbia, South Carolina 29208

Responsibilities included development of policies, procedures, and standard operating processes aimed at advancing the implementation of GIS and information technology in support of disaster operations, emergency management, response and recovery; Management and coordination of all budgets, staff, projects, products, and Web-based geospatial solutions for the Hazards and Vulnerability Research Institute (HVRI); Promote the current research agenda of the HVRI through direct consultation with local, state, and federal customers, organizations, and agencies interested in the products, processes, and metrics produced by the HVRI; Design new and innovative research initiatives related to hazards and disasters and explore and procure grant funded research projects related to the mission of the HVRI from outside sources; Instructor of record for environmental hazards course aimed at providing theoretical and conceptual background related to disasters research and teaching quantitative hazard and disaster assessment and analysis techniques to upper level undergraduates and graduates

Research Assistant Professor (non-tenured)
Associate Director, Hazards and
Vulnerability Research Institute
(2008 – 2014)

University of South Carolina
Department of Geography
College of Arts and Sciences
Columbia, South Carolina 29208

Responsibilities included advising, overseeing, and supporting the South Carolina Emergency Management Division during evacuations, response, and long term recovery initiatives by utilizing geospatial techniques and web-based solutions that are in line with the national response framework (NRF); Provide expert oversight and consultation on all research, grant, and project activities for the HVRI, including the formulation, assignment, and management of specific project tasks, requirements, and deliverables; Provide instruction and technical guidance to graduate and undergraduate students undertaking research related to hazards, emergency management, and social vulnerability; Instructor of record for environmental hazards course aimed at providing theoretical and conceptual background related to disasters research and teaching quantitative hazard and disaster assessment and analysis techniques to upper level undergraduates and graduates

**Visiting Assistant Professor (non-tenured)
(2007 – 2008)**

University of South Florida
Department of Geography
College of Arts and Sciences
Tampa, Florida 33620

Responsibilities included: Instructor of record for undergraduate computer cartography course aimed at providing baseline geographic information system knowledge to upper level undergraduates interested in the principles and techniques of cartography and basic geographic information science; Instructor of record for graduate level advanced geographic information systems course centered on complex applications and methods of geospatial analysis and display; Instructor of record for advanced graduate level course pertaining to environmental applications of geographic information systems in which students are introduced to a variety of open source and commercial GIS analysis packages related to spatial environmental analysis

PROFESSIONAL POSITIONS

2008 Web Transparency Liaison, Gulf Coast Recovery Organization, Federal Emergency Management Agency
2004 – 2005 GIS Specialist, Hurricane Charley Joint Field Office – Mitigation Division, Federal Emergency Management Agency
2001 – 2005 Research Assistant, Hazards Research Lab, Department of Geography, University of South Carolina
2000 – 2001 GIS Specialist, Post Buckley Schuh and Jernigan, Tampa, FL

ADMINISTRATION POSITIONS

2022 – Present Interim Lead, UCF Sustainable Coastal Systems Cluster.
2019 – Present Science Director, National Center for Integrated Coastal Research
2013 – 2016 Associate Director, Hazards and Vulnerability Research Institute, Department of Geography, University of South Carolina
2006 – 2007 GIS Unit Leader, Florida Long Term Recovery Office- Planning Section, Federal Emergency Management Agency

2005 – 2006 Lab Manager, Hazards Research Lab, Department of Geography,
University of South Carolina

HONORS, AWARDS, RECOGNITION

- 2021 **UCF Luminary Awardee.** One of a small group of researchers recognized for being academic leaders making an impact on the world through their studies and scholarship.
- 2017 **Editor's Choice – Journal of Gerontology.** Recognized by the journal for providing an especially significant contribution to the field of gerontology.
- 2016 **Boardman Endowed Associate Professor of Environmental Science and Public Administration.** I was hired as the 1st Endowed Professor in the College of Public Health and Affair.
- 2016 **Outstanding Service to the State of South Carolina.** Recognized by Governor Nikki Haley for technical contributions to South Carolina's disaster recovery efforts following the 2015 South Carolina Floods.
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RESEARCH AND SCHOLARLY ACTIVITY

Research Interest & Foci

- Social vulnerability and resilience assessment
 - Hazards geography and geospatial information science
 - Disaster equity analysis and tracking long term recovery
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FACULTY MEMBERS SCHOLARLY PUBLICATIONS

Dissertation

Emrich, C. T. (2005). *Social vulnerability in US metropolitan areas: improvements in hazard vulnerability assessment (Doctoral dissertation, University of South Carolina)*. Available from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.621.6113&rep=rep1&type=pdf>

Books

- (1) Cutter, S.L. **Emrich, C.T.**, Mitchell, J. T., Piegorsch, W.W., Smith, M.M. and L. Weber. (2014). *Hurricane Katrina and the Forgotten Coast of Mississippi*. New York: Cambridge University Press, 194 pp. <https://doi.org/10.1017/CBO9781139161831>
 - (2) Li, Z., Huang, Q., & C.T. Emrich (Eds). (2021). *Social Sensing and Big Data Computing for Disaster Management*. London, UK:Routledge: 204 pp. ISBN: SBN 9780367617653. Available from: <https://www.routledge.com/Social-Sensing-and-Big-Data-Computing-for-Disaster-Management/Li-Huang-Emrich/p/book/9780367617653>
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Book Chapters

- (9) Finch, C., **Emrich, C.**, & Cutter, S. (2022). Disaster Disparities and Differential Recovery in New Orleans. In *Global Labour in Distress, Volume I* (pp. 563-593). Palgrave Macmillan, Cham. https://link.springer.com/chapter/10.1007/978-3-030-89258-6_28
- (8) **Emrich, C.T.**, E. Tate, S. Larson, & Y. Zhou. (2021). Measuring social equity in flood recovery funding. In Slavíková, L., Hartmann, T, & T. Thaler (Eds) *Financial Schemes for Resilient Flood Recovery*, 1st Edition. London, UK: Routledge. Available from <https://www.routledge.com/Financial-Schemes-for-Resilient-Flood-Recovery/Slavikova-Hartmann-Thaler/p/book/9781032017563>
- (7) **Emrich, C.T.**, Knox, C.C., Sadiq, A.A., Alvarez, S. & Y. Zhou. (2019). Hurricane Irma and Cascading Impacts. In Rubin, C. & S.L. Cutter (Eds) *From Disaster to Catastrophe: U.S. Emergency Management in the 21st Century* (pp.123-153). New York, NY: Routledge. Available from <https://www.routledge.com/US-Emergency-Management-in-the-21st-Century-From-Disaster-to-Catastrophe/Rubin-Cutter/p/book/9781138354661>
- (6) **Emrich, C.T.** & G. Tobin. (2018). Resilience: An Introduction. In Fuchs, S. & T. Thaler (eds) *Vulnerability and Resilience to Natural Hazard* (pp. 123-144). Cambridge, UK: Cambridge University Press. Available from <https://www.cambridge.org/core/books/vulnerability-and-resilience-to-natural-hazards/FCBF5405C7FEA415ECF600A6B26FBA93>
- (5) Jacques, P.J., Broad, K. Butler, W., **Emrich C.T.**, Galindo, S. Knox C., Rizzardi, K.W., & K. Ziewitz. (2017). Human Dimensions and Communication of Florida's Climate. In Chassignet, E.P., Jones, J.W., Misra, V. & J. Obeysekera (Eds) *Florida's Climate: Changes, Variations, & Impact* (pp. 1-50). Gainesville, FL: Florida Climate Institute. Available from <http://floridaclimateinstitute.org/resources/florida-climate-book>
- (4) Collins, J.M., Paxton, C.H., Wahl, T. & **C.T. Emrich**. (2017). Climate and Weather Extremes. In Chassignet, E.P., Jones, J.W., Misra, V. & J. Obeysekera (Eds) *Florida's Climate: Changes, Variations, & Impacts* (pp. 579-615). Gainesville, FL: Florida Climate Institute. Available from <http://floridaclimateinstitute.org/resources/florida-climate-book>
- (3) **Emrich, C.T.**, S. L. Cutter & P. J. Weschler. (2011). GIS and Emergency Management. In Nyerges, T., Couclelis, H. & R. McMaster (Eds) *The SAGE Handbook of GIS and Society*, London (pp.321-343). London, UK: Sage Publications. Available from <https://uk.sagepub.com/en-gb/eur/the-sage-handbook-of-gis-and-society/book231755>
- (2) Cutter, S.L., **Emrich, C.T.**, Adams, B.J., Huyck, C.K. & R.T. Eguchi, (2009). New Information Technologies in Emergency Management. In Waugh, W.L. Jr. & K. Tierney (Eds) *Emergency Management: Principles and Practice for Local Government*, 2nd Edition. (pp.279-297). Washington, DC: ICMA Press. Available from: <https://icma.org/publications/emergency-management-principles-and-practice-local-government-2nd-edition-pdf>

- (1) Cutter, S.L., Gall, M., & **C.T. Emrich**. (2008). Towards a comprehensive loss inventory of weather and climate hazards. In Diaz, H.F. & R.J. Murnane (Eds) *Climate Extremes and Society* (pp.279-295). Cambridge, UK: Cambridge University Press. Available from <https://www.cambridge.org/core/books/climate-extremes-and-society/D5396BE51575404C6653A4C06E553CDC>
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Publications in Refereed Journals

(Junior Faculty Lead*, Student Lead†, Practitioner Lead‡)

- (47) Derakhshan, S., **Emrich, C. T.**, & Cutter, S. L. (2022). Degree and direction of overlap between social vulnerability and community resilience measurements. *Plos one*, 17(10) (Impact Factor: 3.752), e0275975. <https://doi.org/10.1371/journal.pone.0275975>
- (46) **Emrich, C.T.**, Aksha, S., & Y. Zhou. (2022). Assessing Distributive Inequities in FEMA's Disaster Recovery Assistance Fund Allocation. *International Journal of Disaster Risk Reduction* 74 (Impact Factor 4.32). <https://doi.org/10.1016/j.ijdr.2022.102855>.
- (45) **Emrich, C.T.**, Aksha, S. Zhou, Y. and H.E. Longenecker. (2022). Creating a Nationwide Composite Hazard Index Using Empirically Based Threat Assessment Approaches Applied to Open Geospatial Data. *Sustainability* 14(5), 2685 (Impact Factor 3.251). <https://doi.org/10.3390/su14052685>
- (44) Wilson, B., Tate, E.C. & **C.T. Emrich**. (2021). Flood Recovery Outcomes and Disaster Assistance Barriers for Vulnerable Populations. *Frontiers in Water*, 159. <https://doi.org/10.3389/frwa.2021.752307>
- (43) Harris, L.A., Grayson, R. Neckles, H.A., **Emrich, C.T.**, Lewis, K.A., Grimes, K.W., Williamson, S., Garza, C., Whitcraft, C.R., Pollack, J.B., Talley, D.M., Fertig, B., Palinkas, C.M., Park, S., Vaudrey, J.M.P., Fitzgerald, A.M., & J. Quispe. (2021). A Socio-ecological Imperative for Broadening Participation in Coastal and Estuarine Research and Management. *Journal of Estuaries and Coasts* (Impact Factor 2.391). <https://doi.org/10.1007/s12237-021-00944-z>
- (42) †Fotovvat, H. & **C.T. Emrich**. (2021). Linking Social Vulnerability and Adverse Birth Outcomes in the Southeast United States. *Journal of Pediatrics and Infants* 4(2): 21-31. (Impact Factor 1.72). <https://doi.org/10.21203/rs.3.rs-134261/v1>
- (41) †Georgantopolis, P., Eberth, J.M., Cai, B., Rao, G., Bennett, C.L., **Emrich, C.T.**, Haddock, K.S., & J.R. Hébert (2021). A Spatial Assessment of Prostate Cancer Mortality-to-Incidence Ratios Among South Carolina Veterans: 1999 – 2015. *Annals of Epidemiology*, 59: 24-32. (Impact Factor: 2.804). <https://doi.org/10.1016/j.annepidem.2021.03.010>
- (40) Hu, M.D., Lawrence, K.G., Gall, M. Bezuglov, A., MacNell, N, **Emrich, C.T.** & D. P. Sandler. (2021). Natural Hazards and Mental Health among US Gulf Coast Residents. *Journal Of Exposure Science And Environmental Epidemiology: 1-10*. (Impact Factor 3.531) <https://www.nature.com/articles/s41370-021-00301-z>

- (39) †Goodman, Z.T., Stamatis, C.A., Stoler, J., **Emrich C.T.**, & M. M. Llabre. (2021). Methodological Challenges to Confirmatory Latent Variable Models of Social Vulnerability. *Natural Hazards*, 106: 2731-2749. (Impact Factor 2.254). <https://doi.org/10.1007/s11069-021-04563-6>
- (38) Tate, E., Rahman, M.D., **Emrich, C.T.**, & C.C. Sampson. (2021). Flood Exposure and Social Vulnerability in the United States. *Natural Hazards*, 106: 435-457. (Impact Factor 2.254). <https://doi.org/10.1007/s11069-020-04470-2>
- (37) Reinhart, D., Joslyn, R., & **C.T. Emrich**. (2020). Characterization of Florida, U.S. Landfills with Elevated Temperatures. *Waste Management*, 118: 55-61. (Impact Factor 5.431). <https://doi.org/10.1016/j.wasman.2020.08.031>
- (36) *Aksha, S. & **C. T. Emrich**. (2020). Benchmarking Community Disaster Resilience in Nepal. *International Journal of Environmental Research and Public Health*, 17(6): 1985. (Impact Factor: 2.468). <https://doi.org/10.3390/ijerph17061985>
- (35) †Martin, Y. Cutter, S.L., Li, Z, **Emrich, C.T.**, & J. Mitchell. (2020). Tracking the Disruption of Hurricane Maria on Population Flows in Puerto Rico through Geotagged Tweets. *Population and Environment*. (Impact Factor: 1.766). <https://doi.org/10.1007/s11111-020-00338-6>
- (34) *Georgantopolis, P., Eberth, J.M., Cai, B., Rao, G., Bennett, C.L. **Emrich, C.T.**, Haddock, K.S., & J.R. Hébert. (2020). Patient-and area-level predictors of prostate cancer among South Carolina veterans: a spatial analysis. *Cancer Causes & Control*, 31(3): 209-220. (Impact Factor: 2.3). <https://doi.org/10.1007/s10552-019-01263-2>
- (32) †Pham, E.O., **Emrich, C.T.**, Li, Z., Mitchem, J. & S.L. Cutter. (2020). Evacuation Departure Timing during Hurricane Matthew. *Weather, Climate, & Society*, 12: 235–248. Impact Factor: 2.043). <https://doi.org/10.1175/WCAS-D-19-0030.1>
- (31) *Yu, C. Y., Woo, A., **Emrich, C. T.**, & Wang, B. (2020). Social Vulnerability Index and obesity: An empirical study in the US. *Cities*, 97, 102531. (Impact Factor 2.704). <https://doi.org/10.1016/j.cities.2019.102531>
- (30) *Schumann, R., Mockrin, M., Syphard, A., Whittaker, J., Price, O., Gaither, C.J., **Emrich, C.T.**, & V. Butsic. (2019). Wildfire Recovery as a "Hot Moment" for Creating Fire-adapted Communities. *International Journal of Disaster Risk Reduction*, 42, 101354. (Impact Factor: 1.968). <https://doi.org/10.1016/j.ijdrr.2019.101354>
- (29) **Emrich, C.T.**, E. Tate, S. Larson, & Y. Zhou. (2019). Measuring social equity in flood recovery funding. *Environmental Hazards*, 1-23. (Impact Factor: 1.68). <https://doi.org/10.1080/17477891.2019.1675578>
- (28) †Domingue, S. & **C.T. Emrich**. (2019). Social Vulnerability and Procedural Equity: Exploring the Distribution of Disaster Aid Across Counties in the United States. *American Review*

of *Public Administration*, 49(8): 897-913. (Impact Factor: 1.973).

<https://doi.org/10.1177/0275074019856122>

- (27) †Anderson, C.C., Hagenlocher, M., Renaud, F.G., Sebesvaria, Z., Cutter, S.L., & **C.T. Emrich**. (2019). Comparing index-based vulnerability assessments in the Mississippi Delta: Implications of contrasting theories, indicators, and aggregation methodologies. *International Journal of Disaster Risk Reduction*, 39(101128). (Impact Factor: 1.968).
<https://doi.org/10.1016/j.ijdrr.2019.101128>.
- (26) Knox, C.C., **Emrich, C.T.** & B. Haupt. (2019). Advancing Emergency Management Higher Education: Importance of Cultural Competence Scholarship. *Journal of Emergency Management*. (Impact Factor: 0.29).
<https://doi.org/10.5055/jem.2019.0403>
- (25) *Rufat, S., Tate, E.C., **Emrich, C.T.** & F. Antolini. (2019). How Valid Are Social Vulnerability Models? *Annals of the American Association of Geographers*, 109(4): 1131-1153. (Impact Factor: 2.097).
<https://doi.org/10.1080/24694452.2018.1535887>
- (24) Cutter, S. L., **Emrich, C. T.**, Gall, M., & R. Reeves. (2018). Flash Flood Risk and the Paradox of Urban Development. *Natural Hazards Review*, 19(1), 05017005. (Impact Factor: 1.65).
[https://ascelibrary.org/doi/full/10.1061/\(ASCE\)NH.1527-6996.0000268](https://ascelibrary.org/doi/full/10.1061/(ASCE)NH.1527-6996.0000268)
- (23) *Li, Z., Wang, C., **Emrich, C.T.** and D. Guo. (2017). A novel approach to leveraging social media for rapid flood mapping: a case study of the 2015 South Carolina floods. *Cartography and Geographic Information Science*, 45(2): 97-110. (Impact Factor: 1.73).
<https://doi.org/10.1080/15230406.2016.1271356>
- (22) Hames, E., Stoler, J., **Emrich, C. T.**, Tewary, S., & N. Pandya. (2016). A GIS Approach to Identifying Socially and Medically Vulnerable Older Adult Populations in South Florida. *The Gerontologist* 57(6): 1133–1141. (Impact Factor: 3.505). **Recognized as Editor’s Choice in 2017**
<https://doi.org/10.1093/geront/gnw106>
- (21) †de Loyola Hummell, B.M., Cutter, S.L. & **C.T. Emrich**. (2016). Social Vulnerability to Natural Hazards in Brazil. *International Journal of Disaster Risk Science* 7: 111. (Impact Factor: 1.222).
<https://doi.org/10.1007/s13753-016-0090-9>
- (20) Cutter, S.L., Ash, K.D. & **C.T. Emrich**. (2016). Urban Rural Differences in Disaster Resilience. *Annals of the American Association of Geographers*, 106(6), 1236-1252. (Impact Factor: 2.799).
<https://doi.org/10.1080/24694452.2016.1194740>
- (19) Cutter, S.L., Ash, K.D. & **C.T. Emrich**. (2014). The geographies of community disaster resilience. *Global Environmental Change* 29: 65-77. (Impact Factor: 6.371).
<http://dx.doi.org/10.1016/j.gloenvcha.2014.08.005>.

- (18) Cutter, S.L., Schumann, R. L., and **C.T. Emrich**. (2014). Exposure, Social Vulnerability and Recovery Disparities in New Jersey after Hurricane Sandy. *Journal of Extreme Events* 1(1): 23pp. (Impact Factor: 2.35).
<https://doi.org/10.1142/S234573761450002X>
- (17) †Guillard-Gonçalves, C., S.L. Cutter, **C.T. Emrich**, & J.L. Zêzere. (2014). Application of Social Vulnerability Index (SoVI) and delineation of natural risk zones in Greater Lisbon, Portugal. *Journal of Risk Research*: 1-24. (Impact Factor: 1.34).
<https://doi.org/10.1080/13669877.2014.910689>
- (16) †Chen, W., Cutter, S.L., **Emrich, C.T.** & P. Shi. (2013). Measuring Social Vulnerability to Natural Hazards in the Yangtze River Delta Region, China. *International Journal of Disaster Risk Science* 4(4):169-181. Impact Factor: 1.222).
<https://doi.org/10.1007/s13753-013-0018-6>
- (15) †Ash, K.D., Cutter, S.L. & **C.T. Emrich**. (2013). Acceptable losses? The relative impacts of natural hazards in the United States, 1980–2009, *International Journal of Disaster Risk Reduction* (5): 61-72. (Impact Factor: 1.603).
<https://doi.org/10.1016/j.ijdrr.2013.08.001>
- (14) †Ward, S.M, **Emrich, C.T.**, Schumann, R.S. & K.D. Ash. (2013) Research Based Decision Support in Hazard Mitigation: Louisiana Northshore Flood and Hurricane Protection, *Journal of Risk, Hazards & Crisis in Public Policy* 3(3): 38-68. (Impact Factor: 0.75).
<https://doi.org/10.1002/rhc3.11>
- (13) Cutter, S.L., **Emrich, C.T.** & D.P. Morath. (2013). Integrating social vulnerability into federal flood risk management planning, *Journal of Flood Risk Management* , doi: 10.1111/jfr3.12018, 13pp. (Impact Factor: 3.121).
<https://doi.org/10.1111/jfr3.12018>
- (12) Gall, M., Borden, K.A., **Emrich, C.T.** & S.L. Cutter. (2011). “The Unsustainable Trend of Natural Hazard Losses in the United States,” *Sustainability* 3: 2157-2181. (Impact Factor: 1.343).
<https://doi.org/10.3390/su3112157>
- (11) **Emrich, C.T.** & S.L. Cutter. (2011). “Social Vulnerability to Climate-Sensitive Hazards in the Southern United States,” *Journal of Weather, Climate, and Society* 3(3): 193-208. (Impact Factor: 1.93).
<https://doi.org/10.1175/2011WCAS1092.1>
- (10) †Tate, E., Burton, C.G., Berry, M., **Emrich, C.T.**, & S.L. Cutter. (2011). Integrated Hazards Assessment Tool. *Transactions in GIS* 15(5): 689-706. (Impact Factor: 1.931).
<https://doi.org/10.1111/j.1467-9671.2011.01284.x>
- (9) Cutter, S.L., Burton, C.G. & **C.T. Emrich**. (2010). Disaster Resilience Indicators for Benchmarking Baseline Conditions, *Journal of Homeland Security and Emergency Management*: Vol. 7: Iss. 1, Article 51. (Impact Factor: 0.58).
<https://doi.org/10.2202/1547-7355.1732>

- (8) †Stevenson, J.R., **Emrich, C.T.**, Mitchell, J.T. & S.L. Cutter. (2010). Using Building Permits to Monitor Disaster Recovery: A Spatio-Temporal Case Study of Coastal Mississippi Following Hurricane Katrina, *Cartography and Geographic Information Science*, 37(1): 57-68. (Impact Factor 1.73).
<https://doi.org/10.1559/152304010790588052>
- (7) †Finch, C., **Emrich, C.T.** & S.L. Cutter. (2010). Disaster disparities and differential recovery in New Orleans. *Population and Environment*, 31(4), 179-202. (Impact Factor: 1.766).
<https://doi.org/10.1007/s11111-009-0099-8>
- (6) †Borden, K.A., Schmidlein, M.C., **Emrich, C.T.**, Piegorsch, W.W. & S.L. Cutter. (2007). Vulnerability of U.S. Cities to Environmental Hazards. *Journal of Homeland Security and Emergency Management*: Vol. 4: Iss. 2, Article 5. (Impact Factor: 0.58).
<https://doi.org/10.2202/1547-7355.1279>
- (5) Cutter, S. L. & **C.T. Emrich**. (2006). Moral Hazard, Social Catastrophe: The Changing Face of Vulnerability along the Hurricane Coasts. *Annals of the American Academy of Political and Social Science* 604 (1): 102-112. (Impact Factor: 2.118).
<https://doi.org/10.1177%2F0002716205285515>
- (4) Cutter, S. L., **Emrich, C.T.**, Mitchell, J.T., Boruff, B.J., Gall, M., Schmidlein, M.C. Burton, C.G. & G. Melton. (2006). The Long Road Home: Race, Class and Recovery from Hurricane Katrina. *Environment* 28 (2): 8-20. (Impact Factor: 1.852).
<https://doi.org/10.3200/ENVT.48.2.8-20>
- (3) Cutter, S.L. & **C. Emrich**. (2005). Are Natural Hazards and Disaster Losses in the U.S. Increasing? *EOS: Transactions of the American Geophysical Union* 86(41): 381-389. (Impact Factor: 1.234).
<https://doi.org/10.1029/2005EO410001>
- (2) †Boruff, B.B., **Emrich C.**, & S. L. Cutter. (2005). Erosion Hazard Vulnerability of United States Coastal Counties. *Journal of Coastal Research* 21(5): 932-942. (Impact Factor: 0.915 <https://doi.org/10.2112/04-0172.1>)
- (1) **Emrich, C.** 2000. *Social Vulnerability and Natural Hazards: A Case Study for Hillsborough County, Florida*. Proceedings of the 23rd Annual Applied Geography Conference, Tampa, FL: October 2000. (Impact Factor: 1.238).

Articles Submitted for Publication in Refereed Journals

(Junior Faculty Lead*, Student Lead†, Practitioner Lead‡)

- (1) *Whittaker, J, Schumann, R.L., Mockrin, M.H., Johnson-Gaither, C. Brooks, R.A., Syphard, A.D., Price, O., & **C.T. Emrich**. Creating fire-adapted communities through recovery: case studies from the United States and Australia. Submitted to *Society and Natural Resources* (Impact Factor 1.758) in May 2021.
- (2) Butsic, V., **Emrich, C.T.**, Schumann, R., Zhou, Y., Mockrin, M., Syphard, A., Whittaker, J., Price, O., and C.J. Gaither. The intersection of social vulnerability and wildfire

experience in the United States: key vulnerabilities and potential solutions (In Preparation). Submitted to *Natural Hazards* (Impact Factor 2.254) in May 2022.

- (3) Derakhshan, S. Emrich, C.T. & S.L. Cutter. Regionalization in the divergence and convergence of social vulnerability and community resilience indicators. Submitted to PLOS One (Impact Factor 3.24) in May 2022.

Articles in Preparation for Publication in Refereed Journals

(Junior Faculty Lead*, Student Lead†, Practitioner Lead‡)

- (1) **Emrich, C.T.**, Zhou, Y., Longenecker, H.E., and C. Howell. Building a Novel Geospatial Risk Assessment in Support of Hazard Mitigation Planning: Expected submission to *GeoHazards* in June 2022.
- (2) **Emrich, C.T.**, Fotovvat, H., Morath, D.P., & S.L. Cutter. Measuring Medical Vulnerability for Disaster Health Preparedness and Response. Expected Submission to *Public Administration Review* in July 2022.
- (3) *Wilson, B. Flores, A.B., Tate, E.C., and Collins, T. & **C.T. Emrich**. Red-lining, flooding, and social vulnerability. Expected submission to *Frontiers in Water* July 2022.
- (4) *Zhou, Y., **Emrich, C.T.**, & M. Gall. Identifying emerging hotspots of multi-hazard loss in the continental United States. Expected submission to *Applied Geography* in August 2022.
- (5) Aksha, S. & **C.T. Emrich**. Analyzing CDBG-DR Recovery Program Implementation: The Case for Moving Beyond Protected Classes to Include All Social Vulnerabilities. Expected Submission to *Global Environmental Change* (Impact Factor 9.523) in July 2022.
- (6) **Emrich, C.T.** & Y. Zhou. Predicting Disaster Outcomes with Social Vulnerability Indices. (In Preparation). Expected submission to *Journal of Homeland Security and Emergency Management* (Impact Factor: 0.58) in August 2022.
- (7) **Emrich, C.T.**, Aksha, S., & H. Longenecker. Influences of Social Vulnerability Characteristics on Disaster Loss Accounting. (In Preparation). Expected Submission to PLOS One (Impact Factor: 2.776) in September 2022.
- (8) *Zhou, Y., **Emrich, C.T.**, & M. Gall. Linking social vulnerability to disaster losses in the United States. (In Preparation). Expected submission to *Natural Hazards* in July 2022.
- (9) **Emrich, C.T.**, Fotovvat, H. and S. McNeilis. Improving the Medical Vulnerability Index for Public Health Disaster Preparedness. (In Preparation). Expected Submission to *Disaster Medicine and Public Health Preparedness* (Impact Factor: 1.22) in July 2022.
- (10) **Emrich, C.T.**, Sanderson, J.T., & S.L. Cutter. Prioritizing Limited Recovery Resources in Disaster Recovery using Social Vulnerability Analytics. (In Preparation). Expected submission to *Public Administration Review* (Impact Factor: 1.973) in June 2022.

Non-Refereed Publications

Technical Reports and Work Products Utilized in Reports

- (34) **Emrich, C.T.** Puerto Rico CDBG-MIT Risk Assessment, In the Puerto Rico CDBG-MIT Action Plan. Puerto Rico Vivienda. Pp. 9-145. <https://cdbg-dr.pr.gov/en/download/cdbg-mit-action-plan-2/>
- (33) **Emrich, C.T.** and H.E. Longenecker 2020. *State of Missouri Severe Storms and Flooding Impact and Unmet Needs Assessment*, in the State of Missouri's CDBG-DR Action Plan. Missouri Department of Economic Development. <https://ded.mo.gov/sites/default/files/2019%20DR%204451%20Action%20Plan%20English.pdf>
- (32) **Emrich, C.T.** 2019. *State of South Carolina Hurricane Florence Impact and Unmet Needs Assessment*, in the State of South Carolina's Hurricane Matthew CDBG-DR Action Plan. South Carolina Department of Revenue. Pp. 1-72. <https://admin.sc.gov/sites/default/files/DRO/South%20Carolina%20Hurricane%20Florence%20Action%20Plan.pdf>
- (31) **Emrich, C.T.**, & S. Alvarez. 2019. *State of Florida Hurricane Michael Impact and Unmet Needs Assessment*, in the State of Florida's Hurricane Hermine/Matthew CDBG-DR Action Plan. State of Florida Department of Economic Opportunity. Pp. 1-72. https://floridajobs.org/docs/default-source/office-of-disaster-recovery/hurricane-michael/state-action-plan-for-disaster-recovery---hurricane-michael_approved-by-hud.pdf?sfvrsn=956f46b0_2
- (30) **Emrich, C.T.** 2018. Puerto Rico Impact and Unmet Needs Assessment, In the Puerto Rico Irma and Maria CDBG-DR Action Plan. Puerto Rico Vivienda (Department of Housing). http://www.cdbg-dr.pr.gov/wp-content/uploads/ponencias/Puerto_Rico_Action_Plan_Public_for_Comment.pdf
- (29) **Emrich C.T.** 2018. *State of Florida Hurricane Irma Impact and Unmet Needs Assessment*, in the State of Florida's Hurricane Hermine/Matthew CDBG-DR Action Plan. State of Florida Department of Economic Opportunity. Pp. 1-72. <http://www.floridajobs.org/docs/default-source/community-development-files/2018-state-of-florida-cdbg-dr-action-plan-draft.pdf?sfvrsn=2>
- (28) **Emrich, C.T.** 2017. *State of South Carolina Hurricane Matthew Impact and Unmet Needs Assessment*, in the State of South Carolina's Hurricane Matthew CDBG-DR Action Plan. South Carolina Department of Revenue. Pp. 1-67. <https://www.scdr.sc.gov/wp-content/uploads/2017/03/SC-Hurricane-Matthew-Action-Plan-Revised-HUD-Submittal-5-31-17-1.pdf>
- (27) **Emrich C.T.** 2017. *State of Florida Hermine and Matthew Impact and Unmet Needs Assessment*, in the State of Florida's Hurricane Hermine/Matthew CDBG-DR Action Plan. State of Florida Department of Economic Opportunity, Pp. 1-58. <http://www.floridajobs.org/docs/default-source/2015-community-development/community-revitalization/dr/hcpafloridaactionplanhudapproved.pdf?sfvrsn=2>

- (26) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2016. Pennsylvania and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/pennsylvania-and-the-surging-sea/>
- (25) **Emrich, C.T.**, Sanderson, J.R., & S.L. Cutter, S.L. 2016. *The Social Vulnerability Index (SoVI® as a Decision Support Tool in Prioritizing Disaster Recovery Efforts*. In Stephen E. Flynn, *The South Carolina Deluge: Lessons from a Watershed Disaster*. Northeastern University, Center for Resilience Studies.
- (24) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2015. Alabama and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/alabama-and-the-surging-sea/>
- (23) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2015. Louisiana and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/louisiana-and-the-surging-sea/>
- (22) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2015. Mississippi and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/mississippi-and-the-surging-sea/>
- (21) **Emrich, C.T.**, Morath, D.P., Bowser, G.C., and R. Reeves. 2014. Climate Sensitive Hazards in Florida: Identifying and Prioritizing Threats to Building Resilience against Climate Effects (BRACE), *Final Report to the Florida Department of Health, Bureau of Epidemiology*. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
- (20) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. California, Oregon, and Washing and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/uploads/ssrf/Report-CA-OR-WA.pdf>
- (19) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Delaware and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/delaware/>
- (18) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Florida and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/florida-and-the-surging-sea/>

- (17) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Georgia and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/uploads/ssrf/GA-Report.pdf>
- (16) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Maryland and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/maryland-and-the-surging-sea/>
- (15) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. New England and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/new-england-and-the-surging-seas/>
- (14) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. North Carolina and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/north-carolina-and-the-surging-sea/>
- (13) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. South Carolina and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/south-carolina-and-the-surging-sea/>
- (12) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Texas and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/uploads/ssrf/TX-Report.pdf>
- (11) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Virginia and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/virginia-and-the-surging-sea/>
- (10) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2014. Washington D.C. and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/washington-dc-and-the-surging-sea/>
- (9) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2013. New York and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/new-york-and-the-surging-sea/>
- (8) Strauss, B., Tebaldi, C., Kulp, S., Cutter, S., **Emrich, C.**, Rizza, D., & Yawitz, D. 2013. New Jersey and the surging sea: a vulnerability assessment with projections for sea level rise and coastal flood risk. <http://sealevel.climatecentral.org/research/reports/new-jersey-and-the-surging-sea/>

- (7) Schramm, P.J., Blackmore, C.G.M., Crosson, W., **Emrich, C.T.**, Estes, M., Goodman, M., Lipp, E.K, Liu, Y, Morris, G., Stumpf, R.P., Thie, L., and M.C. Tomlinson. 2012. Human Health in the Southeast Region: In Ingram, K.T., Dow, K. and L. Carter, eds. *Southeast Region Technical Report to the National Climate Assessment*, 39-59.
- (6) **Emrich, C.T.**, Morath, D.P., and K. Buck. 2012. *Incorporating Medical and Social Vulnerability into an All-Hazards Assessment for the State of Florida: Final Report to the Florida Department of Health*. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
- (5) **Emrich, C.T.**, S.L. Cutter, K. Ash, and R. Schumann. 2012. *Flood Risk Management: Integrating Social Vulnerability Into Multiple Lines of Defense Mitigation. Final Report to GEC, Inc*. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
- (4) **Emrich, C.T.** and S. L. Cutter, 2011. *Integrating Social Vulnerability into Climate Change Planning and Preparedness at the Local Level for Mississippi and Louisiana. Final Project Report to Oxfam America*. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
- (3) Cutter, S.L., **Emrich, C.T.**, Webb, J.J. & D. Morath, 2009. *Social Vulnerability to Climate Change Variability Hazards: A Review of the Literature. Final Report to Oxfam America*. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
http://adapt.oxfamamerica.org/resources/Literature_Review.pdf.
- (2) Cutter, S.L. **Emrich, C.T.** & D. Morath, 2009. *Social Vulnerability and Place Vulnerability Analysis Methods and Applications for Corps Planning: Technical Appendix*. Created for Camp Dresser & McKee, Inc. Hazards and Vulnerability Research Institute: Columbia (USA). Hazards and Vulnerability Research Institute: Columbia, SC (USA).
- (1) Brinkman, R., **C. Emrich**, M. Billus, B. Dwyer, B., and J. Ryan, 1999. *Chemical and Physical Characteristics of Street Sweepings Sediments in Tampa, Florida*. 5/99, #98-12. Special Report for the Florida Center for Solid and Hazardous Waste Management, Tampa, FL.

Encyclopedia Entries and Op Ed Pieces

- (6) **Emrich, C.T.** & D. Alexander. 2013. "Damage Assessment." In Penuel B.K., Statler, M., and R. Hagen (eds.). *Encyclopedia of Crisis Management*. SAGE Knowledge, 8 pp.
- (5) **Emrich, C.T.** 2013. "EM-DAT." In Penuel B.K., Statler, M., & R. Hagen (eds.). *Encyclopedia of Crisis Management*. SAGE Knowledge, 5 pp.
- (4) **Emrich, C.T.** & K. Borden. 2013. "Losses, Quantitative Versus Qualitative." In Penuel B.K., Statler, M., and R. Hagen (eds.). *Encyclopedia of Crisis Management*. SAGE Knowledge, 10 pp.
- (3) **Emrich, C.T.** 2013. "NatCatSERVICE (Munich Re)." In Penuel B.K., Statler, M., and R. Hagen (eds.). *Encyclopedia of Crisis Management*. SAGE Knowledge, 4 pp.

- (2) **Emrich, C.T.** & J. Czajkowski. 2013. "Reinsurance." In Penuel B.K., Statler, M., and R. Hagen (eds.). *Encyclopedia of Crisis Management*. SAGE Knowledge, 5 pp.
- (1) **Emrich, C. T.** & E. Hughey. 2011. A Hazard Geographer's Perspective on Recent Disaster Events. Newsletter for the Association of American Geographers, April. Available from: <https://studylib.net/doc/12701430/t-in-this-issue>

Grey Literature and Professional Publications

- (5) Tate, E.C, & **C.T. Emrich**. 2021. Assessing Social Equity in Disasters. *EOS, Science News by AGU*. (Impact Factor 2.76). <https://eos.org/science-updates/assessing-social-equity-in-disasters>
- (4) Oxfam America. 2017. Hurricane Harvey and Equitable Recovery. Work products used as the basis of this publication. 8 pp. Available at: <https://policy-practice.oxfamamerica.org/static/media/files/Hurricane-Harvey-Equitable-Recovery-Oxfam.pdf>
- (3) Cutter, S.L. & **C.T. Emrich**. 2015. A Tale of Two Recoveries: 5 Lessons from Hurricanes Katrina and Sandy: How the social contexts in Mississippi and New Jersey affected recovery. *Emergency Management*, June 25. Available at: <http://www.emergencymgmt.com/disaster/A-Tale-of-Two-Recoveries-Hurricanes-Katrina-and-Sandy-.html>
- (2) Morath, D.P. & **C.T. Emrich**. 2015. Benchmarking Disaster Recovery Using Collector for ArcGIS. *ArcUser Magazine*, ESRI, Winter 2015. Available at: <http://www.esri.com/~media/Files/Pdfs/news/arcuser/0115/benchmarking-disaster-recovery.pdf>
- (1) Gall, M., **C. T. Emrich** & S. L. Cutter, 2014. Who Needs Loss Data? Background Paper for the Global Assessment Report on Disaster Risk Reduction 2015 (GAR15). Geneva, Switzerland: UNISDR. <http://www.preventionweb.net/gar> [forthcoming]; excerpts included in GFDRR, 2014. *Understanding Risk in an Evolving World: Emerging Best Practices in Natural Disaster Risk Assessment*. Washington, D.C.: The World Bank, 224 p. Available at https://www.gfdrr.org/sites/gfdrr/files/publication/Understanding_Risk-Web_Version-rev_1.8.0.pdf

GRANTS AND EXTERNAL FUNDING, GIFTS, AND CONTRACTS

(total > \$8 million in competitive extramural funding, 2008 – 2019, \$1.7 million in Indirect Funding)

(*Joint with or Lead by Junior Faculty Lead)

- (47) 2022. **Emrich C.T.** (Principal Investigator). (March 2022 – March 2023). Hurricane Sally Impact and Unmet Needs Assessment and Mitigation Risk Assessment. East Central Florida Regional Planning Council. \$70,000.
Indirect Funding: \$7,000.

- (46) 2022. **Emrich C.T.** (Principal Investigator). (Feb 2022 – March 2023). Hurricane Sally Impact and Unmet Needs Assessment and Mitigation Risk Assessment. Florida Department of Economic Opportunity. \$70,930.
Indirect Funding: \$6,448.
- (45) 2022. **Emrich C.T.** (Principal Investigator). (January 2022 – July 2022). WV Resilience Planning with Flooding Threat, Vulnerability, and Severity of Consequence Assessments. The PEW Charitable Trusts. \$7,641
Indirect Funding: \$629.
- (44) 2021. **Emrich C.T.** (Principal Investigator). (July 2021 – June 2022). *Building an Heir's Property Indicator to Support Disaster Planning, Response, and Recovery*. USDA, Forest Service Southern Research Station. \$30,000.
Indirect Funding: \$10,263
- (43) 2020. **Emrich, C.T.** (Principal Investigator). (March – June 2020). *Phase VII- 2019-2020 Enhancement and Update of the Florida Public Health and Risk Assessment Tool (FPHRAT)*. Florida Department of Health, Tallahassee, FL. \$100,000.
Indirect Funding: \$10,000
- (42) *2019. **Emrich, C.T.** (Principal Investigator), Alvarez, S., Baggio, J., Lewis, K., Stevens, S., & T. Wahl. (October 2019 – September 2022). *The New First Line of Defense: Building Community Resilience through Residential Risk Disclosure Resilience*. National Academies of Science, Engineering, and Medicine's Gulf Research Program, Washington, D.C., \$3,403,554
Research Credit Split: Emrich (25%), Alvarez (15%), Baggio (15%), Lewis (15%), Stevens (15%), Wahl (15%)
Indirect Funding: \$604,511
- (41) *2019. Zavattaro, S. (Principal Investigator), Stevens, K., & **C.T. Emrich**. (October 2019 – September 2020). *Questioning Public Science: Perceptions of Meteorological Aptitude and Scientists' Response*. Natural Hazards Center Quick Response Grant, Boulder, CO. \$4,000.
Research Credit Split: Emrich (33.3%), Zavattaro (33.3%), Stevens (33.3%)
Indirect Funding: \$0
- (40) 2019. **Emrich, C.T.** (Principal Investigator). (October 2019 – September 2020). *Supporting GLO CDBG-DR Mitigation and Recovery Planning*. Texas General Land Office, Austin, TX. \$78,677.
Indirect Funding: \$3,747
- (39) 2019. **Emrich, C.T.** (Principal Investigator). (August 2019 – August 2021). *Assessing Equity in Disaster Recovery Funding*. United States Department of Housing and Urban Development, Washington, D.C. \$97,142.
Indirect Funding: \$36,699
- (38) 2019. **Emrich, C.T.** (Principal Investigator). (April 2019 – December 2019)

Hurricane Michael Impacts and Unmet Needs in Bay County, FL. Haggerty Consulting, New York, NY. \$6,463.
Indirect Funding: \$452

- (37) *2019. **Emrich, C.T.** (Principal Investigator) & S. Alvarez. (March 2019 – January 2020). *Hurricane Michael CDBG-DR Impact and Unmet Needs Assessment.* State of Florida Department of Economic Opportunity, Tallahassee, FL. \$37,297.
Research Credit Split: Emrich (50%), Alvarez (50%)
Indirect Funding: \$3,391
- (36) *2018. **Emrich, C.T.** (Principal Investigator) & Y. Zhou. (August 2019 – September 2019). *Puerto Rico Impact and Unmet Needs Assessment (2nd Allocation).* HORNE LLP, Ridgeland, MS. \$28,545
Research Credit Split: Emrich (95%), Zhou (5%)
Indirect Funding: \$2,788
- (35) *2018. **Emrich, C.T.** (Principal Investigator) & Y. Zhou. (September 2018 – June 2019). *Updates and Revisions to the Florida Public Health Risk Assessment Tool,* Florida Department of Health, Tallahassee, FL. \$99,999
Research Credit Split: Emrich (95%), Zhou (5%)
Indirect Funding: \$13,043
- (34) 2018. **Emrich, C.T.** (Principal Investigator). (July 2018 – June 2021). *Disaster Solutions Post-Doc Gift.* Horne LLP, Ridgeland, MS. \$82,500
- (33) 2018. **Emrich, C.T.** (Principal Investigator). *Puerto Rico Impact and Unmet Needs Assessment (1st Allocation).* HORNE LLP, Ridgeland, MS. \$28,000.
Indirect Funding: \$2,692
- (32) *2017. **Emrich, C.T.** (Principal Investigator) & Y. Zhou. (February 2019 – December 2019). *NSF I-Corps Disaster Metrics Grant.* National Science Foundation, Washington, DC. \$2,550
- (31) 2017. **Emrich, C.T.** (Principal Investigator) (December 2017 – February 2018). *Irma Impact and Unmet Needs Assessment – Irma and Maria.* State of Florida Department of Economic Opportunity, Tallahassee, FL. \$32,947
Indirect Funding: \$2,995
- (30) 2017. **Emrich, C.T.** (Principal Investigator). (December 2017 – February 2018). *Services Agreement for Mapping of Social Vulnerability Index for Hurricane Harvey.* OXFAM America, Boston, MA. \$14,040
Indirect Funding: \$2,340
- (29) 2017. **Emrich, C.T.** (Principal Investigator). (February 2017 – June 2017). *Florida Department of Economic Opportunity Impact and Unmet Needs Assessment.* State of Florida Department of Economic Opportunity, Tallahassee, FL. \$26,606.
Indirect Funding: \$1,267

(28) 2016. **Emrich, C.T.** (Principal Investigator). (August 2016 – July 2018). *Collaborative Research: Measuring Social Vulnerability--Reducing Uncertainty and Validating Indicators*. National Science Foundation, Washington, DC. \$40,514.
Indirect Funding: \$12,765

Research Grants Prior to Arriving at UCF

- (27) 2016. **Emrich, C.T.** (Principal Investigator), Gall, M., & S.L. Cutter. 2016. *Supporting Hazard Risk Assessment Updates*. Central Midlands Council of Governments, Columbia, SC. \$43,300.
Research Credit Split: Emrich (33.3%), Gall (33.3%), Cutter (33.3%)
Indirect Funding: 49%
- (26) 2015. **Emrich, C.T.** (Principal Investigator), Gall, M., & S.L. Cutter. *Improving Risk Assessment in Support of State Hazard Mitigation Planning*. South Carolina Emergency Management Division, Columbia, SC, \$790,516.
Research Credit Split: Emrich (33.3%), Gall (33.3%), Cutter (33.3%)
Indirect Funding: \$259,969
- (25) 2015. Li, Zhenlong (Principal Investigator), **Emrich, C.T.**, Guo D., & C. Wang. *Spatiotemporal Dynamics of Flood Impact by Integrating Satellite, VGI and Social Media Data: Rapid Assessment of the October Flood*. University of South Carolina Vice President for Research, Columbia, SC. \$18,477.
Research Credit Split: Emrich (25%), Li (25%), Guo (25%), Wang (25%)
- (24) 2015. **Emrich, C.T.** (Principal Investigator), Gall, M., & N. Huyhn. *Leveraging Perishable Impact Data into Long Term Recovery Forecasting*. University of South Carolina Vice President for Research, Columbia, SC. \$26,550.
Research Credit Split: Emrich (33.3%), Gall (33.3%), Huyhn (33.3%)
- (23) 2015. **Emrich, C.T.** (Principal Investigator), Gall, M., & S.L. Cutter. *Statewide, Web-based Risk Assessment Planning Project for Florida*. Florida Department of Emergency Management, Tallahassee, FL. \$237,163.
Research Credit Split: Emrich (33.3%), Gall (33.3%), Cutter (33.3%)
Indirect Funding: \$77,993
- (22) 2014. **Emrich, C.T.** (Principal Investigator) & J. Eberth. *Identifying and Updating Public Health Impacts and Hazard Probabilities for Public Health and Medical Preparedness – Phase IIIB*, Florida Department of Health - Bureau of Preparedness and Response, Tallahassee, FL. \$45,623.
Research Credit Split: Emrich (50%), Eberth (50%)
Indirect Funding: \$15,003
- (21) 2013. **Emrich, C.T.** (Principal Investigator) & J. Eberth (Co-Investigator). *Identifying and Updating Public Health Impacts and Hazard Probabilities for Public Health and Medical Preparedness – Phase IIIA*, Florida Department of Health - Bureau of Preparedness and Response, Tallahassee, FL. \$32,908.

Research Credit Split: Emrich (50%), Eberth (50%)
Indirect Funding: \$10,822

- (20) 2013. **Emrich, C.T.** (Principal Investigator). *Impacts and Vulnerabilities Related to Climate Variabilities in Florida - Phase III*, Florida Department of Health - Bureau of Epidemiology, Tallahassee, FL. \$31,999.
Indirect Funding: \$10,523
- (19) 2013-2014. **Emrich, C.T.** (Principal Investigator) and M. Gall. *2010 Census Update of the Enhancement of the Social Vulnerability Index (SOVI) for Use in Assessing Coastal Risk*, NOAA Coastal Services Center, Charleston, SC. \$50,000.
Indirect Funding: \$16,442
- (18) 2013-2016. **Emrich, C.T.** (Principal Investigator). *Collaborative Research: Measuring Social Vulnerability--Reducing Uncertainty and Validating Indicators*, National Science Foundation, Washington, DC. \$174,000.
Indirect Funding: \$57,221
- (17) 2013-2016, Cutter, S.L. (Principal Investigator) & **C.T. Emrich**. *Identifying and Analyzing the Driving Forces of Hurricane Recovery for Disaster Stricken Areas to Improve Long-term Planning*, Department of Homeland Security, Coastal Hazards Center, Chapel Hill, NC. \$398,950.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$131,198
- (16) 2013, **Emrich C.T.** (Principal Investigator), *Impacts and Vulnerabilities related to Climate Variabilities in Florida*, Florida Department of Health - Bureau of Epidemiology, Tallahassee, FL. \$21,000.
Indirect Funding: \$6,906
- (15) 2012-2015, **Emrich C.T.** (Principal Investigator) & S.L. Cutter, *Supporting South Carolina's Optimal Mitigation of Environmental Threats*, South Carolina Emergency Management Division, Columbia, SC. \$400,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$131,543
- (14) 2012-2015, Cutter, S.L. (Principal Investigator), **Emrich, C.T.**, & J. T. Mitchell. *DRRC: Baseline indicators for monitoring disaster resilience in rural places*, National Science Foundation, Washington, DC. \$137,500.
Research Credit Split: Emrich (33.3%), Cutter (33.3%), Mitchell (33.3%)
Indirect Funding: \$45,218
- (13) 2012-2014, Cutter, S.L. (Principal Investigator) & **C.T. Emrich**. *Mapping Vulnerabilities to Create Resiliencies*, Climate Central, Princeton, NJ. \$100,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$32,886

- (12) 2012-2013, **Emrich, C.T.** (PI), *Impacts and Vulnerabilities related to Climate Sensitivities in Florida Phase I Review and Assessment of Threats and Outcomes*, Florida Department of Health - Bureau of Epidemiology, Tallahassee, FL, \$32,500.
Indirect Funding: \$10,688
- (11) 2012-2013, **Emrich, C.T.** (Principal Investigator) & S.L. Cutter. *Integrating Social Vulnerability, Medical Vulnerability, Hazard Vulnerability, and Disaster Resilience for Public Health and Medical Preparedness*, Florida Department of Health – Bureau of Preparedness and Response, Tallahassee, FL. \$113,999.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$37,490
- (10) 2012, Cutter, S.L. (Principal Investigator) & **C.T. Emrich.** *Creating a Hazards of Place Model for the State of Connecticut*, Harvard School of Public Health, Cambridge, MA. \$15,000.
Research Credit Split: Emrich (50%), Cutter (50%)
- (9) 2012, **Emrich, C.T.** (Principal Investigator) & S.L. Cutter. *Incorporating Medical and Social Vulnerability into an All-Hazards Assessment for the State of Florida*, Florida Department of Health, Tallahassee, FL. \$49,592.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$16,309
- (8) 2012, **Emrich, C.T.** (Principal Investigator) & J. T. Mitchell, *Earthquakes in South Carolina: Bridging the Social and Science Divide for K-12 Educators*, South Carolina Emergency Management Division – Earthquake Mitigation Program, Columbia, SC. \$19,500.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$6,413
- (7) 2011-2012, **Emrich, C.T.** (Principal Investigator) & S.L. Cutter. *Identifying South Carolina's Readiness to Chemical Threats*, South Carolina Law Enforcement Division – State Homeland Security Grant Program, Columbia, SC. \$79,250.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$26,026
- (6) 2011-2012, Cutter, S.L. (Principal Investigator) & **C.T. Emrich.** *Flood Risk Management: Integrating Social Vulnerability into Multiple Liens of Defense Mitigation*, G.E.C. Inc., Baton Rouge, LA. \$53,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$17,430
- (5) 2011, **Emrich C.T.** (Principal Investigator) & S.L. Cutter. *Integrating Social Vulnerability into Climate Change Planning and Preparedness at the Local Level for Mississippi and Louisiana*, OXFAM America, Boston, MA. \$20,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$6,577

- (4) 2010-2011, Cutter, S.L. (Principal Investigator) & **C.T. Emrich** (Co-Investigator), Enhancement of the Social Vulnerability Index (SoVI) for Use in Assessing Coastal Risk, National Oceanic and Atmospheric Administration, \$70,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$6,577
- (3) 2010-2011, Cutter, S.L. (Principal Investigator), **Emrich C.T.**, & J.T. Mitchell. *Hurricane Evacuation Behavioral Study for South Carolina*, United States Army Corps of Engineers, Washington, DC. \$80,000.
Research Credit Split: Emrich (33.3%), Cutter (33.3%), Mitchell (33.3%)
Indirect Funding: \$26,309
- (2) 2009-2012, **Emrich C.T.** (Principal Investigator) & S.L. Cutter. *Geospatial Risk Assessment Support Prototype*, South Carolina Emergency Management Division, Columbia, SC. \$400,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$131,544
- (1) 2009, Cutter, S.L. (Principal Investigator) & **C.T. Emrich**. *Social Vulnerability Mapping for the Southeast*, OXFAM America, Boston, MA. \$40,000.
Research Credit Split: Emrich (50%), Cutter (50%)
Indirect Funding: \$13,154

INTERNAL GRANTS AND RESEARCH SUPPORT

- (10) 2021. **Emrich, C.T.** (Mentor for Dr. Cassie Odahowski). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$3,000.
- (9) 2021. Alvarez, S. Baggio, J., Wahl, T. & **C.T. Emrich**. Influences of coupled natural-human systems on sea-level rise adaptation in Florida. University of Central Florida, Interdisciplinary Research Seed Grant, \$67,500.
- (8) 2020. **Emrich, C.T.** (Principal Investigator), Office of Research and Commercialization – Large Grant Support Course Buyout, University of Central Florida, Orlando, FL. \$13,602.
- (7) 2020. Chisholm, L, **Emrich, C.T.**, Neuberger, L., & S. Choi. Chronic Conditions Among Older Adults: The Role of Social and Physical Determinants. University of Central Florida – College of Community Innovation and Education Downtown Research Initiative Program. \$12,500.
- (6) 2020. **Emrich, C.T.** (Mentor for Dr. Patrice Kohl). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$3,000.
- (5) 2019. **Emrich, C.T.** (Mentor for Dr. Sergio Alvarez). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$1,500.

- (4) 2019. **Emrich, C.T.** (Mentor for Dr. Sarah Larsen). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$1,500.
- (3) 2018. **Emrich, C.T.** (Mentor for Dr. Danielle Atkins). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$3,000.
- (2) 2017. **Emrich, C.T.** (Mentor for Dr. Thomas Wahl). Office of Research & Commercialization's (ORC) Research Mentoring Program, University of Central Florida, Orlando, FL. \$3,000.
- (1) 2015. **Emrich, C.T.** (Principal Investigator), Hazards Analysis and Planning (GEOG 535) - Distributed Learning Course Development Grant. University of South Carolina, Columbia, SC. \$7,829.

PROFESSIONAL PRESENTATIONS (non-refereed)

- (71) Zhou. Y., **Emrich, C.T.**, Gall, M., & Aksha, S. (2020, December). *Identifying emerging hotspots of multi-hazard loss in the continental United States*. Paper presented at the American Geophysical Union Fall Meeting, San Francisco, California.
- (70) **Emrich, C.T.** & Y. Zhou. (2019, July). *Exposing Biases and Inequities in Disaster Loss Accounting*, Paper presented at the Natural Hazards Center Researcher's Meeting. Broomfield, Colorado.
- (69) **Emrich, C.T.** (2019, July). *Plenary: Mobilizing Research to Encourage Equitable Disaster Recovery Programs and Policies*. Moderator and Paper presented at the 45th Annual Natural Hazards Workshop. Broomfield, Colorado. **INVITED**
- (68) **Emrich, C.T.** (2019, May). *Successes and Challenge's in Florida's Disaster Recovery*, Paper presented at the Governor's Hurricane Conference. West Palm Beach, Florida. **INVITED**
- (67) **Emrich, C.T.** & Y. Zhou. (2019, April). **Empirically Validating Disaster Impacts with Social Vulnerability Indicators**, Paper presented at the Annual Meeting of the Association of American Geographers. Washington, DC.
- (66) **Emrich, C.T.** (2019, March). *Defining and Measuring Community Resilience*, Paper presented at the American Society for Public Administration Annual Conference, Washington, DC.
- (65) **Emrich, C.T.** (2018, July). *Putting Knowledge to Work: Using Hazards Information to Reduce Loss*, Paper presented at the Hazards Research and Applications Workshop, Broomfield, CO, July 10. **INVITED**
- (64) Atkins D.N., **Emrich C.T.**, & K.D. Thompson. (2018, April). *Where do we go from here: mapping access to OBGYNs through the lens of social vulnerability?* Paper presented at the Public Administration Research Conference (PARC), Orlando, Florida.

- (63) **Emrich, C.T. 2018.** *Leveraging Social Media for Disaster Response: The Promises and Pitfalls of Citizen Sensor in Emergency Management*, Paper presented at the Florida Floodplain Managers Association Annual Conference, Orlando, Florida.
- (62) Atkins D.N., **Emrich C.T.**, & K.D. Thompson. (2018, March). *Where do we go from here?: mapping access to OBGYNs through the lens of social vulnerability*, Paper presented at the Big Data Analytics Symposium, Orlando, Florida. **INVITED**
- (61) **Emrich, C.T.** (2018, December). *Hazards, Risks, and Disasters: An Introduction to the Hazards of Place Model as it Applies to wildfire recovery*, Paper presented at the SESYNC Meeting, Annapolis, Maryland, **INVITED**
- (60) **Emrich, C.T.** (2017, May). *The Social Vulnerability Index: A Tool for Understanding Pre-Event Community Characteristics*, Paper presented at the COPHA GIS Workshop, Orlando, Florida. **INVITED**
- (59) **Emrich, C.T.** (2017, March). *Improving Community Resilience through Risk and Vulnerability Analytics*, Paper presented at the American Society for Public Administration Annual Conference, Atlanta, Georgia.
- (58) **Emrich, C.T.** (2016, November). *Leveraging Perishable Impact Data Into Long-Term Recovery Forecasting*, Paper presented at the SC Floods Conference, Columbia, South Carolina. **INVITED**
- (57) **Emrich, C.T.** (2016, March). *Leveraging Big Data and for Response and Recovery*, Paper presented at the South Carolina Arc GIS Users Conference, Columbia, South Carolina. **INVITED**
- (56) **Emrich, C.T.** 2016. (2015, March). *Lessons Learned from the Historic Flooding of South Carolina in Oct 2015*, Panel discussion at the South Carolina Arc GIS Users Conference, Columbia, South Carolina. **INVITED**
- (55) **Emrich, C.T.** (2015, December). *Stormwater Infrastructure: Key Strategies for Cross-Sector Investment & Building Resilient Communities*, Panel Discussion, Columbia, South Carolina. **INVITED**
- (54) **Emrich, C.T.** (2015, November). *Novel Spatial Techniques to Assess Impacts and Recovery for Hazard Impact Areas*, Paper presented at the GAASC Fall Meeting, North Augusta, South Carolina, **INVITED**
- (53) **Emrich, C.T.** (2015, October). *Social Vulnerability and Community Disaster Resilience in the Southeast United States: Understanding Vulnerabilities to Build Resiliency*, Paper presented at the 2nd Workshop on Coastal Risk and Resilience, Ft. Lauderdale, Florida. **INVITED**
- (52) **Emrich, C.T.** (2015, September). *Supporting Hazard Mitigation, Planning, Response and Recovery in South Carolina*, Paper presented at the DHEC Midlands Regional Healthcare Coalition, Lexington, South Carolina. **INVITED**

- (51) **Emrich, C.T.** (2015, July) *10 Years Down the Long Road to Recovery from Katrina: Spatial-Statistical Representations of Recovery Along the Forgotten Coastline*, Paper presented at the Hazards Research and Applications Workshop, Broomfield, Colorado. **INVITED**
- (50) **Emrich, C.T.** (2015, June). *Florida Public Health Risk Assessment Tool: MedVI, CIKR, and HVDE Demonstration and Question/Answer Session*, Paper presented at the Florida Department of Health Planners Meeting, Tallahassee, Florida. **INVITED**
- (49) **Emrich, C.T.** (2015, May). *South Carolina Hurricane Evacuation Behavioral Survey: The Good, the Bad, and the Ugly for Beaufort County*, Paper presented at the Beaufort County Hurricane Planning Workshop, Beaufort, South Carolina. **INVITED**
- (48) **Emrich, C.T.** (2015, April) *Charting a Path forward for Measuring Social Vulnerability: Rethinking old ways in the light of “new” data*, Paper presented at the Association of American Geographers Annual Meeting, Chicago, Illinois.
- (47) **Emrich, C.T.** (2015, March). *Supporting Hazard Mitigation, Planning, Response and Recovery in South Carolina*, Paper presented at the 2015 South Carolina State Hazard Mitigation Association Workshop. Myrtle Beach, South Carolina. **INVITED**
- (46) **Emrich, C.T.** (2015, March). *Tools and Technologies to Support Emergency Management*, Paper presented at the 2015 South Carolina Emergency Management Association Disaster Workshop. Myrtle Beach, South Carolina. **INVITED**
- (45) **Emrich, C.T.** (2015, February). *Metrics, Measures, and Datasets for Disaster Research: New and refreshed knowledge transfer from academia to practice*, Paper presented at the National Capital Region HAZUS User’s Group Meeting, FEMA Region III, Philadelphia, Pennsylvania. **INVITED**
- (44) **Emrich, C.T.** (2015, February). *Leveraging Long Term Recovery Analytics for a Smarter Recovery: Spatial-Statistical Representations of Recovery Along Forgotten Coastlines*, Paper presented at the SCEMD Day of Recovery Meeting, Columbia, South Carolina. **INVITED**
- (43) **Emrich, C.T.** (2015, January) *Social Vulnerability and Community Disaster Resilience in Midwest United States: Understanding Vulnerabilities and Building Resiliency*, Paper presented at the Rockefeller Foundation National Disaster Resilience Competition Midwest Regional Academy, Chicago, Illinois. **INVITED**
- (42) **Emrich, C.T.** (2015, January). *Social Vulnerability and Community Disaster Resilience in the Northeast United States: Understanding Vulnerabilities and Building Resiliency*, Paper presented at the Rockefeller Foundation National Disaster Resilience Competition Northeast Regional Academy, Boston, Massachusetts. **INVITED**
- (41) **Emrich, C.T.** (2015, January). *Social Vulnerability and Community Disaster Resilience in Northwest United States: Understanding Vulnerabilities and Building Resiliency*, Paper presented at the Rockefeller Foundation National Disaster Resilience Competition Northwest Regional Academy, Seattle, Washington. **INVITED**

- (40) **Emrich, C.T.** (2015, January), *Social Vulnerability and Community Disaster Resilience in US Great Plains: Understanding Vulnerabilities and Building Resiliency*, Paper presented at the Rockefeller Foundation National Disaster Resilience Competition Great Plains Regional Academy, Kansas City, Missouri. **INVITED**
- (39) **Emrich, C.T.** (2015, January) *Field Data Collection Strategies for Success*, Paper presented at the SCEMD Training Day, Columbia, South Carolina. **INVITED**
- (38) **Emrich, C.T.** (2014, December), *Social Vulnerability and Community Disaster Resilience in the Southeast United States: Understanding Vulnerabilities and Building Resiliency*, Paper presented at the Rockefeller Foundation National Disaster Resilience Competition Southeast Resilience Academy, Atlanta, Georgia. **INVITED**
- (37) **Emrich, C.T.** (2014, November). *Novel Spatial Techniques to Assess Recovery Trends for Hurricane Impact Zones*, Paper presented at the Disaster Communication Redesigned Workshop, Lexington. Kentucky.
- (36) Hames, E., Tewary, S., Stoler, J., **Emrich, C.T.** & P. Naushira. (2014, November). *A Spatial Analysis of Socially and Medically Vulnerable Populations of Older Adults in South Florida*, Paper presented at the Gerontological Association of American Annual Scientific Meeting, Washington, DC.
- (35) **Emrich, C.T.** (2014, June). *Improving the Validity of Social Vulnerability Indicators*, Paper presented at the International Research Committee on Disasters Researchers Meeting, Broomfield, Colorado.
- (34) **Emrich, C.T.**, Chen, W., Hummel, B.L., Guillard-Gonçalves, C. & S.L. Cutter, (2014, June). *Validation of the Social Vulnerability Index in a Cross-National Context*, Paper presented at the IRDR Conference-Integrated Disaster Risk Science: A Tool for Sustainability, Beijing, China.
- (33) Cutter, S. L., **Emrich, C. T.**, Mitchell, J.T., Smith, M.M, & L. Weber, (2014, June). *Hurricane Katrina and the forgotten coast of Mississippi*, Paper presented at the IRDR Conference-Integrated Disaster Risk Science: A Tool for Sustainability, Beijing, China.
- (32) **Emrich, C.T.** (2014, April). *Identifying Long Term Recovery Trends for Hurricane Impact Zone: Spatial Perspectives on Rebuilding in Coastal Areas*, Paper presented at the Carolina's Climate Resilience Conference, Charlotte, North Carolina. **INVITED**
- (31) **Emrich, C.T.** (2014, April). *Improving the Validity of Social Vulnerability Indicators*, Paper presented at the Association of American Geographers Annual Meeting, Tampa, Florida.
- (30) **Emrich, C.T.** (2014, April). *Panel Session: Enhancing Safety in an Era of Global Change*, Paper presented at the Association of American Geographers Annual Meeting, Tampa, Florida, **INVITED**
- (29) **Emrich, C. T.**, & S. L. Cutter, (2014, January). *E2E Project: Identifying and analyzing the driving forces of hurricane recovery for disaster stricken areas to improve long-term*

planning, Paper presented at the CHC-R 6th Annual Meeting, Chapel Hill, North Carolina.

- (28) **Emrich, C.T.** (2013, October) *Supporting Climate Adaptation by Understanding Vulnerabilities*, Paper presented at the 2013 Public Health and Climate Change Summit: Focusing North Carolina Forward, Raleigh, North Carolina. **INVITED**
- (27) **Emrich, C.T.** (2013, September). *Understanding Social Vulnerability in an ACS World: Creating Metrics and Measures from the ACS and decennial Census*, Paper presented at the Association of Public Data Users Annual Meeting, Washington, DC. **INVITED**
- (26) **Emrich, C.T.** (2013, August). *Identifying and Exploring Long-Term Recovery Trends for Coastal Mississippi, Spatial-Statistical Representations of Recovery Along the Forgotten Coastline*, Paper presented at the Joint Statistical Meetings, Montreal, Quebec, Canada. **INVITED**
- (25) **Emrich, C.T.** (2013, March). *Supporting DMA 2000 Hazard Assessment Updates with Web-GIS – A review of available tools, technologies, and data from USC’s HVRI*, Paper presented at the Greenville, South Carolina.
- (24) **Emrich, C.T.** (2013, March). *DMA 2000 Hazard Assessment Updates with Web-GIS*, Paper presented at the South Carolina Emergency Management Association Conference, Myrtle Beach, South Carolina.
- (23) Gottlieb, R., Morath, D.P., Ash, K., Schumann, R., & **C. Emrich.** (2013, July). *Spatial Analysis of Sampling Error in the American Community Survey*, Paper presented at the Annual Meeting of the International Research Committee on Disasters, Broomfield, Colorado.
- (22) Schumann, R.L., Morath, D.P., Cutter, S.L., & **C.T. Emrich.** (2013, July). *Extending the Recovery Divide: Long-Term Trends and Local Perspectives in Post-Katrina Mississippi*, Paper presented at the Annual Meeting of the International Research Committee on Disasters, Broomfield, Colorado.
- (21) **Emrich, C.T.** (2012, June). *Integrating Social Vulnerability into Multiple Lines of Defense Mitigation for Floods*, Paper presented at the State of the Coast Conference, New Orleans, Louisiana. **INVITED**
- (20) **Emrich, C.T.** (2012, April). *Traveling Back to the Status Quo: One Geographer’s Journey Along the Road of Recovery from Disaster*, Paper presented at the Center for Disaster and Risk Analysis Colloquium Series, Ft. Collins, Colorado. **INVITED**
- (19) **Emrich, C.T.** (2012, January). *Findings from the South Carolina Hurricane Evacuation Behavioral Survey*, Paper presented at the South Carolina Southern and Central Conglomerate Hurricane Evacuation Study Kick-off meetings, Charleston and Beaufort, South Carolina. **INVITED**
- (18) **Emrich, C.T.** (2011, October). *Integrated Hazards Assessment Tool (IHAT): Supporting DMA 2000 Hazard Assessment Updates with Web-GIS, FEMA Hazard Mitigation*, Paper presented at the Partners in Mitigation Workshop, Atlanta, Georgia. **INVITED**

- (17) **Emrich, C.T.** (2011, May). *Identifying Long-Term Recovery Trends for Coastal Mississippi: Spatial Perspectives on Rebuilding in a Post-Katrina Environment*, Paper presented at the Coastal Development Strategies Conference, Biloxi, Mississippi. **INVITED**
- (16) **Emrich, C.T.** (2011, March). *Integrated Hazards Assessment Tool (IHAT)*, Paper presented at the South Carolina Emergency Management Association Coastal Workshop, Litchfield Beach, South Carolina. **INVITED**
- (15) **Emrich, C.T.** (2011, March). *Enhancement of the Social Vulnerability Index (SoVI) for Assessing Coastal Risk: Concept, Background, and Measurement*, Paper presented at the NOAA Coastal GEOTOOLS Workshop, Myrtle Beach, South Carolina.
- (14) **Emrich, C.T.** (2010, November). *Social Vulnerability and Climate Change Hazards in the Southeast US*, Paper presented at the American Public Health Administration Annual Meeting and Exposition, Denver, Colorado.
- (13) **Emrich, C.T.** (2010, October). *Planning for the Unexpected: Integrating Local Emergency Management Knowledge into Planning and Development Practices in South Carolina*, Keynote Address at the South Carolina Chapter of the American Planning Association (SCAPA), Litchfield Beach, South Carolina. **INVITED**
- (12) **Emrich, C.T.** (2010, March). *Social Vulnerability and Climate Change Hazards in the Southeast U.S.*, Paper presented at the North Carolina Climate Change Adaptation Workshop, Raleigh, North Carolina. **INVITED**
- (11) **Emrich, C.T.** (2009, Dallas). *The Social Vulnerability Index (SoVI): A County-level Web-Based Measure of Community Vulnerability*, Paper presented at the 2009 Integrated Medical, Public Health, and Response Training Summit, Dallas, Texas. **INVITED**
- (10) **Emrich, C.T.** (2007, May). *GIS and Policy in Disaster Management*, Paper presented at the 21st Annual Governor's Hurricane Conference, Fort Lauderdale, Florida. **INVITED**
- (9) **Emrich, C.** (2004, March). *Modeling Sub-Metropolitan Area Hazard Vulnerability*, Paper presented at the Centennial Meeting of the Association of American Geographers, Philadelphia, Pennsylvania.
- (8) **Emrich, C.T.** (2003, April). *Richland County Vulnerability Assessment*, Paper presented at Graduate Student Day, University of South Carolina, Columbia, South Carolina.
- (7) **Emrich, C.T.** (2003, July). *The Making of MUVI: Formulating Multi-level Urban Vulnerability Indices*, Paper presented at the 28th Annual Hazards Research and Applications and Information Workshop, Boulder, Colorado.
- (6) **Emrich, C.T., Boruff, B.J., & S. L. Cutter.** (2003, March). *Where Two Sides Meet: The Assessment and Analysis of Place Vulnerability for Coastal Counties of the United States*, Paper presented at the Annual Meeting of the South Carolina Academy of Science, Clemson, South Carolina.

- (5) Boruff, B. J., S. L. Cutter, & **C.T. Emrich**. (2003, February). *Exploring Physical and Social Characteristics of U. S. Coastal Counties to Determine Vulnerability to Seal Level Rise*, Paper presented at the Florida Society of Geographers Meeting, Boca Raton, Florida.
- (4) **Emrich C.T.**, & S.L. Cutter. (2003, January). *EMS: Hazard Vulnerability Assessment Study*, Presentation to the Richland County Council. Columbia, South Carolina: January.
- (3) Boruff, B. J., Cutter, S. L., & **C.T. Emrich**. (2002, December). *Historic Assessment of the Socio- Economic Vulnerability of United States Coastal Counties*, Paper presented at the Vulnerability Assessment Techniques III Workshop, Wildey, St. Michael, Barbados.
- (2) **Emrich, C.T.** (2002, July). *Revealing the Vulnerability of the Columbia Metropolitan Area: An Application of the Pressure-Release Model to Populations in Richland and Lexington Counties*, Paper presented at the 27th Annual Hazards Research and Applications and Information Workshop, Boulder, Colorado.
- (1) **Emrich, C.T.** (2000, October). *Social Vulnerability and Natural Hazards: A Case Study for Hillsborough County, Florida*, Paper presented at the 23rd Annual Applied Geography Conference, Tampa, Florida.

Keynote Speaker

Emrich, C.T. 2010, "Planning for the Unexpected: Integrating Local Emergency Management Knowledge into Planning and Development Practices in South Carolina", Keynote Address to the South Carolina Chapter of the American Planning Association (SCAPA), Litchfield Beach, SC: October. **INVITED**

Invited Reviewer

Research Proposal Review

Oregon Sea Grant Consortium
 Social Sciences and Humanities Research Council
 National Institutes of Health
 National Science Foundation

Manuscript Review

American Journal of Preventative Medicine	Journal of Flood Risk Management
Annals of the Association of American Geographers	Journal of Homeland Security and Emergency Management
Computers and Human Behavior	Landscape and Urban Planning
Disaster Risk Science	Natural Hazards
Emerald Publishing	Natural Hazards Review
Inderscience	Norwegian Journal of Geography
International Journal of Disaster Risk Reduction	Population and Environment
Journal of Disasters	Public Administration Review
Journal of Geography	Professional Geographer
	Risks Hazards and Crisis in Public Policy

Editorial Board Experience

- Guest Editor, *GeoHazards*, Special Issue: Place Matters: Exploring Socio-Spatial Influences on Disaster Recovery (2020 – Present)
- Trial Editor, *Natural Hazards Review* (2020 – Present)
- Guest Editor, *International Journal of Environmental Research and Public Health*, Special Issue Community Resilience after Natural and Anthropogenic Disasters (2018-2019)
- Guest Editor, *International Journal of Digital Earth*, Special Issue of "Social Sensing and Big Data Computing for Disaster Management" (2018 – 2019)

Interviews and News Coverage

NBC. 2020. Doc-to-Doc: Coronavirus conversation with Dr. Christopher Emrich talks with Dr. Christopher Emrich about how to prepare for natural disasters during the coronavirus pandemic. Dr. Emrich is a professor of environmental science at University of Central Florida. https://www.facebook.com/watch/live/?v=897745750733105&ref=watch_permalink

Center for Public Integrity. 2019. *One Disaster Away: How Our Data Can Help you Dig Into Disasters*. <https://publicintegrity.org/environment/one-disaster-away/how-our-data-can-help-you-dig-into-disaster-impacts-climate-change/>

Cutter, S and C. Emrich. 2017, *Research Counts, Helping Those Most in Need First: Leveraging Social Vulnerability Research for Equitable Disaster Recovery*, Natural Hazards Center. <https://hazards.colorado.edu/news/research-counts/helping-those-most-in-need-first-leveraging-social-vulnerability-research-for-equitable-disaster-recovery>

Emrich, C.T. (2017). *Puerto Rico Disaster*. <http://www.cbc.ca/player/play/1056057923836>

Emrich, C.T. (2017). *Emrich Warned for Irma*. <https://twitter.com/UCFKnightNews/status/906624668634947585/video/1>

Emrich, C.T. (2017). *Intersections with Brendan Burn*. <http://www.wmfe.org/protecting-floridas-power-grid-from-devastating-storms/78148>

Emrich, C.T. (2017). *Intersections with Matthew Peddie*. <http://www.wmfe.org/intersection-matthews-impact-on-power-grid-people/65244>

Emrich, C.T. (2015). *Helping Victims Document Damages after Flooding*. <https://wach.com/news/local/flood-victims-document-damages>

Emrich, C.T. (2014). *Introducing the social vulnerability index*. <https://www.youtube.com/watch?v=CrT3479Ci8c>

TEACHING AND SUPERVISORY EXPERIENCE

Teaching Foci/Expertise

- Hazards geography and disaster science
- Geospatial information science
- Environmental hazards analysis and planning.

PAD6938, Hazard Analysis and Disaster Planning (Graduate Online)

- Guided students in summarizing the geographical dimensions and information requirements for disaster preparedness, mitigation, and recovery.
- Synthesize limitations in measuring hazards and vulnerability at different spatial scales.
- Critically evaluating hazard assessment methodologies including limitations in models and in available data streams.

Fall 2017, Fall 2019, Fall 2020

PAD4712, Information Systems for Public Managers and Planners (Undergraduate Online, Face-to-Face, and Mixed Mode)

- Assisted students in learning the fundamentals of GIS technology and their application to common public administration challenges and problems.
- Developed course documents, laboratory exercises, lectures, and evaluation criteria for this newly developing technology at the university.

Fall 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019

PAD6716, Information Systems for Public Managers and Planners (Graduate Online, Face-to-Face, and Mixed Mode)

- Aided students in utilizing GIS technology to support smarter decision making for local, state, and federal entities.
- Developed course documents, laboratory exercises, lectures, and evaluation criteria for one of the most technical GIS class taught at the university.

Fall 2016, Spring 2017, Fall 2018, Spring 2019, Fall 2019, Spring 2020, Spring 2021

GEOG 535: Hazards Analysis and Planning (Graduate face-to-face)

- Facilitated student's understanding of the geographical dimensions and information requirements for disaster preparedness, mitigation, and recovery
- Taught students to critically evaluate hazard assessment methodologies and build robust models and methods for geospatial decision support and hazard mitigation planning and response.

Fall 2015

GEOG530, Environmental Hazards (Graduate face-to-face)

- Provided students with knowledge about the conceptual and theoretical foundations of hazards, disasters, and emergency management
- Fostered the development of individual skills and abilities for understanding trends in disaster losses and impacts from a geospatial perspective

Fall 2011, Fall 2012, Fall 2015

Instructor, Vulnerability Workshop, University of Lisbon, Portugal (Professional face-to-face)

- Created set of tools and operational guidance for teams of researchers interested in understanding social vulnerability concepts, theory and practice
- Coordinated week long training of geographers including lectures, geospatial exercises, theoretical guidance documents, and lecture materials.

2012

GIS6306: Environmental Applications of GIS (Graduate face-to-face)

- Enabled students to utilize GIS technology in the assessment, analysis and modeling of situations related to environmental quality, justice, and conservation
- Developed course documents, laboratory exercises, lectures, and evaluation criteria for one of the most technical GIS class taught at the university

Spring 2008

GIS6100: Advanced Geographic Information Systems (Graduate face-to-face)

- Generated all course related materials for upper level GIS concepts and techniques course
- Provided guidance, support, and training to next generation of GIS analysts and educators through lecture, practical exercises, projects, and exams.

Fall 2007

GIS3006: Computer Cartography (Undergraduate face-to-face)

- Created and delivered course on proper cartographic techniques, map display, and digital representations of geographic phenomena
- Responsible for the production of all course materials, including; class exercises, lecture materials, online and virtual training content, and evaluation measures

Fall 2007, Spring 2008

Short Course Instructor, GIS for Security (Professional face-to-face)

- Generated and presented FEMA standard short course focused on the uses of GIS for FEMA security specialists
- Designed and implemented numerous case study exercises for use by FEMA security personnel based on real world situations and scenarios

2006

Instructor of Record, GEOG 430: Geography of Disasters (Undergraduate face-to-face)

- Synthesized and delivered up to date hazards information for an upper-level undergraduate hazards course
- Development and implementation of course lectures, projects, and exams

2004

Short Course Instructor, Sub-County Hazard, Vulnerability Assessment Protocols
(Professional face-to-face)

- Trained Council of Government GIS Specialists in procedures for demographic and population growth analyses undertaken during spatial vulnerability assessments
- Served as an intra- and inter-governmental advisor to GIS specialists within county councils, city planning groups, and state EMD staff

2003

Doctoral Dissertation & Thesis Work

Doctoral Dissertations

Co-Chair

Romanowski, A. (in process). *An Epidemiological Study of Recreational Boating Accidents In The State Of Florida: 2014-2017*. (Ph.D. in Public Affairs, University of Central Florida).

Committee Member

Shakhawat, T. (in process)*. *Modelling of fuel demand during hurricane evacuation*. Ph.D. in Geography and Environmental Science and Policy, University of South Florida.

Santos, V. (2021). *Combining Multivariate Statistical and Numerical Modeling for Coastal Hazards Analysis*. (Doctoral dissertation). Chair: Dr. Thomas Wahl.

Mohammadhossein, A. (2019). *Streamflow Prediction in Ungauged Basins Located Within Data-Scarce Regions*. (Doctoral dissertation). Chair: Dr. Kelly Kibbler. Available from <https://stars.library.ucf.edu/etd/6284/>

Martin, Y. (2019). *Leveraging Geotagged Social Media to Aging Geotagged Social Media to Monitor Spatial Behavior During Population Movements Triggered by Hurricanes*. (Doctoral dissertation). Chair: Dr. Susan Cutter. Available from <https://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=6357&context=etd>

Haupt, B. (2018). *The Use of Crisis Communication Strategies to Build Community Resilience: Evidence from Emergency Managers*. (Doctoral dissertation). Chair: Dr. Claire Knox. Available from <https://stars.library.ucf.edu/etd/5884/>

Ash, K. (2015). *Mobile Home Resident Perspectives on Preparedness, Protective Action, and Evacuation for Tornado Hazards*. (Doctoral dissertation). Chair: Dr. Susan Cutter. Available from <https://scholarcommons.sc.edu/etd/3623/>

Buck, K. (2014). *Geographic Disparities in Cancer Mortality to Incidence Ratios*. (Doctoral dissertation). Chair: Dr. Susan Cutter. Available from <https://scholarcommons.sc.edu/etd/2831/>

Senn, M. (2014). *A Comprehensive Disaster Risk Index for The United States*. (Doctoral dissertation). Chair: Dr. Susan Cutter. Available from <https://scholarcommons.sc.edu/etd/2886/>

Burton, C. (2012). *The Development of Metrics For Community Resilience to Natural Disasters*. (Doctoral dissertation). Chair: Dr. Susan Cutter. Available from <https://scholarcommons.sc.edu/etd/1275/>

Master's Theses

Chair

Siegler, W. (2014). *Analysis of Hurricane Preparedness Levels and Evacuation Intent for South Carolina Coastal Residents*. (Master's thesis). University of South Carolina. Available from <https://scholarcommons.sc.edu/etd/2986/>

Committee Member

- Pham, E. (2018). Analysis Of Evacuation Behaviors and Departure Timing For October 2016's Hurricane Matthew. Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina. Available from <https://scholarcommons.sc.edu/etd/4797/>
- Reeves, R. (2015). *Economic Losses and Extreme Tornado Events*. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina Available from <https://scholarcommons.sc.edu/etd/3663/>
- Pfister-Altschul, E. (2014). *Comparison of Ground-to-Air Visibility Analysis Methods*. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina. Available from <https://scholarcommons.sc.edu/etd/2753/>
- Angelo, D. (2012). *The Impact of Optimism On Evacuation Behavior In South Carolina Hurricane Evacuation Zones*. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina. Available from <https://scholarcommons.sc.edu/etd/1272/>
- Morath, D.P. (2010). Social Vulnerability and Public Health: Developing A Metric For Medical Emergency Management In Florida. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina. Available from <https://scholarcommons.sc.edu/etd/1298/>
- Stevenson, J. (2010). *Rebuilding Coastal Mississippi Following Hurricane Katrina: A Spatial and Temporal Analysis*. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina Available from <https://scholarcommons.sc.edu/etd/274/>
- Zuzak, C. (2010). *Differences In Urban and Rural Natural Hazard Mortality In the United States*. (Master's thesis). Chair: Dr. Susan Cutter. University of South Carolina Available from <https://scholarcommons.sc.edu/etd/1313/>

PROFESSIONAL SERVICE AND GOVERNANCE

University Service

University Level

- Faculty/Senate Research Council, Member (2019 – Present)
- Faculty/Senate Research Council, Chair on the sub-committee for Internal Research Support (2020-Present)
- Faculty/Senate Research Council, Chair (2018 – 2019)
- Co-host, Post-Doc Mentoring Roundtable (2018)

Mentorship

- Dr. Cassie Lewis Odahowski (Department of Health Sciences) (2021-Present)
- Dr. Patrice Kohl (Nicholson School of Communication) (2020 – Present)
- Dr. Sergio Alvarez (Rosen College) (2019 – Present)
- Dr. Sarah Larson (School of Public Administration) (2019 – Present)
- Dr. Danielle Atkins (Healthcare and Informatics) (2018 – Present)
- Dr. Thomas Wahl (Engineering) (2017 – Present)

Mentor, University Preeminent Postdoctoral Program

- Dr. Bradley Wilson (School of Public Administration) (2020 – Present)
- Dr. Herbert Longenecker (School of Public Administration) (2019 – Present)
- Dr. Hoda Fotovvat (School of Public Administration) (2019 – Present)
- Dr. Yao Zhou (School of Public Administration) (2018 – Present)
- Dr. Sanam Aksha (School of Public Administration) (2018 – Present)

College Level

- Faculty/Senate Research Council, Chair (2018 – 2019)
- COPHA Core Committee (2017 – 2018)

School or Department Level

- Scholarship Committee (2016 – Present)
- Emergency Management and Homeland Security Program Board of Directors (2016 – Present)
- CPNM Advisory Council (2019 – Present)
- NASPAA-Batten Simulation Competition (2018)

Undergraduate Advising – 30-50 students per semester

Professional Service

- Associate Social and Behavioral Science Editor, *Natural Hazards Review* (2021 – Present)
- Board Member, Natural Hazards Center (2019-Present)
- Guest Editor, *GeoHazards*, Special Issue: Place Matters: Exploring Socio-Spatial Influences on Disaster Recovery (2020 – Present)
- NSF Social and Behavioral Sciences Proposal Reviewer (2020)
- NSF CMMI LEAP HI Panel Reviewer (2019)
- Guest Editor, *International Journal of Environmental Research and Public Health*, Special Issue Community Resilience after Natural and Anthropogenic Disasters (2018 – 2019)
- Guest Editor, *International Journal of Digital Earth*, Special Issue of "Social Sensing and Big Data Computing for Disaster Management" (2018 – 2019)
- 2018 – 2020, Mentor, Minority Scholars from Underrepresented Groups in Engineering and the Social Sciences (SURGE) Capacity in Disasters mentorship program - <https://www.unomaha.edu/college-of-public-affairs-and-community-service/scholars-from-under-represented-groups-engineering/about-us/index.php> (2018 – Present)
- Tenure and Promotion Reviewer, University of Indianapolis (2017)
- SC Disaster Recovery Task Force Team Leader (2015 – 2016)
- 2014 – Present, FEMA HAZUS Technical Team (2014 – Present)
- Disaster Response Coordinator, Our Lady of the Hills Church (2012 – 2016)
- South Carolina Mass Casualty Working Group (2011 – 2017)

- National Climate Assessment, Southeast Region Technical Report Group (2010 – 2014)
- National Climate Assessment Team, Technical Group (2010 – 2014)
- Southeast Climate Assessment Team (2010 – 2014)
- Hillsborough County and Tampa Hazard Mitigation Working Group (1998 – 2000)

Affiliations and Certifications

- American Society for Public Administration and Section of Emergency and Crisis Management (2017 – Present)
- GIS Professional (GISP) Certified (2014 – Present)
- Association of American Geographers, (2000 to present)
 - Hazards Specialty Group (2003-Present)
 - GIS Specialty Group (2005-Present)
- Gamma Theta Epsilon (2002 to present)

NIMS/ICS

- ICS-300 Intermediate Incident Command System (2012)
- ICS-100 Introduction to the Incident Command System (2005)
- ICS-200 Basic Incident Command System (2005)
- ICS-700 National Incident Management System (2005)
- ICS-800 National Response Plan (2005)

Emergency Management

- IS-393 Introduction to Hazard Mitigation (2008)
- IS-244 Developing and Managing Volunteers (2006)
- IS-241 Decision Making and Problem Solving (2006)
- IS-242 Effective Communication (2005)
- IS-240 Leadership and Influence (2005)
- IS-235 Emergency Planning (2005)
- IS-230 Principles of Emergency Management (2005)
- IS-139 Exercise Design (2005)

Geospatial

- GIS Professional Certification (2014)
- Comprehensive Data Management for HAZUS-MH (2012)
- Application of HAZUS-MH for Risk Assessment (2012)
- Introduction to ArcGIS Server (2010)
- Advanced HAZUS for Floods (2009)
- Advanced HAZUS for Hurricanes (2007)
- ArcSDE Administration for SQL Server (2006)
- GIS Concepts (2005)
- ArcGIS 9 Introduction (2005)
- ArcGIS 9 Handling Data (2005)
- Arc GIS 9 Making Maps (2005)
- Arc GIS 9 Analysis (2005)
- Introduction to Web GIS (2005)

- Object-Oriented Languages and VB (2005)
- ArcObjects and VBA (2005)
- Introduction to ArcGIS I and II (2004)
- GIS Based Modeling (2001)