

J.M. SHAWN HUTCHINSON

Associate Professor

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Professional Preparation

Ph.D., Geography, 2000; Kansas State University, Manhattan, Kansas (Advisor: J.A. Harrington, Jr.)
M.A., Geography, 1997; Kansas State University, Manhattan, Kansas (Advisor: J.A. Harrington, Jr.)
B.S., Wildlife Biology, 1990; Colorado State University, Fort Collins, Colorado (Advisor D. Hein)

Appointments

Associate Professor, Department of Geography, Kansas State University; 2007 – Present.
Assistant Professor, Department of Geography, Kansas State University; 2002 – 2007.
Director, Geographic Information Systems Spatial Analysis Laboratory (GISSAL), Department of Geography, Kansas State University; 2002 – Present.
Visiting Assistant Professor, Department of Geography, Kansas State University; 2001 – 2002.
Visiting Assistant Professor, Department of Biological & Agricultural Engineering, Kansas State University; 2000 –2001.

Fields of Interest and Expertise

Agricultural biosecurity, water resources, biogeography, environmental assessment and modeling, spatial epidemiology, GIS, remote sensing, cartography and visualization, Africa, South America, Western Europe.

Selected Publications

- Hutchinson, J.M.S., J.F. Campbell, M.D. Toews, T.J. Vought, Jr., and S.B. Ramaswamy. Designing a Local-Scale Microsimulation of Lesser Grain Borer Population Dynamics and Movements. In S. Clay, ed. *GIS Applications in Agriculture: Invasive Species*. Boca Raton, FL: CRC Press, accepted.
- Allen, L.J.S., C.L. Wesley, R.D. Owen, D.G. Goodin, D. Koch, C.B. Jonsson, Y. Chu, J.M.S. Hutchinson, and R.L. Paige. 2009. A habitat-based model for the spread of Hantavirus between reservoir and spillover species. *Journal of Theoretical Biology* 260(4):510-522.
- Margosian, M.L., K.A. Garrett, J.M.S. Hutchinson, and K.A. With. 2009. Connectivity of the American agricultural landscape: Assessing the national risk of crop pest and disease spread. *BioScience* 59(2): 141-151.
- Kim, I.J., S.L. Hutchinson, J.M.S. Hutchinson, and C.B. Young. 2007. Riparian Ecosystem Management Model (REMM): Sensitivity to soil, vegetation, and weather input parameters. *Journal of American Water Resources Association* 43(5):1171-1182.
- Margosian, M.L., K.A. Garrett, J.M.S. Hutchinson, and K. With. 2007. Connectivity of the American agricultural landscape: A graph-theoretic approach. 2007 ESRI International User Conference Proceedings, Redlands, CA.
- Hutchinson, J.M.S., T.J. Vought, Jr., and S.L. Hutchinson. 2006. Continuous soil moisture mapping using MODIS LST and NDVI products. *Papers of the Applied Geography Conference* 29:140-149.
- Goodin, D.G., D.E., Koch, R.D., Owen, J.M.S. Hutchinson, and C.B. Jonsson. 2006. Land cover associated with hantavirus presence in Paraguay. *Global Ecology and Biogeography* 15:519-527.
- Goodin, D.G., J. Gao, J.M.S. Hutchinson. 2004. Seasonal, topographic, and burn frequency effects on biophysical/spectral reflectance relationships in tallgrass prairie. *International Journal of Remote Sensing* 25(23):5429-5445.
- Hutchinson, J.M.S., J.A. Harrington, Jr., and L.J. Marzen. 2004. Geospatial Contributions to Watershed-Scale Surface Water Quality Modeling. In D.G. Janelle, B. Warf, and K. Hanson, eds. *World Minds: Geographical Perspectives on 100 Problems*, 556-570. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Hutchinson, J.M.S., N.J. Leathers, J. Herynk, L.R. Campbell, and J.C. Reese. 2003. Agricultural plant pathogen disease pathways: Predicting the dispersal of exotic soybean aphids. *Papers and Proceedings of the Applied Geography Conference* 26:471-478.
- Brown, T.L., J.M.S. Hutchinson, J.A. Harrington, Jr., and M. Lu. 2003. Classification of natural characteristics and anthropogenic stressors in Kansas watersheds. *Papers and Proceedings of the Applied Geography Conference* 26:416-423.
- Hutchinson, J.M.S. 2003. Estimating near surface soil moisture using active microwave satellite imagery and optical sensor inputs. *Transactions of the American Society of Agricultural Engineers* 46(2):225-236.

Selected Extramural Grants and Contracts

Hutchinson, J.M.S. 2009. Kansas Forest Service State Assessment and Resource Strategy. Kansas Forest Service, \$45,521.

- Hutchinson, S.L. and J.M.S. Hutchinson. 2008. Fort Riley Range and Training Land Assessment Program. Fort Riley Integrated Training Area Management Program and U.S. Geological Survey, \$1,200,000.
- Hutchinson, J.M.S., K.A. Garrett, and C. Scoglio. 2008. Applying Landscape Connectivity to Model the Spread of Plant Pathogens. USDA-APHIS-PPQ-CPHST, \$64,176.
- Atchison, Robert and J.M.S. Hutchinson. 2008. Conserving, Renovating, and Establishing Working Field Windbreaks. U.S. Forest Service Western Competitive Grant Program, \$78,202.
- Hutchinson, S.L. and J.M.S. Hutchinson. 2007. Validating the Kinematic Wave Approach for Rapid Soil Erosion Assessment and Improved BMP Site Selection to Enhance Training Land Sustainability. Environmental Science and Technology Certification Program (ESTCP), \$676,431.
- Harrington, J.A., Jr., J.M.S. Hutchinson, and R.A. Marston. 2006. Global GIS Place-Based Field Research in the Antilles. American Geographical Society and Radiance Technologies, \$76,716
- Harrington, J.A., D.G. Goodin, and J.M.S. Hutchinson. 2006. Improving the Research Experience for Geographic Information Science Students. NASA in Kansas Space Grant, \$54,750.
- Hutchinson, S.L. and J.M.S. Hutchinson. 2005. Fort Riley Range and Training Land Assessment Program. Fort Riley Integrated Training Area Management Program and U.S. Geological Survey, \$1,200,000.
- Hutchinson, J.M.S. 2005. Kansas Forest Stewardship Assessment (SAP) Program. Kansas Forest Service, \$13,750.
- Hutchinson, J.M.S., J.A. Harrington, Jr. 2005. Geospatial Technology Infrastructure Enhancement Program – Phase II. Kansas State University Targeted Excellence Program, \$550,000.
- Hutchinson, J.M.S., J.A. Harrington, Jr. 2004. Geospatial Technology Infrastructure Enhancement Program. Kansas State University Targeted Excellence Program, \$330,000.
- Jonsson, C.B., L. Allen, Y. Chu, R. Owens, D.G. Goodin, J.M.S. Hutchinson, E. Pontelli, D. Ranjan, S. Tran, M. Almiron. 2003. The Impact of Rapid Anthropogenic Land Cover Change in the Chaco and Interior Atlantic Forest in Paraguay on Hantavirus Ecology. National Institutes of Health, \$1,857,996.
- Hutchinson, J.M.S. 2003. Vegetation Mapping of National Parks in the Southwestern United States. U.S. Dept. of Interior National Park Service, \$117,000.
- Steichen, J., S.L. Hutchinson, P. Barnes, J.M.S. Hutchinson, D. Althoff, J. Oviatt, N. Zhang. 2003. Assessing the Impact of Maneuver Training on NPS Pollution and Water Quality. Strategic Environmental Research and Development Program (SERDP), \$1,217,512.

Selected Papers and Posters Presented at Scientific Meetings (Partial List from Last 3 Years)

- Identifying and Assessing Windbreaks in Ford County, Kansas using Object-based Image Analysis. March 2009. Annual Meeting of the Association of American Geographers; Las Vegas, NV (M. Dulin, J.M.S. Hutchinson, and R. Atchison).
- Connectivity of the American Agricultural Landscape: Applying Graph Theory to Assess the National Risk of Crop Pest and Disease Spread. August 2008. Ecological Society of America Annual Meeting; Milwaukee, WI (K. Garrett, M. Margosian, J.M. Shawn Hutchinson, and K. With).
- Across the Curriculum: The GIScience Development Strategy at Kansas State University. August 2008. ESRI International User Conference; San Diego, CA (J.A. Harrington, Jr. and J.M.S. Hutchinson).
- Validating the Kinematic Wave Approach for Rapid Soil Erosion Assessment and Improved BMP Site Selection to Enhance Training Land Sustainability. December 2007. SERDP and ESTCP Partners in Environmental Technology Technical Symposium & Workshop; Washington, DC (S.L. Hutchinson and J.M.S. Hutchinson).
- Kansas Forest Stewardship Program: Spatial Analysis Project. June 2007. ESRI International User Conference; San Diego, CA (M. Dulin and J.M.S. Hutchinson).

Honors

- Team Member, ESRI Special Achievement in GIS (SAG) Award; 2005
- New Faculty Fellow, College of Arts & Sciences, Kansas State University; 2003.
- NASA Earth System Science Fellowship, Kansas State University; 1997-2000.
- Department of Defense Environmental Fellowship, Kansas State University; 1995-1997.
- Cum laude and Distinguished Military Graduate, Colorado State University; 1990.

Selected Professional Activities

- Delegate, University Consortium for Geographic Information Science (UCGIS); 2004-Present.
- Director, Graduate Certificate in GIScience Program, Kansas State University; 2002-Present.
- Director, Undergraduate Certificate in GIS, Kansas State University, 2005-Present.
- Member, AAG Student Awards and Scholarships Committee, 2007-Present.

Graduate Advisees

- J. Aber (PhD, in progress), W. Bretkreutz (MA, 2006), T. Brown (MA, 2004), T. Davis (MA, 2005), M. Dulin (MA, 2009), Z. Eddy (MA, in progress), K. Franke (MA, in progress), B. Stansberry (MA, 2005), T. Vought (MA, 2006; PhD, in progress)