

CURRICULUM VITAE

July, 17

DANIEL G. BROWN

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Education

Ph.D., Geography, University of North Carolina at Chapel Hill, 1992
M.A., Geography, University of North Carolina at Chapel Hill, 1989
B.A., *Summa cum Laude*, Geoenvironmental Studies, Shippensburg University, PA, 1987

Positions Held

Interim Dean, School of Natural Resources and Environment (SNRE), Univ. of Michigan, 2015 - 2017
Associate Dean for Research, SNRE, University of Michigan, 2006 - 2009
Field of Study Coordinator, Environment Informatics, SNRE, University of Michigan, 2005 - 2015
Director, Certificate of Graduate Studies in Spatial Analysis, University of Michigan, 2000 - present
Research Professor, Survey Research Center, Inst. for Social Research, Univ. Michigan, 2010 - present
Faculty Affiliate: Prog. in the Environment; Centers for Sustainable Systems, Complex Systems, African Studies, Russian and E. European Studies, Population Studies; Graham Sustainability Institute; Inst. for Computational Discovery and Engin.
Associate Professor (1999-2006) to Full Professor (2006-present), SNRE, University of Michigan
Assistant (1992-1998) to Associate Professor (1998-1999), Dept. of Geography, Michigan State Univ.

Scientific Leadership and Service

Member: National Research Council (NRC), Mapping Sciences Committee, 2014-2018.
Chair: U.S. Carbon Cycle Scientific Steering Group, US Global Change Research Program, 2013-2015
Chair, National Research Council (NRC) Committee, "Needs and Research Requirements for Land-Change Modeling," Board on Earth Sciences and Resources, 2011-2012
Convening Lead Author: National Climate Assessment, Chapter "Land Use and Land Cover Change," US Global Change Research Program, 2011-2012.
Chair, Land-Use/Cover Change Steering Group, US Global Change Research Program, 2004-2010
Board of Directors, University Consortium for Geographic Information Science, 2007-2008.
Awards Committee Member (2000-2005), Program Chair (1997-98), Director (1993-1996): Remote Sensing Specialty Group of the AAG.
Chair (and executive committee member): GIS Specialty Group of the AAG, 1998-2001.

Selected Honors/Awards

Brown Day Lecturer, University of Minnesota (2016)
Anderson Lecturer, University of Florida (2011)
Elected Fellow, American Association for the Advancement of Science (2009)
Robinson Lecturer, The Ohio State University (2010)
Laureate Computerworld Honors Program (2001)
ASPRS ESRI Award for Best Scientific Paper in GIS, Third Prize (1995)
ASPRS ERDAS Award Best Scientific Paper in Remote Sensing, Third Prize (1995)
NASA Graduate Student Fellowship in Global Change Research (1991-92)

Research Interests

Research focuses on land-use change and its effects on ecosystem services and on human livelihoods. This work connects computer-based simulation (e.g., agent-based modeling) of land-use-change processes with GIS, remote sensing, and social data. I am working to understand how land-use decisions are made and the consequences of change in the USA, China, Mongolia, and Africa. I also collaborate to understand social and environmental contributors to human health outcomes and disparities.

RESEARCH AND SCHOLARLY ACTIVITIES

Peer-Reviewed Journal Articles

(Advisees)

1. In Review, Robinson, D.T., Di Vittorio, A., Alexander, P., Arneith, A., Barton, C.M., Brown, D.G., Kettner, A., Lemmen, C., O'Neill, B.C., Janssen, M., Pugh, T.A.M., Rabin, S.S., Rounsevell, M., Syvitski, J.P., Ullah, I., and Verburg, P.H. Modelling feedbacks between human and natural processes in the land system. Submitted to *Earth System Dynamics*.
2. In Review, Xu, H., Brown, D.G., Moore, M.R., and Currie, W.C. Optimizing spatial land management to balance water quality and economic returns in a Lake Erie watershed. Submitted to *Ecological Economics*.
3. In Press, Xu, H. and Brown, D.G. Sensitivity of a stochastic land-cover-change model to pixel versus polygonal land units. *International Journal of Geographical Information Science*. doi: 10.1080/13658816.2016.1231316
4. 2017. Allington, G.R.H., Li, W., and Brown, D.G. Urbanization and environmental policy effects on the future availability of grazing resources on the Mongolian Plateau: Modeling socio-environmental system dynamics. *Environmental Science and Policy*, 68: 35-46.
5. 2016. Gutmann, M.P., Brown, D., Cunningham, A.R., Dykes, J., Leonard, S.H., Little, J., Mikecz, J., Rhode, P.W., Spielman, S., and Sylvester, K.M. Migration in the 1930s: Beyond the dust bowl. *Social Science History*, 40: 707-740.
6. 2016. Tian, Q., Holland, J.H., Brown, D.G. Social and economic impacts of subsidy policies on rural development in the Poyang Lake Region, China: insights from an agent-based model. *Agricultural Systems*, 148:12-27. doi: 10.1016/j.agsy.2016.06.005
7. 2016. Rosa, I.M.D., Pontius, R.G., Bradley, A.V., Brown, D.G., Brandão, A., Câmara, G., Carnerio, T.G.S., Hartley, A., Smith, M.J., Ewers, R.M. SimiVal, a multi-criteria map comparison tool for land-change model projections. *Environmental Modelling and Software*, 82:229-240. doi: 10.1016/j.envsoft.2016.04.016
8. 2016. van Vliet, J., Bregt, A.K., Brown, D.G., van Delden, H., Heckbert, S., and Verburg, P.H. A review of current calibration and validation practices in land-change modeling. *Environmental Modelling and Software*, 82:174-182. doi: 10.1016/j.envsoft.2016.04.017
9. 2016. Gonzalez, A., Cardinale, B.J., Byrnes, J., Isbell, F., Allington, G.R.H., Brown, D.G., Endsley, K.A., Loreau, M., O'Connor, M., and Hooper, D.U. Estimating local biodiversity change: A critique of papers claiming no net loss of local diversity. *Ecology*, 8:1949-1960. doi: 10.1890/15-1759.1
10. 2016. Currie, W.S., Kiger, S., Nassauer, J.I., Hutchins, M., Marshall, L.L., Brown, D.G., Riolo, R.L., and Robinson, D.T. Multi-scale heterogeneity in vegetation and soil carbon in exurban residential land in Southeastern Michigan. *Ecological Applications*, 26(5):1421-1436. doi: 10.1890/15-0817
11. 2016. Taylor, J.J., Lepczyk, C.A., and Brown, D.G. Patch and matrix level influences on forest birds at the rural-urban interface. *Landscape Ecology*, 31(5):1005-1020. doi: 10.1007/s10980-015-0310-5
12. 2015. Chen, J., John, R., Shao, C., Fan, Y., Zhang, Y., Amarjargal, A., Brown, D.G., Qi, J., Han, J., Laforteza, R., and Dong, G. Policy shifts influence the functional changes of the CNH systems on the Mongolian Plateau. *Environmental Research Letters*, 10: 085003. doi: 10.1088/1748-9326/10/8/085003

13. 2015. Sylvester, K.M., Gutmann, M., and Brown, D.G. At the margins: Agriculture, subsidies, and the shifting fate of North America's Native Grassland. *Population and Environment*, 37(3): 362-390. doi:10.1007/s11111-015-0242-7
14. 2015. Tian, Q., Brown, D.G., Zheng, L., Qi, S., Liu, Y., and Jiang, L. The role of cross-scale social and environmental contexts in household-level land-use decisions, Poyang Lake Region of China. *Annals of the Association of American Geographers*, 105(6): 1240-1259. doi:10.1080/00045608.2015.1060921
15. 2015. Tian, Q., Brown, D.G., Bao, S., and Qi, S. Assessing and mapping human well-being for sustainable development amid flood hazards: Poyang Lake Region of China. *Applied Geography*, 63: 66-76. doi:10.1016/j.apgeog.2015.06.007
16. 2015. Chen, J., John, R., Zhang, Y., Shao, C., Brown, D.G., Batkhishig, O. Amarjargal, A., Ouyang, Z., Dong, G., Wang, D., and Qi, J. Divergences of two coupled human and natural systems on the Mongolian Plateau. *Bioscience*, 65(6): 559-570. doi: 10.1093/biosci/biv050
17. 2015. Rivera-Gonzalez, L.O., Zhang, Z. Sanchez, B.N., Zhang, K., Brown, D.G., Rojas-Bracho, L., Osornio-Vargas, A., Vadilla-Ortega, F., O'Neill, M.S. An assessment of air pollutant exposure methods in Mexico City, Mexico. *Journal of the Air & Waste Management Association*. 65(5): 581-591. doi: 10.1080/10962247.2015.1020974
18. 2015. Yang, Y., Auchincloss, A., Rodriguez, D., Brown, D.G., Riolo, R., and Diez-Roux, A.V. Modeling spatial segregation and travel cost influences on utilitarian walking: Towards policy intervention. *Computers Environment and Urban Systems*, 51: 59-69. doi:10.1016/j.compenvurbsys.2015.01.007
19. 2015. Braden, J.B., Brown, D.G., Maidment, D.R., and Marquart-Pyatt, S.T. Populating the water world: Exploring data aspirations of water experts. *Society and Natural Resources*, 28(4): 439-451 doi: 10.1080/08941920.2014.945060
20. 2015. Wilson, C.R., Brown, D.G. Changes in visible impervious surface area in Southeastern Michigan before and after the "Great Recession:" Spatial differentiation in remotely sensed land-cover dynamics. *Population and Environment*, 36(3): 331-355. doi:10.1007/s11111-014-0219-y
21. 2015. Sylvester, K.M., Brown, D.G., Leonard, S.H., Merchant, E., and Hutchins, M. Exploring agent-level calculations of risk and returns in relation to observed land-use changes in the US Great Plains, 1870-1940. *Regional Environmental Change*, 15(2): 301-315. doi:10.1007/s10113-014-0628-6; PMID: PMC4340090
22. 2014. Wang, J., Brown, D.G., Bai, Y. Investigating the spectral and ecological characteristics of grassland communities across an ecological gradient of Inner Mongolian grasslands with in situ hyperspectral data. *International Journal of Remote Sensing*, 35(20): 7179-7198. doi: 10.1080/01431161.2014.967885
23. 2014. Sha, Z., Brown, D.G., Xie, Y. Welsh, W.F., and Bai, Y. Response of spectral vegetation indices to a stocking rate experiment in Inner Mongolia, China. *Remote Sensing Letters*, 5(10): 912-921. doi: 10.1080/2150704X.2014.976882
24. 2014, Visscher, R.S., Nassauer, J.I., Brown, D.G., Currie, W.S., and Parker, D.C. Exurban residential household behaviors and values: Influence of parcel size and neighbors on carbon storage potential. *Landscape and Urban Planning*, 132: 37-46. doi: 10.1016/j.landurbplan.2014.08.004
25. 2014. Magliocca, N.R., Brown, D.G., McConnell, V., Nassauer, J.I., and Westbrook, S.E. Effects of alternative developer decision-making models on the production of ecological subdivision designs:

- Experimental results from an agent-based model. *Environment and Planning B*, 41(5):907-927. doi:10.1068/b130118p
26. 2014. Nassauer, J. I., Cooper, D.A.; Marshall, L.L.; Currie, W.S.; Hutchins, M.; Brown, D.G. Parcel size related to household behaviors affecting carbon storage in exurban residential landscapes. *Landscape and Urban Planning*, 129: 55-64. doi: 10.1016/j.landurbplan.2014.05.007
 27. 2014. Sun, S., Parker, D.C., Huang, Q., Filatova, T., Robinson, D.T., Riolo, R.L., Hutchins, M., and Brown, D.G. Market impacts on land-use change: An agent-based experiment. *Annals of the Association of American Geographers*, 104(3): 460-484. doi:10.1080/00045608.2014.892338
 28. 2014, Kahan, A.Y., Currie, W.S., and Brown, D.G. Nitrogen and carbon biogeochemistry in forest sites along an indirect urban-rural gradient in Southeastern Michigan. *Forests*. 5(4):643-665. doi:10.3390/f5040643
 29. 2014. Magliocca, N.R., Brown, D.G., and Ellis, E.C. Cross-site comparison of land-use decision-making across land system with a virtual agent-based laboratory. *PLoS One.*, 9(1):e86179. doi:10.1371/journal.pone.0086179; PMID:PMC3906050
 30. 2014, Vadillo-Ortega, F., Osornio-Vargas, A., Buxton, M.A., Sanchez, B.N., Rojas-Bracho, L., Viveros-Alcaraz, M., Castillo-Castrejon, M., Beltran-Montoya, J., Brown, D.G., and O'Neill, M.S. Air pollution, inflammation and pre-term birth: A potential mechanistic link. *Medical Hypotheses*, 82:219-224. doi:j.mehy.2013.11.042; PMID: PMC3928635
 31. 2014. Rounsevell, M.D.A., Arneth A., Alexander, P., Brown, D.G., de Noblet-Ducoudre, N., Ellis, E., Finnigan, J., Galvin, K., Grigg, N., Harman, I., Lennox, J., Magliocca, N., Parker, D., O'Neill, B.C., Verburg, P.H., and Young, O. Towards decision-based global land use models for improved understanding of the Earth system. *Earth System Dynamics*, 5: 117-137. doi:10.5194/esd-5-117-2014
 32. 2013. Wang, J., Brown, D.G., and Hammerling, D. Geostatistical inverse modeling for super-resolution mapping of continuous spatial processes. *Remote Sensing of Environment*, 139: 205-215. doi:10.1016/j.rse.2013.08.007
 33. 2013. Wang, J., Brown, D.G., and Agrawal, A. Climate adaptation, local institutions, and rural livelihoods: A comparative study of herder communities in Mongolia and Inner Mongolia, China. *Global Environmental Change*, 23(6): 1673-1683. doi:10.1016/j.gloenvcha.2013.08.014
 34. 2013. Wang, N., Brown, D.G., An, L., Yang, S., and Ligmann-Zielinska, A. Comparative performance of logistic regression and survival analysis for detecting spatial predictors of land-use change. *International Journal of Geographical Information Science*, 27(10): 1960-1982. doi:10.1080/13658816.2013.779377
 35. 2013. Li, S., Xie, Y., Brown, D.G., Bai, Y., Judd, K. Spatial variability of the adaptation of grassland vegetation to climatic change in Inner Mongolia of China. *Applied Geography*, 43:1-12. doi:10.1016/j.apgeog.2013.05.008
 36. 2013. Wang, J., Brown, D.G., Riolo, R.L., Page, S.E., and Agrawal, A. Exploratory analyses of local institutions for climate change adaptation in the Mongolian grasslands: An agent-based modeling approach. *Global Environmental Change*, 23: 1266-1276. doi:10.1016/j.gloenvcha.2013.07.017
 37. 2013. Brown, D.G., Agrawal, A., Sass, D.A., Wang, J., Hua, J., Xie, Y. Social responses to climate risks and opportunities across national and ecological boundaries: Changing household strategies on the Mongolian Plateau. *Environmental Research Letters*, 8: 045011. doi:10.1088/1748-9326/8/4/045011; PMID: PMC4047987

38. 2013. Brown, D.G., Verburg, P.H., Pontius, R.G., and Lange, M.D. Opportunities to improve impact, integration, and evaluation of land change models. *Current Opinion on Environmental Sustainability*, 5(5):452-457. doi:10.1016/j.cosust.2013.07.012
39. 2013. Magliocca, N.R., Brown, D.G. Ellis, E.C., Exploring agricultural livelihood transitions with an agent-based virtual laboratory: Global forests to local decision-making. *PLoS One*. 8(9): e73241. doi:10.1371/journal.pone.0073241; PMID: PMC3764159
40. 2013. White-Newsome, J.L., Brines, S.J., Brown, D.G., Dvonch, J.T., Gronlund, C.J., Zhang, K., Oswald, E.M., and O'Neill, M.S. Validating satellite-derived land surface temperature with in-situ measurements: a public health perspective. *Environmental Health Perspectives*, 121:925-931. doi:10.1289/ehp.1206176; PMID: PMC3734495
41. 2013. Wang, J., Brown, D.G., and Chen, J. Drivers of the dynamics in net primary productivity across agro-ecological zone on the Mongolian Plateau. *Landscape Ecology*, 28(4):725-739. doi:10.1007/s10980-013-9865-1
42. 2013. O'Neill, M.S., Osornio-Vargas, A.R., Buxton, M.A., Sanchez, B.N., Rojas-Bracho, L., Castillo-Castrejon, M., Mordhukovich, I.B., Brown, D.G., and Vadillo-Ortega, F. Air pollution, inflammation and preterm birth in Mexico City: Study design and methods. *Science of the Total Environment*, 448:79-83. doi:10.1016/j.scitotenv.2012.10.079; PMID:PMC3594336
43. 2013. Robinson, D.T., Sun, S., Hutchins, M., Riolo, R.L., Brown, D.G., Parker, D.C., Filatova, T., Currie, W.S., and Kiger, S. Effects of land markets and land management on ecosystem function: A framework for modelling exurban land change. *Environmental Modelling and Software*, 45:129-140. doi:10.1016/j.envsoft.2012.06.016
44. 2013. Sylvester, K.M., Brown, D.G., Deane, G., and Kornak, R. Land transitions in the American Plains: Multilevel modeling of drivers of grassland conversion (1950 to 2000). *Agriculture Ecosystems and Environment*, 168: 7-15. doi:10.1016/j.agee.2013.01.014; PMID: PMC3634617
45. 2013. Agrawal, A., Brown, D.G., Rao, G., Riolo, R.L., Robinson, D.T., Bommarito, M. Interaction between organizations and networks in common-pool resource governance. *Environmental Science and Policy*, 25: 138-146. doi:10.1016/j.envsci.2012.08.004
46. 2012. Oswald, E.M., Rood, R.B., Zhang, K., Gronlund, C.J., O'Neill, M.S., White-Newsome, J., Brines, S.J., Brown, D.G. An investigation into the spatial variability of near surface air temperatures in the Detroit, MI metropolitan area. *Journal of Applied Meteorology and Climatology*, 51(7): 1290-1304. doi:10.1175/JAMC-D-11-0127.1
47. 2012. Zhao, T., Brown, D.G., Fang, H., Theobald, D.M., Liu, T., Zhang, T., Vegetation productivity consequences of human settlement growth in the Eastern United States. *Landscape Ecology*, 27(8): 1149-1165. doi:10.1007/s10980-012-9766-8
48. 2012. Wang, Z., Nassauer, J.I., Marans, R., and Brown, D.G. Different types of open spaces and their importance to exurban homeowners. *Society and Natural Resources*, 25(4): 368-383. doi:10.1080/08941920.2011.571231
49. 2012. Hunter, M.C. and Brown, D.G. Spatial contagion: Gardening along the street in residential neighborhoods. *Landscape and Urban Planning*, 105(4):406-416. doi:10.1016/j.landurbplan.2012.01.013
50. 2012. Yang, Y., Diez-Roux, A.V., Auchincloss, A.H., Rodriguez, D.A., and Brown, D.G. Exploring walking differences by socioeconomic status using a spatial agent-based model. *Health and Place*, 18: 96-99. doi:10.1016/j.healthplace.2011.08.010; PMID: PMC3345574

51. 2012. Bell, A.R., Riolo, R.L., Doremus, J., Brown, D.G., Lyon, T.P., Vandermeer, J., and Agrawal, A. Fragmenting forests: The double edge of effective forest monitoring. *Environmental Science and Policy*, 16:20-30. doi:10.1016/j.envsci.2011.11.005
52. 2012. Cheong, S., Brown, D.G., Lopez-Carr, D., and Kok, K. Mixed methods in land-change research: Towards integration. *Transactions of the Institute of British Geographers*, 37(1):8-12. doi: 10.1111/j.1475-5661.2011.00482.x
53. 2011. Zhang, K., Oswald, E.M., Brown, D.G., Brines, S.J., Gronlund, C.J., White-Newsome, J.L., Rood, R.B., and O'Neill, M.S. Geostatistical exploration of spatial variation of summertime temperatures in the Detroit metropolitan region. *Environmental Research*, 111(8): 1046-1053. doi:10.1016/j.envres.2011.08.012
54. 2011. Bush, K.F., Luber, G., Rani Kotha, S., Dhaliwal, R.S., Kapil, V., Pascual, M., Brown, D.G., Frumkin, H., Dhiman, R.S., Hess, J., Wilson, M.L., Balakrishnan, K., Eisenberg, J., Kaur, T., Rood, R., Batterman, S., Joseph, A., Gronlund, C.J., Agrawal, A., and Hu, H. Impacts of climate change on public health in India: Future Research Directions. *Environmental Health Perspectives*, 119(6): 765-770. doi:10.1289/ehp.1003000; PMID: PMC3114809
55. 2011. Smajgl, A., Brown, D.G., Valbuena, D., and Huigen, M.G.A. Empirical characterisation of agent behaviours in socio-ecological systems. *Environmental Modelling and Software*, 26(7):837-844. doi:10.1016/j.envsoft.2011.02.011
56. 2011. An, L., Brown, D.G., Nassauer, J.I., and Low, B. Variations in development of exurban residential landscapes: Timing, location, and driving forces. *Journal of Land Use Science*, 6(1): 13-32. doi: 10.1080/1747423X.2010.500686
57. 2011. Yang, Y., Diez-Roux, A.V., Auchincloss, A.H., Rodriguez, D.A., and Brown, D.G. A spatial agent-based model for the simulation of adults' daily walking within a city. *American Journal of Preventive Medicine*, 40(3): 353-361. doi:10.1016/j.amepre.2010.11.017; PMID:PMC3306662
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60. 2010. Zellner, M.L., Riolo, R.L., Rand, W., Brown, D.G., Page, S.E., and Fernandez, L.E. The problem with zoning: Nonlinear effects of interactions between location preferences and externalities on land use and utility. *Environment and Planning B*, 37: 408-428. doi:10.1068/b35053
61. 2010. Smiley, M.J., Diez Roux, A.V., Brines, S.J., Brown, D.G., Evenson, K.R., and Rodriguez, D.A. A spatial analysis of health-related resources of three diverse metropolitan areas. *Health and Place*, 16: 885-892. doi:10.1016/j.healthplace.2010.04.014; PMID: PMC3297427
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67. 2009. Reid, C.E., O'Neill, M.S., Gronlund, C., Brines, S.J., Brown, D.G., Diez-Roux, A.V., and Schwartz, J. Mapping community determinants of heat vulnerability. *Environmental Health Perspectives*, 117(11): 1730-1736. doi:10.1289/ehp.0900683; PMID: PMC2801183
68. 2009. Braden, J.B., Brown, D.G., Dozier, J., Gober, P., Hughes, S.M., Maidment, D.R., Schneider, S.L., Schultz, P.W., Shortle, J.S., Swallow, S.K., and Werner, C.M. Social science in a water observing system. *Water Resources Research*, 45: W11301. doi:10.1029/2009WR008216
69. 2009. Zhao, T., Bergen, K.M., Brown, D.G., Shugart, H.H., Kharuk, V. Scale dependence in quantification of land-cover and biomass change over Siberian boreal forest landscapes. *Landscape Ecology*, 24(10): 1299-1313. doi:10.1007/s10980-009-9379-z
70. 2009. Robinson, D.T., and Brown, D.G. Evaluating the effects of land-use development policies on ex-urban forest cover: An integrated agent-based GIS approach. *International Journal of Geographical Information Science*, 23(9): 1211-1232. doi:10.1080/13658810802344101
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74. 2009. Peterson, L., Bergen, K.M., Brown, D.G., Vaschuk, L. and Blam, Y. Forested land-cover patterns and trends over changing forest management eras in the Siberian Baikal Region. *Forest Ecology and Management*, 257: 911-922. doi:10.1016/j.foreco.2008.10.037
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76. 2008. An, L., and Brown, D.G. Survival analysis in land-change science: Integrating with GIScience to address temporal complexities. *Annals of the Association of American Geographers*, 98(2): 323-344. doi:10.1080/00045600701879045
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176. 1994. Walsh, S.J., Brown, D.G., Bian, L., and Allen, T.R. Effects of spatial scale on data certainty: an assessment through data dependency and sensitivity analyses. In R.G. Congalton, Ed., *Proceedings*, International Symposium on Spatial Accuracy of Natural Resource Data Bases, Williamsburg, VA., Bethesda, MD: American Society for Photogrammetry and Remote Sensing: 151-160.
177. 1993. Brown, D.G. and Walsh, S.J. Spatial Autocorrelation in Remotely Sensed and GIS Data. *Proceedings*, 1993 ACSM/ASPRS Annual Convention, New Orleans, LA, 3: 31-39.
178. 1991. Brown, D.G. Topoclimatic models of an alpine environment using digital elevation models within a GIS. *Proceedings*, GIS/LIS '91 Conference, Atlanta, GA, 2: 835-844.
179. 1991. Walsh, S.J., Bian, L., and Brown, D.G. Issues of spatial dependency for surface representation through remote sensing and GIS. *The Integration of Remote Sensing and Geographic Information Systems*, Proceedings Special session at the 1991 ACSM/ASPRS Annual Convention, Baltimore, MD: 175-183.
180. 1990. Brown, D.G. Impacts of remote sensing spatial resolution on the assessment of non-point source water pollution integrated through a watershed response model and a GIS. *Papers and Proceedings of the Applied Geography Conferences*, 13: 1-9.
181. 1990. Walsh, S.J., Brown, D.G., and Bian, L. Comparison of Landsat Thematic Mapper digital enhancements of snow-avalanche paths: validation through GIS/remote sensing integration. *Proceedings*, International Geoscience and Remote Sensing Symposium, College Park, MD, 2: 1161-1164.

Edited Volumes and Special Issues

1. 2013. Brown, D.G., Robinson, D.T., Reed, B., French, N.H.H., eds. *Land Use and the Carbon Cycle: Advances in Integrated Science, Management and Policy*. Cambridge University Press. ISBN: 9781107011243.
2. 2008. Walsh, S.J., Messina, J.P., and Brown, D.G. (eds.) Mapping & Modeling Land-Use/Land-Cover Dynamics in Frontier Settings. Special Issue. *Photogrammetric Engineering and Remote Sensing*, 74(6): 677-679.

3. 2007. Xie, Y. and Brown, D.G. (eds.) Simulation for Spatial Analysis and Application. Special Issue. *Computers, Environment and Urban Systems*, 31(3): 229-231.
4. 2006. Brown D.G. and Xie, Y. (eds.) Spatial Agent-Based Modeling. Special Issue. *International Journal of Geographical Information Science*, 20(9): 941-944.
5. 2005. Hansen, A.J. and Brown, D.G. (eds.) Land-Use Change in Rural America: Rates, Drivers, and Consequences. Invited Feature. *Ecological Applications*, 15(6): 1849-1850.
6. 2001. Brown, D.G. (ed.) Remote Sensing and Spatial Analysis Applications. Special Issue. *Plant Ecology*, 156(1).
7. 1997. Brown, D.G. and Quattrochi, D.A (eds.). Geographical Applications of Satellite Remote Sensing. Special Issue. *Geocarto International*, 12(1).

Science and Policy Reports

1. 2016. Liao, C., Jung, S., Brown, D., and Agrawal, A. Letter: Insufficient research on land grabbing, *Science*, 353(6295):131. doi: 10.1126/science.aaf6565
2. 2015. McKinley, G.A., C.A. Carlson, A. Andrews, D.G. Brown, P. Romero-Lankao, and G. Shrestha. Managing the carbon cycle requires strong science, *EOS*, 96, doi:10.1029/2015EO040161. Published on 25 November 2015.
3. 2015. Brown, D.G., Delgado, A., Moss, R., and Sedano, F. *Need and Options for Subnational Scale Land-Use and Land-Cover Scenarios for the United States*. Workshop Report for the U.S. Global Change Research Program. <http://www.globalchange.gov/browse/reports/need-and-options-subnational-scale-land-use-and-land-cover-scenarios-united-states>
4. 2014. Brown, D. G., Polsky, C., Bolstad, P., Brody, S.D., Hulse, D., Kroh, R., Loveland, T.R. and Thomson, A., 2014: Ch. 13: Land Use and Land Cover Change. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, T.C. Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 9-1–9-nn.
5. 2014. National Research Council. *Advancing Land Change Modeling: Opportunities and Research Requirements*. Authored by Committee on Needs and Requirements for Land-Change Modeling (D.G. Brown, Chair), Board on Earth Sciences and Resources, National Academies Press: Washington, D.C., 152 pp.
6. 2012. Rounsevell, M.D.A. Arneth, A., Brown, D.G., de Noblet-Ducoudré, N., Ellis, E., Finnigan, J., Galvin, K., Grigg, N., Harman, I., Lennox, J., Magliocca, N., Parker, D., O'Neil, B., Verburg, P.H. and Young, O. Incorporating human behaviour and decision making processes in land use and climate system models. GLP Report No. 7. São José dos Campos, Brazil: GLP-IPO.
7. 2008. Bierbaum, R., Brown, D.G., and McAlpine, J. (eds.) *Proceedings, Coping with Climate Change: National Summit*. Ann Arbor, MI: The Regents of the University of Michigan.
8. 2007. *Earth Science and Applications from Space: A Community Assessment and Strategy for the Future*. Authored with input from committee on Human Health and Security (D.G. Brown, member), Space Studies Board, Washington, D.C.: National Academies Press.
9. 2005. National Science Foundation, Environmental Research and Education. Meeting Report. *Understanding and Harnessing Complexity in the Environment: 2005 Biocomplexity in the Environment Awardees Meeting*. Arlington, VA: National Science Foundation.

10. 2004. Potts, R., Gustafson, E., Stewart, S., Thompson, F.R., Bergen, K., Brown, D.G., Hammer, R., Radloff, V., Bengston, D., Sauer, J., and Sturtevant, B. The Changing Midwest Assessment: Land Cover, Natural Resources, and People. Gen. Tech. Rep. NC-250. St. Paul, MN: U.S.D.A., Forest Service, North Central Research Station, 87 p.
11. 2000. Brown, D. G. and Burris Barno, S. Land Ecology Sector Report. In: P. Sousounis and G. Albercook, Eds., *Climate Change in the Upper Great Lakes Region: A Workshop Report*. Ann Arbor, MI: Atmospheric, Oceanic, and Space Sciences Department, University of Michigan.

Other Publications

12. 2011. Brown, D.G. Spatial Land Use Change and Ecological Effects at the Rural-Urban Interface – SLUCE. *GLP News No. 7*. Global Land Project, Copenhagen, Denmark.
13. 2009. Dan Brown, Spatial Modeler. In Longley, P.A., Goodchild, M.F., Maguire, D.J. and Rhind, D.W. *Geographic Information Systems and Science*, 2nd Edition. New York: John Wiley and Sons.
14. 2008. Brown, D.G. Simulation. Invited encyclopedia entry in *Encyclopedia of Geographic Information Science*. Thousand Oaks, CA: Sage Publications.
15. 2006. Brown, D.G. Path dependence and the validation of agent-based spatial models of land-use. Text Box in Verburg, P., Kok, K., Pontius, R.G., and Veldkamp, A. Chapter 5: Modelling of Land Use and Land Cover Changes. In: E. Lambin, H. Geist, eds., *Land Use and Land Cover Change: Local Processes, Global Impacts*. New York: Springer, p. 130.
16. 2006. Brown, D.G. Agent-based models. Invited encyclopedia entry in H. Geist, Ed. *The Earth's Changing Land: An Encyclopedia of Land-Use and Land-Cover Change*. Westport CT: Greenwood Publishing Group, pp. 7-13.
17. 2006. Brown, D.G. Auto-correlation. Invited encyclopedia entry in H. Geist, Ed. *The Earth's Changing Land: An Encyclopedia of Land-Use and Land-Cover Change*. Westport CT: Greenwood Publishing Group, p. 58.
18. 2001. Brown, D.G. and Duh, J.-D. Reply. *Journal of Environmental Management*, 62(2): 233-236.
19. 2000. Brown, D. G., K. V. Walker, M. B. Davis, S. Sugita, and J. D. Lindeberg. Land ecology. Pages 55-64 in P. Sousounis and J. Bisanz, eds. *Preparing for a Changing Climate: The Potential Consequences of Climate Variability and Change*. Report for the U.S. Global Change Research Program. Univ. Michigan, Ann Arbor.
20. 2000. Brown, D.G. Image and spatial analysis software tools for foresters. *Journal of Forestry*, 98(6): 53-57.
21. 2000. K.M. Bergen, Brown, D., Olson, C.E. and Lillesand, T. Profiles in curricula: Remote sensing at the University of Michigan-Ann Arbor and University of Wisconsin-Madison *Journal of Forestry*, 98(4):32-33.
22. 1996. Brown, D.G., Olson, J.M., Campbell, D.J., and Berry, L. A hierarchical approach to the integration of social and physical data sets: The Rwanda Society-Environment Project. *Human Dimensions Quarterly*, 4(1): 14-17. (invited)

Keynote Addresses

1. 2016. "Modeling land-change processes and patterns." Invited keynote address for GeolInfo 2016, XVII Brazilian Symposium on Geoinformatics. Campos do Jordão, Brazil, Nov. 2016.

2. 2014. "Land-use scenarios, models, and simulations contribute to our understanding of global change and its impacts." Invited keynote address at the Geo-Informatics in Resource Management & Sustainable Ecosystem Conference. Ypsilanti, MI, Oct. 2014.
3. 2013. "Sustainable land use systems: Complex or just complicated." Invited keynote address at the European Conference on Complex Systems, ECCS '13, Barcelona, Spain, Sept. 2013.
4. 2009. "Land use and land cover dynamics." Invited keynote address for workshop Topics on the Integration of Remote Sensing Imagery and Geoprocessing, 14th SBSR Brazilian Remote Sensing Symposium, Natal, Brazil.
5. 2008. "From map algebra to agent algebra: Incorporating process into geocomputation." Invited keynote address for workshop on Temporal GIS: the past 20 years and the next 20 years, held in conjunction with the GIScience 2008 conference, Park City, UT.
6. 2007. "Geospatial methods for characterizing land-use and land-cover dynamics from remote sensing." Keynote address at Framing Land Use Dynamics II conference, Utrecht, The Netherlands.
7. 2006. "Agent-based modeling of exurban land-change scenarios." Keynote presentation at GRoWE Symposium III: Agent-Based Modeling of Spatially Distributed Systems. Consortium for Global Research on Water-Based Economies (GRoWE), Kansas State University, Manhattan, KS

Workshop Organization and Participation

1. 2014. "Need and Options for Subnational Scale Land-Use and Land-Cover Scenarios for the United States." USGCRP-sponsored workshop. Co-organizer. Rockville, MD, June 2014. Report at: <http://www.globalchange.gov/browse/reports/need-and-options-subnational-scale-land-use-and-land-cover-scenarios-united-states>
2. 2014. "Spatial Land Use Change and Ecological Effects: Land Markets, Land Management, and Land Carbon in Exurban Environments." NSF-sponsored workshop. Organizer. Ann Arbor, MI, May 2014.
3. 2014. "LCLUC Synthesis: Ecosystem-Society Interactions on a Changing Mongolian Plateau." NASA-sponsored workshop. Co-organizer. Ulaan Bataar, Mongolia, June 2014.
4. 2013. "Agent-Based Modeling Framework for Understanding Socio-Ecological Systems." ICIMOD-sponsored workshop. Invited co-organizer and presenter. Hosted by ICIMOD, Kathmandu, Nepal, July, 2013.
5. 2013. "Advances in Geospatial Technologies and National/Homeland Security Implications." US Govt sponsored workshop. Invited presenter. Hosted by Argonne National Lab., Argonne, IL, May, 2013.
6. 2013. "Using Agent-based Models to Project Possibilities for REDD+ Policies." University of Florida sponsored workshop. Invited presenter. Gainesville, FL. April 2013.
7. 2013. "The Challenges of Non-Stationarity, Multi-, and Equi-Finality in Validating Land Change Models." Hosted by Laboratory of Geo-Information Science and Remote Sensing. Invited speaker. Wageningen University. Wageningen, The Netherlands, January 2013.
8. 2012. "Best Practices for Integrating Social Sciences in Sustainability Research and Education." NSF-sponsored workshop hosted by University of Chicago Computation Institute. Invited participant. Chicago, IL, October 2012.
9. 2012. "Agent-Based Modeling of Land Use Change" Workshop on Climate Change Impacts and Integrated Assessment, Energy Modeling Forum, convened by Stanford University in Snowmass, CO, July 2012.

10. 2011. "Linking Models of Human Behavior and Decision Making Processes with Land System Models" sponsored by the Global Land Project (GLP) and convened by CSIRO in Crackenback, Australia, November 2011.
11. 2010. "Landscapes in the 'Anthropocene:' Exploring the Human Connections" NSF-sponsored workshop, invited speaker. Eugene, OR, March 2010.
12. 2010. "Computational Modeling in Socio-Ecological Sciences" sponsored by NSF Dynamics of Coupled Natural and Human Systems program, invited participant, Tempe, AZ, February, 2010.
13. 2009. "Forest Carbon Offsets" sponsored by the President's Council of Advisors on Science and Technology (PCAST), invited speaker, Cambridge, MA, December, 2009.
14. 2009. "Climate Change and Public Health in India" workshop sponsored by CDC and Public Health Foundation of India, invited speaker. Goa, India, September 2009.
15. 2009. "3rd Workshop on Empirical Agent-Based Modeling" CSIRO-sponsored workshop, invited participant. Convened by CSIRO in Cairns, QLD, Australia, July 2009.
16. 2009. "Agent-Based Modeling of Land Markets." SLUCE and GLP-sponsored workshop, invited participant. Hosted by the Macaulay Institute, Aberdeen, Scotland, May, 2009.
17. 2009. "Land-Use and Land-Cover Change and the Carbon Cycle." USDA/USGS-sponsored workshop, co-organizer. Hosted by University of Michigan, Ann Arbor, MI, May, 2009.
18. 2008. "Tough Choices – Land Use Under Climate Change." NSF-DFG sponsored workshop, co-organizer. Convened by US NSF and German DFG, Berlin, Germany, October, 2008.
19. 2008. "The Design of Integrative Models of Natural and Social Systems in Land Change Science." Global Land Project (GLP)-sponsored workshop, invited participant and speaker. Convened by the Macaulay Institute, Aberdeen, Scotland.
20. 2008. "Exploring New and Creative Applications for Analytical Methodologies." U.S. Government-sponsored workshop, invited participant. Hosted by Centra Technology, Inc., Rosslyn, VA.
21. 2008. "Empirical Analysis of Complexity & Network Models." Mini-Workshop at PoliMeth XXV Conference, invited presenter. Society for Political Methodology, Ann Arbor, MI.
22. 2007. "Agent-Based Modeling and Spatial Population Dynamics," NIH-sponsored workshop, invited participant. Convened by the Brookings Institution, Washington, DC
23. 2007. "Poyang Lake Human-Natural Systems," NSF-sponsored planning meeting, co-organizer. Convened by University of Michigan and Jiangxi Normal University, Nanchang, Jiangxi, China.
24. 2007. "International Workshop on Agent-Based Modeling of Complex Spatial Systems," NSF-sponsored workshop, invited participant. Convened by National Center for Geographic Information and Analysis, UCSB, and Centre for Advanced Spatial Analysis, UCL, Santa Barbara, CA.
25. 2007. "Community Modeling Framework for Agent-Based Modeling of Socio-Ecological Systems," NSF-sponsored workshop, invited participant. Convened by Arizona State University, Tempe, AZ.
26. 2006. "Introduction to Spatial Modeling: History, Theory, Concepts," presented with Michael Goodchild and Dawn Parker. Pre-Conference Seminar, ESRI User Conference, San Diego, CA.

27. 2006. "Agent-Based Modeling for Understanding Human-Environment Interactions," organizer and presenter. Two-day workshop presented at School of Geography and Environment, Jiangxi Normal University, Nanchang, China.
28. 2006. "Integration of Socioeconomic and Biophysical Processes in East Africa," NSF-sponsored workshop, invited presenter. Dar Es Salaam, Tanzania.
29. 2006. "Land-Use and Land-Cover Change" NIH-sponsored roadmap workshop, invited participant. East-West Center, Honolulu, HI.
30. 2006. "Land-Use Change and Social Sciences in NEON," NSF-sponsored workshop, invited participant. Harvard Forest, Harvard University, Petersham, MA.
31. 2005. "Symposium on Spatial Modeling," presented with Stephen Walsh, Steven Manson, Dawn Parker, & Tom Evans. Carolina Population Center, IGERT Program, Univ North Carolina, Chapel Hill.
32. 2005. "National Land Cover Change Modeling Workshop," USGS-funded workshop, invited participant, Pingree Park, Colo.
33. 2005. "Introduction to Spatial Modeling: History, Theory, Concepts," presented with Michael Goodchild and Dawn Parker. Pre-Conference Seminar, ESRI User Conference, San Diego, CA.
34. 2003. "Simulation of landscape patterns and processes." Invited presenter. *GIS and Modeling Workshop*. ESRI Campus, Redlands, CA.
35. 2001. "Spatial land-use change and ecological effects: Agent-based modeling and evaluation of alternative policies and interventions." Invited Participant. *CSISS Workshop on Multi-Agent Systems and Land Use and Cover Change (MAS-LUCC)*, Irvine CA.

Other Invited Lectures

1. 2016. Shanghai Jiao-Tong University, Department of Landscape Ecology, Shanghai, China
2. 2016. University of Minnesota, Department of Geography, Brown Day Lecture, Minneapolis, MN
3. 2015. Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD
4. 2014. Cornell University, Cross-Scale Biogeochemistry and Climate IGERT, Ithaca, NY
5. 2013. University of Michigan, UM Data Visualization seminar, Ann Arbor, MI
6. 2012. University of California, Davis, Department of Environmental Science and Policy, Davis, CA
7. 2012. Wuhan University, International School of Software, Wuhan, China
8. 2012. University of Maryland, Baltimore County, Dept of Geography and Env Systems, Baltimore, MD
9. 2011. Wuhan University, International School of Software, Wuhan, China
10. 2011. China University of Geosciences, Wuhan, China
11. 2011. Texas A&M University, Department of Geography, College Station, TX
12. 2011. University of Florida, Department of Geography, Anderson Lecture Series, Gainesville, FL
13. 2011. Oregon State University, Department of Forest Ecosystems & Society, Corvallis, OR
14. 2010. The Ohio State University, Department of Geography, Robinson Lecture, Columbus, OH
15. 2010. Lehigh University, Department of Earth and Environmental Sciences, Bethlehem, PA
16. 2009. Chinese Academy of Sciences, Inst. for Geog. Sci. and Natural Resources Research, Beijing
17. 2009. National Inst for Space Research, Sao Jose dos Campos, Brazil
18. 2009. Eastern Michigan University, Department of Geography and Geology, Ypsilanti, MI
19. 2009. Pennsylvania State University, Earth and Environmental Sciences Institute, State College, PA
20. 2007. McGill University, Department of Geography, Geospectives Seminar Series, Montreal, Quebec
21. 2007. University of Auckland, School of Geography, Geology and Environmental Sci., Auckland, NZ
22. 2007. Clark University, George Perkins Marsh Institute, Worcester, MA
23. 2006. Alabama A&M University, Center for Forest Ecosystems Assessment, Huntsville, AL
24. 2006. Arizona State University, Global Institute for Sustainability, Tempe, AZ
25. 2006. Stanford University, Environmental Policy Forum, Palo Alto, CA
26. 2006. Chinese Academy of Science, Inst. for Geog. Sci. and Natural Resources Research, Beijing

27. 2005. Pennsylvania State University, Department of Geography, State College, PA
28. 2005. University of Washington, Urban Ecology IGERT Program, Seattle, WA
29. 2005. Portland State University, Department of Geography, Portland, OR
30. 2005. Central Michigan University, Department of Biology, Mt. Pleasant, MI
31. 2005. University at Buffalo, SUNY, Department of Geography, Buffalo, NY
32. 2004. University of Southern California, Department of Geography, Los Angeles, CA
33. 2004. George Mason University, Department of Geography, Fairfax, VA
34. 2004. Nanjing University, International Institute for Earth System Science, Nanjing, Jiangsu, China
35. 2003. Duke University, Landscape Ecology Lab, Nicholas School, Durham, NC
36. 2003. University of North Carolina, Department of Geography, Chapel Hill, NC
37. 2002. University of Michigan, Land Use Policy Forum, Ann Arbor, MI
38. 2001. Indiana State University, Department of Geography, Terre Haute, IN
39. 2001. Indiana University, CIPEC, Bloomington, IN
40. 2000. USDA Forest Service, North Central Research Station, St. Paul, MN
41. 2000. University of Michigan, Center for the Study of Complex Systems, Ann Arbor, MI
42. 1999. Texas A&M University, Department of Geography, College Station, TX
43. 1999. San Diego State University, Department of Geography, San Diego, CA
44. 1999. University of North Carolina, Department of Geography, Chapel Hill, NC
45. 1999. University of Michigan, School of Natural Resources and Environment, Ann Arbor, MI
46. 1998. University of Iowa, Department of Geography, Iowa City, IA
47. 1994. Michigan State University, Department of Geography, East Lansing, MI
48. 1994. University of North Carolina, Department of Geography, Chapel Hill, NC
49. 1994. Michigan State University, Kellogg Biological Station, Hickory Corners, MI
50. 1992. Michigan State University, Department of Geography, East Lansing, MI
51. 1992. West Virginia University, Department of Geology and Geography, Morgantown, WV
52. 1992. University of Colorado at Boulder, Department of Geography, Boulder, CO

Active Extramural Grants (career total >\$13M)

“Built environments on stroke risk and stroke disparities in a national sample.” Co-I with N. Colabianchi (PI). NIH-NHLBI. 2/1/2016-1/31/2020. \$2,500,000 (project total).

“Family Demography and Migration: Consequences for Health and Well-being.” Co-I with H. Choi (PI), NIH-NICHD. 4/12/2016-3/31/2018. \$425,688 (project total)

“Land transactions and investments: Impacts on agricultural production, ecosystem services, and food-energy security.” Co-PI with A. Agrawal (PI), J. Southworth, T. Caughlin. NSF Dynamics of Coupled Natural and Human Systems. 2016-2020, \$1,599,984.

“Measuring the Pace of Neighborhood Change from Satellites.” PI with E. Bruch, C. Ruf, and J. Morenoff. Moore and Sloan Foundations, through University of Michigan, M-Cubed Diamond program on the “Science of Data Science.” 2015-2016, \$60,000.

“Large-Scale Land Transactions as Drivers of Land-Cover Change in Sub-Saharan Africa.” PI with A. Agrawal. NASA LCLUC Program. 5/1/2015-4/31/2018, \$891,478.

“Ecosystem-Society Interactions on a Changing Mongolian Plateau.” Institutional PI with J. Chen (PI, Michigan St. U.), NASA LCLUC Program, 4/1/2014-3/31/2017, \$412,088 (UM share).

“Forested Land Cover and Land Use Change in the Far East of Northern Eurasia Under the Combined Drivers of Climate and Socio-Economic Transformation.” Co-I with K. Bergen (PI), NASA LCLUC Program, 1/6/2012-1/5/2017, \$999,147.

“Addressing Disclosure Risk of Contextualized Microdata in Survey Design.” Co-I with M. Elliott (PI), K. Witkowski, T., Raghunathan, NICHD, National Institutes of Health (R01 HD067184-01A1), \$173,185 (Brown share).

“NCRN-MN: Linking Surveys to the World--Administrative Data, the Web, and Beyond.” Co-I with M. Levenstein (PI), M. Shapiro, others. NSF National Census Research Network, \$89,111 (Brown share).

“WSC-2: Extreme Events Impacts on Water Quality in the Great Lakes: Prediction and Management of Nutrient Loading in a Changing Climate.” Co-I with A. Michalak, M. Moore, D. Scavia, A. Steiner, D. Hutzinger and others. NSF Water Sustainability and Climate (CBET 1039043), \$156,822 (Brown share).

Completed Extramural Grants

“A Spatial Agent-Based Model Of Walking Behavior In Cities.” Co-PI with Y. Yang, A. Diez-Roux, NIH (1 R21 HL10646701 A1), 08/18/2011-07/31/2014, \$13,283 (SNRE Share).

“Spatial Land-Use Change and Ecological Effects (SLUCE): Interactions of Exurban Land Management and Carbon Dynamics” PI with J. Nassauer, W. Currie, S. Page, R. Riolo, and D. Parker, NSF Dynamics of Coupled Natural and Human Systems (GEO-0814542), 9/1/2008-8/31/2014, \$1,488,804 (UM share).

“Air Pollution, Inflammation and Preterm Birth: A Mechanistic Study in Mexico City” co-PI with M. O’Neill and others. NIEHS-NIH, 9/1/2008-5/31/2014, \$26,948 (SNRE share).

“Environmental Governance, Forests and Logging Concessions: The Effects of Institutional Complexity of Forest Systems, Cover and Change in Central Africa” co-PI with A. Agrawal, T. Lyon, R. Hardin, and R. Riolo, NSF Dynamics of Coupled Human and Natural Systems Program, 2007-2013, \$1,497,109.

“Population and Environment in the U.S. Great Plains” co-PI with M. Gutmann and others, NIH National Institute for Child Health and Development, 6/1/2007-5/31/2013, \$555,524 (SNRE share).

“Grassland Ecosystems and Societal Adaptations Under Changing Grazing Intensity and Climate on the Mongolian Plateau.” PI with K. Bergen, A. Agrawal, Y. Xie, W. Welsh (EMU), NASA LCLUC Program (NNX09AK87G), 7/1/2009-6/30/2013, \$898,096.

“WSC Category 1: Coupled Observation of the Water Environment – A National Survey Program.” UM PI with J. Braden (U. Illinois), NSF Water Sustainability and Climate (GEO-1038904), 10/1/2010-9/31/2012, \$42,262 (UM share).

“From Vulnerability to Sustainability: Vulnerability and Sustainability Development in the Context of Climatic and Institutional Changes in Rural China.” Student fellowship – Qing Tian. NASA Earth System Science Fellowship Program (ESSF/07-0000-0084), 2008-2011, \$72,000.

“Joint German-American Conference on Land Use and Climate Change.” PI, NSF International Programs, 9/1/2008-8/30/2009, \$80,000.

“DHB: Program in Human and Environmental Systems Interactions (PHESI)” Co-PI with A. Agrawal and R. Riolo, NSF Human and Social Dynamics (BCS-0527318), 2005-2010, \$542,927 (UM share).

“MI Interdisciplinary Center on Social Inequality, Mind and Body.” Co-I with George Kaplan and many others. NIH (R24 HD047861-01), 09/27/2004 - 08/31/2009, \$60,000 (SNRE sub-account).

“Land Use/Land Cover Response to Demographic Change in the Northern Region” co-PI with K. Johnson (Loyola, Chicago) and S. Stewart (USDA Forest Service), USDA Forest Service, Forest Inventory and Analysis Program, 2007-2009, \$29,382.

“Using Remote Sensing-based Measures to Assess NRCS Program Impacts in Michigan” co-PI with Nancy French (Altarum Institute), NASA LCLUC Program, 2006-2009, \$116,168 (UM share).

“Development of Functional Limitations in the Built Environment of Mid-Aged Women” co-PI with K. Tomey. NIH. 9/30/2007-8/31/2009, \$136,800 (total).

"Changing Responses of Land Dynamics and Vulnerability to Flooding Under Policy and Environmental Change near Poyang Lake, China" PI with K. Bergen and S. Bao, NASA LCLUC Program (NNG06GA25G), 2005-2009, \$522,670.

"Planning Visit for US-China-EU Research on Coupled Ecological and Human Dynamics in Poyang Lake Basin, China." Co-PI with K. Bergen, NSF international Programs, 9/24/2007 to 9/30/2008, \$19,998.

"Neighborhoods and Cardio-Vascular Disease Risk in a Multiethnic Cohort." Co-I with A. Diez-Roux. NIH-NHLBI (R01 HL71759-01), 6/1/2003-5/30/2007, \$78,000 (SNRE sub-account).

"Exploring Relationships Between Adult Physical Activity and Perceived and Objective Measures of Community Environmental Characteristics." Co-I with Ana Diez-Roux and Kelly Evenson (UNC). Robert Wood Johnson Foundation. 2005-2007, \$63,980 (SNRE sub-account).

"PROJECT SLUCE: Spatial Land Use Change and Ecological Effects at the Rural-Urban Interface: Agent-Based Modeling and Evaluation of Alternative Policies and Interventions" PI with J. Nassauer, S. Page, and 7 others, NSF Biocomplexity (BCS-0119804), 2001-2007, \$1,328,195.

"Predicting Black Bear Habitat in Michigan's Lower Peninsula" Student Fellowship – Neil Carter, Michigan Department of Natural Resources, 2006-2007, \$10,000.

"Spatial and Temporal Patterns of Error in Land Cover Change Analyses: Identifying and Propagating Uncertainty for Ecological Monitoring and Modeling" Student Fellowship – Amy Burnicki, NASA Earth System Science Fellowship Program (ESSF/03-0000-0084), 2003-2006, \$72,000.

"Developing Land Cover Scenarios in Metropolitan and Non-Metropolitan Michigan, USA: A Stochastic Simulation Approach." PI with P. Goovaerts and K. Bergen, NASA, LCLUC Program (NAG5-11271), 2001-2005, \$354,977.

"Modeling Siberian Boreal Forest Land-Cover Change and Carbon Under Changing Economic Paradigms" Co-PI with K. Bergen, NASA, LCLUC Program, 2001-2005, \$584,000.

"Landscape Level Analysis Linking Urban Sprawl and Aquatic Ecosystems." PI with J.D. Allan & J. Nassauer. USDA Forest Serv., North Central Res. Station (#00-JV-11231300-021), 2000-2005, \$49,869.

"Developing GIS Simulation for Integrating Landscape Ecological Knowledge into Landscape Designs" PI with Geoffrey Duh, USDA Forest Service, 2002-2004, \$54,170.

"Climate Change and Thresholds of Ecosystem Change: Invasibility of Tundra in the Northern Rocky Mountains." Co-PI with G. P. Malanson, S. J. Walsh, D. M. Cairns, and D. R. Butler. USGS Biological Resources Division, Global Change Research Division (99CRAG0035), 1999-2004, \$71,395 (UM Share).

"Radar Remote Sensing of Habitat Structure for Biodiversity Informatics" co-PI with K. Bergen and Craig Dobson, NSF Biodiversity & Ecosystem Informatics (EIA-0131281), 2001-2003, \$50,007.

"Analyzing Trends in Agricultural Land Use, 1900-1997" PI, National Wildlife Fed, 2002-2003, \$10,000.

"Biocomplexity-Incubation: Exploring Biocomplexity at the Interface of Social and Ecological Systems." PI with T. Crow, J.D. Allan, J. Nassauer, & S. Yaffee, NSF, Biocomplexity Program (DEB-0083992), 2000-2002, \$111,973.

"Hotspots of Change Project: Land-Cover Change in the North Central Region" PI with K. Bergen, USDA Forest Service, 2000-2002, \$69,476.

"Assessing Climate Change Impacts in the Upper Great Lakes Region: Michigan State University Effort." Co-PI with J.A. Andresen and J.A. Winkler, US EPA through the Univ of Michigan, 1999-2001, \$67,170.

"Upper Midwest Regional Earth Science Applications Center." Co-PI with M. E. Bauer, T. M. Lillesand, T. E. Burk, D. L. Skole, and others, NASA through the University of Minnesota, \$400,000 (MSU Share).

"Characterizing Ecological Boundaries from Remote Sensing Based Field Representations." Co-PI with G.M. Jacquez (BioMedWare, Inc.), Project Varenus Seed Grant (UCSB), 1998, \$1,854.

"Collaborative Research: Process and Pattern at Alpine Treeline." PI with G.P. Malanson, National Science Foundation, Geography and Regional Science (#97-14347), 1997-1999, \$85,640 (MSU).

"Hierarchical Investigation of Socioeconomic Drivers of Decadal Scale Land-Cover Changes in the Upper Midwest." PI with B. Pijanowski and J. M. Vasievich (co-PIs), Land-Cover and Land-Use Change Research Program, NASA, Mission to Planet Earth (#NAG5-6042), 1997-2000, \$393,979.

"Socioeconomic Causes of Land Ownership Fragmentation in the Lake States." USDA Forest Service, North Central Forest Experiment Station (#23-95-50), 1995-2000, \$50,800.

"Stress, Disturbance, and Climatic Sensitivities Affecting the Pattern of Vegetation at Alpine Treeline." NASA *Global Change Fellowship* (#NGT 30068), 1991-92, \$22,000.

Equipment Grants

"Michigan State University Center of Excellence in Applications of Remote Sensing to Regional and Global Integrated Environmental Assessment." Co-PI w/ D. L. Skole, R. E. Groop, R. Hinojosa, NASA, 1997-1998, \$448,000.

"A Digital Terrain Analysis Component for Extending and Integrating a Geography Curriculum." PI with Judy M. Olson (co-PI). National Science Foundation, Instrumentation and Laboratory Improvement Program (#95-51118), 1995-97, \$44,600 (NSF Contribution), \$91,409 (total).

"Color Output for Integrated Research and Teaching in Geography: GIS, Remote Sensing, Spatial Databases, and Climatology." Co-PI with J.B. Burley. SUN Microsystems, *Academic Equipment Grant* (AEG), June 1994, \$11,985.

Intramural Grants

"Environments and Activity: GPS-Based Collection of Real-Time Perception and Behavioral Data to Support Modeling" co-PI with Natalie Colabianchi and Ana Diez-Roux, M-Cubed, U. Michigan, 2013-2014, \$60,000.

"Land Use Adaptation to Agro-Pastoral Communities on the Mongolian Plateau" PI with Arun Agrawal, Population Studies Center, Freedman Fund, 2010-2011, \$10,000.

"Climate Change, Heatwaves, and Health: Local Tools for Sustainability, Equity, and Prevention" co-PI with M. O'Neill, R.B. Rood, E. Parker, Graham Environmental Sustainability Inst, U. Michigan, 2008-2011.

"The Establishment of UM Program of Poyang Lake Studies in Environment, Health and Sustainable Development" Co-PI with M. Wilson and S. Bao. OVPR, U. Michigan, 2005-2007, \$10,000.

"Local Environmental Institutions and Participation: Analyzing Variations and Changes in Individual Environmental Beliefs." Co-PI with A. Agrawal. CLOSUP, U. Michigan, 2005-2008, \$24,570.

"Initiating Research in Spatial Analysis of Society-Environment Interactions in Southeastern Michigan." Co-PI with R.W. Marans, G.R. Smith, and M.L. Wilson. Office of the Vice President for Research, University of Michigan. 2000-2004, \$277,000.

"Educational Program for Spatial Analysis/GIS." Co-PI with J.D. Nystuen, and E.D. Rothman. Office of the Vice President for Research, University of Michigan. 2000-2003, \$221,000.

"Information Technology Partnership" PI. Chief Info Officer, University of Michigan. 2000-2003, \$280,000.

"GIS for the Kellogg Biological Station (KBS)" co-PI with R. E. Groop. Colleges of Social Science and Agriculture and Natural Resources and the Kellogg Biological Station, 1996-98, ~\$50,000.

"Developing a Fuzzy Model of Natural Vegetation Patterns for Ecological Mapping." All-University Research Grant, College of Social Science, Michigan State University, 1994-95, \$3,918.

"Linking Multi-Scale Spatial Structure for the Characterization of Landscape Pattern." All-University Research Grant, College of Social Science, Michigan State University, 1993-94, \$3,830.

TEACHING

Courses Taught

UNIVERSITY OF MICHIGAN

Principles of Geographic Information Systems (NRE 531; NRE/ENVIRON 420; NRE 540)
- 55-105 students; 4 semester credits (lecture/lab)

GIS and Landscape Modeling (NRE 534)
- 11-23 students; 3 semester credits (lecture/discussion/lab)

Environmental Spatial Data Analysis (NRE 543)
- 13-21 students; 3 semester credits (lecture/lab)

Land Use and Global Change (NRE 501)
- 16-23 students; 3 semester credits (lecture/discussion)

Seminar on Land Use: The Other Global Change (NRE 639)
- 10 students; 1-2 semester credit (seminar)

Seminar in Geographic Information Science (NRE 639)
- 4-10 students; 1-2 semester credits (seminar)

Introduction to Environmental Analysis (NRE/ENVIRON 239)
- 60 students; 4 semester credits (lecture/lab); taught ½ the course

MICHIGAN STATE UNIVERSITY

Introduction to Geographic Information Systems (GEO 225)
- 42 to 52 students per offering; 4 semester credits (3 lecture, 2 lab)

Geographic Information Systems (GEO 425)
- 26 to 39 students per offering; 4 semester credits (3 lecture, 2 lab)

Digital Terrain Analysis (GEO 428)
- 10-12 students; 4 semester credits (3 lecture, 2 lab)

Geoprocessing (GEO 825)
- 5 to 12 students; 4 semester credits (lecture/lab)

People and the Environment (ISS 310)
- 100 to 200 students per offering; 4 semester credits (4 lecture)

Post-Doc Scholars Supervised

Preeti Rao, 2016-present.

Suhyun Jung, 2015-present. "Impact evaluation of forest and agricultural concessions in Liberia."

Chuan Liao (Assistant Professor, Arizona State University, beginning 2018), 2015-present. "Socio-ecological impacts of land investments in Sub-Saharan Africa."

Ginger Allington (Assistant Professor, George Washington University), 2014-2016. "Synthetic analysis and modeling of human-environment interactions on the Mongolian Plateau."

Shipeng Sun (Assistant Professor, University of Illinois-Springfield), 2012. "Integrated modeling of land markets and landscape carbon storage in Southeastern Michigan."

Derek T. Robinson (Associate Professor, University of Waterloo), 2009-2010. "Modeling land change and carbon cycling in exurban Southeastern Michigan."

Gabriela Valdivia (Associate Professor, University of North Carolina at Chapel Hill), 2007-2009. "Agrarian revolution in the Bolivian Lowlands: New populism and the local spaces of social change." (NSF Post-Doctoral Research Fellowship)

Luguang Jiang (Associate Professor, Chinese Academy of Sciences, Institute for Geographical Sciences and Natural Resources Research), 2006-2007, "Land-cover change and implications for vulnerability to flooding."

Shuhua Qi (Associate Professor, Jiangxi Normal University), 2006-2007, "Inundation and flood risk modeling using satellite imagery and digital elevation models."

Li An (Professor, San Diego State University), 2003-2005, "Spatial-temporal modeling of types of land development and implications for land-cover change at the urban-rural fringe."

Elisabeth Addink (Assistant Professor, University of Utrecht), 2001-2002, "Object-based classification of land use in urbanizing landscapes."

PhD Theses Supervised

Jon Sullivan, current, PhD pre-candidate.

Arthur Endsley, current, PhD candidate. "Remote sensing of neighborhood change dynamics in "shrinking cities" through a land-cover change proxy"

Silvia Cordero-Sancho, current, PhD candidate. Co-advise with Kathleen Bergen. "A closer view of subsistence agriculture in Congo Basin forests: Use of high resolution imagery to quantify spatial relationships of agriculture with roads and land management after recent intensification of commercial logging operations"

Hui Xu, PhD 2016. "Balancing ecological and economic objectives in land use and management: Modeling to identify sustainable spatial patterns" (Post-doctoral fellow, Argonne National Lab)

Liang Tsai, PhD 2013. Co-advise with Greg Keoleian. "An integrated assessment of offshore wind farm siting: A case study in the Great Lakes of Michigan."

Jun Wang, PhD 2013, "People, institutions, and pixels: Linking remote sensing and social science to understand social adaptation to environmental change." (Associate Professor, Beijing University-Shenzhen)

Qing Tian, PhD 2012. Recipient of Graham Institute Fellowship on Environmental Sustainability and NASA Earth System Science Fellowship (2008). "From vulnerability to sustainability: Rural development in the Poyang Lake Region of China amid institutional changes and flood hazards" (Assistant Professor, George Mason University)

Derek Robinson, PhD 2009. Recipient of NSERC (Canada) pre-doctoral research fellowship (2006) and Graham Institute Fellowship (2007). "Effects of land-use policy, forest fragmentation, and residential parcel size on land-cover and carbon storage in Southeastern Michigan." (Associate Professor, University of Waterloo)

Jason J. Taylor, PhD 2008. "Avian populations in human-dominated landscapes: An analysis of spatio-temporal dynamics at the urban-rural interface." (National Park Service)

Amy Burnicki, PhD 2008. Recipient of NASA Earth System Science Fellowship. "Spatial-temporal patterns of error in land cover change analyses: Identifying and propagating uncertainty for ecological monitoring and modeling." (Assistant Professor in Residence, University of Connecticut)

Tingting Zhao, PhD 2007. Co-advise with Kathleen Bergen. "Changing primary production and biomass in heterogeneous landscapes: Estimation and uncertainty based on multi-resolution remote sensing and GIS data." (Associate Professor, Florida State University)

Maira Zellner, PhD, 2005. (Urban, Tech, and Environmental Planning). Co-advise with Scott Campbell. "Generating policies for sustainable water use in complex scenarios: An integrated land-use and water-use model of Monroe County, Michigan" (Assoc. Professor, University of Illinois - Chicago)

Jiunn-Der (Geoffrey) Duh, PhD, 2004. "Developing GIS simulation for integrating landscape ecological knowledge into landscape designs." (Associate Professor, Portland State University)

External PhD Examiner

Francis Oloo, "Integration of sensor data in spatially explicit models of environmental processes." Universität Salzburg, Department of Geoinformatics, current.

Wei Li, "System Dynamics Modeling to Understand Socio-Environmental Systems in the Mongolian Plateau" Peking University, 2014.

Nicholas Magliocca, "Using Agent-Based Models as Virtual Laboratories for Exploring Human-Environment Interactions in Land-Use Systems" University of Maryland – Baltimore County, Department of Geography and Environmental Systems, 2013. (Visiting Scholar in the ESA Lab – Summer 2011).

Safaa Aldwaik, "Fundamental Concepts of Intensity Analysis to Understand Changes Among Categories" Clark University, Graduate School of Geography, 2012.

Fraser John Morgan, "Residential Property Developers in Urban Agent-Based Models: Competition, Behavior, and the Resulting Spatial Landscape." University of Auckland, Department of Geography, 2010.

Barry Kronenfeld, "The Tradeoff Between Information Content and Cognitive Simplicity in Graded Area-Class Maps: A Case Study in Vegetation Mapping." University at Buffalo (SUNY), Department of Geography and GIScience IGERT, 2004.

Tara Sharma, "Land-Use Modeling for Exploring Alternative Agricultural Futures: Linking Choices and Consequences." University of British Columbia, Department of Geography, 2004.

Danijela Puric-Mladenovic, "Predictive Vegetation Modeling for Forest Conservation and Management in Settled Landscapes." University of Toronto, Faculty of Forestry, 2003.

Ph.D. Committees

| | | |
|-------------------------------|-----------------------------|----------------------------------|
| 1996. Johan Liebens (MSU) | 2005. Geoffrey Lewis | 2008. Shahar Shlomi (CEE) |
| 1996. Greg Bierly (MSU) | 2006. Wayne Walker | 2009. Diego Moreno (EEB) |
| 1997. Jorge Euan (MSU RD) | 2006. Kacey Ernst (Epid) | 2010. Paul Duffy (Anthro) |
| 1997. Tarek A. Joseph (MSU) | 2006. Amy Auchincloss (SPH) | 2011. Katie Bush (SPH) |
| 1997. Claudia Walters (MSU) | 2007. Justin Cohen (Epid) | 2012. Luis Rivera-Gonzalez (SPH) |
| 2002. Rob Corry | 2007. Haejin Han (NRE) | 2013. Kerry Joy Ard (Sociology) |
| 2002. Chris Lepczyk (MSU) | 2008. Jason Barnes (Geol) | 2017. Sara Meerow (NRE) |
| 2003. Hirotaka Saito (CEE) | 2008. Meng-Ying Li (CEE) | Current. Charlie Kaylor (UTEP) |
| 2003. Theresa Friedrich (EEB) | 2008. Zhifang Wang (NRE) | Current. Sarah Kiger (NRE) |

MA/MS Theses Supervised

- Courtney Wilson, MS, 2013. "Evaluating satellite-observed changes in impervious surface cover in relation to economic changes and spatially variable socioeconomic conditions in census data in Southeastern Michigan." (deceased).
- Jie Dai, MS, 2013. "Landsat spectral responses to grassland biophysical conditions across a gradient in Inner Mongolia, China" (PhD Program, San Diego State University).
- Wei Liu, MS, 2013. "Vegetation type and degradation classification on the Mongolian Steppe using random forests" (PhD Program, Michigan State University).
- Kevin Brown, MS, 2012. "Adaptability of Kyrgyzstan's pastoral social-ecological system" (Winrock International).
- Nina Shestakovitch, MS, 2011. "Exploratory analysis of spatial and temporal dynamics of dzud development in Mongolia, 1993-2004" (AIR Worldwide).
- Elena Doucet-Ber, MS, 2011. "Modeling alternative agricultural scenarios using RUSLE and GIS to determine erosion risk in the Chippewa River watershed, Minnesota" (PhD Program, U Wisconsin).
- Jessica Gorchow, Liz Hood, Yi Hou, Lillian Peterson, Elizabeth Straus, 2011. "Ecological assessment, mapping, and prioritization at the Huron-Clinton Metroparks."
- Karly (Pence) Wentzloff, MS, 2011. "Interactions between urban development and spatial distributions of specialty and commodity crops in Southeast Michigan, 1992-2001."
- Kyle (Brown-)Kwaiser, MS, 2009. "Accounting for observation uncertainty in species-habitat models: A case study using bird survey data from Poyang Lake, China." (University of Michigan Institute for Social Research)
- Hugh Stimson, MS, 2008. "Surface-water-induced self-patterning of Piñón-Juniper Woodland in the American Southwest."
- Neil Carter, MS, 2007. "Predicting ecological and social suitability of black bear habitat in Michigan's Lower Peninsula." (Assistant Professor, Boise State University)
- Michele Tobias, MS, 2006. "Analysis of beach-habitat change for Piping Plover, Santa Barbara, CA." (PhD program, UC Davis)
- Elizabeth (Severtsen) Bermingham, MS, 2005. "High-resolution remote sensing for mapping an invasive species." (Anchor QEA, LA firm)

- Vikalpa Jetly, MS, 2005. "Evaluating the relationship between urbanization and ecological quality in Southeastern Michigan through the use of spatial landscape indicators." (i-Cubed, Boulder, CO)
- Khemerith So, MS, 2005. "Integrating public participation, geographic information systems and multi-criteria decision analysis methods for tidal wetland restoration site prioritization: Applications to the Nehalem and Umpqua Estuaries in Oregon." (US Fish and Wildlife Service, OR)
- Jason J. Taylor, MS, 2004. "Linking land-cover change to local land-use policy: A GIS-based analysis." (US National Park Service)
- Lara Peterson, MS, 2004. "Modeling land-cover change in the Siberian boreal forest: A case study in the Baikal Region." Co-advised with K. Bergen. (USDA Forest Service, Office of International Programs)
- Amy Gilboy, MS, 2003. "Effects of landscape spatial structure and composition on models of bird habitat selection." (AECOM)
- Christine Geddes, MS, 2003. "Modeling snow water equivalent across the alpine treeline ecotone in Glacier National Park, MT." (Univ. Michigan, Institute for Fisheries Research)
- Christina Yin and Abigail Fateman, MS, 2002, "A protocol for using community volunteers for GIS-based stream monitoring." (Contra Costa County, CA)
- Scott A. Drzyzga, MA, 2000, "Land Ownership Parcelization and Forest Fragmentation in Three Forested Counties in Northern Lower Michigan." (Associate Professor, Shippensburg Univ.)
- Mark A. Bowersox, MA, 1999, "Comparing surface- and patch-based metrics of patchiness and abruptness at the alpine treeline ecotone." (ITT Solutions, NY)
- Kenneth A. Duda, MA, 1998, "Michigan Forest Defoliation Detection using Multitemporal NDVI Signatures and Supervised Classification of AVHRR Satellite Imagery." (SAIC, NASA LP DAAC)
- James H. Reisen, MA, 1998, "An Analysis of Error in Digital Image Rectification." (NRCS)
- Jessica J. (Dolanski) Moy, MA, 1997, "Development, Application, and Evaluation of the Archaeological Site Prediction System." (MSU GIS and Remote Sensing Outreach Services)
- Catherine J. Delain, MA, 1997, "A Classification Tree Approach to the Automation of Landtype Association Mapping in Michigan." (Manitowoc County, WI)
- David F. Vaughan, MA, 1996, "Topographic Effects on the Normalized Difference Vegetation Index, Rocky Mountain National Park, Colorado." (DOD)

Undergraduate Researchers Supervised

- John Leitz, UROP, 2011
- Robert Kim, UROP, 2010-2011
- Ben Martin, SRP, 2009
- Eric Gudz, UROP, 2007-2008
- Casey McKeel, Work/Study, 2007-2010
- Leslie Garrison, UROP, 2005-2006
- Brad Gregorka, Research Internship, 2004
- Amanda Turek, Work/Study, 2004-2005
- Lucas Spaete, UROP, 2003-2005. Land cover change in Pittsfield Township, MI
- Arthur Chan, UROP and Work/Study, 2002-2004

Dave Somers, Work/Study, 2001-2004

Joseph Day, SROP, 2002, Land cover change in Oakland County.

Emily Marshall, NSF REU, 2001, Mapping land parcel change in Southeastern Michigan.

Mark Irwin, NSF REU, 2001, Mapping land parcel change in Southeastern Michigan.

James Rutherford, UROP, 2000-2001, Mapping urban land cover characteristics.

Bryan Emmett, UROP, 1999-2000, Relationships between land cover change & bird species abundance.

PROFESSIONAL SERVICE

Editorial Board Member

Annals of the Association of American Geographers, Routledge (2014-2017)
International Journal of Geographical Information Science, Taylor and Francis (2012-present)
Land, MDPI (2011-present)
Applied Spatial Analysis and Policy, Springer (2007-present)
Journal of Land Use Science, Taylor and Francis (2005-present)
Demography, Springer (2013-2016)
Computers Environment and Urban Systems, Elsevier (2008-2018)
Landscape Ecology, Springer (1999-2005)

Advisory/Steering Committees

External Advisory Board, Terra Populus Project, Minnesota Population Center, University of Minnesota, 2012-present
Board of Trustees, Community Systems Foundation, Ann Arbor, MI, 2010-2015.
Expert Panel Member: USGCRP/Climate Change Research Initiative Draft Report on Land Use / Land Cover Change elements of strategic plan, 2002.
External Advisory Committee: The Maine NSF-GIS Consortium: A Statewide, Interdisciplinary Approach to GIS Education. Cathleen McAnney and Matthew Brampton, PIs, 2003-05
Scientific Advisory Board: Climate Land Interaction Project. Michigan State Univ. David Campbell, PI, 2004-2007.
Advisory Board: UCGIS Model Curriculum Project, 2005-2006.

Reviewing Activities

Review Panel Member:

European Research Council (Environment and Society Panel for Starter & Consolidator Grant Competition). 2011-2017
National Science Foundation (Geography and Spatial Sciences Program; Decadal and Regional Climate Prediction using Earth System Models (EaSM); Biocomplexity in the Environment Program; Environmental Decision Making and Valuation; Division of Behavioral and Cognitive Sciences, Geography and Regional Science Program, Doctoral Dissertation Panel; Division of Undergraduate Education, Instrumentation and Laboratory Improvement Program)
National Aeronautics and Space Administration (New Investigator Program; Earth System Science Fellowship Program; Land Cover Land Use Change Program x2)
Strategic Environmental Research and Development Program (SERDP) Ecosystems Management.
Ecological Society of America Panel to review the USGS GAP Program. 2008.
EPA State of the Environment Report, Land Use-Land Cover chapter, January 2008.

Site/Program Reviewer

Vermont NSF EPSCoR Program, University of Vermont, July, 2012.
Department of Geography, Texas A&M University, April, 2012.
School of Natural Resources, University of Nebraska, September, 2009.
CIPEC and ACT centers, Indiana University, November, 2008.
Initiative on Spatially Structure Social Sciences (S4), Brown University, December, 2008.
NSF, Decision Making Under Uncertainty Program, Arizona State University, 2004, 2007.
NSF IGERT Evaluation Team, University of Wisconsin, 2001-2002.

Ad Hoc Research Proposal Peer Reviewer

Academy of Finland
Austrian National Science Fund
Michigan Sea Grant College Program
National Aeronautics and Space Administration (ADRO Program, Graduate Student Fellowship Program, New Investigator Program, LBA Program)

National Geographic Society, Committee for Research and Exploration
 National Science Foundation (Directorate for Computer & Information Science & Engineering;
 Directorate for Social, Behavioral, and Economic Sciences; Division of Undergraduate
 Education; International Research Fellowship Program)
 National Sciences and Engineering Research Council of Canada
 Research Council for Biosciences and Environment (RCBE), Academy of Finland
 Southeast Regional Climate Center
 Strategic Environmental Research and Development Program (SERDP)
 USDA Forest Service, North Central Research Station

Promotion/Tenure Reviewer

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|---------------------------|---------------------------|-----------------------------------|
| Arizona State University | Indiana University | Texas A&M University |
| Brown University | Kansas State University | University of British Columbia |
| University at Buffalo | University of Maryland | University of Oklahoma |
| Clark University | McGill University | University of Toronto |
| Univ California, Berkeley | Michigan State University | University of Wisconsin, Madison |
| University of Durham, UK | The Ohio State University | U.S. Military Academy, West Point |
| Florida Int University | | Yale University |

Conference Program Committees

GIScience 2016, Montreal, Quebec, September 2016
 GeoComputation 2015, Dallas, Texas, May 2015
 GIScience 2014, Vienna, Austria, September 2014
 Spatial Accuracy 2014, East Lansing, MI, July 2014
 2nd GLP Open Science Meeting, Berlin, Germany, March 2014
 GeoComputation 2013, Wuhan, China, May 2013
 GIScience 2012, Columbus, Ohio, September 2012
 GeoComputation 2011, London, England, July 2011
 The IASTED International Symposium on Environmental Science and Engineering (EME 2010),
 Banff, Canada, 2010
 GIScience 2010, Zurich, Switzerland, September 2010
 GeoComputation 2009, Sydney, Australia, November 2009
 The IASTED International Symposium on Environmental Modelling and Simulation (EMS 2008),
 Orlando, USA, 2008
 X Brazilian Symposium on Geoinformatics, Rio de Janeiro, Brazil, December 2008
 GIScience 2008, Park City, Utah. September, 2008
 GeoComputation 2007, Maynooth, Ireland. September, 2007
 The IASTED International Conference on Environmental Modelling and Simulation (EMS 2007),
 Honolulu, Hawaii, 2007
 The IASTED International Conference on Environmental Modelling and Simulation (EMS 2006),
 St. Thomas, Virgin Islands, 2006

Manuscript Reviewer

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|---|--|--|
| <i>Advances in Complex Sys.</i> | <i>Ecosystems</i> | <i>J Geographical Systems</i> |
| <i>Agriculture Ecosystems & Environment</i> | <i>Environment & Planning A</i> | <i>J Geography</i> |
| Addison Wesley Longman | <i>Environment & Planning B</i> | <i>J Geophysical Research- Atmospheres</i> |
| <i>Annals Assoc. of Am. Geographers</i> | <i>Env Impact Assessment Review</i> | <i>J Hydrology</i> |
| <i>Anthropocene</i> | <i>Environmental Sci & Technology</i> | <i>J Land Use Science</i> |
| <i>Area</i> | <i>Environmental Mod. & Software</i> | <i>J Vegetation Science</i> |
| <i>Bioscience</i> | <i>Folia Geobotanica</i> | <i>Landscape Ecology</i> |
| <i>Canadian J. Forest Research</i> | <i>Forest Policy & Economic GeoForum</i> | <i>Land Use Policy</i> |
| <i>Catena</i> | <i>Geographical Analysis</i> | <i>Natura Croatica</i> |
| <i>Computers Env & Urban Systems</i> | <i>Geographical & Env Modelling</i> | <i>Photogrammetric Eng. & Remote Sensing</i> |
| <i>Computers & Geosciences</i> | <i>Geocarto International</i> | <i>Plant Ecology</i> |
| <i>Conservation Biology</i> | <i>Geomorphology</i> | <i>Population & Environment</i> |
| <i>Conservation Letters</i> | <i>Global Ecology & Biogeography</i> | Prentice Hall |
| <i>Earth Science Informatics</i> | <i>Int J Environment and Pollution</i> | <i>Proc National Academy of Sciences</i> |
| <i>Ecological Applications</i> | <i>Int J Geographical Info Sci</i> | <i>Professional Geographer</i> |
| <i>Ecology</i> | <i>Int J Remote Sensing</i> | <i>Remote Sensing of Environment</i> |
| <i>Ecology & Society</i> | <i>J of Ecology</i> | <i>Transactions in GIS</i> |
| | <i>J Environmental Management</i> | <i>Urban Ecosystems</i> |

Conference and Session Organizing

- Special Session, Issues in Complexity in Geography, AAG Annual Meeting, Chicago, IL, 2006.
- Symposium , Understanding exurban landscape change processes: Human preferences, agent behaviors and ecological effects, IALE Meeting, San Diego, CA, 2006.
- Symposium, Space Matters! Spatial Dimensions of Complex Interactions Between People and the Natural Environment, AAAS Meeting, St. Louis, MO, 2006.
- Conference, GeoComputation 2005, Ann Arbor, MI, August 1-3, 2005.
- Session, Modeling Land Use and Land Cover Dynamics, International Geographical Congress, Glasgow, Scotland, Aug 10, 2004.
- Symposium, Land-Use in Rural America, Ecological Society of America, Tucson, AZ, Aug 2001.

University Leadership and Service Positions

Interim Dean, School of Natural Resources and Environment, 2015-2017
Collaborated with university leadership to conceive and engage broader university community in defining a new School for Environment and Sustainability. Report to the Provost of the University. Responsible for overall operations of multi- and inter-disciplinary academic and research unit of ~50 tenure track and research faculty. Work with two associate deans (academic programs and research) and senior staff to manage faculty decision making processes, make strategic investments, and implement best practices. Supervise senior personnel in business, development, and communications. Evaluate budget requests and develop overall budget strategies. Develop and maintain relationships with alumni, donors, and other individuals and organizations within and external to the University.

Chair, Search Advisory Committee for Dean of the Sch of Natural Resources and Env, 2010-2011
Charged by the Provost of the University to chair committee to recommend excellent candidates for the position of Dean of the School of Natural Resources and Environment. Worked through inclusive and confidential process of identifying key goals from faculty, staff and students, coordinated with search firm to identify excellent candidates, work with committee to interview and prioritize candidates for recommendation to the Provost. Resulted in the hiring of Dean Marie Lynn Miranda.

Associate Dean for Research, School of Natural Resources and Environment, 2006-2009
Responsible for allocating financial and space resources, and cultivating an environment that furthers the research objectives of a School of ~43 FTE faculty members, enhances inter-

disciplinarity, and increases funding for graduate students. Establish policies and procedures for appointing and evaluating research-track faculty. Chair the faculty Research Committee and coordinate activities with that group. Report directly to the Dean, and represent the School to the Office of the Vice President for Research (OVPR) and other research entities internal and external to the University.

UM Committees:

Graham Sustainability Institute Governing Board (2016-17)
Academic Program Group (APG; 2015-17)
APG Development subcommittee (2015-16)
APG Shared Services Governance subcommittee (2016-17)
Steering Committee, RWJ Health and Society Scholars Program (2010-14)
Executive Committee, Michigan Memorial Phoenix Energy Institute (2006-09)
Advisory Committee, Global Health Research and Training (2007-08)

ISR Committees:

Survey Research Center, Faculty Research Fellows Search Committee (2012-2013)

SNRE Committees:

Member, Sustainability and Behavior Search Committee, 2013
Executive Committee, 2013-2015
Chair, Promotion and Tenure Committee, 2011-12
Member, The Marshall Weinberg Pop, Dev, and Climate Change Fellows Program, 2011-12
Member, Sustainable Systems Search Committee (2 positions), 2009-10
Chair, Global Change Theme Group, 2003-04
Chair, Ecosystem Modeling Search Committee, 2002
SNRE 100th Anniversary Advisory Committee, 2002-03
Executive Committee, 2001-2005
Ecosystem Management Initiative Advisory Committee, 2000-present
Information Technology Committee, 2000
Chair, GIS Lab Manager Search Committee, 2000

Peer Reviewer: UM CARAT/Rackham IT Fellowships (23), UM OVPR small grants (1), MSU All University Research Initiation Grants (3), Michigan Agricultural Experiment Station

Geography Department (MSU) Committees:

Geography BRSI Faculty Search Committee (2 positions), 1998-99
Department of Geography, Curriculum Review Committee, 1998
Microcomputer Support Position Search Committee, 1998
Geography BRSI Faculty Search Committee (2 positions), 1997-98
Senior Remote Sensing Faculty Search Committee, 1995-96
Computing Strategy Committee, 1993-1995

MSU College of Social Science Committees:

Dean's Research Counsel, 1998-1999
Research Committee, 1998-1999
Center for Remote Sensing and GIS Advisory Committee, 1997-1999
Working Group on Environmental Studies, 1993-1995

Organizer and Chair: MSU GIS Interest Group (UCGIS), 1995-1999