How Broadband Mapping Drives Economic Development and Planning Initiatives

By Ashley Hitt

While an internet connection has become a daily fixture in the life of most Americans, lack of access to high-speed internet service, also known as broadband, is still putting portions of the country at a disadvantage. Connected Nation, a national non-profit based in Bowling Green, Kentucky, has been mapping broadband service areas for over a decade in an effort to close the digital divide. Working with states, communities, families, and individuals, Connected Nation assists in realizing the great economic and social advantages that are gained when broadband availability is accelerated in unserved areas and broadband use is increased in all areas – rural and urban alike.

Significant technology advances have occurred in telecommunications in the last few years, increasing mobile wireless availability, fiber to the home, and speeds across all internet platforms in general. However, there are still gaps in broadband access in the United States, especially in rural areas where the largest number of unserved and underserved households remains.

Currently, broadband service is defined as an internet connection with at least 768 Kbps download and 200 Kbps upload speeds, as presented by the National Telecommunications and Information Administration (NTIA); NTIA is managing the State Broadband Initiative (SBI) to gather, aggregate, and analyze broadband datasets collected by state entities for inclusion on the National Broadband Map (NBM). The Federal Communications Commission (FCC) has assisted with the creation and maintenance of the NBM and in 2010, published the National Broadband Plan, which defined broadband service as an internet connection of at least 4 Mbps download and 1 Mbps upload speeds.

Regardless of the chosen definition on broadband speeds, satisfaction with current internet, if available, can be quite subjective. For someone in an urban area who is accustomed to 10 Mbps speeds to view Flash-based websites and download files and forms quickly, a 768 Kbps connection would certainly not be desired, but then to a business or school that frequently has several individual connections to the network, even a 10 Mbps connection is not sufficient.

The SBI program is a five-year federal grant program that will continue through the fall of 2014 and has included semi-annual submissions of broadband datasets by each state and U.S. territory. The submitted data is aggregated to populate the National Broadband Map, available at www.broadbandmap.gov. When the National

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Broadband Map was first launched in February 2011, it became the first broadband service area web map built on a national scale. The information contained within the application continues to inform and impact federal policy, such as the Connect America Fund and other programs. GIS provides states, broadband providers, and other stakeholders the opportunity to leverage the current broadband landscape against demographic information, develop network expansion plans, and spur economic development through broadband adoption.

Broadband Service Areas
Connected Nation (CN) is currently working on the data collection and analysis of broadband service inventories across nine states and one U.S. territory as part of the SBI program. While broadband data can be collected and analyzed from several sources, CN begins data collection by working directly with all known broadband providers. Since not every company has GIS resources to produce datasets that fit within the requirements of the SBI program, CN remains as flexible as possible in the data collection process; data formats received for processing have included everything from shapefiles to essentially a drawing on the back of a napkin. Working with providers on the information they may already have available can help facilitate or encourage participation in this voluntary federal program.

After data is collected, processed, and approved by the broadband provider, static maps and interactive mapping applications (see Data Visualization section) are updated with the aggregated broadband data for public consumption. Getting this information out into the public space has generated significant feedback from local consumers who are able to confirm the accuracy of information displayed on the maps or provide details on areas where discrepancies exist. This crowdsourced dataset, referred to as broadband inquiries, allows Connected Nation to make revisions to broadband service areas in conjunction with service providers to create a more accurate depiction of where coverage is and is not available. In addition, the consumer information is compiled to show service providers where there is a demand for broadband coverage that can assist providers in developing expansion plans.

Field validation is another way that CN verifies the presence of broadband services, through the work of its Engineering and Technical Services (ETS) staff. In addition to desktop research prior to going out into the field, the ETS staff conducts spectrum analyzer studies on wireless services, locates and documents physical wireline attributes such as central offices and CATV plant, and conducts mobile wireless speed tests using provider-specific aircards and smart phones, among other validation techniques. This type of field work also assists in the estimation of broadband service areas for providers that are unable or unwilling to participate in the SBI program. Having the most complete depiction of broadband service areas mapped has assisted in identifying unserved and underserved areas in need of expansion, while attempting to not overbuild into areas that already have providers present.

Data Visualization
With the large amount of broadband data

The density of providers’ analysis depicts the number of broadband service providers available in a given area, not including mobile wireless or satellite services; area displayed is around Rochester, MN.
of the SBI program, including broadband availability by technology type, maximum residential download speed, and density of unserved households by census block. These products allow various stakeholder groups the opportunity to visualize where current services are available at various speeds, as well as – and perhaps more importantly – where high-speed internet service is still not available. GIS allows for powerful analyses to be completed, taking into account the broadband coverage and the underlying demographic information to determine areas of high demand in unserved areas and assist in the development of expansion plans.

In addition to the static maps created, each state’s interactive mapping application is updated with the most recent broadband datasets and analyses. Called My ConnectView™, these web maps allow policymakers, broadband providers, stakeholders, and the general public to explore the various broadband data layers, additional analyses, vertical assets, and much more. Of course, the first thing a new user likely wants to do on the map is find their house; a locate tool will zoom to the entered address and provide a list of the broadband providers that are available at that location. Beyond that initial functionality is a host of tools and data layers to create customized views of the broadband landscape based on the needs of the user.

Analyses published on My ConnectView™ include the density of broadband providers, underserved areas, and broadband growth from 2010-2013. Where available, county-level research results on broadband adoption and computer ownership are included on the web map that can be used as an overlay to broadband connectivity data to draw conclusions between access and adoption of services.

One of the most popular items on the web maps is a tool that allows users to obtain demographics on served and unserved households by census block; broadband providers and those in economic development use this tool to define high priority areas for expansion. The tool works by returning availability analysis results based on an area drawn on the map by the user, highlighting the selected census blocks and displaying a table of those block IDs, the number of served and unserved households, and the rural classification. The results table can be exported to a .csv file that can then be used in internal analyses by the organization and in grant/loan applications where census block
IDs are a requirement.

Users can also download some of the broadband datasets as submitted to NTIA for the SBI program, using the extract tool to specify an area of interest, make dataset selections, and specify the format of the data export to spreadsheet, PDF, shapefile, or geodatabase. In the top menu bar of the application, My ConnectView™ includes options for users to e-mail and print screenshots of the current map view or copy and send a link of the current map view to another user, who can then open the map at the same zoom level with the same data layers displayed. Additional enhancements, tools, and data layers are in development to increase the functionality of the application.

**Connected Community Engagement**

Deploying broadband infrastructure, services, and applications, as well as supporting the universal adoption and meaningful use of broadband, are challenging but required building blocks of a twenty-first century community. In 2012, Connected Nation launched the ConnectedSM Community Engagement Program to help communities assess local broadband access, adoption, and use, and develop an action plan for pursuing solutions.

As an extension of the broadband data collection for the SBI program, various patterns in availability have become apparent, but there are still marked differences between local communities. Obviously, the same approach to expanding broadband access, adoption, and use across all communities is not viable, so Connected Nation works with interested communities to assess where they are, where they want to be, and how their community can get there with the ConnectedSM program.

Broadband is an economic driver in today’s workplace, creating job opportunities and telework options for those who have access at home, in addition to attracting new businesses to the area. Assessing the local broadband landscape empowers community leaders to make more informed decisions and develop a community action plan for overcoming local technology gaps.

While assessing local broadband access, adoption, and use, communities can promote their connectivity status through the Connected Certified Community program, a nationally recognized platform for spotlighting communities that excel in these three areas. The assessment measures 13 indicators of access, adoption, and use, including broadband speeds, digital literacy, and educational applications.

GIS becomes an advantageous part of the ConnectedSM program, as broadband availability can be analyzed at the local level to provide comparative scoring across a state. After each semi-annual SBI data collection is submitted, custom geoprocessing analyses are completed for the ConnectedSM program, assessing broadband availability, broadband speeds, broadband competition, middle-mile access, and mobile broadband availability. These scores are assessed at a county level and are each displayed on My ConnectView™, under the Access Scores section, so that patterns can be determined and additional comparisons can be made.

Without GIS, these spatial analyses would be nearly impossible to complete. The power of GIS is in being able to provide data visualization solutions that allow the vast number of broadband stakeholders the opportunity to better understand the current broadband landscape to make more informed decisions on expansion and getting all citizens connected. Getting all Americans connected to high-speed internet continues to be a profound undertaking, but every great journey begins with a map. To learn more about Connected Nation programs and GIS Services, visit www.connectednation.org.
About the Author
Ashley Hitt, GISP is the Director of GIS Services at Connected Nation, where she develops strategies and GIS methodologies to provide data visualization solutions that impact policy, economic development, and the digital divide. She manages a GIS staff of eight that has primarily focused on broadband internet analyses, product development, and demographic overlays. Ashley is currently on the URISA Board of Directors and is the president of the Cumberland Chapter of URISA. She is a native of Louisville, KY and has a B.S. in Geography and an M.S. in Geoscience, both from Western Kentucky University. She can be reached at ahitt@connectednation.org.
Steps to Establish Collaboration with Success!
By Marla Storm, MGP, Inc, mstorm@mgpinc.com

Even if you are not a basketball fan it is almost undeniable that one of the best executed sport’s team collaborations of all time is demonstrated by the Chicago Bulls who won six NBA Titles over eight years’ time. You may not have been part of a winning team quite like the Bulls, but we have all had the experience of being part of a winning team. Winning teams come in all shapes and sizes. You may have experienced it as a Girl Scout Troop selling cookies, as a member of the debate team in high school, or as a player on a traveling soccer team. Whether or not any of us realize it, once we’ve been part of a winning team we crave that same experience over and over again. I mean think about it…the game, the strategy, the community, and the exhilaration of a win all give us a unique experience and this is the only place we can get that experience. As a result, we search for it or attempt to recreate it in business because we yearn for that experience again. Unfortunately, what happens to most of us is that we grow frustrated in our search. As with the Chicago Bulls, winning teams do not emerge by accident. There are many ingredients that go into building and creating them and one key ingredient is collaboration!

Collaboration is two or more people working together toward a common goal. It’s a simple definition, but not nearly as easy to execute. In fact, most organizations struggle with the execution of this simple concept: two or more people working together toward a common goal.

Collaboration at its best utilizes the talents and abilities of many individuals on a team to achieve a common goal. So when anyone asks why they should do it or why make it a priority in the organization my answer is “You cannot afford not to!”

More, Better, Faster, with Less!
For decades, organizations of all sizes have been chanting, “Do more, better, faster, with less!” As resources and the workforce shrinks, every team member’s contributions must increase for the organization to grow because organizations continue to desire accelerated results. I can remember doing some training at Motorola about 10 years ago and a participant shared with me that there was a group of projects affectionately named ‘The Big Bat Projects’ by the executives. One of the Big Bat Projects challenged a project team to shrink the time it took to release a new cell phone from 18 months to 5 months. In this example the expectations on project deliverables were exactly the same while the time to deliver was decreased by more than two-thirds.

Another dramatic change has occurred as organizations work to do more, better, faster with less and that is the increase in the amount of information available today. In fact, latest estimates prove that the amount of data in the world is more than doubling every two years! As a result, there is no longer a way that one person can know it all; there is just too much data out there. These are just a few of the many reasons why the requirement for collaboration is on the rise today.

As the global economy continues to grow, competition grows, and this further challenges organizations to distinguish themselves and to deliver increased results at an accelerated pace. So how does collaboration make that possible?
Organizations benefit from collaboration because it fuels breakthrough growth, and this significantly accelerates the speed at which results can be delivered.

Before we outline some steps to get collaboration showing up in your organization by design, let’s take a look at some of the biggest blockers you are likely to encounter so you can be on the lookout for them.

Two Blockers to Collaboration
Every organization is unique and there can be many things that prevent effective collaboration from happening. We find two very common things that prevent it.

Blocker #1 – It is not part of the organization’s context and culture
Establishing a vision, mission and values statement for your organization is a great place to start to incorporate collaboration into the context and culture. In my experience, one
major pitfall with these statements is that there is very often a painstaking process employed to develop them and then no one does anything with them again. Like a boat without an anchor that bobs and floats along in the water seemingly aimless, people in organizations can show up very much the same way when there is no vision or values to guide them. This is one of the most significant blockers to effective collaboration and so before we expect it to show up we must create it as a value and an expectation.

Getting collaboration established as part of the context and culture is a start, but let’s consider that the organization needs to be on the lookout for this next major blocker which is that human beings are not naturally wired for it!

**Blocker #2 – Human beings are not naturally wired for it**

In his article entitled *From Wharton to War*, Jim Vesterman describes for Fortune Magazine (2006) that he came into the Marine Corps thinking he was a pretty good team player. He admits that his real benchmarks were personal success and achievement and initially this caused him to leave his fellow Marines in the dust.

Vesterman recalls his first day of boot camp when he and his fellow Marines learned to make their beds. The game was to make every bed in the Platoon in under 3 minutes, and then stand in line. On the first attempt Vesterman made his bed in under 3 minutes and stood in line. The only problem was that his bunkmates were not finished, and so while he was proud to be ahead of the pack the drill instructors were not congratulating anyone who was finished because the game was everyone’s bed had to be made. The drill instructors made them rip their sheets off the bed and do it again. After ripping the sheets off of the beds again and again one of the drill instructors looked Vesterman in the eye and said, “Your bunkmate isn’t done. What are you doing?” Vesterman recalls thinking, “What am I doing?” Standing in line thinking he’d accomplished something while his bunkmate struggled.

On the next attempt Vesterman reports that he and his bunkmate made their beds about twice as fast as they had done alone. Even still not everyone was finishing, so they realized that as soon as they were finished they had to go to the bed next to them, and then to the bed down from that until everyone was done in under 3 minutes and back in line. Vesterman went from thinking, “I’ll hand my bunkmate a pillow, but I’m not going to make the bed for him” to making beds for anyone who needed help. What he got from this first lesson was that “You can’t survive in the Marine Corps without helping the guy next to you.”

It is exactly the same way with people in organizations. People want to stand out and be recognized for their individual achievements and we think we don’t need anyone else. The truth is that it doesn’t work. An organization’s ability to deliver exceptional results requires alignment.

What it looks like is everyone on the team in the same boat rowing together in the same direction to achieve the goals of the organization.

**Steps to Making Collaboration Successful**

If you’ve ever watched water flow downstream you’ve noticed that it flows in the path of least resistance and to cause the water to flow differently requires a structure like laying new rocks in the riverbed. It is exactly the same way with getting collaboration to show up in an organization. The structures to cause it need to be put in place and then can happen deliberately and by design.

There are many ways to cause collaboration to happen by design. Here are some of the ways we have found that have worked particularly well in our organization.

**The first step is to establish a foundation of trust and relationships.**

Before taking on all of the things that can be done to establish effective collaboration in an organization, one critical factor is that it has to be built on a foundation of trust and relationships. A foundation of trust and relationships is like concrete, whereas operating without it is like being in quicksand. In quicksand you cannot find any footing or sense of stability and the more you struggle the faster you sink. If you have not already read Dale Carnegie’s most famous book titled, *How to Win Friends and Influence People*, I recommend that you do. His book is packed with thirty of the most powerful and profound relationship building principles that are proven to establish trust and rapport, gain willing cooperation from others, and enhance your influence with any person or group.

As a leader you are always on stage and very much like children model or mimic their parents, your people will model what you do. You will want to model expert collaboration so that you build trust and so that your people will model the behavior you want to see again and again.

**The second step is to create a context for collaboration and reinforce it.**

At MGP we have done this by developing value statements that describe what we believe so that it becomes part of our culture. For example, we believe that people drive success, not technology and when we interview candidates to join our company we seek people who have strong interpersonal skills and a desire to work as part of a team. This means that each person must demonstrate humility and want to serve the client’s

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need above their own. Team collaboration is one of our organization’s greatest strengths and it benefits our clients in the GIS Consortium in a significant way. At our company collaboration it is not desired, it’s required.

**The third step is to create the space for collaboration.** Because we hire people with strong interpersonal skills and preferences to work as part of a team, they genuinely like to talk to each other, share ideas, innovate, and even do activities together outside of work. One very deliberate way that we create the space for collaboration to occur is through our Self-Directed Enrichment (SDE) sessions which account for two hours of each monthly staff meeting. The SDEs foster a natural transfer of knowledge and collaboration and this leaves the GIS Specialist with new pathways for action to accelerate projects for the clients they serve. Our office space even has several full walls that are finished like dry erase boards so that team members can share ideas, draw models, and solve problems together.

**The fourth step is to coach people with actions they can take to foster it.** Even though you can hire people with a preference to collaborate as part of a team, people’s differences are bound to show up in a way that can be a barrier to effective collaboration. Differences may create conflict or even cause emotions to flare. Effectively coaching people is critical to getting collaboration to really take root. Areas a coach can point to with people include: see other people in the context of their strengths not their weaknesses, become a better listener and take on really understanding the other person’s point of view, and ask questions to clarify where someone is coming from instead of jumping to conclusions.

**The fifth step is acknowledging collaboration when it happens.** Acknowledgment raises a team member’s confidence, job satisfaction, sense of contribution, and engagement and yet it is typically one of the most underutilized levers a leader has. Best practices suggest that organizations should have both formal and informal ways of acknowledging people. Formal systems are predefined and have a set of criteria that must be met for the acknowledgment to take place. Familiar examples include things like a trip for a top sales person or a plaque for employee of the year. Informal systems are different in that they are spontaneous and do not have any predetermined criteria. Some examples include movie tickets for two or a spot bonus for going above and beyond the call of duty. One thing about informal recognition is that it can be as simple as verbal thank you for a job well done or applause from a group at the end of a presentation.

At MGP we have both formal and informal recognition systems in place. Each year we offer team members the opportunity to earn a performance-based bonus which includes how well they demonstrate the MGP values. At our monthly staff meeting up to six of our GIS Specialists have the opportunity to present relevant, innovative projects that they have been working on in the communities that they serve. After a presentation is complete GIS Specialists are acknowledged with applause by the entire team. Once a project is executed and presented any GIS Specialist who serves a different set of communities can take that same project and deliver it to their communities which fosters cross-community collaboration.

In summary to establish collaboration as part of your culture begin with a foundation of trust and relationships, establish it as a value and create the space for it, coach for it and acknowledge it when it shows up, and then repeat.

For more information about MGP, Inc. or the GIS Consortium please visit our websites at www.mgpinc.com and www.gisconsortium.org.

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**New URISA Member Benefit Coming Soon!**

Keep an eye on this space and future announcements about a new association partnership that URISA has established that will allow members to access additional resources and opportunities in the very near future. We truly hope all URISA members will take advantage of this new benefit, bringing additional value to your membership!
BOOK REVIEW

Lining Up Data in ArcGIS: A Guide to Map Projections
By Margaret M. Maher
Review Submitted By: Matthew Downing, GIS Analyst, Integrys, Chicago, IL

Lining Up Data in ArcGIS: A Guide to Map Projections by Margaret M. Maher is a guide on how to get spatial data to line up. This book covers the most common vector data misalignment issues and provides, in many cases, a step-by-step process to resolve those issues. I would recommend this book to anyone who deals with importing spatial data on a regular basis with ArcGIS. Maher’s explanations on how to resolve the issues are thorough but concise, with helpful screenshots and graphics for further explanation. Users of mapping software other than ArcGIS may find this book helpful as well since the fundamentals of why data does not draw correctly are the same across all platforms.

In the introduction, Maher states this book is a synthesis of the many interactions she has had over the years working on the ESRI support services team, establishing the book as a best practices guide intended for users of ESRI ArcGIS. Each chapter contains information about a specific problem ranging from projections and transformations to non-standard units of measure and CAD data. There are also numerous brief insets highlighted by a red box that go into a slightly more technical discussion of the problem at hand, but in no way are they too complicated. I found these insets to be very helpful because they give some background knowledge as to why a problem happens and how to prevent it from happening next time.

Most pages also contain figures illustrating screenshots of toolboxes or simplified examples of concepts. The screenshots are from ArcGIS version 9.3 but I had no problem following along when using version 10.0. This book is very handy to keep around because it is designed for the reader to flip to a chapter and figure out how to correct a problem, without having to read the book cover to cover in order to use it. The beginning and end of each chapter provide a summary of that chapter’s content, making it easier to find the correct chapter you are looking for.

The chapters pertaining to CAD data were particularly useful as lot of CAD data can come from many different sources and may have been created many years ago. At times it can be a guessing game to see how and where data will draw in ArcMap, especially if these files were never intended to be accessed by a GIS. This book does a very good job of resolving those issues by describing CAD file parameters in detail and how they interface with ArcMap.

There are also several appendixes referenced throughout the book. Appendix A was very useful, containing information on specific ESRI Knowledge Base articles to reference when dealing with certain sections of the book. Appendix B contains the default installation paths for ArcGIS Desktop while Appendix C provides default user profile paths for coordinate systems depending on your operating system.

Lining Up Data in ArcGIS is overall a helpful guide I would recommend keeping at your desk for quick reference. The book is easy to read and well organized, solving spatial alignment problems without getting bogged down with the technical details of projection and transformation mathematics. If you use a lot of data from many sources and routinely have problems with spatial alignment, this book will certainly help resolve your issues.
Some specific highlights of the conference include:

- Over 44 American Institute of Certified Planners (AICP) credits, including 2.5CM for Law; in essence, you can get a full two years of credits in one conference! (Of course, you also get substantial GISP Education points to use toward certification or renewal.)
- Sessions on Public Participation GIS to support community decision-making
- GIS Supporting Community Resiliency Hands-on Workshop
- Technology specific sessions for mobile users
- Using Big Data: Management and exchanging of open/crowd sourced data
- Return on investment techniques for GIS
- Workshops on utilizing the GIS Capability Maturity Model led by the GIS Management Institute

This just represents a small fraction of what you will see at the GIS-Pro Conference 2014! Take some time to learn more about the full and half-day workshops, dozens of breakout sessions, exciting keynote speakers and events to strengthen your professional network.

The conference program details are online, along with a handy conference Sched app!

I encourage you to come to URISA this fall for an unparalleled experience that will highlight the latest geospatial trends, provide professional development workshops, and provide networking opportunities with some of the leaders in the Geospatial Community.

I hope to see you there!
Leveraging Spatial Technology to Support Sustainable and Resilient Communities

URISA is pleased to announce the details for GIS-Pro 2014:
URISA’s 52nd Annual Conference taking place September 8-11, 2014 in New Orleans.

Explore best practices and techniques to put your organization on the map. Participate in thought-provoking keynotes, intense workshops, important breakout sessions and invaluable discussions. Earn continuing education points (GISP) and credit (AICP) toward professional designations and credentialing. Build and nurture business relationships and discover solutions being offered by exhibitors and sponsors. Find your answers in a collaborative and exciting environment! There’s no place like New Orleans for fostering long-term and productive professional connections.

Workshops
Included with your full conference registration, be sure to take advantage of a number of full and half-day workshops on topics ranging from Public Participation GIS to GIS Program Management.

Keynotes & Education
Keynotes will feature the Code for America Charlotte Brigade, Greater New Orleans Community Data Center, and GovLoop. More than two dozen sessions and panel discussions will cover “Improving Coastal Resilience”, “Foundations of Successful Transit Systems”, “Managing and Exchanging Open and Crowd Sourced Data”, and much more. Review the extensive list of speakers and instructors who are generously sharing their ideas and good work.

Community Project
Also check out this year’s Community Project where participants will collect important data in the Black Pearl neighborhood to support revitalization efforts. An afternoon workshop working with data sets collected for the Treme neighborhood of New Orleans will focus on generating recommendations for community revitalization and redevelopment.

Networking
Some networking events are already detailed and the Conference Committee is working on optional events (ghost tours in the Quarter, group dining outings, etc.) to help participants make the most of their time in New Orleans. Download the GIS-Pro 2014 mobile Sched app and start networking with your fellow attendees and speakers.

Exhibits and Sponsorships
Organizations can now reserve a choice spot in a busy exhibit hall and start planning their conference. Make important technology connections in NOLA!

Venue
The conference venue is the Sheraton New Orleans, which is ideally situated on Canal Street. It is a perfect location to take advantage of all New Orleans has to offer.

Visit the conference website today and review the educational content, registration and details about GIS-Pro 2014 online.
Esri Climate Resilience App Challenge

• Share your App
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Five Ways to Avoid Being a Cultural Rube: Multicultural Communication Tips for Today’s World

By Tomás Garza

Fostering a cohesive and productive work culture can be a challenge. There are the interests of different departments to manage, time pressures, budget limitations and a host of different personalities. To top it off, people in today’s workplace come from a variety of different backgrounds: different nationalities, ethnic groups, religions, etc. People in your organization may have vastly different concepts of work, interpersonal communication, and group harmony. Multicultural communication skills are a must. The good news? They're surprisingly easy to practice.

Multicultural communication can be an intimidating concept for many. In business, we have plenty of other things to worry about, and usually, we just want to get the job done. With a culturally diverse team, however, it’s also important to avoid giving offense unnecessarily. It is important to avoid being a cultural rube.

If you're concerned about adding yet another thing to your to-do list, don't worry. The following five tips require very little effort, and in multicultural communication, it's the effort that counts. By keeping these things in mind, you can go a long way toward endearing yourself to your colleagues, management, or employees, creating trust, and fostering a more cohesive work environment.

1. Keep an open mind.
This may sound obvious, but keeping an open mind is the most important thing you can do in relating to people of different cultures. People simply don't do things the same way. If, of course, someone's differences are destroying the work flow and group culture, that is another matter. When that isn't happening, an open mind is critical.

Keeping an open mind means, in part, not stereotyping. We are bombarded with cultural assumptions every day, particularly in the media, and being an effective communicator means letting go of our own preconceived notions about our team members and the backgrounds they come from.

For example, if you believe that all Latinos arrive for a 9:00 meeting at 9:40, you will project that belief in your interactions with Latino members of your staff. Also, if you have Hawaiians on your team and think that all they want to do is lounge around, hit the beach and surf, your interactions with them will suffer.

These and other preconceived notions about different cultures are simply not true. Your staff may be quite dedicated, committed and punctual despite cultural differences. It's a matter of self-awareness on our part. It helps to ask ourselves: Am I holding on to any preconceived notions that are getting in my way? Simply asking the question helps to create an open mind that creates an inclusive and more pleasant work environment.

2. Have at least some knowledge of people's cultural backgrounds.
To be fluid and cohesive with your team, it is important to have at least a general understanding of each member’s cultural background. This will give you valuable cues as to how your team members approach people, their definitions of respect, their boundaries and their overall sense of how human interactions should be conducted.

An encyclopedic knowledge is not required. Indeed, to assemble that much information on people would take time you could be devoting to other things. It is more practical to arm yourself with some basics, especially if you know you will be working in or around other cultures, such as traveling for business. For example, in Japan it is considered rude to show someone the sole of your shoe; many Jews and Muslims do not eat pork.

Again, having this knowledge is a matter of awareness. The more cognizant you are of your team members’ backgrounds, the better you will relate to them and the more effective your organization will be.

3. Practice active listening.
All human beings feel more comfortable, more valued, and more a part of a team if they are confident they are being heard. Give people in your organization this value by actively listening to them: make eye contact with them (or not, depending on the culture); nod and give verbal indications you are listening. You may also find it helpful to summarize and restate what someone has told you, particularly if this restatement echoes a great idea or a concern.

Active listening is an entire course unto itself, but practicing these points and simply keeping the issue in mind will boost team morale and improve your communication immeasurably.

4. Watch your nonverbal communication.
Often included with the skill of active listening, nonverbal communication takes on special importance when it comes to the subject of multiculturalism. For example, many Native Americans do not make eye contact the way people do in a
typical business or corporate environment. In some cultures, animated gestures or “talking with your hands” is considered normal, in others it is a sign of gross mental instability. For almost everyone, it is, of course, poor communication to speak to somebody while glued to a computer screen, your cell phone or the clock on the wall. Paying attention to your nonverbal messages can show you’re listening, and that your colleagues’ opinions matter.

5. Maintain a personal touch.
Even when faced with deadlines, financial constraints, a burdensome workload and all sorts of workplace disagreements, it is important to keep a personal touch in your interactions. In multicultural communication, this point is again a matter of simple awareness. For example, if you know that people of certain nationalities are family-oriented, it takes very little time to ask someone about their kids. The other person then sees you as nicer and more human, building trust between you. Anything you can do to show an interest in your colleagues’ lives outside of work will build camaraderie among you and make your organization that much more effective, and enjoyable.

In conclusion, attaining comfort and fluidity in multicultural communication is surprisingly easy. Practicing these five items will make your work life more enjoyable, and you will avoid coming across as a cultural rube. Remember that perfection is not required, nor expected—it’s making the effort that counts.

About the Author
Tomás Garza is a conflict resolution and personal development expert with over 12 years of experience helping people erase pain and turmoil from their lives. Tomás has served on the faculty of Portland State University and is a former President of the Oregon Mediation Association. In 2013 he founded The Garza Initiative to further help people move beyond their unhelpful patterns of behavior and connect to their deepest selves and purpose. For more information on Tomás’ programs, please visit www.garzainitiative.com, email Tomás at tomas@garzainitiative.com, or call at 541-230-4477.

Need to Earn GISP Certification or Renewal Points… or do you simply want to share some ideas?

Write an article for THE GIS PROFESSIONAL! We publish six issues each year and are always happy to consider new contributors and content. Send an email to Wendy Nelson with a brief description of what you’d like to write. Articles typically range from 1,000 to 3,500 words and hi-res graphics and images are encouraged.
GET DOWN TO BUSINESS, THEN JUST GET DOWN

The New Orleans Convention and Visitors Bureau is thrilled to welcome the attendees of URISA’s 52 Annual Conference, to tour our city, a place like no other. After a busy day of meetings and sessions, come indulge in our delicious cuisine, visit our attractions, shop in our historic neighborhoods, and dance to the music pouring into the streets.

September 8 - 11, 2014 at the Sheraton New Orleans

www.gis-pro.org
Volunteered Geographic Information Drives USGS National Map Corps

By Elizabeth McCartney, USGS lead for The National Map Corps, emccartney@usgs.gov

Using crowd-sourcing techniques, the US Geological Survey (USGS) Volunteered Geographic Information (VGI) project known as The National Map Corps (TNMCorps) encourages citizen volunteers to collect and edit data about manmade structures in an effort to provide accurate and authoritative spatial map data for the USGS National Geospatial Program’s (NGP) web-based The National Map. In an era where dwindling budgets struggle to coexist with mandates for transparency and citizen involvement, crowd-sourcing is a viable solution for many agencies. VGI is not new to the USGS, but past efforts have been hampered by available technologies. Over the past two decades, the USGS has sponsored various forms of volunteer map data collection projects. In 1994, the Earth Science Corps was established, and over the next seven years, 3,300 volunteers annotated between 100 and 300 paper topographic maps each year. Citizen mappers reviewed every feature of their “adopted” topographic map and provided the USGS with the updates (Figure 1). As valuable as the updates were, the technology was not yet available to take full advantage of the work done by the volunteers. In addition, some quadrangles were so out-of-date, the amount of update work required could be quite daunting to the volunteer who was asked to complete edits within 12 months.

Realizing the limitations of the first VGI effort and taking advantage of new technology, the program was revamped and renamed The National Map Corps in 2001. Emphasis shifted from manually annotating every feature on the published map to collecting man-made structures using handheld GPS units which had recently become affordable for many individuals. Between 2003 and 2006, over 1,000 citizen mappers collected over 22,800 data points which were submitted in a variety of formats – both analog and digital. As time passed and technology changed, VGI at the USGS also evolved. In 2006, a web-based collection tool was launched in order to help standardize the submission process (Figure 2), but the transition from the database onto the USGS topographic maps remained problematic and continued to require a fair amount of USGS resources to process. In 2008, the program was suspended due to lack of resources.

Today, the perfect storm of improved technology, social media, and ever decreasing resources has once again made crowd-sourcing an attractive option. After several pilot projects to determine the viability of bringing back the volunteer mapping program, The National Map Corps volunteers are successfully editing 10 different structure types in all 50 states including schools, hospitals, post offices, police stations and other important public buildings. Using National Agricultural Imagery Program (NAIP) imagery as the primary base layer, volunteers collect and improve structures data by adding new features, removing obsolete points, and correcting existing data. Edits are contributed through a web-based mapping platform built using open source technology developed by OpenStreetMap (Figure 3). Points edited are incorporated into The National Map and ultimately become part of USTopo.
Data quality is a common concern regarding VGI. In order to address those concerns, an analysis of the FY12 Colorado pilot of the VGI project was conducted. For all structure feature types, volunteer involvement was found to improve positional and attribute accuracy, and reduce errors of commission. Errors of omission are more difficult to study and quantify, but a study of post offices provides evidence that the volunteer model improves completeness as well. The cornerstone of this model is a Wikipedia-like hierarchy of editors and reviewers. The Colorado pilot demonstrated that volunteer edits improve our baseline structures data; that further peer review by advanced volunteers improves the data further; and that sample-based inspection by USGS personnel can monitor these processes. The study indicates that the model and procedures will scale to national scope. A second, nationwide, data quality study is in progress.

Successful crowd-sourcing is not without challenges, some of which include volunteer recruitment, volunteer engagement, and participant motivation. The National Map Corps endeavors to meet these challenges using gamification techniques and a mixture of traditional and social media. Gamification includes easy on-ramping, virtual recognition badges, friending, map challenges, social media interaction, and a tiered editing approach. Using these techniques has been successful. The National Map Corps continues to see substantial increases in the number of volunteers and volunteer contributions to The National Map.

States were released in 3 phases beginning in April 2013 with all 50 states available for editing as of August 2013. Over the past year TNMCorps has achieved the following significant milestones:

- 1,422 volunteers
- 42,009 contributions (counts each person’s edit per single point)
- 33,698 unique points edited (individual structures)
- 50,696 total number of edits (the sum of all edits made by volunteers)
- 50 number of states involved
- 18 number of volunteers who have contributed more than 500 points

To show appreciation of volunteers’ efforts, The National Map Corps instituted a recognition program that awards “virtual” badges to volunteers. The badges consist of a series of antique surveying instruments ranging from the Order of the Surveyor’s Chain to the Theodolite Assemblage (Figure 4).

Additionally, volunteers are publicly acclaimed (with permission) via Twitter, Facebook and Google+. “I enjoy mapping structures, it’s a unique combination of validating structures from aerial photography and web-based sources,” says TNMCorps volunteer Don Kloker. “My structures contributions have provided me with an excellent geography lesson and I have learned many things about communities that I most likely would not have been otherwise able to experience.” Don has contributed more than 2,000 points and quickly reached the highest recognition badge, the Theodolite Assemblage.

Volunteers only need access to a computer and the Internet to participate. The National Map Corps’ website explains how volunteers can edit any area, regardless of their familiarity with the selected structures. Registration is simple and requires only an email address and self-selected username to facilitate on-going participation. Volunteers include youth from various organizations such as 4-H and scouting, as well as retirees, students, and even GIS experts in local, state, and federal agencies. Out of a total of about 5,500 total structure points in Washington, over 900 have been checked by volunteers (Figure 5), so there are still plenty of opportunities to become involved.
Through their participation, volunteers make significant contributions to the USGS’s ability to provide the nation with accurate and freely available mapping information to support response planning for natural hazards and to provide critical data for sustaining and improving the quality of life and economic vitality.

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The URISA Professional Practices Division – Cloud GIS Best Practices Initiative Needs YOU!!

We are looking for Subject Matter Experts (SMEs) for the development of Best Practices for Cloud GIS.

You may be the SME we are looking for IF you can demonstrate satisfactorily any, some or all the following skills:

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  - Cloud-based enterprise-level GIS
- developed, implemented or maintained:
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- supported GIS users who utilized Cloud-based applications and storage
- implemented cyber security systems to sustain safe operations of Cloud-based enterprise GIS

Please email a brief description of your interest and experience in the areas described above to:

Dr. Phillip Davis
Delmar College
(361) 698-1476
pdavis@delmar.edu

The deadline for submission is June 30, 2014 COB.
So You’ve Never Been to GIS-Pro?

Lots of Opportunities for Young Professionals in New Orleans

The 2014 GIS-Pro Conference is coming up in September, and it presents a great opportunity for young GISers to showcase their talent, network with the grizzled veterans, map out (heh) their career path, and learn more about where the industry is headed. Still not convinced you should attend? In addition to fantastic learning and networking opportunities, you’ll also have the opportunity to mingle with the exclusive club known as the URISA Vanguard Cabinet. We represent the 35-and-under crowd, and our mission for this year is to make sure you get as much out of this event as you possibly can, with events and presentations geared to your interests.

We sat down recently to talk about what made the 2013 conference great. Caitlin missed out on the fun in Providence, so she had lots of questions about what to expect in New Orleans in the fall! Everyone who was able to make it to Providence had a great time and networked like crazy. Here are some of the highlights.

Caitlin: I always think the best part about conferences is the outstanding networking that goes on. How does GIS-Pro rank in terms of opportunities to mingle with fellow GISers?

Andy: I had the opportunity to talk to people who use GIS in different industries and disciplines, which was really nice. I found common ground with people in urban planning, natural resource management, environmental science, and other fields. They were great people - geographers know where it’s at and how to have a good time!

Wendy: I thought it was an invaluable experience! I met lots of talented individuals, and those connections turned into leadership and volunteer opportunities for me after the conference.

Sarah: GIS-Pro offers networking opportunities like no other GIS conference! There were countless opportunities to mingle and share ideas with like-minded individuals. I met lots of awesome people, ...URISA really is like one big, happy (and a bit geeky) family!

Drew: The main social was a lot of fun. It was a great, relaxed way to meet other GIS professionals.

Caitlin: Did any of you give a presentation? How was the experience?

Sarah: I did! I thought the environment was really comfortable and everyone was extremely welcoming. It was an incredibly valuable experience and a fantastic platform for sharing ideas and collaborating with like-minded individuals.

Wendy: I gave a presentation as well. I thought it was great public speaking practice in a friendly environment, and it gave me the chance meet the other presenters and moderators in my session.

Caitlin: And how were the other presentations?

Drew: There were lots that were totally applicable to my projects. I had just started a new job and it was my first introduction to URISA. I definitely left feeling inspired.

Wendy: Me too! I learned about some really innovative projects that I wouldn’t have heard about otherwise.

Sarah: There’s really something for everybody at GIS-Pro. I enjoyed learning about GIS applications outside of my industry, both from young professionals and seasoned GIS veterans. I felt inspired to try new ideas, tools, and tricks, to make them work for my current projects.

Andy: I learned about some really unique applications for GIS that I would never have known about otherwise. There was lots of discussion about open-source GIS alternatives and how they’re being used, which was really interesting.

Caitlin: I’m really looking forward to the 2014 edition. I’m just launching a new project and I can’t wait to get new ideas and feedback from people who have been there and done that.

This year, the Vanguard Cabinet is hosting several events tailored for the young-ish demographic, including a student competition, a lunchtable conversation about our initiatives, and a panel discussion on entering the profession. We’re always eager to meet new people, so please do come find us in New Orleans!
**The Rocky Mountain Chapter** of the Urban and Regional Information Systems Association (RM-URISA) is sponsoring a financial award for students using GIS in their studies. Any undergraduate or graduate student attending school in Colorado, New Mexico, Utah or Wyoming is eligible to apply. RM-URISA will issue two awards in 2014 in the amount of $500 each.

RM-URISA requires the following documents for this award:
1. Proof of current enrollment
2. Current transcript (unofficial is acceptable)
3. Description of your GIS-related project (1-3 pages)
   This description should include:
   - Working title
   - Contact information
   - Project goals
   - Description and map of the geographic region of the study
   - Methodologies and technology to be used, and
   - Reasons why you should receive this award
4. One letter of recommendation. The letter may be emailed by the reference to: rm.urisa.scholarships@gmail.com

The deadline for all submissions is no later than September 5th, 2014 at 5:00 pm MST.

Please send requests for more information and all application materials digitally to: rm.urisa.scholarships@gmail.com.

**URISA Ontario** would like to thank all of our attendees, volunteers, sponsors and participants who helped contribute to making **Be Spatial 2014** (April 28th and 29th) an excellent experience! We set a new attendance record for the event with over 260 participants!!

Behind the scenes a dedicated group of committee chairs, members and volunteers helped to develop an outstanding program filled with relevant topics to meet the needs of our GIS community’s thirst for knowledge at an affordable price!

Be Spatial 2014 helped to bring together many long-term URISA members and an all-time record high of 1st time attendees (30+%)!

Once again, thank you to all who participated and we look forward to seeing you at future URISA Ontario events!

- The winners of the Best Challenge Awards are ...
- The winners of the MAaps Gallery: People’s Choice Awards are ...
- The winner of the 2013-2014 Student Bursary Award is ...
Welcome New URISA Members

Shibbir Ahmed, GISP—Houston Airport System—Houston, TX
Lafi Alharbi—Dhahrani, Eastern Province Saudi Arabia
Stephanie Andersen, GISP—City of Clovis—Clovis, CA
Viktoria Anderson—Maple Valley, WA
Lauren Bain—Tarrant Regional Water District—Fort Worth, TX
Jack Beers, GISP—URS Corporation—Columbia, SC
Ali Behseresht—UTA—Arlington, TX
Anas Bingaith, GISP—National Information Center - Ministry of Interior—Riyadh, Ar Riyadh, Saudi Arabia
Gabriel Borroni—Parsons Brinkerhoff—Nottingham, MD
Shane Bradt, GISP—University of New Hampshire—Durham, NH
Rachel Brancato Solly, GISP—Ecology & Environment, Inc.—Buffalo, NY
Miranda Brewer, GISP—King County Sheriff’s Office—Seattle, WA
Robin Bryant—City of Cupertino—Redwood, CA
Thomas Denton, GISP—Archdiocese of Philadelphia—Havertown, PA
Josef Drechsler, GISP—Northwest Hydraulics Consultants—North Vancouver, BC Canada
Robert Dzur, GISP—Bohannan Huston Inc.—Albuquerque, NM
Scott Fierro, GISP—Lorain-Medina Rural Electric—Marblehead, OH
Jon Franczyk, GISP—Quantrum Spatial, Inc.—Portland, OR
Tyler Friesen—Dudek—Auburn, CA
Michael Goeckel, GISP—McCormick Taylor Inc.—Harrisburg, PA
Mark Goodwin, GISP—City of Lebanon—Lebanon, NH
Matthew Goolsby—Atkins—Roseville, CA
Maria Gray, GISP—West Virginia State Tax Dept. Property Tax Div.—Charleston, WV
Eric Hajek, GISP—Halff Associates—Dallas, TX
Jesse Hamlin—Calgary, AB Canada
Robert Harbin, GISP—Moreland Altobelli Associates, Inc.—Monticello, GA
M Gwynn Harlowe—Rio Rico, AZ
Dustin Harmon—The Woodlands, TX
Jason Hollister, GISP—Concurrent Technologies Corporation—Jefferson Township, PA
Ryan Holmes—Chicago, IL
Stephen Iwuozo—Nashville, TN
Michala Jones—University of Florida—Gainesville, FL
Gunnar Kennedy—Salem, IN
James Kilnoski—Denton, TX
Pyungho Kim—Long Island Rail Road—Bethpage, NY
Sung-Man Kim, GISP, PHD, AICP—City of South Padre Island—South Padre Island, TX
Kris Larson, GISP—CDM Smith—Helena, MT
Dao Lee, GISP—AECOM Technology Corporation—Orange, CA
Stephanie Leusink—Vancouver, BC Canada
Chi Li—Metairie, LA
Sandra Majewski, GISP—Las Vegas, NV
Yousif Malik—Mountville, PA
Philip Marley, GISP—Missouri Dept of Conservation—Columbia, MO
Jeff McKee—Pittsburgh, PA
Daniel Mellott, GISP—Sain Associates—Pinson, AL
Jenna Moser—City of Winters—Winters, CA
David Moss—Maricopa County Office of Enterprise Technology—Houston, TX
Michael Mullins, GISP—Kane County—Cortland, IL
John Ngwembo—United Nations—Reno, NV
Casey Ogden—Pompano Beach, FL
Amy Ozeki—Virginia Information Technologies Agency—Chester, VA
Katharina Palffy-Gelfand—CDM Smith—Phoenix, AZ
Mat Peck—San Marcos, TX
Matt Price, GISP—Santa Cruz County—Santa Cruz, CA
Yi QI—University of Utah—Salt Lake City, UT
Shirley Qian—Oakland, CA
Shriya Rangarajan—University of Illinois at Urbana-Champaign—Champaign, IL
Robert Rishchynski—Toronto, ON Canada
Shelby Rising—Baton Rouge, LA
Sheri Schreiner—City of Dunwoody—Dunwoody, GA
Alex Schubert—Palatine, IL
Dru Sexton—Millersburg, OH
Andrea Smith, GISP—Johnson County IN—Greenwood, IN
Jeff Spees—Anchorage, AK
Angel Stark—City of Roswell—Roswell, GA
Jay Taylor—Mc Adams Company—Durham, NC
Charlena Thornton, GISP—Orleans Parish Board of Assessors—New Orleans, LA
Kody Thurnau, GISP—Minnesota Center for Environmental Advocacy—Saint Paul, MN
Renee Vandermause, EIT—TETRA Tech—Seattle, WA
Glen Wetterow—Peoria, IL
Susan Williams—Penn State University—Georgetown, TX
George Wright—Roseville, CA

Government Agency

Meade County—Sturgis, South Dakota
- William Rich
- Kirk Chaffee
URISA Awards & Student Competition at GIS-Pro 2014

The nominations process for URISA’s Horwood Distinguished Service, Leadership, Service, and Barbara Hirsch Special Service Award is now open with nominations due Monday, June 16, 2014. Individuals are invited to review the award criteria and the list of past recipients and complete a nomination form.

• **Horwood Distinguished Service Award** - An occasional award given for long-term service to URISA and the profession. This award is URISA’s ultimate award for service and leadership to URISA and within the geospatial industry. Awarded to will have demonstrated significant contributions to both URISA and the geospatial technologies industry. The Horwood Distinguished Service Award is named after founding member and first URISA President, Edgar Horwood. Horwood was an early pioneer in the field of information systems for local government and admired by all for his intellectual and organizational contributions to URISA. Horwood was the Chair of the constitutional drafting committee, giving URISA the “open membership” model that has led to our interdisciplinary organization.

• **Leadership Award** - Presented to members who have demonstrated exemplary leadership to URISA, creativity, innovation, and dedicated support of URISA programs. The recipient should be a member of URISA for enough years to show a pattern of leadership. Typically the recipient will have been responsible for new programs or activities, or significantly enhanced an existing activity or program, so that it takes URISA in a new direction and/or enhances its standing in the professional community.

• **Service Award** - Presented to members who have demonstrated faithful service to URISA and participation in its programs over a period of several years. This award is for specific service to URISA. It should require a significant number of years of (not necessarily consecutive) service in a number of programs or committees, and a willingness to take on challenges without regard to the potential for recognition.

• **Barbara Hirsch Special Service Award** - Presented to members or staff who have made special contributions to URISA. This award was created (in 2004) to honor URISA’s former Chief Financial Officer, Barbara Hirsch. Barb made her mark at URISA by being an exceptional professional who would always step forward when a point needed to be made, but never stepped to the front for recognition. It is in the spirit of this dedication that the Board of Directors has created an award for special service to URISA. This award will be given to individuals or committees who have shown a similar consummate level of service to URISA through an ongoing commitment to our success as an organization.

Notes:
- Review the award descriptions and think of someone you would like to nominate in that particular category. Then, complete the nomination form by June 16, 2014.
- You may submit multiple nominations, but each nomination must be submitted via a separate form.
- The Awards Committee will select the winners in late June. In July, the winners will be notified.
- The winners will be recognized during the GIS-Pro 2014 Awards Breakfast in New Orleans on September 10, 2014.

Submit your nomination via this online form by June 16, 2014.

**URISA’s Student Competition Revolutionized for GIS-Pro 2014**

In a recent development for GIS-Pro 2014: URISA’s S22nd Annual Conference taking place September 8-11, 2014 in New Orleans, the URISA Vanguard Cabinet has revitalized the traditional student presentation competition.

Help revitalize traditional poster contests by joining the Vanguard Cabinet for a showcase of recent ‘maptastic’ GIS student innovations. Instead of traditional printed and thumb-tacked maps, we are going completely digital. There will be a series of brief presentations (no longer than five minutes each) during the competition session on September 9th at 2:00 PM where students will compete for the “Best Presentation” cash award. Additionally, digital submissions will be accepted for students unable to attend the conference, where they can compete for additional cash prizes in various categories. All approved submissions will be uploaded online and displayed in the common area during the conference, to allow conference attendees to vote on a “People’s Choice” award. All awards will be presented to select competitors during the Wednesday morning awards ceremony at GIS-Pro 2014.

“With today’s GIS students becoming the future leaders of our industry, it’s essential to offer students a platform to continue learning, present analysis results, and get feedback to improve their skills,” said Ashley Hitt, a current URISA board member. “As young GIS professionals, the Vanguard Cabinet recognizes this and is offering more opportunities for students and other young professionals to get involved and take advantage of the opportunity.”

Students may submit a map or poster .pdf (or image file), a PowerPoint presentation, or a video walkthrough of a web app, mobile app, model, or script they have developed. All submissions will be reviewed, to ensure appropriate content, and competitors will receive an email confirmation upon approval. We encourage competitors to attend the conference to present their work, but those unable to attend will still be able to compete for all but the “Best Presentation” award. All students are welcome to compete, as long as they submit evidence of at least half-time enrollment at an accredited college for the Fall 2014 term. More details, as well as the competition application form, can be found at https://sites.google.com/site/gispro2014studentcompetition/.

Additional opportunities for GIS students to get involved with the URISA GIS-Pro Conference - to be held in New Orleans, LA from September 8-11, 2014 - include a panel designed for students/young professionals and student volunteer opportunities.

• **Young Professional/Student Panel:** This will be an educational session for students and young GIS professionals to learn more about GIS career paths, how to keep up with skills and technology changes required for more advanced positions, advice on creating effective resumes and portfolios, interview tips, and resources for open job positions. This session will take place on Tuesday, September 9 from 4-5 p.m.

• **Student Volunteer Opportunities:** URISA strives to involve students as much as possible in its annual conference. There are a limited number of opportunities to attend the conference through a complimentary registration, in return for volunteering at the conference. An application is posted here: https://sites.google.com/site/gispro2014studentcompetition/volunteer

If you have any questions about the student competition, or would like additional information, please contact urisa.vc@gmail.com.

*URISA is seeking a total of $1,500 in sponsorship funds to award cash prizes to the top submissions in various categories. Demonstrate your commitment to future GIS leaders by sponsoring this important event. If your organization is interested in sponsoring the student competition, or would like additional information, please contact Wendy Nelson at wnelson@urisa.org.*
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GeoPlanning Services, LLC of Orlando, FL was founded in early 2009 is a full service provider of geospatial tools and analysis
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North River Geographic Systems, Inc. is a Geographic Information Systems and Services Company located in southeast Tennessee. Although in business for just over two years, we bring over 15 years experience in the GIS/Mapping industry. NRGs has provided an array of services such as GIS consulting, spatial analysis, and cartography to an array of public and private organizations. Being a small company and Esri business partner gives us the ability to keep costs low and solutions innovative. Please give us a call/ email if you have any questions.

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Planning Communities, LLC provides a wide range of multi-disciplinary planning services for local, state and federal agencies, tribal nations and community organizations. Community, transportation, environmental and GIS services include local/regional planning.

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Spatial Focus, Inc.
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Spatial Focus, Inc. is an independent consulting firm, specializing in planning, design, implementation and technical services in the field of geographic information systems.

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Temporal Geo Analytics, Inc. (TGA) is a Land Use and Environmental Litigation consulting firm. We have expertise in using Geographic Information Systems (GIS) to develop, manage, and distribute complex spatial databases, as well as creating presentation-quality visualizations and graphics needed for natural resource litigation and land use projects.

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