Pushing the Limits on Vertical Accuracy: Cause & Effect

By Ron Hoffmann, President, and Brian Mayfield, Director of Proposals/GIS Mapping Scientist, Surdex Corporation

ISSUES AND ANSWERS—URISA News has always tried to encourage give-and-take on issues that affect the systems and jobs of members. The following article was submitted and raises some questions about selecting vendors and writing specifications for collecting data for development of a map base. URISA is not an aerial photography association, but we do reach a large number of people who are not experts but still must make decisions about purchasing or developing basic airphoto data. URISA is not taking a position on the substance of the article, and would like to receive a response from those who are in a position to comment. Have you purchased data using the methodologies discussed? What were the results? Have people been faced with the dilemma of purchasing photography and had to make a decision of how to proceed? What did you choose? Why? Has it worked? Sharing information is what URISA is all about.... Dan Parr, Editor

In June of 1997, John Thorpe of Analytical Surveys, Inc. posed the question “Two foot contours from 1”=800’ photography: Are we fooling ourselves or worse still, are we fooling our clients?” Five years later, it appears that both are still happening. It is not uncommon, especially in the Midwest, for a client to request 2’ contours from 1”=833’ scale photography; nor is it uncommon for a photogrammetric vendor to propose to acquire that scale of photography to produce 2’ contours. Recently, Surdex conducted a series of tests, proving to ourselves that 2’ contours cannot be accurately modeled using 1”=833’ scale aerial photography. The crux of this article focuses on why this trend continues, what the effects are, and how it can be prevented.

The Cause

The biggest reason vendors and clients alike elect to “push the envelope” is to achieve a lower cost. It is slightly less expensive to acquire 1”=833’ scale aerial photography than to acquire 1”=660’ or 1”=700’ scale aerial photography, both of which have long been considered a standard for 2’ contour mapping. While the photography is only slightly less expensive to acquire, the real savings comes during the remainder of the photogrammetric production process. The higher altitude (1”=833’ photo scale) results in fewer frames of photography to acquire, scan and aerial triangulate. Most importantly, however, it results in fewer stereo models to set up, which drives the cost of the 2’ DTM (Digital Terrain Model) collection down.

1”=833’ photography produces 37% fewer stereo models than 1”=660’ photography and 29% fewer stereo models than 1”=700’ photography. Vendors want to remain competitive and clients want to save money. Everybody wins, right?

Another reason for accepting this method of acquisition is its strong correlation to the Public Land Survey System (PLSS). In his article, Thorpe mentioned that the use of 1”=833’ NCS aerial photography was a “spin-off” of the PLSS. When coupled with a Forward Overlap (FOL) of 65% (60% is the photogrammetric standard but 65% is sometimes used for section-based aerial photography acquisition), the aerial camera exposes images at a 1/2 mile frequency. That rate of exposure fits quite nicely into Section-based photography acquisition since a PLSS section is approximately 1 mile in both directions.

Another common reason for using section-based photography is historical. Prior to the adoption of using ABGPS (Airborne Global Positioning System) as a means to densify ground control, the photogrammetrists were forced to place a ground control point every second stereo model when extracting a DTM surface for 2’ contour modeling. Those control points were placed in the sidela (a.k.a strip-ties) areas of the overlapping aerial negatives. Since recovery, targeting and surveying of ground control is more easily accomplished in public ROW areas, flying section-based photography lends itself to placing control points on roads that are section lines. Obviously, the advent and adoption of ABGPS as a common practice in the photogrammetric industry has decreased the need for ground-based control in every second stereo model. That also eases the recovery, targeting and observation of ground control exercise, allowing the photogrammetrist to place control points more selectively and without relying on section roads as a reference.

continued on page 3
Important URISA Dates to Remember

June 19–21, 2002
IT/GIS in Public Works
Pittsburgh, Pennsylvania

July 21-23, 2002
PPGIS: 1st Annual Public Participation GIS Conference
Rutgers University, New Brunswick, New Jersey

August 11-13, 2002
Street Smart & Address Savvy Conference
Portland, Oregon

October 26-30, 2002
URISA’s 40th Annual Conference
Chicago, Illinois

URISA Headquarters
1460 Renaissance Drive, Suite 305
Park Ridge, IL 60068
Phone: 847-824-6300
Fax: 847-824-6363
info@urisa.org
http://www.urisa.org

URISA Staff
Bill Gentes
Executive Director
bgentes@urisa.org

Wendy Francis
URISA NEWS Production Manager
wfrancis@urisa.org

Daniel Parr
URISA NEWS Editor
dan@danparr.com

Article submissions, calendar items and industry news should be sent to the attention of Wendy Francis.

URISA Board

President
Peirce Eichelberger
peichelberger@chesco.org

President-Elect
Martha Lombard
mlombard@spatialfocus.com

Past-President
Lyna Wiggins
lyna@rci.rutgers.edu

Treasurer
Cindy Domenico
cdbas@co.boulder.co.us

Secretary
Dianne Haley
Dianne.Haley@gov.calgary.ab.ca

Board of Directors
David Edwards
dre@co.clark.nv.us

Bruce Joffe
Gis.consultants@joffes.com

Susan Johnson
sjohnson@ci.charlotte.nc.us

Zorica Nedovic-Budic
budic@uiuc.edu

Anne Payne
apayne@co.wake.nc.us

Hilary Perkins
Hilary.Perkins@jacobs.com

Ed Wells
ewells@telerama.com

Have you visited the URISA Website lately?
www.urisa.org
The Effect

First it should be stated that each step of the photogrammetric mapping process is slightly destructive and adds error into the final product accuracy. The vertical accuracy of 2’ contours is not affected solely by the photo scale. Other systematic errors such as the forward overlap, ground control used, the aerial triangulation solution and the observational accuracy of the stereoplotter operator are introduced into the final product accuracy. Those systematic errors combined with the high photo scale compound the ability to accurately model 2’ contours from higher altitudes of photography, like 1”=833’.

Decreasing the photo scale increases the vertical accuracy by an amount equal to the percent change in photo scale. Thus, 1”=833’ photo scale is 19% less accurate than 1”=700’ photo scale and 26% less accurate than 1”=660’ photo scale. Increasing the FOL (from 60% to 65%) decreases the vertical accuracy in a non-linear fashion (i.e. it becomes increasingly less accurate as the FOL increases). That is a function known as the “air base”. The air base is essentially the distance between adjacent photo centers as constructed in a stereo model.

The following diagram illustrates the “air base” or distance between photo centers at forward overlaps of 60% and 90%. Notice as the airbase decreases, the vertical distance (dz) increases. That is producing a loss in vertical accuracy. As the air base approaches zero (0), the vertical accuracy becomes undefined.

The following table (Table 1) and its graphical portrayal illustrate the calculated increases in vertical error as the FOL increases. This is calculated from standard stereoscopic geometry and the flying height for 1”=833’ scale aerial photography.

Taking all factors into account (photo scale and FOL differences), Table 2 illustrates approximately differences in accuracy relative to the baseline scale of 1”=700’ using a 60% forward overlap – we would consider this to be standard for 2’ contour mapping to meet the National Map Accuracy Standards (NMAS).

The Solution

Some mapping projects do lend themselves to using 1”=833’ photography for 2’ contours. If accuracy standards for a given project are less than the ASPRS (American Society for Photogrammetry and Remote Sensing) Class 1 standards or NMAS, then it is possible to achieve an acceptable product using conventional control – not ABGPS.

If you are in the middle of a mapping project and your vendor is using 1”=833’ photo scale aerial photography to produce 2’ contours, use technology to your advantage. The advent of survey-grade GPS receivers and the number of satellites in our constellation at any given moment, make field checks and topographic profiling much more affordable than in years past.

Find a standard and stick with it. Surdex works regularly for the US Army Corps of Engineers, which has developed a highly regarded set of accuracy standards for the mapping

### Table 1

<table>
<thead>
<tr>
<th>flying height (ft AGL)</th>
<th>forward overlap %</th>
<th>film base (mm)</th>
<th>air base (ft)</th>
<th>per mm of parallax dZ/dx (ft/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000</td>
<td>50</td>
<td>115,000</td>
<td>3758.170</td>
<td>43.478</td>
</tr>
<tr>
<td>5000</td>
<td>60</td>
<td>92,000</td>
<td>3006.536</td>
<td>54.348</td>
</tr>
<tr>
<td>5000</td>
<td>65</td>
<td>80,500</td>
<td>2630.719</td>
<td>62.112</td>
</tr>
<tr>
<td>5000</td>
<td>67</td>
<td>75,900</td>
<td>2480.392</td>
<td>65.876</td>
</tr>
<tr>
<td>5000</td>
<td>70</td>
<td>69,000</td>
<td>2254.902</td>
<td>72.464</td>
</tr>
<tr>
<td>5000</td>
<td>80</td>
<td>46,000</td>
<td>1503.268</td>
<td>108.696</td>
</tr>
<tr>
<td>5000</td>
<td>90</td>
<td>23,000</td>
<td>751.634</td>
<td>217.391</td>
</tr>
<tr>
<td>5000</td>
<td>99</td>
<td>2.300</td>
<td>75.163</td>
<td>2173.913</td>
</tr>
</tbody>
</table>

Constants are Focal Length = 153 mm (6”); Film Width = 230mm

### Table 2

<table>
<thead>
<tr>
<th>NCS @ FOL</th>
<th>Altitude</th>
<th>FOL</th>
<th>Total Error Increase (90%)</th>
<th>For 2’ Contours</th>
<th>Resultant Contour Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 @ 60%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.0’</td>
<td>2.00’</td>
</tr>
<tr>
<td>833 @ 65%</td>
<td>19%</td>
<td>14%</td>
<td>33%</td>
<td>1.33’</td>
<td>2.66’</td>
</tr>
<tr>
<td>875 @ 67%</td>
<td>25%</td>
<td>21%</td>
<td>46%</td>
<td>1.46’</td>
<td>2.92’</td>
</tr>
</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Contour Interval (ft)</th>
<th>ASPRS Class I</th>
<th>NMAS</th>
<th>ASPRS Class II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>1”=167’</td>
<td>1”=175’</td>
<td>1”=183’</td>
</tr>
<tr>
<td>1</td>
<td>1”=333’</td>
<td>1”=350’</td>
<td>1”=367’</td>
</tr>
<tr>
<td>2</td>
<td>1”=667’</td>
<td>1”=700’</td>
<td>1”=733’</td>
</tr>
<tr>
<td>4</td>
<td>1”=1,333’</td>
<td>1”=1,400’</td>
<td>1”=1,467’</td>
</tr>
<tr>
<td>5</td>
<td>1”=1,667’</td>
<td>1”=1,700’</td>
<td>1”=1,833’</td>
</tr>
</tbody>
</table>
Over the last few months, URISA Officers, Certification Committee members and I have been invited to many GIS-related meetings throughout North America to discuss URISA’s certification initiative. We have crisscrossed the country giving presentations in; Anchorage, Seattle, Baton Rouge, Atlanta, Dallas, Tampa, Portland (OR), Detroit, Rutgers University, Nashville, Pittsburgh, Sacramento, Jacksonville, Philadelphia, Boston, Edmonton, and Green Bay. I estimate we have presented a basic overview of the URISA proposal to over 4,000 people.

The reception we have received has been quite positive. The most common question that I have been asked is how are we going to handle the actual certification process. URISA has spent months formulating an answer and the basics are as follows:

- URISA is developing an industry-wide certification program that will be run by an independent non-profit organization. The new organization will be called the GIS Certification Institute (GISCI). GISCI will allow all GIS organizations a voice in certification if they choose to participate. We have approached ASPRS, GITA, ASCM and others to participate. URISA recognizes that this needs to be an industry-wide coalition to make certification successful.

Organizational Objectives for the GISCI

- The overall goal of the GISCI is to promote the professional standards, practices and ethics of the GIS industry,
- To improve the performance of GIS professionals by encouraging participation in a continuing program of professional growth and development,
- To foster professional contributions to the field of GIS,
- To encourage self-assessment by offering guidelines for achievement in GIS,
- Certify a substantial share of the GIS industry, making the GISCI a powerful voice and tool for GIS Professionals,
- Establish a fund that will give back grants to related industry organizations to develop educational programs that compliment the certification effort.

Two questions that always get asked after I explain all of this are:

- When can I get certified?
- And how much will it cost?

Both questions are not fully answerable right now, but the URISA certification committee intends to roll out the refined certification program for public review and comment at the URISA Annual Conference in Chicago this October. The program will also be tested in a series of concurrent pilot programs by a yet to be determined URISA Chapters. How long these pilot programs will last is undetermined but it should be a relatively short timeframe. The second question on costs has also not been determined, but I can say the cost will be as fair and equitable as possible. The goal of the GISCI is not to be profit-driven but rather service-driven. As the program firms up, the actual cost will become clearer.

Lastly, I would urge everyone to go to visit our website www.urisa.org and review the documentation we have provided on the points you need to qualify for in order to be certified. We also encourage feedback, so please speak your mind!

International Geographic Information Foundation (IGIF)


Visit URISA at one of these upcoming conferences:

- Intergraph’s Geospatial World in Atlanta
- ESRI User Conference in San Diego

Have you visited the URISA website recently?

The latest details for the GIS Certification Program are included.
President’s Column

Not So Miscellaneous Ramblings—GIS Model Projects

by Peirce Eichelberger, URISA President, GIS Manager, Chester County, PA, peichelberger@chesco.org

What constitutes a “Model GIS Program”? How would you describe or benchmark success? How do we even measure success or stability? Can a project survive with the loss of key technical or management talent? How about the loss of an elected “patron” who ran interference, so GIS could happen? Sounds like this column will contain more questions than answers!

Recently my County Administrator asked me, “How well are we doing with GIS? Are we leading, trailing, or are we somewhere in between?” For once I was a bit speechless, since I hadn’t really thought much about benchmarking our GIS. The administrator sat in on a presentation where I had compared staffing levels with some nearby Counties and showed that since we had taken a more integrated approach—we were doing GIS with really only one or two additional people—that hit home. One of my County Commissioners said to me, “If you can keep improving the functioning of government with advanced automation, like GIS, you will get whatever you need!” I had a visitor touring our facility recently and he commented, “Wow, it is amazing all the different things you are doing with GIS,” and I responded, “I’m not sure we are bleeding edge with anything, yet I do think that we are making substantial progress on many fronts.”

Here are some possible “benchmarks”—let me know what you think (peichelberger@chesco.org). I’m biased, and I’m sure I’ve missed many others.

1. The most important GIS users just might be those folks keying in addresses and accessing government records without always looking at a map. These folks may be handling inquiries (perhaps on the WWW). What day is my recycle pick-up? Where do I vote? Is this property in the floodplain? Which ambulance/EMT responds to my home? Can you type in an address on a web based system and reliably access correct records, or do you get “record not found” messages much of the time?

2. Does a GIS “data model” exist outside of the vector map/graphic files? Has GIS impacted government automation at large? Has GIS “enabled” other computerization or are GIS applications still everything working in the “GIS software?” Is there a street name table where all street names are spelled properly and available to all applications? Do people even have to type in a street name or can they pick from a list of values without typing the full name?

3. Is GIS capability on the front counter at several locations throughout your government? Has GIS come out of the back-office? Can staff or citizens use GIS directly without extensive training? Can new functionality be “rolled out” with little additional training? Would a citizen or other non-governmental person understand the benefits of GIS, even in a small or very specific manner (title abstractor, realtor, volunteer fireman, school administrator, etc.)?

4. Is GIS functionality related to large revenue sources? If the government’s budget was cut 15% what would happen to GIS staff? Does GIS functionality allow for better workflow, processing, productivity and more accurate records? Can you measure it? What if the GIS plug were pulled today? Would anyone miss it?

5. Would other departments stand up during a budget hearing or meeting and state, “We can not do our jobs without GIS!”? Do other departments use GIS capabilities on a daily basis? Can GIS be used in ad-hoc ways, quickly and easily, for many beneficial purposes?

6. Is GIS used in life and death situations, like 911 and emergency services? Does it provide “value added?” Would lay managers agree?

Sounds like a great opportunity for a graduate student, etc.? How do you measure success? Let’s start a URISA dialogue...

Pushing the Limits (continued from page 3)

industry. Table 3 illustrates the minimum negative scale (or photo scale) needed for topographic development. The table, which is excerpted from the USACE Engineering and Design Manual for Photogrammetric Production, shows the Contour Interval in Feet and the values that would need to be used to achieve a product accuracy of ASPRS Class I and II as well as NMAS using ABGPS to densify the ground control solution.

Ron Hoffmann, ronh@surdex.com, Brian Mayfield, briann@surdex.com, Phone: 636-532-3427 Fax: 636-537-9638
ESRI® ArcGIS™ is a family of software products that form a complete GIS, built on industry standards that provide exceptional, yet easy-to-use capabilities out of the box.

The software follows standards for user interface design and interoperability. ArcGIS uses the following standard information technology (IT) components: VBA for customization, commercial DBMS for data storage, and TCP/IP and HTTP for networks. The geographic data model supports business logic for versioning and intelligent features.

ArcView®, ArcEditor®, and ArcInfo™ comprise the ArcGIS Desktop products. ArcSDE® and ArcIMS® are application services products.

Key features of ArcGIS include

- Seamless integration with the Internet
- CAD-like editing tools
- High-quality cartography
- Integrated support for metadata
- Multiuser editing of continuous databases

Contact ESRI today.

1-888-621-0886
www.esri.com/arcgis • info@esri.com
Welcome New Corporate & Business Members

Accela
Accela is a leading developer of integrated software solutions for local and state government, including web-based and wireless applications. Accela provides jurisdictions of any size with products and services that reduce workload, increase efficiencies and automate processes, while providing citizens and businesses with more convenient access to government services. Accela is headquartered in South San Francisco, for more information about our products and services please visit our Web site at www.accela.com or call (559) 627-1959 x117.

Contact: Laura Brown  
Accela  
701 Gateway Blvd, Suite 151  
So San Francisco, CA 94080-7009  
T (650) 635-0218  
F (650) 635-1489  
lbrown@accela.com  
www.accela.com

Approved Technologies Company - ATCi
Approved Technologies Company, Incorporated (ATCi) is the developer and provider of a comprehensive, user-friendly address management system. ATCi provides Land Integration Solution (LIS) to assist state and local government agencies. A master address file is created and continuously synchronized with address files and associated codes within the organization by utilizing ATCi’s “DataSpring” and “WorkFlow” methodologies.

ATCi was recently awarded a contract to assist Sedgwick County, Kansas, population 450,000, with the implementation of a county-wide addressing initiative. This plan will build and maintain a good address foundation by integrating GIS with other departments and systems.

Contact: Gordon Slater  
Approved Technologies Company - ATCi  
P.O. 2711  
Shawnee Mission, KS 66201  
(866) 843-2824  
info@ATCi-Solutions.com  
www.atci-solutions.com

Innovative Mapping Solutions, LLC
Innovative Mapping Solutions, LLC (Innovative) is a full-service GIS consulting firm delivering customized geospatial technology solutions to government, energy utilities, and small business. Our services include implementation planning, project management, data conversion, database design, Internet data delivery and hosting, applications development, training, and technical support.

We have gathered a small, select group of experienced GIS professionals who share a common vision of providing high-quality customized service at a reasonable cost. Our strategy is to work closely with our clients as an integral part of the project team. Our approach emphasizes practical innovation and is backed by knowledge and expertise gained from an average of more than 15 years (80 years total) of “hands-on” GIS experience of our consulting staff.

Innovative has the knowledge, experience, and commitment to ensure project success - from planning to implementation to maintenance – on time and within budget.

Contact: James S. Emery, President  
Innovative Mapping Solutions, LLC  
5749 Wheeler Road  
Indianapolis, Indiana 46216  
(317) 377.7119  
Fax (317) 377.4001  
Cell (317) 345.1028

Municipal GIS Partners, Inc.
Municipal GIS Partners, Inc. (MGP) is a full-service consulting firm that was founded to meet the growing needs of small- and medium-size communities in implementing technology and specifically GIS. MGP recognizes that smaller communities face special challenges when implementing technology. MGP provides these organizations with new opportunities for success.

Contact: Thomas A. Thomey  
thomey@mgpinc.com  
Municipal GIS Partners, Inc.  
www.mgpinc.com  
Mobile (847) 366-6235  
Office (262) 654-6470  
Fax (262) 654-5595

continued on page 8
**Systems Design, Inc.**


Established in 1986, SDI's systems migration and deployment expertise spans the aligned disciplines of Planning, Engineering, Permitting, Inspections, and Licensing; those associated with Real & Personal Property Assessment, Tax Billing & Collection, and Utility Billing & Customer Management; in addition to Geographic Information Systems which interface to all.

SDI's comprehensive implementation services incorporate project planning, scoping and management; application fit analysis and customization; data conversion and integration; workflow and report development; systems and database consulting, design and configuration; administrative and end user training; as well as annual technical support. Based in Omaha, the dedicated staff at Systems Design are committed to building long term partnerships with its customers — partnerships based on performance, trust and value.

Contact: Tom Jizba
Systems Design, Inc.
2811 No. 81st St.
Omaha, NE 68134
Phone: (866) 392-2959
Fax: (402) 393-5457
tjizba@sdipartners.com
www.sdipartners.com

---

**Angus Geosolutions Inc. (AGSI)**

AGSI is a geographical information solutions company specializing in GIS solutions development that includes the provision of the following services: Project Management, Data Conversion, Application Development, and GIS Outsourcing. Incorporated in 1993, AGSI has a philosophy of bringing together smaller teams of highly experienced industry/process consultants, developers, technologists, and users with extensive knowledge of the business function and processes. This team approach brings together highly effective people in and organized manner that focuses the team on delivering the project objectives.

Contact: Chuck Palmer
Angus Geosolutions Inc. (AGSI)
116 Guelph St
Georgetown, ON L7G 4A3
CANADA
(905) 873-4130
Fax (905) 873-4428
cwpalmer@agsi.ca
www.agsi.ca

Visit the URISA website for contact information and descriptions of each Corporate and Business Member, http://www.urisa.org/exhibit.htm

---

**Corporate Members**

- Accela
- ATCI
- Atlantic Technologies
- Autodesk
- Ayres Associates, Inc.
- BAE Systems ADR
- Bowne Management Systems, Inc.
- DigitalGlobe
- ESRI
- Federal Geographic Data Committee
- Genesys International Corporation
- Geographic Data Technology, Inc.
- Geographic Technologies Group
- GRW Aerial Surveys Inc.
- Intergraph Mapping & GIS Solutions
- Intermap Technologies
- Kinetic Solutions, LLC
- Kucera International
- Landata GeoServices
- Merrick & Company
- MWH Americas Inc.
- PlanGraphics Inc.
- RamTech Corporation
- Rolta Corporation
- Sanborn Map Company, The
- Schneider Corporation, The
- SDS, Inc.
- Sidwell Company, The
- Space Imaging
- Surdex Corporation
- Taylor Wiseman & Taylor
- URS Corporation

**Business Members**

- Angus Geosolutions Inc.
- Bluegrass GIS Inc.
- Geographic Mapping Consultants
- GIS Planning Inc
- Hartman & Associates
- Innovative Mapping Solutions LLC
- Municipal GIS Partners, Inc.
- Spatial Focus
- System Development/Integration
- Systems Design Inc.

---

**Looking Back Moving Forward**

URISA's 40th Annual Conference
October 26-30, 2002 • Chicago, Illinois

Be sure to vote for 2002-2003 Board of Directors by July 12!
There are only two certainties in life: one of them is taxes. That’s a lot of pressure. Are you certain your property tax data is correct?

HouseDiff

There’s a revolutionary new service to maintain accurate property tax rolls. HouseDiff automatically pinpoints structures that have changed since the last discovery. That means better accuracy and more revenue. You can be certain of that.

The HouseDiff Change Detection Engine overlays existing vector data* and the latest satellite or aerial imagery...

...updates the vector data for future use.

...thematically maps building changes and reports location information for confirmation.

...compares the vector and image data, identifying changes to build area, relative position, and shape.

Hitachi Software Global Technology (HSGT) is a leading software, data, and solution provider for organizations seeking to maximize their potential through spatial information. HSGT solutions combine imagery and vector data products, award-winning automatic vectorization software, and Open GIS Consortium standards. Headquartered in Colorado, HSGT pioneers new technologies and services for customers including governments, utilities, and telecommunications companies.

* For counties that do not have existing building footprints, the HouseDiff service can use up-to-date imagery to create highly accurate vector footprints of buildings.
GIS & CAMA Rolls Into Reno
By Peirce Eichelberger, URISA President

I attended the 6th Annual Integrating GIS & CAMA Conference in Reno, NV in April. It was nice to see near record attendance in a year of tightened travel budgets. I really appreciate the fine turnout from folks west of the Rockies for a URISA event. It was also nice to have quality time with the IAAO leadership (Deborah King, IAAO President, Paul Welcome, President-Elect, and Ed Crapo, Past-President). URISA's relationship with IAAO is truly special. The entire GIS/CAMA conference demonstrates a really neat thing about our specialty conferences. (I am reminded of a book I read in college about Joseph Schumpeter, who described the collision of good ideas and that stronger ideas arose.) When GIS people approach CAMA requirements (or vice versa) a totally different mindset may arise. A solution or good idea may come from someone “who might not know any better!” Sometimes ignorance is bliss...I see the same thing happening with the Street Smart and Public Works conferences. URISA is really onto something here. Just think about all those other intersections out there!

Back to Reno... great sessions and good content throughout. Jack Eichenbaum delivered a knockout keynote address. The exhibit hall was busy and the networking events were well-attended and generated some great discussions. There was quite a bit of interest in remote, and in-the-field, computing methods and technology. The CAMA statistical sessions were well-attended as were most others. The Chester County session continued a neat trend where the GIS and Assessment staff attended and presented together. We described a requirement to locate and identify cellular telephone towers implemented in our GIS. If anyone has any information on the valuation of the towers, please share with us. Cell towers are often located on exempt properties, which continues a trend toward much more complex “sub-parcel” data structures both in CAMA and in the GIS. Look for GIS/CAMA to come to Columbus, Ohio next year.

Dreamers@Night
By Lori Schlotter, President, Colorado Customware, 2003 Conference Co-Chair

A new networking event was introduced this year at the Integrating GIS & CAMA Conference. Dreamers@night, a brainchild of Paul Welcome, IAAO President-Elect, was a starry success. Paul was the Master of Ceremonies in this brainstorming “session” where users were asked to share their Technology Wish Lists.

Not only did vendors leave with valuable information to guide them into future stages of development but each person in attendance left dreaming about how functions within their offices can be accomplished more efficiently.

The highlights of this event included ideas such as placing a tracking chip on all mobile homes; collecting building measurements from accurate imagery; standardizing property attributes; and using a voice actuated data entry system. Other dreamers felt that finding a way to create technology funds, providing an assessor help system (with live analysts on-line) and freedom of information would be the future.

With our first Dreamers@night behind us we are eagerly anticipating another vocal and creative crowd at next year’s Dreamers@night event at the GIS/CAMA Conference in Columbus. Please feel free to send any suggestions for this brainstorming session to loris@coloradocustomware.com.

This year’s GIS & CAMA Social Event took place at Reno’s National Bowling Stadium (known as the “Taj Mahal of Tenpins”). The informal, and fun, atmosphere provided a great opportunity for networking. Ed Crapo, Past-President of IAAO, and Ed Crane, Past-President of URISA and 2002 Conference Chair, had a “ball”!

Mark your 2003 calendar:
Integrating GIS & CAMA
March 30–April 2, 2003 • Columbus, Ohio

Watch your mail in late June for the URISA 2002 Annual Conference Program!
GeoAnalytics, Inc. has launched Varion Systems, a division devoted to software development and value-added reselling of GIS based solutions for Land Management, Asset Management and Web GIS. Paul Braun, President of Varion Systems, manages the new division out of the GeoAnalytics' Chicago office.

Intergraph Mapping and GIS Solutions announced its newest GeoMedia product, version 5.0.

The Open GIS Consortium, Inc. (OGC) announced that Intergraph Mapping and GIS Solutions, has upgraded its OGC membership to the Strategic level - the Consortium’s highest level of membership. Intergraph’s longstanding support of OGC, coupled with this new membership level affirms its strong commitment to geospatial interoperability.

ASPRS has announced the initial results from its 2001 Remote Sensing Industry gross revenue survey, with industry-wide gross revenues estimated at $2.4 billion and growing.

EI Technologies has announced a complete suite of homeland security solutions for small to large size local government and quasi government agencies.

ESRI has announced the availability of ArcGIS 8.2.

Intermap Technologies announced it has acquired certain of the assets and Intellectual Property of Aero-Sensing Radarsysteme GmbH, located near Munich, Germany. The company also announced it has opened a German office to service the broad European community.

The City of Boynton Beach, Florida in conjunction with the Geographic Technologies Group has won the Florida City and County Manager’s Association (FCCMA) Award for Innovation in Communications & Technology for a GIS based Citizen Action System (CAS). This application allows citizens to enter complaints, needs, and inquires via the web. Each incident is tracked until resolution and appropriate city staff are notified via email about each incident. All city staff have access to the application via an Intranet interface.

Earth Resource Mapping has announced the release of the freely available I-Wizard, used to integrate Image Web Server imagery within an ArcIMS 3.1 website.

The first images taken by the High Resolution Geometric (HRG) instruments aboard the SPOT 5 satellite were obtained on Tuesday 7th May. Initial analysis shows that the quality of the data matches the expected technical specifications. The satellite was launched on 4th May at 01:31 GMT. The first images received in Toulouse, France Tuesday at 09:27 GMT were obtained in black and white over the city of Athens, Greece. Using the new processing facilities installed at SPOT Image, a 2.5 m resolution image was produced using two 5 m resolution images sampled according to the Supermode technique. As the commissioning period continues, additional work with ground processing software and systems is expected to produce even higher quality images.

ESRI, along with Compaq Computer Corporation and Citrix Systems, Inc., is offering free homeland security seminars for community officials and leaders to learn about the beneficial implications of GIS software.

LizardTech, Inc. recently announced the latest version of its MrSID Decode Software Development Kit.

DeLorme introduced Topo USA 4.0, the latest version of its mapping software. The software’s most advanced new feature is its split-screen.

Intergraph Mapping & GIS Solutions has initiated a new Homeland Security Network to address local, state, and national infrastructure safety and emergency requirements. The Network, managed by the Intergraph GeoSpatial Users Community, provides a forum for discussion. Intergraph has also announced that its Team GeoMedia program has surpassed 100 members for the Registered Solutions Provider and Registered Solutions Center programs. The international scope for the program has expanded to include Bulgaria, China, Ireland, Norway and Poland.

People News

ASPRS recently honored LH Systems, David Maune, John Baker, Kevin O’Connell, Ray Williamson, and Stanley Morain as recipients of 2002 Outstanding Service Awards. Russell Congalton, a professor of remote sensing and GIS in the Department of Natural Resources at the University of New Hampshire, was recently elected as ASPRS Vice President.

The 2002 ASPRS Fellow Award winners are Charles Finley, John Lyon and Michael Renslow.

Robert M. Scaer, P.E., has been named president of GeoDecisions. Donald J. Cole, has been named a vice president of local government solutions.

PlanGraphics recently announced several new additions to its staff: Vinod Belani has joined the company as a Senior Research Analyst; Mark Gaylord, Michael Wiley and Marcus Brothwell as Senior Systems Analysts; Jeffrey Martus and Jeff Melia as Quality Assurance Specialists; and Bridget Starr as a Senior Consultant.

ORBIMAGE announced the recent appointment of Gary Adkins to the position of Senior Director for Federal and National Security Sales.

Project Awards

The Geographic Technologies Group has won several contracts recently including: a next generation ArcIMS/Active X web browser for Danville, Virginia and Boynton Beach, Florida; GIS needs assessment and implementation planning contracts for Stuart, FL, West University Place, TX and the University of North Carolina at Chapel Hill; and an addressing and data management needs assessment for Roanoke, VA.

The Sidwell Company was awarded a contract by Lee County, Illinois for the creation of countywide digital orthophotography. The company was also awarded a contract by St. Joseph County, Indiana for the creation and implementation of a new uniform countywide permanent parcel numbering system. Allen County, Indiana also selected Sidwell for conversion of the county’s existing zoning maps into a digital format compatible with the countywide GIS currently in development.

Merrick & Company is providing a full range of mapping services to the fastest growing county in Ohio, Delaware County, for the second time. Building upon the original mapping data it created in 1997, Merrick is generating new, highly accurate digital orthophotos as part of the county’s five-year update plan.

Greene County, Georgia also awarded Merrick a multi-year contract for a full range of mapping services.

EI Technologies won a contract to perform strategic planning services for the San Diego Water Authority.

Aiken County, South Carolina is implementing NovaLIS Technologies’ Assessment Office solution to automate the county’s property appraisal and administration practices. Beaufort and York Counties, in South Carolina, also selected NovaLIS to supply Assessment Office. Volusia County, Florida recently selected NovaLIS Technologies’ Land Development Office solution, which is being implemented by 3001, Inc.
Consultant Directory

CONSULTANTS!
Your business card advertisement can be seen here for $50 per issue.

URISA
1460 Renaissance Dr., Suite 305
Park Ridge, IL 60068
Phone: (847) 824-6300
Fax: (847) 824-6363
info@urisa.org, www.urisa.org

GIS planning solutions development
Geographic Technologies Group, Inc
1-800-757-4222 www.geotg.com

URISA Exhibit Opportunities in 2002

IT/GIS in Public Works
June 19-21, 2002
Pittsburgh, PA
Audience: IT/GIS and Public Works Professionals

Street Smart & Address Savvy
August 11-13, 2002
Portland, OR
Audience: 911 & Emergency Management

URISA 2002 Annual Conference
October 26-30, 2002
Chicago, IL
Audience: IT & GIS Professionals in State & Local Government

For more information, contact Wendy Francis at URISA Headquarters,
wfrancis@urisa.org

Mark Your Calendar!
URISA 2002 Annual Conference
40th Anniversary
October 26-30, 2002
Chicago, IL
Hyatt Regency, Chicago on the Riverwalk

Contribute to URISA’s future: encourage a coworker or colleague to join URISA this month!

URISA
Urban & Regional Information Systems Association
1460 Renaissance Drive, Suite 305
Park Ridge, IL 60068

NON-PROFIT ORG.
U.S. POSTAGE
PAID
URISA
To ____________________________  Company ____________________________
Date ___________________________  Job No. ____________________________

Job Description ____________________________________________________________

No. of Pages (Including Cover Sheet) _________

Comments:

You are being sent the following:

<table>
<thead>
<tr>
<th>Description</th>
<th>Date Sent (JL Design)</th>
<th>Date Returned (Client)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First draft</td>
<td>May 28 (PDF 2:30p)</td>
<td>May 29 (fax)</td>
</tr>
<tr>
<td>Draft No. 2 with revisions</td>
<td>May 30 (PDF 10:45a)</td>
<td>May 31 (fax)</td>
</tr>
<tr>
<td>Draft No. 3 with revisions</td>
<td>June 3 (PDF) 10a</td>
<td>June 3 (fax)</td>
</tr>
<tr>
<td>Draft No. 4 with revisions</td>
<td>June 3 (PDF) 1p</td>
<td></td>
</tr>
<tr>
<td>Draft No. 5 with revisions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft No. 6 with revisions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If this is a final proof of your job, carefully review and sign off. NOTE: You should re-review all copy before approving—not just last round of revisions.

Please make the following noted revisions before approval. (Do not sign below if changes need to be made.)

Proof is OK—please go to print.
I have examined this proof for spelling, color breaks, photos, and all other elements I requested. I understand that any errors found at a later time are my responsibility.

For Approved Final Proofs
I have reviewed the final proof of my job and approve it.

Signed ________________________________________________________________ Date __________