President's Column

A Change in the Wind

G'day URISA Members! I’ve just come back from a visit “down under” with our sister association, Spatial Sciences Institute. I have to say it’s no urban legend (or suburban for that matter!) that they know how to host URISA presidents. I not only got to experience a real “lamb on the barbie” cookout but also had great attendance at my keynote presentation the morning after the conference social. That’s commitment! I was also very pleased with the attendance at URISA’s GIS Program Management Workshop I taught. Clearly program management challenges transcend continents.

But enough about Australia, I really want to spend this column catching you up on some critical work that is occurring in URISA Board of Directors’ meetings. As you know, we’ve adopted Kaplan’s and Norton’s Balanced Scorecard methodology to help us structure key conversations around URISA’s future. Those conversations revolve around the changing landscape for geospatial associations and how URISA can remain vibrant and relevant to her members.

One trend we’ve been tracking is that membership numbers are falling off across most associations. Everything has a cycle, but this trend appears to be more serious than “just another cycle”. As your Board, we know that this trend could have serious consequences for URISA if we just ignore it. So we won’t ignore it, but we do need to understand why this is happening and respond to the underlying issues strategically.

As we dig into this, it appears there are a number of factors that are driving this trend. The first is (no surprise here) the economy. URISA has weathered a number of cycles in the economy since her founding in 1963 – after all, over 50% of our membership is made up of local/state/provincial/regional/tribal/federal government employees and we all know how sensitive government is to economic down cycles. Since this isn’t new information to us, URISA has a number of strategies that help members stay engaged during tough times such as specialty conferences hosted in smaller cities across a wide geography and making workshops available to Chapters. There’s more to do, but the economy challenge is something this association has dealt with over 40 years and while you can’t ever take anything for granted, we do have a certain level of confidence in what works and what doesn’t.

The second factor we’re seeing is that potential members are having a hard time in seeing the value proposition of joining one association versus another. Not only do they have to be careful with how they spend their limited “association dollars”, but it needs to be clear to potential and existing members why URISA is a better choice for their professional growth than Brand X. Unfortunately there isn’t an “Idiot’s Guide to Selecting Best Value Associations”. Value is a matter of perception but URISA can influence perception by very clear communications to the world of URISA’s purpose, offerings and services. This communication must be timely, verifiable and appropriate. And value must be communicated by the existing members too – people affiliate with an association through personal testimonials more than great marketing materials. Given the broad reach of services (conferences, workshops, publications, career center, RFP sharing, chapters, GISCorps, and the new Leadership Academy) I think we have great value to offer, especially when combined with the power of networking relationships. The Board and staff’s challenge is to make sure this messaging is clear.

A third factor we’re seeing is that our Generation X and Y potential members tend to affiliate with associations differently than the Boomers, if they join at all. This cohort of potential members is not joining associations at the same rate as the Boomers, which is probably related to the changing view of work and how it fits into their life. While the research is still somewhat thin in this area,
Important URISA Dates to Remember

September 19, 2008
Last day to submit an abstract for the 2009 GIS/CAMA Technologies Conference

October 7–10, 2008
URISA’s 46th Annual Conference
New Orleans

October 31, 2008
Last day to submit an abstract for the 2009 URISA GIS in Public Health Conference

December 8–12, 2008
URISA Leadership Academy
Seattle, WA

February 8–11, 2009
13th Annual GIS/CAMA Technologies Conference
Charleston, SC

June 5–8, 2009
URISA’s GIS in Public Health Conference
Providence, RI

August, 2009
URISA/NENA Addressing Conference
Providence, RI

September 29–October 2, 2009
URISA’s 47th Annual Conference
Anaheim, CA

About URISA

The Urban and Regional Information Systems Association (URISA) is the premier professional association for those involved in improving our urban and regional environments through the effective use of information technology. Professionals in planning, economic development, information systems, emergency services, natural resources, public works, transportation, and other departments within state and local government have depended on URISA for professional development and educational needs since 1963. Through its international, national and local chapter operations, URISA serves nearly 8,000 professionals.

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Nearly 50% of government sector respondents to an online survey currently use or plan to use Google Maps API (Google Earth) or MS Virtual Earth API in the near future.

Wansoo Im

Horton hears a Who, but I hear a Where.

Twyla McDermott

Commercial Internet applications like Google Maps™, Google Earth™ and Microsoft Virtual Earth™ are having a significant impact on the GIS industry by exposing the power of spatial data to the general public through their friendly user interfaces and easily accessible application programming interfaces (API). The question remains as to how these open map API technologies affect government investments in geospatial data development and geospatial services.

As part of the research, an online survey of agencies representing various North American governmental sectors (federal, state/provincial, county, municipal and agency levels) was conducted. This survey was distributed as a part of a research project titled: The Impact of Commercial Internet Map Services on Government GIS Data Development and Services (partially funded by the Korean Land Spatialization Group).

Initial findings from the respondents (N=310) indicate that the public sector has high expectations for the benefits of GIS -- expectations of high performance, simplicity and accessibility. Google Maps and Virtual Earth meet those requirements. Initial survey results are summarized as follows:

- 56% of respondents were employed as CIO, IT or GIS Manager/Director/ Officer/Coordinator of public agencies
- 76% provide or have provided web-based GIS applications
- 78% note that real property (cadastral) ownership is the most widely used web-based application, followed by transportation, public safety and land development
- 23% currently use publicly available map APIs for their applications
- 77% developed Internet mapping applications internally; 50% used consultants or outside vendors (not mutually exclusive)
- 49% currently use Google Maps, Google Earth or MS Virtual Earth API or plan to implement the use of these resources in the near future

Respondents cited their reasons for using open map APIs as ease of implementation (68%), cost (58%), data access (street maps; aerial photos) (52%), and functionality (43%).

We thank URISA for distributing the survey, as well as those URISA members who provided us with helpful feedback, especially Michael Waltuch and Mary Tsui. We expect to deliver the full report of our findings in the next issue of the URISA newsletter and present the report at the URISA Annual Conference in New Orleans.
Many technology managers are constantly reacting to issues. It seems that there is never any time to be proactive. This is often due to the lack of adequate resources and the magnitude of needs. Unfortunately, information technology always seems to be relegated to the backroom and few really know what it takes to be successful. Therefore, projects are piled on the IT team without regard to the complexity of daily operations. To help break the cycle of reactive IT management, an enterprise IT strategy should be developed and established. This strategy document will help with daily tactical decisions and properly influence the acquisition of new systems and infrastructure.

Planning to Fail
Remember the old saying, “failing to plan is planning to fail.” There is a reason for “old sayings” because they are probably very true. Planning and the establishment of a written strategy will reduce constant reactive actions and pressures to deviate from implied standards. The resulting documents provide objective parameters to make evaluations of performance. A derivative to the planning process is the ability to better manage expectations of your clients or stakeholders. Expectations management is a function of getting stakeholders to understand and agree upon the future state vision. Since IT is such an intangible, a strategic plan can assist in guiding the perception of the users.

Three Facets of IT Management
Three aspects of information technology management are strategy, tactics, and operations. Strategy is the process of establishing a vision of the environment based on agreed-upon goals and expectations. Tactics are immediate or near term actions that are (or should be) based on strategic goals. Finally, operations relate to the daily maintenance and updating of current applications and systems. A strategic goal could be a desire to standardize on a particular computing platform. This desire was probably a result of a need to reduce costs and improve system uptime. Therefore, either a group or an individual holds this expectation as a long-term goal. Difficulty occurs when an individual makes the decision to do things differently than the desired or implied plan. Without the strategic plan, it may be difficult or impossible to enforce. As my college law professor once said, “If it ain’t in writing, it ain’t.” The interpretation of that phrase is the person with written documents typically wins.

Decision Defense
Creating a strategic plan is similar to the development of a Land Use Master Plan. A master plan is used to assist in making future decisions regarding zoning changes that ultimately impact desired and orderly land use and utilization. The development of a master plan is initiated by reviewing the current plan, obtaining feedback from the public (customers), discussing reasons for needing a revision, reviewing any impacts due to current conditions and future pressures, revising the existing plan accordingly and then governing accordingly. In practice, when a requested zoning change is submitted, the zoning board refers to the master plan and makes a decision based on the accepted and endorsed land strategy. If the person requesting is unhappy with the denied zoning change request but the denial is congruent with the current land use master plan, the zoning board has a tangible defense if the person decides to take legal action to overturn the ruling. In concept, the same can be said for the purpose of an IT strategic plan. It is only a tool to help guide and defend decisions made for the greater good of the organization.

In practice, an IT or GIS strategic plan can be used to influence tactical decisions. An IT strategy may endorse MS SQL as the endorsed database platform. However, a department in your organization may want to install an application using only an Oracle database. With an established IT strategic plan, an argument can be made to discourage the purchase of the application because it may contribute to escalating costs of operations. The customer may reduce their resistance to your decision because it would not be perceived as personal or spur of the moment. The reasons for the decision have been previously discussed, documented and endorsed by an IT governing board. The recommendation to adhere to the strategic plan and deny the request is ultimately the decision of the governing board. Therefore, a strategic plan, even if relatively simple, is a very important tool for an IT or GIS director to effectively govern and manage their domain of responsibility.

Components of a Strategic Plan
A strategic plan can take many forms. The document should be relatively simple. A very complex and large document may discourage participation. The goals of the document should be established prior to commencement to manage the expectation of the participants. Prior to creating a strategic plan, a group of key IT stakeholders

What’s Next?
Seventh in a series of project management articles by Keith Fournier
or a steering committee should be identified and invited to participate in the development of the IT strategic plan. To give every participant a firm understanding of why the group has been established, a vision statement and mission statement for the group should be created. A vision statement provides a definition of the future state of the organization. It should be created as a best case situation notwithstanding the current political or financial situation. The mission statement defines the purpose of the newly created group. Upon the completion of the goal statements, the development of the strategic plan can commence.

A strategic plan answers three simple questions:
- Where are we now?
- Where do we want to be?
- How do we get there?

These questions are the basic building blocks of a strategic plan. The first task is to determine the current condition of the organization’s technology environment. This can be accomplished by performing a needs analysis. The needs analysis will initiate the discussions between individuals or departments. It typically reveals three additional pieces of information: unknown or unscheduled projects, problems that originally did not seem like problems, and areas of congruence in practice and thought. IT departments are often the last to know about new mandates or legal requirements requiring technical support or application installation. Establishing and maintaining lines of communication should help to minimize the impact and frequency of these situations.

The second task is to formulate a plan that indicates where the organization desires to be in the future. The plan may include desires for process improvement, data sharing, application integration and platform standardization. Supporting documentation should be included to buttress the desires that ultimately will lower technology delivery costs and improve service to your customers. The documentation should include benchmark studies and analyses showing how other organizations have benefited from similar decisions. The desired goals and benefits should be compelling enough to obtain endorsement from senior management. However, the arguments, recommendations and supporting documentation should be provided at a level that can be understood by non-technical people. Finally, a gap analysis should be performed identifying the steps and timing needed to attain these goals. Cost estimates should also be included in the final strategic plan to assist in the operational and capital budgeting process. A comprehensive strategic plan does not have to be an extensive document to be effective. It should be as simple but complete as possible. Detailed information should be included only as an attachment. The three questions stated above should be answered in similar diction contained in a press release. This will help ensure the plan is readable by all audiences.

Another Purpose
Change is a constant in information technology. However, change is not a welcome situation for the users. Therefore, technology managers have to constantly push against the comfort zone of an individual or organization. The development of a strategic plan assists the IT manager with psychologically preparing the users and managers for this change. As with any change, people need time to understand the situation and become comfortable with the change. Since the organization will be participating in the development of the strategic plan, it can greatly contribute to the reduction of fear and smoother implementation of systems.

Technology costs money. Another benefit of a strategic plan is to provide a device to communicate budget and capital expense plans to senior management. Technology is implemented to support the mission and services of an organization. The plan will keep organizational leaders informed and aware of the direct link between their organizational goals and its effect on their technology infrastructure.

Another aspect to strategic planning is the benefit of the move toward shared services in technology. So often, individual departments select point solutions to solve their immediate problem. This often leads to having many uncoordinated and disparate systems that cannot leverage the knowledge or data between the divisions. The strategic plan can ensure at least a cursory review of the entire technological situation and can lead to increased collaboration through a shared services model. This model can provide the autonomy desired of the individual department while attaining the goal of the entire organization by reducing the future escalation of IT costs.

Marketing the Plan
For the strategic plan to be an effective tool, it must be endorsed by senior management and published allowing all stakeholders to read it. A formal oral presentation of the plan should also be held inviting all other impacted departments and organizations. The document should also be made available in digital format to be used as a reference tool. These departments should provide a copy of the IT strategic plan to any potential vendors during the discovery or initiation phase of a project. The goal is to minimize conflict with the individual departments after choosing a potential vendor.

It should be noted that a plan needs to be constantly refined, improved and updated. It should not be considered a static document that sits on a shelf. It should be reviewed quarterly, updated annually, and referred to often when tactical decisions are being made.

Build from Success
Strategic plans are sometimes too grandiose. These types of all-encompassing and all-incorporating plans

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John Ellefsen, City of Saint John, Saint John, NB Canada
Bruce Thayer Ferguson, Nolte Associates Inc, San Diego, CA
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Louise Powell Fragala, Powell Fragala & Assoc Inc, Lakeland, FL
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the wind and we hope to have a new strategic direction set by the end of this year’s conference in New Orleans (Oct. 7-11). We have made a commitment to you (it’s one of our strategic initiatives) to involve you, the general membership, in critical conversations. You will see a series of articles outlining some of our thinking. I encourage you to read them carefully and then respond back to us with your thoughts. Remember, URISA is all our association and while you have elected the Board to make decisions, your participation in the discussion will only further inform our decision making and help us refine URISA for the 21st century.

G’day to all of you and thanks for what you do for URISA every day.
that almost always guarantee cost savings are almost always a disappointment. The IT manager must remember to manage expectations from the outcome of the project. Strategy is, by definition, long-term planning. The benefits of the plan may take a long time to be noticeable. Once the plan has been created and endorsed by the organization, tread lightly on the user community. Do not use this newly minted plan as a mandate to dictate terms and conditions. It is only a first small step in building the credibility with the users to move in the direction stated in the plan.

Effective execution of the strategic plan is to look for groups that want to participate. In the world of real estate sales, their saying is “look for motivated buyers and motivated sellers.” This way a deal can be made. If you have a group in your organization that is skeptical, work with others that want to attain the plan’s goals, execute effectively and prove the worth of the plan. The **IT department should always strategize large but execute small.** Build on success and then the others will follow. This incremental or phased approach will allow for successful strategy implementation.

To determine the success of a project, both the tangible and intangible aspects of a project should be evaluated. There are two ways to determine the success of a project. Prior to the implementation of a project or strategy, Critical Success Factors (CSF) and Key Performance Indicators (KPI) are two methods of identifying the value of the project. Critical Success Factors (CSF) are compiled from the organizational or function side of the project. For example, a CSF could be to improve processing of claims by 10% or provide easier access to public documents. Key Performance Indicators (KPI) relate to the technical aspects of a project and might be characterized by the system being able to handle a certain amount of transactions. These should be determined prior to starting a project and used to create the strategy, develop specifications and evaluate performance once implemented.

**Portfolio Management**

A portfolio refers to the control of all of the projects being undertaken in an organization. Determining what project to select is typically based on some type of business need and can be evaluated based on several methodologies. These methodologies include break-even analysis, return on investment (ROI), Net Present Value (NPV), Internal Rate of Return (IRR) or other internal evaluation criteria. In addition to the potential return on the investment, the overall strategy can be reviewed to determine if the investment is congruent with stated goals. When the project passes these tests, it can then be added to the project portfolio to be managed by project managers. Portfolio management can be thought of as the IT department’s method to quantify the value of projects and ensure their alignment with business strategy. Once the strategy has been developed and accepted, the project portfolio can be managed based on those established goals and guidelines.

**Summary**

Building a successful strategy can be a lengthy process. However, the future benefits can greatly improve efficiency and minimize the future escalation of costs. Creating an IT strategic plan should be considered an important investment in the success of your organization. The following are guidelines to establish a strategic plan for your organization:

- Convince stakeholders for the need and benefit of a strategic plan
- Identify a project champion in senior management
- Establish a project steering committee
- Develop preliminary goals for project
- Create a vision statement for the project
- Establish a mission statement for the team
- List project objectives
- Document current IT environment
- Meet with all stakeholders to document their needs and wants
- Propose future state of IT environment
- Identify the variances or gaps
- Establish a strategy to achieve goals
- Establish governance structure
- Identify projects and prioritize
- Document final plan
- Market and distribute the plan
- Maintain and update

**Conclusion**

The development of an IT strategic plan is a very important and useful tool to effectively govern a technology environment. It will ultimately create a technology environment that will be conducive to building a collaborative environment that facilitates effectiveness and efficiencies.

**About the Author**

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Is What You See What You Get?
By Linda Gerull & Paul Fly, Pierce County GIS

When you look at a GIS map display, what assumptions are you making? Do you assume the data is accurate, that it is complete, that the lines and points are precise? In several meetings we have attended recently, the topic of map scale and data accuracy has surfaced. Many GIS users know about positional accuracy, which describes how well a feature on a map represents its actual location on the ground, expressed in terms of map scale (such as 1”=100’ or +/- 10 feet). But there are other data accuracy issues that must be understood if the maps, analyses, displays, and reports made with GIS are to be reliable.

An understanding of data accuracy will help ensure your GIS product can be substantiated if challenged, and will hold up under the scrutiny of other GIS users, and most importantly, is an “ethical” use of GIS. Consider the following when using GIS datasets:

Completeness – is the dataset complete? A dataset’s completeness depends on the source that was used in creating it as well as the way it has been maintained over time. For example, using 1:800 scale orthophotography, about 60% of all manholes can be successfully mapped. If you are using a manhole dataset made this way for scheduling inspection crews, does this level of accuracy meet your project needs? The answer is probably not!

Currentness – is the dataset current and does it contain the most up-to-date information? The Pierce County parcel dataset in CountyView is updated every two weeks. Datasets such as census are updated every ten years. If your project requires the most current data, you should know the update cycle and specific version of data you are using.

Content – what does the data attribution represent? Many GIS datasets map a single type of feature, such as bridges. But most datasets map multiple feature types, using a code in an attribute field to distinguish between feature types. Within Pierce County, the Road file contains a map class code that distinguishes roads as arterials, highways, etc. The wetlands dataset has a code for verified and unverified wetlands. These codes need to be understood in order to correctly map and analyze datasets.

Geographic accuracy – what is the positional accuracy of the mapped features? Parcels: Questions about parcel line accuracy typify the issue of positional accuracy. A plat map created by professional surveyors for the purpose of establishing the location of property lines puts the priority on the positional accuracy of parcel lines. Such maps are used to resolve questions about the location of property lines.

In contrast, the purpose of the typical Assessor’s tax parcel database is to record property ownership and associated tax-related information. When the tax parcel dataset is used in GIS, the crisp lines can give a false impression of the accuracy level. It is up to the users of GIS to know about data accuracy and take care not to create misleading products. Just because a dataset can be displayed at a scale of 1”=50’ does not mean its accuracy is equivalent to that scale.

Geocoding: Geocoding is another case where it is important to understand the data as well as the way GIS software processes data. We often ask Pierce County GIS users, “Why do you sometimes see geocoded points clumping at street intersections?” This question brings up addresses, how address information is stored, and how the process of geocoding works. Pierce County street data does not include specific addresses, but rather an address range is stored for each street segment. Geocoding works by taking an actual address and using the address range stored in the street data to estimate a point location.

The thing to keep in mind is that some address ranges are “actual” (verified) and others are “theoretical” (unverified). Theoretical address ranges are often large, which can produce point clumping when real addresses are geocoded. For example, if the addresses along a street segment range from 100-400, but in the street database the segment’s address range is stored as 100-800, then when a set of real addresses are geocoded, the resulting points will clump toward one end of the street, with no points at all toward the other end. It is important to remember that geocoding produces approximate locations of addresses. GIS users should take this into account when producing or using geocoded addresses.

Terrain Models: Terrain models in “grid” (DEM) and “triangulated” (TIN) formats provide another example of the need to understand underlying data accuracy and how accuracy is affected when geoprocessing is performed. Starting from a set of points with known locations (such as survey, GPS, or raw LIDAR points), a grid terrain model is made by overlaying a regular grid of cells (a “raster”) and computing values for each cell by averaging and interpolating the points. In contrast, a

continued on page 10
A triangulated terrain model is made by connecting the points with series of edges, resulting in a mesh of triangles. The edges are stored as “vector” line data. The original points remain unaltered, as the vertices of the triangulated mesh.

There are strengths and weaknesses to both gridded and triangulated terrain models. Grid models are typically smaller in file size, but represent an approximation of the surface (based on the size of the grid cell). In contrast, triangulated models are more accurate, but have very large file sizes. GIS can use these 3D terrain models to create contour line data.

Contour lines are widely used in many applications. When you use contours, how well do you understand their positional accuracy? Do you know what type of terrain model was used to produce the contours? What was the accuracy of the terrain model? What was the accuracy of the original point data? The difficulty of answering these kinds of questions illustrates the importance of taking data accuracy issues into account when doing GIS analysis and creating maps. These issues can make the difference between valid results and questionable ones.

**Spatial relativity – making comparisons between datasets.**

GIS users often combine datasets in order to determine relationships between different feature types. For example, parcel data and flood hazard area data might be combined in order to determine how close a specific parcel is to a flood hazard area. Another example might be determining whether a wetland is within a buffer zone along a proposed highway. Both examples involve two datasets used together. The accuracy issues described in this article so far relate to single datasets and how well true locations “on the ground” are represented. When multiple datasets are compared, there is the additional issue of the accuracy of datasets relative to one another.

Take the example of comparing a parcel to a hazard area. It is quite possible that the parcel and the hazard area do not overlap on a map display but do overlap in truth. Thus it is important to remember that the lines on a map are not 100% accurate positionally. Rather, the positional accuracy of data is described (in the metadata) in terms such as +/- 10 feet. The true line could be off from the mapped line.

To continue the example, say you checked the metadata for the parcel and the hazard data and found the positional accuracy of the parcel lines to be +/- 10 feet, and the hazard area lines +/- 200 feet. The first thing to remember is that +/- 10 feet means the total range of possible error is 20 feet. For an accuracy of +/- 200 feet, the total range of possible error is 400 feet. Therefore, between a mapped parcel line and a mapped hazard area line, the true lines could be different by as much as 420 feet. The lines on a map may look precise and suggest a certain conclusion (such as, “the parcel and hazard area do not overlap”), but after checking the positional accuracy of the data, the obvious conclusion may turn out to be questionable.

Given the accuracy levels of +/- 10 feet for the parcel and +/- 200 feet for the hazard area, how close can the mapped lines be before there is the possibility of overlap? As described above, the maximum combined possible error is 420 feet, but this question of overlap is different. In this case, if the mapped lines are less than 210 feet apart, they might in truth overlap. The parcel line, with it’s +/- 10 foot accuracy, may in truth be 10 feet toward the hazard area. And the hazard line, with it’s +/- 200 foot accuracy, may in truth be 200 feet toward the parcel. Thus even if the lines on the map are 210 feet apart, in truth they may be touching. At less than 210 feet on the map they may be overlapping.

This example shows how knowledge of relative spatial accuracy is needed to properly answer questions involving multiple datasets. The map lines may suggest a false
conclusion. When positional accuracy is taken into account and no sure conclusion can be determined, field verification should be used.

Metadata
A user of spatial data and GIS must know how the data was created and processed, what the attribute values represent, and the data’s spatial accuracy characteristics, as well as how GIS software processes will affect the data and its accuracy. Users must know these things in order to make good decisions, conduct analyses, and create maps with trustworthy validity. Data questions can usually be answered by checking a dataset’s metadata. Please read the metadata and ask for clarification from the data steward if anything is unclear. Included in metadata is data owner and contact information. In order to make good decisions you need to thoroughly understand the data and tools you use. Pierce County’s metadata can be accessed in CountyView or, in a pinch, from the Geo Data Express website (under “Ordering Data”, “Available Data”).

Ethics and GIS
Data accuracy and the correct representation of data are ethical issues for GIS users. GIS users should not display data in ways that give a false impression of accuracy. Maps, like statistics, always involve some degree of generalization and bias, but are often treated as objective statements of truth. There are ways to show lower levels of accuracy, like using wide lines to represent fuzzy boundaries and large point symbols to show features whose locations are somewhat uncertain. Also, many datasets contain attribute fields specifying “confidence” levels, which could be more widely used in maps to reveal the “fuzziness” and limitations of underlying data.

GIS users should not map information at scales beyond the accuracy of the source data. For example, a GIS user should not zoom-in on a 1:24,000 (1”=2,000’) land classification map and start making measurements at a scale of 1”=100’, or create 1 foot contours from a 20 foot contour set regardless of how well defined the line appears to be. Keep in mind the difference between accuracy and precision. Data with high levels of precision (location specified to the centimeter, for example) can give the impression of high accuracy. However, highly precise spatial data all too often turns out to be unbelievably faithful representations of incorrect locations. An ethical GIS user should know about their data sources and accuracy. This knowledge must be used to keep display scales within accuracy limits and to ensure that inferences derived from spatial data are appropriate and not misleading. As with statistics, it is very easy to reach misleading conclusions. It takes special care to avoid such mistakes and produce useful, high-quality work.

This article first appeared in the Pierce County GIS Bulletin, May 2005 Issue. It was later published in the Summer 2007 issue of The Summit, the newsletter of the Washington State Chapter of URISA. For more information about Pierce County GIS, see: http://www.co.pierce.wa.us/PC/abtus/ourorg/is/gis.htm
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GISCI Grandfathering Provision Ends Soon

After December 31, 2008 candidates for the GISCI Certification program will have to apply for certification through the regular portfolio process as the Grandfathering Provision will NO longer be available to candidates. Now is the time to apply if you feel you qualify under this provision to become a GISP.

With the Grandfathering Provision, candidates are allowed to use their work experience for deficiencies they may have in the two other achievement categories (Education and Contributions to the Profession). Candidates wishing to use the Grandfathering Provision must obtain a minimum of 200 professional experience points. This point achievement total is higher than what is required through the regular certification process. Candidates requesting certification through the Grandfathering provision, although not required to fill out the Education Achievement or Contributions sections, may wish to do so, in case their application does not meet the Grandfathering Provision requirements.

Individuals applying under this provision are still required to complete the Professional Experience forms which are part of the application and can be obtained at www.gisci.org. Candidates can also see more specific details of what qualifies under the Grandfathering Provision of the application process on the GISCI website.

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