GIS JOBS, GISP CERTIFICATION AND GEOSPATIAL CAREERS

A selection of articles from the archives of *Directions Magazine*

eBooks for Geospatial Technology Professionals

Prepare to Get That Job: 20 Challenging GIS Interview Questions

By Directions Staff (Originally published October 2012)

Summary: *How are you preparing for your big interview for your first (or fifth) GIS job? What hard questions should you expect? Directions Magazine shares 20 probing questions to use for practice.*

In 2004, *Directions Magazine* published an article called the Top 15 Interview Questions. They were generic questions any hiring manager might ask. Eight years later we want to update those with questions that are more specific to the field and go beyond button-pushing. Editor in Chief Joe Francica, Executive Editor Adena Schutzberg and principal of ENTCHEV.com, Atanas Entchev, compiled the questions they might ask of candidates. We've not separated them out for more or less technical positions or entry level or advanced ones; we feel most are applicable to the full range of positions.

Skills

- Tell me about a new skill you taught yourself (need not be GIS). How did you teach yourself?
- Here's an online map. What works well? Why? Where do you see room for improvement? Why?
- How would you describe what GIS is to a sixth grader?
- What's your favorite programming language? Why?
- What's the topic of the last GIS presentation you gave for work or school? How did the presentation go? How did you prepare for it? What would you have changed, looking back on it?
- What book or website do you reference the most in doing your GIS work/homework? What sort of information are you typically seeking?
- What are three things you might do if you got stuck while working on a school or professional project?
- What can you tell me about open source? How do you feel about it? Have you used it? How? Why?
- What can you tell me about open data? Have you used it? How? Why?

- What do you know about OpenStreetMap? Have you contributed? Why or why not?
- Do you use a GPS in your car/bike or on foot? Why or why not?

Interest and Motivation
- Tell me about a map or mapping project you did outside of work or school.
- What's the next thing you want to learn about in GIS/geospatial technology? Why?
- What first got you interested in geospatial technology?
- Who was most influential in spiking your interest in GIS?
- If you are the GIS person in the backroom, why do you think what you do should be in/on the _____ (boardroom/sales team/training team/etc.)?

Professionalism and Industry Awareness
- What do you like best about your current/last job/GIS courses at school?
- Give me your elevator pitch for why this company needs your GIS skills.
- Are programming skills important in GIS? Why/why not?
- Will the GIS profession go the way of the office secretary/typist?
- Does GIS belong in IT or elsewhere (planning, engineering, etc.)?
- Do you think like a geographer or a _____ (marketer, forester, geologist, programmer, etc.)?

These questions will help you realize that hiring managers want more than just a person who can run a piece of software, write an app or make a map. They are looking for well-rounded, interesting and interested people who can grow as the position and company do.

Article

2

Ten Things to Know about the Geospatial Technology Competency Model

sBy David DiBiase (Originally published March 2012)

ummary: *The Department of Labor's Geospatial Technology Competency Model (GTCM) is a milestone in the history of our field. Culminating a decade-long quest to define the U.S. geospatial industry and its workforce, the GTCM identifies the expertise that distinguishes, and binds together, successful geospatial professionals of all kinds.*

David DiBiase of Esri, the coordinator of the GTCM effort, lists the important facts about this endeavor, which was sanctioned by the U.S. Department of Labor.

1) It's useful.

Students who aspire to careers in the geospatial industry can use the GTCM to assess what they know, what they need to learn and which educational programs fit their needs. Educators can use it to assess how well their curricula align with workforce needs. Workers can use it to guide their continuing professional development plans. Employers can use it for job descriptions and interviews. Certification and accreditation bodies can use it as a basis for their requirements.

2) It's authoritative.

A select panel of experienced geospatial professionals drafted the GTCM in collaboration with workforce analysts at the U.S. Department of Labor's Employment and Training Administration (DOLETA). Contributors included licensed professional surveyors, certified photogrammetrists, remote sensing scientists, certified GIS professionals, application developers and educators. The panel revised the draft GTCM in response to 50 pages of comments and discussion compiled during a 60-day public comment period. After its own internal review, DOLETA approved the GTCM in June 2010.

3) It's inclusive.

The GTCM specifies the essential competencies common to most of the geospatial occupations. Forty-three "core geospatial abilities and knowledge" appear under the headings earth geometry and geodesy, data quality, satellite positioning, remote sensing and photogrammetry, cartography, GIS, programming and application development, and professionalism. In addition, the GTCM specifies 19-24 essential competencies for each of three industry sectors: positioning and data acquisitioning, data analysis and modeling, and software programming and application development.

4) It's holistic.

In addition to industry-specific technical competencies, the GTCM specifies foundational personal, academic and workplace competencies that successful workers in many fields possess. For example, Personal Effectiveness competencies include interpersonal skills, integrity, and initiative ("showing gumption at work"). Academic competencies include communication, critical and analytical thinking, and yes, geography ("understanding the science of space and place"). Workplace competencies include teamwork, problem solving and business fundamentals (including business ethics).

5) It's selective.

The GTCM highlights high-priority competencies. It doesn't attempt to catalogue a complete corpus of geospatial expertise. This is an advantage to many users since selectivity and prioritization are necessary for curriculum design, professional development planning and other uses.

6) It's concise.

Compared to the 162-page [Geographic Information Science and Technology Body of Knowledge](), which presents over 1,600 educational objectives without considering foundational competencies, the print version of the GTCM is just 27 pages. A concise specification is easier to update in response to rapidly evolving technologies, and easier to adapt to particular contexts (e.g. beyond the U.S.).

7) It's not occupation-specific.

The GTCM is meant to specify the expertise that characterizes the geospatial industry as a whole. Competencies specific to particular geospatial occupations can be found in DOLETA's "O*Net" occupations database and in DACUM job analyses such as those conducted by the GeoTech Center.

8) It's open.

The GTCM is freely available for use and reuse, without restriction, at Career One-Stop.

9) It will soon include management competencies.

The Urban and Regional Information Systems Association (URISA) is now working with DOLETA to create an extension of the GTCM called the "Geospatial Management Competency Model." A draft GMCM is available for public comment.

10) It's not just for community colleges.

The National Science Foundation supported development of the GTCM through its National Geospatial Technology Center. The GeoTech Center is a consortium of U.S. community colleges that's dedicated to expanding access to geospatial education and training. However, the GTCM is designed for use across the educational spectrum, not just in two-year colleges. In fact, one of its highest priority uses is to promote "articulation" of academic credits from one institution (e.g., a community college) to another (e.g., a university).
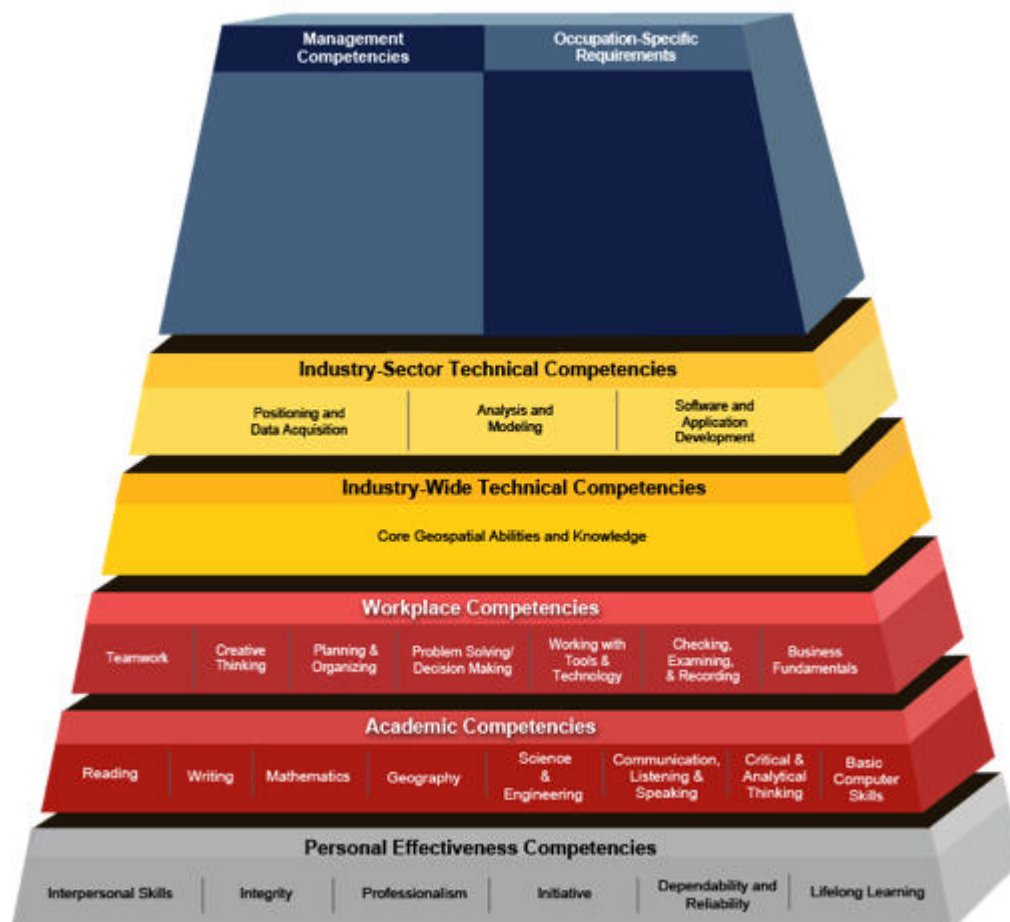
At Esri, we plan to use the GTCM in several ways. First, we plan to re-engineer our popular [Online Database of Academic GIS Programs](#) so that prospective students can identify academic programs that specialize in select GTCM competency areas and industry sectors. Second, we envision an online tool that allows current and aspiring professionals to self-assess their knowledge and abilities in relation to the GTCM, and that recommends education and training options that address gaps they identify in their self-assessments. We believe the GTCM is an important step forward toward a geospatial industry that fulfills society's needs as well as individual workers' dreams.

Article

3

New Resources for GIS Job Seekers

By Adena Schutzberg, *Directions Magazine* (Originally published September 2012)

Summary: *If you took a break from your job search over the summer, September might be the right time to jump back into the fray. Executive Editor Adena Schutzberg has collected some new resources that can help GIS job seekers in their quest.*

If you took a break from your job search over the summer, September might be the right time to jump back into the fray. Here are some new resources that can help GIS job seekers in their quest.

- The new eBook, titled "*[Careers in GIS: an Unfiltered Guide to Finding a GIS Job](#)*," was published in April and offers content from the [blog of the same name](#) complemented by new material. The $4.99 price tag (Kindle or Kindle software only) makes it quite accessible for job seekers at any point in their career. Author Todd Schuble also offers career advice at @careersingis.
- The Association of American Geographers (AAG) offers a [series of books](#) about geography careers in science, technology, engineering and mathematics (STEM) and academia.

Practicing Geography: Careers for Enhancing Society and the Environment is a comprehensive new resource from AAG and Pearson designed to prepare students for STEM careers in business, government, and non-profit organizations. Funded by the National Science Foundation, this project brings together members of the geography community to discuss workforce needs, expectations and core competencies in professional geography, profiling the professional applications of, and opportunities in,

geography today. Practicing Geography presents dozens of geographers applying their knowledge, skills and perspectives in communities, businesses, government agencies and nonprofit organizations, both domestically and internationally.

Aspiring Academics is a set of essays designed to help graduate students and early career faculty get started in their careers in geography and related social and environmental sciences. Rather than viewing faculty work as a collection of unrelated tasks, *Aspiring Academics* stresses the interdependence of teaching, research and service and the importance of achieving a healthy balance in professional and personal life. Drawing on several years of research, the chapters provide accessible, forward-looking advice on topics that often cause the most stress in the first years of a college or university appointment...

Whether you are a graduate teaching assistant or the full instructor of a course, *Teaching College Geograph*y provides a starting point for becoming an effective geography teacher from the very first day of class.

- Payscale offers salary data for [GISPs](#) and [GIS professionals](#) based on self-reporting. As with all data from this site, remember the data are self-reported and the sample size for each set of positions varies widely.
- The Bureau of Labor Statistics offers the Occupational Outlook Handbook which includes [a page on geographers](#). The outlook between 2010 and 2020 is good; job growth is expected to be 35%.
- GIS Lounge did a [spatial analysis of jobs](#) in the U.S. earlier in the year and while patterns certainly change, I suspect the hotspots will hold for a few more months.
- [Justin Holman](#) of TerraSeer offered advice on [How to Launch a GIS Caree](#)r at the Geographical Perspectives blog in February. He followed up with a related post: S[patial Career Guide for Undergrads Currently Studying GIS – Curriculum Suggestions for 6 Geospatial Career Paths](#). I also recommend the four-part series that begins with [Geospatial Career Q&A with Undergraduate and includes](#):
  - [Geospatial Career Q&A with Undergraduate Part 2 – Summer Suggestions](#)
  - [Geospatial Career Q&A with Undergraduate Part 3 – Hitting the Job Market](#)
  - [Geospatial Career Q&A with Undergraduate Part 4 – Long Term Career Planning](#)
- GIS Stackexchange has some [valuable answers](#) on the topic of interview questions for the GIS Analyst position. Searching other terms such as "interview," "job" and "position" turns up some other valuable answers for job seekers.
- Esri hosts a [number of blog posts on careers and related topics](#) and hosts a #esrijobchat (a Twitter chat) twice a month on Thursdays at 1 p.m. Pacific. While there is a focus on positions and information related to Esri, much of it is applicable to other employers.
- My colleague, Joe Francica, and I have written a few articles in the last year that may help job seekers.
  - [Five Ways to Make Your GIS Cover Letter and Resume Stand Out](#)
  - [Should All GIS Users Learn to Code?](#)
  - [The Top Five Skills Needed to Have a Successful GIS Career](#)
  - [Ignite Education: Why I Tossed Your Admission Application](#)

Geospatial Occupations Q&A – Part One

By Directions Staff (Originally published October 2010)

Summary: *Penn State University and Directions Media presented a webinar titled The New Geospatial Jobs and How to be Ready for Them ([archived version](#)). A total of 940 people registered for the event. We received more questions than could be answered. We asked the hosts to respond to them in two articles. Today's Q&A addresses Geospatial Technology Competency Model, education and certification questions. Part Two, which will appear next Wednesday, will address jobs and job titles.*

On September 30, Penn State University and Directions Media presented a webinar titled The New Geospatial Jobs and How to be Ready for Them. A total of 940 people registered to attend the webinar, 506 attended live, and 181 people since have downloaded and viewed the [archived version](#). Needless to say, far more questions were asked during the webinar than could be answered. The three speakers, Richard Serby of GeoSearch, and David DiBiase and Wes Stroh, both from Penn State University, responded in detail to all the questions that weren't addressed. Those responses are provided in this two-part article. Part 1 addresses the [Geospatial Technology Competency Model](#), education and certification questions. [Part 2](#), which will appear next Wednesday, will address jobs and job titles.

Certification
Q: How does this Geospatial Technology Competency Model reflect on the GISP designation program? Is it tied in at all to the model, make it more substantial, or slightly undermine it?

David DiBiase (DD): Check out [GIS Certification Institute](#)'s [press release](#) (pdf) about its GISP Certification Update Initiative. The release includes this statement: "the purpose of GISP certification is to advance the GIS profession by promoting competent and ethical professional practice. Portfolio-based certification made sense in 2004, when no authoritative specification of geospatial competencies yet existed. The Department of

Labor's recently issued Geospatial Technology Competency Model helps fill that gap, and sets the stage for serious consideration of competency-based GISP certification."

Q: I develop curricula for GIS certificates and associates degrees at a Community College. What resources are available for us so that our curricula prepare students meet the DOL competencies for lower-level GIS technicians?
Wes Stroh (WS): A good place to start is the [National Geospatial Technology Center](#) for Excellence. Under the "Educators" tab you'll find numerous resources included for curriculum development. The GeoTech Center is the subject of an upcoming webinar in our series, date TBD Spring 2011.

Q: Do you know of any similar initiatives in Canada?
DD: The Department of Labor's counterpart in Canada appears to be [Human Resources and Skills Development Canada](#). My searches on keywords "geospatial" and "geographic information systems" yielded some results, but nothing similar to the GTCM.

Q: Can you give us the link to the GIS Certification program?
WS: The terms certificate and certification are often confused. Educational institutions offer certificates acknowledging success in a program of study, such as Penn State's Post-baccalaureate [Certificate in GIS](#). Professional certifications are offered by a variety of professional organizations and designate experience and competency. GISP (GIS Professional) certification is offered by the [GIS Certification Institute](#). Other professional certifications are offered by organizations such as American Society for Photogrammetry and Remote Sensing (ASPRS) or formal licensing for surveyors such as National Council of Examiners for Engineering and Surveying (NCEES).

Q: Why does a prospective employer seek "certification" of applicants, BUT current employers are not supportive in "certification" for its employees?
DD: GISP certification is recognized by eight states, and was only established in 2004. You can expect greater acceptance in the years ahead.

Q: Any plans to have national certification test?
DD: ASPRS already offers a [Certified Mapping Scientist-GIS/LIS credential](#) that requires an examination. GISCI has commenced a GISP Certification Update Initiative that may result in an [examination requirement](#) (pdf).

Q: As GIS software has become dumbed down and easier to use, I am wondering if there will be a GISP career path in the future? Is the GISP destined to go the path of the dinosaur or will the GISP be able to reclaim their jobs that have been absorbed by other professions?
DD: It seems to me that GIS software has become steadily smarter, not dumber. Plus the demand for GIS pros who can customize GIS software for particular uses remains strong. The Department of Labor estimates that nearly 150,000 additional GIS pros will be needed in the next 10 years. CNN just reported that "GIS Analyst" is one of the "100 top careers." Worries about the demise of the GIS profession are unfounded.

Education

Q: Do you feel like universities and community colleges are adequately training students for a future in the geospatial industry?

Rich Serby (RS): Yes, I believe that when we view educational opportunities in total that colleges and universities are doing a good job preparing students. We are seeing more community college and even high school programs coming on line that speak to the need for internship and entry-level basic skills. Add these to the number of online opportunities and it appears that colleges and universities are responding to the need.

Q: I see numerous programs online and at campus locations for master's degrees in geospatial studies. Why is it so difficult to find a bachelor degree program in geospatial studies?

WS: There are actually bachelor programs with coursework focusing in geospatial, though they tend to be part of or a track within a geography department. URISA has a useful list and the GeoTech Center mentioned during the webinar has resources for students. Online bachelor's programs are less common - demand to date has been focused on skills development and master's level work for continuing education, but that is likely to change as the industry grows.

Q: How can we get geoSpatial technology in academia to become more involved in the economics and business departments?

WS: At Penn State we're currently developing a course called Location Intelligence for Business. You'll find other business application related courses in other top programs. However, in business and economic departments geospatial is part of the conversation (especially in marketing, retail, real estate, and finance) but it's seen as a tool, and simply one of many tools not always receiving the focused treatment it does in, say, geography.

Q: Why are the online master's degrees (in the US) so much more expensive than the UK courses?

DD: I'm not aware of evidence that U.S. degrees are more expensive than their counterparts in the U.K. For example, Penn State shares online students with Leeds University and the University of Southampton. The tuition those students pay is comparable to ours.

Q: Continuing education, classes, conferences, etc. are all well and good, but those of us in the public sector are scrambling just to keep our jobs - there is no money for continuing education. I've been resourceful and have done as much as I can out of pocket or free, but there's not much. This limitation ends up penalizing me when looking at certification, i.e. GISP, as conferences and courses are required.

WS: Some programs do offer financial aid, even for certificate programs, though these do vary from state to state/program to program. Much of this will depend on student status - it's more difficult to get financial aid to take one course at a time (in most programs) than it is when you maintain half- or full-time student status. Check with the financial aid officer at the program you're interested in - don't rely just on website

material, but actually talk to someone.

Q: I recently completed a GIS Certificate program that was very light on technical skills. Any ideas on how to acquire technical skills without going back to school?
WS: In terms of software specific training, most vendors continue to offer much in the way of support. At ESRI, for instance, you'll find free online tutorials along with paid training and courses and you'll also find relatively inexpensive guides and textbooks to support training for new functions and new releases.

Q: What technical skill areas are most important in the geospatial industry?
WS: Levels 4 and 5 of the pyramid - Industry-wide and Industry-sector Technical Competencies - provide those skills essential across the geospatial profession.

Q: Not all certificate and degree programs are created equal. Is there a list of institutions that have been matched against the competency model with regard to offered educational programs?
DD: The GeoTech Center recently created a curriculum assessment instrument to gauge how well curricula align with workforce needs identified in the GTCM. Prospective students should insist that schools perform and report these assessments.

Q: If I'm considering a certificate or advanced degree, how can I compare programs to determine which will best prepare me for acquiring a job?
WS: You should consider a number of elements, including your work experience to date and your future professional goals. It can be useful to consider the location where you hope to work when finished - programs are a great opportunity for networking with other professionals. Look carefully at the required coursework to determine what skills/knowledge you're going to solidify and what new skills/knowledge you'll take away. Also, consider the program electives - do they match up with your area of interest? Ask for course syllabi and find out what faculty member is teaching in the program. (Though tenured academics are at the forefront of GIS research, adjuncts who work in the field may have more applied knowledge or experience with specific software.)

Q: I am getting a BS in Geography with a minor in GIS. Would it be wise to continue and get a master's degree in GIS?
WS: Additional education is never a bad choice, but many MGIS programs (and professional programs in general) are designed as continuing education for individuals with grounding in the field. In most cases, your experience in a professional Master's program will benefit from some prior work experience.

Q: I have considered getting a certificate or masters in GIS because I am a self-taught GIS analyst. But when I look at the classes I feel like they would be a waste of my money since I have been doing these things for years. What is your opinion?
WS: When investigating programs, ask the school how you might tailor the program requirements to acknowledge your existing skills and build new ones. Many programs will accept transfer credit or allow you to test out of basic skills courses allowing you to

focus on developing new skills. That said, many of our most experienced professionals in Penn State's program find they benefit from a review and confirmation of basic skills.

Q: When will you let us know more about the Professional Master Program?
WS: Information on Penn State's Online MGIS is available. Please explore the information found there and feel free to contact us with questions.

Skills
Q: In your estimation, what proportion of geospatial jobs require at least some programming experience?
RS: We see this increasing rather dramatically. Employers want to see some level of programming skill even at the entry level.

Q: What is the best way to go about getting the Software & Application Development Competencies? College courses, work experience or a master's degree?
DD: The best way for you depends on your circumstances. If formal education is an option, you'll find coursework related to GIS software and application development at many two-year colleges and four-year universities. For example, check out Penn State's open courseware.

Q: Are you seeing positions requiring knowledge of open source software such as GRASS?
DD: More generally, the ability to create custom software solutions - whether proprietary or open source or a combination of the two - is in high demand.
RS: Not seeing positions posted with GRASS.

Q: What do you think is the best programming language to utilize for future GIS work?
DD: It depends on whether you're a software programmer (e.g. working for Esri) or an application developer. In the first case it's probably some variant of C+(+). The latter is probably Python at the moment.
RS: C#, .NET, C++ are some of the core languages.

Q: If you don't like to program, should you get out of the geospatial field?
DD: Hang in there! There are plenty of opportunities for those who do not want to be programmers

Q: I've gone away from programming towards system administration (ArcGIS Server Administration). It appears this direction has limited prospects. What would be good to add to my skill set in order to stay in the administration side (I'm currently a SQL DBA)?
RS: You seem to have answered your own question. You have determined that system admin may have limited prospects but you want to stay in system/dba administration. My advice is to become the best system/DBA administrator on the planet and make yourself

indispensable!

Q: I'm very proficient as a GIS Specialist with desktop GIS but want to move into an enterprise GIS environment. How do perspective employers view job seekers that need an upgrade?
RS: You should obtain your 'upgrades' with your current employer or as a student. Employers want to hire people who are ready to contribute on day one. In the current economy employers have more choices regarding a ready-to-work candidate pool.

Q: Richard, Do you see Bentley MicroStation skills in high demand??
RS: It is not a skill set that we see very often but that does not imply that there is not a demand in specialized geospatial sectors.

Q: Regarding GIS Project Management careers, has anyone seen an uptick in the number of Project Management Professionals (PMP)?
RS: Yes, we see the number of certified project managers increasing. This may be a product of very good sales people at Project Management Institute or the consolidation of the industry and blending of other engineering functions within the geospatial realm … or both.

Q: Considering how many programming and technical positions are being outsourced, what jobs/skills should one focus on to "outsource-proof" yourself?
DD: Communication skills - oral and written. And business skills.

Article

5

Geospatial Occupations Q&A – Part Two

By Directions Staff (Originally published October 2010)

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asked the hosts to respond to them in two articles. , which addressed the Geospatial Technology Competency Model, education and certification questions, appeared last week. Part Two, which follows, addresses jobs and job titles.

Jobs/hiring trends

Q: Are there "hot spots" in the country for geospatial jobs? Do you have any advice for getting U.S. Department of Labor or other data on the geospatial job outlook by metropolitan region?

Wes Stroh (WS): Washington, DC and Denver have historically been "hot spots." As discussed on the call, there's been no formal research into this topic, but you can expect more as data is collected on the new occupations.

Q: What would you estimate the percentage of employees that work only part time as "Geospatial Technician/Analyst"? In other words as only a part of their job? What's the outlook for freelance or part-time employment in the GIS industry?

Richard Serby (RS): I may not be the best person to answer this because the vast majority of positions we deal with are either full-time/permanent or contract staffing for specific periods of time. The need for part-time employees is specific to an employer, project deadlines, and seats available. Be ready to work second shift or from a home office.

Q: How are the job opportunities distributed between businesses and local governments? Is GIS job growth more in the private or public sector? Have local governments been laying off a lot of GIS positions?

RS: Job growth in the commercial sector is often a function of the needs of the public sector. Public sector projects are often completed by private companies. We are hearing more 'insourcing' talk coming from the federal level. We feel that this is a negative trend and that our public agencies should always be pressured to outsource their work to the commercial sector. Once a function becomes institutionalized within government it is very difficult to reduce or eliminate. The private sector is better able to change when the times change.

Q: Which "verticals" in the private sector are doing the most hiring?

RS: I can only speak from our most recent 2010 activity but we see an increase in engineering design activity from sales, project management, GIS software development, applications development such as environmental, and production GIS technicians and specialists.

Q: Most of the jobs I've seen require 3-5 years of GIS work experience to apply. How do I get those first 3-5 years?

David DiBiase (DD): Direct contact with potential employers and internship opportunities.

Q: I am also a GIS intern, I have interned (paid) for the US Army Corps of Engineers and FEMA Region III in Philadelphia. I am still having a difficult time finding GIS positions. Can I use these as 'experience' time in because they were after college at the BA level.

WS: Absolutely. As Rich and David pointed out, networking is the ideal way to maximize your job prospects. Stay in touch with intern supervisors, ask them about

openings, and ask them to put you in touch with their contacts. And by all means, highlight skills which you've developed as an intern.

Q: Is a masters in GIS taken more lightly than work experience?
DD: GISP certification criteria include both professional experience and educational achievement. Experience is most important, but not everything can be learned on the job. For example, perspective on one's field is hard to achieve when you're working "in the trenches." You can use the Geospatial Technology Competency Model to self-assess your knowledge and skills, and to identify priorities for continuing professional development.

RS: In the commercial sector experience and skill set has always trumped degree level beyond the bachelors. In the public sector the masters may more often been seen as an important part of career progression.

Q: I have an advanced degree, but it's in Geoscience, not GIS. How can I best utilize this?
RS: A certificate will be a great help.

Q: I just finished a community college GIS certificate. I've been an IT support technician for the past 15 years and am looking to jump into the GS discipline. What is the outlook for someone without a Bachelor's degree (yet)?
RS: The geospatial world is still very much a skills-based industry at the entry-senior technical levels. If you acquire skills that progress from a 'GIS user' to a 'GIS specialist' to a 'GIS programmer/developer' you become increasingly important to your employer. It is important to continue your formal education beyond the associate's because there are still many great jobs where a bachelor's degree is required to be considered for an interview.

Q: We are a class at LCCC at Godfrey Illinois; our question - is there work out there for those of us obtaining a certificate in GIS?
WS: There certainly are opportunities, even in a tough job market. If you can't find an entry-level position immediately, look for internships as a way to build experience. But the same advice is true for those of you just starting out in the field as for experienced folks - build your network of contacts: attend conferences (many have student rates), ask your instructors who they know in the field, stay in touch with your classmates as your careers progress.

Q: It seems that many non-GIS professionals are learning the GIS basics that they need to know for their focus, and are taking work away from sole GIS professionals. Is there a suggestion for GIS professionals to get a 2nd focus under their belt or anything?
RS: If you want to remain a technical person I suggest preparing yourself for application development and software development. The non-GIS person is not as likely to be interested in higher technical skill levels other than what he or she needs to do their job. For instance, if someone has been trained in basic GIS skills for the purpose of retail site selection there is no real incentive to become a software developer. It is already cheap

and available. But, a GIS pro may very well want to become an integral part of GIS software development specifically designed for wind and solar utility development.

Q: Was wondering what the current speaker (Rich) might suggest the growth rate is for the category of GIS Developer. Sounds like programming jobs are the fastest growing but curious how fast relative to the labor stats we saw.
RS: I think the news is very good for GIS developers and job growth. In fact, we consider this to be the fastest growing job category!

Q: I am on H1 work visa and facing problems in finding a job. Where can I find a job?
RS: It has always been a somewhat difficult task because of the time and expense involved in sponsoring someone for a Green Card. However, our experience is that the H-1 Visa / Green Card levels the playing field for job candidates. Then you must deal with issues such as verbal and written language barriers that may be an issue with many positions.

Occupation titles/outlook/growth
Q: Predicted future growth in the field seems overly optimistic to me. The Geospatial field seems to be fast becoming a specialization of the Computer Science field.
DD: DOLETA analysts established the baseline estimate for Geospatial Scientists and Technologists and GIS Technicians by reclassifying a portion of workers previously classified as "Computer Specialists, All Other."

Q: I am employed in the economic development field performing research and recently had a GIS component added to my work. Do you see a blurring between a true GIS occupation and say a Business Intelligence Analyst?
DD: I believe the estimates are meant to include GeoIntel. The 2008 baselines are really educated guesses. The estimates should become more accurate over time, as employers begin using these new occupation codes for reporting to the federal government.

Q: Which of the 10 designations for geospatial jobs are the most applicable to an entry level person with a Post-Baccalaureate Certificate in GIS (from Penn State) with no programming experience?
WS: Typically, a more entry-level position will have "technician" in the title. More advanced positions would be analyst, technologist and scientist. Though titles don't always match up exactly from organization to organization.

Q: I am interested in finding out what are the differences (as far as competencies go) between a GIS technician and a GIS Scientist/Technologist. Where do I find out that info?
WS: You can pull up the "Summary" or "Details" report for each occupation and compare them. From the competency model, pick one of the three occupation specific levels (the three blue steps on the right side of the model). You'll be linked to specific relevant occupations, and from there you can link to the reports I mention to compare

them.

Q: Since there are so many different titles, what would be the best search criteria for looking for a job?
DD: One place to look is URISA's Salary Survey. It's not free, and the current issue (2007) is somewhat out of date, but an updated edition is expected this year.

Q: Now that the Dept. of Labor has defined the six new occupations, will the Office of Personnel Management (OPM) define a geospatial job series? Currently Federal geo-information jobs are advertised using an inconsistent variety of job series. What do you feel (Richard) will be the lag time before municipal gov't will use these categories for job ads?
WS: The definitions for our profession are still new and evolving. You'll note that for many of these occupations, "data collection is currently underway." Expect more application and usage of the occupations and definitions over time.
RS: I think it will start with federal gov't agencies first and trickle down to state, county and municipal. I believe the use of DOL job categories and descriptions will be a function of federally funded positions. We'll probably see more of this over the next 12-24 months.
Q: Why is cartography lumped with photogrammetry? It seems like an odd grouping.
DD: See the occupation description. As Rich pointed out, "cartographer" is almost a vestigial job title. However, when this occupation code was created, the title probably referred to the act of map compilation. In the pre-digital age map production, both photogrammetrists and cartographers performed this task.
http://online.onetcenter.org/link/summary/17-1021.00

Q: Does the Department of Labor have average salary information on the website?
WS: Yes, you'll find salary information for each occupation. However, the many definitions are new and we can expect the data to be more accurate over time.

Q: Are there any good estimates about the number of GIS professionals who have lost their jobs in the past year(s)?
DD: There is some indirect evidence. The market research firm Daratech reports that industry-wide sales of geospatial software, data, and services were nearly flat from 2008 through 2009. It's reasonable to assume that employment echoed those trends.
RS: I don't know of any estimates but our experience would tell us that the loss of entry to mid-level technical jobs and the loss of higher paying management positions have been on par with national employment statistics. Lack of production caused the entry to mid-level technical layoffs and eliminating high salaries from the payroll was the reason for upper level layoffs.
Q: How can I find international jobs in GIS?
RS: Bing and Google searches will point you to many international job application options.

Q: What's the best place for job posts?
RS: GeoSearch, of course!
Q: What's the likelihood of ever reaching a level in geospatial science where you will be making 6 figures?
RS: If you are referring to purely technical positions the six-figure salaries are paid to highly skilled developers; if you are referring to management positions, six-figure salaries are paid to VP, COO, CTO, CEO managers, senior project/production managers in larger organizations may also be at this level; successful sales/marketing/business development folks get into six-figures early in their careers or they are not considered 'successful'.

Q. What is the prospect for a person like me in the geospatial industry? I work as Associate Professor in the Department of Geography teaching remote sensing and GIS in India. I also own a small organization in India (Rajasthan State) employing 5-10 persons. I am keen to have collaboration with the US universities and industry for outsourcing of the geospatial projects.
RS: The outsourcing of work to U.S. colleges and universities is a very hot topic right now. It is seen by some to be unfair competition to use students to work on projects on a paid contract basis. Becoming the recipient of work from U.S. companies is much more common. Using the word 'outsource' in a recession economy is asking for a fight among U.S. workers hoping to hold on to their jobs!

Article

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Should You Get 'GIS Certified'

By Joe Francica, *Directions Magazine (*Originally published September 2004)
According to the GIS Certification Institute, "the purpose of the GIS Certification Institute is to provide those professionals who work in the field of geographic information systems with a formal process that will:

- Allow them to be recognized by their colleagues and peers for having demonstrated exemplary professional practice and integrity in the field
- Establish and maintain high standards of both professional practice and ethical conduct
- Encourage aspiring GIS professionals to work towards certification for the purpose of professional development and advancement

- Encourage established GIS professionals to continue to hone their professional skills and ethical performance even as GIS technology changes"

The GIS Certification process was initiated by the Urban and Regional Information Systems Association (URISA) a few years ago and now aims to raise the level of professionalism among those working with GIS technology. But is certification necessary to get a job? What would it mean to current professionals seeking higher position and salary? Will it ever be viewed with the same level of professional distinction as certifications required by architects or engineers? What do you think? Add your comments below.

In addition, the GISCI announced that the following officers were added to the association. Lynda Wayne, GISP (GeoMaxim, Asheville NC) was elected by the Board of Directors to serve as GISCI President. Nancy Obermeyer, GISP (Indiana State University) will serve as the association's Secretary, and Peirce Eichelberger (Chester County, PA) will serve as the GISCI Treasurer. The other members of the GISCI Board are: William Huxhold, GISP (University of Wisconsin-Milwaukee); Karen Kemp (University of Redlands); Tom Tribble (North Carolina Center for Geographic Information & Analysis); and Lyna Wiggins (Rutgers University). According to the GISCI, "this announcement comes as the number of Certified GIS Professionals exceeds 400."

Professionals interested in pursuing certification can download application materials at www.gisci.org and begin preparations for submitting their qualifications for recognition as Certified GIS Professionals and earn the designation, "GISP." For more information about GISCI Certification, visit http://www.gisci.org or call (847) 824-7768.

In related news, the Enterprise for Innovative Geospatial Solutions (EIGS) announced that member company Digital Quest's STARS Certification is a key component to support the Department of Labor's pilot of the Geospatial Technology Apprenticeship Program (GTAP) at The University of Southern Mississippi. "GTAP is a 21st century workforce development solution for the geospatial industry. The GTAP program is filling a gap that exists in helping prepare the geospatial workforce. Completers of GTAP receive the Geospatial Specialist credential from the Department of Labor," said Dr. Cyndi Gaudet, Associate Professor of the Workplace Learning & Performance Center at Southern Miss, who is directing the pilot project. Read more HERE.

Revisiting the Path to GISP: Is it Time to Add an Examination?

By Adena Schutzberg, *Directions Magazine* (Originally published January 2011)

Summary: *The GIS Certification Institute has put forward a "GISP Certification Update" proposal and asked for comment from the geospatial community. Executive Editor Adena Schutzberg reviews the proposal and shares her endorsement and expectations.*

It's time again for members of the geospatial community to step up and express their opinions about The GIS Certification Institute's (GISCI) GISP certification process. The organization has put forward a "GISP Certification Update" proposal. Those who found the first implementation of the certification less than satisfactory are likely to be at least intrigued by the new vision, which includes an examination based on the newly minted U.S. Department of Labor's Geospatial Technology Competency Model (GTCM) and other "industry-validated competency specifications." Feedback is requested between February 1 and 28, 2011 via the GISCI website. A decision on implementation is expected in April.

It's worth reading the entire Executive Summary in the PDF document at the very least (one page). Those who read the entire document (11 pages) can explore all the change options considered for the certification process: "(1) Change nothing; (2) Add an examination to existing portfolio requirements; (3) Create a tiered (vertically-differentiated) certification program; and (4) Create a topical (horizontally-differentiated) certification program." The proposal details the benefits, costs, risks and grandfathering vision for each.

Summary of Proposal

For those who are looking for a quick recap, here are the key parts of the current proposal.

GISCI's Certification Committee submitted four unanimous recommendations in response to a board request to explore a more rigorous certification.

"...professional certification based solely on a peer-reviewed applicant-supplied portfolio is no longer defensible."

"New applicants should be awarded the GISP upon successful completion of both the exam [based on DOL Geospatial Technology Competency Model and related competency specifications] and a peer-reviewed portfolio that documents experience, education, and contributions to the profession."

"Plans for the new examination requirement should be announced three years in advance of its effective date in order to allow sufficient time for a methodical and robust exam development process. ... All GISPs certified prior to the effective date should be exempt from the exam requirement."

"To ensure that a valid and reliable exam is developed in a timely manner, GISCI should consider retaining the services of a reputable private firm or individual with exam development experience."

My Take
This sounds like a "no brainer" to me. Now that there are several well-vetted documents detailing the scope of knowledge that defines our discipline, there is no reason to shy away from an exam. Further, the appearance of software specific examinations (Esri's is the most prominent within geospatial technology) highlights the value of a broad base of knowledge, especially as solutions incorporate more and more tools, services, data types, hardware, programming languages, etc.

Having said that, I would add that the creation of an exam is likely to be quite challenging. How much will come from each of the selected "industry-validated competency specifications"? Will the exam be a simple multiple choice or will there be open-ended questions? The GTCM, for example, includes workplace, academic and personal effectiveness competencies including skills such as reading, writing, teamwork, initiative, creative thinking and lifelong learning. It's difficult for me to imagine evaluating and measuring those activities via multiple choice testing. Getting at the key principles and avoiding vendor-specific language in the questions may also be a challenge. That's no reason to avoid creating such an exam; I just want to highlight that it may take more time than those based on a specific set of software skills.

The most important implication of the addition of an examination is that it shifts how employers might perceive the certification. I've long pointed to Jeff Thurston's (Vector One) observation from years back that the key value of the current certification is for organizations that are not familiar with geospatial technology and that are not comfortable selecting a candidate. The current certification allows the potential employer to point to a candidate with a GISP and conclude: "A committee looked over this person's portfolio and concluded they meet the credentials' requirements." If the certification does, in the future, include an exam, that comment would be on the order of: "This individual passed a test on the current understanding of the skills that make up the profession and a committee looked over this persons portfolio and concluded they meet the credentials' requirements."

The Great Debate: To Certify or not to Certify, That Is an Absurd Question

By Becky Schumate, GISP (Originally published April 2011)

S **ummary:** *Author Becky Shumate discusses the difference between GISP certification and specific software certification - in this case Esri Technical Certification. "Getting down to the 'nitty-gritty,' the Esri Technical Certification is essentially a software certification not unlike a Microsoft software certification. A GISP certification is a professional certification illustrating an individual's professional credentials."*

Ed. note: This article first appeared in the GISCI newsletter, and is reprinted here with permission.

The announcement of the Esri Technical Certification program in December 2010 spurred a fury of discussion among the geospatial community. Even though Esri's news release stated, "The Esri Technical Certification Program complements the geographic information system professional (GISP) certification available in the United States through the GIS Certification Institute..." many members of the geospatial profession have found themselves wondering whether to get the Esri certification or the GISP certification. I say "get both".

Getting down to the "nitty-gritty", the Esri Technical Certification is essentially a software certification not unlike a Microsoft software certification. A GISP certification is a professional certification illustrating an individual's professional credentials. The Esri ArcGIS software is a tool that is used to solve geospatial problems. The GISP certification is an indicator that an individual has the knowledge and experience in geospatial technologies to discover new solutions or methods for solving traditional and non-traditional spatial problems using those Esri software tools. Back in my early days when I was in graduate school, I recall asking my GIS Professor, Dr. Ken Morgan of Texas Christian University, why we weren't learning how to use the GIS software. He responded, "If you don't understand the concepts and applications of GIS, the GIS software is irrelevant." And I believe that was the most valuable lesson that he taught me. If you know the concepts, you can solve the problem regardless of the brand of tools.

I have heard and read many comments suggesting that the GISP certification is a glorified club, and admittance is all about who you know. While respecting the opinions of others, I beg to differ. The facts are plain as day. The GISP certification has nothing to do with "who" you know and everything to do with "what" you know.

Our numbers are not huge, but they are growing every day. Our greatest obstacles are penetrating other industries, being recognized by employers, and instilling an understanding of what those four little letters mean for an individual in our profession. As a manager responsible for hiring new employees, had I not completed the GISP certification application myself, I would have no idea what it represents on a resume. So, we are left with the quest to simplify our message for "non-industry professionals" and other department managers, specifically the HR representatives who are on the front lines of hiring and filling vacant positions. Simplify. Simplify. Simplify. It's not as easy as it sounds, but I'll take a stab at it.

Officially "GISP" stands for "Geographic Information SystemsProfessional". But what does that really mean? On the surface and to the untrained eye, from the "GISP" letters, one could surmise that an individual is 1) a "Professional" by unknown declaration, and is 2) familiar with GIS technologies. It falls upon the whole GISP community to educate the "untrained eye" to recognize the significance of the GISP certification. We all know the party line, so to speak- "The GISP certification illustrates that an individual has a minimum level of experience, education, and professional involvement and follows a code of professional ethics". "Minimum level" - the use of the term "minimum" implies that a quantitative measurement is involved. So what is it? Seriously, can any of you put the GISP certification requirements into quantitative words? I doubt it, so here I go again into unknown territory with just a map and a compass. But is it really unknown? No. It is just not well-known.

Now, we are talking numbers. And after four years of higher education specifically to teach me the art of counting on my fingers (B.A. in Mathematics), numbers are my game. After carefully studying the GISP application and point equations for each section, this is the closest I could come to a general quantitative description of what the GISP represents. The four little letters "GISP" following a name describe an individual as having at least four years experience working in the geospatial industry, at least 1,200 hours of either formal or supplemental education specifically for the geospatial field, as well as, a significant presence and participation in the field through publications, association involvement, and conference participation. A valid GISP certification means that the individual has met the requirements specified in their field by fellow geospatial colleagues.

But for those that are not already GISPs or well versed in the qualifications of a GISP, I offer this as a simpler description - "GISP" could also stand for "GIS Activities and Contributions", "Integrity and Ethics", "Specialized Education", and "Professional Experience". The real issue is getting a simpler and easier to understand message out to those who may not know what the GISP means. I challenge you, the current GISPs, to talk to and encourage your fellow colleagues to send in their applications, educate your management, and even your HR departments on what a GISP certification means and signifies. Until the GISP certification is fully embraced within our own community, how can we ever expect it to be fully recognized outside of our community?

After meandering through the topic like a slow flowing stream, I have finally arrived back to the original question. To those who ask, "Which certification should I get?" I reply in kind with, "Why wouldn't you get both?" The GISP certification proves that you have the ability to conceive of a solution to a problem, while the Esri Technical

Certification proves that you can actually apply that knowledge to derive the solution. These two certifications are like two sides of the same coin. Why wouldn't you want to showcase all of your knowledge, not just one side or the other?

Essentially, the burden of spreading the certification message is on us, the current GISPs. We have already embraced the certification, spent many hours filling out the application, and paid the application fee. That act alone makes you an advocate of the cause. Why would you not do everything you could to make your time spent acquiring the application materials and submitting an acceptable application worth your while. So with that I encourage all of you to speak out and "fly the organization colors". Go out to the GISP online store and buy yourself a T-shirt, coffee mug, or even a fancy water bottle. Be proud of your accomplishments and encourage others to do the same. So, that is the long,

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short, and the straight of it.

The Top 10 Things You Should Know about GIS Certification

By Sheila Wilson (Originally published April 2012)

Summary: *Are you thinking about becoming a certified GIS professional? Looking to understand how it could benefit your career? Sheila Wilson, GISP, executive director of the GIS Certification Institute, and Susan White, GISP, senior planner with the city of Fort Worth's Planning and Development Department GIS Team who currently serves on GISCI's Review and Outreach Committees, provide the top 10 things you should know about the process.*

Sheila Wilson, GISP, executive director of the GIS Certification Institute, and Susan White, GISP, who currently serves on GISCI's Review and Outreach Committees, provide the top 10 things you should know about becoming a certified GIS professional.

1. The GIS Certification Institute (GISCI) oversees the GIS Professional (GISP) certification. GISCI receives its authority to administer the GISP certification program from the following five GIS organizations:

- The Association of American Geographers (AAG)
- The National States Geographic Information Council (NSGIC)
- The University Consortium of Geographic Information Science (UCGIS)

- The Urban and Regional Information Systems Association (URISA)
- The Geospatial Information & Technology Association (GITA)

These five organizations are the members of GISCI. The Board of Directors is comprised of 10 people - two representatives from each organization - who govern GISCI.

2. In 2012, more than 5,000 people are active GISPs. Employers are requesting or requiring that their employees have their GISP or are working toward their GISP. More job ads are placed every day looking for GISPs. Organizations are issuing Requests for Proposals and Requests for Qualifications requesting or requiring GISPs be on staff for potential contractors.

3. Eight states have recognized and endorsed the GISP: California, Montana, New Jersey, North Carolina, Ohio, Oklahoma, Oregon and West Virginia. The GISP has also been endorsed by the National Association of Counties.

4. Being certified as a GISP benefits both applicants and their professional fields of work and study. Surveys of current GISPs show that many have successfully leveraged their certifications to gain promotions, raises and better jobs. Applicants frequently seek certification because they are applying for a job that has requested a GISP.

5. The application appears complicated, but only 22 of the 90 pages require applicant information, and about half of those pages can be completed in a minute or less. Additional application materials include: instruction manual, Code of Ethics, Rules of Conduct.

An online application will be available in the very near future that will allow applicants to access and edit their application at any time.
If help is needed during the application process, applicants can contact GISCI staff for assistance. Certification is good for five years.

6. Recertification is a much shorter and less complicated process than the original certification. Only five of the 12 pages require applicant information and the entire packet can be completed in 30 minutes to an hour.

7. Recertification requires that applicants achieve 60 hours for minimum points in education and contributions to the profession over five years. This can be achieved at little or no cost with only one hour of education per month. Qualifying activities include: taking classes, attending conferences or workshops, and even online webinars. For example, one webinar per month through *Directions Magazine* will give applicants all the education points required for recertification. Contributions to the profession can be achieved by doing presentations at conferences or poster presentations.

If conference attendance is not feasible, applicants can do volunteer work. Examples of applicable volunteer activities include: research and mapping for non-profit or service organizations such as Boy Scouts, a local running club, a church or even an incorporated neighborhood association. In addition, applicants can be a guest lecturer at a local library, high school, college or university. Other ideas include organizing a GIS Day, volunteering on a committee for a GIS organization, and much more.
If you need help determining what education and contributions to the profession qualify, contact GISCI at any time for assistance.

8. In the future, an exam will be required for certification. The Board of Directors created the Exam Working Group, composed of eight industry leaders, to develop and implement an updated GISP certification process that includes an exam component. The Exam Working Group expects to have an exam in place in about three years.

9. GISCI believes that people inherently follow a personal code of ethics. GISPs have chosen to follow a documented Code of Ethics and Rules of Conduct. The Code and Rules are considered some of the crowning jewels of GISCI. GISPs are a unique class of people committed to making our world a better place through GIS.

10. Opportunities to help shape the future direction of GISCI and make contact with fellow GISPs around the world are available for GISPs who wish to serve on a variety of committees, such as the Outreach Committee, Review Committee and many other subgroups formed to address policy and training issues.

Article

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Do You Qualify for a GISP?

By Sheila Wilson (Originally published October 2012)

Summary: *How do you qualify to receive your GIS Certification? Sheila Wilson, executive director of the GIS Certification Institute (GISCI), has the answers to all the questions you might have, whether you are new to GIS or have been in the profession for a long time.*

How do I begin the process to become a GISP?
First, download the application from the website. Review the application to see if you qualify and then begin filling it out. If you have questions, please contact us at the GIS Certification Institute (GISCI).

What are the requirements for becoming a GISP?
You must meet benchmarks in education, professional experience and contributions to the profession, as well as sign a Code of Ethics and Rules of Conduct. The application is point-based, in which you receive points for different activities in the three categories. After the point minimums are met and you have worked four years in the GIS industry, you can submit your application to become a GISP.

I am new to GIS and don't yet qualify for the GISP. What recommendations do you have for me?
You are on the precipice of an exciting and rewarding career! We recommend that you look over the application. Find out what it takes to become a GISP and then aim for it. Know what you need and what you need to do so that when you qualified, you can apply.

What is the easiest way to complete the application? Do you have any tips or tricks that will help?
Yes! When you download the application, you will get about 100 pages. Remember that only about 12 of those pages have to be filled out and most of the pages are very simple. The application is intended to show that you meet the minimum qualifications to become a GISP. It is not an exhaustive review of your entire career. If you have more than enough points in each category, you can stop filling it out. The minimum point requirement is 150; we recommend that you have about 200 points, which is more than enough. One area that takes people time is getting the documentation. Start requesting college transcripts now. Find the documentation for your contributions to the profession. You can often find information by doing an Internet search of your name. Finally, if you have questions, please ask. We would love to help.

I am applying for my GISP but some of my information is 10 years old or older. Can I still use it?
Yes, the original application allows you to use accomplishments from anytime during your career.

How can I prepare for the GISP application?
You can request transcripts from schools and look for documentation for your contributions to the profession.

What qualifies as professional experience to become a GISP?
The application contains a full description of the types of activities that qualify as professional experience to become a GISP.

Is there a way to bypass the publication requirements to become a GISP?
Yes, publications are not required to become a GISP. The Contributions to the Profession section has many different options including volunteer work, working on a committee, presentations and much more.

I do not like to present. How can I meet the requirements of the Contributions to the Profession section?
Presenting is not required. Some people don't like to present but are comfortable doing poster presentations. Others volunteer to participate on GIS or geospatial committees. Volunteer work is always welcome. Some people like to write newsletter or journal articles. The Contributions to the Profession section is set up with a variety of ways in which you can contribute to the GIS industry.

What if I forget to include something in the application or don't fill it out correctly? Do I lose my application fee?
No, we will request that you provide any missing information.

What if you discover that I don't qualify after I provide missing information?
Sometimes people provide incorrect information by mistake. When this happens, the

person may not qualify. We will place the application on hold, allowing the applicant to correct any problems, or we will provide a partial refund of the application fee at the applicant's request.

What is required to renew the GISP certification?
Renewing the GISP certification is also point-based. You must obtain a minimum number of points in education and contributions to the profession. A minimum in professional experience is not required; however, you may use points in the professional experience section to meet the total point requirement.

I need to renew. From what time period can I count points?
For renewing, you should only count points for five years: from the time of certification to the end of the five-year certification period. Occasionally, one does not have enough points during the five-year period. You can count points earned after the five-year period but then cannot count those points at the next renewal period.

The original application took a long time to complete. How long will the renewal take?
The renewal form should take far less time to complete than the original application; sometimes as little as one hour. The key is to make sure you have good records of your continuing education, professional contributions and volunteer activities at hand for reference before you begin filling out the renewal application. GISCI will soon have a tool on the website to help GISPs log and track these activities.

Who reviews the GISP applications?
GISCI has more than 100 GISPs who have volunteered to review the applications. Each application is reviewed by at least two people. Everyone on the Applicant Review Committee has signed committee rules of conduct. The rules require that they must keep all information confidential and secure. They cannot review the application of someone they know or with whom they are acquainted.

What is the value in having my GISP?
The GISP holds value to the individual and to the GIS industry. GISPs have obtained a level of professional maturity and experience that is widely acknowledged in the GIS industry. The Code of Ethics and Rules of Conduct set GISPs apart in that we hold ourselves to a higher standard.

Why should I become a GISP?
Many of us became GISPs in order to get better jobs or because our employers required it. Some wanted to meet the qualifications for an RFQ or RFP. All of us recognize the need to help the GIS industry mature and grow. We are committed to meeting the requirements of the Code of Ethics and Rules of Conduct.

What authority does the GIS Certification Institute have to award the GISP certification?

The GISCI operates as an independent industry non-profit organization by the authority of its member organizations:

- AAG – Association of American Geographers
- GITA – Geospatial Information & Technology Association
- NSGIC – National States Geographic Information Council
- UCGIS – University Consortium of Geographic Information Science
- URISA – Urban and Regional Information Systems Association

I've heard a lot about an exam requirement. Do I need to take a test?

A test is not required at this time; however, we expect to have a test in place in the next 2½ years. The test will be in addition to the application.

Article

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Ethical Insights

By Al Butler, GISP (Originally published May 2011)

S**ummary:** *In this article, Al Butler, GISP, talks about the GISP's Code of Ethics and Rules of Conduct and why they're important. He also drills down more deeply into the rules regarding metadata.*

Ed. note: This article originally appeared in the GISCI Newsletter and is reprinted here by permission.

The old joke goes, "Ethics and morals are different. Lawyers have ethics, clients have morals." If you are like most people, you believe that you are an ethical person, as well as

a moral one. As a certified GIS Professional (GISP), you have actually sworn to uphold the ethical principles of GIS practice, as defined by the GIS Certification Institute (GISCI) Code of Ethics and Rules of Conduct. In this first of a series of articles on ethical professional practice, we are going to challenge you to better understand professional ethics and how they apply to decisions you make every day.

Each person who becomes a GISP agrees to abide by a Code of Ethics and its implementing Rules of Conduct. There are many aspects to the Code and Rules. This article will discuss one of the rules that you are likely to be called upon to apply daily and that is probably difficult to understand in its impact. We are talking about the metadata requirement.

Code of Ethics and Rules of Conduct

Before we get into the details of that specific rule, we need to have a good foundation of basic understanding regarding the GISCI Code of Ethics and Rules of Conduct. The Code of Ethics actually predates GISCI's formation. Since the Code had to be in place when the GISP program began, it had to be developed by URISA-The Association for GIS Professional at the same time the association developed the GISP certification program. The Rules of Conduct were added a few years later in order to provide for enforcement of the Code of Ethics. Collectively, the Code of Ethics and Rules of Conduct provide guidance on how to live a professional life 24x7, not just at work, and serve as a general guide for lifetime decision-making. This approach was motivated by the belief that a professional person should embrace certain principles and resulting behaviors throughout his or her life.

The overall concept behind the Code of Ethics is the principle of treating others with respect, which means GISPs must consider the impact of their actions on others and modify their actions so as to show respect for others. In this context, 'others' means several things. One of those meanings is what we might call the dictionary version; i.e., individuals in the general population. A second definition is formed by our coworkers and other people in the geospatial profession. This subset of the general population presents additional requirements for ethical practice. Employers and organizations that fund our work-be they clients, academic institutions, or other organizations-are another special subset of the general population. Lastly, we have society at large. Where the first meaning targets our responsibilities to particular, identifiable persons, this last definition points toward our responsibilities to unnamed individuals and groups of people.

The Code of Ethics is structured as a set of goals toward which GISPs must continuously strive. Most are generally applicable to all persons, not just GISPs. For example, one obligation to society is to "practice integrity and not be unduly swayed by the demands of others" [I.1.2]. Another example is to "admit when a mistake has been made and make corrections where possible" [I.3.3]. Some elements of the Code are specific to information technology professions, such as "help develop security, backup, retention, recovery, and disposal rules" for data assets [II.2.7]. Only a relatively few rules are specifically aimed at the GIS Professional. Some good examples are "Be especially careful with new information discovered about an individual through GIS-based manipulations (such as geocoding) or the combination of two or more databases" [IV.1.2] and "make data and findings widely available" [I.2.1]. In all cases, the elements of the

Code are written with a positive focus that urges the GISP to take a particular positive action.

One of the reasons for the GISP credential to exist is to be able to provide a mechanism to acknowledge and enforce the Code of Ethics. We quickly realized, though, that we needed more than the Code itself to be able to attain that objective. What we needed were specific rules and an ethics complaint procedure to provide an enforcement mechanism. These aspects of professional ethics were added to the program in 2006. If you look at the Code of Ethics as the constitution of the GISP program, then the Rules of Conduct are the laws and statutes that carry out the ideals of the constitution, while the Ethics Manual forms the administrative rules. In order to be most readily related to the Code of Ethics, the Rules of Conduct are organized under the same four group headings representing obligations to: society, employers and funders, colleagues and the profession, and individuals in society.

The Metadata Rule

There are 40 rules governing the behavior of GISPs, but we are going to focus on just one, Rule II.1, which addresses the need to provide four pieces of information, or metadata, about all publicly datasets released: source, date compiled, projection used, and contact information.

Rule II.1 - All data shall have appropriate metadata documentation sufficient to meet the minimum standard, as stated here. All data to be published for general public consumption shall note:

1. source(s) of data or at least from whom you obtained the data,
2. date(s) collection/aggregation of data or at least the date you obtained the data,
3. projection, and
4. author/compiler's contact information or other contact information.

At the time the Rules were being developed, I raised the issue of employers with policies not to disclose metadata, such as Google, which does not provide all this information on its web sites. (There was actually an article in a recent issue of a peer-reviewed journal regarding the lack of metadata on Google Earth.) My question was, "Is the obligation of a GISP to this employer greater than the GISP's obligation to supply metadata?" The answer to my question was that the private employer, Google, was not bound by the Rules of Conduct; however, any GISP working within the organization had to provide his or her employer with the required information. This answer rests substantially on the proprietary nature of Google's data assets, the acquisition and use of which are bound by various licensing agreements, including the one accepted by the end user. If you are using Google Earth, you are doing so as a license holder with specific rights and obligations; you are not part of the "general public."

GISPs at public agencies have no such "third-party" relationship with the public, as everything produced at a governmental agency is essentially a public record. So, the short answer to the question of when this rule applies is, "It always applies when delivering work products to your employer."

When we were developing the Rules of Conduct, we created a matrix of ancestry for each rule in order to be certain that it had a foundation within the Code of Ethics. The two "parents" of the metadata rule are the fifth bullet under Code Element II.1, which

addresses the obligation to deliver quality work, and the fourth bullet included under Code Element II.2, which tells us to describe products and services fully. The intent is full disclosure. In Code Element II.1, disclosure is related to allowing others to be able to use the data for additional applications and specifically mentions providing metadata. In Code Element II.3, disclosure is tied to the need for users to fully understand what the data are telling them, which requires that the way the data were compiled to be well described.

There are also a lot of aunts, uncles, and cousins in the family tree of the subject rule. Metadata helps us meet a number of requirements for our obligations to society at large and our colleagues. If we compiled the data ourselves, then we must tell how we did the work, because the collection method or analytical process that generated the data is just as important as the data itself toward understanding what it all means. If we used someone else's data, then we owe it to them to give them credit for their efforts. If we know how they compiled the data, then we need to pass along that information. If not, then we need to at least provide contact information for the original source so a downstream user can try to get that information directly. I would strongly suggest to you, though, that you not routinely publish data for which you lack information as to its origin.

There are also what might be called five brother and sister rules that tell the rest of the story with regard to metadata requirements in the Rules of Conduct. Rule I.2 tells us that we need to utilize standard analytical procedures. Including a description of your analytical methods in a section of the metadata document is one way to show that you have complied with this rule.

Rule I.5 requires us to evaluate the work of others when that work is an input to our own. This gets back to the admonition to only publish data about which you know its derivation. Sometimes, though, the best data are the data you have, so you will need to include disclaimers and an explanation as to why you used a particular data source in your metadata. Be careful about mixing data with varying vintages. Doing so may require you to provide extensive explanations.

Rule II.8 says GISPs "shall describe our products and services fully, accurately, and truthfully; ... and shall not take advantage of the lack of knowledge or inexperience of potential clients or employers." A client of mine says that everything has to be boiled down to a "third grade level" when presenting the results of geospatial analyses. Said another way, we always need to bring the answer down to the street. This may mean providing two sets of metadata, one for our fellow professionals and another for the general user.

Rule III.2 requires GISPs to "recognize and respect the professional contributions of our employees, employers, professional colleagues, and business associates; and, we shall not use the product of others' efforts to seek the professional recognition or acclaim intended for the producers of the original work." Another way to say this is to give credit where credit is due. Failing to provide metadata telling the user the original source of the data could be construed as your trying to take credit for the work of others.

The last directly related rule is tied to the previous one. Rule III.7 commands GISPs to "honor the intellectual property rights of others, including the rights to software, data, and other relevant information and analysis associated with the work of others." The reference to software is not limited to following the terms of the user license. It also

means that your metadata entries regarding data transformations, analytical processing, and similar automated aspects of the data creation process will need to name the specific tools and options used.

Complying with Rule II.1

The bottom line is the following set of guidelines for how to comply with the metadata rule's requirements related to source:

1. If you developed the data yourself, then you need to describe how you did it. This description needs to be provided for the colleague and the lay person.
2. The contact portion of the metadata should include your identity and how to reach you. If you used someone else's data, then you need to provide the source and contact information, along with any caveats and explanations that either came with that data.
3. If you took the data from a published source, such as a book, journal article, or website, then it is sufficient to provide a normal citation.

You should have noticed that the rules talk only about content, not format. Part of the reason is that the form of the metadata needs to be appropriate for the form of the data, which may also affect the manner in which the metadata are delivered. To the extent practical, the method of acquiring the data should automatically transmit the metadata. Although there is no hard and fast set of guidelines for the degree of specificity required in your methodological explanations, a good rule of thumb to apply is that the information provided should be sufficient for a competent colleague to be able to understand and duplicate your process.

The best known metadata format is probably the standard adopted by the Federal Geographic Data Committee (FGDC). However, this format is so detailed and can produce such lengthy descriptions of the data that it could actually work against compliance with the metadata rule, particularly for lay persons. The Rule does not demand that you prepare a full metadata publication for every piece of data you release for use. The KISS principle applies: keep it simple. Less is more when it comes to providing a clear and useful description of the data's origin.

Let's say you are publishing 2009 population data for your county. The following metadata meets the requirements of Rule II.1:

The 2009 population estimate was derived from 2000 Census data published by the [U.S. Bureau of the Census](), which was adjusted using a 3.5% annual growth factor calculated from the number of residential building permits issued by the county and included municipalities for the years 2001-2008. For more information, contact the GIS Analyst at 407-555-8721 or [GISinfo@countyemail.gov]() .

The original sources of the data are listed (U.S. Bureau of the Census and local government building permits), as is the methodology used to create the population estimate. A point of contact has been provided in order to get more information about the population estimate and how it was calculated. Back in the office, you will need to retain the actual building permit data so the derivation process can be duplicated. Note that this metadata does not include a reference to the map projection used, as the information is a number in a report, but it does include the other key elements.

This example reinforces the point that the scope of application for Rule II.1 is "all data," not just spatial data or maps. Anything that you release for use needs to include a brief description of what you did, even if it is just in an e-mail that transmits the work to your internal or external recipient. Don't be surprised if you sometimes get feedback that starts, "I thought you were doing it another way," or "We need it done this way."

So, do you still believe that you are an ethical GIS Professional? Are you meeting the requirement for metadata with every piece of information you provide to a coworker or citizen or publish on a website? If not, start today by examining your personal practices for telling people how you got the information you gave them. Doing so can lead to a greater understanding of the GIS profession by others. It may also lead you to new insights as to how the users you support thought you were getting the data you give to them.

Article

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Q&A: *Directions Magazine's* Special Session on GIS Certification with David DiBiase, GISCI President, and Sheila Wilson, GISCI Executive Director

By Sheila Wilson (Originally published April 2011)

Summary: *This is a summary of questions registrants asked when registering for the [Tuesday, March 29 webcast](#). The questions have been arranged into general topics. Short answers are provided and more comprehensive answers are available upon request.*

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provided and more comprehensive answers are available upon request. Please contact Sheila Wilson for more information.

Ed. note: This Q&A document was originally published on the GISCI website and reprinted here with permission.

Q: Why make changes to the existing certification requirements?

What is the ultimate goal of changing the process?

The ultimate goal is to increase the perceived and real value that is associated with voluntary certification as a GIS Professional. We also believe that it will strengthen the GISP within the GIS industry and across all other industries.

Are there enough career opportunities in the GIS field to warrant spending the money to become certified?

The Department of Labor has projected that 140,000 additional GIS jobs will be added to the US economy by 2018, approximately 20,000 jobs per year. This number is in addition to the job replacements that will be needed as retirements occur.

Q: How does the GISP certification compare/contrast to the Esri certifications?

How do vendors such as Esri view GISP Certification in terms of their latest certifications initiative? How does it compare to the Esri certification? Will the testing requirements be aligned with the new Esri certifications?

GIS software vendors (like Esri) market their certification efforts as technical certification related to their specific software tools, and they have repeatedly identified the GISP as a complementary professional certification. Any exam that GISCI develops will be GIS-software independent. At this point, we do not expect to align the GISCI certification exam component with any other software-oriented certification program.

What is GISCI's position regarding the Esri certifications?

Technical certification related to specific software platforms or tool suites (such as Esri) are considered to be complementary to professional certification through GISCI. As such, GISCI has no position on the Esri technical certification exam content of categorizations.

Is this event sponsored by Esri?

No, the *Directions Magazine* OnPoint webinar was not sponsored by Esri.

Are the certificates issued by Esri and other companies to be translated to the new GIS certificates, or do they have to be retaken?

During the GISCI application process, all educational coursework can be documented in the EDU section; on the job training is documented in the EXP section. Just like a college/university transcript, a certification documents educational achievement.

At this time, we do not anticipate alignment (or translations) with technical certification programs.

Can GISCI leverage certification tests already provided by software providers like Microsoft and Esri?

The exam development process that will supplement the existing application portfolio has not yet been solidified. We are open to advice on how to do testing; however, a GISP exam will be based on the Department of Labor's Geospatial Technology Competency Model ([GTCM](#)) and the GI Science & Technology Body of Knowledge ([GIS&T BoK](#)) developed by UCGIS, not techniques that are associated with a given software toolset.

Q: What are the costs and benefits of testing?

What are the projected costs of testing? Will the annual fee to go up?
We have approached other organizations that have a testing component for their certifications, and have heard that exam development firms might cost as much as $50,000 for each exam. We do not have any firmer information than that at this time.

There is no annual fee for GISP certification, and we have not considered that option in any detail yet. We anticipate that the cost of taking an exam will be borne by GISP applicants, when and if that component is added. We will endeavor to keep that cost to a minimum.

What is the financial implication?
If the recommended proposal is fully adopted:
• Total certification cost (due to the cost of administering the exam itself) will increase for new GISPs once the exam component of the application portfolio is enacted. We do not know what the per applicant exam cost might be at this time.
• We do not anticipate any changes to renewal fees for existing GISPs.
• GISCI expects the development cost for an exam component for GISCI certification to be a significant investment. We are examining those costs carefully before proceeding.

Can it be a free certification for GIS qualified people?
The GISCI Certification process is set up to identify those professionals who voluntarily provide their portfolio of education, experience and contributions to the profession (including the acknowledgement of their commitment to ethical conduct and practice). This certification qualifies them to use the GISP logo. Current certification fees cover the costs of GISCI administration, including the review/approval of certification applications, renewal review, outreach and education. We do not anticipate being able to offer free certification in the foreseeable future.

What about the testing procedure/cost/test prep materials? What will be the cost of certification to the applicant?
At this time, we do not know the cost of certification to future applicants. We expect that it will be greater than the current application cost due to the additional administrative overhead of the exam itself. GISCI is a non-profit organization. The goal is to create a stronger certification; therefore, all costs will be minimized whenever possible. It is possible that the sale of test preparation materials would offset some of the administration costs (thereby reducing the simple cost of the exam to the applicant), but that is a decision that will need to be considered in the future.

How will these changes in the certification process help the GIS profession to be more widely accepted by all?

We anticipate that a more rigorous certification process will allow GISPs to be more easily recognized by their HR departments and upper management. It will also help with recognition across industries. Even though we believe that the current portfolio approval process is rigorous, many feel that an exam will further boost and enhance the value of the GISP certification.

What are the employment advantages? How much does a GISP certification affect being hired? Do employers really look for it? Possession of a vendor training certificate, like Cisco's, correlates strongly with market worth and salaries. Will this do that?
Many, including GISCI's Executive Director Sheila Wilson, received a better job with a private firm after becoming a GISP. Many employers are now requesting or requiring GISPs on staff. RFQs and RFPs are regularly issued requesting or requiring GISPs on staff. The value of the GISP is increasing at a non-linear rate. As the value increases, the market worth and salaries will also increase. It is also worth noting that job retention and lateral moves within an organization could be a direct result of GISP certification.

I often hear that a GISP only means something to other GISPs. How does GISCI plan to address the issue of the value of GISP?
GISCI has recognized the importance of sustained and energetic outreach, both within the GIS industry and its many associations and with the human resource departments that are recruiting and retaining GIS expertise. We are making those outreach and education investments now – regardless of any proposed or adopted changes to the certification process. The goal of GISCI is to better educate everyone as to the value of the GISP.

Q. What is the timeline for the proposed changes?

Is the model approved and how do we go about certifying "the new way"?
No, the GISCI Board of Directors is still considering the path forward. We anticipate significant discussion and incremental press releases throughout the next two months or so. Currently, we expect the development of an exam (if the Board chooses to undertake that effort) to proceed over the course of three years. During that time, the current application portfolio process will remain in place.

How long will portfolio-based certification remain an option? (I'm just about ready to submit everything!)
Congratulations on completing the application! Developing an exam component for the certification process is expected to take up to three years. There is no advantage (or disadvantage) to delaying submission of a GISP application.

Q. How will the proposed exam be created and what will be on it?

What criteria must be met in order to apply for the proposed new certification?
The recommended proposal adds an examination component to the current portfolio-based application. Since the proposed examination will not be developed and in-place for several years, those criteria will be developed and deployed in parallel. The exam questions will be built on the GTCM model (probably Tier 4, for those of you familiar with the GTCM), and based on the GIS&T Body of Knowledge developed by UCGIS.

How do we determine what will be on the test when GIS is applied so many different ways to different industries and sciences? Should/could there be a core requirement for certification?

We recognize that this is a concern among all GIS professionals. GISCI expects to leverage either a professional test generation firm or the profound testing expertise that is embodied in the majority of its member organizations (AAG, UCGIS and URISA) to tackle this thorny problem. We believe that there will be core questions that all must answer, but do not know how those questions will be included or what the exam length must be at this time.

Regarding "an established curriculum is adopted by the GIS academic community," what role did universities play in the process?
• The University Consortium for Geographic Information Science (UCGIS) developed the GIS&T Body of Knowledge in 2006.
• UCGIS members are actively involved in the Core Competencies Working Group and the Certification Committee.
• UCGIS appoints two representatives (out of 10) to the GISCI Board of Directors. The Board will make the final decision on the proposed changes to certification.

How do you standardize a certification test when there are no standard education programs?

This is exactly the question that the UCGIS sought to answer when it developed the GIS&T BoK. We will use their insights and suggestions as the foundation for examination questions, and will be consulting with educators and GISPs as subject-matter experts.

Applications in GIS are widespread and a utility won't know about 9-1-1. How would you separate core competencies, which everyone must know, from field-specific issues like the property surveying?

The examination component of the GISP application is expected to cover basic GIS concepts first and foremost. We cannot be too generic, but we also cannot be overly specific. A GIS professional in the utility industry will need to know about ethics, rules of conduct, and basic geographic and computational limitations in the same way that a 911 GIS professional. Please consider that not all GIS users should (or would be qualified to) apply for GIS Professional certification through GISCI. We expect fruitful discussion over the coming years as we develop an examination, and we are sure to confront this question carefully and completely.

Is it possible to develop tiered exams for various GISP levels? i.e. technician, analyst, etc.

A tiered certification was one of four options considered by the GISCI Certification Committee's Core Competencies Working Group; however, they decided not to recommend that option at this time, due in part to the complexities of differentiating expertise using one exam or developing multiple exams simultaneously.

If the exam becomes a requirement, will the standards be set based on local or state criteria, or will they be the same globally?

GISCI is not aware of local or state-level criteria for the certification of GIS professionals. In fact, it is our understanding that GIS is not mentioned in any state

statute at this time. To that end, we expect to develop the examination component for the GISP application packet to be based on national/international standards of GIS knowledge.

What is the potential format of the exam?

The format of the examination component for GISP certification is still in active discussion. We expect the exam development process to take up to three years, and the format of the exam will be considered and decided during that timeframe.

Will the exam be available in other languages?

The format of the examination component for GISP certification is still in active discussion. When the test is first released, we anticipate that it will only be available in English. If resources are available and if there is sufficient demand, we would consider examinations in other languages in the future.

Will programming be part of the test? Will there be concentrated functional area tests or a single comprehensive exam?

The format and content of the examination component for GISP certification is still in active discussion. The examination has not yet been developed, but the single comprehensive exam is considered the recommended option.

Will the process require in-class attendance and/or be available as an on-line study?

The format and content of the examination component for GISP certification is still in active discussion. We are also actively discussing the examination delivery format. We do not anticipate that applicants will be required to attend classes to prepare for the exam. We hope to produce exam study materials, but this will be dependent on many factors that we cannot determine right now.

Will the written exam be composed at a university level?

The format and content of the examination component for GISP certification is still in active discussion. Professional organizations that specialize in exam preparation will be consulted, with the objective of making the examination as accessible as possible. University-level concepts may be included, but they will not prevent applicants from qualifying for the exam nor will they prohibit successful completion of the exam. We expect to get appropriate help with the development and administration of the examination component of the GISP application process.

Guides and/or practice tests available?

As mentioned above, we hope to produce exam study and practice materials, but this will be dependent on many factors that we cannot determine right now.

Q: What are the potential changes to the portfolio section of the application?

Given it's a technical field, I'm in favor of exams for current/future certifications. Will less weight be placed on contributions to GIS?

The examination component of the GISP application process is supplemental to the education, experience and contributions to the profession section of the complete portfolio, and contributions (professional activities) will always be a vital part of the GISP. This is how we expand our GIS body of knowledge, teach others, and promote

GIS. If anyone has difficulty reaching the minimum points for the contributions section, please contact GISCI. We can help people find points they didn't realize they had, or develop a plan by which to meet the necessary Contributions to the Profession points.

General Information

What is the distinction between certification and licensing?
• **Certification**: A voluntary process by which individuals who have demonstrated a level of expertise are identified to the public and other stakeholders by a third party. Recognizes expertise.
• **Certificate**: An award given to an individual recognizing completion of an academic or training program.
• **Licensure**: The granting of an official permit to practice within a profession. Often regulated by states and documented in legislation. Guards against incompetence.

What is the impact on state's licensing of GIS Professionals?
GISCI is not aware of local or state-level criteria for the certification or licensing of GIS professionals. In fact, it is our understanding that GIS is not mentioned in any state statute at this time. The impact on state licensing is up to the individual states. The GISP is a voluntary certification process through GISCI. We do not plan to become involved in licensing.

How will the GISP certification impact the use of uncertified student interns for GIS mapping/analysis projects?
GISP certification is unrelated to individual mapping/analysis projects and the potential use of interns. The GISP certification offers peer-recognition for seasoned GIS professionals. GISPs will continue to mentor non-certified GIS practitioners/professionals to become GISPs, as well as serving as positive role models within the broader GIS community.

Disagree with exam requirement; there's enough of that; existing process is already lengthy.
The creation of an examination component for the GISP certification process is not intended to lengthen the process, though it is possible that it will. As mentioned earlier, the inclusion of an examination is meant to demonstrate higher value to other professional organizations as well as to hiring authorities within the public and private sectors. The idea is to show that an applicant is well-qualified for the GISP.

How can we as GISPs improve and ensure a specified level of professionalism at a state, national and international level?
We need to promote the GISP at all levels, making it more recognizable by HR departments. One of our first steps in that direction has been to develop a brochure that one can give to HR to better explain who we are and what we do. We will have the brochures available at conferences. You can also request HR brochures be mailed to you.

We are always looking for ways to promote the GISP. You will find GISPs at professional conferences, promoting the GISP. We discuss what the GISP is through presentations and how to apply for the GISP in workshops. We have a newsletter to which one can

subscribe on our website at http://www.gisci.org. You can find us on Facebook and Twitter. We also have a GISP store, where all items are sold at or near cost.

How can we do away with GISP? Top leaders of GIS at my workplace do not know what they are doing. They are mostly afraid …

The GISP is here to stay. We could use your help in educating people about the importance of the GISP and GIS. GISPs are strengthening the GIS industry, thereby making everyone's job better and salaries higher.

How does the new GISP accommodate students in other countries? Is the GISP for American Citizens only?

The GISP was developed as a US-centric certification; however, the international community is embracing it as well. The GISP is open to anyone in any country. We are considering plans that will accommodate exams for people outside of North America, but this will only happen once the examination has been developed and administered, and we have sufficient resources and demand.

Will current GISPs be given the opportunity to complete a test for certification if a test is adopted?

If the recommended proposal is adopted as worded by the GISCI Certification Committee's Core Competency Work Group, current GISPs may take the test if they so desire. We anticipate that they would have to pay whatever examination cost is assigned to the exam component. If grandfathering is adopted (as was also recommended by the CCWG), then current GISPs will not be required to take the test, either as a requirement for their continued certification or as a requirement for renewal.

Q: How does this affect certification renewals?

How do the proposed changes affect re-certification? How is an exam justified for those who have already received their GISP? Also how is it justified for them to renew their certification? How would a GISP, who has moved on to Senior Management of an SDI be expected to pass an exam? Would the exam be technical?

Currently, certified GISPs do not have to re-certify after their initial five-year certification period. By demonstrating continued contributions to the profession and education, GISP certifications are renewed for another five years. The CCWG proposal recommends that we leave the renewal requirement the same as it is now. That is, current GISPs remain certified at the same level as those who take the exam, once it is developed and in place. The exam will have technical (technique-oriented) questions, but they will not be software specific.

However, the GISCI Board of Directors has not yet decided to pursue the proposed examination development, so some of the above statements may be premature or incomplete. At this time, we do not anticipate forcing existing (or renewing) certified GISPs to take the examination.

Q: What is the current application process?

For us serving in the military who haven't been able to gain the required points, are we now going to lose our GISP certification?

Thank you for your service to our country! We value our American heroes and will make every effort to accommodate you. If you are referring to the difficulty that you may have in the renewal process, please be assured that we want to help ensure that that difficulty is minimized. You may contact GISCI by email (info@gisci.org) or phone (847-824-7768). We will help you develop a reasonable plan by which you can meet the requirements. We have several options available.

I am interested specifically in the recertification criteria; many GISPs will have trouble getting required 'contribution' points.
Please note that we renew certification, we do not recertify. Please contact GISCI, as we have developed ideas to help current GISPs meet the education and contribution sections that do not require travel or significant expenses.

I would like general information about the certification process: how do I get started?
You can find the GISCI application and procedures manual online. Different conferences around the country provide application training workshops. And you can always directly contact GISCI for help (email: info@gisci.org or phone: 847-824-7768). We look forward to helping you and to receiving your application.

How many points do I get for publications or other professional activities?

The GISP points for professional activities are described in detail in the GISCI procedures manual, which is available online at the GISCI website. .

How can educated people be certified? Now in the recession only old professionals can be certified. It takes forever to find a job.
Experience is a core component of a well-rounded GIS professional, as well as education and contributions to the profession. If you are having difficulty with fulfilling any portion of the application, please contact GISCI (email: info@gisci.org or phone: 847-824-7768). We may be of assistance.

How flexible are the requirements? i.e. substituting education for publication.
You can find the GISCI application and procedures manual online. Each component of the GISP application must be met. If you are having difficulty with fulfilling any portion of the application, please contact GISCI (email: info@gisci.org or phone: 847-824-7768). We may be of assistance.

How is certification criteria determined? How much work experience counts toward any part of certification?
You can find the GISCI application and procedures manual online. The current criteria is a point-based system in which one must document at least 1,200 hours of either formal or supplemental education in the geospatial field, a minimum of four years' work experience, professional activities, and agree to the Code of Ethics and Rules of Conduct. If adopted by the GISCI Board of Directors, the CCWG's recommended proposal will add an exam to these requirements.

I would like to know if I can obtain my GISP even though I am currently unemployed.
If you can meet the requirements of the GISP application, you can become a GISP. You can find the GISCI application and procedures manual online.. Please review the

application materials and contact GISCI (email: info@gisci.org or phone: 847-824-7768) with any additional questions you may have.

Why don't you have an electronic application/renewal process?
We are in the process of improving our Web presence, and expect to have a secure online application and renewal process in place by the end of 2011.

Could the GIS Certificate earned at American River College, Sacramento, CA be equivalent to a GISP? How does this correlate with online learning/GIS certificate through universities?
A GIS certificate earned in school is different than professional certification. A GIS certificate from an educational institution documents classroom learning; whereas the GISP shows that a person has reached a benchmark in education, professional experience and professional activities. The GISP certification process also requires that applicants sign a Code of Ethics and Rules of Conduct.

How come getting an MS doesn't include getting your GISP? How would you transfer from a Master's degree in Geography to a GISP certification? If someone possessed an advanced degree in GIS, why can't they just take a test and get the certification?
An MS or other GIS degree reflects achievement in education only. The GISP is professional certification, which includes education, professional experience and ongoing professional activities related to GIS, as well as the Code of Ethics and Rules of Conduct. Education is a necessary, but not solely sufficient, component of the GISP certification.

How much time would it take for a working professional to get a degree?
Each person and situation is unique. It will depend on the kind of work that is undertaken. Is it related to GIS? What part of a given day is devoted to GIS-related activities? What educational background does the applicant have? How are they contributing to the GIS profession, outside of their work commitments?

Why can't you save the .PDF document with your information filled in?
You can if you have the full version of Adobe Acrobat. You can always print the form and hand write the application. We expect to have a secure online application available by the end of the year.

Why doesn't the GISCI qualify boots on the ground work as college course work equivalent?
"Boots on the ground work" is professional experience, which is different than the education component. If you are having difficulty meeting the education portion of the GISP application, please contact GISCI (email: info@gisci.org or phone: 847-824-7768). We may be able to help you.

Why was the "grandfather" clause removed? Time and budget do not allow me to meet the requirements, after 25 years doing GIS.
The "grandfathering" phase of the GISCI certification process was put in place to allow folks without easy access to college/university transcripts an opportunity to qualify as a GISP. This phase was intentionally limited to five years, in order to accommodate the initial interest and transcript difficulties. We do not anticipate another round of

grandfathering like that. Please contact the GISCI offices (email: info@gisci.org or phone: 847-824-7768). We may be able to help.

Will advanced education have greater weight in the certification process?
Advanced education has greater weight in the existing certification process. One receives more points in the education section for a Master's degree or higher.

What is the difference between GISP renewal and new applications?
In the current application process, the new application requires significant time and documentation in all three sections of the application materials. We are trying to assure that application review is meaningful and fair to all applicants. The renewal process generally takes less than two hours. The idea is that since you have completed the more rigorous initial application, you have shown yourself to be qualified to hold the GISP. The renewal requires that you document minimum levels of continuing education and professional activities, which can be supplemented by experience points if needed.

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