

Central Region Newsletter

American Society for Photogrammetry & Remote Sensing

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SMSU Student Chapter Visits Kansas City Companies

A few questions that students have on their minds:

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- Spelunking Internet Style 6-7 How am I going to come up with beer money for tonight?
- Events Calendar 7 What do you mean we have a mid-term right after Spring Break?
- Congressional Visit to Western Air Maps 8
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- ACSM-CaGIS Map Design Competition 9 On a more serious note, once students get through the haze of everyday and begin pondering their futures, they ask questions such as the following:

What am I going to do with this major? What kind of job can I get? What will I do in that job? What are employers looking for?

Several of the preceding questions were answered for the student chapter of ASPRS at Southwest Missouri State University when we toured two competing companies in the Kansas City area on Friday, November 5, 2004. After a 3 hour drive from Springfield to Kansas City, we were warmly welcomed by Scott Perkins, the Vice-President of Western Air Maps. Our tour guide, Cody Buhrmeister, gave us a well-rounded and engaging tour of the facility. We were exposed to the various processes such as flight planning, film processing, aerial triangulation & correction, photogrammetry, and GIS. We were able to interview several staff members who shared with us how they worked their way into



Nathan Bruns (SMSU ASPRS Student Chapter President) tests out some of the photogrammetry equipment at GE.

their current position, what they like about it and what their job responsibilities entail. After feeling that we had a good handle on the in's and out's of Western Air Maps, they hosted a lunch for us at a local Country Club. During lunch they gave us a presentation on a project that they have in the works. But alas, I cannot divulge exactly what that project is.... If you want to know, maybe YOU should arrange a tour. All I can say is that they work on some fascinating jobs in unique ways that will keep your attention from beginning to end.

Once we were fully satiated from the tasty lunch, we zipped across town to GE Energy, formerly known as M.J Harden & Associates (MJH). In August 2003, GE Energy acquired MJH. To go from a 155

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person company to approximately a 150,000 person company is quite an adjustment. GE acquired MJH primarily for their Pipeline Division. However, with the resources of GE now backing them, they are upgrading their flight division with a \$1.6 million dollar digital mapping camera. This will give them the ability to provide more flexibility over using a film camera, as well as to decrease their job processing time. Randy Singletary of GE was our host for the afternoon. Even though we toured one of their competitors that morning, it was still very interesting to see how companies do what is basically the same process but in slightly different ways. Each company utilizes different equipment and has a slightly different focus. I believe the students that toured both of these companies has a better understanding of the types of charac-

teristics in a company that they will need to consider when the time arrives to begin networking for a job.

As students, we learn many concepts in class, but it is difficult to imagine any one of them being someone's entire job description. Concepts within the classroom are just that, concepts and/or a framework for an endless range of possibilities. Many students have little exposure other than the classroom when it comes to photogrammetry. This trip was horizon-broadening for each and every one of us concerning the types of jobs we will be able to consider upon graduating with degrees in Geography or Cartography.

-Submitted by Shannon Lear (SMSU ASPRS Student Chapter Member and SMSU-GGP Remote Sensing Research Lab Assistant)



The SMSU Crew with some of their hosts from Western Air Maps

Southwest Missouri State University GIS Day 2004

What is GIS?

Many of those that do know what this acronym stands for still probably couldn't give you an accurate definition of what GIS is anyway, and many more have never even heard of it. However, this question and many more were answered at Southwest Missouri State University this past November 17, 2004. Why the 17th? Why...GIS Day of course.

GIS Day is an international celebration hosted by different organizations to promote the use and awareness of Geospatial Technologies. Southwest Missouri State University hosted its first annual GIS Day this year; it was headed by Dr. Monika Moskal in cooperation with the Geography, Geology, and Planning Department; the Biology Department; and the student chapter of the ASPRS.



GIS Day Volunteers Group Photo

The event was an overall success. Many students, visitors, and faculty found themselves uncontrollably drawn to the event by the lucrative popcorn server and his aroma of fresh popcorn drifting through Temple Hall (the science building on campus). Still many more were drawn by the large number of interesting options to take part in with GIS Day. Options included: Arboretum tours, Geology tours, GPS demonstrations and tours, a presentation on GIS technologies, computers set up with great examples of GIS projects and a host of eager students to field any questions that participants may have had.

The tours were a big hit highlighting many features on campus, ranging from SMS's recently established arboretum to many interesting geologic features on campus. For instance, in all my four years here, I had no idea that many of the buildings on campus have actual fossils embedded in them. Is the stone used here formed deep under the ground or at the surface? I had no idea; but I do now. The GPS



Jon Woosley demonstrating some of the research done at SMSU – RASGAL

demonstrations and tours were set up with a variety of GPS technology to give the participants a good idea of the range of products on the market today. Many were surprised by just how easy the technology is to learn and apply to their own activities.

The centralized headquarters for GIS Day, located in the “Pit” of Temple Hall, is from where all the tours departed and also where GIS demonstrations were set up. Four computers were set up to view a multitude of projects either finished or currently in progress by SMSU students. Graduate students in SMSU’s Geospatial Sciences program were located here to help field any questions that participants may have had about the projects. These projects were a success, allowing the Graduate Students to show off their hard work through a few Geovisualizations of some areas adjacent to Springfield, Missouri. A pilot project was also demonstrated dealing with the possibility of mapping local caves through remote sensing means. There were also a couple of stereograms set up so participants could experience what it was to see in stereo.



Shannon Lear discusses GIS with an attendee.



Chris Wood demonstrates for attendees.

So what’s your next assignment? Go home, clear your calendar for November 17, 2005, and don’t forget to mark down GIS Day. Time: To be announced. Place: Southwest Missouri State University in Springfield, Mo. With such a great turnout this year, 2005 should be a blast. See you there. Oh yeah, for more information concerning SMS’s GIS Day check out this website: <http://ozarksgeography.smsu.edu/centennial/GISday2004/default.htm>. Thanks and see you next year!

-Submitted by Jon Woosley, SMSU – ASPRS Student Chapter Member and Research Assistant at the Remote Sensing and Geospatial Analysis Laboratory (RSGAL), Department of Geography, Geology and Planning, Southwest Missouri State University

New Members!

The Central Region welcomes four new members for this issue; three students and one regular member.

Regular Member:

- Ms. Joyce Green, City of Norman, Norman, Oklahoma

Student Members:

- Mr. Todd Fagin, Norman, Oklahoma
- Mr. Jonathan Thayn, Lawrence, Kansas
- Mr. Ryan Kelly, Springfield, Missouri

Technical Presentation

The Kansas University GeoWall



Matt and Nathan test running the GeoWall

On November 12, 2004, Southwest Missouri State University's students, faculty and staff, and other visitors that heard through word of mouth, got acquainted with another way of looking at objects, so to speak. Matt Dunbar, University of Kansas's ASPRS Student Chapter Secretary/Treasurer, brought down KU's GeoWall. What this GeoWall does is it allows people to see in stereovision without looking through a stereoscope; true 3-D.

Thirty-five to forty people attended the presentation. Some of the members in attendance were Scott Perkins, Central Region President, L. Monika Moskal Central Region Vice-President, Jerry Wagner Central Region Secretary/Treasurer, Phil Rufe Central Region

Board Member, most of the SMSU's ASPRS Student Chapter, and many others.

After everyone settled inside of the room, Matt walked us through many tutorials explaining to us how the GeoWall worked and what it would be good for in everyday life. Matt showed us stereo pictures from the Mars surface, a 3-D flyby of downtown Lawrence, Kansas. Then Matt let the students try one of their own data files to be shown on the GeoWall.

We found that one of our Centennial Projects being done for SMSU's 100 year anniversary could also be seen in stereo. We could fly through campus seeing the arboretum tour, or go past the buildings standing tall.



The Spectators

Over all the KU GeoWall was a huge hit, not only with the students but everyone in attendance. SMSU, their Student Chapter, and everyone in attendance would like to thank the University of Kansas and Matt Dunbar for letting us view their extraordinary technology and for taking time to show it to us. Additional pictures from the event can be found at:

<http://www.faculty.smsu.edu/l/mmm878f/other/Geowall.htm>



Matt displays the SMSU campus in 3D

-Submitted by Nathan Bruns, SMSU-ASPRS Student Chapter President

Spelunking Internet Style



The Author sets up his gear.

Ever dream of going on vacation? Would you like to see, up close, the destination of your choice? Well, soon you will be able to virtually experience a southwest Missouri cave. Holly Neill, the Director of the James River Basin Partnership, approached me concerning making a visualization of a privately owned cave (Tumbling Creek Cave) near Protom, MO. Holly wanted to publish virtual reality movies of the cave on the internet to enable others to share in the experience. At the time, I only had basic knowledge of photography and the creation of Quick Time 360 degree movies which can be used for visualizations, beyond that I had no idea what I was getting myself into. I met with Monika Moskal to pick her brain for suggestions on how to approach this project. She had thoughts of using the results from this project for more advanced purposes than just internet viewing.

On November 1, 2004, Holly, Monika and myself met and determined that the immediate goal would be to develop a way to effectively capture the photos inside the cave and to then process movies from those photos. We discussed the possibility of capturing stereo pairs and digitizing the cave for use in a GIS. With these initial ideas in mind, we decided to begin this research escapade on November 13, 2004, however an event on November 12 truly motivated me into action. Matt Dunbar, from the University of Kansas, was kind enough to grace us at Southwest Missouri State University with a demonstration of KU's GeoWall. After seeing the possibilities that the GeoWall viewing had to offer, we decided that we would definitely go ahead and take stereo photos to have for possible future testing on a GeoWall. We talked to Matt about different strategies for capturing stereo photos, what methods he had the most success with and I then incorporated those suggestions into my plan for the next

days work in the cave.

My primary goal for this trip was to determine what procedure to use to successfully photograph a pitch black cave of varying size and surface. Secondly, I needed to determine the minimum equipment needed, whether or not it was available to me, or if improvising was needed. I had two plans initially for photographing the cave. First, use three large battery powered spotlights aimed 120° away from each other OR simply use an external flash mounted to the camera. After arriving at the cave, we did a walk-through to select appropriate sites for photographing. After the sites were selected, I set the equipment up and went to work. I did a test run with the spotlights and another with the flash mounted on the camera. I examined the resulting photos on the camera's LCD display and determined that the mounted flash provided better illumination. Now that my method had been determined, I continued to take photos capturing two panoramic locations along with several stereo pairs. The equipment I used consisted of a high quality digital camera, a tripod, and the camera mounted flash. I captured 20-25 photos in a 360° circle at each site in the cave. I was anxious to see the results. Upon returning home that evening, I downloaded the photos and was pleasantly surprised to find them to be of a much higher quality than I had anticipated. Using a software called Stitcher 2.0, I stitched the photos together and created the Quick Time Virtual movies with much success. I have plans to return to the cave to gather more photos to produce a more well-rounded virtual movie.

I believe many good things will evolve from this project through improved methods, upgraded equipment, and trial and error. I plan to take this project to the next level. It has endless opportunity that I find myself struggling to narrow

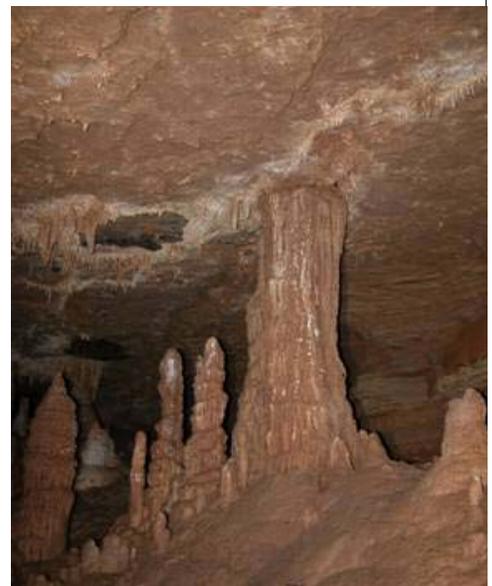


Photo of one of the cave structures. The structure was photographed in stereo which allows one to view it in a 3D projection system such as a GeoWall.

down. I look forward to bringing the opportunity to explore Tumbling Creek Cave to the internet, allowing the public to enjoy it, while at the same time protecting the innate beauty and fragile ecosystem within the cave itself. You can explore the preliminary cave visualizations at:

http://maps.smsu.edu/campus/John_Cave_Project/Pan1.mov
http://maps.smsu.edu/campus/John_Cave_Project/Pan2.mov

<http://ozarksgeography.smsu.edu/iCAVE/>

-Submitted by John Carey, SMSU-ASPRS Student Chapter Member and Undergraduate Research Assistant at the Remote Sensing and Geospatial Analysis Laboratory (RSGAL), Department of Geography, Geology and Planning, Southwest Missouri State University

Events Calendar

Jan. 28-Feb. 1, 2005. **Management Association for Private Photogrammetric Surveyors Winter Meeting**, Marriott Frenchman's Reef, St. Thomas, U.S. Virgin Islands (www.mapps.org)

February 21-23, 2005. **The 9th Annual Missouri GIS Conference**, Tan -Tar-A Resort, Osage Beach, Missouri. View flier <http://msdisweb.missouri.edu/save-the-date-mogis2005.pdf> (Adobe pdf 64Kb)

March 6-9, 2005. **GITA's Annual Conference 28, Crossing Boundaries**, Colorado Convention Center, Denver, Colorado (www.gita.org/events/annual/28/index.html)

March 7-11, 2005. **ASPRS 2005 Annual conference: Geospatial Goes Global: From Your Neighborhood to the Whole Planet**, Baltimore, Maryland, (<http://www.asprs.org/baltimore2005>)

March 14-16, 2005. **3rd International Symposium Remote Sensing and Data Fusion Over Urban Areas (URBAN 2005) and the 5th International Symposium Remote Sensing of Urban Areas (URS 2005)**. The first joint conferences of URBAN and URS represent a landmark event for the international urban remote-sensing community. Both conferences will highlight the most recent advances in urban remote-sensing technology, methodology, and application since 1997. The conference will be held at Arizona State University-Main Campus in Tempe, Arizona, USA (in the Phoenix metropolitan area) (<http://www.urban-remote-sensing.org>)

March 14-16, 2005. **Management Association for Private Photogrammetric Surveyors Federal Programs Conference**, Hyatt Regency Capitol Hill, Washington, D.C. (www.mapps.org)

April 5-9, 2005. **International Workshop on Geographic Hypermedia "Concepts and Systems" in parallel with the Annual Meeting of the Association of American Geographers**. Denver, Colorado. (www.dbnet.ece.ntua.gr/~stefanak/GeoHypermedia/)
(www.aag.org/annualmeetings/index.cfm)

May 16-18, 2005. **Multi Temp 2005: The 3rd International Workshop on the Analysis of Multi-temporal Remote Sensing Images**, Beau Rivage Resort and Casino, Biloxi, Mississippi, USA. (www.multitemp05.org)

July 16-21, 2005. **Management Association for Private Photogrammetric Surveyors Annual Summer Conference**, Grove Park Inn, Asheville, North Carolina. (www.mapps.org)

October 9-12, 2005. **URISA's 43rd Annual Conference**, Kansas City, Missouri. (www.urisa.org)

October 23-27, 2005. **The Sixteenth William T. Pecora Memorial Remote Sensing Symposium**, Organized by ASPRS, Sheraton Hotel and Sioux Falls Convention Center Sioux Falls, South Dakota

Congressman Moore Visits Western Air Maps



(l-r) Congressman Moore, Western Air Maps owner Don Wigger and plotter operator Kevin Rowell view a stereo workstation

Congressman Dennis Moore (D-KS) visited the Overland Park, Kansas office of Western Air Maps, Inc. on November 30. Congressman Moore met with company officials to discuss legislative issues affecting the geospatial profession, including the role of geospatial data in Homeland Security, the implications to Homeland Security of off-shoring geospatial production, and the Federal government's use of commercially acquired satellite and airborne remote sensing data. Congressman Moore will look into hearings by the House Science Committee on off-shoring geospatial data production and possible legislation on increasing government utilization of private remote sensing capabilities. After a brief presentation of the firm's operations, Congressman Moore toured the facility to gain first hand knowledge of the types of services Management Association for Private

Photogrammetric Surveyors member firms provide to the Federal government. The Congressman viewed demonstrations of work currently being produced by Western Air Maps for the National Oceanic & Atmospheric Administration, the National Geospatial-Intelligence Agency, and the United States Army Corps of Engineers. (www.mapps.org)

Classifieds

The Region Board of Directors has created a Classifieds section in the newsletter. Region members seeking to hire or to be hired should send information to the Newsletter editor.

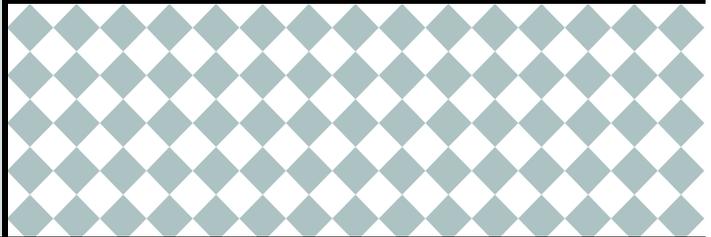
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Donors Wanted for a Central Region Corporate Scholarship. The Board awarded two scholarships in 2003 and would like to continue this practice in future years. However, the principal in the Gene Lortz Scholarship Fund is sufficient to sustain one scholarship only. We would like to ask corporate members to consider donating to fund a new Central Region Corporate Scholarship to support students and future professionals in our region. Please contact our treasurer if you are interested in making a donation.

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Donors Wanted for the Francis E. 'Gene' Scholarship: The Board awarded two scholarships this year and would like to continue this practice in future years. However, the principal in the scholarship fund is insufficient to sustain the current level and number of awards. We would like to ask our members to consider donating to this fund to support students and future professionals in our region. Please contact our treasurer if you are interested in making a donation.

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The ACSM-CaGIS 32nd Annual Map Design Competition

The Cartography and Geographic Information Society of the American Congress on Surveying and Mapping are pleased to announce this year's map design competition.

The purpose of the competition is to promote interest in map design and to recognize significant design advances in cartography. The competition is open to all map-makers in the United States and Canada. Noted cartographers judge the entries based on the following criteria: color, overall design and impression, craftsmanship, and typography. Entries will be displayed at a number of national and international professional functions and will then become part of the permanent collection of the U.S. Library of Congress. Note that the focus of this competition is map design; therefore, judging will be based on cartographic design criteria, such as creativity, text (spelling and grammar, too), balance, unity, clarity, use of color, and subject matter.

Students are particularly encouraged to apply for the National Geographic Society-sponsored awards. The competition is open to all college-level student mapmakers who have completed and/or published the submitted map during 2004. Each student award consists of a cash prize (\$200), a National Geographic atlas, and a certificate of award. Runner-ups will receive a beautiful National Geographic map or atlas.

The deadline for this year's competition is **January 15, 2005**. Maps completed during 2004 are eligible. Each award is described below.

Professional Category

Best of Show Best of Category

- **Reference:** A map whose objective is to show the location of a variety of different features. The focus of a reference map is on accurate depiction at a given scale of the location of individual environmental features.
- **Thematic:** A map whose objective is to illustrate a theme or the relationship among several themes. The focus of a thematic map is on the structure of the distribution rather than on location.
- **Book/Atlas:** Atlases and books use original maps as the primary (in the case of an atlas) or a significant (in the case of a book) communication device.
- **Recreation/Travel:** A map designed to assist readers in pursuit of recreation or travel, such as road maps, trail maps, and maps of parks or natural areas.
- **Interactive Digital:** A map that is designed for digital media (Internet, CD, DVD). Maps in this category include some level of interactivity, such as selection and transformation, or animation.
- **Other:** This category is for submissions that do not fit into any other category. Judges reserve the right to assign entries to another category if they feel it is appropriate and will offer an award only for an exceptional map that does correspond with the other categories.

Student Category

National Geographic Society Award for Best Student Map Design

- o **Arthur Robinson Award for Best Printed Map (\$350):** A map or map series designed specifically for print media.
- o **David Woodward Award for Best Digital Map (\$350):** A map or map series designed for digital media, like the Internet, CD or DVD.

Enter the Competition

Submit three copies of entries in the Professional category and two in the Student category. The fees are \$10 per student map and \$20 per professional map. The entry form is available at (*insert the web address for the document here*).

Please send entries to:

ACSM Map Competition
6 Montgomery Village Avenue
Suite 403
Gaithersburg, MD 20879

For further information, see www.acsm.net or call (240) 632-9716 ext.109.

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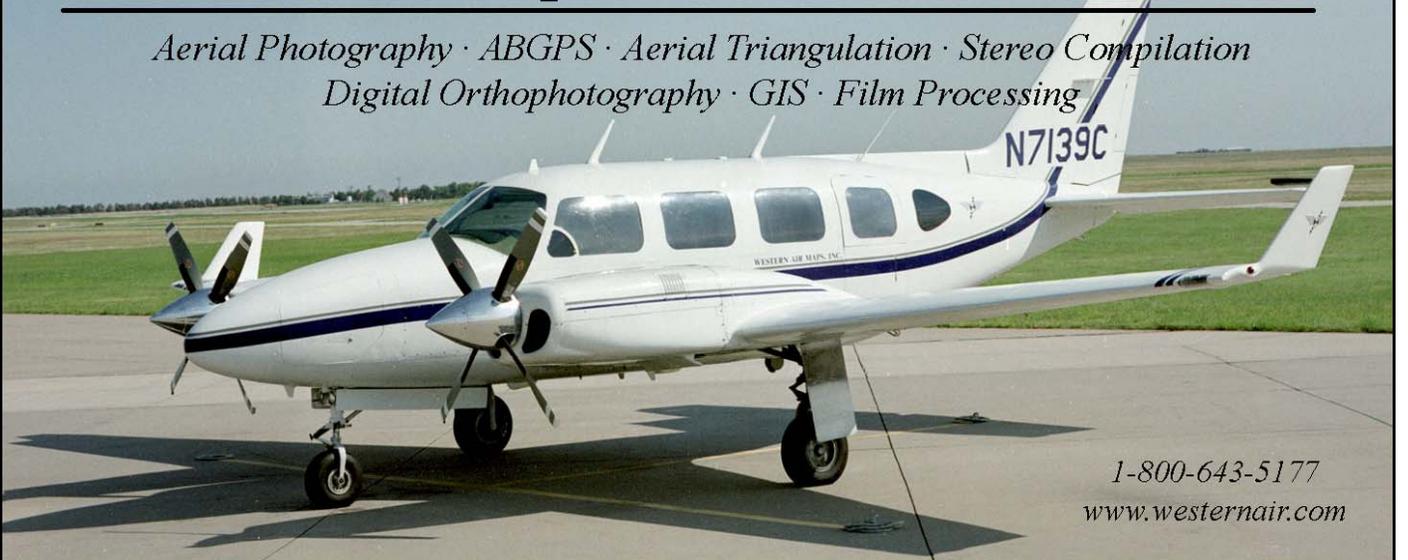
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