

Gregory Lee Eason, Ph.D.

Curriculum Vitae, May 2003

Addresses:

Department of Geology
and Geological Engineering
The University of Mississippi
University, MS 38677
662-915-5995

405 Forest Grove Road
Oxford, MS 38655
662-238-2824

Education:

University of Missouri—Rolla, Department of Geological and Petroleum Engineering
Ph.D. in Geological Engineering, Spring 1996. Dissertation: *The Integration of Artificial Neural Networks and Geographic Information Systems for Engineering Geological Mapping.*

University of Missouri—Rolla, Master of Science, Geology, May 1984. Thesis: *Lithology and Sedimentology of the Graydon Springs Channel, Pennsylvanian of Southwestern Missouri.*

Southwest Missouri State University, Springfield, Missouri, Bachelor of Science, Geology, Minor Anthropology, May 1981.

Teaching and Research Interests:

- Integration of Geographic Information Systems (GIS) and Remote Sensing (RS) for hydrologic and geologic applications
- Development and integration of new spatial analysis techniques
- Application of remote sensing to natural resource situations in an interdisciplinary manner
- High-resolution remote sensing applications in state and local government
- New techniques for image processing and information extraction from remotely sensed imagery

Employment:

Teaching Experience

The University of Mississippi, Department of Geology and Geological Engineering

Associate Professor,

July 2001 – present

Assistant Professor,

August 1995 – June 2001

Teach and conduct research in the application of Geographic Information Systems (GIS) and Remotes Sensing (RS) in earth sciences and engineering

- Director of the University of Mississippi Geoinformatics Center (UMGC); a NASA-funded center promoting research and education in the geospatial information technologies. The UMGC is a multi-disciplinary endeavor that includes faculty and graduate students from Biology, Computer and Information Science, Geology and Geological Engineering, and Sociology and Anthropology;
- Co-Principal Investigator on the City of Oxford Intelligent Transportation System (ITS) project, designed to use advanced transportation modeling systems in a rural environment;
- Teaching responsibilities include: introductory classes in GIS and RS, graduate courses in spatial analysis and advanced remote sensing, and introductory geology for geology and geological engineering students;

- Currently directing 8 Master's and 3 Doctoral graduate research projects;
- Campus Coordinator for the Mississippi Space Commerce Initiative (MSCI), which is responsible for the advancement of GIS/RS education and research on campus.
- Teaching responsibilities include: introductory and advanced classes in GIS/RS, introductory Geology classes for majors and non-majors, and engineering design,
- GIS/RS research topics include: coastal change, coral reef assessment and mapping, and integration of GIS/RS systems with decision support systems and models,
- Responsible for acquiring \$3.83 million to fund the development of The University of Mississippi Geoinformatics Center (UMGC),
- Oversaw the creation of GIS/RS teaching facilities to include an 1100 square foot teaching laboratory with 27 student workstations in an interactive computing environment,
- Actively involved in recruiting, contributing to a tripling in the undergraduate and graduate student enrollment,
- Campus Coordinator for the Mississippi Space Commerce Initiative (MSCI), which is responsible for the advancement of GIS/RS education and research on campus.
- Acquired more than \$4.6 million in external funding in the past five years.

Instructor, University of Missouri — Rolla, Department of Geological and Petroleum Engineering August 1994 - May 1995

Instructor, Geology for Engineers (GE 50) – the introductory geology class taken by all Geological and Civil Engineering students. Taught 55-60 undergraduate students each semester.

Graduate Teaching Assistant, University of Missouri — Rolla, Department of Geological and Petroleum Engineering August 1992 – December 1993

Taught laboratory of Introduction to Geographic Information Systems (GE 346) and Remote Sensing (GE 246).

Instructor, Drury Evening College — 900 North Benton, Springfield, Missouri January 1995 - May 1995

Instructor, Environmental Geology (Phys 290) – taught at the Truman Education Center at Fort Leonard Wood, Missouri.

Other Experience

NASA — Stennis Space Center, Mississippi

Professorial Fellowship May 1998 - August 1998

Investigated the use of Remote Sensing as a tool for flood prediction and mitigation in a coastal environment.

Professorial Fellowship May 1997 - August 1997

Investigated the use of Remote Sensing in oceanographic reef analysis.

U.S. Geological Survey, Water Resources Division, Rolla, Missouri

Hydrologist June 1993 - August 1995

Developed a GIS database and management system for the storage and manipulation of hydrologic and stratigraphic information for the Weldon Spring Superfund site.

Missouri Department of Natural Resources

Division of Geology and Land Survey — Rolla, Missouri

Section Chief/Geologist IV July 1990 - August 1992

Managed all aspects of projects including project development, budget management, project

scheduling, inter-divisional and inter-agency agreements, and project documentation. Supervised 7 staff, including a Graphics Supervisor, 3 staff artists, a Geologic Technician, and 2 student technicians. Responsible for acquiring and administering grants totaling more than \$250,000.

GIS Coordinator/Geologist III

July 1987 - July 1990

Coordinated and managed all aspects of projects: project development, budget management, project scheduling, inter-divisional and inter-agency agreements, and project documentation.

System Manager/Geologist III

May 1987 - August 1992

Managed the department's Scanning Digitization Facility charged with automation of soil survey information for Missouri.

Professional Registration and Affiliations

- ESRI Authorized ArcView Instructor since 2000
- Registered Professional Geologist, State of Mississippi, #0210
- Association of Engineering Geologists
- American Society of Photogrammetry and Remote Sensing
- Urban and Regional Information Systems Association

Publications and Presentations

Robinson, Harold D., **Greg Easson**, Stephen Threlkeld, 2003, Using Remote Sensing to Map Crop Distribution in a Diverse Agricultural Environment, accepted for presentation at the American Society of Photogrammetry and Remote Sensing Annual meeting, May 5-9, 2003, Anchorage, AK.

Jackson, Patrick, **Greg Easson**, Dawn Wilkins, 2003, Comparison of a Graph-based Clustering Algorithm to k-means, k-medoid, and Isodata Algorithms Applied to Multi-spectral Imagery, accepted for presentation at the American Society of Photogrammetry and Remote Sensing Annual meeting, May 5-9, 2003, Anchorage, AK.

Easson, Greg, and Fazlay Faruque, Engineering Properties of the Porters Creek Formation in North Central Mississippi, submitted to Environmental and Engineering Geoscience January 2003.

Easson, Greg, and Lance D. Yarbrough, 2002, The Effects of Riparian Vegetation on Bank Stability, Environmental & Engineering Geoscience, Vol. VIII, No. 4, November 2002, pp. 247-260.

Ingram, Stephen L., **Greg Easson**, Khaled Hasan, 2002, Application Of Remote Sensing For Mapping Surface Geology In Heavily Vegetated Cover In North Mississippi, American Society of Photogrammetry and Remote Sensing Annual meeting, April 22-26, 2002, Washington, DC.

Easson, Greg, and Julie M. Sappington, 2002, The Validation and Verification of the STAR-3i Digital Elevation Model of Long Beach, Mississippi, American Society of Photogrammetry and Remote Sensing Annual meeting, April 22-26, 2002, Washington, DC.

Bowman, Dale O. and **Greg Easson**, 2002, Reclassification of Shadows in High-Resolution Remotely Sensed Imagery, American Society of Photogrammetry and Remote Sensing Annual meeting, April 22-26, 2002, Washington, DC.

Jackson, Patrick, **Greg Easson**, Dawn Wilkins, 2002, Building Extraction using Neuro-Fuzzy Pattern Recognition, American Society of Photogrammetry and Remote Sensing Annual meeting, April 22-26, 2002, Washington, DC

Robinson, Harold, **Greg Easson**, Stephen Threlkeld, 2001, Using, Mapping, and Modeling Detailed Farm Service Agency Agriculture Data, Proceedings of the 21st Annual ESRI International User Conference, <http://www.esri.com/library/userconf/proc01/professional/papers/pap746/p746.htm>

Henderson, Jennifer F., **Greg Easson**, Gary Gaston, 2001, Assessing Coral Reef from Space, Association of Engineering Geologists Annual Meeting, St. Louis, Missouri Sept. 29 – Oct. 7, 2001, Program with Abstracts, p. 63.

Cohen, Erika C., **Greg Easson**, Stephen L. Ingram, Hal Robinson, and Julie Sappington, 2001, Investigation of Earthquake Phenomena Related to the Republic Day Earthquake in India, Association of Engineering Geologists Annual Meeting, St. Louis, Missouri Sept. 29 – Oct. 7, 2001, Program with Abstracts, p. 57.

Easson, Gregory L. and Lance Yarbrough, Channel Bank Stability and Modeling the Effects of Root Reinforcement in a Riparian Environment, submitted to Environmental and Engineering Geoscience, accepted for publication 10/2001

Yarbrough, Lance D., **Greg Easson**, Robert Holt, 2001, Geologic and Hydrologic Analysis with Geographic Information Systems, Association of Engineering Geologists Annual Meeting, Program with Abstracts, p.80.

Easson, Gregory L. and Harold Robinson, 2001, Assembling DEM Files for Watershed Analysis, ArcUser, July – September 2001, Volume 4, Number 3, p.26-28.

Easson, Gregory L. and Lance D. Yarbrough, 2000, Modeling Slope Stability in a Riparian Environment, Association of Engineering Geologists Annual Meeting, San Jose, California, Sept. 19-26, 2000, Program with Abstracts, p. 83.

Easson, Gregory L., and Lance Yarbrough, 1999, Digital Imagery as a Tool for Determining Root Area Ratio in a Riparian Zone, Poster Presentation, 42nd Annual Meeting of the Association of Engineering Geologists, Salt Lake City, UT, Sept. 26-29, 1999.

Easson, Gregory L., and Lance Yarbrough, 1999, Digital Imagery as a Tool for Determining Root Area Ratio in a Riparian Zone, 42nd Annual Meeting of the Association of Engineering Geologist, Salt Lake City, Utah, Sept. 26-29, 1999, Program with Abstracts, p. 63.

Easson, Gregory L., and Bruce Davis, 1999, High Resolution Remote Sensing for Risk Assessment and Hazard Mitigation, 1999 Conference on GIS & Remote Sensing

Applications in Disaster Management, George Washington University.

Easson, Gregory L., 1998, High Resolution Remote Sensing for Stormwater Management and Planning, in Miller, J. ed., NASA/ASEE Summer Faculty Fellowship, Final Report, NASA, pp. 27-35.

Easson, Gregory L., and Harold Robinson, 1998, Three-Dimensional Surface Modeling of the University of Mississippi Biological Field Station, The University of Mississippi 1998 Science Conference, Publication No. 5.

Fitzpatrick, Patrick, Norman W. Scheffner, **Gregory L. Easson**, 1998, Operational Modeling and Validation of the Hurricane Storm Surge Using ADCIRC, American Meteorological Society Conference, October, 1998

Easson, Gregory L., and Harold Robinson, 1997, Three-Dimensional Modeling of The University of Mississippi Biological Field Station, Poster Presentation, Oxford, MS, October 17, 1998

Easson, Gregory L., and Kevin Pigott, 1997, Creation and Use of a Geographic Information System for The University of Mississippi Biological Field Station, Poster Presentation, Oxford, MS, October 11, 1997.

Easson, Gregory L., 1997, Use of Hyperspectral Data for Mapping and Assessment of Coral Reefs in the Florida Keys, in Hildreth, E., ed., Summary Report of NASA Summer Faculty Research, NASA, 1997

Easson, Gregory L., 1996, Integration of GIS and Artificial Neural Networks for Natural Resource Applications, in 1996 ESRI User Conference, Palm Spring, California 1996, Proceedings ESRI Incorporated.

Easson, Gregory L., 1996, The Integration of Artificial Neural Networks and Geographic Information Systems for Engineering Geological Mapping, unpublished Doctoral Dissertation, University of Missouri – Rolla, Rolla, Missouri, 154pp.

Easson, Gregory L., 1995, Integrating Artificial Neural Networks and GIS, paper presented at the Midwest ARC/INFO User Conference, Champaign, Illinois, September 27-29, 1995.

Easson, Gregory L., 1993, Real Estate Marketing with GIS, paper presented at the Midwest Gateway URISA Conference, St. Louis, Missouri, September 10, 1993.

Easson, Gregory L., and Michael S. Marcus, 1992, Aquifer Modelling for Hazardous Waste Disposal Site Selection, paper presented and published in *Proceedings*, Twelfth Annual ESRI User Conference, Volume #3, pp. 379-386.

Easson, Gregory L., 1991, Using GIS to Determine Geologic Limitations for Waste Disposal, paper presented and published in *Proceedings*, Eleventh Annual ESRI User Conference, Volume #2, pp. 53-60.

Easson, Gregory L., 1990, Water Supply Protection and Planning in St. Charles County, Missouri, paper presented at the Fourth Annual Midwest/Great Lakes ARC/INFO User Conference, Kansas City, Missouri, September 19-21, 1990.

Easson, Gregory L., 1990, Demonstration of GIS as an Interagency Decision Support Tool, presented at the Missouri Executive GIS Conference, August 28, 1990.

Easson, Gregory L., 1990, Water Supply Protection and Planning in St. Charles County, Missouri, paper presented at the Mid-America GIS Symposium, Overland Park, Kansas, May 1-3, 1990.

Easson, Gregory L., 1989, Public Water Supply Protection, poster session presented at the National Environmental Information Conference, Kansas City, Missouri, November 13-16, 1989.

Easson, Gregory L., 1989, Automation of Wetlands Data, paper presented at the Missouri Wetlands Conference, Columbia, Missouri, June 1989.

Easson, Gregory L., Cathy Primm, Lynn Usery, Michael Starbuck, and Ron Wencil, 1988, Development and Testing of a Groundwater Database Using a GIS for Assessment of Water Quality in an Abandoned Mining District, paper presented and published in *Proceedings, ACSM-ASPRS Fall 1988 Convention*, pp. 191-199.

Easson, Gregory L., Cathy Primm, Lynn Usery, Michael Starbuck, and Ron Wencil, 1988, Development and Testing of a Groundwater Database Using a GIS for Assessment of Water Quality in an Abandoned Mining District, paper presented and published in *Proceedings, Second Annual Watershed Conference, The Watershed Management Coordinating Committee, Loring Bullard, editor, Springfield, Missouri, May 1988.*

Middendorf, M.A., K.C. Thompson, **G.L. Easson**, and H.S. Sumner, 1987, Bedrock Geologic Map of the Springfield 1° x 2° Quadrangle, Missouri, U.S. Geological Survey Miscellaneous Field Studies Map I-2029.

Easson, Gregory L., 1984, Lithology and Sedimentology of the Graydon Springs Channel, Pennsylvanian of Southwestern Missouri, unpublished Masters Thesis, University of Missouri – Rolla, Rolla, Missouri, 74pp.

External Funding

Active Grants

NASA Commercial Remote Sensing Program: Principal Investigator for The University of Mississippi Geoinformatics Center, consecutive grants designed to increase the ability of The University of Mississippi to become a research center in GIS&T. **Total funds received \$3,836,634**

Mississippi Space Commerce Initiative: Budget for Campus Coordinator to support activities of the Mississippi Space Commerce Initiative including administration of licenses for GIS/RS software, support for regional community colleges, and coordinate training. **\$50,000**

Federal Highway Administration: City of Oxford Intelligent Transportation System (ITS) project. Project is designed to apply transportation management systems and ideas from urban environments in a rural setting. **\$1,400,000.**

Mississippi Space Commerce Initiative: Student fellowship for graduate research on the effects of scale on ecosystem modeling, year 1, **\$22,000**

Mississippi Space Commerce Initiative: Student fellowship for graduate research on extracting building footprints from high resolution imagery using neuro-fuzzy pattern recognition, **\$22,000.**

National Oceanic and Atmospheric Administration: Research Partnership for Drug Discovery. Bio-prospecting project with Medicinal Chemistry and Pharmacognosy to investigate the potential for new drug discoveries in the coral reefs of Belize. Directing the development of a comprehensive GIS of the reef complex and evaluation of critical habitats. **\$56,576.**

Previous Grants

From the fall of 1995 to spring 2001, I was Principal Investigator or Co-Principal investigator on twenty-six (26) grants from federal and state agencies, the university, and private industry. These grants funded graduate student research, summer faculty fellowships, equipment purchases and summer faculty salary. Cumulative total are presented below.

GRANTS FUNDED:

Federal Agencies:	\$ 2,144,434
State Agencies:	\$ 466,393
University:	\$ 16,345
Private Industry:	\$ 36,000

TOTAL GRANTS AWARDED	\$ 2,663,172

SERVICE:

- Undergraduate student advisor students for all scheduling and degree planning, number of students varied from 21 to 42, 1995 to present
- Faculty advisor for The University of Mississippi Geological Society student society, 1996 to present
- Campus Coordinator for the Mississippi Space Commerce Initiative, 1998 to present
- Serve on Mississippi Institutions of Higher Learning Remote Sensing Council, 1999 to present
- Mississippi Region VII Science and Engineering Fair, 1996 to present
- Planned and hosted a fall and spring parties for the Geology and Geological Engineering faculty and students, 1995 to present
- Search committee for NASA Space Grant Project Coordinator
- Faculty search committees, 1996 and 1999
- Department representative to the College of Liberal Arts Curriculum and Policy Committee, 1996 to 1999
- Primary recruiter for the department, including telephoning prospective students, writing

- letters to potential students, and attending university-wide Spring Visit days
- Presented lectures on rocks and minerals to seven 4th and 7th grade science classes at Lafayette County Schools, 1996 to 1999
 - Member of the planning and advisory committee for The University of Mississippi Water and Wetlands Research Center, 1996 to 1997
 - Complete the departmental assessment as required by the Office of Institutional Research, 1996-1998
 - Contributor to the “Waves of the Future” University Museum exhibit, 1998
 - Interviewer for University Scholars Day. Interview teams met with potential students with a wide variety of interests and awarded a \$500 scholarship, 1998 and 2000

REFERENCES:

Nolan Aughenbaugh, Professor
The University of Mississippi
Geology and Geological Engineering
118B Carrier Hall
University, MS 38677
662-915-5819

Bruce Davis, Chief Scientist
NASA, Commercial Remote Sensing
Building 1100
Stennis Space Center, MS 39529
228-688-1921

John Rockaway, Director
Northern Kentucky University
Department of Physics and Geology
Highland Heights, KY 41099
859-572-5412