

Ryan E. Baxter

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EDUCATION

The Pennsylvania State University - University Park, PA

1997 - 1999

- Master of Science degree. December, 1999.
- Major in Geography with a specialization in Geographic Information Systems.

Northwestern University - Evanston, IL

1993 - 1997

- Bachelor of Arts degree. June, 1997.
- Double major in Environmental Sciences and Geography.

WORK EXPERIENCE

The Pennsylvania State University, Penn State Institutes of the Environment - University Park, PA

RESEARCH FACULTY MEMBER

May, 1999 – Present

- Charter member of the Penn State GIS Users Committee.

- **Funded projects include the following:**

Pennsylvania Spatial Data Access (PASDA – www.pasda.psu.edu)

INFORMATION TECHNOLOGY COORDINATOR

- Led the development of several highly successful, database-driven, Internet GIS applications (½ million hits/month).
- Managed projects to ensure completion on schedule and within budget.
- Planned and implemented a spatially-enabled DB2 database, holding a terabyte of vector, raster and tabular data.
- Conceived and built one of the first Internet GIS tools to clip, reproject and download GIS data layers dynamically.
- Built a database and an Internet-based tool to map and download one billion, custom Census 2000 data elements.
- Designed and developed a shopping cart-type system for downloading multiple, custom datasets (in progress).
- Project leader as an original participant in ESRI's Geography Network and ArcIMS Beta program.
- Provided IT and GIS expertise to state government agencies (e.g., PA State Police, PA Dept. of Environmental Protection, PA Governor's Office of IT).

United States Geological Survey (USGS) – National Biological Information Infrastructure – FAR Node

LEAD TECHNICAL COORDINATOR AND DEVELOPER

- Coordinated the development and maintenance of WebGIS applications for accessing biological information.
- Designed and built a large-scale, spatial database of aquatic species information using DB2 and SDE.

Penn State Applied Research Laboratory (ARL)

INTELLIGENCE IMAGERY ANALYST

- Secret-level security clearance granted by the U.S. Department of Defense.
- Advised the intelligence community regarding the application of Internet GIS technology.
- Interpreted and analyzed satellite/aerial imagery using GIS.

Federal Aviation Administration (FAA) - NoiseQuest

LEAD TECHNICAL AND SPATIAL CONSULTANT

- Advised a multi-university collaboration regarding the technical and spatial components of implementing an airport noise impact Website.

Pennsylvania Breeding Bird Atlas

LEAD SPATIAL APPLICATION DEVELOPER

- Led the development of a distributed, WebGIS application, successfully integrating databases and interfaces located at multiple institutions.

Geography Program, Northwestern University - Evanston, IL

GIS/IT CONSULTANT

June, 2002

- Successfully recommended, acquired, and installed new GIS software.
- Installed and configured new and existing hardware, including workstation computers and digitizing tablets.
- Provided training and support for the new software and hardware.

GIS LABORATORY MANAGER

June, 1996 –Aug., 1997

- Responsible for planning, coordinating, and implementing a new GIS laboratory for the Geography Program.
- Responsible for administering hardware and software, developing instructional materials and teaching faculty and students.

GeoVISTA Center, Department of Geography, Penn State - University Park, PA

GRADUATE RESEARCH ASSISTANT

Jan. - May, 1999

- Designed several prototype systems for visualization of geographic data in 3D, immersive environments.

Rand McNally - Skokie, IL

GIS/CARTOGRAPHY CONSULTANT

Summer, 1997

- Researched and produced maps of population and agriculture for publication in the Goode's World Atlas.

Argonne National Laboratory, U.S. Department of Energy - Argonne, IL

GIS/REMOTE SENSING INTERN

Summer, 1996

- Received a fellowship from an annual, national Department of Energy competition.
- Utilized GIS and image processing software to rectify, mosaic, and interpret imagery.

UNIVERSITY TEACHING EXPERIENCE

Jan. – May, 2005

Department of Geography, The Pennsylvania State University

Instructor for *Mapping Our Changing World* (Geog. 121).

Introductory course in spatial data, GIS, GPS, remote sensing, etc.

Responsible for 120 students, 6 lab sections, 2 teaching assistants, and 9 undergraduate teaching interns.

Sept. – Dec., 1998

Department of Geography, The Pennsylvania State University

Teaching assistant for *Climates of The World* (Geog. 110).

Taught laboratory sections, graded assignments and exams.

Jan. – May, 1998

Department of Geography, The Pennsylvania State University

Teaching assistant for *Introduction to Physical Geography* (Geog. 010).

Taught laboratory sections, graded assignments and exams.

Maintained course Web page.

Sept. – Dec., 1997

Department of Geography, The Pennsylvania State University

Teaching assistant for *Image Analysis/Remote Sensing* (Geog. 352).

Taught laboratory sections, graded assignments and exams.

Jan. – March, 1997

Geography Program, Northwestern University

Teaching assistant for *Geographic Information Systems* (Geog. C43).

Developing new instructional materials for use in the GIS laboratory.

Instructed students and faculty in the use of GIS hardware and software.

April – June, 1997

Geography Program, Northwestern University

Teaching assistant for *North American Geography* (Geog. C13).

Sept. – Dec., 1996

Geography Program, Northwestern University

Teaching assistant for *Principles of Cartography* (Geog. C41).

April – June, 1996

Geography Program, Northwestern University

Teaching assistant for *North American Geography* (Geog. C13).

WORKSHOP TEACHING EXPERIENCE

May, 2005	<i>Introduction to ArcIMS</i> . Full-day pre-conference workshop. Pennsylvania State GIS Conference. Harrisburg, PA.
March, 2005	<i>Advanced ArcIMS</i> . Full-day post-conference workshop. Towson University GIS Conference. Towson, MD.
March, 2005	<i>Introduction to ArcIMS</i> . Full-day post-conference workshop. Towson University GIS Conference. Towson, MD.
October, 2004	<i>Introduction to ArcIMS</i> . Full-day pre-conference workshop. Rural Geospatial Innovations in America Conference. State College, PA.
March, 2004	<i>Introduction to ArcIMS</i> . Full-day post-conference workshop. Towson University GIS Conference. Towson, MD.
October, 2003	<i>Introduction to ArcIMS</i> . Full-day pre-conference workshop. Rural Geospatial Innovations in America Conference. State College, PA.
June, 2003	<i>Introduction to ArcIMS</i> . Full-day pre-conference workshop. Pennsylvania State GIS Conference. Harrisburg, PA.
June, 2003	<i>Introduction to ArcIMS</i> . Full-day pre-conference workshop. Towson University GIS Conference. Towson, MD.
May, 2002	<i>ArcIMS I: Introduction to ArcIMS</i> . Half-day pre-conference workshop. Pennsylvania State GIS Conference. Harrisburg, PA.
May, 2002	<i>ArcIMS II: Advanced Architecture and Customization</i> . Half-day pre-conference workshop. Pennsylvania State GIS Conference. Harrisburg, PA.
February, 2002	<i>Introduction to GIS for Educators</i> . 2-hour workshop. Environmental Education Council of Ohio, NE Region Conference. Peninsula, OH.
August, 2001	<i>Introduction to GIS for Educators</i> . 2-hour workshop. Ohio Department of Natural Resources, Ohio Federation of Soil and Water Conservation Districts, Education Workshop. Painesville, OH.
May, 2001	<i>Integrating GIS with Internet Applications – Introduction to ArcIMS</i> . Half-day pre-conference workshop. Pennsylvania State GIS Conference. Harrisburg, PA.
February, 2001	<i>Introduction to GIS for Teachers</i> . 2-hour workshop. Environmental Education Council of Ohio, NE Region Conference. Peninsula, OH.

PRESENTATIONS

2004	Ryan Baxter. <i>Advanced Online Spatial Data Access and Processing</i> . Presented at the Western Pennsylvania GIS Conference. Washington, PA.
2004	Ryan Baxter. <i>Online Data Access and Mapping in Pennsylvania</i> . Presented at the Annual Meeting of the Association of American Geographers. Philadelphia, PA.
2003	Ryan Baxter. <i>Data Sharing and Access in Pennsylvania</i> . Presented at the Rural Geospatial Innovations in America Conference. State College, PA.

- 2003 Ryan Baxter. *Data Sharing and Access in Pennsylvania*. Presented at the New York State GIS Conference. Albany, NY.
- 2003 Ryan Baxter. *Online Mapping and Data Processing Tools*. Presented at the Western Pennsylvania GIS Conference. Washington, PA.
- 2003 Ryan Baxter. *Pennsylvania Census 2000 Mapper*. Presented at the Pennsylvania State GIS Conference. Harrisburg, PA.
- 2003 Ryan Baxter. *Pennsylvania Spatial Data Access - The Evolution of Online Data Access Tools*. Presented at the Towson University GIS Conference. Towson, MD.
- 2003 Ryan Baxter. *Pennsylvania Spatial Data Access - Online Data Access Tools*. Presented at the Delaware State GIS Conference. Newark, DE.
- 2002 Ryan Baxter. *Processing Data with ArcIMS at the Pennsylvania Spatial Data Clearinghouse*. Presented at the ESRI International User Conference. San Diego, CA.
- 2001 Ryan Baxter. *Online Data Processing and Access*. Presented at the Second Annual California University GIS Conference. California, PA.
- 2001 Ryan Baxter. Demonstration of ArcIMS applications. Presented at the ESRI International User Conference. San Diego, CA.
- 2001 Ryan Baxter and Chris Pfeiffer. GIS and online data access training. Presented to members of PA state agencies. Harrisburg, PA.
- 2001 Ryan Baxter. *GIS Data Distribution and Use via the Internet*. Presented at TUGIS 2001, 14th Annual Geographic Information Sciences Conference. Baltimore, MD.
- 2000 Ryan Baxter. *WebGIS at PASDA*. Presented at the WebGIS 2000 Conference. State College, PA.
- 2000 Ryan Baxter. *WebGIS at PASDA*. Presented at the Pennsylvania State Data Center User Conference. Harrisburg, PA.
- 1998 John Hudson, Ryan Baxter, Jeffrey Gray. Poster presentation titled *Generalized Farming Types in the United States*. Presented at the Annual Meeting of the Association of American Geographers. Boston, MA.

PUBLICATIONS

- 2003 Herbert Broda and Ryan Baxter. *Using GIS and GPS Technology as an Instructional Tool*. The Social Studies, vol. 94, no. 4, July/August 2003, 158-160.
- 2002 Herbert Broda and Ryan Baxter. *Using GIS and GPS Technology as an Instructional Tool*. The Clearing House, vol. 76, no. 1, September/October 2002, 49-52.
- 2001 Ryan Baxter. *Mapping in the 20th Century: GIS Resources for Teachers*. Environmental Education Council of Ohio. January Newsletter, vol. XIX, no. 4.
- 1999 Ryan Baxter. *A Methodology for the Design and Implementation of a Geographic Information System Using Collaborative Systems*. Master's thesis, The Pennsylvania State University.
- 1999 Alan MacEachren, Robert Edsall, Daniel Haug, Ryan Baxter, George Otto, Raymon Masters, Sven Fuhrmann, and Liujian Qian. *Virtual Environments for Geographic Visualization: Potential and Challenges*. Proceedings of the 1999 ACM Workshop on New Paradigms in Information Visualization and Manipulation, Kansas City, MO, pp. 35-40. ACM Press, New York, NY.

- 1999 Todd Bacastow, Maurie Kelly, and Ryan Baxter. *Linking Pennsylvania's Ecological Databases*. (ER9907) Executive report prepared for the PA Dept. of Conservation and Natural Resources. Environmental Resources Research Institute, The Pennsylvania State University, University Park, PA.
- 1999 Ryan Baxter and John Hudson. Map of United States and Canada Population Density. On p. 80 of *Goode's World Atlas, 20th Edition*, edited by John C. Hudson and Edward B. Espenshade. Rand McNally & Company.
- 1999 John Hudson, Ryan Baxter, and Jeffrey Gray. Map of United States and Canada Agriculture. On pp. 76-7 of *Goode's World Atlas, 20th Edition*, edited by John C. Hudson and Edward B. Espenshade. Rand McNally & Company.
- 1999 John Hudson and Ryan Baxter. Map of United States and Canada Grain Trade. On p. 83 of *Goode's World Atlas, 20th Edition*, edited by John C. Hudson and Edward B. Espenshade. Rand McNally & Company.
- 1997 Ryan Baxter. Map of United States and Canada Grain Trade. On p. 419 of *Regional Geography of the United States and Canada*, by Tom McKnight. New Jersey: Prentice Hall, Inc.

PROFESSIONAL MEMBERSHIPS

Association of American Geographers
American Society of Photogrammetry and Remote Sensing

PROFESSIONAL TRAINING

Microsoft: Developing ASP.NET Web Applications Using Visual Studio.NET
IBM: DB2 Universal Database Administration for Windows NT
SYSTINET: WASP UDDI Registry for Web Services
ESRI: ArcSDE Administration for DB2
ESRI: Customizing ArcIMS using the ActiveX Connector
ESRI: Customizing ArcIMS using HTML and JavaScript

COMPUTER EXPERIENCE

GIS		Programming Languages		Databases	Other Software
• ArcIMS	• ArcSDE	• Visual Basic.NET	• ASP	• IBM DB2	• Visual Studio.NET
• ArcGIS 8.x	• Autodesk	• ASP.NET	• HTML	• SQL Server	• Adobe
• ArcView 3.x	MapGuide	• JavaScript	• SQL	• Microsoft	Photoshop/Illustrator
• AtlasGIS	• Erdas	• C++	• AML	Access	• Microsoft Office
					• Visio