Imagine that you need a new television. You go to the big box store and check the specifications but you can’t see the prices until you go to the checkout. You pick out the TV with all the features you want and with the best performance and durability record. You put it on the cart and go stand in line at the checkout. The cashier scans the UPC label and tells you the price. If the price is too high, you have to take that TV back to the shelf, pick out another, and wait in the checkout line again to find out the price. You have to keep doing this until you can find a TV that provides the best features for the money you want to spend.

Sounds crazy, doesn’t it? You expect to see the price when you are evaluating the features and performance of the products. But there is a part of our lives where we buy things but can’t see the price when we are making our selection. It’s called qualifications-based selection (QBS) and it is how most of us must procure architectural, engineering, and surveying services and the products they provide. With the growing requirement for licensure of photogrammetrists under state statutes regulating the practice of surveying, QBS is becoming the de facto method for procuring spatial data services and is supported by the policies of the Management Association for Professional Photogrammetric Surveyors (MAPPS) and the American Society for Photogrammetry and Remote Sensing (ASPRS).

QBS is based on a process where only the technical qualifications of potential suppliers and consultants are evaluated when you, the customer, are making the decision as to which to hire for a specific job. It is founded on the premise that you should want the best possible provider of service, without regard to cost. A group of people representing the client review the technical qualifications proposals (a.k.a., statements of qualification) received and rank the firms using various criteria, like the number of previous projects, experience of the lead employees, and the kind of equipment or process they use. The firm receiving the highest score is ranked first, the second-highest score is ranked second, etc.

Typically, the governing body will review the results and authorize staff to negotiate a contract with the highest ranked firm. If that is unsuccessful—usually meaning the price is too high—staff is generally authorized to talk to each firm in order of ranking, but generally can’t go back up the list. This means that if the second highest ranked firm is more costly than the highest ranked firm,
you can’t go back to Number 1. You also cannot ask the various firms to tell you what their price will be before you start negotiations. The intent is to go down the list of firms in order of their qualifications for the work until you get to a price you can afford. Proponents of QBS will tell you this process is necessary to ensure that you get what you really need.

In a 2011 article, MAPPS then-President Dick McDonald asked the readers of Point of Beginning magazine, “Why do surveyors and other geospatial practitioners agree on QBS?” [“How QBS Unites Us All,” POB, January 2012, pp. 18-19.] He then goes on to list a number of benefits for QBS over low-bid procurement for professional services. These are not the only two choices available to us as consumers of spatial data. There is actually a broad range of alternatives between these two extremes, most of which can be include in the definition of value-based selection (VBS).

This article will present the case for VBS procurements, which many of us believe to be the best solution for most spatial data procurements. Given the history of this discussion, the assumption included in the MAPPS article’s lead question—that geospatial practitioners agree on QBS—is not valid. We don’t all agree. In fact, I will argue that QBS is the worst possible means of acquiring what should be a standard service or product, particularly when that product is governed by licensure regulations.

Doesn’t licensure equal competency?
The basic position of QBS proponents is that it provides the best services to the public with no increase in cost. Before I get to the main thrust of this article, I want to pose a few questions about QBS in response to this argument. How does QBS of surveying services protect the public at no increase in cost? Proponents of QBS have actually never offered any proof of this position. In fact, aren’t there minimum standards for the surveying profession that are intended to make every product completely acceptable for the intended purpose? Doesn’t licensure almost, by definition, turn the covered professional service into a commodity, where each provider is equally or adequately qualified? How can some products or services be more acceptable? Why isn’t good enough, well, good enough?

The answers I typically get to such questions imply that members of the profession will act in a non-professional manner if they are required to compete on price. The Florida Chapter of the American Institute of Architects has an example of such an argument on its website: “The unscrupulous professional can find endless ways to cut their costs. Unjustified cost cutting may prove difficult to detect; is generally detrimental; undermines the quality of the finished product; may increase the total cost of the project; and essentially works against the client’s best interests.”

That seems to be an awfully disparaging opinion about their professional colleagues.

In his own article from the surveyor’s perspective, Mr. McDonald says, “Once the professional finds he or she cannot meet the project requirements for the bid price, ‘extras’ or ‘change orders’ are requested and/or corners are cut in the production and quality assurance process.”

Correct me if I’m wrong here, but that sounds like unethical practice at best and may be negligent or fraudulent behavior. What happened to all those minimum technical standards, ethical principles, and regulatory agencies policing the field to root out license holders who don’t meet those standards? If Mr. McDonald is right, then licensed professionals don’t have much of a profession. I guess plumbers and carpenters—people we can hire using low bid processes—have higher ethical and professional standards. They do the job for the agreed upon price.

This is what I hear as a consumer of professional services using the logic of QBS: If my agency knows what the cost is going to be when we select a professional to provide surveying services for a project, then respondents to the RFP will give me a price that is too low to do the job properly. They will then deliver less than what is required or jack up the price later through the pretense of a change in scope. However, if we negotiate an initial price by talking only to one firm—the one we believe to be the most qualified— then the company will do professional work and not charge more money later. Ignoring for the moment the issue of how we can even pick “the most qualified firm” for a task like a retracement survey, where, by law, every licensed firm is supposed to deliver exactly the same product, what is really being said sounds like good firms cost more and cheap firms won’t do a good job.

If I accept that premise, I still don’t understand why these professions don’t want me to know the price until I have picked the top-ranked firm. When you get ready to buy anything else—a big-screen TV, a new car, or an attorney—you always consider the price and the benefits. This is why we don’t all own a BMW or Porsche or employ the top law firm. All cars provide transportation and conform to federal safety requirements. Some cars are faster than others, are better made, or carry more people. Sometimes, a choice is worth the higher price; sometimes, it’s not. But I always get to see the price when I am comparing choices and no car is supposed to have built-in defects. Why can’t I buy professional services the same way?

Qualifications-based selection
The short answer is that federal and state laws prohibit me from doing so. At the federal level, we have the Brooks Act of 1972, which modified the Federal Acquisition Regulations (FAR) for architectural and engineering services to require
QBS procurement in §36.6. The states have adopted similar “mini-Brooks Act” laws. Here in Florida, the Legislature adopted the Consultants’ Competitive Negotiation Act (CCNA) in 1973, now codified as §287.055, Florida Statutes. It established a mandatory QBS method for public agencies selecting architects and engineers that was later extended to include landscape architects and surveyors.

You may be surprised to learn that the established policy of the U.S. government actually prohibits QBS procurements under normal circumstances for any profession. In fact, a 1978 U.S. Supreme Court ruling in the case of National Society of Professional Engineers v. U.S. (435 U.S. 679), declared, “any official opinion, policy statement, or guideline stating or implying that competitive pricing is unethical” is a violation of the Sherman Anti-trust Act (26 Stat. 209). The District Court that heard the case “was convinced that the ethical prohibition against competitive bidding was, ‘on its face, a tampering with the price structure of the engineering field in violation of Article 1 of the Sherman Act.’”

In response, the Society argued, “its attempt to preserve the profession’s traditional method of setting fees for engineering services is a reasonable method of forestalling public harm, which might be produced by unrestrained competitive bidding.” The Court rejected it all, ruling the Court of Appeals had the right idea in allowing the Society to “adopt some other ethical guideline more closely confined to the legitimate objective of preventing deceptively low bids,” when striking down the code of ethics requirement for a QBS procurement process.

“That engineers are often involved in large-scale projects significantly affecting the public safety does not justify any exception to the Sherman Act.” The only way QBS passes legal scrutiny now is a general allowance by the courts to permit exceptions adopted by state legislatures. (This exception is based on the premise that the more specific law adopted later is a statement of intent with regard to the earlier general law.)

As an employee of a Florida municipality, I have to follow the requirements of QBS for hiring surveyors and photogrammetry companies. This means I have to identify the three or more top-rated firms for a particular task and recommend them to the City Commission, which generally authorizes me to begin negotiations with the highest-ranked firm. They normally also allow me to go down the ranked list in order if necessary to get a price we can afford. As a result, I get to see the price for doing the work from one surveying firm at a time, starting with the highest-ranked firm. I have to decide if the price they offer is reasonable, without knowing the price of any other potential provider. If I conclude that it is too high, then I can talk to the second-highest ranked firm. If that company’s price is higher than the first, then I have just cost the citizens of my city some money—money that is presently in very limited supply (when isn’t it?)—because I can’t go back to talk to the first firm. How can I know how much is too much to pay when I only have one sample point?

The value-based alternative

I have no interest in going the way of low-bid, price-only selection for professional services. There is still a level of care required for spatial data procurement that goes beyond the regulatory requirements that may—but not always—govern the process in a given state. If you agree that “bang for the buck” is a good general rule to follow, then I want you to consider the middle ground method of VBS. The Florida Association of Public Purchasing Officers (FAPPO) has endorsed the addition of a VBS option to the CCNA. Among the other groups supporting this initiative are the National Institute of Governmental Purchasing, the Florida Association of Counties, the Florida Government Finance Officers Association, numerous city and county agencies, and several licensed professionals working in the public sector. This process is already used in a number of situations, most notably the design-build approach to public construction projects; which include surveying services. Bills to add the VBS option to the CCNA statute are pending in the Florida Legislature.

VBS is a two-step process that allows the procuring governmental agency to simultaneously consider price proposals from the highest-ranked firms. The VBS option would be appropriate when the services to be delivered and/or the product to be created are well defined, such as asking for a right of way survey in advance of designing a new road, a set of digital orthophotos, or a LiDAR data collection effort. This is a critical point. If you can’t say what you want the contractor to provide, then they cannot give you a price for the second step of the process. Most data collection RFPs, though, are quite specific, sometimes even going into the detailed requirements for how the aerial camera is to be calibrated. This typical level of detail and a clear statement that “we know what we want” makes spatial data procurements especially suited for VBS. In contrast, QBS is closer to “tell me what I want, and then give it to me for a price you determine.”

As with the QBS process, agencies would evaluate and shortlist the applicants based strictly upon qualifications-based factors. After establishing the initial shortlist, agencies following the VBS process would solicit price proposals that include each firm’s price, cost, and resource allocations (or open previously submitted sealed price proposals). The shortlisted firms would then be re-evaluated under published criteria that include price and qualifications-related factors. In no instance would price be allowed to be more than 50 percent of the scoring weight. The agency
would select the firm that offered the best value; i.e., the most bang for the buck.

This is not a bidding process. VBS is an opportunity to see and assess the value in each proposal. Perhaps the higher-cost proposal from a higher-ranked firm offers the best value. Perhaps it would be better to give the small, new firm that offered a lower price a chance to show what they can do. But if I can only use qualifications to rank the applying firms, then that top-ranked firm with extensive experience should always get the work and the new firm hungry for a chance to enter the market will never win a job. How is that good?

The primary benefits of the proposed VBS reform are:

- A more objective and transparent method of selection;
- An additional method for procuring professional services that, in some instances, would better meet the needs of an agency and its constituents;
- The promotion of small business development, as qualified firms with lower overhead costs may be more competitive; and
- A means to more competitively evaluate and justify the overall value of each contract.

VBS is a way to protect the profession from the horrors of low-bid selection processes while allowing governmental agencies to fulfill their role to protect the public. Unqualified firms don’t get through the qualifications door of phase one in order to present a price proposal in the second phase of the VBS process, where price is only one of several criteria that can be applied to make a final selection. Contract negotiations would continue to be how the final price is set, so there is always an opportunity for the parties to make corrections regarding scope and price.

The Florida Government Efficiency Task Force, a group established by State law, evaluated VBS recently. Their 2011 report recommends that the Legislature add VBS and a modified-VBS process as optional procurement methods under CCNA for all included professional services, including surveying. (The modified-VBS process allows the procuring agency to see the prices but not include price as an evaluation criteria. The intent is to better inform the agency as to market pricing.) They defined VBS as, “The selection of
a firm or firms whose proposal provides the greatest overall benefit to an agency in accordance with the requirements of a formal solicitation.” The Task Force specifically found, with regard to the established QBS procedure, that for “projects with a well-defined scope this procedure would not be the best method of procurement and may result in higher costs to the agency.”

The Task Force report mirrors the language found in FAR §15.101, which says, “in acquisitions where the requirement is clearly definable and the risk of unsuccessful contract performance is minimal, cost or price may play a dominant role in source selection. The less definitive the requirement, the more development work required, or the greater the performance risk, the more technical or past performance considerations may play a dominant role in source selection.” The U.S. military has become a big user of VBS. Although only a few states routinely allow VBS procurement, several states have established VBS pilot programs; e.g., the University of California. The University of Minnesota adopted VBS several years ago for its capital program. Their results have clearly demonstrated savings with no reduction in quality.

Incidentally, it has been determined by the FAR Council and a federal court that not all services offered by surveying and photogrammetry firms and considered to be within the scope of licensed practice within a given state are to be procured using QBS under the terms of FAR §36.6. Accordingly, the federal government has declared, “Mapping services that are not connected to traditionally understood or accepted architectural and engineering activities, are not incidental to such architectural and engineering activities, or have not in themselves traditionally been considered architectural and engineering services shall be procured pursuant to other applicable FAR provisions.” If geospatial services are being sought for work that is not part of a federal construction project, then QBS procurement does not apply under FAR. Protests filed against federal contract awards for orthophotography production through non-QBS procurements have not been upheld. Why should state and local governments have to follow a different process?

Conclusion
There is a choice between the extremes of QBS and low-bid procurements. VBS is the most appropriate procurement method for those instances where the services and/or products to be delivered are well defined. VBS is increasingly used in hiring design and surveying services. Licensed professionals will be better served to embrace this evolutionary change and help their clients implement it effectively than try to hold onto the old QBS method as an exclusive approach. Doing so will actually help fight the move to low-bid procurements by revenue-challenged governmental agencies.

URISA is presently undertaking an effort to update its Quick Study Guide for RFPs to include content related to VBS and to issue a policy statement on the topic. We invite your input to the process through direct participation in the drafting process or by reviewing the draft proposal when it is published later this year.

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Endnotes
1 Available at http://www.aiafla.org/upload_documents/LegislativeLeaveBehind-FINAL.pdf.
3 See HB 739 by Metz and SB 1002 by Soto, 2013 Legislature. The Florida legislation uses the term “best value selection,” but it is the same as value-based selection—the term used in this paper and others for a better mnemonic parallel with qualifications-based selection.
4 Available at http://www.floridaefficiency.com/recommendations.cfm
6 See http://www.leginfo.ca.gov/cgi-bin/displaycode?section=pc&group=10001-11000&file=10506.4-10506.10.
7 See http://www.cppm.umn.edu/pips_what_is.html.
9 See http://www.gsa.gov/portal/content/203021#23.
URISA’s International Affiliation with SSSI Continues - 2013 Australia Trip Report

By Greg Babinski, GISP, URISA Past-President

I had the privilege of representing URISA at the 2013 Conference of the Survey and Spatial Sciences Institute (SSSI) in Canberra, ACT, Australia. URISA has an MOU with SSSI to formalize a number of past practices between the two organizations. The objectives of the MOU include:

- Promote good relations between the two organizations
- Promote greater awareness of the spatial information profession in each country
- Provide general opportunities for appropriate joint ventures benefiting both organizations
- Encourage and assist in the development of joint policies, procedures, and standards, where appropriate
- Create easy and effective communications channels between the two countries – accessible to all members
- Promote activities of the MOU to members of both organizations

SSSI and URISA also have three subsidiary Joint Activity Agreements, covering:

- Cooperation in development of the URISA Geospatial Management Competency Model (GMCM) and URISA GIS Capability Maturity Model (GISCMM). This agreement has been expanded to include participation by Penny Baldock, SSSI’s Cartography and Spatial Information Commission Chair, on URISA’s GIS Management Institute Committee.
- Exchange of Ideas between SSSI and URISA. This agreement formalized the 2012-2013 exchange of SSSI and URISA leadership.
- Licensing two URISA Certified Workshops (GIS Program Management and Cartography and Map Design) for use by designated SSSI instructors in Australia and New Zealand.

I am the current URISA leadership for each of these three subsidiary agreements, which formed the basis for my trip to Australia.

The current exchange actually began with the September 2012 visit to URISA by Gary Maguire, SSSI President, and Penny Baldock, who attended GIS-Pro 2012 in Portland, OR. Penny and Gary attended the URISA Board meetings held immediately before and after GIS-Pro, participated in various URISA committee meetings held during the conference, attended many of the sessions and social events, and generally got to meet URISA members and conference attendees.

Origins

In the early 1980’s interest in geospatial technology led a number of individuals from Australia to attend URISA conferences. In 1983 the Australasian Urban and Regional Information Systems Association (AURISA) was formed. Almost immediately exchange of members between URISA and AURISA began to occur. By the late 1980’s there was an International Column in the URISA News and by the early 1990’s occasional exchange of board members and officers.

Several years ago AURISA merged with other professional and industry organizations in Australia and New Zealand to form SSI – the Spatial Sciences Institute. In 2009 SSI merged with the surveying organizations in Australia and New Zealand to form SSSI - the Surveying and Spatial Sciences Institute.

The recent practice between SSSI and URISA has been for an annual exchange of presidents. Typically, the URISA President will visit Australia and possibly New Zealand to speak at various national and regional conferences and seminars. Likewise, the President of SSSI will visit North America and participate in the URISA Annual Conference and possibly local, state or provincial conferences. The SSSI representative typically sits in on the URISA Board meetings that occur before and after the URISA’s annual conference.

SSSC 2013

The event that I attended in Australia, called the Survey and Spatial Sciences Conference 2013 (SSSC 2013) was held in Canberra in conjunction with the one-hundredth anniversary of the founding of Canberra as the federal capital of Australia, within the then newly designated Australian Capital Territory (ACT).
Before attending the Conference, I did a little travel on my own, including visiting Jakarta, Ternate, and Morotai, in Indonesia, where I experienced the warm culture of this amazing multi-ethnic, multi-religious nation of 17,000 islands. From bustling Jakarta to remote Ternate and Morotai, everyone I met was friendly and seemed happy. I then spent a very pleasant week in Sydney. This largest city in Australia made me feel very much at home, with many similarities to my Pacific Northwest urban haunts in Vancouver, Portland, and Seattle. But in some ways Sydney exceeds all three with an amazing Australian exuberance, great scenery, multi-cultural society, and happy friendly people.

Both in Sydney and Canberra I learned that there is a close connection with the U.S. In the Australian Maritime Museum in Sydney I learned of the many ways U.S., Canadian, and Australian maritime history have converged. Captains Cook and Vancouver explored all three countries. 18th and 19th Century American whalers and merchants were frequent visitors to Australia. In 1908 the American ‘Great White Fleet’ made a huge impression on Australia during its circumnavigation of the world. And of course the close cooperation between the U.S. and Australia which began during WWII continues to this day. In Canberra, I learned that the city was designed by two American architects from Chicago, Walter and Marion Griffin, who won a design competition based on their concept for inter-connected English-style villages, each with its own little urban core connected by a radial pattern of avenues and streets.

I took a bus from Sydney to Canberra on Sunday, April 14, about four hours by freeway. And yes, I saw kangaroos! The Conference was held in the Australian National Convention Center, near the center of the largest of the ‘urban villages’ within Canberra. That evening I met Gary and Penny, along with other SSSC attendees, for a walk around the city followed by a pleasant dinner.

The following day was set-up and pre-conference meetings for the various commissions that make up SSSI. I attended the Cartography and Spatial Information Commission meeting, at which I made a presentation about URISA’s progress launching the GIS Management Institute (GMI) and in developing the GIS Capability Maturity Model. Later that day I was driven to SSSI’s headquarters building (in an adjacent urban village) where I attended the SSSI Board meeting. In addition to observing the workings of SSSI’s board (and drinking some excellent Australian wine) I again made a brief presentation on the GMI. We ended the meeting with an open discussion about how SSSI might collaborate with and assist URISA in developing and implementing the GMI. A tradition of these exchanges between SSSI and URISA is for the visitor (me, in this case) to present the hosts with little tokens of the visitor’s country. For this purpose I brought a handful of miniature USGS survey monument benchmark pins from some of the peaks in Washington, Oregon, and California that I have summited. Those of you have seen me at URISA conference know that I always wear my Mount Rainier USGS summit survey monument pin on my conference name badge. The SSSI Board (many of them surveyors) seemed delighted with these tokens.

The next day, Tuesday, April 16, I taught URISA’s Cartography and Map Design workshop to a dozen...
students, including several who were training to become certified to teach the workshop under the SSSI license throughout New Zealand and Australia. The workshop seemed to be well received. I was impressed with how much the attendees got into the four exercises in this class, including the final big ‘design-a-map’ exercise.

On Wednesday the full conference kicked off on a formal basis. The opening plenary session started with a welcoming address by Senator Kate Lundy, Australian Minister for Industry and Innovation. Then a highlight for me and for all attendees was a traditional ‘Welcome to Country’ by Shane Mortimer, a Ngambri Aboriginal Elder, who spoke in traditional garb and invited us to make good use of the earth. The Ngambri were the original inhabitants of the ACT area and their name is the origin of the name ‘Canberra.’

This was followed by a keynote panel session titled ‘Big Issues, Big Talk’ which I was invited to participate on. The brief to the panel members was to address the question: ‘How do diverse spatial applications help me build my community.’ Other panelists included Mark Crosweller, Director General of Emergency Management Australia, Commodore Brett Brace, Hydrographer of Australia, Royal Australian Navy, Sue Varden, Chair of Southern Australia Red Cross, and Anne Gawen, CEO of Connecting Up. For my ‘Big Talk’ I focused on the interconnected nature of the modern urban environment, the continued growth of world-wide urbanization from 50% today, to 70% urban by 2050, and the role that URISA, the GMI, and SSSI have to ensure that the urban areas of the future are well planned, well run, and provide free and prosperous lives for the billions of people who will inhabit them. To show the connection from URISA’s early origins I include Dr. William Bunge’s Urban Islands map to illustrate the tiny portion of the earth’s surface upon which the vast majority of humanity inhabit.

The following day former URISA Board member and current Esri Director of Education and Industry Solutions, David DiBiase, delivered the morning keynote address titled ‘The Future of the Geospatial Industry and Profession.’

One aspect of the SSSI Conference that I really liked was their general membership meeting. Unlike URISA, SSSI holds this meeting in the middle of the conference, in this case on Wednesday afternoon. This ensured that the meeting was well attended by SSSI members who heard from their association’s leadership and had the opportunity for an in-depth Q and A session. And then the general membership meeting was immediately followed by a hosted reception, which provided further opportunities for members to interact with the leadership.

Thursday was a full day of general speaker sessions. The ones that I attended were of universally high quality and reflected some very innovative applications of geospatial technology that URISA members can learn from. Now, Penny and Gary told me how much they enjoyed the GIS-Pro 2013 social event (an evening of bowling, pool, and casual conversation and informal bar style food and drinks). The SSSI gala social was completely different. Black tie for men and evening gowns for women required for a formal dinner. Seating was by assigned tables for everyone. The evening started off with a cocktail reception. Dinner entertainment was mc’d and included a variety of SSSI award presentations, interspersed with funny roasts of some of the key SSSI leadership. The evening ended with dancing to a live band and more drinks and dessert. It was very different from a URISA event but lots of fun in its own way.

The last day of the conference included speaker sessions in the morning, a wrap-up plenary session in the afternoon, and farewell hors-d’ouvres and drinks before final farewells. All in all, SSSI puts on an excellent conference that compares well with the typical GIS-Pro, and considering the much smaller population reflects very well on the interest in GIS and survey in Australia and New Zealand.

Some observations and recommendations that I brought back for the URISA Board include:

- Emulate the SSSI model of having the general membership meeting in the middle of the annual conference, rather than as the last event on the last day, as at present.
- Engage the survey community more pro-actively.
- My SSSI experience convinced me that URISA is on the right track with developing the GMI. SSSI is looking to support URISA managing the GMI. This is unlike the current SSSI relationship with GISCI, which has licensed the GISP program to SSSI to run in the AP area.

My trip to Australia was almost, but not-quite the culmination of a year of travel for me that was quite extraordinary and which provided me an opportunity to talk about URISA and the GMI on several continents. In May 2012 I attended the inaugural event of the new URISA UAE chapter in Dubai. In August 2012 I travelled to Taiwan...
and Singapore, where I had conversations about affiliation with URISA with key GIS leaders in both countries. Then in November I attended the URISA Caribbean Conference in Jamaica, followed by a trip in December 2012 to Beijing where I met with Esri China and delivered a lecture at Tsinghua University on URISA and the GMI. And then after SSSI in Australia, I was invited to make two presentations at the Geospatial World Forum in Rotterdam, The Netherlands.

URISA is well respected around the world. For the past 10 years URISA’s GISCorps has been providing critical GIS services on every continent except Antarctica. There is a lack of an organization like URISA that champions and supports the GIS profession in most parts of the world. I have found that when travelling internationally, it is easy to set up meetings with key GIS leaders in other countries. If you are interested in supporting URISA’s international initiative as you travel the world, contact me, Cindy Post, URISA International Division Lead, or Wendy Nelson, URISA Executive Director, for suggestions and material for promoting URISA’s mission and membership. Happy travels!

Summer Reading Suggestion

Now is the perfect time to pick up Pete Croswell’s THE GIS MANAGEMENT HANDBOOK at a significant discount. This is one textbook that you will refer back to frequently and will be a great addition to your home or office library! Regularly priced at $110 ... it is now offered until Labor Day (September 2) for only $75. Don’t miss the opportunity. Place your order today: http://www.urisa.org/gisbookorder

“The GIS Management Handbook is the first book I have read that comprehensively covers all the tools GIS managers need to have in their toolbox. Beginner and seasoned GIS managers alike can learn something from this book.”

- Stuart Davis, Assistant COO for the State of Ohio, Office of Information Technology, and past-President of NSGIC

“This book fills a void and is long overdue.”

- Jury Konga, Manager of GIS Services, Town of Richmond Hill, Ontario

“... an important addition to the literature on implementation of GIS. Written by a highly qualified and respected GIS consultant, this book provides practical insights and guidelines that the practicing GIS professional will find of tremendous value and utility”.

- Nancy Obermeyer, PhD, GISP, Associate Professor of Geography, Indiana State University, and co-author of the 2008 book, Managing Geographic Information Systems

GIS faculty and instructors... many of your colleagues have made this required reading for their classes. Contact the URISA office to discuss bulk purchasing for your Fall courses!
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Essential education and valuable professional connections will be the takeaways at GIS-Pro 2013: URISA’s 51st Annual Conference for GIS Professionals. GIS-Pro 2013 will take place September 16-19, 2013 at the Rhode Island Convention Center in Providence, Rhode Island.

URISA Certified Workshops are featured with both full and half-day offerings:
- GIS Strategic Planning - 2013 update
- Asset Management: Planning, Strategy, and Implementation - 2013 update
- GIS & Surveying-Open Exchange between a Surveyor and GIS Manager - new 2013 workshop
- Introduction to Open Street Map for GIS Users - new 2013 workshop
- Address Standards: Implementing Quality and Data Sharing - 2013 update
- Emergency Preparedness for GIS (half-day)
- GIS Return on Investment (half-day)

This year’s conference is co-hosted by the New England Chapter of URISA (NEURISA), bringing both enthusiasm and important educational content to the event.

Concurrent educational sessions cover topics ranging from ‘Storytelling and Effective GIS Communication’ and ‘Developing Organizational Best Practices’ to ‘Business Intelligence Technologies’ and ‘Solving Mobile Mapping Challenges’. An important conversation about ‘Ethics in GIS’ and a focused session for ‘Women in GIS’ are also on the schedule.

Sponsors and exhibitors are an important focus of the conference with a new Vendor Spark session providing a valuable platform for organizations to highlight their products and services (exhibit discounts are available until July 1).

September 16-19, 2013
www.urisa.org

For complete conference details, including registration (early registration discounts through July 22), hotel and travel information, visit http://www.urisa.org/gispro2013.
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As we continue the process of implementing our new organizational structure, I have been reminded of just how much URISA depends on its volunteers. I have to put my fellow URISA Board members at the top of the list of people who are working hard to create a new URISA that will substantially increase our value to our members and facilitate our role as the Association for GIS Professionals. Of course, a growing number of URISA members are also participating in this process, and many are continuing the work that has long been a fixture at URISA, such as GISCorps and our various conferences. We still have conferences and workshops, like we always did. But we are substantially starting from scratch as we build the new operating units and divisions, so we have to rely on my fellow Board members to lead the way.

Past President Greg Babinski started the GIS Management Institute (GMI), a new URISA operating unit, more than three years ago with his work on the return on investment project, which led to the GIS Capability Maturity Model, which led to the proposed management accreditation program, which led to the GMI initiative, which led to the GMI operating unit, which led to four new URISA divisions: Advocacy, Accreditation, Certification, and Professional Practice.

Tom Conry was the next to hit the ground running, as he had the most to do in building the new GMI Professional Practice Division, a process he began before last year’s Annual Conference in Portland. He even recruited a new URISA member, Kevin Mickey, the Director of Geospatial Technologies Education at the Polis Center in Indianapolis, to take on the task of chairing the Division. (It was going to be Keri Brennan’s job, but we hired her as the new URISA Education Director. Now have both of them at work.) Part of the leadership team for this division is Carl Anderson, who heads up URISA Labs.

Greg is also in charge of the Accreditation Division, which will be the end result of the existing GMI Committee that Greg chairs. Our Secretary, Danielle Ayan, has the lead for building up our Advocacy Division, which greatly expands the duties of the existing Policy Advisory Committee. They are meeting every other week in order to move quickly on several important policy issues. I am responsible for the Certification Division, about which we will have more to say in the next issue.

Tripp Corbin assumed the lead on the URISA International operating unit, which includes the Education, Operations, and International divisions, along with the Vanguard Cabinet, Past Presidents Council, and Chapter Advisory Board. (I use the verb ‘assumed’ in that sentence because I didn’t ask, but he didn’t say “No.”) Tripp also has the duty of coordinating the activities of the Operations Division. Claudia Paskauskas, who has been a leader of our conferences and the URISA Leadership Academy for many years, took on the task of continuing and expanding the work of our Education Division, which is part of the URISA International operating unit. Cindy Post, our director from Canada, has taken charge of the International Division, which has responsibility for our activities outside the United States.

All the other Board members also have work to do. For example, President Elect Allen Ibaugh is the coordinator of GISCorps, which we are trying to build up with staff and funding support as we work to increase the number of missions and try to make it sustainable over the long-term. Teresa Townsend is the head of our Marketing & Communications Division, which reports directly to the Board rather than being part of an operating unit due to its duties across the entire organization. Chris Thomas is another key leader of that division along with being a contributor to others. Our Treasurer Doug Adams has enough to do with that job, so I have not tried to impose other responsibilities on him, although he will work with Tripp and I to conduct this year’s Headquarters Review in late-July. Nancy Obermeyer has been working to increase our options for publications.

As long as I am recognizing the hard work of the people upon whom we most depend, I must acknowledge the efforts of our Association staff, led by Executive Director Wendy Nelson. We just completed the 2012 audit, and I can happily report that we are in good shape due, in no small part, to the frugal and efficient nature of our staff.
I can’t begin to name all the people who work hard for our Association, the GIS profession, and the many practitioners we support and who attend our workshops and conferences. Any attempt to list some people naturally leaves out others who are equally deserving of recognition. Many are long-time members, such as past presidents and former Board members. Others are new to the Association and have a lot of energy and new ideas. My intent in noting the contributions of our Board of Directors is not to put them on the back but to show that we are putting our efforts behind the same tasks we ask you to do.

All professional associations depend greatly on the volunteer efforts of their members. It has been consistently proven that people will volunteer to do useful work, even if it is difficult to do. Our experience with GISCorps and its hundreds of volunteers is the best example of the truth of that principle. We will soon conduct our 51st Annual Conference, but rather than being the latest in a long line of traditional meetings, this will be the first event conducted by the new organization. We have the same name but a much broader mission that is personally more important to each of our members and the people we work for and those we serve through that work.

Now, more than ever, is the time for you to volunteer your time to participate in this great new enterprise we have established. It is time for you to be a stronger part of the URISA experience. Don’t wait for others to build the foundation of your career. As Uncle Red says at the end of every Red Green show, “Remember, I’m pulling for you. We’re all in this together.”

**URISA 2013 URISA Board of Directors’ Election – Every Vote Counts!**

YOU WILL BE ABLE TO CAST YOUR VOTE UNTIL July 19. Online voting ends on July 19. Each member was emailed his/her personal instructions to cast their vote on June 4. If you prefer a hard copy of the ballot or cannot locate that email, please contact info@urisa.org.

FOR PRESIDENT—
- Carl Anderson, GISP – Spatial Focus, Inc., Sarasota, Florida
- Geney Terry, GISP – Geospatial Information Solutions, LLC, Placerville, California

FOR BOARD OF DIRECTORS—(to fill 3 positions)
- Jochen Albrecht – Hunter College of The City University of New York
- Phil Davis – GeoTech Center at Del Mar College, Corpus Christi, Texas
- Amy Esnard, GISP – City of Portland, Oregon
- Ashley Hitt, GISP – Connected Nation, Louisville, Kentucky
- Kevin Sato, GISP – City of Cottonwood Heights, Utah

To thoughtfully consider each candidate, please visit http://www.urisa.org/boardelection

**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.
Book Review

An interesting twist to our typical book review. Two URISA members have reviewed “Python Scripting for ArcGIS”. Greg Newkirk reviewed it as an academic text (as he is considering it for a potential future course) and Alicia Newberry reviewed it from her perspective as a local government GIS professional.

Generally I do not look forward to reading textbooks, and Paul Zandbergen’s *Python Scripting for ArcGIS* is exactly that: a textbook. It is the kind of book that is printed in hardback by the big publishers. But ESRI Press has created a sturdy paperback volume that is favorably priced either for the self-learner or the classroom student. The most persuading aspect is that Zandbergen, a college instructor with a solid grasp of classroom learning, has crafted a classic textbook that is complete with a CD-ROM full of labs, instructions and data.

Zandbergen assumes that the reader has a solid background in ArcGIS with little or no background in programming. He begins with four chapters on Python and geoprocessing basics including a discussion on Model Builder and batch processing before explaining their limits for automation and the need for Python. Throughout the book Zandbergen provides a solid foundation, covering all the essentials. There are a few snippets of code used for instructive purposes, which are adequate to teach necessary principles and programming techniques. But anyone looking for a library of ready-made solutions will be disappointed. Clearly, the intent of this book is to teach the basic logic of writing code and specific techniques for automating geoprocessing tasks. It is well-designed to foster confidence in the learner who will by the end of the book have a solid grasp of the basics.

Zandbergen takes the reader step by step through all the essential aspects of writing code, introducing the ArcPy site package along with tools, toolboxes, functions, classes and environmental settings as an integral part of the process. It is not until chapter six that the reader first learns how to automate a task by generating a list and looping through it. This might seem frustrating for some readers to move through the material at this pace, but Zandbergen is well aware that the inexperienced programmer might start firing off snippets of code that can send a computer into an infinite loop.

The book continues at the same pace throughout all the chapters, covering the essential elements of arcpy.da, arcpy.sa and more. Even when the text arrives at arcpy.mapping, the reader is held to the same pace of learning. Each chapter painstakingly teaches the basics, reinforcing them with demonstrations of code. Finally, in the last two chapters the reader learns how to make and share tools, which launches the reader on a creative course of writing code in small useful encapsulations. This is where a solid understanding of all the basics pays off. The reader is more than ready to start writing code and can practice by creating small automation tools.

Many years ago when ESRI introduced ArcMap, coding became largely unnecessary to operate a GIS. The old days of programming in AML vanished away, but the need for automation remained. Model Builder helped, and ESRI’s introduction of Python scripting restored some of what was lost, but the ArcPy Site Package and education materials demonstrating how to use it were still evolving. Now with Zandbergen’s *Python Scripting for ArcGIS* the non-programming practitioner once again has a solid footing to perform tasks that require some kind of coding, and the college instructor has a much needed text for introducing college students to scripting in the geoprocessing world.
As someone who is a novice to Python and programming, I was very glad to see Paul Zandbergen’s Python Scripting for ArcGIS released earlier this year. In the past, I had referenced other introductory Python texts and standalone tutorials, but had not been able to find a comprehensive volume that dealt specifically with Python in ArcGIS. This new book from Esri Press fills that informational gap very well and offers a solid introduction to Python and the ArcPy site package.

This book is intended for established ArcGIS users who are interested in learning about scripting and automation of tasks. The author suggests that some programming background is useful, but not required, as the book is primarily written with the inexperienced coder in mind. Personally, it was helpful for me to be familiar with Python syntax, as the author does not cover it until chapter 4, and some basic programming logic.

It is worth noting that this book is written for ArcGIS version 10.1, as the code and exercises will require the ArcPy site package that became available with the version 10 release. A 180 day trial version of ArcGIS for Desktop 10.1 comes with the book for those who may not have access to the software or extensions, such as Spatial Analyst, that are used in the exercises.

The text is organized into four sections, covering a total of 14 chapters, with each chapter including a corresponding exercise. The first section introduces the Python language and covers basic geoprocessing, as well as an introduction to PythonWin and the interactive Python window in ArcGIS. In chapter 4, we finally are introduced to the fundamentals of the Python language, including proper syntax. The second section is the real core of the book where the reader is introduced to the ArcPy site package and then has the opportunity to practice exploring and manipulating spatial data using Python scripting. Section 3 delves into more specialized tasks, such as automating the exporting and printing of maps, fixing broken data sources, debugging and error handling, and creating Python functions and classes. The book wraps up with two chapters on creating and sharing custom tools.

Each chapter’s concepts and code build on the previous chapters, and the exercises enforce the concepts learned. Unfortunately, some of the exercises were just mirrors of the examples discussed in the book, particularly in the first few chapters, so these didn’t feel as informative or useful. An unavoidable issue of many of the exercises involved working back and forth between ArcMap and PythonWin. Because ArcMap puts locks on data and some scripts are not able to run successfully with both programs open, the user is frequently called upon to open and close them, which can be frustrating with ArcMap’s slower load time. One of the things that I truly appreciated about this book was the opportunity to work on the ‘Challenge’ exercises at the end of each chapter exercise. These really got me thinking and doing, which helped me learn more effectively than just reading and following step-by-step instructions.

Overall, Python Scripting for ArcGIS is a thorough introduction to using Python in ArcGIS and a great way to start learning how to automate the sometimes tedious geoprocessing tasks that we are all called upon to do. This book would be a fantastic addition to any GIS professionals’ bookshelf.
ArcGIS 10.2 is scheduled to be released soon. The exact date has not been published yet, but based on past experience it is likely be soon after the Esri User Conference in July. Many of us have a significant investment in Esri’s ArcGIS Platform, which often includes custom and third party applications that can make the migration process challenging. So what can you expect with ArcGIS 10.2?

eGIS Associates is an Esri Business Partner and has had an opportunity to evaluate the pre-release of ArcGIS 10.2. It includes a number of improvements for the Desktop, Server, Mobile and Online product suite. Esri has added several new Geoprocessing tools, furthered Python integration, released new extensions for ArcGIS Server, improved CAD data support (2013 DWG) and more. One of the biggest enhancements for the ArcGIS 10.2 release is the “Portal for ArcGIS” as a core product. This will allow you to deploy ArcGIS Online functionality behind your own firewall.

ArcGIS for Desktop
While Esri has been putting more and more focus on enterprise, mobile and cloud technologies, many users still heavily rely on ArcGIS for Desktop as their primary production platform. They are curious to know what has Esri done to improve their Desktop experience with the release of 10.2?

General Interface
The interface for 10.2 largely remains unchanged from 10.1. Upon initial install and launch, you will not really see any difference.

The lack of changes in the interface between 10, 10.1 and 10.2, should reduce the learning curve often associated with software upgrades.

You will notice a few changes in ArcCatalog and the Catalog Window. ArcGIS 10.2 incorporates more integration with ArcGIS Online and the new Portal for ArcGIS. Not only can you add data layers from ArcGIS Online, but also you can easily access ready-to-use services. Many of these ready-to-use services require a subscription to ArcGIS Online to take full advantage of their functionality.

Compatibility
One of the biggest concerns when considering upgrading from one version to another is compatibility. When users upgraded to ArcGIS 10, the new map documents and geodatabases they created were not compatible with 9.3. Likewise, when users upgraded to 10.1, new maps and geodatabases...
were not compatible with version 10. The issue of compatibility has always caused problems for GIS organizations, whether large or small.

We are happy to report this will not be a problem for those upgrading to ArcGIS 10.2. Maps, geodatabases, globes, and scene documents created in 10.2 will be compatible with 10.1. There will be no need to Save a Copy for use with past versions. This should make the upgrade decision and process easier for everyone.

For those that need to work with CAD data, 10.2 will support the new 2013 DWG from AutoCAD. Sadly, we do not think they will extend this support to 10.1 or 10.0, but you never know.

Esri has also added or extended support for several database formats including Netezza 7.0, INZA 2.5, PostgreSQL 9.2, Teradata and SQLite.

Geoprocessing Tools
Esri has added several new geoprocessing tools to 10.2. Many of them will prove to be very useful.

Spreadsheets to Tables
One of the new toolsets they have added, which many users will find extremely useful, is the new Excel toolset. This new addition to ArcToolbox’s Conversion toolbox, includes two tools to convert Excel spreadsheets to a table and a table to a spreadsheet.

These tools will help overcome the issue of Microsoft Excel’s inability to save to a DBF table.

New Raster Tools
For those that work with rasters, several new geoprocessing tools have been added in 10.2. They include: Compute Pansharpen Weights, Merge Mosaic Dataset Items, and Split Mosaic Dataset Items. These new tools are located in Data Management Tools > Raster.

The Computer Pansharpen Weights will calculate an optimal set of weight values for the inputs. This weight value can then be used by other tools to generate results. This tool works in all licensing levels of ArcGIS for Desktop.

The Merge Mosaic Dataset Items merges multiple items together into a single item. You may use a query or selection to specify which items will be merged. No more than 1,000 items can be merged at one time. If that number is exceeded then a second merged item is created. This tool requires Standard or Advanced license levels of ArcGIS for Desktop.

The Split Mosaic Dataset Items tool basically reverses the Merge Mosaic Dataset tool. It splits out items that were merged into separate items. As with the Merge Mosaic Dataset Items tool, you can use a query or selection to determine which items are split. It also requires Standard or Advanced licenses levels of ArcGIS for Desktop.

Creating Mailing Labels
It is not uncommon for the final results of a selection or analysis to be the creation of a mailing list. In past versions of ArcGIS this required a multi-step and application process. The Reporting Wizard in ArcGIS 10.2 now has the option to create Mailing Labels. Esri has already preloaded many commonly used templates. Users may add their own templates as well.

Other enhancements or new tools
Esri has made many other enhancements to ArcGIS for Desktop, including the extensions. Some of these include:

1. New JSON toolset which allows conversion of features to and from a JSON representation. JSON stands for JavaScript Object Notation. This is a light weight text based method for sharing GIS data between ArcGIS and other platforms. JSON is not language specific, which means most programming languages can be used to create applications that access JSON data – including Python, C#, JavaScript and more. These tools work in all licensing levels of ArcGIS for Desktop.

2. Multipatch to Raster tool converts a Multipatch dataset to a raster surface. This tool works in all licensing levels and does not require an extension.

3. There is a new Archiving toolset in ArcToolbox that contains tools to enable and disable the archiving of feature classes, feature datasets or tables stored in an SDE geodatabase. These tools do not work with personal or file geodatabases.

4. The GeoTagged Photos to Points tool, located in Data
Management Tools > Photos, has been enhanced to extract azimuth direction from devices that capture it. Direction is stored as a number between 0 and 359.99.

5. A new Optimized Hot Spot Analysis tool has been added to the Spatial Statics Toolbox. This new tool creates a new feature class that identifies statistically significant areas based on the weights or values of the inputs. The inputs can be points or polygons. This tool is similar to the Hot Spot Analysis tool but has been simplified to produce optimized results. It works with all licensing levels of ArcGIS for Desktop.

These are just a few of the enhancements Esri has made to ArcGIS for Desktop 10.2 that we felt were noteworthy. There are many more that will be useful to those using extensions and/or working within an enterprise environment.

License Manager
ArcGIS 10.2 requires a new version of License Manager. The new license manager will support licenses for ArcGIS versions 9.3 to 10.2, so you can still employ older versions wherever necessary. Also, your ArcGIS 10.1 license should work with 10.2 as long as you are using the new 10.2 license manager. We did not see any new functions or enhancements in the new license manager so we can only assume that this release fixes issues in the previous version.

System Requirements
These have not changed much from what was recommended for ArcGIS 10.1. Hardware specifications have not changed at all; however, more RAM and a more powerful processor is always better. We prefer having a separate video card with a processor and RAM that is not shared by other processes.

The same operating systems are supported as with the prior release. Mac and Linux are still not supported for Desktop. ArcGIS Desktop is still primarily a 32 bit application, but there is a patch for 64 bit geoprocessing that you can install. It is a separate installation from the main install for ArcGIS 10.2.

Internet Explorer 7 or above is still required to install ArcGIS for Desktop – and that’s kind of funny since ArcGIS Online, ArcGIS Explorer Online and other Esri apps all run better in other web browsers such as Chrome or Firefox.

Lastly Microsoft .NET framework 3.5 SP1 is also required for the install of ArcGIS for Desktop.

Conclusions
ArcGIS for Desktop 10.2 (we have not had a chance to look at Server yet) appears to represent more of a bug fix and minor release than the big changes that ArcGIS 10 and 10.1 introduced. It still adds many new improvements that make it a worthy release. For most, the ability to read a 2013 DWG, the new Excel toolset and the mailing labels will make upgrading an easy choice.

Upgrading to 10.2 should be much simpler for most organizations. The learning curve for Desktop will be much less than what we experienced moving from 9.3 to 10.1, then moving to 10.2 should be a breeze. Since ArcGIS 10.1 and ArcGIS 10.2 can read, edit, and create compatible data files, you can take it for a test drive while others in your organization are still using 10.1. This should make the upgrade less stressful at the Desktop level.

All in all, ArcGIS for Desktop 10.2 seems to be a winner.
GIS & 9-1-1...
Location is more than an address.

The URISA/NENA Addressing Conference has been re-engineered for 2013 and we’re pleased to introduce the Locating The Future Conference taking place November 3-6 in St. Louis, Missouri.

The conference is organized by a volunteer committee of URISA and NENA members (with staff support for all logistical matters).

Conference Participation
Presentations - The conference is developed through a peer review of abstracts received through the Call for Presentation Proposals. Start thinking about the ideas, research, case studies that you would like to share at the conference.

Submissions are invited in several formats to fit both your topic and presentation style:
- Individual Presentation
- Complete Interactive Session
- Panel Discussions
- IGNITE Presentation

To be considered:
- Prepare an abstract (title and a brief description of your proposed presentation).
- Select your preferred presentation format.
- Submit via the online abstract form by July 19, 2013

Members of the Locating the Future Program Committee will conduct a peer review of submissions received through the Call for Presentations and will develop the program based upon those submissions.

Presentation Ideas to Consider
The Locating the Future Conference Committee welcomes your presentation ideas and has proposed the following list of suggested topics for your consideration. (Note that all abstracts received will be reviewed and considered for the conference program regardless of the list below...these are just suggestions.)

Addresses in the Future
- Addressing concepts – How do people read their addresses?
- Generational expectations of map/address data. How do new generations deal with addresses or read maps? Digital maps...
- Web based addressing applications. How to get addresses out to the users in an enterprise via the web or new alternative services?

Address Technology
- Baselines / Centerlines
- Database design? Tools to create address databases for everyone
- Site structure location (address point) & how to show it in a GIS
- Enterprise wide GIS and Addressing/ Enterprise wide address repositories
- How is the MSAG going to work in a point based system? What is it going to become?
- 911 mapping solutions – CAD/NG911 and mapping integrations. Look at CAD vendors
- Special Purpose Addressing
  - Occupancy and alternative addressing
  - Pseudo addresses – Mile posts (highways, parks, trails, beaches, campus situations)
  - Addressing schemes – forensic addressing
  - Military Bases

The Business of Addresses
- The economics of Addressing – how to save or make money with good addresses?
- Broadband-how does it relate to mapping? Addresses to support broadband
- Broadening your services (GIS/Addressing as a service)

Working with Address Standards
- URISA/FGDC Address Standard
- NENA Standards on GIS Data model and Site Structure models
- NENA Address Standard
- Pushing requirements from the local to the state level – data sharing in an enterprise environment.
- Changing paradigms in 911/GIS.

Visit http://www.urisa.org/addressing/2013stlouis for conference details, sponsorship opportunities and the abstract submission form. Abstract submissions will be accepted until July 19.

Submitted by: Peter Croswell, Croswell-Schulte IT Consultants, pcroswell@croswell-schulte.com

Summary Report:
URISA was invited to participate in the 2013 “National Interests Panel” for review of ongoing Earth Science satellite missions. These are specialized satellite missions, all of which will soon be or are already passed their planned operating dates and are being supported in extended mode. The purpose of this review has been to gather information from a wide array of individuals and organizations that have used or which have in interest in the data from these missions. The specific missions include: ACRIMSAT, CALIPSO, GRACE, QuikSCAT, TRMM, Aqua, CloudSat, Jason-1, SORCE, Aura, EO-1, Jason-2/OSTM, Terra. A brief description is provided below and hyperlinks are provided if you would like to get more information about them. These missions focus on the gathering of information on atmospheric, ocean conditions, land cover, and sun radiation measurements useful for examining climate change, land cover trends, and related global variables. Some satellites also provide operationally useful information for weather/climate forecasting, disaster planning and monitoring, and other uses. One of the missions (GRACE) measures precise Earth mass and gravity variations on the globe—useful in a more precise measurement of the Earth’s geoid—the basis for adjustments to the North American vertical and horizontal datums (NAVD, NAD) which the National Geodetic Survey and USGS are involved.

Peter Croswell was URISA’s representative on this Panel which culminated in meetings with the full panel in Washington DC, April 9-11. Pete was one of several professionals that represented Federal agencies, selected professional associations, and some other organizations. Below is a listing of the Panel participants and assignments for lead role in review of the different missions:

Pete’s prep work, during several weeks before the Panel meeting included:
• Review of detailed proposals (prepared by the individual satellite mission science teams) for continuing the collection and analysis of data from the missions for additional years after FY 2013.
• Collection of comments from URISA members about use or opinions on the application and value of these missions

Fourteen URISA members provided comments about the different satellite missions. It turns out that very few URISA members have experience with data from these missions—not too surprising since the missions did not include satellites with which members are more familiar (Landsat and other moderate to high resolution land imaging missions). But the data from most of these satellites and the ongoing research and operational use is of direct or indirect value to many organizations represented by URISA members—particularly providing information on short-term and longer term climate change and air quality modeling

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and all its impacts and use in planning (water availability, sea level rise, land cover changes). In addition, there is direct short-term operational value for emergency management planning and disaster response (fires, flooding). Makes me think all of us should learn a little more about these missions.

At the meetings on April 9-11, Pete actively participated in discussions and led the reporting for his assigned mission ACRIMSAT. The NASA representatives were complimentary of our role as were the other Panel participants.

**NASA SATELLITE MISSIONS:**

**ACRIMSAT**
(http://acrim.jpl.nasa.gov/)
(ACRIM) I instrument. ACRIMSAT, along with several other missions is collecting a continuous, long-term record of solar irradiance (energy reaching the Earth from the Sun) and variations over time which provides important data for modeling climate change.

**Aqua**
Aqua is a major international Earth Science satellite mission centered at NASA. Launched on May 4, 2002, the satellite has six different Earth-observing instruments on board and is named for the large amount of information being obtained about water in the Earth system from its stream of approximately 89 Gigabytes of data a day. The water variables being measured include almost all elements of the water cycle and involve water in its liquid, solid, and vapor forms. Additional variables being measured include radiative energy fluxes, aerosols, vegetation cover on the land, phytoplankton and dissolved organic matter in the oceans, and air, land, and water temperatures.

**Aura**
A mission dedicated to the health of Earth’s atmosphere. Launched on May 4, 2002, the satellite has six different Earth-observing instruments on board and is named for the large amount of information being obtained about water in the Earth system from its stream of approximately 89 Gigabytes of data a day. The water variables being measured include almost all elements of the water cycle and involve water in its liquid, solid, and vapor forms.

**CALIPSO**
CALIPSO provides the next generation of climate observations, drastically improving our ability to predict climate change and to study the air we breathe. the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation (CALIPSO) spacecraft studies the role that clouds and aerosols play in regulating Earth’s weather, climate and air quality. Launched in 2006 with CloudSat

CloudSat’s cloud-profiling radar is 1,000 times more sensitive than typical weather radar and can detect clouds and distinguish between cloud particles and precipitation. Launched in 2006 with the CALIPSO satellite.

**Earth Observing-1**
(http://eo1.gsfc.nasa.gov/)
As the first New Millennium Program Earth Observing Mission, EO-1 has validated advanced land imaging and unique spacecraft technologies. EO-1 has validated a multispectral instrument that is a significant improvement over the Landsat 7 ETM+ instrument; has validated a hyperspectral land imaging instrument and the unique science that can be performed with hyperspectral data.

**GRACE**
(http://www.nasa.gov/mission_pages/Grace/index.html)
Second mission under the NASA Earth System Science Pathfinder (ESSP) Program in May 1997. Launched in March of 2002, the GRACE mission is accurately mapping variations in Earth’s gravity field. Designed for a nominal mission lifetime of five years, GRACE is currently operating in an extended mission phase, which is expected to continue through at least 2015.

**Jason 1**
(http://www.nasa.gov/cners/jpl/missions/jason.html)
Jason-1 is the first follow-on to the highly successful TOPEX/Poseidon mission that measured ocean surface topography. It is an oceanography mission to monitor global ocean circulation, study the ties between the oceans and atmosphere, improve global climate forecasts and predictions, and monitor events such as El Niño conditions and ocean eddies.

**Jason 2**
(http://www.nasa.gov/mission_pages/ostm/overview/index.html)
The Ocean Surface Topography Mission (OSTM)/Jason-2 is an international satellite mission that will extend into the next decade the continuous climate record of sea surface height measurements begun in 1992 by the joint NASA/Centre National d’Etudes Spatiales (CNES) Topex/Poseidon mission and continued in 2001 by the NASA/CNES Jason-1 mission.

**QuikSCAT**
(http://science.nasa.gov/missions/quikscat/)
QuikSCAT mission is intended to record sea-surface wind speed and direction data under all weather and cloud conditions over Earth’s oceans. QuikSCAT was initiated as a “quick recovery” mission to help reduce the ocean-wind vector data gap created by the loss of the NASA Scatterometer (NSCAT) on the Japanese Advanced Earth Observing Satellite (ADEOS) mission.

**Solar Radiation and Climate Experiment (SORCE)**
(http://lasp.colorado.edu/sorce/index.htm) - The Solar Radiation and Climate Experiment (SORCE) is a NASA-sponsored satellite mission that is providing state-of-the-art measurements of incoming x-ray, ultraviolet, visible, near-infrared, and total solar radiation. The measurements provided by SORCE specifically address long-term climate change, natural variability and enhanced climate prediction, and atmospheric ozone

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and UV-B radiation. These measurements are critical to studies of the Sun; its effect on our Earth system; and its influence on humankind. The SORCE spacecraft was launched on January 25, 2003.

Terra (http://www2.hawaii.edu/~jmaurer/terra/) - Terra is a multi-national, multi-disciplinary partnership between the U.S., Canada and Japan that is an important part of helping us better understand and protect our home planet. Terra collects data about the Earth’s biogeochemical and energy systems using five sensors that observe the atmosphere, land surface, oceans, snow and ice, and energy budget. Each sensor has unique features that enable scientists to meet a wide range of science objectives. The five Terra onboard sensors are: a) ASTER, or Advanced Spaceborne Thermal Emission and Reflection Radiometer, b) CERES, or Clouds and Earth’s Radiant Energy System, c) MISR, or Multi-angle Imaging SpectroRadiometer, d) MODIS, or Moderate-resolution Imaging Spectroradiometer, d) MOPITT, or Measurements of Pollution in the Troposphere.

Tropical Rainfall Measuring Mission (TRMM) (http://trmm.gsfc.nasa.gov/) - TRMM is a joint mission between NASA and the Japan Aerospace Exploration Agency designed to monitor and study tropical rainfall. TRMM is a research satellite designed to help our understanding of the water cycle in the current climate system. By covering the tropical and semi-tropical regions of the Earth, TRMM provides much needed data on rainfall and the heat release associated with rainfall. It will not single-handedly provide the solution to the climate change debate - it will, however, contribute to our understanding of how clouds affect climate and how much energy is transported in the global water cycle. In coordination with other satellites in NASA’s Mission to Planet Earth, TRMM will begin the process of understanding the interactions between water vapor, clouds and precipitation that is central to regulating the climate system.

Call for Volunteers to Update the FGDC United States Thoroughfare, Landmark, and Postal Address Data Standard

URISA, in conjunction with NENA (the National Emergency Number Association), is calling for volunteers to assist with an update to the FGDC United States Thoroughfare, Landmark, and Postal Address Data Standard.

URISA’s Address Standard Working Group (ASWG), a collaboration of volunteers from over 50 federal, state, tribal, local and private organizations, was convened in 2005 to draft an address data standard for submission to the Federal Geographic Data Committee (FGDC). That task culminated in February 2011 with the formal endorsement of the United States Thoroughfare, Landmark, and Postal Address Data Standard by the FGDC. The US Census Bureau is the maintenance authority for the Standard.

Since the endorsement in 2011, some issues and problems with the current version of the Standard have been brought to light, and opportunities for collaboration have been identified to improve the standard.

Under the auspices of the US Census Bureau, the ASWG is reconvening to draft a revision to the current version of the Standard to:
- Correct typos, errors and omissions in the standard
- Make adjustments to improve and ease the implementation and usage of the standard
- Improve its coordination with other national and international standards
- Correct any issues that have arisen due to implementation of the Standard

The ASWG is aware that agencies, entities, and individuals have made significant investments in the current version of the Standard. To protect their investments, the revision will:
- Be backward compatible with the current version of the Standard
- Not impose hardship on those who have already started or completed implementation

If you have professional or academic expertise in address or information exchange systems, you are encouraged to volunteer by sending an email to Keri Brennan at URISA Headquarters (kbrennan@urisa.org) by Monday, July 15.

The full version of the current FGDC-endorsed standard is available online.
Welcome New URISA Members

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