



# THE IMAGING & GEOSPATIAL INFORMATION SOCIETY

## ~The Rocky Mountain Compiler~

**Issue 1**

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*Newsletter of the Rocky Mountain Region of ASPRS, serving Montana, Wyoming, Colorado, and New Mexico*

### President's Message

Time is flying by and we are all so busy! Along with the warmer temperatures, the Rocky Mountain Region has had less than normal snowpack in the high country. The dry conditions will place a demand on remote sensing data for before, during and after imagery of wildfires.

**Jeff Young**, our National Director, and I attended the Spring ASPRS conference in Baltimore, including numerous committee meetings. Attendance at any of these committee meetings is not restricted to board members and all are welcome and encouraged to attend. Remember, ASPRS is a society run by volunteers, and we welcome all participation and collaboration from any and all of you.

The Rocky Mountain Region will once again co-sponsor the annual "GIS in the Rockies" Conference this October 9-10. Check regularly with our newsletter and Website for updates of this popular event which will be held at the Cable Center on the University of Denver campus. This year will mark the 26<sup>th</sup> anniversary of the conference, and if last year was any indication, it will be well attended.

Wishing you all success in your Remote Sensing

and Geospatial endeavors. I hope you have a great summer!

Respectfully,  
**Mark Stanton** [mstanton@pixxures.com](mailto:mstanton@pixxures.com)  
**President, ASPRS Rocky Mountain Region**

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### National Director's Report

**"Somewhere there is a Place for us" \***

Over the last four months I have attended several industry events; most recently SPAR in Colorado Springs. As a result of these exposures and several other indicators, I have come to the conclusion that Geospatial is becoming more Spatial where concerns of "place" are becoming dominant and position and location are of less importance to

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institutional information consumers. It seems that position is taken for granted and location is assumed to be good enough. I thought it would be of interest to extend this notion to the use of spatial tools for the administration of major institutions. This concept has been with us for several decades but finally costs are manageable and benefits are obtainable for application from planning and design through facility operation.

The question for ASPRS members is ...”is this a place for us” as geospatial professionals or do we hand our geospatial modeling constructs and legacies to architects and facility engineers?

### **SPATIAL TOOLS FOR THE ADMINISTRATION OF MAJOR INSTITUTIONS -- Revisited (Circa 1988 by Jeffrey M. Young)**

Administrators of major institutions are seeking new tools to aid in the management of geographically dispersed facilities. Typically these centrally-controlled institutions are a collection of several semi-autonomous units such as state prisons, hospitals, and universities. Traditional information processing approaches for these institutions have relied upon Management Information System (MIS) methodologies. Improved spatial information processing tools provide an opportunity for institutional planners, operators, and maintenance specialists to migrate from a non-graphic MIS environment to a spatially-oriented setting. Both Geographic Information Systems and Computer-aided Drafting Systems (CAD) have significant roles in this transition. A model conceptual design of a spatially-related Institutional Information System (IIS) is presented in this discussion. The design is multi-scaled to accommodate the requirements of an institution as a whole, as well as site and building details, for routine operation and maintenance at each location. The IIS conceptual design is structured to support the life cycle of the institutions, i.e. planning, design, construction, and operation and maintenance; including pre-programming, space planning, master planning, resource allocation, staffing, cost analysis, remodeling, rehabilitation, and inventory control.

In the context of this discussion, an institution is any organization established to conduct the business and/or operations of a society or association. These institutions may be private in character; designed for profit or publically supported; being operated for the well-being of a constituency. Institutions rely heavily upon estimates, projections, and forecasts to evaluate facility conditions and function as a part of normal operation. Institutions are the fabric of our nation. These include schools, universities, banks,

religions, insurance companies, health care facilities, prisons, the military, airports, and cultural and historic centers to name a few. We all benefit by well-run institutions and, conversely, we all feel the impact of institutions under stress. All institutions have limited staff, funding, and space resources; and some are confined to a cramped collection of buildings, people, and cars with little room for growth. Under these conditions prudent allocations of staff, budgets, and space is of primary concern along with maintenance of existing buildings, grounds, and infrastructure. As a group, institutions are used for diverse functions; however, most have been built from scratch, are long lived, and are surrounded by ever changing facility uses. Quality information is required to efficiently plan, design, construct, operate, and maintain an institution. Inadequate estimates or projections have contributed to the failure of institutions. The value of map data for facility siting is well established.

Certainly engineering and architectural drawings and specifications are a prerequisite for design and construction. It is a pity that for most institutions the information gathered during planning, design, and construction has not been effectively integrated into operations and maintenance. Perhaps integration may be too ambitious, but some form of data linkage is appropriate. All too many times a facility manager finds it difficult to answer simple questions such as:

- What is the condition of our buildings, structures, and infrastructure?
- What is the total square feet of our institution?
- What is the total value of our institution?
- How can our functional use of space be improved?
- Where can we build and expand?
- What needs to be repaired, renovated, or decommissioned?
- Have these repairs been completed and, if not, when will they be done?
- What are our operation and maintenance costs next year? ... the next five years?

Over time, a facility manager can find himself responding to a series of ad hoc inquiries rather than attending to daily needs of the facilities. He or she may encounter islands of automation in his search for an answer, but in the end some degree of uncertainty and temporal error is present in his response to the questions listed above. The data required to answer those questions may exist, but not in a form for his purposes. Improved information management is now mandated. Long-term institutional data managers, who serve the needs of facility managers and institutional planners, must develop information systems with several attributes, including:

- Large storage capacity with minimum operator intervention required
- Accessibility to a wide range of users
- Flexible archiving and networking
- Automated data management
- Responsiveness to long-term growth requirements and technological improvements
- Security

Computer technology to support all aspects of the life cycle of facilities has been improved and refined to a point where implementing an IIS is practical. Presently most institutions possess a disjointed collection of data, procedures, and computer hardware and software which, when approached by facility managers and institutional planners, has been a source of frustration. Database and intelligent graphic-oriented tools may ease the frustration of these users.

### INSTITUTIONAL INFORMATION SYSTEMS

Institutional Information Systems (IIS) comprehensively provide for the collection, data preparation, storage, management retrieval, analysis, synthesis, and display of data on the institution as a whole; campus sites and surroundings; structures and buildings on campuses; building systems; and equipment within each building and structure. An IIS is an organized collection of data, procedures, personnel, computers, software, and communications. Views of the data within an US can be tabular, graphic or both. An US provides institutional planners and facility managers with a means to receive, sort, retrieve, and transmit information. Information can include region-wide displays with associated data covering several states or detailed inventories of fixed assets within a particular building. Often data on an institution is stored in a variety of media at numerous locations. IIS's can be developed to reduce data lost and unnecessary duplication. In effect, an ISS is a super-information system which is intended to link or loosely couple several spatial and non-spatial, and, graphic and tabular data handling subsystems which include:

- Administration including staffing, financial, inventory control, and purchasing functions
- Asset database
- Facility database
- Infrastructure database
- Maintenance management
- Environmental compliance
- Public affairs and relations
- Real estate acquisition and disposal
- Architectural/engineering planning and design

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- New construction and renovation
- Archiving
- Special purpose subsystems (such as statistical mapping and analysis, environmental monitoring, demographic analysis, capital improvement planning, space planning, security, economic forecasting, historical preservation, and litigation support)

### MODEL IIS CONCEPTUAL DESIGN

The model conceptual design of the US is organized into information tiers (see Figure 1). Each tier is comprised of one or more data element groups which include institution features, building systems, and equipment. This model is intended to be suitable for any of the institutions described earlier. Tiers and data element groups for the ISS are as follows:

- Institution-wide
  - campuses
  - other semi-autonomous locations
- Campus Sites
  - site features and Surroundings
  - utilities
  - structures and buildings
  - other features
- Structures and operations
- Building Systems
  - HVAC
  - instrumentation
  - plumbing
  - power
  - lighting
  - communications
  - other systems
- Equipment - operations
  - HVAC
  - instrumentation
  - plumbing
  - power
  - lighting
  - communications
  - other equipment

I welcome your comments.

**Jeffrey M. Young, National Director**  
[jyoung@lizardtech.com](mailto:jyoung@lizardtech.com)

*\*Reference to "Somewhere ( a place for us) "... composed by Leonard Bernstein with lyrics by Stephen Sondheim, From West Side Story*



## Annual Dinner Report

**National Director Jeff Young** acted as Master of Ceremonies for the evening. He greeted everyone, introduced the 2012 and 2013 Boards, and gave a summary of the past year, which included a growing membership, ASPRS–RMR awards from National, based on membership growth, our Website enhancements, technical tours and co-sponsorship of the GIS in the Rockies Conference).

After dinner we were pleased to welcome **Jon Gottsegen** who serves as the GIS Coordinator for the State of Colorado. Jon shared his background in GIS, starting in New Jersey and transferring across the US, finally landing in Colorado. There was discussion on the collaboration of efforts between state and federal entities regarding data sharing, including new ideas, hurdles, and progress made so far. Next, Student Scholarship winners were acknowledged with a synopsis of research done by this year's awardees. One of them, **Gary Thomas LaVanchy**, a Ph.D. student at the University of Denver, discussed his field work in Nicaragua involving analysis of groundwater and run-off to quantify pollution caused by tourism. Then came the induction of the 2013 ASPRS-RMR Board: New Board members were sworn in by National Director Jeff Young for the 2013 term.

## Upcoming ASPRS Webinars

Registration and Additional Information can be found on the [ASPRS website](#).

**Photogrammetric Processing** – September 10, 2013 (Registration Deadline: Friday, September 6)

## CSU Student Chapter Report

Great news: The Colorado State University Student Chapter has been revived! Below is a list of the current members of the CSU Student Chapter:

- Ian Reiling (President)
- Bryce Frank (Financial Officer)
- Michael Milnar
- Nate Williams
- Ryan Davy
- Zachary Petersen
- Dr. Michael Tuffly (Advisor)

Stay tuned for updates as we grow ...

## Welcome New Members!

Mr. Michael J. Artmann  
 Ms. Melinda S. Brown  
 Mr. Mark Fisher  
 Ms. Heather Lassner  
 Mr. Christopher Lee  
 Mr. John L. Parker  
 Dr. Brian Penn  
 Mr. Tillman Saylor  
 Mrs. Madelyn Schoderbek  
 Mr. Chris Sheil  
 Mr. Lew Sovocool  
 Mr. Michael Wollersheim





## GIS in the Rockies Update

### Update, Registration and Call for Papers

Join us October 9th & 10th at the Cable Center in Denver for the 26<sup>th</sup> annual "GIS in the Rockies" Conference. Registration is now open:

- Save \$75 on Early Registration for full, 2-day registration through June 30th (\$250 vs. \$325).
- Student registration price is \$70
- 10% discount on groups of 3 or more from the same organization, if registered as a group.
- Presenter Rate:  
Full Conference (2-Day): \$200 (save \$125)  
Full Conference (1-Day): \$100 (save \$75)

**The deadline to submit an abstract for a technical session or poster session is July 29th.**

This year's tracks include:

- Geographic Education: Increasing Geospatial Literacy
- GIS in Colorado (GIS Colorado)
- Mission First: Geospatial Support for Defense, Intelligence and Veterans
- Mobile Mapping: GIS on the Move (Urban and Regional Information Systems Association)
- Oil and Gas: Increasing Mobility
- Surveyors: Local Experts – Global Perspective (Professional Land Surveyors of Colorado)
- Views Along the Scale Bar: From Hemisphere to Home (American Society for Photogrammetry and Remote Sensing)
- Vendor Showcase



Two Keynote Speakers have been announced.

**James Fee** is owner and founder of Spatially Adjusted. He has been working in the geospatial industry for almost 20 years as a consultant, programmer, manager and user. He founded Planet Geospatial, a GIS news aggregator, to share and promote geospatial technology and blogs at [spatiallyadjusted.com](http://spatiallyadjusted.com). James speaks and teaches regularly at conferences around the world.

**Frank Biasi** is Director of Digital Development for National Geographic Maps, where he produces websites, maps and apps focused on environmental sustainability. He has managed geospatial programs in the nonprofit and public sectors for over 20 years. He holds a Bachelor's in Geography and Art from Clark University and a Master's in Environment from Duke University.

Visit [www.GISintheRockies.org](http://www.GISintheRockies.org) to register, or for more conference information.

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## ASPRS-RMR Rio Grande Chapter Report

### Rio Grande Chapter Election Results

The Rio Grande Chapter is pleased to welcome two new members to its board of directors.

**Steven Sesnie** is a spatial ecologist with the U. S. Fish and Wild Service, where he is assigned to the Division of Biological Sciences and Southwest Region Inventory and Monitoring program. Steve's research interests cover a broad range of topics including remote sensing applications for determining vegetation structure and wildlife habitat parameters, land cover change detection and linkages to land use policy, tropical forest ecology and management and forest fragmentation effects on plant and animal communities.

**Christopher Lippitt** recently joined the faculty of the University of New Mexico. He is a Robert N. Colwell Memorial fellow, an ASPRS Certified Mapping Scientist in Remote Sensing, and founded the student chapter of ASPRS at San Diego State University. Before moving to New Mexico, he was very active with the Southwest Chapter of ASPRS. His research covers a wide range of GIScience topics, but is particularly focused on facilitating the effective use of remote sensing and GIS to address time-sensitive information requirements.

The Board election was held in February. Steve and Chris join Chapter Directors Joe Zebrowski, Michaela Buenemann, Brian Knehans, Nathan Kempf, Jake Darlington, Clyde Hubbard, Rob Dzur, and Rebecca Richman, who were re-elected to the Board.

### **Rio Grande Chapter of ASPRS holds annual spring meeting**

The Rio Grande Chapter of ASPRS held its annual spring meeting on Saturday, April 6 in Las Cruces, NM. The meeting was hosted by the Department of Geography and the ASPRS Student Chapter of New Mexico State University. There were seven paper and five poster presentations by students, faculty, and professionals from across New Mexico. The meeting was attended by 37 individuals. The Rio Grande Chapter presented, for the first time, the ASPRS Rio Grande Chapter Scholarship, which comes with a certificate and a cash award of \$250. The graduate award went to Su Zhang, a doctoral student from the Department of Civil Engineering at the University of New Mexico. The undergraduate award went to Nicole Zamora from the Department of Geography at New Mexico State University. The Rio Grande Chapter also recognized winners of the Student Poster Competition: the 1st place went to Anita Lavadie from New Mexico Highlands University; the 2nd place went to Robert Sabie from New Mexico State University.

### **New Geospatial Lab Opens at New Mexico Highlands University**

New Mexico Highlands University has established a new geospatial technology laboratory. The Geospatial Applications in Natural Sciences (GAINS) lab provides mapping and geospatial services for students, faculty, and other stakeholders. It will also take on cost-reimbursable projects that provide learning opportunities for students and broaden the University's geospatial capabilities. An important part of the lab's mission is to assist faculty in the integration of geographic information systems

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technology into their teaching and research. New Mexico Highlands University also offers a certificate and minor in GIS. The lab will also offer GIS and remote sensing workshops on topics of interest to local geospatial practitioners.

New Mexico Highlands University is located in Las Vegas, N.M., about an hour's drive east and north of the state capital, Santa Fe. The University was recently awarded \$300,000 by the United States Department of Agriculture for the purpose of advancing geospatial technologies at Highlands. In addition to funding much of the lab's infrastructure, the grant provides three years funding for internships and a scholarship for a forestry or geology student interested in pursuing a career in geospatial sciences applied to natural resources.



The GAINS lab and its associated computer classroom host a variety of geospatial technologies. Software available includes ESRI ArcGIS, Integraph Erdas Imagine and Leica Photogrammetry Suite, Trimble eCognition, and Trimble Pathfinder Office. The lab is also responsible for managing an array surveying and mapping equipment including Trimble GeoXM and GeoXT GPS units, Sokkia total stations, Garmin GPSMAP 60 and GPSMAP62 GPS units, and a Hewlett-Packard DesignJet T2300 plotter/scanner. The resources support both classroom teaching and student and faculty projects. The GAINS lab is managed by Joe Zebrowski, who also teaches geographic information systems and remote sensing courses for the university. He is retired from the United States Air Force, where much of his career was spent in cartographic and geodetic assignments including instructor and division chief at the National Geospatial Intelligence Agency's Defense Mapping School. Joe is president of the Rio Grande Chapter of the ASPRS.

## iGETT-Remote Sensing

*National Directors comment: I recently agreed to serve on the Advisory Board for iGETT and I thought our ASPRS RMR members should be aware of its purpose and plans. Our industry is in need of such training and this is a welcome breath of fresh air from Washington DC. With all the chat about cutbacks, this program has appeared to survive and will likely thrive. Thank you National Science Foundation! Jeffrey M. Young, May 6, 2013.*

### Integrated Geospatial Education and Technology Training - Remote Sensing (iGETT-Remote Sensing)

iGETT: Remote Sensing is funded with a grant from the National Science Foundation to the National Council for Geographic Education. The project offers 18 months of professional development that will enable Geographic Information Systems (GIS) instructors to integrate remote sensing data and concepts in ways that support workforce needs. iGETT-Remote Sensing builds on the success of the first iGETT project (2007–2012), and iGETT-Remote Sensing participants will join an active Community of Practice established during that time.

Faculty who currently teach GIS at US high schools, two-year colleges, and universities are eligible to apply for participation in iGETT- Remote Sensing. The 36 educators accepted from a national pool of applicants will be divided into two cohorts, with Cohort 1 participating from February 2013 through July 2014 and Cohort 2 from February 2014 through July 2015. Each cohort will participate in two Summer Institutes and will receive mentoring and guidance throughout the project. Participants will gain foundational knowledge of remote sensing and will learn to identify, download, analyze, and integrate federal land remote sensing data (such as Landsat, MODIS, and ASTER) with GIS to solve practical problems. Topical applications include agriculture, biodiversity, climate change, disaster management, environmental science, forestry, urban planning, and water management.



iGETT- Remote Sensing exercises and training resources will be based on skills and competencies that are aligned with geospatial technology industry needs, as identified in the Remote Sensing Model Course developed by the NSF-funded GeoTech Center ([geotechcenter.org](http://geotechcenter.org)). Training materials, case studies, and lab exercises will be publicly available on the iGETT- Remote Sensing web site for the benefit of all educators.

iGETT- Remote Sensing is a multi-year collaboration by the National Council for Geographic Education, NASA Goddard Space Flight Center, the U.S. Geological Survey (USGS) Land Remote Sensing Program, and the GeoTech Center. Educators interested in training and teaching modules can access them on the iGETT website at: <http://igettdelmar.edu>. Please contact Dr. Osa Brand, iGETT-RS Principal Investigator at [brand.ncge@gmail.com](mailto:brand.ncge@gmail.com) if you have any questions regarding this exciting project.



## Student Rebate Offer

ASPRS Rocky Mountain Region will reimburse \$20 of the \$45 cost of student membership, so your net cost is only \$25 for all the benefits of membership in the Society!

Download the Student Membership Rebate Form at <http://www.asprs-rmr.org> (on the News page). Here's the best part: ***This offer from the Region is good for every year you are a full-time student!***