

RESUME

J. Ronald Eastman

Citizenship : Canada (permanent resident U.S.A.)
Languages : English, French, Spanish (basic)

EDUCATION :

1979-82 Boston University, Boston, Massachusetts, U.S.A.
Ph.D. (Geography) 1982.

1975-77 Queen's University, Kingston, Ontario, Canada.
M.A. (Geography) 1977.

1967-71 Bishop's University, Lennoxville, Quebec, Canada.
B.A. (Psychology) 1971.

PROFESSIONAL POSITIONS :

2007- 2010 September 2007 – August 2010
Jan and Larry Landry University Professor
Clark University

1994- May 1994 - present
Professor
Clark University, Graduate School of Geography

1991- September 1991 - present
Director, Clark Labs
The George Perkins Marsh Institute at Clark University

1998-2002 June 1998 – August 2002
Chair, Graduate School of Geography, Clark University

1996-2001 Sept. 1996 – Aug. 2001
Visiting Professor
Department of Resource and Environmental Sciences
Beijing Normal University
Beijing, China

1992-1997 Jan. 1992 – Dec 1997
Senior Special Fellow
United Nations Institute for Training and Research (UNITAR)
European Office : Geneva

1988-1994 Sept. 1988 - May 1994
Associate Professor
Clark University, Graduate School of Geography

1981-88 Sept. 1981 - Aug. 1988
Assistant Professor (Visiting 1981-85)

Clark University, Graduate School of Geography

1981

Jan. 1981 - April 1981

Lecturer

Boston University, Department of Geography.

PAPERS AND PUBLICATIONS :

Peer Reviewed Journal Articles

- Lippitt, C.D., Rogan, J., Li, Z., Eastman, J.R., Jones, T.G., (accepted) "Mapping Selective Logging in Mixed Deciduous Forest: A Comparison of Machine Learning Algorithms", *Remote Sensing of the Environment*.
- Lippitt, C.D., Rogan, J., Toledano, J., Sangermano, F., Eastman, J.R., Mastro, V., and Sawyer, A. (2008) "Incorporating Anthropogenic Variables into a Species Distribution Model to Estimate the Risk of Gypsy Moth Establishment in Uninfested Portions of the United States", *Ecological Modeling*, 210, 3, 339-350.
- Li, Z., and Eastman, J.R., (accepted) "Commitment and Typicality Measures for the Self-Organizing Map", *International Journal of Remote Sensing*.
- Li, Z., and Eastman, J.R., (2006) "Commitment and Typicality Measurements for Fuzzy ARTMAP Neural Network", *Proceedings of SPIE -- The International Society for Optical Engineering*, Volume 6420, 64201I-1 – 64201I-14.
- Vester, H.F.M., Lawrence, D., Eastman, J.R., Turner, B.L. II, Calme, S., Dickson, R., Pozo, C., Sangermano, F., (2007) Land Change in the Southern Yucatán and Calakmul Biosphere Reserve: Implications for Habitat and Biodiversity, *Ecological Applications*, 17, 4, 989-1003.
- Li, Z., Eastman, J.R., (2006) The Nature and Classification of Unlabelled Neurons in the Use of Kohonen's Self-Organizing Map for Supervised Classification, *Transactions in GIS*, 10, 4, 599-613.
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- D. Lawrence, H. Vester, D. Pérez-Salicrup, R. Eastman, B. L. Turner II, and J. Geoghegan. (2003) Integrated Analysis of Ecosystem Interactions with Land-Use Change: The Southern Yucatán Peninsular Region. In *Ecosystem Interactions with Land Use Change*, G. Asner and R. DeFries, eds., Geophysical Monograph Series 153, 277-292 (Washington, D.C.: American Geophysical Union).
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- Haan, N., Gumbo, D., Eastman, R., Toledano, J., and Snel, M., (2002) Linking Geomatics and Participatory Social Analysis for Environmental Monitoring—Case Studies from Malawi, *Cartographica*, 37, 4, 21-32.
- Anyamba, A., Tucker, C.J., and Eastman, J.R., (2001) "NDVI Anomaly Patterns over Africa during the 1997/98 ENSO Warm Event", *International Journal of Remote Sensing*, 22, 10, 1847-1859.
- Zhu, H., Eastman, J.R., and Toledano, J., (2001) "Triangulated Irregular Network Optimization from Countour Data using Bridge and Tunnel Edge Removal", *International Journal of Geographical Information Science*, 15, 3, 271-286.
- Jiang, H., and Eastman, J.R., (2000) "Application of Fuzzy Measures in Multi-Criteria Evaluation in GIS", *International Journal of Geographical Information Science*, 14, 2, 173-184.

- Foresman, T.W., Cary, T., Shupin, T., Eastman, R., Estes, J.E., Faust, N., Jensen, J.R., and Kemp, K.K., (1997) "Internet teaching foundation for the Remote Sensing Core Curriculum program", *ISPRS Journal of Photogrammetry and Remote Sensing*, 52, 294-300.
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- Eastman, J.R., and Fulk, M., (1993) "Long Sequence Time Series Evaluation using Standardized Principal Components", *Photogrammetric Engineering and Remote Sensing*, 59, 8, 1307-1312.
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- Eastman, J.R., (1986) "Opponent Process Theory and Syntax for Qualitative Relationships in Quantitative Series", *The American Cartographer*, 13, 4, 324-333.
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- Eastman, J.R., (1985) "Graphic Organization and Memory Structures for Map Learning", *Cartographica*, 22, 1, 1-20.
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- Castner, H.W., Eastman, J.R., (1984) "Eye Movement Parameters and Perceived Map Complexity, Part 1", *The American Cartographer*, 11, 2, 107-117.
- Eastman, J.R., (1981) "The Perception of Scale Change in Small-Scale Map Series", *The American Cartographer*, Vol. 8, No. 1, 5-21.
- Eastman, J.R., Nelson, B., Shields, G., (1981) "Production Considerations in Isodensity Mapping", *Cartographica*, Vol. 18, No. 1, 24-30.

Other Publications

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- Eastman, J.R., (2001) "The Evolution of Modeling Tools in GIS", *Directions Magazine*, July 2001, (*on-line magazine* (www.directionsmag.com)).
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- Gumbo, D., Eastman, J.R., Toledano, J., Snel, M., and Haan, N., (2000) "It Takes a Village : Assessing Social Causes of Environmental Change in Africa", *GeoInfo Systems*, 10, 1, 22-27.
- Eastman, J.R., (1997) "GIS and Uncertainty Management : New Directions in Software Development", *Lurralde : investigación y espacio*, 20, 53-66.
- Eastman, J.R., Gold, S., (1997) "Assessing the Impacts of Sea-Level Rise in Vietnam", *GeoInfo Systems*, 7, 1, 38-43.
- Eastman, J.R., Toledano, J., (1996) "Forest Monitoring in Malawi", *Earth Observation Magazine*, 5, 9, 28-31.
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- Eastman, J.R., (1988) "Idrisi : A Geographic Analysis System for Research Applications", *The Operational Geographer*, 15, 17-21.
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Published Software

- Eastman, J.R., (2007) *The Land Change Modeler, a software extension for ArcGIS* (Worcester, MA: Clark University)
- Eastman, J.R., (2006) *IDRISI 15.0 : The Andes Edition* (Worcester MA: Clark University).
- Eastman, J.R., (2003) *IDRISI : The Kilimanjaro Edition* (Worcester MA: Clark University).
- Eastman, J.R., (2001) *IDRISI32 : IDRISI for Workstations*, Release 2 (Worcester MA: Clark University).
- Eastman, J.R., (1999) *IDRISI32 : IDRISI for Workstations*, [Version 3.0] (Worcester MA: Clark University)
- Hagan, J., Eastman, J.R., Auble, J., (1999) *CartaLinx*, Version 1.2 (Worcester MA: Clark University)
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Eastman, J.R., Van Fossen, M. E. and Solorzano, L.A., (2005) "Transition Potential Modeling for Land Cover Change", Chapter 17 in *GIS, Spatial Analysis and Modeling*, D. Maguire, M. Batty, and M. Goodchild, eds., (Redlands, California : ESRI Press), 357-386.

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Eastman, J.R., Emani, S., Hulina, S., Jiang, H., Johnson, A., Ramachandran, M., (1997) *Applications of Geographic Information Systems (GIS) Technology in Environmental Risk Assessment and Management*, (UNEP, Division of Environmental Information and Assessment, Sioux Falls, SD).

Eastman, J.R., C.F. Hutchinson, M. Fulk, and J. Toledano. (1993) *The GIS Handbook*, (U.S. Agency for International Development, (1-3/93) ARTS/FARA.)

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- Jiang, H., and Eastman, J.R., (1997) "Application of Fuzzy Measures in Multi-Criteria Evaluation in GIS", *Proceedings, 13th International Conference on Multiple Criteria Decision Making*, Jan. 6-10, 1997, Cape Town, South Africa.
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- Eastman, J.R., Anyamba, A., (1996) "Prototypical Patterns of ENSO-related Drought and Drought Precursors in Southern Africa", *Proceedings, Pecora 13*, 438-446.
- Eastman, J.R., Jiang, H., (1996) "Fuzzy Measures in Multi-Criteria Evaluation", *Proceedings, Second International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Studies*, May 21-23, Fort Collins, Colorado, 527-534.
- Eastman, J.R., (1996) "Uncertainty and Decision Risk in Multi-Criteria Evaluation: Implications for GIS Software Design", *Proceedings, International Institute for Software Technology Expert Group Workshop on Software Technology for Agenda'21 : Decision Support Systems*. Section 8.
- Eastman, J.R., Anyamba, A., Ramachandran, M., (1996) "The Spatial Manifestation of ENSO in Southern Africa", *Proceedings, Conference on the Application of Remotely Sensed Data and Geographic Information Systems in Environmental and Natural Resources Assessment in Africa*, Harare, March 15-22, 269-281.

- Anyamba, A., Eastman, J.R., Fulk, M., (1995) "NDVI Image Time Series as an Indicator of Climate Variability", *Proceedings, ACSM/ASPRS Technical Papers*, 3, 714-723.
- Eastman, J. R., Anyamba, A. and Ramachandran, M., (1995) "African Vegetation Data Support Evidence of a Developing ENSO Warm Phase". *Proceedings, AFRICAGIS'95*, March 4-10, 1995. Abidjan, Cote d' Ivoire.
- Eastman, J.R., Toledano, J., Jin, W., Kyem, P.A.K., (1993) Participatory Multi-Objective Decision Making in GIS, *Proceedings, AUTOCARTO XI*, 33-42.
- Eastman, J.R., (1993) Decision Theory and GIS, *Proceedings, Africa GIS'93, UNITAR/UNSO/SSO*, 45-64.
- Eastman, J.R., Jin, W., Kyem, P.A.K., Toledano, J., (1993) "An Algorithm for Multi-Objective Land Allocation Using GIS", *Proceedings, International Workshop on GIS'93*, Beijing, August, 261-270.
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- Eastman, J.R., (1990) "Digital Atlas/Encyclopedia Systems for the Exploration of Global Change", *Proceedings, International Society for Photogrammetry and Remote Sensing Commission IV*, 28, 4, 1-8.
- Eastman, J.R., (1989) "Requirements of a Research System for Cartographic Modeling and Geographic Analysis", *Proceedings, International Cartographic Association*, 14th International Conference, Budapest, [in press (Hungarian currency problems may ultimately prohibit final publication)].
- Eastman, J.R., (1989) "Pushbroom Algorithms for Calculating Distances in Raster Grids", *Proceedings, AUTOCARTO 9*, 288-297.
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Other Publications

Eastman, J.R., (2002) "Analyzing Motion with Trend Surface Analysis", *Analytical Notes*, 1, www.clarklabs.org.

Anyamba, A., Eastman, J.R., Ramachandran, M., (1998) *The Clark Labs ENSO Monitor, Southern Africa Report*, Volume 1, Number 7, March 1998, (www.idrisi.clarku.edu/10applic/assaf1/monitfront.htm).

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Published Reviews

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- Eastman, J.R., (1987) Review of MicroTerm's Foresight 4560 Graphics Terminal, *Digital Review*, April 6, 71-73.
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Unpublished Conference Papers and Presentations (* = published abstract)

- *Eastman, J.R., (2008) "An Integrated GIS Extension for Image Time Series Analysis", presented at the Association of American Geographers Annual Meeting, Boston, April 15-19.
- *Sangermano, F. and Eastman, J.R., (2008) "Species Distribution Modeling from Polygon Data: A Procedure for the Redefinition of Species Range Polygons", presented at the Association of American Geographers Annual Meeting, Boston, April 15-19.
- Eastman, J.R., (2008) "Developing an Earth System Monitoring Workstation for Global Change Research", invited lecture, Wood's Hole Research Center, February 4, 2008.
- Eastman, J.R., (2008) "Imaging Climate Change", invited presentation, Clark University Teach-in on Climate Change, January 31, 2008.
- Eastman, J.R., (2007) "A Climate Teleconnection-based Early Warning System for Food, Health and Ecosystem Security", presented to the Google Foundation and the Gordon and Betty Moore Foundation, April 19, 2007.
- Eastman, (2007) "GIS, Monitoring and Prediction", presented to the Google Foundation, March 7, 2007.
- Eastman, J.R., (2006) "Harmonic Trend Analysis of Remotely Sensed Time Series for Ecosystem Monitoring", presented at the Second Tropical Ecology Assessment and Monitoring (TEAM) Network Science Meeting, Dec. 1, 2006, Manaus, Brazil.
- Eastman, J.R., (2006) "Software Development for Biodiversity Conservation", presented to the Gordon and Betty Moore Foundation, San Francisco, Nov. 2, 2006.
- Eastman, J.R., (2006) "The Land Change Modeler for Ecological Sustainability", presented to the University of Redlands, Redlands Calif., Nov. 1, 2006.
- Eastman, J.R., (2006) "The Land Change Modeler for Ecological Sustainability", presented to the American Society for Photogrammetry and Remote Sensing, New England Chapter, Worcester, Oct 2, 2006.
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- Eastman, J.R., (2006) "A GIS Modeling Environment for Land Cover Change and Habitat Assessment", presented to the United States Regional Chapter of the International Association for Landscape Ecology Annual Symposium, San Diego, March 28-31, 2006.
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- Eastman, J.R., and Sangermano, F., (2005) "Modelos de Distribución de Especies Utilizando Tipicalidades Standard y Ponderadas" presentation to the NatureServe Workshop *Modelos de Predicción para la Distribución de Especies Andinas*, Lima, Peru, September 26, 2005.
- Eastman, J.R., (2005) "Envisioning the Endgame: Analysis and Planning Tools for Balancing Development and Ecological Sustainability", keynote presentation, Resource Management Tools and Geospatial Conference, Phoenix, April 18-22.
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- Eastman, J.R., (2005) "ANDES : Analysis of Nature and Development for Ecological Sustainability", invited lecture presented to the Centro Interamericano de Recursos del Agua (CIRA), Universidad Autonoma del Estado de Mexico, February 25.
- Eastman, J.R., (2004) "ANDES : Analysis of Nature and Development for Ecological Sustainability", invited presentation, Conservation International Biodiversity Corridors Workshop, Santarem, Brazil, Dec 6-10.
- Eastman, J.R., (2004) "Clark Labs and the IDRISI GIS and Image Processing System" invited lecture presented to Escuela de Asuntos Ambientales, Universidad Metropolitana, San Juan, Puerto Rico. November 12, 2004.
- Eastman, J.R., (2004) "'Major Challenges in Developing a Modeling Environment for Land Change Science", invited lecture presented to Escuela de Asuntos Ambientales, Universidad Metropolitana, San Juan, Puerto Rico. November 11, 2004.
- Eastman, J.R., (2004) "Transition Potential Modeling for Land Cover Change Analysis", invited lecture presented to the University of Brasilia, Oct. 115, 2004.
- Eastman, J.R., (2004) "Developing a Modeling Environment for Land Change Science", invited lecture presented to Conservation International, Campo Grande, Brasil, Oct. 7, 2004.
- Eastman, J.R., (2004) "IDRISI : Past Objectives / Future Challenges", keynote presentation, IDRISI Latin American and Spanish Users Conference, Centro Interamericano de Recursos del Agua (CIRA), Universidad Autonoma del Estado de Mexico, June 13-15.
- Eastman, J.R., (2004) "Land Cover Change Modeling", invited lecture presented to the Centro Interamericano de Recursos del Agua (CIRA), Universidad Autonoma del Estado de Mexico, March 18, 2004.
- Eastman, J.R., (2004) "Analytical Developments in Geographic Information Systems", invited presentation to the National Science Foundation, in conjunction with the Association of American Geographer's 100th Anniversary, Philadelphia, March 15, 2004.
- Eastman, J.R., (2003) "Research Directions and Software Development for the IDRISI System", invited presentation to the Inter-American Workshop on HydroGeomatics, Universidad Autonoma del Estado de Mexico, Toluca, October 2003.

- Eastman, J.R., (2003) GIS Software Development: The Critical Role of Academic Institutions, invited lecture presented to Harvard University Graduate School of Design, March 21, 2003.
- Eastman, J.R., (2002) "Software Tools for Supervised Image Classification", Workshop presented at the 29th *International Symposium on Remote Sensing of the Environment*, Buenos Aires, April 7, 2002.
- Eastman, J.R., and Pontius, R.G., (2002) "Master of Arts in Geographic Information Science for Environment and Development:", presented to the Association of American Geographers, Annual Meeting, March 19-23, Los Angeles, CA.
- Eastman, J.R., (2002) "Spatial Decision Support Systems for Sustainable Development", invited paper presented to the National Research Council Board on Earth Sciences and Resources, Committee on the Geographic Foundation for Agenda 21, Washington, Jan. 10-11, 2002.
- Eastman, J.R., Toledano, J., Crema, S and Zhu, H., (2001) "In-Process Classification Assessment (IPCA) of Remotely Sensed Imagery", *Remote Sensing and Accuracy Assessment Symposium*, Las Vegas Nevada, Dec 11-13.
- Eastman, J.R., (2001) "Effective Use of Data through Uncertainty Management", keynote presentation to AfricaGIS 2001, Nairobi, Kenya, Nov. 5-9.
- Eastman, J.R., and Anyamba, A., (2001) "Spatial prediction of growing season characteristics based on time series image analysis", paper presented to USAID/FEWS and NASA, NASA Goddard Space Flight Center, September 6, 2001.
- Eastman, J.R., (2001) "GIS, Decision Science and the Analysis of Landscape Change", keynote address (invited), *Workshop on Landscape Change*, National Center for Geographic Information and Analysis, Santa Barbara, January 25-27, 2001.
- Eastman, J.R., (2000) "Managing Uncertainty for Effective Use of Data in GIS", keynote address (invited), *GISDECO 2000*, International Rice Research Institute, Los Banos, Philippines, Nov. 2-3, 2000.
- Eastman, J.R., and Toledano, J., (2000) "Markov Chain and Cellular Automata Approaches to Land Cover Change Modeling", workshop presentation (invited), 4th *International Conference on Integrating GIS and Environmental Modeling*, Banff, Alberta, Sept. 2-8, 2000.
- Eastman, J.R., (2000) "Uncertainty Management: A New Horizon for GIS", keynote address (invited), presented at *GISBrasil 2000*, Salvador, Bahia, Brazil, Aug.7-11, 2000.
- Eastman, J.R., (2000) "Application of GIS in Land Use Planning, Part I : Multi-Criteria / Multi-Objective Decision Tools for Land Allocation", workshop presentation (invited) , *GISBrasil 2000*, Salvador, Bahia, Brazil, Aug.7-11, 2000.
- Eastman, J.R., (2000) "Application of GIS in Land Use Planning, Part II : Markovian and Cellular Automata Approaches to Land Cover Classification and Change Prediction", workshop presentation (invited), *GISBrasil 2000*, Salvador, Bahia, Brazil, Aug.7-11, 2000.
- Eastman, J.R., (2000) "History and Current Developments of the IDRISI Software System", presentation to the IDRISI Brazil User's Group Meeting (invited), *GISBrasil 2000*, Salvador, Bahia, Brazil, Aug.7-11, 2000.
- Snel, M., and Eastman, J.R., (2000) "The Development of Digital Spatial Data Standards: Ensuring the Development of Interoperable Digital Spatial Data Sets" *Electronic Conference on Sustainable Information Systems Development*, June 18-20, 2000, Center for Environmental Development for the Arab Region and Europe (CEDARE)

- Eastman, J.R., and Toledano, J., "Markovian and Cellular Automata Approaches to Land Cover Classification and Change Prediction", workshop (invited), presented at the *28th International Symposium on Remote Sensing of the Environment*, March 26, 2000, Cape Town, South Africa.
- Eastman, J.R., "The Role of Universities in GIS Software Development : The IDRISI Project Experience", invited lecture presented to the Department of Geography, Boston University, Feb. 23, 2000.
- Eastman, J.R., "Clark Labs and Clark University Programs in Geographic Information Science", presentation to the Massachusetts Geographic Information Council session on *GIS Academia and the Professional Community in the Greater Boston Region*, December 7, 1999.
- Eastman, J.R., "Applications of Soft Classifiers in Remote Sensing: Maximizing the Utility of Uncertain Information", workshop presented at the *27th International Symposium on Remote Sensing of the Environment*, June 7-12, 1998, Tromso, Norway.
- Anyamba, A., Eastman, J.R., Tucker, C.J., "Warm ENSO Event of 1997/98: NDVI Precursors and Drought Pattern Prediction for Southern Africa", paper presented to the *Southern Africa Climate Outlook Forum*, May 12-15, 1998. Pilanesburg, South Africa.
- Eastman, J.R., "Application of NDVI Anomaly Patterns as Predictors of Drought in Southern Africa: 1997/98 Indications", paper presented to the *Southern Africa Climate Outlook Forum*, December 18-19, 1997. Windhoek, Namibia.
- Eastman, J.R., "Making Decisions under Uncertainty using GIS", paper presented to the *National Center for Ecological Analysis and Synthesis (NCEAS) workshop on Spatial Uncertainty*, October, 1997. Santa Barbara, California.
- Eastman, J.R., (1996) "Global Vegetation Index Time Series Image Data and the Analysis of Ecosystem Dynamics", *Ecological Resource Monitoring: Change and Trend Detection*, ASA/ESA/EPA, Laurel MD, May 1-3.
- Jiang, H., Eastman, J.R., "Representing Uncertainty in Decision Making in GIS" paper presented at GIS/LIS'96, November 19-21, 1996. Denver, Colorado.
- Eastman, J.R., "Predictive Models of Food Security in Southern Africa: Incorporating the Geography of ENSO Drought Events", paper presented to the *National Research Council workshop on Remote Sensing and Social Science Research*, Washington, DC, Nov. 12-13, 1996.
- Eastman, J.R. "The Analysis of Moving Events in Time Series Data", paper presented to the *Chinese Association of GIS*, 2nd Annual Meeting, September 10-13, 1996.
- Eastman, J.R., "Prediction of ENSO-Related Droughts in Southern Africa", *Southern Africa Development Corporation / FAO Workshop on IDRISI Applications*, March 26-27, Harare, Zimbabwe, 1996.
- Eastman, J.R., Jiang, H., workshop on "Multi-Criteria Modelling in GIS using Fuzzy Measures", *Third International Conference/Workshop on Integrating Geographic Information Systems and Environmental Modelling*, Santa Fe, NM, Jan. 21-25, 1996.
- Eastman, J.R., Ramachandran, M, "Multi-Criteria / Multi-Objective Decision Procedures using GIS" *International Institute for Software Technology Expert Group Workshop on Software Technology for Agenda'21 : Decision Support Systems*, Macau, Feb.26 - Mar. 8, 1996.
- Eastman, J.R., Anyamba, A., "Concepts and Methodology for the Implementation of GIS: Database Design", paper presented to the AFRICAGIS'95 meeting in Abidjan, March 7, 1995.

- Eastman, J.R., "Assessing a Country's Capabilities for Using New Geotechnologies", paper presented to the SPOT Data User's meeting, Feb. 2, 1995.
- Eastman, J.R., Jiang, H., "Uncertainty Metadata and GIS Software System Design", paper presented at *GISDATA'95*.
- Eastman, J.R., "Analysis of Long Time Series NDVI Data", paper presented to NASA and the USAID Famine Early Warning System, Goddard Space Flight Center, June 30, 1993.
- Eastman, J.R., "Time Series Analysis Using Standardized PCA", paper presented to the Wood's Hole Research Center, April 16, 1993.
- Eastman, J.R., "Conceptual developments and technical implementations of GIS", paper presented to the International Academy of the Environment conference "From Local to Global Environmental Management: The Geographic Information Systems Approach", Nov. 25-29, 1991
- Ruttenberg, S., Kineman, J., and Eastman, J.R., (1991) "Global Change Multithematic Database Project: How Scientists Can Collaborate to Improve Data Sets", paper delivered to the Asian IGBP Implementation Meeting, Singapore.
- Eastman, J.R., "Analysis Techniques for the Study of Global Change", paper presented as part of the special session "An Experimental Database/Analysis System for Global Change : Issues of Data Quality and GIS Functionality", ACSM/ASPRS/AutoCarto Convention, Baltimore, MD, March 1990.
- Eastman, J.R., "The Design of a Geographic Analysis System for International Development", invited paper presented to Resource Technology 90, Washington, D.C., November 1990.
- Eastman, J.R., "Change Analysis Techniques in the IDRISI System", invited paper presented to the World Bank, October 19, 1990 as part of a workshop on "Forestry and Vegetation Monitoring in Nigeria".
- *Eastman, J.R., "Time Series Map Analysis for the ICSU/IGBP Global Change Diskette Project", paper presented to the Canadian Cartographic Association, Victoria, June 1990.
- Eastman, J.R., "IDRISI : A Geographic Information System for International Development", paper presented to the Conference on Information Technologies for Developing Countries, University of Southern California, December 1989.
- Eastman, J.R., "An Interactive Atlas : System Concept and Design", paper presented to the Canadian Cartographic Association, Halifax, June 1989.
- Eastman, J.R., "The IDRISI Geographic Analysis System", software demonstration presented for the "Innovative Software" session of AUTOCARTO 9, April 5, 1989.
- Eastman, J.R., "An Interactive Atlas of Environmental Change", paper presented to the Clark University Earth Transformed Program Workshop on an Interactive Electronic Atlas of Environmental Change, January 29, 1989.
- Eastman, J.R., "GIS Research at Clark", paper presented to the Institute of Geography, Soviet Academy of Sciences, Moscow, August 26, 1988.
- Eastman, J.R., "Grid-Based GIS Systems", workshop presented to the Canadian Cartographic Association, Annual Meeting, May 1988.

Eastman, J.R., panel discussion participant and working demonstration on "GIS Systems for Educational Applications", IGU Commission on Spatial Data Handling Conference on Education in Geographic Information Systems, Ohio State University, May 1988.

Eastman, J.R., "The Role of Spatial Statistics in GIS", paper and panel discussion presented to the 84th Annual Meeting of the Association of American Geographers, April 1988.

Eastman, J.R., "Expert Systems for Map Design", paper presented to the Wilfred Laurier University Conference on Semiotic Systems for Map Design, February, 1988.

*Eastman, J.R., "IDRISI : A Geographic Analysis System for Research Applications", poster presented to the 83rd Annual Meeting of the Association of American Geographers, April 1987.

*Eastman, J.R., "Bi-parametric Choropleth Mapping of Skewed Distributions", paper presented to the Canadian Cartographic Association, Annual Meeting, June 1985.

*Eastman, J.R., "Single-Pass Measurement of the Fractional Dimensionality of Digitized Cartographic Lines", paper presented to the Canadian Cartographic Association, Annual Meeting, June 1985.

Eastman, J.R., "Memory Structure and Graphic Organization", paper presented to the Canadian Cartographic Association, Annual Meeting, May, 1982.

Eastman, J.R., "Post-War Cartography and the Development of a Design Technology", paper presented to the NESTVAL (AAG) Conference, Nov 1979.

Eastman, J.R., "Canada's First Map Series: The Three Mile Sectional Maps of the West", paper presented to the Canadian Cartographic Association, Annual Meeting, May 1977.

PROFESSIONAL SERVICE :

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|-----------|---|
| 2000- | December 2000 – present Contributing Editor Directions Magazine |
| 1999- | Aug. 1999 – Aug. 2004 Member, Editorial Board GeoWorld / Directions Magazine |
| 1996-1997 | March 1996 - August 1997 Member, Working Group on Decision Support Systems World Bank Programme on Environmental Information Systems |
| 1993-1995 | April 1993 - April 1995 Member, Panel of Experts UNITAR / UNSO / OSS Integrated Information Systems for Environment Program (IISE) |
| 1992-1998 | Sept. 1992 - March 1998 Member, Steering Committee NCGIA Core Curriculum in Remote Sensing Project |
| 1992-1994 | June 1992 - June 1994 Member ERIM/CIESIN International Working Group on |

Global Food Security Early Warning

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|-----------|--|
| 1990-1992 | March 1990 - March 1992 Member, Board of Directors, American Cartographic Association American Congress on Surveying and Mapping |
| 1990-1991 | Aug. 1990 to Nov. 1991 Member, Editorial Board GIS World |
| 1989-1992 | February 1989 - December 1992 Chair, IGU Working Group on GIS Requirements IGU Global Database Planning Project |
| 1989-1992 | January 1989 - January 1992 Member, ICA Commission on Concepts in Cartography International Cartographic Association |
| 1988-1989 | May 1988 - April 1989 Member, Technical Program Committee AUTOCART 9 Conference (sponsored by ASCM & ASPRS) April 2-7, 1989, Baltimore. |
| 1987-1990 | Oct. 1987 - June 1990 Chair, Computer Assisted Mapping and GIS Interest Group Canadian Cartographic Association |
| 1987-1992 | Jan. 1987 to Jan. 1992 Contributing Editor Digital Review, Ziff-Davis Publications |
| 1986-1988 | Oct. 1986 - 1988 Long Range Planning Committee Association of American Geographers |

PROFESSIONAL CONSULTING / CONTRACTS / RESEARCH GRANTS

| | |
|-------------|--|
| 2007 – 2009 | November 2007 – May 2009 Principal Investigator \$1,234,914, The Gordon and Betty Moore Foundation and Google.org A Climate Teleconnection-based Early Warning System for Food, Health and Ecosystem Security |
| 2007 – 2008 | September 15, 2007 – September 14, 2008 Principal Investigator \$62,906.41, USDA – APHIS (Animal and Plant Health Inspection Service) Analysis and interpretation of hyperspectral imagery for mapping distributions of <i>Fraxinus</i> species and emerald ash borer host trees |
| 2006 – 2007 | June 13, 2006 – Nov. 1, 2007 Principal Investigator \$644,395, The Gordon and Betty Moore Foundation |

Spatial Monitoring of Trends in Biodiversity through Time Series Analysis of High Temporal Resolution Remotely Sensed Imagery

| | |
|-------------|--|
| 2006 – 2007 | September 15, 2006 – September 14, 2007 Principal Investigator \$62,996.58, USDA – APHIS (Animal and Plant Health Inspection Service) Analysis and interpretation of hyperspectral imagery for mapping distributions of <i>Fraxinus</i> species and emerald ash borer host trees |
| 2006 | Jan 15, 2006 – Oct 31, 2006 Principal Investigator \$84, 816, Conservation International Species and Biodiversity Modeling for the Andean Region |
| 2005 – 2006 | September 15, 2005 – September 14, 2006 Principal Investigator \$72,863.00, USDA – APHIS (Animal and Plant Health Inspection Service) Analysis and interpretation of hyperspectral imagery for mapping distributions of <i>Fraxinus</i> species and emerald ash borer host trees |
| 2005 | Mar. 1, 2005 – Dec 31, 2005 Principal Investigator \$248,308, Conservation International Land-use Modeling and Prediction for Biodiversity Conservation in the Andes (contract renewal) |
| 2004 - 2005 | Feb. 1, 2004 – Feb. 28, 2005 Principal Investigator \$227,037, Conservation International Land-use Modeling and Prediction for Biodiversity Conservation in the Andes (contract renewal) |
| 2004 – 2005 | September 15, 2004 – September 14, 2005 Principal Investigator \$25,000, USDA – APHIS (Animal and Plant Health Inspection Service) National-level predictive modeling of Gypsy Moths |
| 2004 – 2005 | September 15, 2004 – September 14, 2005 Principal Investigator \$55813, USDA – APHIS (Animal and Plant Health Inspection Service) Analysis and interpretation of hyperspectral imagery for mapping distributions of <i>Fraxinus</i> species and emerald ash borer host trees (contract renewal) |
| 2003 – 2004 | September 15, 2003 – September 14, 2004 Principal Investigator \$55813, USDA – APHIS (Animal and Plant Health Inspection Service) Analysis and interpretation of hyperspectral imagery for mapping distributions of <i>Fraxinus</i> species and emerald ash borer host trees |
| 2003 | June 1, 2003 – December 31, 2003 Principal Investigator \$88,312, Conservation International Land-use Modeling and Prediction for Biodiversity Conservation in the Andes |

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| 2001-2004 | <p>August 2001-August 2004 Co-Principal Investigator (with B. Turner and J. Geoghegan) \$730,000 NASA Grant #NAG 56046 Land-Cover and Land Use Change in the Southern Yucatan Peninsular Region</p> |
| 2000-2001 | <p>August 2000 - August 2001 Co-Principal Investigator (with A. Anyamba, NASA) \$50,000 United Nations Environment Programme (UNEP) Grant "Satellite monitoring and assessment of EL NINO and LA NINA impacts over East and Southern Africa - towards developing an early warning system"</p> |
| 1999-2000 | <p>September 1999 - August 2000 Co-Principal Investigator (with A. Anyamba, NASA) \$50,000 National Oceanic and Atmospheric Administration (NOAA) Grant "Differential Effects of ENSO over the Southern Africa Region: Physical and Socio-Economic Manifestations"</p> |
| 1998-1999 | <p>September 1998 - March 1999 Principal Investigator \$200,000 USAID Extension Grant To continue development of an Environmental Information System in Malawi</p> |
| 1996-1998 | <p>April 1996 - September 1998 Principal Investigator \$598,000 USAID Grant To develop an Environmental Information System in Malawi</p> |
| 1997 | <p>October 1997 Advisor to the Department of Meteorology, Government of Botswana Funded by the Office of Development Assistance (UK) Presented basis for drought prediction in Botswana based on time series analysis of NDVI data</p> |
| 1996 | <p>January 1996 - December 1996. Co-Principal Investigator (with S. Emani). Applications of Geographic Information Systems (GIS) Technology in Environmental Risk Assessment and Management, United Nation Environment Programme \$50,000</p> |
| 1995 | <p>September 1995 Presented Seminar on GIS and Climate Change Research UNITAR Hanoi, Vietnam, September 18-22.</p> |
| 1995-1997 | <p>Aug 1995- Aug 1997 NASA Mission to Earth Program NCGIA Core Curriculum in Remote Sensing Project Co-PI with T. Foresman, T. Carey, J. Estes, J. Jensen, N. Faust, A. Shupin \$196,445 (\$26,219 to Clark)</p> |
| 1995 | <p>June 1995 - December 1995 Principal Investigator \$70,000 USAID/SARSA Grant Extension to Malawi Project</p> |

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| 1993-1995 | <p>July 1993 - June 1995 1995 Principal Investigator \$33,197 USAID/SARSA Grant Supplement to Malawi Project</p> |
| 1992-1995 | <p>July 1992 - August 1995 Principal Investigator \$300,000 USAID/SARSA Grant To field test procedures for GIS implementation in Malawi</p> |
| 1993 | <p>November 1993 Presented Advanced Seminar on GIS UNITAR / ICIMOD Dakha, Bangladesh Nov. 14-18</p> |
| 1993 | <p>November 1993 Presented Advanced Seminar on GIS UNITAR Cha Am, Thailand, Nov. 22-26</p> |
| 1993 | <p>October 1993 Co-taught Advanced Workshop on GIS : Geographical Information Systems in the Field of Environmental Management. UNITAR / Ecole Polytechnique Federale de Lausanne Lausanne, Switzerland, October 13-15.</p> |
| 1993 | <p>August 1993 Co-taught Advanced Workshop on GIS : Spatial Terrestrial Modelling. Nordic Academy for Advanced Study Arendal, Norway, August 5-12.</p> |
| 1992 | <p>October 1992 Presented seminar on GIS and Image Processing UNITAR/Lithuania Ministry of the Environment Druskininkai, Lithuania, October 25 - October 31, 1992</p> |
| 1992 | <p>September 1992 Presented advanced seminar on GIS UNITAR/ICIMOD Kathmandu, Nepal, September 28 - October 2, 1992</p> |
| 1992-1993 | <p>July 1992 - June 1993 Principal Investigator \$100,000 USAID/SARSA Grant To develop a handbook on GIS implementation in Africa</p> |
| 1992 | <p>May 1992 Presented seminar on Natural Resource Management and GIS UNITAR/ICIMOD/Clark University Clark University, Worcester, USA May 25-29, 1992</p> |
| 1992 | <p>March 1992 Presented advanced seminar on error and decision making in GIS</p> |

UNITAR / UNEP-GRID / University of Santiago, Chile
Puerto Montt, Chile March 9-13, 1992

1991 September 1991
Presented seminar on GIS and the IDRISI System for the
International Centre for Integrated Mountain Development (UNITAR funded)
Kathmandu, Nepal, Sept. 23-30, 1991

1991 May 1991
Presented seminar on GIS and the IDRISI System for the
Czechoslovak Academy of Science (UNITAR funded)
Prague, Czechoslovakia, May 19-24, 1991

1991 May 1991
Presented seminar on GIS and the IDRISI System for the
Slovak Commission for the Environment (UNITAR funded)
Bratislava, Czechoslovakia, May 27-31, 1991

1991 April 1991
Presented seminar on GIS and the IDRISI System for the
Indira Gandhi National Forest Academy (USAID funded)
Dehra Dun, India, April 8-12, 1991

1990 October 1990
Presented seminar on GIS and the IDRISI System for the
India Ministry of Environment and Forests (USAID funded)
Clark University, October 1-2, 1990.

1990 October 1990
Co-Principal Investigator (with L. Lewis)
\$50,000 National Science Foundation Grant
To develop an undergraduate teaching lab for GIS

1990 March 1990
Co-Principal Investigator (with J. Kineman)
\$8000 ICSU Panel on World Data Centers / IGBP Grant
To develop the Global Change Database Project Workbook.

1990 July 1990
Consultant
U.S. Agency for International Development
Presented Seminar on IDRISI at Centro de Investigaciones de la Capacidad
de Uso Mayor de la Tierra (CUMAT) La Paz, Bolivia, July 16-20, 1990.

1990-94 September 1990 - 1994
Consultant
United Nations Institute for Training and Research (UNITAR)
Geneva, Nairobi, Bangkok, Prague, Mexico City
Consultant on the development of the UNITAR training program in GIS.

1989-92 November 1989 - December 1992
Consultant
United Nations Environment Program / GRID
Nairobi, Kenya / Geneva, Switzerland
Consultant on the further development of the IDRISI software system for

use by the UNEP/GRID program

- 1988-89 August 1988 to December 1989
Principal Investigator
\$50,000 Clark University Earth Transformed Program Grant
To pursue the development of an Interactive Electronic Atlas of Environmental Change (in collaboration with the USSR Academy of Sciences)
- 1987-88 May 1987 - May 1988
Co-Principal Investigator (with J. Jones)
\$1500 Mellon Faculty Development Fund Grant
For the investigation of a prototype GIS for Costa Rica.
- 1985-86 Sept. 1985 to Aug. 1986
SARSA / USAID Research Grant Recipient
For research (with L. Berry) on the configuration of geographic information systems for regional planning and development.
- 1985-86 Oct. 1985 to Aug. 1986
Consultant
Atlas of Massachusetts Project
University of Massachusetts, Amherst
- 1984-85 June 1984 to June 1985
Consultant
Integrated Resource Information Services, Inc.,
IQC contract to USAID for Remote Sensing
- 1983 July 1983 - Oct. 1983
Consultant
USAID
Assessment of the state of natural resources mapping in Baluchistan Province, Pakistan, and field reconnaissance for land use / land cover mapping, Makran Division.
- 1983 May 1983 - July 1983
Research Associate
United States National Parks Service / Clark University Program for International Development
Renewable Resource Trends in East Africa atlas project.
- 1980-82 July 1980 - Aug. 1980 / July 1982 - Aug. 1982
Site Cartographer
Chicha Archaeological Project, Pampachiri, Peru.
- 1978 Sept. 1978 - Dec. 1978
Site Cartographer
Royal Ontario Museum Excavation, Qal'eh-i Yazdigird, Iran.

AWARDS :

- 2007 University Consortium for Geographic Information Science (UCGIS)
Research Award

- 2003 Association of American Geographers
Distinguished Service Honors
- 1996 American Society for Photogrammetry and Remote Sensing
Second Place, ESRI Award for achievement in published research
- 1995 The Canadian Cartographic Association
Award of Distinction for Scholarly Contributions
- 1981 American Congress on Surveying and Mapping
The Andrew McNally Award for achievement in published research.
- 1979-81 Social Sciences and Humanities Research Council of Canada
Doctoral Fellowship
- 1980 Canadian Cartographic Association
The President's Award for cartographic design
- 1979 American Congress on Surveying and Mapping
Blue Ribbon Award for cartographic design
- 1975 Queen's University
Graduate Fellowship

CURRENT ADDRESSES :

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Worcester, MA 01610

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Waltham, MA 02451
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Tel : (508) 793-7526

Email : reastman@clarku.edu

Fax: (508) 793-8842