

Robert Gilmore Pontius Jr

Clark University
Graduate School of Geography
950 Main Street
Worcester MA 01610-1477
United States of America
PHONE 001 508 793 7761
FAX 001 508 793 8881
EMAIL rpontius@clarku.edu
WEB www.clarku.edu/~rpontius/
ORCID 0000-0001-7287-5875
updated 13 April 2017

SUMMARY OF SCHOLARLY CONTRIBUTIONS

Professor Robert Gilmore Pontius Jr, “Gil” for short, creates quantitative methods that contribute to Geographic Information Science (GIS), Remote Sensing, and Statistics. Pontius is an applied statistician and environmental scientist with expertise in GIS, ecological modeling, and land change science. The applied nature of his diverse activities has inspired him to derive mathematical proofs for generally applicable concepts concerning measurements that are essential in a variety of fields. Several of these methods have been incorporated into the GIS & Image Processing software *TerrSet*, which has over 100,000 users worldwide. Click [here](#) to see his video concerning land change modeling.

EXPERTISE

Geographic Information Science (GIS)
Coupled Human and Natural Systems
Quantitative Ecological Modeling
Land Change Science
Spatial Statistics

EDUCATION

Doctor of Philosophy in Environmental Science 1994
State University of New York
College of Environmental Science and Forestry
-authored dissertation entitled “Modeling Tropical Land-Use Change and Assessing Policies to Reduce Carbon Dioxide Release from Africa”
Master of Applied Statistics 1989
The Ohio State University
Bachelor of Science -- Mathematics, Economics 1984
University of Pittsburgh
Cleveland Institute of Art
Ohio Wesleyan University

EXPERIENCE

Professor 2011-present, Tenured Associate Professor 2004-2011, Assistant Professor 1998-2004
Associate Director of Geography 2015-present, Acting Director of IDCE 2007
Clark University
Graduate School of Geography 1998-present
Department of International Development, Community, and Environment (IDCE) 1998-2010
-teaches GIS, Land Change Science, Map Comparison, Quantitative Modeling, Statistics
-coordinated Masters program in GIS for Development and Environment 1998-2008
-advised Human Environment Regional Observatory program
-advises Doctoral, Masters and Bachelors students
-participates in Environmental Science program
Associate Scientist 1995-1997
Tellus Institute & Stockholm Environment Institute
-analyzed environmental sustainability and conducted GIS-based modeling
Assistant Professor 1994-1995
Boston University
-taught in Department of Geography and Center for Energy & Environmental Studies
Research Assistant 1992-1994
State University of New York
-researched global carbon cycle and land use
Teaching Associate 1990-1991, 1987-1989
State University of New York
-taught Forest Biometrics
The Ohio State University
-taught Mathematics
Statistical Consultant 1990-1994
State University of New York
-consulted on numerous projects
Mathematical Statistician 1989-1990
United States Department of Agriculture
-designed area-sampling frames
Mathematics Teacher 1985-1987
United States Peace Corps in Tanzania
-taught Advanced-level Mathematics

HONORS

National Research Council Committee Member
Committee on Needs and Research Requirements for Land Change Modeling 2011-2012
Second most highly cited paper (Pontius and Cheuk 2006)
International Journal of Geographical Information Science during 2006-2010
Invited Keynote Speaker
Conference on Computational Interdisciplinary Sciences, Guanajuato, Mexico 2012
Schermerhorn Lecture, University of Twente (ITC) Enschede, The Netherlands 2011

Reunión Nacional Sociedad Latinoamericana en Percepción Remota, Morelia, Mexico 2011
National French Geomatics Conference (SAGEO) Toulouse, France 2010
Southern Forestry and Natural Resources GIS conference in Orlando FL, USA 2008
Spatial Accuracy conference in Lisbon, Portugal 2006
American Institute of Biological Sciences Distinguished Scientist Award
Investigators of the Long Term Ecological Research (LTER) network 2010
Who's Who Inductee
Heritage 2010
Marquis 2010
Continental 2009
Executives and Professionals 2009
Global 2009
Strathmore 2009
Michael Brehney Prize for best paper
Environment and Planning B 2005
Zayed International Prize for the Environment
Authors of the Millennium Ecosystem Assessment 2005
Exceptional Merit
Clark University 2003, 2005, 2007
Hodgkins Prize for excellence in scholarship, teaching and service
Clark University 2003
Oliver and Dorothy Hayden Junior Faculty Fellow
Clark University 2003
ESRI Scholar
GIScience Conference 2002
Technical Communication Award
Society for Technical Communication 1997
People's Choice Award Winner
International Jugglers Association 1996
Distinguished Teaching Fellow
State University of New York 1993-1994
Syracuse University 1991-1992
Phi Kappa Phi Honor Society Inductee
The Ohio State University 1989
Mathematics Summer Fellow
The Ohio State University 1987

BOOK AND SPECIAL ISSUE

1. Brown, Daniel G, Lawrence E Band, Kathleen O Green, Elena G Irwin, Atul Jain, Eric F Lambin, **Robert G Pontius Jr**, Karen C Seto, B L Turner II, Peter H Verburg. 2014. Advancing Land Change Modeling: Opportunities and Research Requirements. The National Academies Press: Washington DC. 145 pages.
http://www.nap.edu/catalog.php?record_id=18385.
2. Paegelow, Martin, María Teresa Camacho Olmedo, Jean-François Mas, Thomas Houet,

Robert Gilmore Pontius Jr (guest editors). 2013. Land change modelling: moving beyond projections. Special Issue of International Journal of Geographical Information Science. 27(9): 1691-1827. <http://www.tandfonline.com/toc/tgis20/27/9#.Ur1t97QmSdw>.

PUBLICATIONS AS PEER REVIEWED JOURNAL ARTICLES *italics denote student*

1. Akinyemi, Felicia O., **Robert G. Pontius Jr.**, Ademola K. Braimoh. 2017. Land change dynamics: insights from Intensity Analysis applied to an African emerging city. *Journal of Spatial Science* 62(1): 69-83 DOI: 10.1080/14498596.2016.1196624.
2. Bradley, Andrew V., Isabel M.D. Rosa, **Robert G. Pontius Jr.**, Sadia E. Ahmed, Miguel B. Araujo, Daniel G. Brown, Amintas Brandão Jr., Gilberto Câmara, Tiago G.S. Carnerio, Andrew J. Hartley, Matthew J. Smith, Robert M. Ewers. 2016. SimiVal, a multi-criteria map comparison tool for land-change model projections. *Environmental Modelling & Software* 82: 229-240.
3. Teixeira, Zara, João C Marques, **Robert Gilmore Pontius Jr.** 2016. Evidence for deviations from uniform changes in a Portuguese watershed illustrated by CORINE maps: An Intensity Analysis approach. *Ecological Indicators* 66: 382-390.
4. *Zhou, Pei*, Jinliang Huang, **Robert Gilmore Pontius Jr**, Huasheng Hong. 2016. New insight into the correlations between land use and water quality in a coastal watershed of China: Does point source pollution weaken it? *Science of the Total Environment* 543: 591-600.
5. *Aldwaik, Safaa Zakaria*, Jeffrey A Onsted, and **Robert Gilmore Pontius Jr.** 2015. Behavior-based aggregation of land categories for temporal change analysis. *International Journal of Applied Earth Observation and Geoinformation* 35: 229-238.
6. *Blanchard, Samuel*, **Pontius Jr, Robert Gilmore**, and K M Urban. 2015. Implications of using 2m versus 30 m spatial resolution data for suburban residential land change modeling. *Journal of Environmental Informatics* 25(1): 1-13.
7. Camacho Olmedo, María Teresa, **Robert Gilmore Pontius Jr**, Martin Paegelow, and Jean-François Mas. 2015. Comparison of simulation models in terms of quantity and allocation of land change. *Environmental Modelling & Software* 69: 214-221.
8. Enaruvbe, Glory and **Robert Gilmore Pontius Jr.** 2015. Influence of classification errors on Intensity Analysis of land changes in southern Nigeria. *International Journal of Remote Sensing* 31(1): 244-261.
9. Huang, Jinliang, Yaling Huang, **Robert Gilmore Pontius Jr**, and Ling Huang. 2015. Geographically Weighted Regression to measure spatial variations in correlations between water pollution versus land use in a watershed. *Ocean & Coastal Management* 103: 13-24.
10. *Giner, Nicholas M*, Colin Polsky, **Robert G. Pontius Jr**, *Daniel Miller Runfola*, and Samuel J. Ratick. 2014. Creating Spatially-Explicit Lawn Maps Without Classifying Remotely-Sensed Imagery: The case of suburban Boston, Massachusetts, USA. *Cities and the Environment* 7(1): article 10, 28 pages.
11. Muñoz-Erickson, Tischa A., Ariel E. Lugo, Elvia Meléndez-Ackerman, Luis E. Santiago-Acevedo, José Seguinot-Barbosa, Pablo Méndez-Lázaro, Myrna Hall, Braulio Quintero, Alonso Ramírez, Diana García-Montiel, **Robert Gilmore Pontius Jr**, Olga M. Ramos-González, Raúl Santiago-Bartolomei, Julio Verdejo-Ortíz, Jorge R. Ortíz-Zayas, Carmen M. Concepción, Daniela Cusack, Juan Giusti, William McDowell, María Luz Cruz-Torres, Julio

- Vallejo, Lindsay Cray, Jess Zimmerman, Víctor Cuadrado-Landrau, and Magaly Figueroa. 2014. Knowledge to Serve the City: Insights from an Emerging Knowledge-Action Network to Address Vulnerability and Sustainability in San Juan, Puerto Rico. *Cities and the Environment* 7(1): article 5, 24 pages.
12. Liu, Yan, Yongjiu Feng, **Robert Gilmore Pontius Jr.** 2014. Spatially-Explicit Simulation of Urban Growth through Self-Adaptive Genetic Algorithm and Cellular Automata Modelling. *Land* 3(3): 719-738.
 13. **Pontius Jr, Robert Gilmore** and *Benoit Parmentier*. 2014. Recommendations for using the Relative Operating Characteristic (ROC). *Landscape Ecology* 29(3): 367-382.
 14. **Pontius Jr, Robert Gilmore** and *Ali Santacruz*. 2014. Quantity, Exchange and Shift Components of Differences in a Square Contingency Table. *International Journal of Remote Sensing* 35(21): 7543-7554.
 15. **Pontius Jr, Robert Gilmore** and *Kangping Si*. 2014. The Total Operating Characteristic to measure diagnostic ability for multiple thresholds. *International Journal of Geographical Information Science* 28(3): 570-583.
 16. *Runfola, Daniel S.M., Thomas A. Hamill, Robert Gilmore Pontius Jr, John Rogan, Nick Giner, Albert Decatur* and Samuel Ratick. 2014. Using Fine Resolution Orthoimagery and Spatial Interpolation to Rapidly Map Turf Grass in Suburban Massachusetts. *International Journal of Geospatial and Environmental Research* 1(1): article 4, 17 pages.
 17. *Villamor, Grace, Robert Gilmore Pontius Jr, and Meine van Noordwijk*. 2014. Agroforest's growing role in reducing carbon losses from Jambi (Sumatra), Indonesia. *Regional Environmental Change* 14(2): 825-834.
 18. Zhou, Pei, Jinliang Huang, **Robert Gilmore Pontius Jr**, and Huasheng Hong. 2014. Land Classification and Change Intensity Analysis in a Coastal Watershed of Southeast China. *Sensors* 14(7): 11640-11658.
 19. *Aldwaik, Safaa Zakaria* and **Robert Gilmore Pontius Jr**. 2013. Map errors that could account for deviations from a uniform intensity of land change. *International Journal of Geographical Information Science* 27(9): 1717-1739.
 20. Brown, Daniel G, Peter H Verburg, **Robert Gilmore Pontius Jr** and Mark D Lange. 2013. Opportunities to improve impact, integration, and evaluation of land change models. *Current Opinion in Environmental Sustainability* 5: 452-457.
 21. *Giner, Nicholas M, Colin Polsky, Robert Gilmore Pontius Jr, and Daniel Miller Runfola*. 2013. Understanding the social determinants of lawn landscapes: A fine-resolution spatial statistical analysis in suburban Boston, Massachusetts, USA. *Landscape and Urban Planning* 111: 25-33.
 22. Huang, Jinliang, Qingsheng Li, **Robert Gilmore Pontius Jr**, Victor Klemas, and Hasheng Hong. 2013. Detecting the dynamic linkage between landscape characteristics and water quality in a subtropical coastal watershed, southeast China. *Environmental Management* 51(1): 32-44.
 23. Mas, Jean-François, Britaldo Soares Filho, **Robert Gilmore Pontius Jr**, Michelle Farfán Gutiérrez and Hermann Rodrigues. 2013. A suite of tools for ROC analysis of spatial models. *ISPRS International Journal of Geo-Information* 2(3): 869-887.
 24. Paegelow, Martin, Maria Teresa Camacho Olmedo, Thomas Houet, Jean-Francios Mas, and **Robert Gilmore Pontius Jr**. 2013. Land Change Modeling: Moving Beyond Projections. *International Journal of Geographical Information Science* 27(9): 1691-1695.

25. **Pontius Jr, Robert Gilmore**, Yan Gao, *Nicholas M Giner*, Takashi Kohyama, Mitsuru Osaki and Kazuyo Hirose. 2013. Design and Interpretation of Intensity Analysis Illustrated by Land Change in Central Kalimantan, Indonesia. *Land* 2(3): 351-369.
26. *Runfola, Daniel Miller*, Colin Polsky, Craig Nicolson, *Nicholas Giner*, **Robert Gilmore Pontius Jr**, Joseph Krahe, Albert Decatur. 2013. A Growing Concern? Examining the Influence of Lawn Size on Residential Water Use in Suburban Boston, MA, USA. *Landscape and Urban Planning* 119: 113-123.
27. *Runfola, Daniel* and **Robert Gilmore Pontius Jr**. 2013. Measuring the Temporal Instability of Land Change using the Flow matrix. *International Journal of Geographical Information Science* 27(9): 1696-1716.
28. *Aldwaik, Safaa Zakaria* and **Robert Gilmore Pontius Jr**. 2012. Intensity analysis to unify measurements of size and stationarity of land changes by interval, category, and transition. *Landscape and Urban Planning* 106(1): 103-114.
29. *Gutierrez-Velez, Victor* and **Robert Gilmore Pontius Jr**. 2012. Influence of carbon mapping and land change modelling on the prediction of carbon emissions from deforestation. *Environmental Conservation* 39(4): 325-336.
30. Huang, Jinliang, **Robert Gilmore Pontius Jr**, Qingsheng Li, and *Yujia Zhang*. 2012. Use of intensity analysis to link patterns with processes of land change from 1987 to 2007 in a coastal watershed of southeast China. *Applied Geography* 34: 371-384.
31. *Chen, Hao* and **Robert Gilmore Pontius Jr**. 2011. Sensitivity of a land change model to pixel resolution and precision of the independent variable. *Environmental Modeling & Assessment* 16: 37-52.
32. Gao, Yan, Prashanth Marpu, Ingard Niemeyer, *Daniel Runfola*, *Nick Giner*, *Thomas Hamill*, and **Robert Gilmore Pontius Jr**. 2011. Object-based classification with features extracted by a semi-automatic feature extraction algorithm - SEaTH. *Geocarto International* 26(3): 211-226.
33. **Pontius Jr, Robert Gilmore** and *Marco Millones*. 2011. Death to Kappa: birth of quantity disagreement and allocation disagreement for accuracy assessment. *International Journal of Remote Sensing* 32(15): 4407-4429.
34. **Pontius Jr, Robert Gilmore**, *Smitha Peethambaram*, and Jean-Christophe Castella. 2011. Comparison of three maps at multiple resolutions: a case study of land change simulation in Cho Don District, Vietnam. *Annals of the Association of American Geographers* 101(1): 45-62.
35. *Chen, Hao* and **Robert Gilmore Pontius Jr**. 2010. Diagnostic tools to evaluate a spatial land change projection along a gradient of an explanatory variable. *Landscape Ecology* 25: 1319-1331.
36. Manandhar, Ramita, Inakwu O. A. Odeh, and **Robert Gilmore Pontius Jr**. 2010. Analysis of twenty years of categorical land transitions in the Lower Hunter of New South Wales, Australia. *Agriculture, Ecosystems and Environment* 135: 336-346.
37. **Pontius Jr, Robert Gilmore** and *Xiaoxiao Li*. 2010. Land transition estimates from erroneous maps. *Journal of Land Use Science* 5(1): 31-44.
38. **Pontius Jr, Robert Gilmore** and *Neeti Neeti*. 2010. Uncertainty in the difference between maps of future land change scenarios. *Sustainability Science* 5(1): 39-50.
39. **Pontius Jr, Robert Gilmore** and *Silvia Petrova*. 2010. Assessing a predictive model of land change using uncertain data. *Environmental Modelling & Software* 25(3): 299-309.

40. **Pontius Jr, Robert Gilmore** and *John Connors*. 2009. Range of categorical associations for comparison of maps with mixed pixels. *Photogrammetric Engineering & Remote Sensing* 75(8): 963-969.
41. *Alo, Clement Aga* and **Robert Gilmore Pontius Jr**. 2008. Identifying systematic land cover transitions using remote sensing and GIS: The fate of forests inside and outside protected areas of Southwestern Ghana. *Environment and Planning B* 35(2): 280-295.
42. *Kuzera, Kristopher* and **Robert Gilmore Pontius Jr**. 2008. Importance of matrix construction for multiple-resolution categorical map comparison. *GIS and Remote Sensing* 45(3): 249-274.
43. **Pontius Jr, Robert Gilmore**, Wideke Boersma, Jean-Christophe Castella, Keith Clarke, Ton de Nijs, Charles Dietzel, Zengqiang Duan, Eric Fotsing, Noah Goldstein, Kasper Kok, Eric Koomen, *Christopher D. Lippitt*, William McConnell, Alias Mohd Sood, Bryan Pijanowski, Snehal Pithadia, Sean Sweeney, Tran Ngoc Trung, A. Tom Veldkamp, and Peter H. Verburg. 2008. Comparing the input, output, and validation maps for several models of land change. *The Annals of Regional Science* 42(1): 11-47.
44. **Pontius Jr, Robert Gilmore**, *Olufunmilayo Thontteh* and *Hao Chen*. 2008. Components of information for multiple resolution comparison between maps that share a real variable. *Environmental and Ecological Statistics* 15(2): 111-142.
45. **Pontius Jr, Robert Gilmore**, Robert Walker, *Robert Yao-Kumah*, Eugene Arima, Stephen Aldrich, Marcellus Caldas and Dante Vergara. 2007. Accuracy assessment for a simulation model of Amazonian deforestation. *Annals of the Association of American Geographers* 97(4): 677-695.
46. **Pontius Jr, Robert Gilmore** and *Mang Lung Cheuk*. 2006. A generalized cross-tabulation matrix to compare soft-classified maps at multiple resolutions. *International Journal of Geographical Information Science* 20(1): 1-30.
47. **Pontius Jr, Robert Gilmore** and *Christopher D Lippitt*. 2006. Can error explain map differences over time? *Cartography and Geographic Information Science* 33(2): 159-171.
48. **Pontius Jr, Robert Gilmore**, *Anna J Versluis* and *Nicholas R Malizia*. 2006. Visualizing certainty of extrapolations from models of land change. *Landscape Ecology* 21(7): 1151-1166.
49. *Fedorko, Evan*, **Robert Gilmore Pontius Jr**, *Stephen Aldrich*, Luc Claessens, Charles Hopkinson Jr and Wilfred Wolheim. 2005. Spatial distribution of land type in regression models of pollutant loading. *Journal of Spatial Hydrology* 5(2): 60-80.
50. **Pontius Jr, Robert Gilmore** and *Jeffrey Malanson*. 2005. Comparison of the structure and accuracy of two land change models. *International Journal of Geographical Information Science* 19(2): 243-265.
51. **Pontius Jr, Robert Gilmore** and *Joseph Spencer*. 2005. Uncertainty in extrapolations of predictive land change models. *Environment and Planning B: Planning and Design* 32: 211-230.
52. *Fedorko, Evan*, **Robert Gilmore Pontius Jr**, *Stephen Aldrich*, Luc Claessens, Charles Hopkinson Jr and Wilfred Wolheim. 2004. Spatial distribution of land type in regression models of pollutant loading. *Biological Bulletin* 207: 173.
53. **Pontius Jr, Robert Gilmore**, *Diana Huffaker* and *Kevin Denman*. 2004. Useful techniques of validation for spatially explicit land-change models. *Ecological Modelling* 179(4): 445-461.

54. **Pontius Jr, Robert Gilmore** and *Nicholas R Malizia*. 2004. Effect of category aggregation on map comparison. Lecture Notes in Computer Science 3234: 251-268. in M J Egenhofer, C Freksa, and H J Miller (eds): GIScience2004.
55. **Pontius Jr, Robert Gilmore** and *Pablo Pacheco*. 2004. Calibration and validation of a model of forest disturbance in the Western Ghats, India 1920 - 1990. *GeoJournal* 61(4): 325-334.
56. **Pontius Jr, Robert Gilmore**, *Emily Shusas* and *Menzie McEachern*. 2004. Detecting important categorical land changes while accounting for persistence. *Agriculture, Ecosystems & Environment* 101(2-3): 251-268.
57. *Holden, Matthew, Christopher Lippitt, Robert Gilmore Pontius Jr* and *Carissa Williams*. 2003. Building a database of historic land cover to detect landscape change. *Biological Bulletin* 205: 257-258.
58. **Pontius Jr, Robert Gilmore**, *Aditya Agrawal* and *Diana Huffaker*. 2003. Estimating the uncertainty of land-cover extrapolations while constructing a raster map from tabular data. *Journal of Geographical Systems* 5(3): 253-273.
59. **Pontius Jr, Robert Gilmore** and *Kiran Batchu*. 2003. Using the relative operating characteristic to quantify certainty in prediction of location of land cover change in India. *Transactions in GIS* 7(4): 467-484.
60. *Huffaker, Diana* and **Robert Gilmore Pontius Jr**. 2002. Reconstruction of Historical Land Cover in the Ipswich Watershed. *Biological Bulletin* 203: 253-254.
61. **Pontius Jr, Robert Gilmore**. 2002. Statistical methods to partition effects of quantity and location during comparison of categorical maps at multiple resolutions. *Photogrammetric Engineering & Remote Sensing* 68(10): 1041-1049.
62. Menon, Shaily, **Robert Gilmore Pontius Jr**, Joseph Rose, M L Kahn, and Kamal S Bawa. 2001. Identifying conservation priority areas in the tropics: a land-use change modeling approach. *Conservation Biology* 15(2): 501-512.
63. **Pontius Jr, Robert Gilmore**, Joseph Cornell and Charles A S Hall. 2001. Modeling the spatial pattern of land-use change with GEOMOD2: application and validation for Costa Rica. *Agriculture, Ecosystems & Environment* 85(1-3): 191-203.
64. **Pontius Jr, Robert Gilmore** and *Laura Schneider*. 2001. Land-use change model validation by a ROC method for the Ipswich watershed, Massachusetts, USA. *Agriculture, Ecosystems & Environment* 85(1-3): 239-248.
65. *Schneider, Laura* and **Robert Gilmore Pontius Jr**. 2001. Modeling land-use change in the Ipswich watershed, Massachusetts, USA. *Agriculture, Ecosystems & Environment* 85(1-3): 83-94.
66. **Pontius Jr, Robert Gilmore**. 2000. Quantification error versus location error in comparison of categorical maps. *Photogrammetric Engineering & Remote Sensing* 66(8): 1011-1016.
67. Hall, Charles, Hanqin Tian, Ye Qi, **Robert Gilmore Pontius Jr**, and Joseph Cornell. 1995. Modelling spatial and temporal patterns of tropical land-use change. *Journal of Biogeography* 22: 753-757.
68. Hall, Charles A S, **Robert Gilmore Pontius Jr**, Lisa Coleman, and Jae-Young Ko. 1994. The environmental consequences of having a baby in the United States. *Population and Environment* 15(6): 505-524.

PUBLICATIONS AS BOOK CHAPTERS *italics denote student*

69. Gao, Yan, **Robert Gilmore Pontius Jr.**, *Nicholas M. Giner*, Takashi S. Kohyama, Mitsuru Osaki, Kazuyo Hirose. 2016. Land Change Analysis from 2000 to 2004 in Peatland of Central Kalimantan, Indonesia Using GIS and an Extended Transition Matrix. pages 433-443. Chapter 29 in: Mitsuru Osaki and Nobuyuki Tsuji (eds.) Tropical Peatland Ecosystems, Springer: Japan. ISBN 978-4-431-55680-0, DOI: 10.1007/978-4-431-55681-7_29.
70. *Runfola*, Daniel Miller, Colin Polsky, *Nicholas Giner*, **Robert Gilmore Pontius Jr**, Craig Nicolson. 2013. Future Suburban Development and the Environmental Implications of Lawns: A Case Study in New England, USA. pages 119-141. Chapter in D. Czamanski, I. Benenson, and D. Malkinson (eds.) Modeling of Land-Use and Ecological Dynamics, Springer Berlin: Heidelberg.
71. Headley, Rachel M K, John Harrington Jr, **Robert Gilmore Pontius Jr**, and Cynthia L Sorrensen. 2009. Landsat mapping of local landscape change: the satellite-era. pages 137-154. Chapter 7 in Brent Yarnal, Colin Polsky, and James O'Brien (eds.) Sustainable Communities on a Sustainable Planet: The Human-Environment Regional Observatory project. Cambridge University Press: Cambridge UK.
72. Polsky, Colin, *Sara Assefa*, *Kate del Vecchio*, *Troy Hill*, *Laura Merner*, *Isaac Tercero*, and **Robert Gilmore Pontius Jr**. 2009. The mounting risk of drought in a humid landscape: structure and agency in suburbanizing Massachusetts. pages 229-249. Chapter 11 in Brent Yarnal, Colin Polsky, and James O'Brien (eds.) Sustainable Communities on a Sustainable Planet: The Human-Environment Regional Observatory project. Cambridge University Press: Cambridge UK.
73. **Pontius Jr**, **Robert Gilmore**, Shaily Menon, *Joseph Duncan*, and *Shalini Gupta*. 2009. Fundamentals for using geographic information science to measure the effectiveness of land conservation projects. pages 539-557. Chapter 23 in P K Joshi, P Pani, and S N Mohapatra (eds.) Geoinformatics for Natural Resource Management. Nova Science Publishers: New York NY.
74. Verburg, Peter H., Kasper Kok, **Robert Gilmore Pontius Jr**, and A Veldkamp. 2006. Modelling land-use and land-cover change. pages 117-135. Chapter 5 in Eric F Lambin and Helmut J Geist (eds.) Land-use and land-cover change: Local process and global impacts. Springer-Verlag Berlin: Heidelberg, Germany.
75. **Pontius Jr**, **Robert Gilmore** and *Beth Suedmeyer*. 2004. Components of agreement in categorical maps at multiple resolutions. pages 233-251. Chapter 17 in Ross S Lunetta and John G Lyon (eds). Remote Sensing and GIS Accuracy Assessment. CRC Press: Boca Raton FL.

PUBLICATIONS IN OTHER VOLUMES *italics denote student*

76. **Pontius Jr**, **Robert Gilmore**. 2017. Book Review of EUROPEAN LANDSCAPE DYNAMICS: CORINE LAND COVER DATA. Photogrammetric Engineering & Remote Sensing. February pp. 81-82.
77. **Pontius Jr**, **Robert Gilmore** and *Kangping Si*. 2015. Spatial Decision Support Systems. In: James D. Wright (editor-in-chief), International Encyclopedia of the Social & Behavioral Sciences, 2nd edition, Vol 23. Oxford: Elsevier. pp. 136–141.
78. **Pontius Jr**, **Robert Gilmore**. 2010. Land Use Analysis. in B Warf (ed.). Encyclopedia of

Geography 4: 1733-1734. Sage Publications: Thousand Oaks CA. <www.sage-reference.com/geography/Article_n695.html>.

79. **Pontius Jr, Robert Gilmore**. 2010. Billie Lee Turner II (1945-). in B Warf (ed.). Encyclopedia of Geography 6: 2891-2892. Sage Publications: Thousand Oaks CA. <www.sage-reference.com/geography/Article_n1167.html>.
80. **Pontius Jr, Robert Gilmore**. 2008. Foreword. pages v-vii in Martin Paegelow and Maria Teresa Camacho Olmedo (eds.). Modeling Environmental Dynamics: Advances in Geomatic Solutions. Springer-Verlag: Berlin Heidelberg.
81. **Pontius Jr, Robert Gilmore**. 2006. Pattern to process. pages 462. in H Geist (ed). Our Earth's Changing Land: an encyclopedia of land-use and land-cover change. Volume 2. Greenwood Press: Westport CT.
82. **Pontius Jr, Robert Gilmore** and Peter H Verburg 2006. Scale. pages 527-529. in H Geist (ed). Our Earth's Changing Land: an encyclopedia of land-use and land-cover change. Volume 2. Greenwood Press: Westport CT.
83. **Pontius Jr, Robert Gilmore**. 2006. Transition matrix. pages 605-607. in H Geist (ed). Our Earth's Changing Land: an encyclopedia of land-use and land-cover change. Volume 2. Greenwood Press: Westport CT.
84. **Pontius Jr, Robert Gilmore** and Kasper Kok. 2006. Validation. pages 633-638. in H Geist (ed). Our Earth's Changing Land: an encyclopedia of land-use and land-cover change. Volume 2. Greenwood Press: Westport CT.
85. **Pontius Jr, Robert Gilmore** and *Mang Lung Cheuk*. 2005. Using indices to track changes in land use. pages 99 in K Chopra, R Leemans, P Kumar, and H Simons (eds.) Millennium Ecosystem Assessment, Ecosystems and Human well-being: Policy Responses, volume 3. Island Press, Washington DC.

PUBLICATIONS AS CONFERENCE PROCEEDINGS *italics denote student*

86. **Pontius Jr, Robert Gilmore** and *Xiaoxiao Li*. 2008. Estimating the land transition matrix based on erroneous maps. Conference proceedings of Studying, Modeling and Sense Making of Planet Earth. Mytilene, Greece 8 pages.
87. **Pontius Jr, Robert Gilmore**, Shaily Menon, *Joseph Duncan*, and *Shalini Gupta*. 2008. GIS methods to quantify effectiveness and leakage in land conservation projects. Conference proceedings of Studying, Modeling and Sense Making of Planet Earth. Mytilene, Greece 8 pages.
88. **Pontius Jr, Robert Gilmore** and *Marco Millones*. 2008. Problems and solutions for kappa-based indices of agreement. Conference proceedings of Studying, Modeling and Sense Making of Planet Earth. Mytilene, Greece 8 pages.
89. *Parmentier, Benoit* and **Pontius Jr, Robert Gilmore**. 2007. Improvements in the use of the ROC statistic for landscape ecology. Conference proceedings of the World Congress of the International Association for Landscape Ecology. Wageningen, The Netherlands 2 pages.
90. *Peethambaram, Smitha* and **Pontius Jr, Robert Gilmore**. 2007. Assessment of a land change model using a three-dimensional matrix at multiple scales. Conference proceedings of the World Congress of the International Association for Landscape Ecology. Wageningen, The Netherlands 1 page.
91. **Pontius Jr, Robert Gilmore**, Jean-Christophe Castella, Ton de Nijs, Zengqiang Duan, Eric

- Fotsing, Noah Goldstein, Kasper Kok, Eric Koomen, *Christopher D. Lippitt*, William McConnell, Bryan Pijanowski, Alias Mohd Sood, A. Tom Veldkamp, and Peter H. Verburg. 2007. Lessons and challenges in land change modeling as revealed by map comparisons. Proceedings of the conference on the science and education of land use. Washington DC, USA 37 pages.
92. **Pontius Jr, Robert Gilmore**, *Olufunmilayo Thontteh*, and *Hao Chen*. 2007. Map comparison to assess the prediction of vegetation response to El Nino in Southern Africa. Conference proceedings of the World Congress of the International Association for Landscape Ecology. Wageningen, The Netherlands 2 pages.
 93. **Pontius Jr, Robert Gilmore** and Yelena Ogneva-Himmelberger. 2007. Lessons from the first decade of running a Master of Arts program in Geographic Information Science in the United States. Conference proceedings of the meeting of Electronic Culture and New Humanitarian Technologies of the XXI century. Astrakhan, Russia 4 pages.
 94. **Pontius Jr, Robert Gilmore** and *John Connors*. 2006. Expanding the conceptual, mathematical, and practical methods for map comparison. pages 64-79. Conference proceedings of the meeting of Spatial Accuracy 2006. Lisbon, Portugal.
 95. *Petrova, Silvia* and **Robert Gilmore Pontius Jr**. 2005. Using imperfect information to validate a model of land change. Conference Proceedings of the meeting of the American Society for Photogrammetry and Remote Sensing. Baltimore MD. 12 pages.
 96. **Pontius Jr, Robert Gilmore**, *Hao Chen*, and *Olufunmilayo Thontteh*. 2005. Multiple scale pattern recognition and the foundation of observation-free statistics. Conference Proceedings of the meeting of the American Society for Photogrammetry and Remote Sensing. Baltimore MD. 11 pages.
 97. **Pontius Jr, Robert Gilmore** and *Evan Fedorko*. 2005. Spatial distribution of land type in regression models of pollutant loading. Conference Proceedings of the meeting of the American Society for Photogrammetry and Remote Sensing. Baltimore MD. 5 pages.
 98. **Pontius Jr, Robert Gilmore**, *Anna J Versluis*, and *Nicholas R Malizia*. 2005. Visualizing the certainty for extrapolations from models of landscape change. Conference proceedings of the meeting of Geocomputation. Ann Arbor MI. 6 pages.
 99. *Alo, Clement* and **Robert Gilmore Pontius Jr**. 2004. Detecting the influence of protection on landscape transformation in southwestern Ghana. Conference proceedings of the joint meeting of The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth Annual Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Portland ME. 17 pages.
 100. *Kuzera, Kristopher* and **Robert Gilmore Pontius Jr**. 2004. Categorical coefficients for assessing soft-classified maps at multiple resolutions. Conference proceedings of the joint meeting of The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth Annual Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Portland ME. 11 pages.
 101. *Paladino, Louis* and **Robert Gilmore Pontius Jr**. 2004. Accuracy assessment and uncertainty in baseline projections for land-change forestry projects. Conference proceedings of the joint meeting of The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth Annual Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Portland ME. 11 pages.
 102. **Pontius Jr, Robert Gilmore** and *Christopher Lippitt*. 2004. A method to distinguish real

landscape change from map error during map comparison. Conference proceedings of the joint meeting of The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth Annual Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Portland ME. 9 pages.

103. *Versluis, Anna J, Robert Gilmore Pontius Jr, and Nicholas R Malizia.* 2004. Visualizing the rate at which the accuracy of a land change prediction decays. Conference proceedings of the meeting of the University Consortium for Geographic Information Science. Silver Spring MD. 29 pages.
104. *Caeiro, Sandra, Sandra Sousa, Robert Gilmore Pontius Jr and Marco Painho.* 2003. Sado estuary management areas: hard versus soft classification maps comparison. Conference proceedings of CoastalGIS 2003, Fifth International Symposium on GIS and Computer Cartography for Coastal Zone Management. Genova, Italy, Geographical Information Systems International Group and ISSOPS International Center of Coastal and Ocean Policy Studies.
105. *Pontius Jr, Robert Gilmore and Jeffrey Malanson.* 2003. Methods to compare the accuracy of different types of land use change models. Abstract in Conference proceedings of Framing Land Use Dynamics. Utrecht, The Netherlands. 2 pages.
106. *Pontius Jr, Robert Gilmore, Aditya Agrawal, and Diana Huffaker.* 2002. Uncertainty Analysis in Land Change Modeling: Constructing a Gridded Map from Tabular Data. Conference proceedings of the Second International Conference on Geographic Information Science. Boulder CO. 2 pages.
107. *Pontius Jr, Robert Gilmore, Luc Claessens, Charles Hopkinson Jr, Abdelkrim Marzouk, Ed Rastetter, Laura Schneider, Joseph Vallino.* 2000. Scenarios of land-use change and nitrogen release in the Ipswich watershed, Massachusetts, USA. in B Parks, K Clarke, M Crane, editors. 2000. Conference proceedings of the 4th international conference on integrating GIS and environmental modeling Boulder: University of Colorado, CIRES. (CD and <http://www.colorado.edu/research/cires/banff/pubpapers/165/>)

PUBLICATIONS AS SOFTWARE MANUALS *italics denote student*

108. *Pontius Jr, Robert Gilmore and Hao Chen.* 2006. GEOMOD Modeling. Chapter of help system in J Ronald Eastman. Idrisi. Worcester MA: Clark Labs.
109. *Raskin, Paul, Charles Heaps, Jack Sieber, and Robert Gilmore Pontius Jr.* 1996. Polestar system manual. Stockholm: SEI.

PUBLICATIONS AS REPORTS

110. *Polsky, Colin, Robert Gilmore Pontius Jr, Nicholas M. Giner, Albert Decatur, Daniel Miller Runfola, and Rahul Rakshit.* 2012. HERO Object-based Lawn Mapping Exploration of Suburbia: Rationale, Methods and results for the NSF Plum Island Ecosystems Long-Term Ecological Research Site. Working Paper 2012-24, Marsh Institute, Clark University, Worcester MA. (www.clarku.edu/departments/marsh/news/WP2012-24.pdf)
111. *McConnell, William J., James D.A. Millington, Nicholas J. Reo, Marina Alberti, Heidi Asbjornsen, Lawrence A. Baker, Nicholas Brozović, Laurie E. Drinkwater, Scott A. Drzyzga, José Fragoso, Daniel S. Holland, Claire A. Jantz, Timothy A. Kohler, Herbert D.G.*

- Maschner, Michael Monticino, Guillermo Podestá, **Robert Gilmore Pontius Jr**, Charles L. Redman, David Sailor, Gerald Urquhart, and Jianguo Liu. 2011. Research on Coupled Human and Natural Systems (CHANS): Approach, Challenges and Strategies. *Bulletin of the Ecological Society of America* 92 (2): 218-228.
112. Schneider, Laura, Merryl Alber, John Moore, Jeff Onsted, **Robert Gilmore Pontius Jr**, Nathan Sayre, and Jonathan Thompson. 2009. A common denominator: Modeling land and water use change in LTER sites. pages 18-29. Chapter 2 in *Challenges for the Implementation of the Decadal Plan for Long-Term Ecological Research: Land and Water Use Change*. Report of a workshop held in San Juan, Puerto Rico, December 16-19, 2008.
 113. Polsky, Colin, John Rogan, **Robert Gilmore Pontius Jr.**, and Billie Lee Turner II. 2007. Undergraduate GIScience Research at Clark University: The HERO Program. *Council on Undergraduate Research Quarterly* 27(3):124-129.
 114. Raskin, Paul, Eric Kemp-Benedict, David Calef, Charles Heaps, and **Robert Gilmore Pontius Jr**. 1997. *Halfway to the Future: normative scenarios and environmental perils*. National Academy of Sciences, Board on Sustainable Development. Woods Hole MA, July 7-11.
 115. Raskin, Paul, Peter Gleick, Paul Kirshen, **Robert Gilmore Pontius Jr**, Kenneth Strzepek. 1997. *Water Futures: assessment of long-range patterns and problems*. Chapter 3 of the comprehensive assessment of the freshwater resources of the world. SEI: Stockholm, Sweden.
 116. **Pontius Jr, Robert Gilmore** and Paul Raskin. 1996. *Energy resources and sustainability*. Global industrial and social progress institute. Tokyo, Japan.
 117. Hall, Charles, Hanqin Tian, Ye Qi, **Robert Gilmore Pontius Jr**, Joseph Cornell, and James Uhlig. 1995. *Spatially-explicit models of land-use change and their application to the tropics*. DOE Research Summary 31, February. Carbon Dioxide Information and Analysis Center: Oak Ridge National Laboratory.
 118. Hall, Charles, Hanqin Tian, Ye Qi, **Robert Gilmore Pontius Jr**, Joseph Cornell, and James Uhlig. 1995. *Modeling land-use change*. CDIAC Communications 21, February. CDIAC: Oak Ridge National Laboratory.
 119. **Pontius Jr, Robert Gilmore**. 1990. *Modified agricultural weighted estimators*. United States Department of Agriculture, Staff Report SSB-90-05.

GRANTS

1. 2016-2022. \$6,761,476 = total. Clark subcontract = \$408,266. Co-Investigator. National Science Foundation, LTER. “LTER-Plum Island Ecosystems: Dynamics of coastal ecosystems in a region of rapid climate change, sea-level rise, and human impacts”. Award # OCE-1637630.
2. 2012-2016. \$3,920,000 = total. Clark subcontract = \$143,188. Co-Investigator. National Science Foundation, LTER. “The PIE-LTER: Interactions between external drivers, humans and ecosystems in shaping ecological process in a mosaic of coastal landscapes and estuarine seascapes”. Award # OCE-1238212.
3. 2016. \$5,985. Principal Investigator. Edna Bailey Sussman Fund. “Applying GIS to quantify marsh dynamics in the Plum Island Ecosystems”.
4. 2012-2015. \$329,992. Co-investigator. National Science Foundation. “REU Site: Mapping Beetles, Trees, Neighborhoods, and Policies: A Multi-Scaled, Urban Ecological Assessment

- of the Asian Longhorned Beetle Invasion in New England (HERO)”.
5. 2012-2013. \$33,550. Principal Investigator. Food and Agriculture Organization of the United Nations. “Forest Futures”.
 6. 2012. \$13,681 = Clark total. Co-investigator. National Science Foundation, LTER. “Plum Island Ecosystems LTER - Supplement” Research Assistantship.
 7. 2011. \$9,948 = Clark total. Co-investigator. National Science Foundation, LTER. “Plum Island Ecosystems LTER - Supplement” Equipment request.
 8. 2011. \$11,500. Co-investigator. National Science Foundation, LTER Social-Ecological Systems Supplement. “Developing protocols for cross-site research on Local Ecological Knowledge and social-ecological systems”.
 9. 2010-2013. \$300,000. Participant. National Science Foundation, Urban Long Term Research Areas (ULTRA). “Social-ecological system change, vulnerability and the future of a tropical city.” Award # BCS-0948507.
 10. 2010-2012. \$1,880,000 = total. Clark subcontract = \$69,120. Co-Investigator. National Science Foundation, LTER. “Plum Island Ecosystems Long Term Ecological Research Site Renewal.” Award # OCE-1058747.
 11. 2010. \$130,355 = team total. Pontius’ portion = \$26,500. Co-investigator. National Science Foundation, LTER. “Plum Island Ecosystems LTER - Supplement”. OCE-1026859.
 12. 2010-2011. \$19,998. Pontius’ portion = \$15,954. Co-investigator. National Science Foundation, LTER. “Georgia Coastal Ecosystems LTER - Supplement”.
 13. 2009-2011. \$354,146. Co-investigator. National Science Foundation, Research Experience for Undergraduates (REU). “Land Change and Vulnerability Studies in New England: The Human-Environment Regional Observatory.” Award # SES-0849985.
 14. 2009-2010. \$25,996 = Pontius’ portion. Co-investigator. National Science Foundation, LTER Social-Ecological Systems Supplement. “Maps and Locals (MALS): A Cross-Site LTER Comparative Study of Land-Cover and Land-Use Change with Spatial Analysis and Local Ecological Knowledge” Award # DEB-0620579.
 15. 2009-2010. \$11,100 = team total. \$2,000 = Pontius’ portion. Co-investigator. National Science Foundation, Long Term Ecological Research (LTER) Social-Ecological Systems Supplement. “Synthesis papers and research proposal from the Maps and Locals (MALS) project”.
 16. 2009. \$20,000 = team total. \$9,205 = Pontius’ portion. Co-investigator. National Science Foundation, LTER. “Georgia Coastal Ecosystems LTER project”.
 17. 2008. \$36,000. Co-investigator. Long Term Ecological Research network. “LTER Workshop: Future Scenarios of Land Change”.
 18. 2008. \$11,991. Co-investigator. National Science Foundation, Research Experiences for Undergraduates associated with Coupled Natural Human Systems. “Suburbanization, Water-Use, Nitrogen Cycling & Eutrophication in the 21st Century: Interactions, Feedbacks & Uncertainties in a Massachusetts Coastal Zone.”.
 19. 2007-2013. \$1,442,930. Co-investigator. National Science Foundation, Coupled Natural Human Systems. “Suburbanization, Water-Use, Nitrogen Cycling & Eutrophication in the 21st Century: Interactions, Feedbacks & Uncertainties in a Massachusetts Coastal Zone.” Award # BCS-0709685.
 20. 2007. \$20,000. Co-investigator. National Science Foundation, Supplement to Coupled Natural Human Systems. “Suburbanization, Water-Use, Nitrogen Cycling & Eutrophication

in the 21st Century: Interactions, Feedbacks & Uncertainties in a Massachusetts Coastal Zone.”.

21. 2006. \$6,000. Principal Investigator. National Science Foundation, REU. Compliment to subcontract entitled “Plum Island Ecosystems Long Term Ecological Research.”
22. 2005. \$6,000. Principal Investigator. National Science Foundation, REU. Compliment to subcontract entitled “Plum Island Ecosystems Long Term Ecological Research.”
23. 2004-2010. \$4,920,000 = team total; \$61,000 = Pontius’ portion. Co-investigator. National Science Foundation, LTER. “Plum Island Ecosystems Long Term Ecological Research” OCE-0423565. Marine Biological Laboratory Subaward 24123.
24. 2004-2005. \$400,000 = team total. Co-investigator. National Science Foundation, REU. “The Human Environment Regional Observatory (HERO): Research Experience for Undergraduates Site Supplement.”
25. 2003. \$6,000. Principal Investigator. National Science Foundation, REU. Compliment to subcontract entitled “Integrated, Ecological-Economic Modeling of Watersheds and Estuaries at Multiple Scales.”
26. 2002-2006. \$300,253 = team total; \$60,995 = Pontius’ portion. Co-investigator. National Science Foundation, REU. “The Human Environment Regional Observatory (HERO): Research Experience for Undergraduates Site.” Award # SES-0243772 (subaward 2911-CU-NSF-3772).
27. 2002. \$6,000. Principal Investigator. National Science Foundation, REU. Compliment to subcontract entitled “Integrated, Ecological-Economic Modeling of Watersheds and Estuaries at Multiple Scales.”
28. 2001. \$6,000. Principal Investigator. National Science Foundation, REU. Compliment to subcontract entitled “Integrated, Ecological-Economic Modeling of Watersheds and Estuaries at Multiple Scales.”
29. 2000-2005. \$290,000. Contributor and Supervisor. National Science Foundation. “Human Environment Regional Observatory (HERO): Infrastructural Development for the Human Dimensions of Global Environmental Change.”
30. 1999-2000. \$77,460 = Pontius’ portion. Co-investigator. National Science Foundation, LTER. "Ecological-Economic Modeling of Watersheds and Estuaries at Multiple Scales". Award # DEB-972682.
31. 1999. \$2,500. Contributor. National Council for the Social Studies. Enhancement of Geographic Literacy program. "Students Acting and Participating to Reinforce Community Spirit".
32. 1995. \$2,000. Principal Investigator. Oxfam America. "Amazon Carbon Risk Assessment".

INVITED EXTERNAL EXPERT REVIEW PANELS

1. 2014 Georgia Sea Grant Proposal Review.
2. 2009 Georgia Sea Grant Proposal Review. Atlanta GA.
3. 2009 Environmental Science Division. Environmental Protection Agency. Las Vegas NV.
4. 2008 Chesapeake Bay Program. Annapolis MD.
5. 2006 Chesapeake Bay Program. Annapolis MD.
6. 2006 Helmholtz Association. Leipzig Germany.
7. 2006 Nonlinear Global Change Grants. Environmental Protection Agency. Washington DC.

8. 2005-2006 Four panels of Dissertation Research Improvement Grants. NSF. Washington DC.

SCIENTIFIC ADVISORY COMMITTEES

1. 2009-present Executive Committee of the Plum Island Ecosystems LTER site.
2. 2015 Participant in the Suburban Landscapes Workshop. Woods Hole, MA.
3. 2014 Participant in Tansley Group's LULC modelling ensemble. London, United Kingdom.
4. 2013 Science Council for Long Term Ecological Research. Las Cruces, NM.
5. 2012-2015 Coastal and Ocean Management Institute's IAAC. Xiamen, China.
6. 2012-2013 Scientific Advisory Board for Spatial Statistics 2013 Conference. Columbus, OH.
7. 2011-2012 National Research Council Committee: Needs ... for Land-Change Modeling.
8. 2012 Member of Program Committee for AGILE workshop. Avignon, France.
9. 2008-2011 Officer in the Spatial Analysis and Modeling Specialty Group of the AAG.
10. 2011 Invitee to Specialist Meeting for Mapping Ideas. San Diego CA.
11. 2011 Co-Organizer for Maps and Locals (MALS). Andrews Experimental Forest OR.
12. 2011 Member of Program Committee for CDSM symposium by ISPRS. Hong Kong.
13. 2010 Member of Scientific Committee for the conference Enviromatics. Amman, Jordan.
14. 2009 Member of Scientific Committee for the conference Spatial Accuracy. Leicester UK.
15. 2009 Advisor to Massachusetts Water Resources Research Center Conference. Amherst MA.
16. 2008-2009 Panelist to the journal Nature.
17. 2008 Workshop Participant in Long Term Ecological Research (LTER). San Juan PR.
18. 2008 Workshop Participant in Biophysical and Socioeconomic Systems. Minneapolis MN.
19. 2008 Symposium Participant in Long Term Ecological Research (LTER). Worcester MA.
20. 2007 Member of Scientific Committee for the conference Spatial Accuracy, Shanghai China.
21. 2006 Advisor to National Ecological Observatory Network (NEON). Harvard Forest MA.
22. 2006 Advisor to Long Term Ecological Research (LTER). Madison WI.
23. 2006 Advisor to integrating social science in LTER. Estes Park CO.
24. 2005 Advisor to land change modeling for U.S. Geological Survey. Pingree Park CO.
25. 2005 Advisor to Long Term Ecological Research (LTER). Boston MA.
26. 2005 Advisor to integrating social science in LTER. Athens GA.
27. 2005 Advisor to forecasting models within NEON. Woods Hole MA.
28. 2004 Co-organizer for conference on The Future of Land Use. The Netherlands.

EDITORIAL BOARDS

1. Annals of the Association of American Geographers 2010 - 2013
2. Computers Environment and Urban Systems 2012 - 2014
3. Environmental Management 2012 - present
4. Encyclopedia of Earth 2006 - present
5. GIScience and Remote Sensing 2014 - present
6. International Journal of Geographical Information Science 2007 - present
7. Journal of Geospatial Science and Technology 2013 - present
8. Land 2012 - present
9. Lagos Journal of Geo-Information Sciences 2012 - present
10. Landscape Ecology 2007 - present

11. Modeling Earth Systems and Environment 2014 - present
12. Remote Sensing Letters 2009 - present
13. Spatial Statistics 2011 - 2015

REVIEWER FOR PROFESSIONAL SCIENTIFIC JOURNALS (# OF TIMES)

1. Advances in Research (3)
2. African Journal of Agricultural Research (2)
3. African Journal of Environmental Science and Technology (1)
4. Agricultural Systems (2)
5. Agriculture, Ecosystems and Environment (13)
6. AIMS Environmental Science (1)
7. Ambio (1)
8. Annals of the Association of American Geographers (24)
9. Anthropocene (1)
10. Applied Vegetation Science (2)
11. Applied Geography (3)
12. Arabian Journal of Geosciences (1)
13. Atmospheric Environment (1)
14. Biological Conservation (1)
15. Bioscience (1)
16. Biotropica (1)
17. British Journal of Applied Science & Technology (2)
18. Bulletin of Geography: socio-economic series (1)
19. Canadian Journal of Remote Sensing (2)
20. Carbon Balance and Management (1)
21. Cartographica (1)
22. Chinese Journal of Population, Resources, and Environment (1)
23. Climate Policy (1)
24. Computers, Environment and Urban Systems (29)
25. Computers and Geosciences (4)
26. Conservation Biology (1)
27. Conservation and Society (1)
28. Current Landscape Ecology Reports (1)
29. Data & Knowledge Engineering (1)
30. Ecological Applications (3)
31. Ecological Complexity (2)
32. Ecological Economics (12)
33. Ecological Informatics (1)
34. Ecological Indicators (1)
35. Ecological Modelling (12)
36. Ecology and Society (1)
37. Ecosystems (2)
38. Environment and Planning A (2)
39. Environment and Planning B (12)
40. Environment, Development and Sustainability (3)

41. Environmental Conservation (1)
42. Environmental Management (51)
43. Environmental Modelling & Software (20)
44. Environmental Monitoring and Assessment (2)
45. Environmental Science & Technology (1)
46. Eos (1)
47. Forest Ecology and Management (2)
48. Frontiers of Environmental Science & Engineering in China (3)
49. Frontiers in Ecology and Environment (1)
50. Geocarto International (3)
51. Geoforum (1)
52. Geographical Analysis (2)
53. Geoinformatica (1)
54. Geoscientific Model Development (2)
55. GIScience and Remote Sensing (3)
56. Global Ecology and Biogeography (1)
57. Global Environmental Change (2)
58. IEEE Transactions on Geoscience and Remote Sensing (1)
59. ISPRS International Journal of Geo-Information (4)
60. ISPRS Journal of Photogrammetry and Remote Sensing (1)
61. International Journal of Applied Earth Observation and Geoinformation (1)
62. International Journal of Climatology (1)
63. International Journal of Digital Earth (2)
64. International Journal of Environment and Pollution (1)
65. International Journal of Geographical Information Science (42)
66. International Journal of Image and Data Fusion (1)
67. International Journal of Plant and Soil Science (3)
68. International Journal of Remote Sensing (25)
69. International Regional Science Review (2)
70. Journal of Arid Environments (1)
71. Journal of Coastal Research (1)
72. Journal of Asian Earth Sciences (2)
73. Journal of Environmental Informatics (1)
74. Journal of Environmental Management (6)
75. Journal of Forestry Research (2)
76. Journal of Global Ecology and Environment (1)
77. Journal of Geography and Regional Planning (2)
78. Journal of Historical Geography (1)
79. Journal of Land Use Science (12)
80. Journal of Plant Ecology (1)
81. Journal of Scientific Research and Reports (2)
82. Journal of Spatial Science (2)
83. Journal of Stochastic Environmental Research & Risk Assessment (1)
84. Journal of Urban Technology (1)
85. Land (5)

86. Lake and Reservoir Management (2)
87. Land Degradation & Development (1)
88. Land Use Policy (3)
89. Landscape and Urban Planning (12)
90. Landscape Ecology (92)
91. Modeling Earth Systems and Environment (1)
92. Mountain Research and Development (1)
93. NED University Journal of Research (2)
94. Natural Hazards (2)
95. Natural Hazards and Earth Systems Sciences (2)
96. Northern Journal of Applied Forestry (1)
97. Photogrammetric Engineering & Remote Sensing (7)
98. Plant Ecology (1)
99. PLOS ONE (1)
100. Proceedings of the National Academy of Sciences (1)
101. Regional Environmental Change (2)
102. Remote Sensing (5)
103. Remote Sensing of Environment (20)
104. Remote Sensing Letters (54)
105. Simulation (1)
106. Simulation Modelling Practice and Theory (1)
107. Singapore Journal of Tropical Geography (3)
108. Science of the Total Environment (2)
109. Scholarly Undergraduate Research Journal (1)
110. Social Science Computer Review (1)
111. Society and Natural Resources (1)
112. Spatial Statistics (1)
113. Stochastic Environmental Research and Risk Assessment (2)
114. The Professional Geographer (6)
115. The Arab World Geographer (1)
116. Transactions in GIS (3)
117. Urban Ecosystems (2)
118. Urban Geography (1)
119. Urban Studies (1)
120. Water International (2)

REVIEWER FOR BOOKS, GRANTS, PROMOTIONS AND OTHER (# OF TIMES)

1. AidData (1)
2. Association of American Geographers Remote Sensing Specialty Group (2)
3. CALFED Bay-Delta Authority (3)
4. California Energy Commission (2)
5. Cambridge Press (1)
6. Change Detection and Spatio-temporal Modelling International Symposium (3)
7. Encyclopedia of Earth (2)
8. Enviromatics 2010 (3)

9. Global Center for Food Systems Innovation (1)
10. Handbook of Remote Sensing Chapter (1)
11. Hemholtz Centre for Environmental Research - UFZ (1)
12. Indiana University at Bloomington (1)
13. Katholieke Universiteit Leuven (1)
14. Kawerak Inc (1)
15. Key Topics and Perspectives in Landscape Ecology Chapter (1)
16. Luxembourg National Research Fund (4)
17. MIT Press (1)
18. National Academy of Sciences (1)
19. National Aeronautics and Space Administration (3)
20. National Atmospheric and Oceanic Administration (1)
21. National Environment Research Council (2)
22. National Research Council (5)
23. National Science Foundation (19)
24. Netherlands Foundation for the Advancement of Tropical Research (1)
25. Netherlands Organisation for Scientific Research (1)
26. Oxford Press (1)
27. Portland State University (1)
28. Remote Sensing and GIS Applications for Linking People, Place and Policy Chapter (1)
29. Spatial Accuracy Symposia (4)
30. Temple University (1)
31. United States Civilian Research & Development Foundation (3)
32. University of Colorado / Boulder (1)
33. University of Toronto (1)
34. University of Texas at Austin (1)
35. University of Texas at Dallas (1)
36. University of Queensland (1)
37. Wageningen University (1)
38. Wiley Press (1)

PRESENTER INVITED BY UNIVERSITIES AND RESEARCH CENTERS

1. 2016 Hunan University of Science and Technology, China.
2. 2016 Luxembourg Institute of Socio-Economic Research. Luxembourg.
3. 2015 University of Connecticut. Storrs, Connecticut.
4. 2014 Hunan University of Science and Technology, China.
5. 2014 Xiamen University, China.
6. 2013 University of California. Riverside CA.
7. 2012 United Nations' Food and Agricultural Organization. Rome, Italy.
8. 2012 University of Lagos. Lagos, Nigeria.
9. 2012 Obafemi Awolowo University (RECTAS). Ile-Ife, Nigeria.
10. 2012 Office of the Surveyor General. Abuja, Nigeria.
11. 2012 Universidad de Alcalá. Alcala de Henares, Spain.
12. 2011 University of Twente (ITC). Enschede, The Netherlands.

13. 2011 Central Intelligence Agency. Wye River, MD.
14. 2011 University of New Mexico. Albuquerque NM.
15. 2011 New Mexico State University. Las Cruces NM.
16. 2010 Yale University. New Haven CT.
17. 2010 University of Maryland. College Park MD.
18. 2010 Universidad del Turabo. San Juan PR.
19. 2009 Harvard Forest. Petersham MA.
20. 2008 Truman State University. Kirksville MO.
21. 2007 Digital Governance and Hotspot Geoinformatics. University Park PA.
22. 2007 Worcester State College. Worcester MA.
23. 2007 Baltimore Ecosystems Study. Baltimore MD.
24. 2007 The Pennsylvania State University. University Park PA.
25. 2006 University of Delaware. Newark DE.
26. 2005 Ashoka Trust for Research in Ecology and the Environment. Bangalore, India.
27. 2005 Karnataka State Remote Sensing Applications Center. Bangalore, India.
28. 2005 McGill University. Montreal, Canada.
29. 2005 National Center for Biological Sciences. Bangalore, India.
30. 2005 National Remote Sensing Agency. Hyderabad, India.
31. 2005 University of Connecticut. Storrs, CT.
32. 2005 University of Massachusetts. Amherst, MA.
33. 2004 Carnegie Mellon University. Pittsburgh, PA.
34. 2004 Universidad Metropolitana. San Juan PR.
35. 2004 University of Buffalo. Buffalo, NY.
36. 2004 Universite Catholique. Louvain-la-Neuve, Belgium.
37. 2004 Wageningen University. Wageningen, The Netherlands.
38. 2004 Wageningen University, Alterra. Benekom, The Netherlands.
39. 2003 Indiana University, CIPEC. Bloomington, IN.
40. 2003 University of Massachusetts. Boston MA.
41. 2002 Brandeis University. Newton MA.
42. 2001 University of Colorado. Boulder, CO.
43. 2000 Michigan State University. East Lansing MI.
44. 1998 Clark University. Worcester MA.
45. 1996 University of Massachusetts. Boston MA.
46. 1995 San Diego State University. San Diego CA.
47. 1995 Woods Hole Research Center. Woods Hole MA.
48. 1995 Union of Concerned Scientists. Cambridge MA.
49. 1994 Boston University. Boston MA.

PRESENTER AT CONFERENCES

1. 2017 Comparison among Six Datasets of Forest at 2010 in the Philippines. American Association of Geographers. Boston MA.
2. 2016 Recommended measurements to summarize paired observations: Going MAD with Willmott. American Association of Geographers. San Francisco CA.
3. 2015 Mean Absolute Deviation to compare maps of a continuous variable. World Congress of the International Association for Landscape Ecology. Portland OR.

4. 2015 Quantitative Methods for land change science. Scenarios to Simulation Workshop. Dartmouth College, Hanover NH.
5. 2014 Components of Mean Absolute Deviation at Multiple Spatial Resolutions. Fourth International Workshop on Earth Observation and Remote Sensing Applications. Changsha, China.
6. 2014 Detection of important land transitions using Intensity Analysis. Session Organizer. Global Land Project. Berlin, Germany.
7. 2014 Best practices to evaluate land change models. Session Co-organizer. Global Land Project. Berlin, Germany.
8. 2012 Computation models for land change prediction. Conference on Computational Interdisciplinary Sciences. Guanajuato, Mexico.
9. 2012 Quantity and allocation disagreement for matrix summarization to replace kappa. International Association for Landscape Ecology. Newport RI.
10. 2011 Interpretation of the Relative Operating Characteristic (ROC) to measure the accuracy of land change simulation. Association of American Geographers. Seattle WA.
11. 2010 Mapping human environment interactions. All Scientists Meeting. Woods Hole MA.
12. 2010 The importance of acknowledging errors. National French Geomatic Conference (SAGEO). Toulouse France.
13. 2010 Comparison of three maps at multiple resolutions. Global Land Project. Tempe AZ.
14. 2010 Teaching land change science with research questions, GIS data, student diversity, sans books. Global Land Project. Tempe AZ.
15. 2010 San Juan ULTRA-Ex. Global Land Project. Tempe AZ.
16. 2010 Size, Intensity, and Stationarity of land changes by interval, category, and transition. Global Land Project. Tempe AZ.
17. 2010 Methods for cross site comparison of land change. Association of American Geographers. Washington DC.
18. 2009 Accuracy assessment of object-oriented classification using virtual globes. Geoinformatics2009. Fairfax VA.
19. 2009 Uncertainty in the difference between maps of future land change scenarios. Association of American Geographers. Las Vegas NV.
20. 2009 Inclusion of uncertainty in landscape models of coupled human natural systems. International Association for Landscape Ecology. Snowbird UT.
21. 2009 Certainty of land change models. Massachusetts Water Resources Research Conference. Amherst MA.
22. 2009 Social/Ecological Science and Land Change. All Scientists Meeting. Woods Hole MA.
23. 2008 Estimating the land transition matrix based on erroneous maps. Studying, Modeling & Sense Making of Planet Earth. Mytilene, Greece.
24. 2008 GIS methods to quantify effectiveness and leakage in land conservation projects. Studying, Modeling & Sense Making of Planet Earth. Mytilene, Greece.
25. 2008 Problems and solutions for kappa-based indices of agreement. Studying, Modeling & Sense Making of Planet Earth. Mytilene, Greece.
26. 2008 How certain are you of your geographic information?: blunders and breakthroughs in accuracy assessment. Southern Forestry and Natural Resources GIS conference. Orlando, FL.

27. 2008 Identifying systematic land cover transitions using remote sensing and GIS: The fate of forests inside and outside protected areas of Southwestern Ghana. Association of American Geographers. Boston MA.
28. 2007 Lessons and challenges for land change modelers as revealed by a comparison of thirteen cases. Conference on the science and education of land use: a transatlantic multidisciplinary approach. Washington DC.
29. 2007 Map comparison to assess the prediction of vegetation response to El Nino in Southern Africa. World Congress of the International Association for Landscape Ecology. Wageningen, The Netherlands.
30. 2007 Lessons from the first decade of running a Master of Arts program in Geographic Information Science in the United States. Electronic Culture and New Humanitarian Technologies of the XXI century, Astrakhan Russia.
31. 2007 A generalized cross-tabulation matrix to compare soft-classified maps at multiple resolutions. Association of American Geographers. San Francisco CA.
32. 2006 Expanding the conceptual, mathematical, and practical methods for map comparison. Spatial Accuracy 2006. Lisbon, Portugal.
33. 2006 Validation of the Behavioral Landscape Model as applied to deforestation along the Trans-Amazonian highway. International Association for Landscape Ecology. San Diego CA.
34. 2006 Quantitative assessment for a model of Amazonian deforestation. Association of American Geographers. Chicago IL.
35. 2005 Cross case comparison for several prominent land change models. Open Meeting of the Human Dimensions of Global Environmental Change. Bonn, Germany.
36. 2005 Certainty of the extrapolation of land change in the Ipswich River Watershed. All Scientists Meeting. Woods Hole MA.
37. 2005 Multiple resolution model validation. International conference on the future of statistical theory, practice and education. Hyderabad, India.
38. 2005 Multiple scale pattern recognition and the foundation of observation-free statistics. American Society for Photogrammetry and Remote Sensing. Baltimore MD.
39. 2005 State of the art of land change models as measured by quantitative validation. International Association for Landscape Ecology. Syracuse NY.
40. 2004 Land-change model comparison. Conference Co-Organizer. Integrated assessment of the land system: the future of land use. Amsterdam, The Netherlands.
41. 2004 Conference on environment and land change. Universidad Metropolitana. San Juan PR.
42. 2004 Detecting the influence of protection on landscape transformation in southwestern Ghana. The joint meeting of The Fifteenth Annual Conference of The International Environmetrics Society and The Sixth Annual Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Portland ME.
43. 2004 Uncertainty in extrapolation of predictive land change models. Association of American Geographers. Philadelphia PA.
44. 2004 Student-faculty research and action. Campus Compact Conference. Worcester MA.
45. 2004 Products and lessons from the HERO program. Human Dimensions of Global Change, Carnegie-Mellon University. Pittsburgh PA.
46. 2003 Validation of land-use change models at multiple resolutions. Framing Land Use Dynamics Conference. Utrecht, The Netherlands.

47. 2003 Uncertainty in Extrapolations of Predictive Land Change Models. Open Meeting of the Human Dimensions of Global Environmental Change. Montreal, Canada.
48. 2003 Socio-economic drivers of land-use change at several sites in the Plum Island Ecosystems LTER region. National Science Foundation Headquarters. Washington DC.
49. 2003 Techniques in GIS-based modeling of land cover. Organized Session. Association of American Geographers. New Orleans LA.
50. 2003 Overview of HERO Central Massachusetts. Association of American Geographers. New Orleans LA.
51. 2002 Uncertainty Analysis in Land Change Modeling: Constructing a Gridded Map from Tabular Data. GIScience 2002. Boulder CO.
52. 2002 Methods to detect a process in a pattern. AAG. Los Angeles CA.
53. 2002 The Clark Master of Arts program in GISDE. AAG. Los Angeles CA.
54. 2002 Human Environment Regional Observatory in Central Mass. AAG. Los Angeles CA.
55. 2002 Integrating Land Use Change and Nutrient Flows. National Science Foundation. LTER Workshop. Baltimore MD.
56. 2002 GIS & Mercury Research. Northern Ecosystem Research Cooperative. Portland ME.
57. 2002 Land Use, Nitrate, Precipitation and Permeability. All LTER Scientists Meeting, Marine Biological Laboratory, Woods Hole MA.
58. 2002 Land Research in Massachusetts. Center for the Integrated Study of the Human Dimensions of Global Change. Pittsburgh PA.
59. 2001 Assessing map accuracy by components of chance, change, quantity, stratification, position and resolution. Environmental Protection Agency. Las Vegas NV.
60. 2001 A Multiple Resolution ROC statistic to validate a GIS-based model of deforestation in India. International Geosphere Biosphere Program. The Netherlands. Oral and Poster.
61. 2001 Land-Use Change Models and Methods. Workshop for integrating Social Science into Long Term Ecological Research. Madison WI.
62. 2001 Meeting professional needs for Geographic Information Systems. Tufts University. Medford MA.
63. 2001 Measures of agreement between maps. AAG. New York NY.
64. 2000 A statistical method to compare categorical maps at multiple scales. First international conference on GIScience. Savannah GA.
65. 2000 Scenarios of land-use change and nitrogen release in the Ipswich watershed. Fourth international conference on integrating GIS and environmental modeling. Banff Canada.
66. 2000 Land modeling in the Ipswich watershed. LTER All Scientists. Snowbird UT. poster.
67. 2000 Land-use change modeling. NSF-long term ecological research. Woods Hole MA.
68. 2000 Statistical methods to validate land use change models. Human Dimensions of Global Change, Carnegie-Mellon University. Pittsburgh PA.
69. 2000 The next 100 years of land use and nitrogen release in the Ipswich watershed. Executive Office of Environmental Affairs. North Shore MA.
70. 2000 Statistical methods to validate land-use simulations. Association of American Geographers. Pittsburgh PA.
71. 1999 Relative operating characteristic to validate maps of suitability for land-use change. International LUCC Workshop at Wageningen, The Netherlands.
72. 1999 Tools to protect your watershed. Parker River Watershed Association. Rowley MA.
73. 1999 Public participation in GIS. University Consortium on Geographic Information Science.

Minneapolis MN.

74. 1999 Land-use change modeling in the Ipswich watershed. US EPA. Washington DC.
75. 1999 Lessons for integrated modeling. National Science Foundation, Human Dimensions of Global Change, Carnegie-Mellon University. Pittsburgh PA.
76. 1999 Land-use change modeling. Marine Biological Laboratory. Woods Hole MA.
77. 1998 Modeling the spatial pattern of land-use change. Association of American Geographers. Boston MA.
78. 1997 Scenarios of Global Change Using POLESTAR. Global Scenario Group, Stockholm Environment Institute. Boston MA.
79. 1993 A coordinated research program on carbon fluxes in the tropics IV: a geographically based model of carbon flux due to land-use change in tropical Africa. Eighth annual landscape ecology symposium. Oak Ridge TN.

WORKSHOPS TAUGHT

1. 2017 Land Change Analysis. American Association of Geographers, Boston MA.
2. 2016 Land Change Analysis. American Association of Geographers, San Francisco CA.
3. 2015 Land Change Models. International Association for Landscape Ecology (IALE), [online](#).
4. 2015 Land Change Modeling. IALE World Congress, Portland OR.
5. 2014 Land Change Modeling. Hunan University of Science and Technology, China.
6. 2014 Land Change Modeling. Xiamen University, China.
7. 2014 Intensity Analysis. Global Land Project. Berlin, Germany.
8. 2013 Maps and Locals. LTER. Boulder CO.
9. 2012 Land Change Modeling. Brisbane, Australia.
10. 2012 Land Change Modeling. Cairns, Australia.
11. 2012 Land Change Modeling. Guanajuato, Mexico.
12. 2012 Land Change Modeling. Inter. Assoc. for Landscape Ecology (IALE). Newport, RI.
13. 2012 Accuracy Assessment. Surveyor General of the Federation. Abuja, Nigeria.
14. 2012 Land Change Modeling. RECTAS. Ile-Ife, Nigeria.
15. 2012 Land Change Modeling. Universidad de Alcalá. Alcala de Henares, Spain.
16. 2011 Land Change Modeling. University of Twente (ITC). Enschede, The Netherlands.
17. 2011 Land Change Modeling. XIX Reunion Nacional SELPER. Morelia, Mexico.
18. 2011 Land Change Modeling. Geo-information Society of Namibia. Windhoek, Namibia.
19. 2011 Land Change Modeling. University of Maine. Orono ME.
20. 2011 Land Change Modeling. Association of American Geographers. Seattle WA.
21. 2010 Land Change Modeling. SAGEO. Toulouse, France.
22. 2010 Land Change Modeling. Global Land Project. Sapporo, Japan.
23. 2010 Land Change Modeling. Global Land Project. Tempe AZ.
24. 2010 Land Change Modeling. Association of American Geographers. Washington DC.
25. 2010 Maps and Locals. LTER. Fairbanks AK.
26. 2009 Maps and Locals. LTER All Scientists Meeting. Estes Park CO.
27. 2009 Land Change Modeling. Association of American Geographers. Las Vegas NV.
28. 2008 Land Change Modeling Methods. University of Aegean. Mytilene, Greece.
29. 2007 Land Change Modeling in Carbon Projects. Conservation International. Quito, Ecuador.
30. 2007 Land Change Modeling. IALE World Congress. Wageningen, The Netherlands.

31. 2007 Science of Map Comparison series of lectures. Astrakhan, Russia.
32. 2006 Land Change Modeling. Inter. Assoc. for Landscape Ecology (IALE). San Diego CA.
33. 2005 Land Change Modeling. Inter. Assoc. for Landscape Ecology (IALE). Syracuse NY.
34. 2005 Land Change Modeling. Ashoka Trust (ATREE). Bangalore, India.
35. 2003 Land Change Modeling. Universidade Nova de Lisboa. Lisbon, Portugal.
36. 1999-2004 Statistics in Environmental Science. Antioch College. Keene NH.

MEDIA APPEARANCES

1. 2013 Television Interview. WCCA Worcester, Massachusetts
2. 2012 Radio Interview. University of Lagos, Nigeria.
3. 2008 Radio Interview. WICN Worcester, Massachusetts.
4. 2007 Television Interview. Astrakhan, Russia.

COURSES TAUGHT AT CLARK UNIVERSITY (AND OTHER INSTITUTIONS)

Professional seminar on geographic information sciences for development and environment
1998-2003, 2006-2010.

Research seminar on geographic information sciences for development and environment
1999-2010.

Research seminar on Human-Environment Regional Observatory
2001-2010.

Land and Water Resources
2013.

Introduction to computer and quantitative methods
1999-2003, 2006, 2008, 2012.

Advanced Raster GIS
2010-2011.

GIS and land change models
1999-2009, 2014-2017.

GIS and map comparison
2009, 2011, 2013-2017.

GIS and land change science
2005-2010, 2012-2016.

Ecology and economy in the tropics
1998-2000.

Introduction to quantitative modeling (Boston University)
1995.

Introduction to geographic information science (Boston University)
1995.

Environmental problems in developing countries (Boston University)
1994.

International resources and environmental management (Boston University)
1994.

Mathematics for the social sciences (The Ohio State University)
1988.

Advanced level mathematics (Kilakala Secondary School, Tanzania)
1985-1987.

ADVISOR OF STUDENT THESES

Major advisor of doctoral dissertation:

1. 2013. N Giner (co-advisor with C Polsky). Validating, analyzing, and predicting lawn maps: application of GIScience and spatial analysis in the northern Boston suburbs.
2. 2012. S Aldwaik. Fundamental concepts of intensity analysis to understand changes among categories.
3. 2012. R Rakshit. Accuracy assessment of object-based image analysis maps.
4. 2012. D Runfola (co-advisor with C Polsky). Human-environment interactions across space and time: examining lawns and land change in the United States.
5. 2010 Z Jiang (co-advisor with R Eastman). Development of an areal object based network pattern classification in road extension simulation.
6. 2009 H Chen. Methods to explore the relationship between land change prediction and its variables through accuracy assessment.

Reader for doctoral dissertation: Manson, McEachern, Pacheco, Snell.

Major advisor of Masters papers:

1. 2017 J McDermott. Use of one versus two time points for calibration of land change models.
2. 2016 S Philbrick. Analyzing the response of land change models to intractable problems.
3. 2015 Y Finegold. Probabilities in land change modeling.
4. 2013 L Cornell. Assessment and Modeling of Hydrological Response to Urbanization.
5. 2011 R Chaudhry. Developing web-based “Interval, Category, and Transition Application”.
6. 2011 T Hamill. Spatial methods to predict land cover.
7. 2011 D Rees. Relationship between fine green vegetation and socioeconomic factors.
8. 2011 W Xiang. Comparison of flow matrix and Markov matrix.
9. 2011 Y Zhang. Characterizing land changes over several points in time.
10. 2010 S Blanchard. Implications of using fine versus coarse spatial resolution data in LUCC.
11. 2010 R Shmookler. Modeling water use in the metropolitan area planning council region.
12. 2010 W Adjei. Testing the sensitivity of land change results to category aggregation.
13. 2010 J Alpern. How to tell when map difference indicates land change.
14. 2010 T Nguyen. Sensitivity of land cover analysis to category aggregation.
15. 2009 S Broo. Managing water resources for suburban drought.
16. 2008 C Brill. Using GIS to contrast perceived versus preferred priorities for redevelopment.
17. 2008 O Kim. Comparison of two land change modules: the case study of Bolivia.
18. 2007 V Guterrez. How accurate do land change models need to be?
19. 2007 S Aldwaik. Transportation paths between the West Bank and Gaza Strip.
20. 2007 X Li. Method to estimate the land transition matrix from two erroneous maps.
21. 2007 J Pearson. Influence of spatial extent on the measurement of land change.
22. 2007 N Teougam. Assessing systematic transitions of land use at different spatial resolutions.
23. 2006 G Kariuki. Measurement of map comparison at multiple spatial and temporal scales.
24. 2006 J Nsibirwa. What are the sources of uncertainty in the 1951 map of the Worcester area.
25. 2006 M Rayner. A sampling strategy for evaluating land cover change in Brazil.
26. 2006 S Peethambaram. Three dimensional matrix for comparing three maps.

27. 2006 L Silva. A stratified random sampling strategy in Minas Gerais, Brazil.
28. 2005 D Sucharski. Improvements for the use of the ROC to compare maps.
29. 2004 J Duncan. Framework for measuring the influence of leakage.
30. 2004 E Fedorko. Spatial Distribution of land use in regression models of pollutant loading.
31. 2004 K Kuzera. A technique for understanding issues of scale in map comparison.
32. 2004 S Petrova. Using imperfect data to validate a land change model.
33. 2004 O Thontteh. Verification of vegetation index predictions using multi-scale comparison.
34. 2004 R Yao-Kumah. Model validation to determine research priorities.
35. 2003 C Alo. Detecting the influence of protection on landscape transformation in Ghana.
36. 2003 S Grimland. Prediction of mercury concentration in sediment in Maine.
37. 2003 S Gupta. Effectiveness of land conservation for biodiversity protection in India.
38. 2003 L Paladino. Accuracy assessment in baseline projections for forestry projects.
39. 2003 J Spencer. Uncertainty in extrapolations of predictive land change models.
40. 2002 K Denman. Predictability of land change at multiple resolutions.
41. 2002 M Castrence. Rapid coral reef assessment with remote sensing.
42. 2002 M Cheuk. A generalized confusion matrix for comparing soft-classified maps.
43. 2002 M Komwa. Assessing best bet cropping patterns in Malawi.
44. 2002 J Head. Identifying impermeable surface from remotely sensed images.
45. 2002 M Lowry. Site Selection for the Nashua River Watershed Association.
46. 2002 N Moore. A leakage detection model for determining the value of conservation.
47. 2002 D Parker. A Method to Produce Hydrologically Corrected DEMs.
48. 2001 A Agrawal. Uncertainty analysis of land-use change modeling in GIS.
49. 2001 K Al-Ghamdi. Establishing a municipal GIS to manage utilities of Arriyadh City.
50. 2001 K Batchu. Using ROC to quantify uncertainty in prediction of land cover in India.
51. 2001 M Cope. Land cover classification using Fisher's linear discriminant analysis.
52. 2001 A Dushku. Assessing effectiveness of carbon offset projects with a GIS model.
53. 2001 K Leung. Incorporation of Spatial Configuration in Land Allocation.
54. 2001 R Meyer. Evaluation of video data for vegetation mapping in Botswana.
55. 2001 A Nelson. Quantifying the effectiveness of conservation projects 1.
56. 2001 N Pieri. Quantifying the effectiveness of conservation projects 2.
57. 2001 C Rossi. GIS and discriminant analysis to determine the habitat of a fish species.
58. 2001 B Suedmeyer. Components of agreement in maps at multiple resolutions.
59. 2001 T Tada. Land use and nitrate loading in small stream catchments.
60. 2001 K Walton. Shaping the views of the forest industry in Maine.
61. 2000 B Bouvier. Opium cultivation and land use change in northeast Myanmar.
62. 2000 P Coye. Modeling land use and nutrient loading for the Onota Lake watershed.
63. 2000 A Gonzales. Environmental Justice in Puerto Rico: a GIS approach.
64. 2000 M Hayward. Using GIS to identify trends in infant mortality in Worcester MA.
65. 2000 C Kigasawa. Rice cultivation and land-use change in the Amano Watershed. Japan.
66. 2000 C Lee. Land-cover change in China using time series analysis. 1982 - 1999.
67. 2000 P Palmero. Nature reserve selection and design for species conservation.
68. 2000 I Popescu. Northeast Myanmar: A GIS weight of evidence modeling approach.
69. 2000 J Puhakka. Establishing municipal GIS for utilities and excavation damage control.
70. 1999 A Alspach. Appropriate GIS.
71. 1999 P Burgess. Conservation and development in conflict.

72. 1999 S Ford. From paper charts to virtual maps in the marine environment.
 73. 1999 D Juhn. Modeling forest disturbance resulting from scenarios of migration in Peru.
 74. 1999 D Koch. Forest cover change in the Bolivian lowlands.
 75. 1999 S Menard. Land-use change and regional growth in the Ipswich watershed basin.
 76. 1999 M Metevier. Generation and evaluation of scenarios for local planning.
 77. 1999 L Sotomayor. GIS Analysis: monitoring and modeling of mangrove in Ecuador.
 78. 1999 J Suero. The credibility of indigenous knowledge.
 79. 1999 E Whitaker. Evaluation of environmental tobacco advertisements in Worcester.
 80. 1998 C Huang. Real-time landscape monitoring during typhoon period in Taiwan.
 81. 1998 D Ly. Spatial statistical analysis of deforestation in Cambodia 1992 to 1995.
 82. 1995 S DeMarta. Evaluation of the green revolution and alternatives in Latin America.
 83. 1995 J Kramer. Community-based conservation in southern Africa.
- Reader for Master of Arts: Armistead, Ambagis, Bennett, Benz, Eschenbacher, Fulk, Gabrielle, Marcano, Normandin, Shandra, Sinvula, Silinski, Sweet.

Major advisor of Undergraduate Honors theses:

1. 2017 D O'Brien. GIS Validation for projects to Reduce Emissions (REDD). Honors.
 2. 2015 R Chapman. Algorithm to compare maps of a continuous variable. High Honors.
 3. 2013 Y Finegold. Projecting Global Forest Resources to 2050. Highest Honors.
 4. 2010 T Hamill. Visualizing and computing land cover proportions. High Honors.
 5. 2010 K Travis. Developing validation protocols for a water database. High Honors.
 6. 2006 J Connors. Quantifying associations for comparison of maps. Highest Honors.
 7. 2004 N Malizia. Effect of category aggregation on map comparison. Highest Honors.
 8. 2003 D Huffaker. The scale at which land change models are accurate. High Honors.
 9. 2003 P Morris. Measuring and predicting leakage from conservation projects. High Honors.
 10. 2002 S Aldrich. Water Quality as a function of land use. High Honors.
 11. 2002 E Frost. Phosphorous concentrations of Blackstone River. High Honors.
 12. 2002 J Hecht. Effects of land cover, precipitation and geology on low flows. Honors.
 13. 2002 E Shusas. Detecting the process in a pattern. High Honors.
 14. 2001 L Penniman. Sedimentation in the Tatnuck Brook Watershed. Highest Honors.
- Reader for Undergraduate Honors: McArdle, Shandra, Zarin.

ADVISEE AWARDS

1. 2017 D O'Brien. AAG GIS/RS/Cartography 3rd Place Poster
2. 2015 R Chapman. AAG GIS/RS/Cartography 3rd Place Poster
3. 2013 L Hansen. Association of American Geographers GIS/RS/Cartography 2nd Place Poster
4. 2012 D Runfola. Coupled Human and Natural Systems Fellow
5. 2012 K Si. AAG Spatial Analysis & Modeling 2nd Place Paper
6. 2012 C Keeler. AAG Water Resources Undergraduate 1st Place Poster
7. 2011 C McCann. AAG Water Resources Undergraduate 1st Place Poster
8. 2011 Y Zhang. AAG Spatial Analysis & Modeling 2nd Place Paper
9. 2011 S Geise. Association of American Geographers GIS/RS/Cartography 3rd Place Poster
10. 2010 S Aldwaik. Coupled Human and Natural Systems Fellow
11. 2010 K Johnson. AAG Spatial Analysis & Modeling Undergraduate 1st Place Paper
12. 2010 K Travis. AAG Water Resources Undergraduate 1st Place Poster

13. 2010 N Giner. Association of American Geographers Remote Sensing 2nd Place Paper
14. 2010 Y Zhang. Association of American Geographers GIS/RS/Cartography 2nd Place Poster
15. 2010 J Alpern. Association of American Geographers GIS/RS/Cartography 3rd Place Poster
16. 2008 O Kim. Association of American Geographers GIS/RS/Cartography 2nd Place Poster
17. 2008 C Brill. Urban and Regional Information and Systems Association 2nd Place Paper
18. 2007 S Aldwaik. Urban and Regional Information and Systems Association 1st Place Paper
19. 2007 B Parmentier. Association of American Geographers GIS Finalist Paper
20. 2007 M Millones. Association of American Geographers RS Honorable Mention Paper
21. 2006 J Connors. Association of American Geographers GIS/RS/Cartography 2nd Place Poster
22. 2004 N Malizia. Association of American Geographers GIS Finalist Paper
23. 2004 C Lippitt. Association of American Geographers Remote Sensing 1st Place Paper
24. 2004 E Fedorko. Association of American Geographers Water Resources 1st Place Poster

MAJOR SERVICE TO CLARK UNIVERSITY (YEARS)

Co-Chair of Sustainability Taskforce Ad Hoc Subcommittee (2013-2014)
 Chair of Task Force on Undergraduate Education (2008-2009)
 Co-Chair of United Way (2008-2009)
 Member of Committee on Personnel (2005-2008, 2016-2017), chair during 2007-2008
 Member of Athletics Committee (2014-2017)
 Member of Steering Committee (2007-2008)
 Member of Academic Affairs Committee (2007-2008)
 Member of Research Board (2003)

MAJOR SERVICE TO DEPARTMENTS OF GEOGRAPHY AND IDCE (YEARS)

Associate Director of Graduate School of Geography (2015-2017)
 Chair of Doctoral Admissions Committee (2014-2017)
 Chair of Undergraduate Studies Committee (2009-2011)
 Chair of Atwood Committee (2008-2009)
 Chair of GIS Professor Search Committees (2005-2006, 2008-2009)
 Chair of Personnel Promotion Committees (2006, 2010, 2012, 2013)
 Acting Director for Department of IDCE (2007)
 Chair of GISDE 5-year plan (2005-2006)
 Coordinator of Master of Arts program in GIS for Development and Environment (1998-2008)

MEMBERSHIPS

Honor Society of Phi Kappa Phi
 Union of Concerned Scientists

REFERENCES

Dr. Daniel Brown
 Professor of Natural Resources and Environment
 Director of Environmental Spatial Analysis Laboratory
 University of Michigan
 440 Church Street, 3505 Dana Building
 Ann Arbor MI 46109-1041

USA

e-mail: danbrown@umich.edu

telephone: 001 734 763 5803

fax: 001 734 936 2195

Dr. J Ronald Eastman

Landry University Professor of Geography

Clark University

950 Main Street

Worcester MA 01610

USA

e-mail: reastman@clarku.edu

telephone: 001 508 849 2321

fax: 001 508 793 8881

Dr. Anne E Giblin

Senior Scientist

Lead Principal Investigator for Plum Island Ecosystems Long Term Ecological Research site

The Ecosystems Center

Marine Biological Laboratory

7 MBL Street

Woods Hole MA 02543

USA

e-mail: agiblin@mbl.edu

telephone: 001 508 289 74488

Dr. Charles S Hopkinson Jr

Professor of Marine Sciences

Director of Georgia Sea Grant College Program

University of Georgia

Athens GA 30602

USA

e-mail: chopkins@uga.edu

telephone: 001 706 542 1855

Dr. Billie Lee Turner II

Gilbert F. White Professor of Environment and Society

School of Geographical Sciences

P. O. Box 87014

Arizona State University

Tempe AZ 85287-0104

USA

e-mail: billie.turner@asu.edu

telephone: 001 480 965 7533

fax: 001 480 965 8313

Dr. A Tom Veldkamp

Rector, Faculty of Geo-Information Science and Earth Observation (ITC)

University of Twente

P.O. Box 6

7500 AA Enschede
The Netherlands
e-mail: veldkamp@itc.nl
telephone: 31 053 4874269
fax: 31 053 4874200

Dr. Jianguo Wu

Dean's Distinguished Professor of Landscape Ecology / Sustainability Science
Editor of Landscape Ecology
Arizona State University
P. O. Box 874501
Tempe AZ 85287-4501
e-mail: jingle.wu@asu.edu
telephone: 001 480 965 1063
fax: 001 480 965 6899