Location Intelligence Conference 2009

Panel on Geospatial Jobs and the 2009 Economy

Joseph K. Berry
W. M. Keck Visiting Scholar in Geosciences, University of Denver
Principal, Berry & Associates // Spatial Information Systems (BASIS)
1701 Lindenwood Drive, Fort Collins, Colorado, USA 80524
Phone: 970-215-0825; Email: jberry@innovativegis.com; Website: www.innovativegis.com

Moderator/Panelist: **Richard Serby**, *President, GeoSearch, Colorado Springs, CO*
Panelists: **Brian Soliday**, *Vice President of Global Sales, LizardTech, Seattle, WA* — **John Corbett**, *CEO, aWhere, Golden, CO* — **Michael Bullock**, *VP, Consumer Electronics and President, Intermap Federal Services, Denver, Colorado* — **Joe Berry**, *Principal, BASIS and Keck Scholar in the Geosciences, University of Denver, Denver, CO*

This summary posted at **http://www.innovativegis.com/basis/present/LocationIntelligence09/LocationIntelligence09.pdf**

http://www.esri.com/news/arcnews/winter0506articles/defining1of2.html *article on "Defining the Components of the Geospatial Workforce"*
http://www.innovativegis.com/basis/MapAnalysis/Topic27/Topic27.htm *an online book topic on "GIS Evolution and Future Trends"*
http://www.innovativegis.com/basis/MapAnalysis/Topic4/Topic4.htm *an online book topic on "Where is GIS Education?"*
http://www.innovativegis.com/basis/present/imagine97/ *a plenary address on "Education, Vocation and Enlightenment"*

Overview statements:

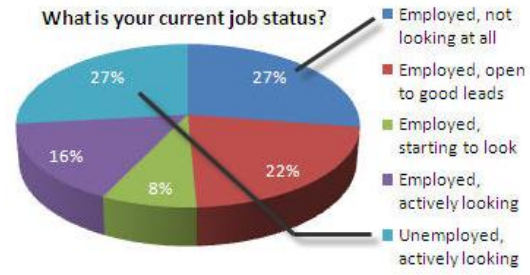
Rich: My perspective as a 'headhunter and career counselor' to an employment market 'in the ditch'; a housing market that makes relocation difficult or impossible; specific skill sets that tend to be holding their own; locations that tend to be stronger; and, job search strategies in a difficult market.

Brian: My perspective is pretty broad, from the different skill sets that could be applicable (including outside of geospatial) to leveraging your relationships and opportunities in professional societies. I will also talk to some of the key job types that appear to continue to be in demand.

John: Location intelligence is about 'why' and causality – the (business) intent is to predict. The skills and knowledge to leverage and exploit the signal that is location has little to do with 'how' -- the 'how' will constantly change. The future of location based knowledge and skills are very bright as many (most?) businesses are coming to learn that where is as important as what and when. A knowledge based career leveraging location offers a very different future than a GIS technician and their skill set. The demand for LI knowledge will be a growth phenomenon of the coming decades.

Michael: Winston Churchill once said, "The pessimist sees difficulty in every opportunity. The optimist sees opportunity in every difficulty." In the midst of the most difficult economy and job market in a generation, there are many opportunities. But one must diligently search for these opportunities and know how to recognize them. History teaches us that some of the most innovative companies and products came to market during a recession or even a depression. What are the lessons out there that can help us to not only survive these times, but to thrive?

Joe: My perspective involves the need to develop skills and a portfolio that demonstrates an individual's ability to go beyond traditional mapping …from a focus on management, access, display and geo-query of spatial data (Descriptive Mapping that is more "data-centric") to an enlarged focus on integration of enterprise data, value-added processing and applications of spatial information (Prescriptive Mapping that is more "application-centric"). Alongside the broader view is a need to demonstrate an expertise (or at least a keen interest) in the business arena of a prospective employer— you must showing a deep keel in geotechnology and an outrigger's lateral float of knowledge/experience/interest in the application arena to be successful.



Background: A recent poll conducted by Directions Magazine indicated that half the respondents are actively looking for employment, and 27% are currently unemployed. While these statistics likely overstate the situation, it is clear that concerns about jobs and employment are on the minds of many. This workshop seeks to address those concerns.

http://www.directionsmedia.net/newsletters.archive/index.php?ID=1434

The following QUESTIONS were presented to the panelists for summary responses to guide and stimulate group discussion. The following are Dr. Berry's initial thoughts:

1) How do the current economic realities impact jobs?

Obviously the answer is "negatively," but the nature of that negative impact is important to understand. It suggests an overall contraction of activity and opportunity but some geographic areas, sectors, and roles will be impacted more than others. The Rocky Mountain States and Colorado in particular, have not been impacted as much as other areas. The state and local portions of the public sector are hard hit but federal funding has remained relatively strong …e.g., stimulus money for Forest Service. The private sector is cutting costs aggressively in non-core areas and not embracing new technologies, but existing GIS services are fairly stable. The non-profit sector has been the hardest hit with education fairing the best. IT in general is

being scaled back and/or reorganized in many organizations but not as much as "line jobs" that are directly tied to sales and services. Geotechnology is particularly vulnerable, as it is not as established or as widely utilized. Also, the growing number of "free" mapping alternatives (e.g., Google Earth, Zillow, ArcExplorer, etc.) is making GIS a "commodity good."

2) Where are the jobs? A discussion of local, regional, and national employment trends.

Geotechnology employment closely aligns with progressive organizations that are seeking "new ways of doing things" not simply after cost containment/reduction. While data conversion and evolving traditional mapping practices was the fodder for geotechnology employment a decade ago, the greatest opportunities lie in bringing new and innovative applications to the table. Automation of old/existing business procedures/practices has been largely completed.

3) Which jobs are 'hot' and what is the current demand for specific job titles, skills and experience?

A good foundation in Geotechnology involves melding of the Triad of Spatial Technologies—Remote Sensing (RS), Geographic Information Systems (GIS) and Global Positioning System (GPS). It is imperative that you develop a working knowledge in each of these areas. In addition, you need to develop a deep keel of advanced skills in at least one of the spatial triad technologies…a demonstrative level of expertise that a prospective employer will readily perceive.

Much of Geotechnology is moving to "commodity status" which means that more and more competition will come from individuals outside geotechnology who can perform basic tasks of data acquisition/collection, geo-query, internet mapping, spatial database management and visualization. However, the analytical capabilities of GIS likely will remain the domain of specialists who can translate complex spatial problems into effective spatial solutions. The most successful among you will be able to contribute "new ways of doing business" to your organization that will likely involve map analysis skills over traditional mapping skills.

Capabilities for spatial inventory, analysis and display likely will revert to those with domain expertise which suggests that you need to develop a thorough understanding of an applied field—if your applied interest is in pipelines you need to be able to "walk the walk and talk the talk" of the pipeline industry and professionals. To do otherwise, will keep you and your geotechnology skills in a closet "down the hall and to the right" away from the real action in the organization.

Some very useful closely related skills for the "jobs that are hot" are computer programming (beyond an introductory course required in most GIS curricula; Visual Basic is the most versatile), statistics (particularly multivariate analysis), database management systems and digital media studies emphasizing website design. Less closely related skill sets involve project management (Agile and eGroupWare are the current favorite software) and gaining a good command of an applied field that interests you (e.g., natural resources, public health, real estate, agriculture, etc.).

4) Commercial or public agency? A basic question to consider when planning your next career move.

Traditional wisdom suggests that the public sector has security and the private sector has financial rewards …but that paradigm is a bit frayed by modern experience. I suspect that if "mapping and geo-query" is your expertise/interest then the public sector might be best; if "map analysis and modeling" then the private sector might be best. Spatial database development and maintenance will be increasingly "outsourced" with the organization contact point being an employee with considerable applied discipline experience; not a "GIS-pert." The value-added component to geotechnology (see question above) will be a big part of the future—some organizations will continue to be the repositories for descriptive map data for automated retrieval, while others will turn toward prescriptive spatial information for decision-making. Similar to web design's foundation in every business needing a webpage, map data access will become ubiquitous but derivation of custom solutions/applications involving a thorough understanding spatial patterns and relationships will require unique sets of skills and expertise RS, GPS and GIS.

5***) How should you go about planning and launching a job search campaign?***

Don't just "blindly send-out" your resume/CV. The biggest initial differentiator is an applicant who clearly communicates an understanding of the organization to which he/she has applied. It is imperative that you tailor not only your cover letter but your resume/CV emphasis to highlight your skill sets, experiences and interests that align with the organization.

A comprehensive and continuing understanding of the underlying principles supporting geotechnology is the bedrock of your professional success. However, your employment likely hinges on additional considerations with the most critical aspects being able to convey practical experience, initiative, and responsibility. Think of yourself as a "graphic artist" who prepares a portfolio of examples of their work in addition to their resume listing experience and accomplishment. Consider developing an online portfolio describing/illustrating your mastery of skills. The ability to effectively demonstrate your capacity to define, design, acquire, implement, post, manage and maintain actual spatial projects will capture the attention of your current, as well as potential employers.

The next tier of differentiators involves how you express yourself, exhibit professionalism, creativity, responsibility and interact with peers (hopefully these bases are covered in your letters of reference). However the final filter for next level consideration is how well you know your stuff as established by your academic record and "portfolio." In the job interview it is how you present yourself, react to questions in a thoughtful manner and appear to think on your feet in a genuinely interested, energetic, professional and creative way. The successful applicant is the individual that appears more interested and able to bring more to the position than the other candidates—about a 50-50 split between direct (geotechnology) skills and indirect (personal) characteristics.