

JOHN ALAN GLENNON
ISEGI NOVA, Campus Campolide
1070-312 Lisbon, Portugal
email: aglennon@isegi.unl.pt phone: (805) 637-2678

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Education

- 2013 Doctor of Philosophy in Geography, University of California, Santa Barbara. Dissertation: Analysis of Geographically Embedded Networks. Advisor: Dr. Michael Goodchild.
- 2001 Master of Science in Geoscience, Western Kentucky University. Thesis: Application of Morphometric Relationships to Active Flow Networks within the Mammoth Cave Watershed, Kentucky. Advisor: Dr. Chris Groves.
- 1994 Bachelor of Science, Recreation, Park and Tourism Sciences, Texas A&M University. Advisor: Dr. Valeen Silvy.

Fields of Study

GIScience and Geospatial computation

Professional Experience

Visiting Scholar, Instituto Superior de Estatística e Gestão de Informação, Universidade Nova de Lisboa, Portugal, 2013-. Supervise two courses in the Erasmus Mundus Geospatial Technology Master's Program: Applications of GIS and Thesis Seminar. Serve as a co-instructor and discussant with Dr. Marco Painho for the course Geographic Information Science. Advise and mentor students. Perform research on geospatial computation algorithms and applications.

Director, Arogi (Advanced Research on Geographic Information) Laboratory, Santa Barbara, California, 2012-. Lead the design and development of a mobile application for geospatial logistics. Provide consulting services on geospatial intellectual property issues.

Geospatial Consultant and Graduate Researcher, Center for Spatial Studies, University of California, Santa Barbara, 2003-2011. Organized and led workshops, discussions, and meetings about spatial information technology. Collected, integrated, and analyzed spatial data both independently and in support of research faculty projects. Presented research findings as written reports, journal articles, and scientific presentations. Provided geospatial research and development consulting services to the university community; Evaluated and developed competency in cutting-edge geo; Designed and coded online cartographic tools.

Instructor, Geography 12: Maps and Mapping, University of California, Santa Barbara, Department of Geography, 2007. Created and delivered lectures and labs for UCSB Geography 12: Maps and Mapping. Course topics included projections, critical evaluation, cartography, navigation, and analytics. Labs were computer-based using Google Earth, Google Maps, ArcGIS/ModelBuilder, KML, php, and Javascript. Teaching Assistant: Indy Hurt (now Geodata Research Coordinator at Apple).

Assistant Director, Hoffman Environmental Research Institute, Western Kentucky University, 1999-2003. Developed and directed research projects, wrote technical reports, grants, and planning documents. Supervised a GIS Technician, Administrative Technician, Computer Technician, and two hydrology graduate students. Planned and implemented GIS program for the institute. Worked as a technical expert in GIS, karst, and natural resource management. Published and presented research results in journals and at regional, national, and international meetings. Created and presented GIS workshops and training.

Research Hydrologist, Center for Cave and Karst Studies, Western Kentucky University, 1998-1999. Conducted fieldwork in vertical, wet cave environments on trips underground up to twenty-four hours long. Performed surface geology fieldwork and surveys. Coordinated multiple externally-funded research programs dealing with GIS, GPS, water quality monitoring, cave mapping, environmental interpretation, aerial photo interpretation, remote sensing, land use analysis, geophysical techniques, and groundwater dye tracing. Supervised and hired support workforce of seven employees. Maintained grant budgets and records. Fulfilled university and federal obligations in terms of reporting, budget, and purchasing procedures. Worked as technical expert in GIS and Global Positioning Systems (GPS). Wrote reports on grant and research progress.

Park Ranger, Mammoth Cave National Park, 1994, 1996-1998; Jewel Cave National Monument, 1991-1993; Great Basin National Park, 1995. Prepared and led environmental interpretive programs including cave trips, evening programs, hikes, children's programs, visitor center talks, and off-site programs. Assisted in new ranger training and mentoring of new hires. Researched and wrote reports on park

environmental management and technology issues. Mapped and inventoried caves. Programmed field dataloggers. Provided support and technical assistance for visitor emergencies and rescues.

Peer-Reviewed Articles

Glennon, J.A., 2010, Creating and Validating Object-Oriented Geographic Data Models: Modeling Flow within GIS. *Transactions in GIS*. Vol. 14(1), pp.23-42.

M.F. Goodchild and J.A. Glennon, 2010, Crowdsourcing geographic information for disaster response: a research frontier. *International Journal of Digital Earth* 3(3): 231–241.

M.F. Goodchild and J.A. Glennon, 2008, Representation and computation of geographic dynamics. In K.S. Hornsby and M. Yuan, editors, *Understanding Dynamics of Geographic Domains*. Boca Raton: CRC Press, pp. 13–30.

Glennon, J.A., 2006, Cave map, in *Cartography in the Twentieth Century*, Volume 6. edited by M. Monmonier.

Glennon, J.A., 2006, Geysers and hot springs, in *New Book of Knowledge Encyclopedia*. Scholastic: New York.

Glennon, J.A. and R.M. Pfaff, 2005, The operation and geography of carbon-dioxide-driven, cold-water geysers. *Transactions of the Geyser Observation and Study Association*, vol. 9, pp. 184-192.

Glennon, J.A. and R. M. Pfaff, 2003, The extraordinary thermal activity of El Tatio Geysers, Antofagasta Province, Chile, *Transactions of the Geyser Observation and Study Association*, vol. 8, pp. 31-78.

Glennon, J.A. and C. Groves, 2002, An examination of perennial stream drainage patterns within the Mammoth Cave watershed. *Journal of Cave and Karst Studies*, vol. 64, pp. 82-91.

Technical Articles and Reports

Glennon, R.M., and J.A. Glennon, 2007, Making Better Maps with ArcGIS 9.2. *ArcUser*, Summer (July-September) 2007, pp. 59-62.

Glennon, R.M., and J.A. Glennon, 2007, Building a Groundwater Protection Model. in *GIS Best Practices: GIS for Cave and Karst*, ESRI: Redlands, pp. 37-49.

Groves, C., J.A. Glennon, S. Grubbs, J. Jack, R.M. Pfaff, J. Despain, and K. Seadler, 2002, *Task III Sourcewater Protection Program of the WKU Technical Assistance Center for Water Quality. Annual Technical Grant Report* prepared for the US Environmental Protection Agency, Washington, DC. [prepared similar quarterly and annual technical reports 2000-2002].

Groves, C. and J.A. Glennon, 2001, CRF and WKU China Caves Project in 2000, *Cave Research Foundation Newsletter*, May 2001, vol. 29, no. 2. pp. 5,17-18.

Pfaff, R.M., J.A. Glennon, J. Meiman, and J. Fry, 2000, Geographic Information Systems as a tool for the protection of the Mammoth Cave karst aquifer, Kentucky, *Proceedings of the Eighth Mammoth Cave Science Conference*, Mammoth Cave, Kentucky, pp. 89-99.

Glennon, J.A. and C. Groves, 1999, Evolving Geographic Information Systems Capabilities for Management of Cave and Karst Resources, Kentucky Academy of Science, presentation and paper. Richmond, Kentucky.

Ek, D., C. Groves, J.A. Glennon, and J. Meiman, 2000, Threats to Surface and Karst Groundwater of Mammoth Cave National Park from the Arthur Oilfield, Kentucky, *Proceedings of the Eighth Mammoth Cave Science Conference*, Mammoth Cave, Kentucky, pp. 101-103.

Pfaff, R.M., J.A. Glennon, C. Groves, J. Fry, and J. Meiman, 1999, *Land Use and Water Quality Threats to the Mammoth Cave Aquatic Ecosystem, Kentucky*, Kentucky Academy of Science Annual Meeting, presentation and paper. Richmond, Kentucky.

Groves, C.G., J.A. Glennon, D.M. Anthony, and K.J. Shaw, 1999, *Land Use and Water Quality at the Abraham Lincoln Birthplace National Historical Site, Hodgenville, Kentucky*. Technical Report, National Park Service, Hodgenville, Kentucky.

Groves, C., J.A. Glennon, R.M. Pfaff, and M. Anderson, 1999, *Threats to the Aquatic Ecosystem of the Mammoth Cave Karst Aquifer, Green River Basin, Kentucky*. Final Technical Grant Report and Geographic Information Systems Database prepared for the U.S. Fish and Wildlife Service, Atlanta, Georgia; dataset:
<http://www.esri.com/news/arcuser/0704/files/cavemodel.zip>

Glennon, J.A. and C. Groves, 1999, *Evolving Geographic Information Systems Capabilities for Management of Cave and Karst Resources*. National Cave Management Symposium, Presentation and paper. Chattanooga, Tennessee.

Ek, D., C. Groves, J.A. Glennon, W. Curry, and J. Meiman, 1999, *Threats to Surface and Karst Groundwater of Mammoth Cave National Park from the Arthur Oil Field*,

Kentucky. National Cave Management Symposium, Presentation and paper. Chattanooga, Tennessee.

Pfaff, R.M., J.A. Glennon, C. Groves, J. Fry, and J. Meiman, 1999, *Land Use and Water Quality Threats to the Mammoth Cave Karst Aquifer, Kentucky*, National Cave Management Symposium, Presentation and paper. Chattanooga, Tennessee.

Glennon, R.A., J.A. Glennon, and R.M. Glennon, 1998, Description of the New Zealand Geyser Fields, *Geyser Observation and Study Association Newsletter*, vol.12, no. 5, p. 9.

Glennon, J.A., 1997, *Application of Morphometric Relationships within the Mammoth Cave Karst Aquifer: A GIS Analysis using ArcView 3 and Compass*, Proceedings of the Mammoth Cave Science Conference, Mammoth Cave, Kentucky.

Glennon, J.A., 1997, Deaths in Mammoth Cave, Alan Glennon, Technical report (library vertical files), Mammoth Cave National Park, 14pp.

Glennon, J.A., 1997, WKU Studying Turnhole Bend, *CRF Newsletter*, May 1997.

Glennon, J.A., 1999, A Manual for Global Positioning and Phase Processing using the Trimble ProXL GPS Unit, Center for Cave and Karst Studies, Western Kentucky University, Bowling Green, Kentucky, December 1995, revised November 1999. 24pp.

Glennon, J.A. and B. Kuhn, 1992, A Survey of Forest Service Sinkholes 1 and 2, Technical report and two cave maps, Black Hills National Forest, Custer, South Dakota.

Invited Talks

The Naïve Geography of Networks, Esri/University of Redlands Colloquium, Redlands, California, 2013.

Characterization of Geographically Embedded Networks. Esri/University of Redlands Colloquium, Redlands, California, 2012.

Increasing National Resilience to Hazards and Disaster [panelist]. National Academy of Sciences Committee Meeting, Beckman Center of the National Academies, Irvine, California, 2011.

Grassroots Crisis Mapping. Spatial@Local10 Conference, Santa Barbara, California, 2010.

Evolving Capabilities for Virtual Globes; in the session *Use of Virtual Globes in the Earth Sciences*, American Geophysical Union Fall Meeting, San Francisco, California, 2006.

Use and Perils of Virtual Globes. National Centre for Geocomputation, NUI Maynooth, Ireland, 2006.

Modeling Flows within GIS (co-presented with Michael Goodchild). Esri/University of Redlands Colloquium, Redlands, California, 2004.

Students, Discovery, and Research. WKU Department of Geography and Geology Awards Banquet, Bowling Green, Kentucky, 2001.

Conservation of Caves. Elderhostel, Ely, Nevada, 1995.

Conference Presentations

Glennon, J.A. (panelist with D. Lewis and B. MacKenzie), 2011, *How it's Made: Map API Teardown*, Spatial Technology Lunch, Santa Barbara, California

Glennon, J.A. (with K. Currier), 2011, *Mapping with Kites and Balloons*, WhereCampSoCal, Google-Santa Monica, California.

Glennon, J.A., 2010, *How to Map a Cave*, Spatial Technology Lunch Lightning Talk, Santa Barbara, California.

Glennon, J.A. (panelist with K. Currier, M. Goodchild, K. Grossner, and I. Hurt), 2010, *GIS and Design*, Spatial Technology Lunch, Santa Barbara, California.

Glennon, J.A., 2010, *Crisis Mapping*, WhereCampSoCal, San Diego State University, California.

Glennon, J.A. and R.M. Glennon, 2009, *Characteristics of pre-eruptive geyser activity*, Association of American Geographers Annual Meeting, Las Vegas, Nevada.

Glennon, J.A., 2005, *Addressing Flow within GIS*, AAG Annual Meeting, Denver, Colorado.

Glennon, J.A. 2003, *Assessing Perennial Drainage Density in the Highly-Karstified Turnhole Bend Basin, Kentucky*, National Speleological Society Convention, Porterville, California.

Glennon, J.A. and C. Groves, 2003, *Measuring the Organization of a Highly-Developed Karst Aquifer: Fieldwork in the Martin Ridge Cave System, Edmonson County, Kentucky*. South-Central Section (37th) and Southeastern Section (52nd), GSA Joint Annual Meeting, Memphis, Tennessee.

Glennon, J.A., 2002, *An Examination of Perennial Drainage Patterns within the Turnhole Bend Basin of the Mammoth Cave Watershed*. Geological Society of America Annual Meeting, Denver, Colorado.

Glennon, J.A., D. Coons, and C. Groves, 2001, *Discovery and Exploration of the Martin Ridge Cave System, Kentucky*. National Speleological Society Convention, Mt. Vernon, Kentucky.

Glennon, J.A., C. Groves, R.M. Pfaff, L. Demott, M. Thornton, J. Neltner, and D. Hatcher, 2001, *Threats to Public Health and Safety from the Proposed Kentucky Trimodal Transpark, Warren County, Kentucky*. National Cave and Karst Management Symposium, Tucson, Arizona.

Glennon, J.A. and C. Groves, 1999, *Evolving Geographic Information Systems Capabilities for Management of Cave and Karst Resources*. National Cave and Karst Management Symposium, Chattanooga, Tennessee.

Glennon, J. A. and C. Groves, 1998, *Quantitative Analysis of the Martin Ridge Cave System, Kentucky*. International meeting of the International Geological Correlation Program, Project 379: Karst Processes and the Global Carbon Cycle, Bowling Green, Kentucky.

Glennon, J.A., 1997, *Application of Morphometric Relationships to Active Drainage Networks within the Mammoth Cave Karst Aquifer*, Annual Meeting of the Kentucky Academy of Science, Morehead, Kentucky.

Short Courses Given by Invitation

Tools for Map Making; (with Clarke, K., Glennon, J.A., Goodchild, M.F., Hurt, I., and D. Janelle), half-day workshop on spatial technology for the UCSB Interdisciplinary Humanities Center, Santa Barbara, California, 2010.

Spatial Data, KML, and the University Web; half-day workshop for the UCSB Web Standards Group, Santa Barbara, California, 2008.

New Geographical Information Systems Tools for the Study of Karst Hydrogeology; three-day workshop at the Institute of Karst Geology of the Chinese Academy of Geological Sciences, Guilin, China, Summer 2000.

Karst Geology Workshop; one-day field workshop for the American Cave Museum, Horse Cave, Kentucky, Spring 1996 and Fall 1997.

Conferences, Symposia, and Sessions Organized

Organizer (with Jeffrey Johnson and Rhonda Glennon), WhereCampSoCal, <http://wherecampsoocal.org>, San Diego State University, July 12-13, 2013

Organizer, Spatial Lightning Talks, <http://www.youtube.com/playlist?list=PLB505CF893FF5E53E> Santa Barbara, California, March 1, 2010

Organizer, Spatial Technology Lunch Series, Center for Spatial Studies, University of California, Santa Barbara, 2009-2011

Organizer (with Mike Goodchild), Spatial Technology Gallery, Association of American Geographers Annual Meeting, 2007

Organizer (with Josh Bader), Virtual Globes: GIS for the Masses?, panel and paper session, Association of American Geographers Annual Meeting, 2007

Organizer (with Josh Bader), Virtual Globes, panel and paper session, Association of American Geographers Annual Meeting, 2006

Organizer, Geographic Approaches to Understanding Karst: in Memory of George N. Huppert, panel session, Association of American Geographers Annual Meeting, 2006

Organizer (with C. Groves and J. Meiman), Karst Processes and the Global Carbon Cycle: Friends of Karst-IGCP 379, Bowling Green, Kentucky, September 23-26, 1998

Organizer (with C. Groves, P. Kambesis, and J. Meiman), International Conference on Karst Hydrogeology and Ecosystems, Bowling Green, Kentucky, June 3-6, 2003

Service

Reviewer, Transactions in GIS, 2010-

Reviewer, Transactions of the Geyser Observation and Study Association, 2008-

Technical support, Santa Barbara Red Cross, GIS Program, 2009-2011

Technical support, Santa Barbara Crisis Commons, 2010-2011

Volunteer, International Symposium on Mixed and Augmented Reality, Santa Barbara, California, October 22-25, 2006

Invited Discussant, SciFoo, Mountain View, California, 2006

Faculty Sponsor, Western Kentucky Student Chapter of National Speleological Society, 2001-2003

Volunteer, Yellowstone National Park, Geothermal Inventory Program, Wyoming, August 2001

Member, Marion and Lewisburg Water District Pesticides Task Force, Kentucky, Spring 2000-2003

Chairman, Green River Grotto (Chapter) of National Speleological Society, 2000-2001

Webmaster, Friends of Lost River, Bowling Green, Kentucky, Fall 1998-Spring 2001

Chairman, Aggie Speleological Society, 1993-1994

Volunteer, Jewel Cave National Monument, Custer, SD, 1992-1994

Science & Conservation Committee Chairman, Aggie Speleological Society, 1992-1993

Volunteer, Resource Management and Interpretive Offices, Carlsbad Caverns National Park, January 1992, January 1993

Volunteer, Brazos Valley Museum, Texas, elementary school programs, Fall 1992

Field Volunteer, Texas Parks and Wildlife, surface and cave survey at Colorado Bend State Park, 1991

Museum Docent, Dallas Museum of Natural History, Ancient Egypt Exhibit, Summer 1989

Field Work

Lead, Investigation of El Tatio Geyser Field, Antofagasta, Chile, March 19-21, 2002

Investigator (with R. M. Glennon), Calcite Precipitation at Mammoth Hot Springs, Yellowstone, Wyoming, Summer 2001

Cave Surveyor (with J. Despain, S. Fryer, and M. Thornton), Coal Trace Cave, Kentucky. Conducted field surveys culminating in the discovery of one of Kentucky's largest subterranean chambers, Fall 2000

Field Assistant (with W. Curry): The Use of Cesium 137 to Examine Sedimentation Rates in the Tongass National Forest; three-week grant-funded trip to assess timber harvest impacts, Prince of Wales Island, Alaska. Master's thesis for W. Curry, Summer 2000

Field Assistant (with C. Groves): Radioactive Techniques to Date the Guilin Tower Karst, China. Two-week trip to collect sediments from southern China caves, Summer 2000

Field Investigator, numerous groundwater characterization projects, Kentucky, 1998-2003

Cartographer, Cave Research Foundation, Eastern Operations, Fall 1996-

Discoverer and Surveyor (with J.D. Jasper), Martin Ridge Cave System, Kentucky, current length: 55.7 km, April 1996-

Cave Surveyor, Jewel Cave, South Dakota, 1992-1993

Organizational Affiliations

OSGeo (Open Source Geospatial Foundation), California Chapter, 2009-

Association of Computing Machinery, SIGSPATIAL, 2007-

Association of American Geographers, 2003-

American Geophysical Union, 2000-

Geyser Observation and Study Association, 1993-

Cave Research Foundation, 1991-

National Speleological Society, #24634, 1982-

Software Projects

Glennon, J.A., 2012-present, GeyserSync (Python 3.3), geyser observation scheduling heuristic, <http://alanglennon.com/genets>

Tran, S. and J.A. Glennon, 2010-2011, UCSB Interactive Campus Map (ArcGIS Server/Javascript), <http://map.geog.ucsb.edu>

Glennon, J.A. 2010-present, Geyser Notebook (Android/Java/php), geyser information app on Google Android Market, <http://bit.ly/Geysers>

Young, J. and J.A. Glennon, 2010-, Geysertimes, open source geyser eruption database, <http://geysertimes.org>

Held, M., C. Gardi, R. Shomali, J.A. Glennon, R. O'Brien, and S. Liu, 2011, Android Assassin (Android/Java/Ruby on Rails), location-based game

Glennon, J.A., 2010, Flowpy (Python 2.7), <http://enj.com/software>

Glennon, J.A., Goodchild, M.F., and W. Tobler, 2008, Flow Data Model Tools (VBA for ArcGIS 9.0), <http://enj.com/software>

Languages

English

Zertificat Deutsch als Fremdsprache (German language certificate), Goethe Institute, Schwaebisch Hall, Germany, August 1990

Fellowships

Erasmus Mundus Scholarship, Universidade Nova de Lisboa, Portugal, September-November 2013.

Jack and Laura Dangermond Graduate Fellowship, Department of Geography, University of California, Santa Barbara, May 2007-May 2008

Graduate Science Fellow, Center for Nanotechnology in Society, University of California, Santa Barbara, September 2006-April 2007

Graduate Student Departmental Fellowship, Department of Geography, University of California, Santa Barbara, 2003-2004

Grants

Amazon Web Services Student Grant, Online mapping and cloud-based GIS, Amazon, 2009

Sponsorship for Virtual Globes sessions and activities at the Association of American Geographers Annual Meeting, Esri, 2006

Student Organizational Aid Grant for local National Speleological Society chapter, Western Kentucky University (with R. M. Pfaff), 2001

Proposal Development Grant for travel to the Karst Institute of the Chinese Academy of Geological Sciences, Guilin, China (with C. Groves), Western Kentucky University, 2000

Academic Excellence Grant (with C. Groves) for the development of a Geographic Information Systems Computer Laboratory, Western Kentucky University, 1996

Graduate Research Grant, National Speleological Society, 1996

Honors

Visiting Faculty, LENS Summer Institute, University of Redlands, May 2011

Most Creative App (Team): Android Developer Camp, PayPal, San Jose, CA, 2011

Kentucky Colonel, Commonwealth of Kentucky, 2010

Outstanding Graduate Paper, *Agricultural Land Use and Pesticides in Kentucky Drinking Water Sources* (with K. Seadler), Western Kentucky University Sigma Xi Student Research Conference, 2001

Resolution of Recognition for Cave Discoveries (with J. Despain and S. Fryer), Board of Advisors, Western Kentucky University, 2001

John D. Minton Award for Outstanding Contributions as a Graduate Student, Western Kentucky University, 2001

Thurston Award for Annotated Bibliography, *Mysteries Underground*, Sterling Evans Library, Texas A&M University, 1993

Special Achievement Award, Interpretation and Education, National Park Service, 1991

References

Dr. Michael Goodchild, Emeritus Professor of Geography, University of California, Santa Barbara. ph: (206) 525-0146, e-mail: good@geog.ucsb.edu

Dr. Richard Church, Professor of Geography, University of California, Santa Barbara. ph: (805) 893-4217, e-mail: church@geog.ucsb.edu

Dr. Keith Clarke, Professor of Geography, University of California, Santa Barbara. ph: (805) 456-2827, e-mail: kclarke@geog.ucsb.edu