

Graham S. Hayes, PhD, GISP

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PROFESSIONAL SUMMARY

Senior GeoSpatial Consultant specializing in formal GIS and IT Needs Assessment processes, rigorous Functional / Technical Requirements documentation, and ROI-based Implementation Plans. Extensive hands-on experience with the full suite of ESRI's GIS software applying innovative techniques to support creative, cost savings and measurable productivity gains using vehicle routing, temporal data visualization, and geospatial analysis.

CORE STRENGTHS

Core areas of strength derived from the Clifton / Gallop Institute Strengths Finder assessment:

- **Ideation** – ability to find connections between seemingly disparate phenomena. Generates fresh ideas, creative problem solving, and innovative solutions.
- **Communication** – excellent technical writing, as well as interpersonal, and public speaking skills.
- **Adaptability** – ability and willingness to adjust to changing circumstances and conditions.
- **Learner** – possesses a life-long curiosity and quest to obtain and apply knowledge.
- **Achiever** – driven and motivated to attain excellent results.

SUMMARY OF PROFESSIONAL QUALIFICATIONS

Creative, published, research scientist with trademark and intellectual property protection experience. Has a passion and ability to communicate, educate, and apply new ideas to unsolved problems and overlooked procedures, achieving positive productivity gains.

Technical Abilities

- Conducted formal and informal GIS / IT Needs Assessment studies which enabled dozens of municipal and business clients to identify and understand their existing database or mapping system shortfalls, and see the business value of developing ROI-based GIS Implementation Plans and detailed data-dependent technical GIS application specifications.
- Designed, developed, and deployed scalable software and creative data conversion methodologies for a wide range of clients including small businesses, local municipalities, state government agencies, and major corporations.
- Developed integrated solutions with CAD, Geographic Information Systems and legacy database systems (AS400, DEC VAX, and UNIX).

Management & Supervision

- Developed detailed tasks, cost estimates, resource-loaded work plans, project schedules and budgets to achieve client expectations and business objectives.
- Supervised and mentored a small team of GIS Programmers and Database Analysts as well as external GIS and IT resources to deliver custom software applications and quality spatial data to meet time and budget constraints.
- Honored my personal commitments to deliver quality project results by volunteering my own time to revise and complete projects to meet client expectations when project budgets had expired.

Creative Problem Solving

- Applied creative ideas from many disparate disciplines to achieve positive results through creative problem solving including emergency response support, optimal vehicle routing, temporal data visualization, cemetery management, and address validation.

SUMMARY OF PROFESSIONAL QUALIFICATIONS (CONTINUED)

- Rewrote a series of ESRI programs and subroutines to convert legal descriptions to a digital map accommodating irregularities in the digital land net (i.e., half townships, protracted and irregularly shaped sections).
- Designed and implemented software to extract meridian, township, range, section, and qtr-qtr-qtr data from unformatted legal descriptions.

Communication

- Authored many publications pertaining to Geographic Information Systems in professional journals and proceedings.
- Presented numerous presentations and live GIS demonstrations at industry recognized tradeshow and professional conferences.
- Developed marketing materials (cut sheets, booth graphics, and PowerPoint presentations) for industry conferences and tradeshow.

Leadership

- Nurtured the development of Shell Oil's corporate-wide, global-coordinate database in the Interpretation Research Department from conception through design, development, and deployment.
- Responsible for founding and leading The GIS Resource Group, Inc. The firm was formed to provide GIS services to municipal and business clients in Western New York. Our services included GIS design services, data conversion, ESRI software sales, training, and programming.
- Founded and sponsored the Western New York ArcInfo User group (WNYARC) for 12 years. Coordinated monthly meetings, arranged for guest speakers, site locations, and announcements to members.

Team Building

- Fostered cooperation and collaboration with diverse teams of people to focus on given missions.
- Encouraged and facilitated reconciliation between team members with strong differences of opinion on technical or personal issues.

Quality Assurance

- Provided Quality Assurance oversight and technical review of ongoing GeoSpatial projects related to data conversion and field data capture, hydraulic modeling, as well as legacy system integration projects.
- Applied years of GIS data assessment experience into the design and development of several GIS Audit and Address Assessment Tools.

Marketing & Sales

- Responsible for marketing, selling, and overseeing the delivery of cost effective GeoSpatial services to municipalities, water and sewer utilities, and business clients in New York, Michigan, Florida, Texas, Alabama, and Pennsylvania.
- Represented ESRI as an Authorized Business Partner / Reseller for their desktop GIS software from 1994-2002. Was named NE Region's Business Partner of the Year for 1996.
- Designed, tested, trademarked, and sold an innovative GIS solution called MAPalette which removed the guess work from choosing screen map colors to produce reliable, repeatable hardcopy color maps on any plotter or color printer.

Technical Writing

- Co-authored a three volume set of Local Government GIS Development Guidelines for New York State Archives and Records Administration (<http://www.ncgia.buffalo.edu/sara/index.html>).
- Developed detailed Technical Specification Template used to describe custom GIS applications from Graphical User Interface (GUI) components, map display interface, data requirements, and error messages.

SUMMARY OF PROFESSIONAL QUALIFICATIONS (CONTINUED)

Teaching & Research Experience

- Shared my Geographic Information System knowledge and work experience with hundreds of students as an authorized ESRI trainer.
- Developed curriculum and taught graduate / undergraduate class on Cartography and Visualization Techniques while working on my dissertation at UB and managing the GIS Resource Group, Inc.
- Researched, tested and developed a database and standardized methods for conducting effective GIS Needs Assessment Studies and developing workable ROI-based GIS Implementation Plans for Dissertation.
- Combined field geology study of an earthen dam and a computer simulation of the dam's potential failure and probable downstream flooding for Master's thesis research. The US Army Corps of Engineers agreed with the research findings and recommended the reservoir be drained and the dam removed.

RECENT WORK EXPERIENCE

Job Title	Company Name	Timeframe
GeoSpatial Team Leader	Wendel Duchscherer, PC Amherst NY	2008–2009 (<1 year)
VP GeoSpatial Solutions	Northpointe Consulting Solutions, LLC, Lutz, FL	2008–2008 (<1 year)
Senior GeoSpatial Consultant	Malcolm Pirnie, Inc. Fort Myers, FL	2006–2008 (2.5 years)
Senior GIS Consultant	Malcolm Pirnie, Inc. Orchard Park, NY	2002–2006 (4 years)
Principal GIS Consultant	D'Alba & Donovan, PC Williamsville, NY	1999–2002 (3 years)
Founder / President	GIS Resource Group, Inc. East Aurora, NY	1994–1999 (5 years)
Adjunct Professor	SUNY at Buffalo – Geography Dept., Buffalo, NY	1998–1998 (<1 year)

ADDITIONAL RELEVANT WORK EXPERIENCE

Contract GIS Programmer Analyst, CPU / CIBER, Getzville, NY

GIS Programmer Analyst / Research Scientist, Shell Development Company, Houston, TX

Exploration Geologist / Geologic Computer Applications Supervisor, Shell Western Exploration and Production, Inc., Houston, TX

Research Assistant / Teaching Assistant, Montana State University – Earth Science Department, Bozeman, MT

Geology Field Assistant, Canadian Geological Survey, Cornerbrook, Newfoundland, Canada

EDUCATION

Doctor of Philosophy

State University of New York, Buffalo, New York
Geography with specialty in Geographic Information Systems

Masters of Science

Montana State University, Bozeman, Montana
Earth Science (Geology)
Computer Science (Minor)

Bachelor of Science

Wheaton College, Wheaton, Illinois
Geology

CERTIFICATIONS & PROFESSIONAL ORGANIZATIONS

Certifications

Certified Geographic Information System Professional (GISP)

Professional Organizations

American Association of Petroleum Geologists (AAPG)
American Water Works Association (AWWA)
GeoSpatial Information and Technology Association (GITA)
International City/County Management Association (ICMA)
Urban and Regional Information Systems Association (URISA)
Western New York GIS Users' Group (WNYGISUG)

Professional Community Involvement

Current member of the Dr. Hugh Calkins Memorial Scholarship Review Committee.
Former Technical Advisor to the Western New York Land Conservancy.
Founded and coordinated Western New York ArcInfo Users' Group (WNYARC) from 1994 to 2002.
Former member NY State GIS Private Sector Advisory Group.
Former review committee member for the National Academy of Sciences/National Research Council report entitled - ***"USGS/NMD Response to Changing User Requirements: Meeting the Challenge of Technological Transformation"***.
Former member of AAPG's Project Database, GIS Evaluation Committee.
Past chairman of Petroleum Information's Digital Mapping Advisory Committee.

SELECTED PUBLICATIONS & PRESENTATIONS

Hutchison, B., Hayes, G.S., ***"ROI Assessment of Hamburg's ArcGIS Server Assessment Site"*** presented at the 25th Annual NYS GIS Conference, Lake Placid NY, October, 2009.

Mayers, S.A., Hayes, G.S., ***"HaulPass: Automated Debris Management System - Better Disaster Recovery through Technology,"*** GITA GeoSpatial Infrastructure Solutions, Conference 31, GeoSpatial Instrumentation and Technology Association, Seattle WA, March 9-12, 2008.

Sekuler, L.A., Hayes, G.S., ***"Real-Time Project Status and Inspection Tracking,"*** presented at the ESRI GIS Solutions EXPO, Danvers MA, December 5, 2006.

Hayes, G.S., Lehman, S., ***"Using GIS for Asset Condition Assessment - High Tech GIS Integration on a Shoe String Budget,"*** presented at the ESRI Florida Water/Wastewater Utilities User Group Meeting, Estero FL, July 18, 2006.

Hayes, G.S., Brooks, R., ***"Birmingham Water Works Board Main Replacement Strategy - Current Practices and Future Directions,"*** presented at the Distribution System Rehabilitation Workshop of the American Water Works Association, Birmingham AL, November 10, 2005.

- Hayes, G.S., Mayers, S.A., Penasack, C.E., **"Using GIS to Find New Uses for Old Data,"** Government Engineering, Vol. 2, Issue 5, September-October, 2005.
- Hayes, G.S., 2005, **"Data Recycling – Finding New GIS Uses for Old Data,"** presented at 25th Annual Conference of the Environmental Systems Research Institute (ESRI), San Diego CA, July 2005.
- Hayes, G.S., Mayers, S.A., **"Integrating GIS in an Automated Call Center,"** presented at IMTech 2005, the Information Management and Technology Conference and Exposition of the American Water Works Association and Water Environment Federation, Denver CO, April 17-20, 2005.
- Hayes, G.S., **"From Assessments to Implementation -- Getting Started in GIS,"** presented at the 90th Annual International City/County Management Association, San Diego CA, October 2004.
- Hayes, G.S., **"Making the Business Case for GIS,"** presented at the 13th Annual Spatial/Digital Mapping Conference (GIS/SIG), Henrietta NY, April 2004.
- Hayes, G.S., Bebak, F.D., **"There is More to GIS than Just Maps,"** presented at the 19th Annual New York State Geographic Information Systems Conference, Albany NY, October 2003.
- Hayes, G.S., Wilson, R.J.; **"Building IT Success - 10 Essential Elements,"** presented at the Niagara County Technology Symposium, Lewiston NY, September 2003.
- Morris, D.J., Hayes, G.S., **"Dealing with a 'Lake Effect' Snowstorm -- Buffalo New York Uses GIS in Response to a Natural Emergency,"** ESRI ArcNews, Summer 2002.
- Hayes, G.S., **"Formulating a Methodology for Standardized Geographic Information System Needs Assessments and Implementation Plans",** Doctoral Dissertation, State University of New York, Buffalo, NY, May 2002, (276 pp.).
- Hayes, G.S., **"Integrating Maps with Business Activities -- the True Value of Location, Location, Location,"** presented at the Institute of Management Accountants Training Seminar, Cheektowaga NY, November 16, 2000.
- Hayes, G.S., **"Buried in Technology -- GIS for Cemetery Management,"** presented at the 9th Annual Spatial/Digital Mapping Conference (GIS/SIG), Henrietta NY, June 2000.
- Hayes, G.S., **"GIS Overview for Business,"** presented at the Southern Tier Technology Conference, Ellicottville NY, October 6, 1999.
- Hayes, G.S., **"Data Administration Overview,"** presented at a Conference of the New York Association of Local Government Records Officers (NYALGRO), Niagara Falls NY, June 1998.
- Hayes, G.S., **"Psychology of a GIS Needs Assessment,"** presented at the Conference on Water Resources Data Management: GIS & Computer Modeling, American Water Resources Association, Buffalo NY, April 1998.
- Hayes, G.S., Markello, S.J., **"GIS as a Visual Tool for Evaluating Medical Rehabilitation Outcomes,"** presented at the 12th Annual New York State Geographic Information Systems Conference, Syracuse NY, October 1996.
- Hayes, G.S., **"Feature Based Metadata -- Putting Information to Work,"** presented at the 12th Annual New York State Geographic Information Systems Conference, Syracuse NY, October 1996.
- Calkins, H.W., Becker, P.J., Cote, C.J., Finneran, C., Hayes, G.S., Murdoch, T.E., **"Local Government GIS Development Guides,"** New York State Archives and Records Administration, Local Government Technical Series, 3 Vols., 1996.
- Hayes, G.S., **"Strategies for Successful GIS Application Development,"** Proceedings, pp. 113-118, AM/FM International Annual Conference, Baltimore MD, March 1995.

Hayes, G.S., "**GIS Applications Development**," in GIS Implementation: Doing it Right, Proceedings, Conference of the American Water Works Association, Buffalo NY, May 1994.

Hayes, G.S., "**Binary Comparisons of Legal Descriptions (Abstract)**," Proceedings, Houston Geotech Technical Conference and Exposition, Houston TX, September 28, 1990.

Hayes, G.S., "**Geologic Stability of Mystic Lake Dam, Gallatin County, Montana**," Abstracts, Geological Society of America, Vol. 14, No. 6, p. 315, 1982.

Hayes, G.S., "**Geologic Stability of Mystic Lake Dam, Gallatin County, Montana, and Computer Simulation of Potential Flood Hazards from the Failure of the Dam**," Master's Thesis, Montana State University, Bozeman MT, 1981, (120 pp.).